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Carbon Energy Limited | ABN 56 057 552 137

## ASX/Media Announcement

17 May 2012

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# Carbon Energy announces 4 to 8 billion tonne conventional coal JORC Exploration Target

Carbon Energy (ASX:CNX OTCQX:CNXAY) today announced a conventional coal Exploration Target of between 4 and 8 billion tonnes (Bt) following an independent assessment of the exploration potential of the company's wholly owned Surat Basin coal tenements, near Dalby in south east Queensland. The review follows the program of work detailed as part of its strategic review announced on 29 March 2012.

In accordance with Joint Ore Reserves Committee (JORC) guidelines, the Exploration Target ranges in the continuous coal seams in the company-held tenures are:

	Expected depth ranges	EPC867 (Mt)	EPC868 (Mt)	EPC869 (Mt)	EPC1132 (Mt)	Totals by Seam (Mt)
<b>Westbourne Seams</b>	45 – 180m	100 – 210		100 – 225	25 – 75	<b>220 – 510</b>
<b>Springbok Seams</b>	100 – 250	50 – 110		25 – 75		<b>70 – 180</b>
<b>Macalister Seams</b>	120 – 500	2,000 – 4,100	340 – 680	500 – 1,010	210 – 435	<b>3,050 – 6,220</b>
<b>Wambo Seams</b>	120 – 500	190 – 380	175 – 360	440 – 890	120 – 240	<b>920 – 1,870</b>
<b>Totals by Lease</b>		<b>2,340 – 4,800</b>	<b>510 - 1,040</b>	<b>1,060 - 2,200</b>	<b>350 - 750</b>	<b>4,270 - 8,790</b>

### Notes:

- Previously reported JORC Indicated and Inferred Resources in MDL374, EPC867 and EPC869, including the Bloodwood Creek area, are not included in Exploration Target tonnages (**see Appendix A**).
- Tonnages quoted above are conceptual in nature and there has been insufficient exploration to define a coal resource (outside the previously reported Resources). Insufficient data exists to confidently correlate coal seams and generate a grid mesh model, however further exploration is likely to lead to the reporting of a JORC-standard resource.
- A general geological loss between 20-50% was applied to all tonnage calculations to account for seam splitting and stone bands. Additional loss was applied where required, particularly where there was a large spacing between boreholes.
- Regardless of actual coal quality results, coals from all Formations have been given an average wet, insitu density of 1.45 g/cc.
- Total tonnages in situ estimated with non-weathered seams un-intruded and >0.3m. Based on density log coverage seams <50% ash (adb).

The Exploration Target, which excludes the previously reported 668Mt JORC Indicated and Inferred Resources (Refer to Appendix A), was established following an independent third party review by Moultrie Database & Geology, to independently assess the additional coal resources contained in the company's 100% owned Surat Basin leases. Considerable use was made of company and open-file exploration data, and in particular, the combination of high-quality, available, downhole geophysical logs and company-initiated sedimentological and other regional structural studies.

The newly-defined Exploration Target identifies the potential of Carbon Energy's other assets. This review is part of the strategic direction to commercialise the company's proprietary Underground Coal Gasification (UCG) technology, based partly on leveraging off its vast undeveloped coal assets over approximately 1,400km<sup>2</sup> of tenements.

Carbon Energy Managing Director Andrew Dash said the company aimed to convert its substantial coal tenements into conventional coal resources, through a program of exploration drilling, and scoping and feasibility studies over the next 12 months.

In addition to this Exploration Target further upside includes:

- Between 1.7Bt and 3.5Bt of Westbourne, Springbok, and Macalister coal seams occur at depths shallower than 250m below ground surface.
- Significant other coal seams were intersected in the Juandah Coal Measures below the Wambo Seam, in the Tangalooma Sandstone, and in the Taroom Coal Measures. These are not included in the current estimates due to the difficulty in correlation between widely spaced drill holes, and the lack of modern geophysical logging responses to aid seam definition. These other "Rest of Walloon Coal Seams" have been estimated to have an additional gross in situ tonnage of between 6Bt and 13Bt, but this figure should be treated with low confidence until further drilling is completed.
- Potentially economic coals known in the Orallo Formation, Hutton Sandstone and Evergreen Formation were not estimated in this study due to insufficient data, but intersections of up to 3m thick have been reported in petroleum exploration wells drilled in the 1960s and 1970s.
- Correlation of boreholes available within EPC868 has shown that a full package of Lower Juandah, Tangalooma Sandstone and Taroom seams is available in parts of the lease area.

Carbon Energy is currently progressing with the following works on the wholly owned Eastern Surat exploration leases,

1. Further refinement of the geological model through inclusion of additional drill-hole data as it becomes available.
2. Exploration works:
  - Undertake drilling to define JORC resources
  - Initial assessment of coal quality and washability
3. Scoping study to define Mining Projects within the Exploration Target and/or Resource areas, which will include:
  - High level mine planning
  - Infrastructure assessment including rail and port capacity
  - Environmental requirements
  - Coal product marketability
  - Commercial assessment by project area

Mr Dash said the company is evaluating options to gain maximum value from the resource over the next 12 months to fund development of its world leading UCG technology.

"We believe our highly prospective thermal coal leases covering 1,400km<sup>2</sup> will provide significant scope to further our UCG innovation which is currently leading the world," Mr Dash said.

"It is a very exciting time for us as we continue to build confidence in the size and quality of our coal assets , giving us scope to develop our core business of expanding our UCG technology globally," he said.

## ENDS

For and on behalf of the Board



Andrew Dash  
Managing Director

**For more information please contact Andrew Crook on +61 419 788 431  
or refer to our website at [www.carbonenergy.com.au](http://www.carbonenergy.com.au)**

## **Competent Person**

The estimates of the Coal Resources presented in this Report are considered to be a true reflection of the Coal Resources as at 17 May 2012 and have been carried out in accordance with the principles and guidelines of the Australian Code for Reporting of Coal Resources and Coal Reserves published in September 2004 (JORC Code). Where quoted, it should be noted that the Exploration Target tonnages presented herein are not considered to be Resources as defined by the JORC Code. There has been insufficient exploration to define a Coal Resource and that it is uncertain if further exploration will result in the determination of a Coal Resource.

The information in this presentation (where it relates to resources) is based on information compiled by Mr Mark Biggs who is an employee of Moultrie Database & Geology and is a member of the Australian Institute of Mining and Metallurgy. Mr Biggs has sufficient experience which is relevant to the style of mineralization and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Biggs consents to the inclusion in the presentation of the matters based on his information in the form and context in which it appears.

## **About Carbon Energy**

Carbon Energy is a world leader of advanced coal technology. Our business is transforming stranded coal resources into high-value fuels with lower carbon emissions to meet the increasing global demand for new, low cost, alternative energy sources.

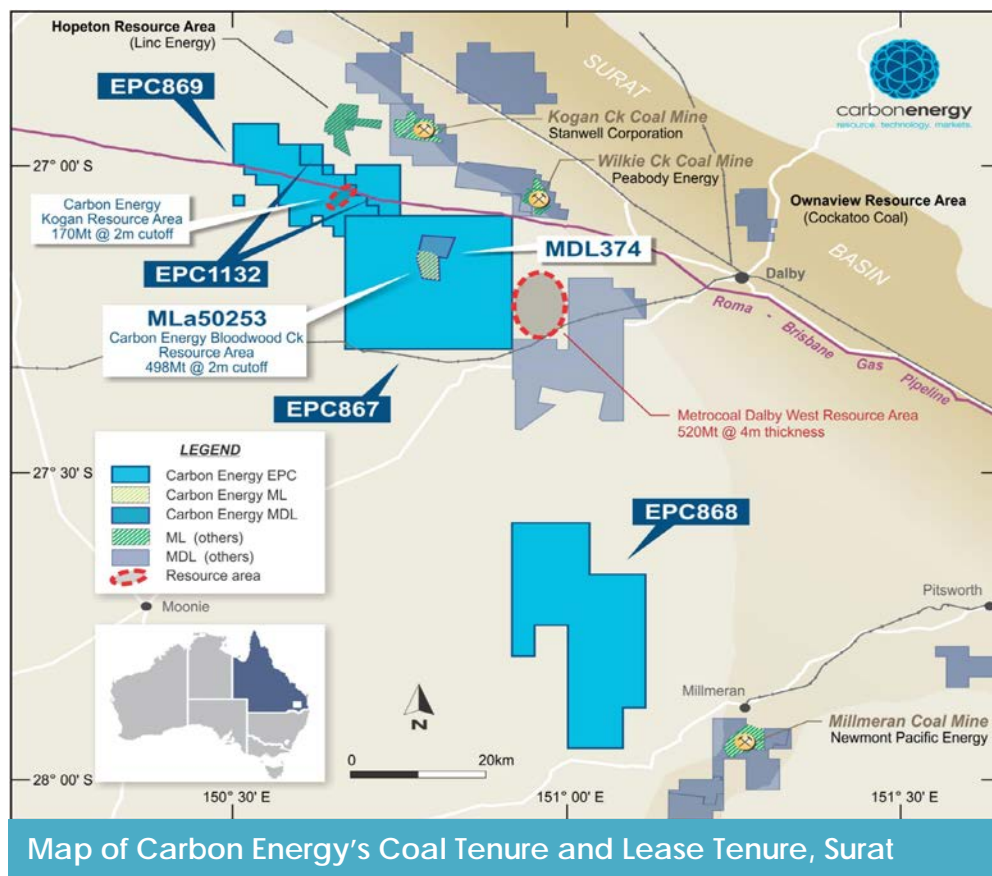
Carbon Energy is headquartered in Brisbane, Australia and listed on the Australian Securities Exchange (ASX). The Company also has an office in New York and is quoted on the OTCQX International.

The Company's proprietary technology, keyseam® is an innovation in underground coal gasification (UCG), incorporating a unique site selection methodology and advanced geological and hydrological modelling. Keyseam maximises resource efficiency, extracting up to 20 times more energy from the same resource than coal seam gas, whilst minimising surface disturbance and preserving groundwater quality.

Carbon Energy's technological advantage comes from its association with Australia's premier research agency, CSIRO, which includes world-class geotechnical, hydrological and gasification modelling capabilities.

Carbon Energy is building an international portfolio of coal assets suitable for keyseam® and accessible to high-value markets. The Company has resources and rights to coal assets in projects across Australia, Chile and the United States.

## Appendix A - Previously reported Coal Resource Summary - JORC Indicated and Inferred.



These resources in MDL374, EPC867 and EPC869 are in addition and are not included in Exploration Target tonnages announced today.

Location	Coal Thickness Cut-Off (m)	Indicated (Mt)	Inferred (Mt)	TOTAL (Mt)
Bloodwood Creek, Australia	2	218	280	498
Kogan, Australia	2	-	170	170
<b>Total Resource</b>	<b>2</b>	<b>218</b>	<b>450</b>	<b>668</b>

### Competent Person Statement – Coal

The information in this report that relates to resources is based on information compiled by Dr C.W. Mallett, Technical Director Carbon Energy Limited who is a member of the Australian Institute of Mining and Metallurgy. Dr Mallett has sufficient experience which is relevant to the style of mineralization and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Dr Mallett consents to the inclusion in the release of the matters based on his information in the form and context in which it appears.

## Appendix B: Additional Geological Information

The following qualifiers apply to all Exploration Target tonnages listed in this statement:

- Regardless of actual coal quality results, coals from all Formations have been given an average wet, insitu density of 1.45 g/cc;
- Total tonnages in situ estimated with non-weathered seams un-intruded and >0.3m;
- Based on density log coverage seams are <50% ash (adb); and
- Unexpected geological loss mainly due to seam splitting and thinning over large distances between boreholes.

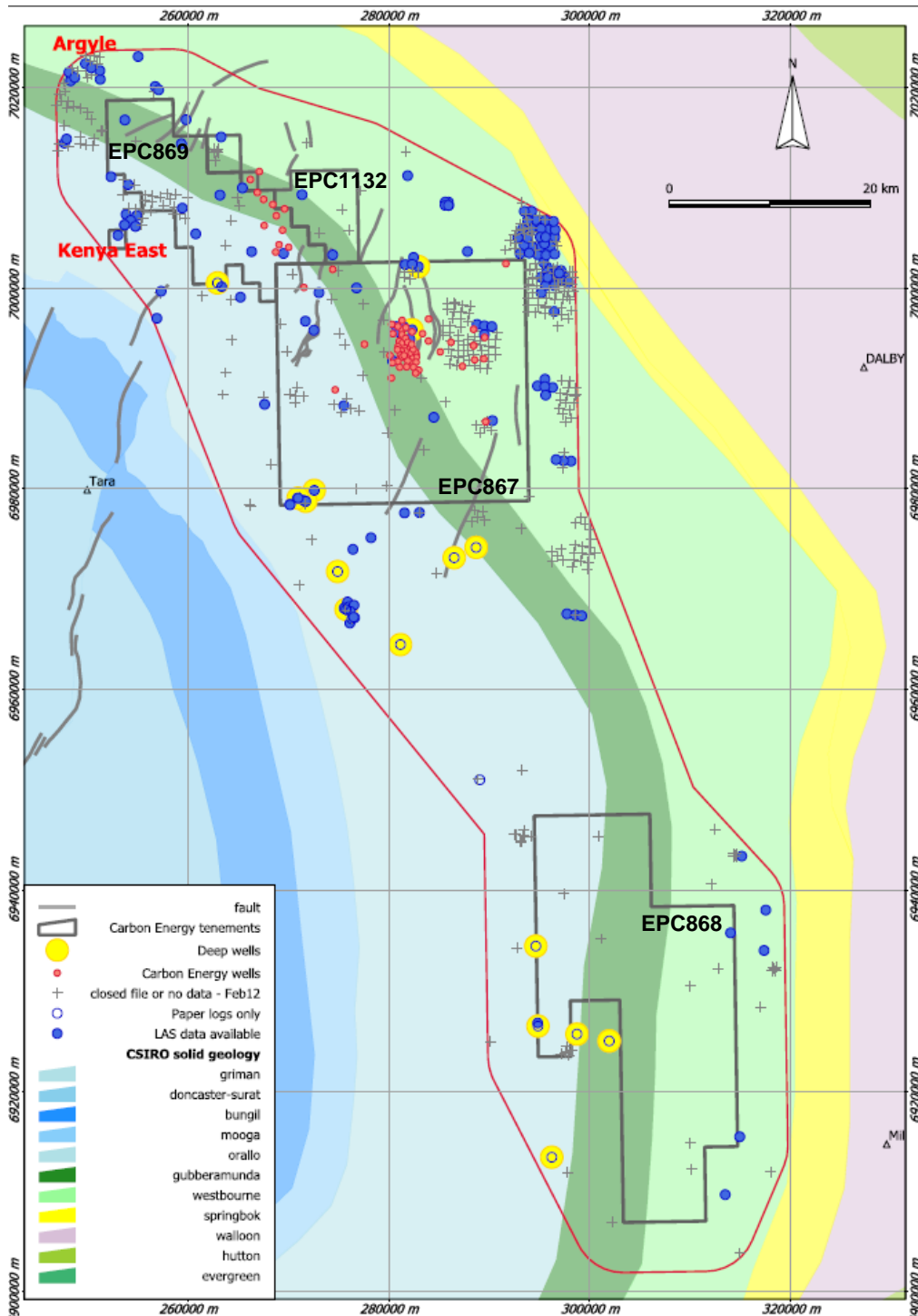
It should also be noted that the tonnages quoted herein are conceptual in nature and there has been insufficient exploration to define a coal resource (outside of the previously reported JORC Resources). Substantial coal quality data within the project area was uncovered in previous reports for the Macalister Seam package. Although a preliminary analysis was undertaken, insufficient data exists to confidently correlate coal seams and generate a grid mesh model. However, further exploration is likely to lead to the reporting of a JORC-compliant resource. There is some evidence to support the current exploration tonnage calculations, and the sufficient coal thicknesses interpreted from historic drilling to warrant further investigation in some areas.

The relative proportion of Exploration Target Formation by depth and expected in situ ash is tabulated below.

Formation	Depth (m)	Resource %*	Low Raw Ash %adb	High Raw Ash %adb
<b>Orallo Formation</b>	n/a			
<b>Westbourne Fm</b>	45 - 180	100%	12	50
<b>Springbok Sandstone</b>	100 - 250	85%	16	32
	250+	15%	-	-
<b>Juandah (Macalister)</b>	120 - 250	46%	9	26
	250 - 500	54%	10.5	40
<b>Juandah (Wambo)</b>	120 - 250	33%	12	45
	250 - 500	67%	12	50
<b>Other Walloon Coal seams</b>	120 - 250	21%	11.5	50
	250 - 500	69%	8	44
	500+	10	-	-

\*Refers to the proportion of the prescribed Exploration Target that occurs at this depth range.

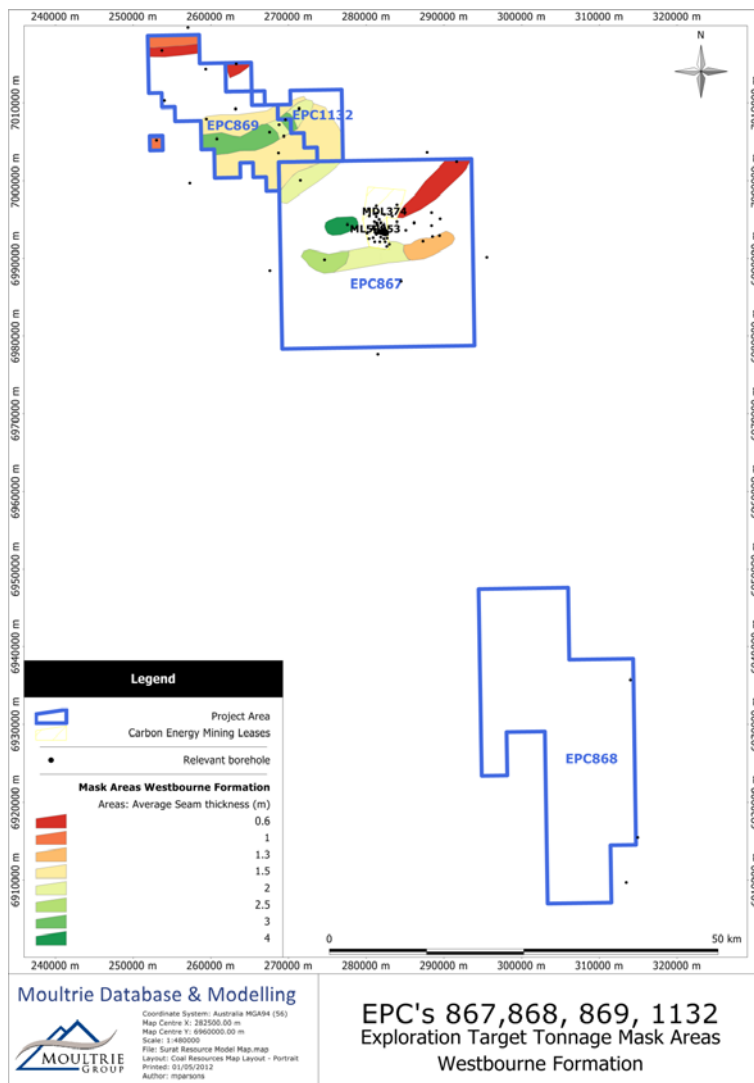
The following map indicates boreholes across Carbon Energy's coal tenure in the Surat Basin.



## Westbourne Formation

Occurrences of coal within the Westbourne Formation appear to be focused in predominately elongate pods separated by coal free zones. These pods are oriented in southwest-northeast pattern. No coal was intersected in the Westbourne Formation in boreholes available for EPC868.

Five seams have been commonly observed within the Westbourne Formation within two groups, one of up to two seams ( around 10m from the base of the Westbourne) and another of up to three seams ( separated by up to 50m of interburden) near the top of the Westbourne Formation. More detailed correlation is required to ascertain the consistency and nature of the seams within this package.



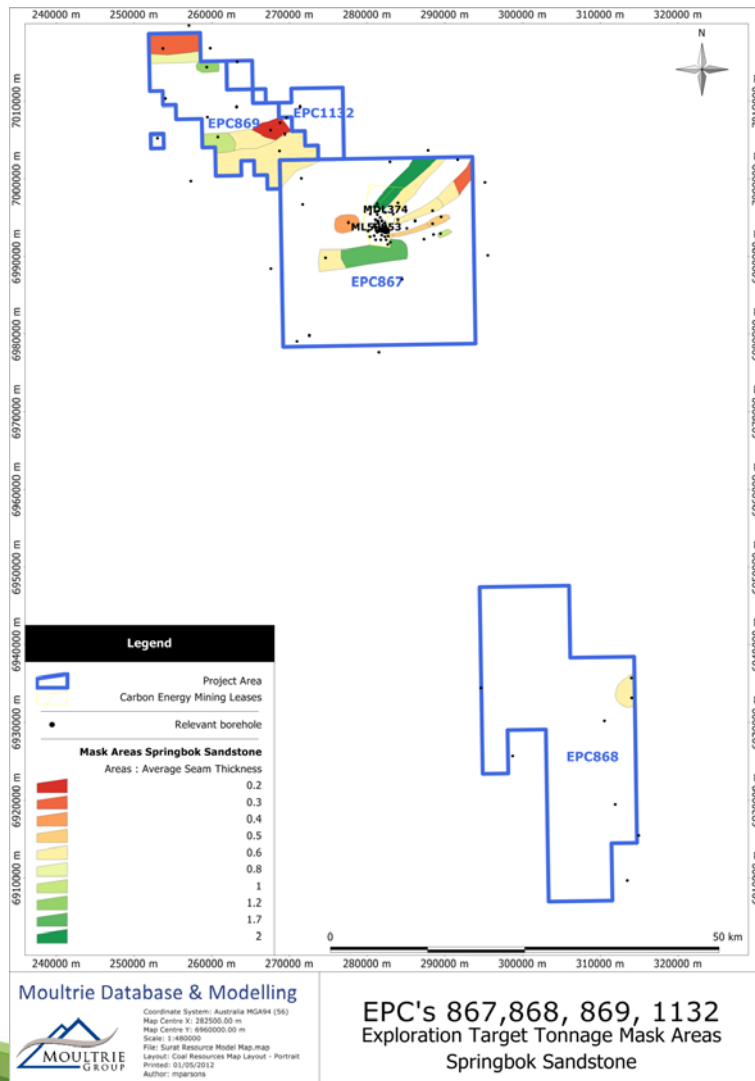


## Springbok Sandstone

Occurrences of coal within the Springbok Sandstone also appear to be focused in predominately elongate pods separated by coal free zones. These pods are also oriented in southwest-northeast pattern.

Coal was intersected in just two holes with EPC868. Due to the orientation of the holes it was difficult to ascertain the orientation of the pod so it was oriented similar to those in the northern EPC's. No coal was intersected in holes available for EPC1132.

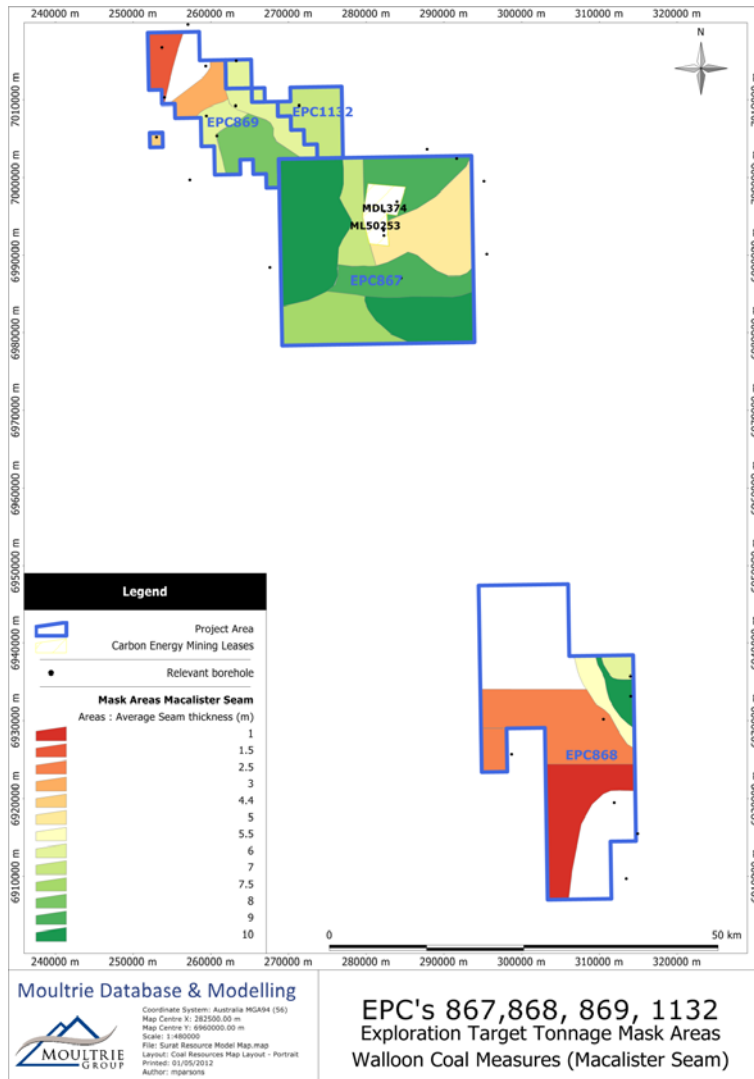
The Springbok Sandstone has three seams correlated SBC2, SBC1 and SBBA which is commonly carbonaceous. Two carbonaceous bands between SBC1 and SBC2 occasionally grade to coal.



## Macalister Seam

Occurrences of the Macalister Seam Package within the project area do not follow any overall pattern although coal can be seen to decrease to the northeast in EPC869 and to the southwest in EPC868.

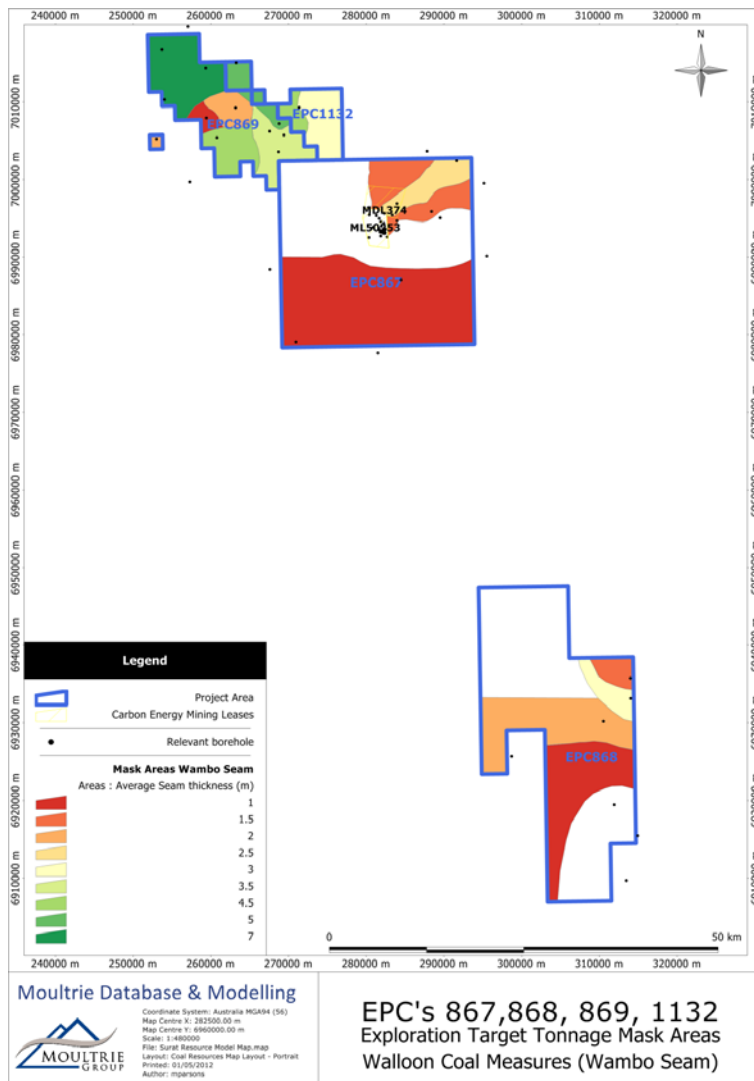
10 seams have been correlated within the Macalister Member although a number of unnamed additional seams occur locally.



## Wambo Seam

Occurrences of the Wambo Seam Package within the project area do not follow any overall pattern although coal could be seen to decrease to the south in EPC868 and increase to the northwest in EPC869.

3 seams have been correlated within the Wambo Seam Package.



## Rest of Walloon Coal Measures

The cumulative coal thickness for the remaining seams below the Wambo Seam package shows a general trend of thinning to the west. Correlation of boreholes available within EPC868 has shown that a full package of Lower Juandah, Tangalooma Sandstone and Taroom seams is available in parts of the lease area although it is evident that seams split and thin.

A large proportion of EPC867 could not have a tonnage calculated as no holes went deep enough to intersect the full sequence.

