

## ASX release

### Coal Resource at Bandanna Energy's Springsure Creek Project increased by 44% to 768Mt

**Brisbane, 26 June 2014:** Bandanna Energy Limited (ASX: BND) is pleased to announce that a revised Resource estimate has been prepared for its Springsure Creek Project (project). The revised Resource estimate includes an 86% increase in the Measured Resource at the project from 74Mt to 138Mt and 113% increase in Indicated Resources from 207Mt to 440Mt.

Bandanna Energy's Managing Director, Michael Gray, said that the revised Resource estimate further demonstrated the large scale of the company's Springsure Creek Project.

"The identification of a total resource of 768Mt, and in particular the 608Mt estimated in the main target seam (Aries 2), confirms the potential for development of a world scale thermal coal mine.

"With even greater confidence as to the size of the Springsure Creek Project resource, its high coal quality, relatively low capital intensity and competitive operating cost structure, proximity to existing rail lines, secure port capacity and advanced state of approvals, Springsure Creek is uniquely positioned to become Australia's next major thermal coal producer," added Mr Gray.

#### Resource Summary

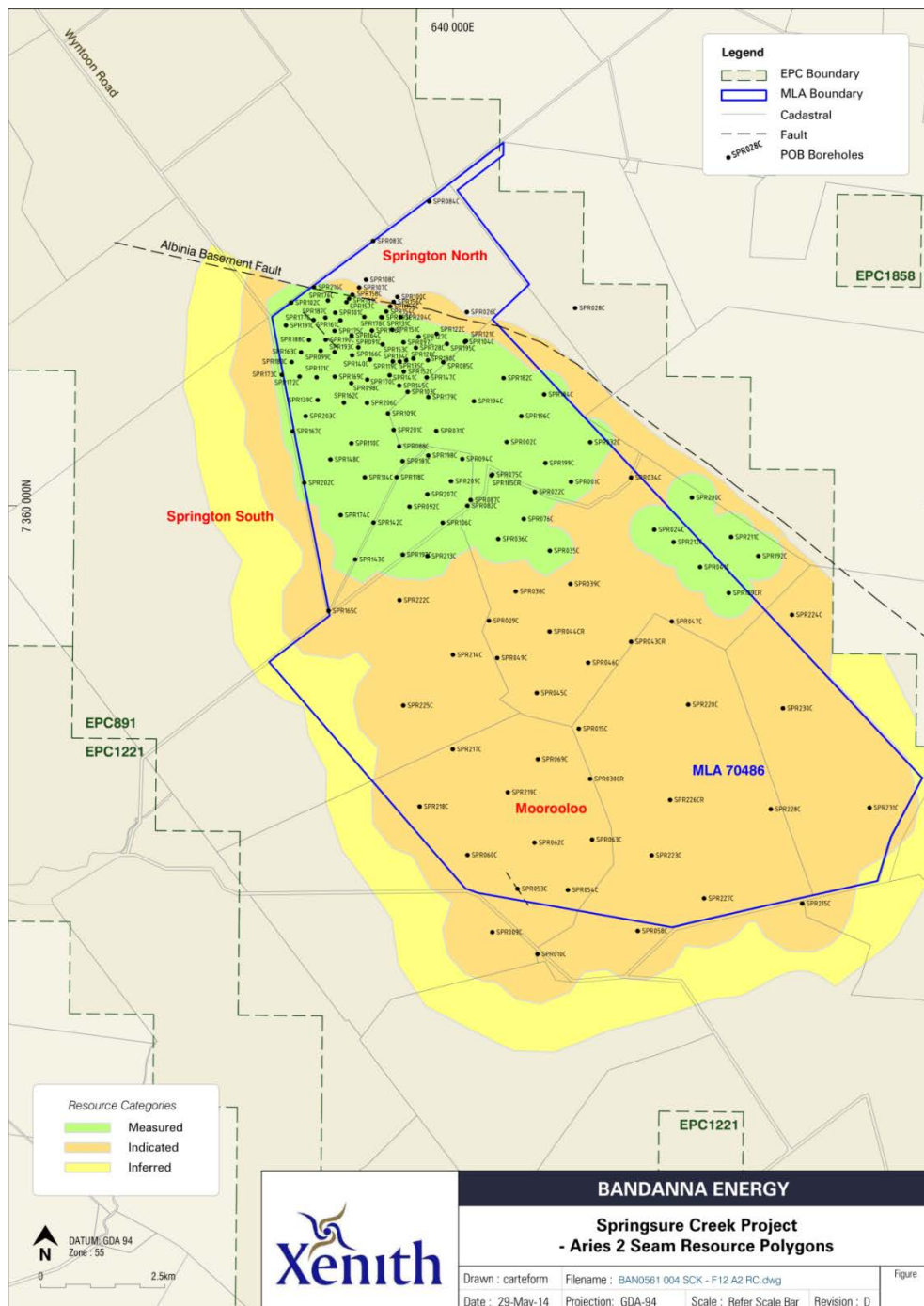
Total Coal Resources within the project are estimated at 768Mt as set out below.

RESOURCE CATEGORY	SEAM	VOLUME (Mbcm)	AREA (ha)	MASS <sup>1</sup> (Mt)	THICKNESS Vertical Thickness (m)	INSITU RELATIVE DENSITY at 15.5% Bed Moisture (t/bcm)	RAW ASH (adb) (%)
MEASURED	Aries 2	102	3,400	138	2.99	1.36	10.6
INDICATED	Aries 2	263	9,070	360	2.90	1.36	10.5
INDICATED	Castor	57	2,680	80	2.14	1.37	12.1
INFERRED	Aries 2	81	3,160	110	2.57	1.37	11.2
INFERRED	Castor	56	2,640	80	2.11	1.43	17.8
<b>TOTAL MEASURED</b>	<b>All seams</b>	<b>102</b>	<b>3,400</b>	<b>138</b>		<b>1.36</b>	<b>10.6</b>
<b>TOTAL INDICATED</b>	<b>All seams</b>	<b>320</b>	<b>11,750</b>	<b>440</b>		<b>1.37</b>	<b>10.8</b>
<b>TOTAL INFERRED</b>	<b>All seams</b>	<b>137</b>	<b>5,800</b>	<b>190</b>		<b>1.39</b>	<b>14.0</b>
<b>TOTAL MEASURED, INDICATED AND INFERRED RESOURCE</b>		<b>559</b>	<b>20,950</b>	<b>768</b>		<b>1.37</b>	<b>11.6</b>

<sup>1</sup> Mass values have been rounded to 2 significant figures.

The revised Resource estimate, which has been prepared by Xenith Consulting, includes the results of an additional 58 drill holes completed within the Springsure Creek Project since the previous estimate announced in August 2013, as shown in the figure below.

The Appendix details sections 1, 2 and 3 of the JORC Code Table 1 and provides a list of drill hole data.



## **Details**

### *Geological Interpretation*

The coal resource is contained within the Aries 2 and Castor Seams of the Late Permian Bandanna Formation. Drilling has provided sufficient information to confirm the lateral extent and quality of both coal seams across the project area. In particular, the Aries Seam resource, which makes up approximately 80% of the total coal resource, covers an area of 216km<sup>2</sup>, which covers the majority of MLa 70486. Both seams have been intersected in drill holes at depths between approximately 180 m and 650 m and the Aries 2 has an average seam thickness of 2.8 m.

### *Sampling and Drilling Techniques*

The estimate is based on drill holes listed in Appendix B: Drill Hole Data, of which 58 have been drilled since the last coal resource estimate announced in August 2013. All new core holes were drilled using HQ3 methods, recovering core of approximately 61 mm in diameter. Core holes were logged (geology, geotechnical and geophysics), photographed and all coal seams greater than 0.2 m were sampled. Core sample recovery was calculated to ensure that each sample was representative of the cored section. All new non-core holes were drilled using PCD on air and/or mud injection, were logged (geology and geophysics) and the chips photographed. Professional (third party) survey was completed for all new drill holes collars.

### *Sample Analysis Methods and Reporting*

All coal core samples were double bagged on site and transported to the laboratory for testing. Australian Laboratory Services Pty Ltd (ALS), Richlands, QLD was used for coal quality analysis and ALS is certified by the National Association of Testing Authorities (NATA). All coal quality work completed to the relevant Australian Standards for sample preparation, analysis and reporting of results. Reported coal quality results were checked by Bandanna Energy staff, Xenith Consulting and in addition, A&B Mylec Pty Ltd completed a full review of the database in early 2014, including numerous database validation checks.

### *Classification Criteria*

Three resource categories have been identified dependant on the level of confidence in the seam structure and continuity, plus the level of variability in the coal quality data of the relevant seam. The maximum distance between valid points of observation (PoB) for each resource category are:

- Measured – 1,000 m
- Indicated – 2,000 m
- Inferred – 4,000 m

A geostatistical study completed in July 2013 by Geostatistical Mining Solutions Pty Ltd to support the previous resource estimate supported the maximum distances between the PoB (as listed above) to the required level of confidence of the competent person.

### *Estimation Methodology*

The geological model and resource estimate were constructed using Ventyx Minescape software using the Finite Element Method (FEM) interpolator. A maximum extrapolation distance of 2,000 m from a data point was used. A thickness cut-off of 1.8 m was applied to all coal seams and a maximum depth of 800m from topography was applied to the resource estimate.

### *Cut-off Parameters (Grade)*

No ash cut-offs have been applied since raw ash content values are generally low for the Aries 2 Seam (9 % to 11 %) and moderate for the Castor Seam (12 % to 18 %).

### Mining Method

Xenith Consulting deem the coal resource has reasonable prospects of economic extraction by underground methods most likely retreat longwall mining.

-ENDS-

### **Compliance Statement**

The information in the report that relates to Mineral Resources and is based on information compiled by Mr Troy Turner, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Turner is employed by Xenith Consulting Pty Ltd and through his employer Mr Turner is a service provider to the reporting company on arms-length commercial terms. Mr Turner is a qualified geologist who has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Turner consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

### **About us**

Bandanna Energy Limited (ASX: BND) is uniquely positioned to become Australia's next coal producer. The company's core activities are exploration, project evaluation and development of thermal and PCI coal assets located in Queensland, Australia.

Bandanna Energy is the only ASX listed company with substantial coal assets in both the Bowen and Galilee basins subject to EIS and advanced mine studies. The company is committed to working constructively with the communities in which it operates, and delivering growing returns to shareholders, government and the community.

Bandanna is a 14% shareholder in Wiggins Island Coal Export Terminal (WICET) Stage 1 at Gladstone.

Further information can be found at [www.bandannaenergy.com.au](http://www.bandannaenergy.com.au)



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## Appendix A. JORC CODE, 2012 EDITION – TABLE 1

This Appendix details sections 1, 2 and 3 of the JORC Code 2012 Edition Table 1. Sections 4 'Estimation and Reporting of Ore Reserves' and 5 Estimation and Report of Diamonds and Other Gemstones' have been excluded as they are not applicable to this deposit and estimation.

### SECTION 1 SAMPLING TECHNIQUES AND DATA

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

Criteria	JORC Code Explanation	CP Comments
<i>Sampling techniques</i>	<ul style="list-style-type: none"> <li>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent</li> </ul>	<ul style="list-style-type: none"> <li>All coal seams intersected that were greater than 0.2 metres (m) were sampled. Any stone band greater than 0.3 m thick was sampled separately to the coal. All sampled coal core was double bagged on site and transported to the laboratory for testing. Samples were assigned individual sample numbers and accompanied by a sample advice sheet.</li> <li>Coal quality samples from gas holes were first tested for gas content by GeoGas Pty Ltd (GeoGas) in Mackay, QLD and subsequently sent to the SGS Australia Pty Ltd (SGS) coal quality laboratory in Carrington, NSW (until February 2009) and to the Australian Laboratory Services Pty Ltd (ALS) in Emerald, QLD (since February 2009). From August 2013 onwards ALS Richlands, QLD, performed the coal quality test-work.</li> <li>All coal quality samples were prepared and analysed using Australian Standard testing methodologies.</li> </ul>

Criteria	JORC Code Explanation	CP Comments
	sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.	<ul style="list-style-type: none"> <li>Coal quality analysis of non-gas holes was undertaken by both SGS and ALS coal quality laboratories as described above.</li> </ul>
<i>Drilling techniques</i>	<ul style="list-style-type: none"> <li>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).</li> </ul>	<ul style="list-style-type: none"> <li>The majority of coal quality holes were cored (partially or fully) using a HQ3 size barrel, 61.1 millimetres (mm) core diameter. 12 coal quality holes were cored using a 4-inch size barrel; 101.6 mm core diameter and 2 coal quality and washability holes were cored using an 8-inch size barrel.</li> <li>Structural holes were fully chipped using blade, hammer and/or PCD using air and mud drilling fluids.</li> <li>A full list drill holes and drilling methods is available at the end of Table 1 (in Appendix B: Drill Hole Data).</li> </ul>
<i>Drill sample recovery</i>	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul style="list-style-type: none"> <li>An assessment of core recovery has been made by comparing the measured recovered thickness and the thickness in the geophysical log; if the seam recovery was slightly below 95% then other data (e.g. geologist's recovery sheets and photos) were examined before a redrill was required. A linear core recovery was found to be more representative than a volumetric recovery calculated by the laboratory.</li> <li>Sample volumetric recovery factors were also established and verified by the coal quality laboratory.</li> </ul>
<i>Logging</i>	<ul style="list-style-type: none"> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies</li> </ul>	<ul style="list-style-type: none"> <li>All cored holes were geologically logged, marked and photographed before sampling; geological/geotechnical features identified were</li> </ul>



Criteria	JORC Code Explanation	CP Comments
	<p>and metallurgical studies.</p> <ul style="list-style-type: none"> <li>• Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</li> <li>• The total length and percentage of the relevant intersections logged.</li> </ul>	<p>reported.</p> <ul style="list-style-type: none"> <li>• All chipped holes were geologically logged and sampled (since July 2011); chips from more recent holes were also photographed.</li> <li>• All holes were geophysically logged with a minimum of density, caliper, gamma and verticality tools, unless operational difficulties prevented logging or part-logging of a hole.</li> <li>• A full list of the geophysical tools run in each hole can be found at the end of Table 1 (in Appendix B: Drill Hole Data).</li> <li>• All geophysical tools were calibrated by the logging company Weatherford Australia Pty Ltd (Weatherford) using their internal calibration procedures.</li> </ul>
<p><i>Sub-sampling techniques and sample preparation</i></p>	<ul style="list-style-type: none"> <li>• If core, whether cut, sawn and whether quarter, half or all core take</li> <li>• If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>• For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>• Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>• Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half</li> </ul>	<ul style="list-style-type: none"> <li>• All coal core samples were double-bagged on site and transported to the laboratory for testing.</li> <li>• Both labs, SGS and ALS comply with Australian Standards for sample preparation and sub-sampling.</li> <li>• All coal samples from the slim core holes were crushed to a top size of 11.2 mm before analysis, which is common in the industry for HQ3 core (61.1 mm core diameter).</li> </ul>

Criteria	JORC Code Explanation	CP Comments
	<p>sampling.</p> <ul style="list-style-type: none"> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	
<i>Quality of assay data and laboratory tests</i>	<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 (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li> </ul>	<ul style="list-style-type: none"> <li>Both coal quality laboratories, SGS and ALS comply with Australian Standards for all coal quality tests and are certified by the National Association of Testing Authorities, Australia (NATA).</li> <li>Geophysical tools were calibrated by the logging company Weatherford using their internal calibration procedures.</li> </ul>
<i>Verification of sampling and assaying</i>	<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>Many levels of analysis results verification are included in the Australian Standards relating to coal quality analysis.</li> <li>Coal quality results were verified by Bandanna Energy Limited (Bandanna) personnel and by Xenith before being included in the resource estimate.</li> <li>A&amp;B Mylec Pty Ltd (A&amp;B Mylec) completed a full review of the database in early 2014, including numerous database validation checks.</li> <li>M Resources Pty Ltd also completed a review and</li> </ul>



Criteria	JORC Code Explanation	CP Comments
		<p>report on coal quality results in late 2012.</p> <ul style="list-style-type: none"> <li>No adjustments have been made to the coal quality data.</li> </ul>
<i>Location of data points</i>	<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>Professional survey was conducted on all holes included in the geological model and resource estimate by Wilson Survey Group Pty Ltd (Wilson Survey Group) for all drill holes up to July 2012, and by Cottrell Cameron &amp; Steen Survey Pty Ltd (Cottrell Cameron &amp; Steen Survey) for all drill holes until early July 2013. Since mid July 2013 Murray &amp; Associates (QLD) Pty Ltd (Murray &amp; Associates) have provided the surveying services in datum GDA 94 and projection MGA 94 Z55.</li> <li>The topography surface was generated from a detailed Airborne Light Detection and Ranging (LIDAR) survey by Cottrell Cameron &amp; Steen Surveys in June 2011, and commissioned by Bandanna. It has been captured at a resolution of 0.25 m.</li> </ul>
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>Drill hole spacing has been dictated by the characteristics and consistency of the Aries 2 seam in the deposit. Maximum drill hole spacing within the Measured resource area does not exceed 1,000 m, although it generally ranges between 500 m and 700 m. In the Indicated resource area the maximum drill hole spacing applied is 2,000 m and in the Inferred resources area it is up to 4,000 m.</li> <li>The drill hole spacing is generally at 500 m in the area</li> </ul>

Criteria	JORC Code Explanation	CP Comments
		<p>of the mine plan that delivers the nominal payback period for the project, which generally coincides with the area covered by Den-Lo Park.</p> <ul style="list-style-type: none"> <li>Considering the low variability in thickness and coal quality of the deposit, this spacing has proven to be sufficient to give adequate control to the model and give the required confidence to the resource areas.</li> <li>Coal quality samples were individually analysed. Individual samples from coal intervals showing good homogeneity in quality results were subsequently composited on a seam basis and upon revision of recovery factor.</li> </ul>
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul style="list-style-type: none"> <li>The orientation and spacing of the drilling grid is deemed to be suitable to detect geological structures and coal seam continuity within the resource area.</li> </ul>
<i>Sample security</i>	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>Sample security was ensured under a chain of custody between Bandanna personnel on site and SGS or ALS laboratories.</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>Bandanna was responsible for implementing the sampling techniques and data.</li> <li>SGS and ALS undertook internal audits and checks, in line with Australian Standards, to ensure their</li> </ul>

Criteria	JORC Code Explanation	CP Comments
		analytical results were consistent and reporting was correct.

## SECTION 2 REPORTING OF EXPLORATION RESULTS

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

Criteria	JORC Code explanation	CP Comments					
Mineral tenement and land tenure status	<ul 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>Bandanna Energy Limited holds two tenements that cover the Springsure Creek Coal Project area:</li></ul>					
		Tenure Type	Tenure Number	Date Lodged	Area (ha)	Sub-Blocks	Holder
		EPC	891	24/05/2004	42,500	135	Springsure Creek Coal Pty Ltd
		MLa	70486	19/10/2012	10,736	-	Springsure Creek Coal Pty Ltd
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>Exploration drilling undertaken by other parties in the Springsure Creek area has been reviewed as a part of this report. Historically, there have been 10 EPPs, 5 EPMs and 5 EPCs held over the current EPC 891 area.</li><li>Within the lease boundary, a total of 32 boreholes with publicly available information drilled by other parties (historical holes) were reviewed, including drilling for coal (11 in total) and petroleum/gas (21 in total). Among them, 24 historic holes were considered suitable for use in the geological model.</li><li>There are a further 4 historic boreholes external to the lease boundary that were also used in the geological model.</li><li>There are a total of 64 publicly available 2D seismic</li></ul>					

Criteria	JORC Code explanation	CP Comments
		<p>sections from 13 separate seismic programs. There are also two publicly available company surveys and one State survey. However, no seismic survey carried out by other parties was included in this report since they targeted deeper formations and thus do not provide certain information on the shallower coal succession.</p>
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 Springsure Creek area lies within the Bowen Basin, which covers an area estimated at 60,000 km<sup>2</sup>. The basin is described as a Permo-Triassic, back-arc extensional foreland basin.</li> <li>• The stratigraphy within the project area is characterised by a Tertiary cover composed of alluvial sediments and basalts underlain by shales; siltstones and lithic sandstones of the Triassic age Rewan Group. Below, the conformable Bandanna Formation of Late Permian age consists of interbedded carbonaceous shales, siltstones, minor sandstones and up to 7 coal seams. The Bandanna Formation is the western correlative of the Rangal Coal Measures. The underlying Late to Early Permian succession includes 8 formally defined stratigraphic units, principally composed of clastic sediments from transitional to shallow marine environments and volcanic series at the base.</li> <li>• Coal seams occur in 5 main seam groups in the Springsure Creek area: Aries 1, Aries 2, Aries 3, Castor and Pollux seams, with a cumulative thickness of approximately 7 m, including all the seams and 5 m without the Aries 1, Aries 3 and Pollux seams which</li> </ul>

Criteria	JORC Code explanation	CP Comments
		have not been considered in the Resource Estimate.
<i>Drill hole Information</i>	<ul style="list-style-type: none"> <li>• A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</li> <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> <li>• If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>• A full list of details of drill holes used in the Resource Estimate can be found at the end of Table 1 (in Appendix B: Drill Hole Data).</li> <li>• All drill holes have been modelled from vertical.</li> <li>• Verticality modelling will be considered when mine design dictates this as necessary.</li> </ul>
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> <li>• In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>• Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> </ul>	<ul style="list-style-type: none"> <li>• All seams where multiple coal quality samples were taken, composite values have been generated within the Ventyx Minescape software, weighting each quality by thickness and insitu density, with the exception of insitu density which is weighted on thickness.</li> </ul>

Criteria	JORC Code explanation	CP Comments
	<ul style="list-style-type: none"> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	
<i>Relationship between mineralisation widths and intercept lengths</i>	<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 current data within the Springsure Creek area demonstrates, with sufficient confidence, that the deposit has lateral continuity. As such, data has been extrapolated with no restriction, but no resources have been estimated beyond 2,000 m past the last drill hole.</li> </ul>
<i>Diagrams</i>	<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 diagrams are contained within the body of the report – JORC Coal Resource Estimate – Springsure Creek Coal Project, 2014.</li> </ul>
<i>Balanced reporting</i>	<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 be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul style="list-style-type: none"> <li>All exploration results within the Springsure Creek area have been fully collated and reported.</li> </ul>
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating</li> </ul>	<ul style="list-style-type: none"> <li>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.</li> <li>CDM Smith Australia Pty Ltd (CDM Smith) completed the Draft Environmental Impact Statement in February 2013. It assessed potential impacts associated with the</li> </ul>



Criteria	JORC Code explanation	CP Comments
	substances.	<p>construction, operation and decommissioning of the Springsure Creek Coal Mine Project. A supplementary EIS was submitted in June 2013.</p> <ul style="list-style-type: none"> <li>The Springsure Creek Coal Project has since received State and Federal Government approval of the EIS.</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>Springsure Creek Coal Project plan to increase drilling and coal quality sample density in the area of the mine plan that delivers the nominal payback period for the project, which generally coincides with the area covered by Den-Lo Park.</li> <li>Additional analysis and testing for coal quality and geotechnical assessments are also expected to be completed.</li> </ul>

## SECTION 3 ESTIMATION AND REPORTING OF MINERAL RESOURCES

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

Criteria	JORC Code explanation	CP Comments
<i>Database integrity</i>	<ul style="list-style-type: none"> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul style="list-style-type: none"> <li>Bandanna uses the field drill hole database LogCheck version 6.105 as well as Microsoft Excel software for data storage.</li> <li>Data is also validated by Xenith with checks run in Ventyx Minescape software, version 5.7</li> <li>The Minescape Geological Database (GDB) has been recently used for additional validation purposes.</li> </ul>
<i>Site visits</i>	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>Xenith have not undertaken site visits within the last year, but did so in early and mid-2012. A review was conducted on the field procedures and sampling practices, and they were deemed to be of an acceptable industry standard at the time of the visit.</li> <li>Given the geological nature of the deposit and the unchanged status of the Springsure Creek area, the Competent Persons' existing knowledge of the area is deemed sufficient.</li> </ul>
<i>Geological interpretation</i>	<ul style="list-style-type: none"> <li>Confidence in (or conversely, the uncertainty of ) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> </ul>	<ul style="list-style-type: none"> <li>The drill hole density in the Springsure Creek area allows good level of confidence in the nature of seam thickness and quality consistency and interpreted locations of faults.</li> </ul>

Criteria	JORC Code explanation	CP Comments
	<ul style="list-style-type: none"> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	
<i>Dimensions</i>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>The target Aries 2 coal seam extends along approximately 18 km along strike and approximately 10 km perpendicular to strike, with an approximate average thickness of 2.8 m.</li> <li>The current resource extent covers 34 km<sup>2</sup> in the Measured resource area, 118 km<sup>2</sup> in the Indicated resource area and 58 km<sup>2</sup> in the Inferred resource area.</li> <li>The depth of the Aries 2 seam intersected in boreholes ranges from approximately 180 m in the east-northeast tenement area to approximately 640 m in the western areas.</li> <li>The depth of the Castor seam intersected in boreholes ranges from approximately 220 m in the east-northeast tenement area to approximately 650 m in the western areas.</li> </ul>
<i>Estimation and Modeling techniques</i>	<ul style="list-style-type: none"> <li>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> </ul>	<ul style="list-style-type: none"> <li>The geological model and resource estimate were constructed using Ventyx Minescape software (version 5.7), using the Finite Element Method (FEM) interpolator with 1, 1, 0 parameters for thickness, surface and trend respectively. A maximum extrapolation distance of 2,000 m from a data point was used.</li> <li>Limits were placed on the JORC Resource Estimate in</li> </ul>

Criteria	JORC Code explanation	CP Comments
	<ul style="list-style-type: none"> <li>• The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>• The assumptions made regarding recovery of by-products.</li> <li>• Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).</li> <li>• In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>• Any assumptions behind modelling of selective mining units.</li> <li>• Any assumptions about correlation between variables.</li> <li>• Description of how the geological interpretation was used to control the resource estimates.</li> <li>• Discussion of basis for using or not using grade cutting or capping.</li> <li>• The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	<p>line with the 1.8 m thickness cut-off applied to all coal seams, with the minimum parting thickness of 0.3 m to be considered within the seam. Stone bands greater than 0.3 m are not included within the seam, so modelling of the seam split occurs.</p>
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</li> </ul>	<ul style="list-style-type: none"> <li>• The insitu moisture of the coal has been estimated at 15.5%.</li> </ul>

Criteria	JORC Code explanation	CP Comments
	of the moisture content.	<ul style="list-style-type: none"> <li>This estimate was derived from a review of analysed moisture data (Total Moisture, Moisture Holding Capacity) and application of ACARP Insitu Moisture models (Estimation of In-Situ Density from Apparent Relative Density and Relative Density Analyses - C10042).</li> </ul>
<i>Cut-off parameters</i>	<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>No ash cut-offs have been applied to the deposit since raw ash content values are generally low for the Aries 2 Seam (9 % to 11 %) and moderate for the Castor Seam (12 % to 18 %).</li> </ul>
<i>Mining factors or assumptions</i>	<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.</li> </ul>	<ul style="list-style-type: none"> <li>Xenith have applied a minimum thickness appropriate to the potential mining method (1.8 m), see 'Estimation and Modelling Techniques' and deem the coal resource has reasonable prospects of economic extraction by underground methods most likely retreat longwall mining.</li> <li>It is recognised that in the west of the project the coal seams reach the maximum operating depth of current underground mines in Australia. Consequently, a maximum depth of 800m from topography has been applied to the resource estimate.</li> <li>Further design work will be required in terms of extraction of the Castor resource, which lies below the main target seam.</li> </ul>
<i>Metallurgical factors or</i>	<ul style="list-style-type: none"> <li>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for</li> </ul>	<ul style="list-style-type: none"> <li>Bandanna commissioned M Resources Pty Ltd, to undertake a coal quality analysis update and assist in the feasibility study in September 2012. This work</li> </ul>

Criteria	JORC Code explanation	CP Comments
<i>assumptions</i>	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.	<p>included a total of 50 bore core samples from the Aries 2 seam.</p> <ul style="list-style-type: none"> <li>• A detailed coal quality analysis of the Aries 2 seam, in the Springton South Domain, was undertaken by Gallagher Consulting Services Pty Ltd (GCS) in December 2012, as part of the definitive feasibility study.</li> <li>• A&amp;B Mylec completed a full review of the database in early 2014, including numerous database validation checks, a review of insitu and product moistures and ultimately assisted Springsure Creek in producing a typical coal quality specification.</li> </ul>
<i>Environmental factors or assumptions</i>	<ul style="list-style-type: none"> <li>• Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</li> </ul>	<ul style="list-style-type: none"> <li>• The Springsure Creek Coal Project has received State and Federal Government approval of the EIS.</li> <li>• It is Xenith's opinion that there are no limiting environmental factors at this stage of the project development.</li> </ul>
<i>Bulk density</i>	<ul style="list-style-type: none"> <li>• Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used,</li> </ul>	<ul style="list-style-type: none"> <li>• Insitu Relative Density Estimation – The insitu density of the coal seams has been estimated using the Preston</li> </ul>

Criteria	JORC Code explanation	CP Comments
	<p>whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</p> <ul style="list-style-type: none"> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<p>Sanders insitu relative density estimation equation.</p> <ul style="list-style-type: none"> <li>An insitu moisture of 15.5% was assumed and used to moisture correct laboratory derived relative density values.</li> </ul>
<i>Classification</i>	<ul style="list-style-type: none"> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (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).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<ul style="list-style-type: none"> <li>Three resource categories have been identified in the Springsure Creek area dependant on the level of confidence in the seam structure and continuity plus the level of variability in the coal quality data. The maximum distance between valid points of observation (PoB) for each resource category are: <ul style="list-style-type: none"> <li>Measured – 1,000 m</li> <li>Indicated – 2,000 m</li> <li>Inferred – 4,000 m</li> </ul> </li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of Mineral Resource estimates.</li> </ul>	<ul style="list-style-type: none"> <li>No audits of the 2014 Resource Estimate have been conducted. Previous resource estimates were audited by Palaris Australia Pty Ltd on behalf of Bandanna Energy Limited.</li> </ul>
<i>Discussion of relative accuracy/ confidence</i>	<ul style="list-style-type: none"> <li>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of</li> </ul>	<ul style="list-style-type: none"> <li>Xenith have assigned three levels of confidence to the Coal Resource Estimate depending on the seam and drill holes spacing, as described in the section 'Resource Classification' of this report.</li> </ul>



Criteria	JORC Code explanation	CP Comments
	<p>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.</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	<ul style="list-style-type: none"> <li>• A geostatistical study was completed in July 2013 by Geostatistical Mining Solutions Pty Ltd (GMS). The study reported the estimate of the relative error at 90-95% confidence level (RE) in the mean value of seam thickness (THK), raw ash% (ASH) and total sulphur (TS) in the Aries 2 seam.</li> <li>• The study used Conditional Simulation and Extension Variance methodologies, using regular sized blocks (500x500m) and various polygons representing areas to be mined over various timescales (2, 5,7 and 10 years).</li> <li>• For the 2 year mining area polygon at 1000m hole spacing, the Relative Error for Thickness x Ash is estimated to be approximately 12% at the 90% confidence level, whilst Thickness and Total Sulphur are estimated to be &lt;10% at the 90% confidence level.</li> <li>• The 5 year mining area polygon showed that the RE of all parameters was &lt;10% at the 90% confidence level at 1000m hole spacing</li> <li>• The findings of the geostatistical study, supports the maximum distances between the PoB (as listed above) to the required level of confidence of the Competent Person.</li> <li>• Factors that could affect accuracy include unknown structures between completed boreholes, seam washouts in roof or in-seam stone bands developing. The 2013/2014 borehole data and interpretation of acoustic scanner by ASIMS identified 6 faults, which</li> </ul>

Criteria	JORC Code explanation	CP Comments
		have been incorporated in the schema of the Springsure Creek geological model. Three of them occur within the Permian coal succession and intersect the Aries 2 seam, while the other 3 faults occur within the Triassic Rewan Formation. The 3 faults that have been confirmed in boreholes have maximum throws of 14 m, 10 m, and 2 m respectively.

## Appendix B. DRILL HOLE DATA

Hole Name	Lease Domain	Hole Type	Aries 2 Thickness (m)	Geological Model	JORC PoB	Core Diameter (mm)	Geophysical Tools Run	Datum	Projection	Easting (m)	Northing (m)	RL (m)	TD (m)
SS=Springton South, SN=Springton North, M=Moorooloo, TC=Turkey Creek, ARC=Arcturus; OUT of lease EPC891; G=Gamma, D=Density, C=Caliper, V=Sonic, Z=Verticality, N=Neutron, S=Scanner, R=Resistivity, I=Dipmeter, A=Acoustic Scanner, P=Spontaneous Potential, E=Electric Survey, M=Micro Inverse, H=Photo Density Sonde, T=DTCM, E=PEDN, L=PDL, W=WSS, B=PS-BEF													
SPR001C	SS	Core + Geotech	3.58	Yes	Yes	101.6	CDGVZ	GDA 94	Zone 55	642372.0	7350482.0	187.8	259.62
SPR002C	SS	Core + Geotech	3.16	Yes	Yes	101.6	CDGVZ	GDA 94	Zone 55	640991.0	7351266.0	179.3	228.61
SPR003C	ARC	Core + Geotech	2.19	Yes	No	101.6	CDGVZ	GDA 94	Zone 55	652062.0	7339279.0	182.5	243.28
SPR004	M	Chip	-	Yes	No	-	-	GDA 94	Zone 55	636200.4	7342249.6	202.0	104.00
SPR005	M	Chip	-	Yes	No	-	-	GDA 94	Zone 55	637286.9	7342282.2	207.7	254.00
SPR006	M	Chip	-	No	No	-	-	GDA 94	Zone 55	645460.0	7341470.0	194.3	15.00
SPR007	M	Chip	-	No	No	-	-	GDA 94	Zone 55	644510.0	7341490.0	194.0	132.00
SPR008	M	Chip	-	Yes	No	-	-	GDA 94	Zone 55	640223.8	7342314.1	204.1	302.00
SPR009	M	Chip	2.70	Yes	No	-	CDGVZ	GDA 94	Zone 55	640790.0	7341425.1	212.3	320.00
SPR009C	M	Core + Geotech	2.69	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	640789.9	7341433.5	212.4	303.80
SPR010	M	Chip	-	No	No	-	CDGVZ	GDA 94	Zone 55	641707.0	7340984.5	203.3	272.00
SPR010C	M	Core + Geotech	3.38	Yes	Yes	101.6	-	GDA 94	Zone 55	641696.3	7340990.4	203.6	253.00
SPR011	M	Chip	2.95	Yes	No	-	CDGVZ	GDA 94	Zone 55	642401.6	7340318.5	204.8	275.62
SPR012	M	Chip	2.30	Yes	No	-	CDGVZ	GDA 94	Zone 55	643651.4	7340594.0	206.5	253.00
SPR013	M	Chip	2.16	Yes	No	-	CDGVZ	GDA 94	Zone 55	644627.8	7340597.5	201.2	278.00
SPR014	M	Chip	1.97	Yes	No	-	CDGZ	GDA 94	Zone 55	645654.4	7340580.7	205.1	314.00

Hole Name	Lease Domain	Hole Type	Aries 2 Thickness (m)	Geological Model	JORC PoB	Core Diameter (mm)	Geophysical Tools Run	Datum	Projection	Easting (m)	Northing (m)	RL (m)	TD (m)
<b>SS=Springton South, SN=Springton North, M=Moorooloo, TC=Turkey Creek, ARC=Arcturus; OUT of lease EPC891; G=Gamma, D=Density, C=Caliper, V=Sonic, Z=Verticality, N=Neutron, S=Scanner, R=Resistivity, I=Dipmeter, A=Acoustic Scanner, P=Spontaneous Potential, E=Electric Survey, M=Micro Inverse, H=Photo Density Sonde, T=DTCM, E=PEDN, L=PDL, W=WSS, B=PS-BEF</b>													
SPR015	M	Chip	-	No	No	-	CDGVZ	GDA 94	Zone 55	642527.9	7345521.4	192.0	276.00
SPR015C	M	Core + Geotech	3.59	Yes	Yes	101.6	CDGVZ	GDA 94	Zone 55	642527.9	7345521.4	191.9	240.14
SPR016R	M	Chip	3.20	Yes	No	-	CDGVZ	GDA 94	Zone 55	643530.0	7345542.0	197.8	275.43
SPR017	M	Chip	3.39	Yes	No	-	CDGVZ	GDA 94	Zone 55	644551.0	7345531.0	198.3	302.07
SPR018	M	Chip	3.22	Yes	No	-	CDGZ	GDA 94	Zone 55	640804.7	7345549.3	191.5	337.94
SPR019	ARC	Chip	0.24	Yes	No	-	CDGVZ	GDA 94	Zone 55	646072.0	7336293.9	188.8	292.00
SPR020	ARC	Chip	0.45	Yes	No	-	CDGVZ	GDA 94	Zone 55	646951.1	7336501.9	185.2	297.00
SPR021	M	Chip	0.70	Yes	No	-	CDGVZ	GDA 94	Zone 55	644213.7	7336253.1	194.9	320.00
SPR022C	SS	Core + Geotech	3.18	Yes	Yes	101.6	CDGVZ	GDA 94	Zone 55	641644.3	7350280.4	179.8	227.79
SPR024C	SS	Core + Geotech	3.71	Yes	Yes	101.6	CDGVZ	GDA 94	Zone 55	644043.3	7349520.5	181.7	249.07
SPR026C	SN	Core + Geotech	1.62	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	640277.7	7353892.3	182.6	258.00
SPR028C	SN	Core + Geotech	1.06	Yes	Yes	101.6	CDGVZ	GDA 94	Zone 55	642454.2	7353973.9	185.0	314.23
SPR029C	SS	Core + Geotech	2.69	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	640722.6	7347692.0	195.9	351.39
SPR030C	M	Core + Geotech	3.30	No	No	61.1	CDGVZ	GDA 94	Zone 55	642745.7	7344547.3	200.0	261.51
SPR030CR	M	Core + Geotech	3.30	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	642754.2	7344511.8	200.0	228.15
SPR031C	SS	Core + Geotech	2.74	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	639664.0	7351506.0	181.5	276.09
SPR032C	SS	Core + Geotech	2.95	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	642757.1	7351276.1	174.6	227.86

Hole Name	Lease Domain	Hole Type	Aries 2 Thickness (m)	Geological Model	JORC PoB	Core Diameter (mm)	Geophysical Tools Run	Datum	Projection	Easting (m)	Northing (m)	RL (m)	TD (m)
<b>SS=Springton South, SN=Springton North, M=Moorooloo, TC=Turkey Creek, ARC=Arcturus; OUT of lease EPC891; G=Gamma, D=Density, C=Caliper, V=Sonic, Z=Verticality, N=Neutron, S=Scanner, R=Resistivity, I=Dipmeter, A=Acoustic Scanner, P=Spontaneous Potential, E=Electric Survey, M=Micro Inverse, H=Photo Density Sonde, T=DTCM, E=PEDN, L=PDL, W=WSS, B=PS-BEF</b>													
SPR034C	SS	Core	3.20	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	643577.5	7350569.1	177.0	235.82
SPR035C	SS	Core + Geotech	3.02	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	641944.7	7349097.6	191.8	254.70
SPR036C	SS	Core + Geotech + Piezo	2.84	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	640910.7	7349334.5	179.2	282.15
SPR038C	SS	Core + Geotech	2.90	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	641259.0	7348280.6	194.8	306.90
SPR039C	SS	Core	3.03	Yes	Yes	101.6	CDGVZ	GDA 94	Zone 55	642358.5	7348430.8	178.8	254.02
SPR040	SS	Chip	-	No	No	-	-	GDA 94	Zone 55	640439.0	7352111.8	178.7	19.00
SPR040R	SS	Chip	-	Yes	No	-	-	GDA 94	Zone 55	640438.0	7352112.0	178.0	21.50
SPR041C	SS	Core + Geotech	3.63	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	644963.2	7348768.5	172.2	271.80
SPR043	SS	Core	-	No	No	-	-	GDA 94	Zone 55	643591.2	7347248.4	174.1	214.13
SPR043C	SS	Core + Geotech	3.54	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	643596.5	7347258.6	179.0	233.90
SPR044C	SS	Core + Geotech	-	No	No	101.6	CDGVZ	GDA 94	Zone 55	642054.6	7347358.2	197.5	290.44
SPR044CR	SS	Core + Geotech	2.90	Yes	Yes	101.6	CDGVZ	GDA 94	Zone 55	641941.6	7347473.0	197.7	279.00
SPR045C	M	Core + Geotech + Piezo	3.35	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	641683.3	7346239.1	190.9	274.82
SPR046C	SS	Core + Geotech	3.67	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	642716.6	7346848.2	177.2	248.77
SPR047C	SS	Core + Geotech	3.74	Yes	Yes	61.1	DGZ	GDA 94	Zone 55	644396.0	7347677.4	176.4	263.83
SPR049C	SS	Core + Geotech	2.93	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	640888.6	7346943.0	197.5	341.43

Hole Name	Lease Domain	Hole Type	Aries 2 Thickness (m)	Geological Model	JORC PoB	Core Diameter (mm)	Geophysical Tools Run	Datum	Projection	Easting (m)	Northing (m)	RL (m)	TD (m)
<b>SS=Springton South, SN=Springton North, M=Moorooloo, TC=Turkey Creek, ARC=Arcturus; OUT of lease EPC891; G=Gamma, D=Density, C=Caliper, V=Sonic, Z=Verticality, N=Neutron, S=Scanner, R=Resistivity, I=Dipmeter, A=Acoustic Scanner, P=Spontaneous Potential, E=Electric Survey, M=Micro Inverse, H=Photo Density Sonde, T=DTCM, E=PEDN, L=PDL, W=WSS, B=PS-BEF</b>													
SPR053C	M	Core + Geotech	1.89	Yes	Yes	61.1 / 101.6	DGZ	GDA 94	Zone 55	641296.5	7342303.0	208.6	279.26
SPR054C	M	Core + Geotech	3.36	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	642307.5	7342280.5	202.4	229.31
SPR055	M	Chip	2.88	Yes	No	-	CDGVZ	GDA 94	Zone 55	642699.8	7341453.9	197.0	215.00
SPR056	M	Chip	-	Yes	No	-	-	GDA 94	Zone 55	641094.7	7344096.1	205.3	114.00
SPR056R	M	Chip	-	No	No	-	-	GDA 94	Zone 55	641095.0	7344060.0	200.0	104.00
SPR058C	M	Core + Geotech	2.17	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	643712.5	7341457.8	193.3	234.00
SPR060C	M	Core + Geotech	2.96	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	640291.0	7342985.0	204.6	334.22
SPR062C	M	Core + Geotech	3.56	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	641637.5	7343231.3	208.7	262.44
SPR063C	M	Core + Geotech	3.60	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	642794.4	7343293.2	203.6	237.14
SPR069C	M	Core + Geotech	3.27	Yes	Yes	61.1	Z	GDA 94	Zone 55	641706.7	7344907.8	197.4	259.08
SPR070	M	Chip	-	Yes	No	-	-	GDA 94	Zone 55	640753.2	7345100.0	197.0	126.00
SPR070R	M	Chip	-	Yes	No	-	-	GDA 94	Zone 55	640080.0	7344543.0	200.0	66.00
SPR074	SN	Chip	-	No	No	-	-	GDA 94	Zone 55	642419.9	7349200.7	194.5	103.00
SPR075C	SS	Core	2.36	Yes	No	61.1	-	GDA 94	Zone 55	640789.1	7350627.6	179.4	238.05
SPR076C	SS	Core	2.93	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	641420.8	7349735.7	181.8	243.00
SPR077	SS	Chip	-	Yes	No	-	-	GDA 94	Zone 55	636861.8	7351090.0	192.6	333.00
SPR078	SS	Chip	-	No	No	-	-	GDA 94	Zone 55	637073.7	7350123.4	192.2	446.00

Hole Name	Lease Domain	Hole Type	Aries 2 Thickness (m)	Geological Model	JORC PoB	Core Diameter (mm)	Geophysical Tools Run	Datum	Projection	Easting (m)	Northing (m)	RL (m)	TD (m)
<b>SS=Springton South, SN=Springton North, M=Moorooloo, TC=Turkey Creek, ARC=Arcturus; OUT of lease EPC891; G=Gamma, D=Density, C=Caliper, V=Sonic, Z=Verticality, N=Neutron, S=Scanner, R=Resistivity, I=Dipmeter, A=Acoustic Scanner, P=Spontaneous Potential, E=Electric Survey, M=Micro Inverse, H=Photo Density Sonde, T=DTCM, E=PEDN, L=PDL, W=WSS, B=PS-BEF</b>													
SPR079	SS	Chip + Core	-	Yes	No	61.1	-	GDA 94	Zone 55	637498.2	7347902.3	195.8	450.00
SPR080C	SS	Chip	-	Yes	No	-	-	GDA 94	Zone 55	638865.1	7350571.5	190.5	348.00
SPR081	SS	Chip	2.60	Yes	No	-	DG	GDA 94	Zone 55	638404.3	7349663.2	192.1	601.00
SPR082C	SS	Core + Geotech	2.67	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	640289.1	7350002.8	182.8	321.90
SPR083C	SN	Core	1.52	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	638396.3	7355321.9	187.4	290.47
SPR084C	SN	Core	1.34	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	639520.2	7356114.9	181.4	311.74
SPR085C	SS	Core	3.19	Yes	Yes	61.1	CDGV	GDA 94	Zone 55	639803.0	7352886.2	185.0	256.00
SPR086C	SS	Core + Geotech	2.69	Yes	Yes	61.1	DGT	GDA 94	Zone 55	639793.4	7349669.3	184.7	394.11
SPR087C	SS	Core	2.84	Yes	Yes	61.1	CDGT	GDA 94	Zone 55	640354.1	7350116.9	182.7	305.64
SPR088C	SS	Core + Geotech	2.62	Yes	Yes	61.1	DGZT	GDA 94	Zone 55	638918.8	7351193.8	189.1	419.94
SPR089C	SS	Chip + Core	2.95	Yes	No	61.1	DGT	GDA 94	Zone 55	639033.6	7352250.2	186.5	314.16
SPR089CR	SS	Chip	-	No	No	-	-	GDA 94	Zone 55	639035.4	7352256.1	186.4	82.00
SPR090	SS	Chip	-	No	No	-	-	GDA 94	Zone 55	639044.2	7349072.9	191.8	270.00
SPR091C	SS	Core	3.35	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	638099.1	7353183.9	200.7	371.75
SPR092C	SS	Core	2.89	Yes	Yes	61.1	CDGZ	GDA 94	Zone 55	639127.5	7349984.1	189.9	456.18
SPR093C	SS	Core + Geotech	-	No	No	61.1	CDG	GDA 94	Zone 55	638571.8	7353787.7	199.8	318.24
SPR094C	SS	Core + Geotech	2.61	Yes	Yes	61.1	CDG	GDA 94	Zone 55	640186.4	7350941.1	181.2	284.39



Hole Name	Lease Domain	Hole Type	Aries 2 Thickness (m)	Geological Model	JORC PoB	Core Diameter (mm)	Geophysical Tools Run	Datum	Projection	Easting (m)	Northing (m)	RL (m)	TD (m)
<b>SS=Springton South, SN=Springton North, M=Moorooloo, TC=Turkey Creek, ARC=Arcturus; OUT of lease EPC891; G=Gamma, D=Density, C=Caliper, V=Sonic, Z=Verticality, N=Neutron, S=Scanner, R=Resistivity, I=Dipmeter, A=Acoustic Scanner, P=Spontaneous Potential, E=Electric Survey, M=Micro Inverse, H=Photo Density Sonde, T=DTCM, E=PEDN, L=PDL, W=WSS, B=PS-BEF</b>													
SPR095	SS	Chip	-	No	No	-	-	GDA 94	Zone 55	638235.4	7350564.0	190.4	44.00
SPR096C	SN	Chip + Core	1.54	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	639123.8	7354527.6	194.0	296.77
SPR097C	SS	Core + Geotech	2.91	Yes	Yes	61.1	CDG	GDA 94	Zone 55	639006.4	7353285.9	190.6	297.10
SPR098C	SS	Core	3.67	Yes	Yes	61.1	DGZ	GDA 94	Zone 55	637956.5	7352463.4	191.5	426.00
SPR099C	SS	Core	3.55	Yes	Yes	61.1	CDGVZR	GDA 94	Zone 55	637341.1	7353117.2	199.5	443.30
SPR100C	SN	Core + Geotech	1.31	Yes	Yes	61.1	DG	GDA 94	Zone 55	638881.1	7354197.3	196.9	308.94
SPR101C	SS	Core	3.55	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	637633.5	7353881.4	195.7	383.94
SPR102C	SS	Core	2.57	Yes	Yes	61.1	CDGVZAI	GDA 94	Zone 55	636748.5	7354081.5	195.1	416.94
SPR103C	SS	Core	3.04	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	639089.3	7352290.5	186.3	294.40
SPR104C	SS	Core + Geotech	3.22	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	640240.1	7353289.1	183.4	284.94
SPR105C	SS	Spon. Comb.	3.18	Yes	No	61.1	CDGVZA	GDA 94	Zone 55	638601.4	7352788.7	188.8	339.14
SPR106C	SS	Core + Geotech	2.68	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	639793.9	7349660.6	184.9	360.04
SPR107C	SN	Core + Piezo	1.91	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	638114.5	7354385.8	196.4	350.94
SPR108C	SN	Core	1.46	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	638251.6	7354542.7	197.0	296.34
SPR109C	SS	Core	2.92	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	638693.4	7351856.2	187.0	361.29
SPR110C	SS	Core	3.09	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	637959.3	7351256.6	188.8	525.35
SPR111C	SN	Core + Geotech	-	Yes	No	61.1	CDGV	GDA 94	Zone 55	639691.2	7354982.7	186.9	64.21

Hole Name	Lease Domain	Hole Type	Aries 2 Thickness (m)	Geological Model	JORC PoB	Core Diameter (mm)	Geophysical Tools Run	Datum	Projection	Easting (m)	Northing (m)	RL (m)	TD (m)
<b>SS=Springton South, SN=Springton North, M=Moorooloo, TC=Turkey Creek, ARC=Arcturus; OUT of lease EPC891; G=Gamma, D=Density, C=Caliper, V=Sonic, Z=Verticality, N=Neutron, S=Scanner, R=Resistivity, I=Dipmeter, A=Acoustic Scanner, P=Spontaneous Potential, E=Electric Survey, M=Micro Inverse, H=Photo Density Sonde, T=DTCM, E=PEDN, L=PDL, W=WSS, B=PS-BEF</b>													
SPR112C	SN	Core + Geotech	-	Yes	No	61.1	CDGV	GDA 94	Zone 55	639660.1	7354856.6	186.9	61.28
SPR113C	SN	Core + Geotech	-	Yes	No	61.1	CDGV	GDA 94	Zone 55	639630.4	7354744.4	187.1	61.28
SPR114C	SS	Core	2.68	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	638228.2	7350574.1	190.1	533.00
SPR115C	SN	Core + Geotech	-	Yes	No	61.1	CDGV	GDA 94	Zone 55	639606.7	7354620.1	187.7	61.28
SPR116C	SS	Chip	-	No	No	-	-	GDA 94	Zone 55	638597.0	7352789.5	189.4	97.00
SPR117C	SN	Core + Geotech	-	Yes	No	61.1	CDGV	GDA 94	Zone 55	639574.3	7354498.2	187.8	61.35
SPR118C	SS	Core	2.70	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	638865.6	7350575.9	190.6	458.94
SPR119C	SS	Core + Geotech	3.08	Yes	Yes	61.1	CDGV	GDA 94	Zone 55	638791.0	7352903.0	188.6	295.28
SPR120C	SS	Core + Geotech	3.10	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	639203.0	7352956.9	186.6	273.13
SPR121C	SS	Core + Geotech + Pump Well	3.36	Yes	Yes	203.2	CDGVZ	GDA 94	Zone 55	640259.3	7353311.3	183.3	250.63
SPR122C	SS	Core + Piezo	3.28	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	639673.5	7353456.0	186.1	275.95
SPR123C	SN	Core + Geotech	-	Yes	No	61.1	-	GDA 94	Zone 55	639523.2	7354278.6	189.1	110.80
SPR124C	SN	Core + Geotech	-	Yes	No	61.1	CDGVZ	GDA 94	Zone 55	639466.7	7354057.9	189.9	140.74
SPR125C	SN	Core + Geotech	-	Yes	No	61.1	CDGVZ	GDA 94	Zone 55	639413.8	7353837.8	189.6	176.74
SPR126C	SS	Core + Geotech	-	Yes	No	61.1	CDGVZ	GDA 94	Zone 55	639363.1	7353617.2	189.5	200.74
SPR127C	SS	Core + Geotech	3.30	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	639309.2	7353397.1	187.9	254.74
SPR128C	SS	Core + Geotech	3.30	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	639254.0	7353175.6	186.7	270.14

Hole Name	Lease Domain	Hole Type	Aries 2 Thickness (m)	Geological Model	JORC PoB	Core Diameter (mm)	Geophysical Tools Run	Datum	Projection	Easting (m)	Northing (m)	RL (m)	TD (m)
<b>SS=Springton South, SN=Springton North, M=Moorooloo, TC=Turkey Creek, ARC=Arcturus; OUT of lease EPC891; G=Gamma, D=Density, C=Caliper, V=Sonic, Z=Verticality, N=Neutron, S=Scanner, R=Resistivity, I=Dipmeter, A=Acoustic Scanner, P=Spontaneous Potential, E=Electric Survey, M=Micro Inverse, H=Photo Density Sonde, T=DTCM, E=PEDN, L=PDL, W=WSS, B=PS-BEF</b>													
SPR129	SS	Chip + Piezo	-	No	No	-	-	GDA 94	Zone 55	640244.5	7353301.5	183.3	156.00
SPR130	SS	Chip + Piezo	-	No	No	-	-	GDA 94	Zone 55	640272.3	7353322.8	183.2	49.00
SPR131C	SS	Core + Geotech + Pump Well	3.62	Yes	Yes	203.2	CDGVZ	GDA 94	Zone 55	638558.2	7353790.6	200.4	307.26
SPR132C	SS	Core + Piezo + Spon. Comb.	3.30	No	No	61.1	-	GDA 94	Zone 55	640232.4	7353294.1	183.3	248.34
SPR133C	SN	Core + Chip + Piezo	1.45	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	637587.4	7354703.9	186.4	344.94
SPR134C	SS	Core + Geotech	3.15	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	639059.3	7352922.1	186.8	289.14
P14	SS	Chip + Piezo	-	No	No	-	-	GDA 94	Zone 55	638927.2	7352896.7	187.5	54.00
SPR135C	SS	Core + Geotech+ Piezo	2.90	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	638929.7	7352900.1	187.4	314.73
DL9	SS	Chip	-	No	No	-	-	GDA 94	Zone 55	636455.4	7353174.3	195.9	12.00
DL11	SN	Chip + Piezo	-	No	No	-	-	GDA 94	Zone 55	637592.3	7354709.2	187.0	54.00
SPR136	SS	Chip + Piezo	-	Yes	No	-	-	GDA 94	Zone 55	638551.7	7353773.5	199.8	63.00
SPR137	SS	Chip + Piezo	-	Yes	No	-	-	GDA 94	Zone 55	638574.4	7353803.6	199.5	183.00
SPR138	SS	Chip + Piezo	-	No	No	-	-	GDA 94	Zone 55	638546.0	7353801.3	199.9	312.00
SPR139C	SS	Core	3.37	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	637278.3	7352126.3	196.9	547.13
SPR140C	SS	Core	3.34	Yes	Yes	61.1	CDGV	GDA 94	Zone 55	638334.1	7352939.4	194.0	341.24
SPR141C	SS	Core	3.06	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	638727.2	7352624.1	187.3	319.90
SPR142C	SS	Core	2.47	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	638404.0	7349663.0	192.1	555.34

Hole Name	Lease Domain	Hole Type	Aries 2 Thickness (m)	Geological Model	JORC PoB	Core Diameter (mm)	Geophysical Tools Run	Datum	Projection	Easting (m)	Northing (m)	RL (m)	TD (m)
<b>SS=Springton South, SN=Springton North, M=Moorooloo, TC=Turkey Creek, ARC=Arcturus; OUT of lease EPC891; G=Gamma, D=Density, C=Caliper, V=Sonic, Z=Verticality, N=Neutron, S=Scanner, R=Resistivity, I=Dipmeter, A=Acoustic Scanner, P=Spontaneous Potential, E=Electric Survey, M=Micro Inverse, H=Photo Density Sonde, T=DTCM, E=PEDN, L=PDL, W=WSS, B=PS-BEF</b>													
SPR143C	SS	Core	2.62	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	638035.0	7348922.0	193.3	602.94
SPR144C	SS	Core	2.86	Yes	No	61.1	DGVZ	GDA 94	Zone 55	637841.2	7353578.4	200.6	344.94
SPR145C	SS	Core	2.90	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	638919.2	7352416.3	185.6	311.84
SPR146C	SS	Core	3.58	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	638370.2	7353523.1	200.5	323.90
SPR147C	SS	Core	3.02	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	639469.3	7352578.2	185.0	277.12
SPR148C	SS	Core	2.96	Yes	Yes	61.1	DGVZA	GDA 94	Zone 55	637536.4	7350932.0	189.3	605.94
SPR149C	SN	Core + Geotech	-	Yes	No	61.1	DGV	GDA 94	Zone 55	639575.6	7354495.2	187.6	90.17
SPR150C	SS	Core	-	No	No	61.1	DGZ	GDA 94	Zone 55	637682.3	7349847.0	192.2	573.34
SPR151C	SS	Core	3.50	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	638777.6	7353540.4	195.5	293.94
SPR152C	SS	Core	3.30	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	639012.9	7352697.9	186.0	294.24
SPR153C	SS	Core	3.23	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	638584.1	7353244.3	194.9	308.94
SPR154C	SS	Core	3.41	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	638659.3	7353903.1	198.9	299.94
SPR155C	SN	Core	3.02	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	638737.5	7354006.6	198.4	294.34
SPR156C	SN	Core	1.60	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	638807.7	7354099.3	197.7	284.94
SPR157C	SS	Core	3.15	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	637858.9	7354092.1	196.1	327.34
SPR158C	SS	Core	2.30	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	637980.2	7354239.4	196.5	311.94
SPR159C	SS	Core	3.48	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	637912.3	7354163.4	196.3	312.24

Hole Name	Lease Domain	Hole Type	Aries 2 Thickness (m)	Geological Model	JORC PoB	Core Diameter (mm)	Geophysical Tools Run	Datum	Projection	Easting (m)	Northing (m)	RL (m)	TD (m)
SS=Springton South, SN=Springton North, M=Moorooloo, TC=Turkey Creek, ARC=Arcturus; OUT of lease EPC891; G=Gamma, D=Density, C=Caliper, V=Sonic, Z=Verticality, N=Neutron, S=Scanner, R=Resistivity, I=Dipmeter, A=Acoustic Scanner, P=Spontaneous Potential, E=Electric Survey, M=Micro Inverse, H=Photo Density Sonde, T=DTCM, E=PEDN, L=PDL, W=WSS, B=PS-BEF													
SPR160C	SS	Core	-	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	637295.8	7353582.8	194.0	398.94
SPR161C	SS	Core	3.50	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	637737.8	7353727.8	198.3	345.24
SPR162C	SS	Core	3.41	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	637808.3	7352070.4	190.2	477.24
SPR163C	SS	Core	3.77	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	636946.2	7353086.8	195.3	482.94
SPR164C	SS	Core	3.27	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	637962.3	7353423.7	202.3	380.94
SPR165C	SS	Core	2.37	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	637500.0	7347900.0	195.8	660.11
SPR166C	SS	Core	3.40	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	637974.0	7353022.0	198.8	396.24
SPR167C	SS	Core + Geotech	3.33	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	636770.0	7351490.0	196.8	687.14
SPR168C	SS	Core + Geotech	3.23	Yes	No	203.2	CDGVZA	GDA 94	Zone 55	638105.0	7353185.0	201.0	375.00
SPR169C	SS	Core + Geotech	3.55	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	637620.0	7352570.0	197.0	459.14
SPR170C	SS	Core + Geotech	3.19	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	638271.0	7352540.0	189.8	392.94
SPR171C	SS	Core + Geotech	3.63	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	637261.0	7352581.0	201.3	516.04
SPR172C	SS	Core + Geotech	3.43	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	636916.0	7352598.0	201.8	560.94
SPR173C	SS	Core + Geotech	3.35	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	636549.0	7352625.0	200.5	585.14
SPR174C	SS	Core + Geotech	2.64	Yes	Yes	61.1	CDGVZAT	GDA 94	Zone 55	637742.0	7349811.0	195.3	624.09
SPR175C	SS	Core + Geotech	3.45	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	637621.0	7353510.0	198.8	401.94
SPR176C	SS	Core + Geotech	3.35	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	637484.0	7354144.0	190.2	359.64

Hole Name	Lease Domain	Hole Type	Aries 2 Thickness (m)	Geological Model	JORC PoB	Core Diameter (mm)	Geophysical Tools Run	Datum	Projection	Easting (m)	Northing (m)	RL (m)	TD (m)
<b>SS=Springton South, SN=Springton North, M=Moorooloo, TC=Turkey Creek, ARC=Arcturus; OUT of lease EPC891; G=Gamma, D=Density, C=Caliper, V=Sonic, Z=Verticality, N=Neutron, S=Scanner, R=Resistivity, I=Dipmeter, A=Acoustic Scanner, P=Spontaneous Potential, E=Electric Survey, M=Micro Inverse, H=Photo Density Sonde, T=DTCM, E=PEDN, L=PDL, W=WSS, B=PS-BEF</b>													
SPR177C	SS	Core + Geotech	3.60	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	637200.0	7353732.0	191.0	401.94
SPR178C	SS	Gas + Perm + Geotech	3.35	Yes	Yes	61.1	CDGVZAT	GDA 94	Zone 55	638216.7	7353795.0	202.2	353.94
SPR179C	SS	Core + Geotech	3.04	Yes	Yes	61.1	CDGVZ	GDA 94	Zone 55	639502.8	7352187.3	186.2	299.04
SPR180C	SS	Gas + Perm + Geotech	3.20	Yes	Yes	61.1	CDGVZAT	GDA 94	Zone 55	639493.9	7352926.3	184.6	296.94
SPR181C	SS	Gas + Perm + Geotech	2.82	Yes	Yes	61.1	CDGVZAT	GDA 94	Zone 55	638987.1	7350898.7	189.3	465.08
SPR182C	SS	Core + Geotech	3.37	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	641016.0	7352567.0	185.2	250.14
SPR183C	SS	Gas + Perm + Geotech	3.49	Yes	Yes	61.1	CDGVZAT	GDA 94	Zone 55	636759.1	7352889.5	197.0	548.94
SPR184C	SS	Core + Geotech	3.35	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	641831.5	7352238.3	179.3	252.39
SPR185CR	SS	Gas + Geotech	2.91	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	640772.8	7350609.4	184.2	273.13
SPR186C	SS	Spon. Comb. + Geotech	3.71	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	637100.2	7353568.5	191.3	425.94
SPR187C	SS	Core + Geotech	3.62	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	637435.7	7353781.5	193.4	387.04
SPR188C	SS	Core + Geotech	3.65	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	637106.6	7353329.6	193.9	446.04
SPR189CR	SS	Gas + Geotech	3.53	Yes	Yes	61.1	CDGVZAT	GDA 94	Zone 55	645541.1	7348247.7	180.7	336.14
SPR190C	SS	Core + Geotech	3.56	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	637442.4	7353334.6	198.1	419.94
SPR191C	SS	Core + Geotech	3.65	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	636642.3	7353624.5	199.0	482.94
SPR192C	SS	Core + Geotech	3.19	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	646134.7	7348992.9	178.5	356.94
SPR193C	SS	Core + Geotech	3.66	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	637620.2	7353091.5	201.1	422.94

Hole Name	Lease Domain	Hole Type	Aries 2 Thickness (m)	Geological Model	JORC PoB	Core Diameter (mm)	Geophysical Tools Run	Datum	Projection	Easting (m)	Northing (m)	RL (m)	TD (m)
<b>SS=Springton South, SN=Springton North, M=Moorooloo, TC=Turkey Creek, ARC=Arcturus; OUT of lease EPC891; G=Gamma, D=Density, C=Caliper, V=Sonic, Z=Verticality, N=Neutron, S=Scanner, R=Resistivity, I=Dipmeter, A=Acoustic Scanner, P=Spontaneous Potential, E=Electric Survey, M=Micro Inverse, H=Photo Density Sonde, T=DTCM, E=PEDN, L=PDL, W=WSS, B=PS-BEF</b>													
SPR194C	SS	Core + Geotech	3.46	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	640419.5	7352102.3	182.9	264.14
SPR195C	SS	Core + Geotech	3.53	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	639877.3	7353253.6	183.9	260.94
SPR196C	SS	Gas + Geotech	2.27	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	641372.4	7351802.7	180.1	227.94
SPR197C	SS	Core + Geotech	2.32	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	638990.6	7349018.3	191.3	509.91
SPR198C	SS	Core + Geotech	2.72	Yes	Yes	61.1	CDGVZAN	GDA 94	Zone 55	639501.9	7351010.7	182.8	348.07
SPR199C	SS	Core + Geotech	3.11	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	641855.8	7350859.6	178.5	250.00
SPR200C	SS	Gas + Geotech	3.13	Yes	Yes	61.1	CDGVZATN	GDA 94	Zone 55	644799.2	7350162.9	175.8	324.24
SPR201C	SS	Core + Geotech	2.73	Yes	Yes	61.1	CDGVZAN	GDA 94	Zone 55	638806.6	7351524.4	188.0	393.09
SPR202C	SS	Core + Geotech	2.82	Yes	Yes	61.1	CDGVZAN	GDA 94	Zone 55	637012.7	7350462.0	190.8	681.10
SPR203C	SS	Core + Geotech	3.36	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	637040.8	7351802.4	197.1	624.24
SPR204C	SS	Core + Geotech	3.35	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	638951.1	7353790.5	194.7	318.10
SPR205P	SS	Chip	3.31	Yes	No	-	CDGVZ	GDA 94	Zone 55	638425.3	7352262.3	187.5	400.00
SPR206C	SS	Core + Geotech	3.15	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	638271.1	7352067.2	187.9	423.00
SPR207C	SS	Core + Geotech	2.66	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	639483.7	7350233.9	182.3	401.94
SPR208	SS	Chip + Geotech	3.81	Yes	No	-	CDGZA	GDA 94	Zone 55	637290.0	7353601.7	193.6	422.78
SPR209C	SS	Core + Geotech	2.60	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	639961.2	7350493.3	181.8	333.04
SPR210	SS	Chip	3.10	Yes	No	-	DGVZ	GDA 94	Zone 55	638507.0	7351768.1	187.2	410.50

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SPR211C	SS	Core + Geotech + Piezo	3.29	Yes	Yes	61.1	CDGVZAN + other	GDA 94	Zone 55	645587.1	7349373.8	173.9	338.94
SPR212C	SS	Core + Geotech	3.53	Yes	Yes	61.1	CDGVZAN	GDA 94	Zone 55	644433.2	7349273.7	174.9	278.94
SPR213C	SS	Core + Geotech	2.30	Yes	Yes	61.1	CDGVZAN	GDA 94	Zone 55	639484.9	7348991.1	187.7	447.10
SPR214C	SS	Core + Geotech	2.67	Yes	Yes	61.1	CDGVZAN	GDA 94	Zone 55	639999.0	7347005.0	190.2	438.31
SPR215C	SS	Core + Geotech	2.11	Yes	Yes	61.1	CDGVZAN	GDA 94	Zone 55	647014.1	7342009.0	190.9	365.94
SPR216C	SN	Core + Geotech	1.78	Yes	Yes	61.1	CDGVZA	GDA 94	Zone 55	637205.7	7354394.9	187.9	364.94
SPR217C	SS	Core + Geotech	2.96	Yes	Yes	61.1	CDGVZAN	GDA 94	Zone 55	639995.1	7345108.2	191.7	411.14
SPR218C	SS	Gas + Geotech	2.71	Yes	Yes	61.1	CDGVZAN	GDA 94	Zone 55	639330.3	7343957.5	196.7	447.18
SPR219C	SS	Core + Geotech	3.25	Yes	Yes	61.1	CDGVZAN	GDA 94	Zone 55	641099.6	7344244.6	202.9	312.19
SPR220C	SS	Gas + Geotech	3.69	Yes	Yes	61.1	CDGVZAN	GDA 94	Zone 55	644727.2	7346004.5	197.6	303.58
SPR221C	SN	Core + Geotech	N/A	Yes	No	61.1	CDGVZAN	GDA 94	Zone 55	639721.0	7355237.7	185.9	95.81
SPR222C	SS	Gas + Geotech	2.47	Yes	Yes	61.1	CDGVZAN	GDA 94	Zone 55	638926.6	7348104.1	185.8	522.10
SPR223C	SS	Gas + Geotech	3.12	Yes	Yes	61.1	CDGVZAN	GDA 94	Zone 55	643991.2	7342977.9	197.6	255.18
SPR224C	SS	Core + Geotech	3.07	Yes	Yes	61.1	CDGVZAN	GDA 94	Zone 55	646810.1	7347811.0	176.8	372.18
SPR225C	SS	Gas + Geotech	2.84	Yes	Yes	61.1	CDGVZAN	GDA 94	Zone 55	639000.9	7345987.2	189.1	503.03
SPR226CR	SS	Core + Geotech	3.09	Yes	Yes	61.1	DGVZAN	GDA 94	Zone 55	644362.5	7344090.5	194.4	288.00
SPR227C	SS	Gas + Geotech	2.45	Yes	Yes	61.1	CDGVZAN	GDA 94	Zone 55	645043.9	7342111.9	189.2	279.18



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<b>SS=Springton South, SN=Springton North, M=Moorooloo, TC=Turkey Creek, ARC=Arcturus; OUT of lease EPC891; G=Gamma, D=Density, C=Caliper, V=Sonic, Z=Verticality, N=Neutron, S=Scanner, R=Resistivity, I=Dipmeter, A=Acoustic Scanner, P=Spontaneous Potential, E=Electric Survey, M=Micro Inverse, H=Photo Density Sonde, T=DTCM, E=PEDN, L=PDL, W=WSS, B=PS-BEF</b>													
SPR228C	SS	Core + Geotech	2.56	Yes	Yes	61.1	CDGVZATN	GDA 94	Zone 55	646385.7	7343905.9	183.2	354.23
SPR229C	SS	Gas + Geotech	2.44	Yes	Yes	61.1	CDGVZATN	GDA 94	Zone 55	637003.0	7345969.7	190.6	606.00
SPR230C	SS	Core + Geotech	3.38	Yes	Yes	61.1	DGVZAN	GDA 94	Zone 55	646628.5	7345931.2	181.8	371.77
SPR231C	SS	Gas + Geotech	2.45	Yes	Yes	61.1	CDGVZATN	GDA 94	Zone 55	648368.3	7343934.5	182.5	408.28
Springton 1	SS	Petroleum	2.70	Yes	No	-	CFGPRV	GDA 94	Zone 55	641537.0	7351707.0	179.1	1332.70
Springton 2	SS	Petroleum	3.00	Yes	No	-	CFGPRV	GDA 94	Zone 55	643867.0	7348431.0	177.2	1146.00
Springton 3	SS	Petroleum	3.00	Yes	No	-	CDGNPRV	GDA 94	Zone 55	640365.0	7353318.0	184.0	1126.00
Springton 4	SS	Petroleum	-	No	No	-	CGPRV	GDA 94	Zone 55	642356.0	7350484.0	185.0	1307.00
Springton 5	SS	Petroleum	-	No	No	-	CGPRV	GDA 94	Zone 55	641078.0	7351352.0	180.1	1062.00
Springton 6	SS	Petroleum	3.50	Yes	No	-	CDGNPRV	GDA 94	Zone 55	643371.0	7349122.0	187.7	1076.00
Springton 7	SS	Petroleum	3.10	Yes	No	-	GHNPRV	GDA 94	Zone 55	642780.0	7350173.0	186.9	1860.00
Springton 8	SS	Petroleum	2.80	Yes	No	-	GHNPRV	GDA 94	Zone 55	641238.0	7351393.0	178.9	1041.00
Moorooloo 1	M	Petroleum	3.30	Yes	No	-	CFGPRV	GDA 94	Zone 55	643374.0	7344052.0	202.2	1146.00
Greenmount 1	M	Petroleum	3.10	Yes	No	-	CDEGNPRT	GDA 94	Zone 55	642327.5	7340113.6	206.4	1840.00
Arcturus 1	ARC	Petroleum	1.80	Yes	No	-	CGMV	GDA 94	Zone 55	652620.0	7338365.0	179.8	1890.70
Arcturus 2	M	Petroleum	3.00	No	No	-	EGV	GDA 94	Zone 55	643684.0	7343072.0	181.4	1112.50
Arcturus 3	ARC	Petroleum	1.80	Yes	No	-	EGM	GDA 94	Zone 55	654439.0	7336807.0	178.0	655.30

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Arcturus 4	OUT	Petroleum	-	No	No	-	-	GDA 94	Zone 55	654423.0	7335269.0	180.0	1112.80
Arcturus 5	ARC	Petroleum	3.30	Yes	No	-	DGNPRV	GDA 94	Zone 55	651652.0	7340289.0	181.6	1175.00
Arcturus 6	ARC	Petroleum	1.85	Yes	No	-	CGLNPRV	GDA 94	Zone 55	652508.0	7337740.0	183.3	1314.00
Arcturus 7	ARC	Petroleum	2.00	Yes	No	-	CGPRV	GDA 94	Zone 55	652069.9	7339263.7	185.3	1275.00
Turkey Creek 1	TC	Petroleum	1.50	Yes	No	-	DGP	GDA 94	Zone 55	635818.0	7359250.0	189.0	1132.50
Turkey Creek 2	OUT	Petroleum	2.60	Yes	No	-	CGPRV	GDA 94	Zone 55	635673.0	7364137.0	179.5	1848.00
Turkey Creek 3	TC	Petroleum	2.80	Yes	No	-	CGPRV	GDA 94	Zone 55	635819.0	7361448.0	179.0	1112.70
Turkey Creek 4	TC	Petroleum	1.30	Yes	No	-	GW	GDA 94	Zone 55	635818.0	7357563.0	183.4	1125.00
Turkey Creek 5	TC	Petroleum	1.60	Yes	No	-	CGPRV	GDA 94	Zone 55	635515.0	7360130.2	193.6	1061.00
DENISON5	M	Historic Coal	-	Yes	No	-	-	GDA 94	Zone 55	647336.0	7342097.3	187.8	183.00
DENISON6	M	Historic Coal	-	No	No	-	-	GDA 94	Zone 55	645967.2	7346418.2	181.1	67.00
DENISON7R	M	Historic Coal	-	No	No	-	-	GDA 94	Zone 55	645967.2	7346418.2	181.1	133.00
DENISON8	ARC	Historic Coal	-	No	No	-	-	GDA 94	Zone 55	650150.0	7340991.3	205.7	183.00
DENISON9	OUT	Historic Coal	-	No	No	-	-	GDA 94	Zone 55	633648.6	7343862.1	201.2	115.40
DENISON10	SN	Historic Coal	-	No	No	-	-	GDA 94	Zone 55	639120.6	7354484.5	194.8	85.01
DENISON11R	SN	Historic Coal	-	No	No	-	-	GDA 94	Zone 55	639120.6	7354484.5	194.8	182.90
DENISON18	TC	Historic Coal	1.94	Yes	No	-	-	GDA 94	Zone 55	633313.0	7362599.0	178.5	450.00

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DENISON19	TC	Historic Coal	-	Yes	No	-	-	GDA 94	Zone 55	634134.5	7356562.2	189.5	450.00
DENISON21	M	Historic Coal	3.49	Yes	No	-	-	GDA 94	Zone 55	641858.0	7341235.0	201.3	364.00
DENISON28	M	Historic Coal	1.55	Yes	No	-	-	GDA 94	Zone 55	643228.4	7332602.3	197.6	295.00
DENISON54	OUT	Historic Coal	-	No	No	-	-	GDA 94	Zone 55	650605.7	7346708.6	172.0	450.00
DENISON56	OUT	Historic Coal	-	No	No	-	-	GDA 94	Zone 55	646182.6	7356475.6	181.0	499.96
DENISON167	ARC	Historic Coal	-	Yes	No	-	-	GDA 94	Zone 55	648814.0	7335943.0	182.4	426.01
DENISON170	OUT	Historic Coal	1.95	Yes	No	-	-	GDA 94	Zone 55	635440.0	7342370.0	200.0	495.00
SHALIMARA 1	OUT	Petroleum	-	No	No	-	CGLMRT	GDA 94	Zone 55	630536.4	7361283.6	184.5	747.40
Zerogen 1	OUT	Petroleum	-	No	No	-	-	GDA 94	Zone 55	653035.9	7342202.8	181.8	1489.00
Zerogen 2	OUT	Petroleum	-	No	No	-	DLNRV	GDA 94	Zone 55	653022.8	7342224.4	181.8	1300.00
Zerogen 3	OUT	Petroleum	1.31	Yes	No	-	CGDR	GDA 94	Zone 55	646228.5	7350884.0	171.8	1260.50
Zerogen 4	OUT	Petroleum	-	No	No	-	CGDR	GDA 94	Zone 55	650947.0	7350727.0	170.6	1259.70
Zerogen 5	OUT	Petroleum	0.80	Yes	No	-	CGDR	GDA 94	Zone 55	641691.9	7359807.4	184.3	1313.90
Zerogen 6	SS	Petroleum	2.40	Yes	No	-	BCDGNPRV	GDA 94	Zone 55	640349.1	7346848.6	197.1	1301.60