



ASX Announcement  
16<sup>th</sup> June 2010

## Victorian Joint Venture establishes 289 million tonnes of JORC Coal Resources within the Gippsland Basin.

- **Work program post the Resolve Geo Pty Ltd joint venture announced in September 2009 establishes inferred JORC coal resources totalling 289 million tonnes within EL 5210 in Victoria**
  - 30 historical coal boreholes collated,
  - Further 59 water bore holes reviewed,
  - Two seams ranging from 8 to 17 metres each thickness identified,
- **Coal intersections commencing at depths of 11 metres to 156 metres below surface.**
- **Coal quality of 8.5 MJ/kg gross wet calorific value (estimated), comparable to producing LaTrobe Valley Mines.**
- **Syngas continues to progress the Clinton Project Bankable Feasibility Study, with UOP and Rentech preliminary engineering completed and under review.**
- **Syngas' total JORC coal (*lignite*) resource base now at 847 million tonnes (32% indicated and 68% inferred) with further potential.**

The Board of Directors of Syngas Limited (ASX: SYS) is pleased to announce that 289 million tonnes of inferred JORC coal resources have been established within mineral Exploration Licence (EL) 5210, over which a joint venture between Syngas and Resolve Geo Pty Ltd was announced in September 2009. The 52.5 km<sup>2</sup> area covered by this licence area is known as Yalungah and lies within the Gippsland Basin in Victoria. Yalungah is located approximately 125 km south east of Melbourne, near the township of Moe.

Bankable Feasibility Study work on the Clinton coal and biomass to ultra clean diesel Project is progressing. Preliminary engineering studies commissioned and announced to the market in late 2009 and early 2010, have been completed by UOP (part of Honeywell) and Rentech Inc and are being reviewed by Syngas.

In relation to the additional coal resources which have been established through the Gippsland coal joint venture, a total of thirty (30) historical coal boreholes drilled

between 1965 and 1985 by the Victorian State Electricity Commission and Esso Australia Limited were collated and interpreted to establish the 289 million tonnes of inferred resources within EL 5210. Information from a further 59 water bore holes drilled in the area was also reviewed as part of the program of work that has been completed in accordance with the ongoing terms and conditions of the Joint Venture.

Two coal seams, namely Yarragon A with a mean thickness of 8 metres of coal and Yarragon B, with a mean thickness of 17 metres in south and 11 metres in north have been identified. Table 1 below sets out the estimated resources within each of these seams, by area.

**Table 1 Table illustrating the in-situ resource calculations**

Region	Grid Mean Thickness (m)	Area (km <sup>2</sup> )	Density	Tonnage (Mt)
Yarragon A seam	7.73	5.51	1.25	53
Yarragon B seam north	11.33	3.39	1.25	48
Yarragon B seam south	17.06	8.84	1.25	188
<b>Total</b>				<b>289</b>

Coal intersections were recorded as commencing at depths ranging from 11 metres from surface to 156 metres below surface. As a result the 'depth of cover to coal tonnage ratios', simple first pass stripping ratio indicators, have been calculated as ranging from 0.3 to 4.5.

In terms of coal quality, the coal at Yalungah has a calorific value of around 8.5 MJ/kg in gross wet terms (estimated based on the information provided in the coal quality section of the attached geologists report). This is comparable with producing LaTrobe Valley Mine quality as shown in Table 2 which includes data for Loy Yang as well as for the Clinton Deposit and the Rhineland in Germany.

**Table 2: Comparison of Yalungah coal with other deposits in Australia and Germany.**

Deposit	State	Moisture [%]	Ash [%]	Volatile Matter [%]	Fixed Carbon [%]	Sulphur [%]	Gross Wet Calorific Value [MJ/kg]
<b>Yalungah</b>	VIC	63	7	17 (est)	tbc	tbc	8.5 (est)
<b>Loy Yang</b>	VIC	63	0.5	19.2	17.6	0.2	9.9
<b>Clinton</b>	S.A.	56	5	21	18	1.2	10.4
<b>Rhineland (Hambach)</b>	Germany	54	4	22	20	0.3	10.9

Information sources: Various

^ = Estimates based on information provided in coal quality section of geologists report attached.

Further details relating to the 289 million tonnes of inferred coal resources within EL 5210 are provided in the attached Geologist's **JORC Report – Inferred Resources Estimation EL 5210 Yalungah**.

**Ends**

## Competent Persons Statement

*The information compiled in the attached JORC Report – Inferred Resources Estimation EL 5210 Yalungah, relating to resources, is based on information compiled by Gordon Saul, who is a member of the Australian Institute of Geoscientists and who is employed by Resolve Geo Pty Ltd. Gordon has sufficient experience which is relevant to the style of mineralization and type of deposit under consideration and to the activity 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”. Gordon Saul consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

## About Syngas Limited

*Syngas Limited ([www.syngas.com.au](http://www.syngas.com.au)), incorporating the Clinton Project following the acquisition of Syngas Energy Limited in January 2008, is an ASX listed oil and gas business with, as a core project, an ultra-clean diesel production project located in South Australia which is at Bankable Feasibility Study stage of development. One of Syngas’ granted mineral exploration licences covers an area of 288 km<sup>2</sup> north-west of Adelaide, over known coal deposits within the Clinton Coal Measures, located in the Northern St Vincent Basin Coalfields, north of the Gulf of St Vincent. Syngas also holds a granted mineral exploration licence over a 143 km<sup>2</sup> area, south-east of Adelaide, covering the known coal deposit of Moorlands. A petroleum exploration licence is held over this same area.*

*In September 2009 Syngas entered into a Joint Venture with Resolve Geo Pty Ltd over two mineral exploration licences covering a total area of 79km<sup>2</sup> within the Gippsland Basin, a producing coal area, in Victoria, and potential further project area for Syngas.*

*In January 2010 Syngas announced that a viability review over a 100% non-Food biomass fed ultra-clean diesel production facility, modelled on Rentech Inc’s (NYSE AMEX: RTK) Rialto Project in California, USA, would take place over the next 12 months.*

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**Syngas ... fuelling a cleaner, more secure transportation future**





June 2010

## Resolve Exploration and Mining

### JORC Report

## Inferred Resource Estimation EL 5210 Yalungah

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## 1. Executive Summary

A substantial inferred resource of 289Mt has been calculated for EL 5210 (Yalungah). The target Yarragon A and B brown coal seams have been assessed to contain a JORC compliant inferred resource of 53.24Mt and 236.51Mt respectively. Estimates were prepared using a minimum mining thicknesses of 4 metres in any given seam intersection providing coal quality results from a cored hole. Coal quality is comparable to other producing coal mines within the Latrobe Valley with ash is averaging *ca.* 7%, total moisture *ca.* 63%, Specific energy (adb) *ca.* 23 Mj/kg and volatiles (adb) range from 46 – 51%. Depth of cover to coal tonnage ratios range from 0.3 to 4.5. Infrastructure is excellent; the tenement is bisected by the Princess Highway and the tier 1 rail line rail line running from Melbourne to Morwell. Planned core holes to further define the continuity of the deposit are ongoing.

## 2. Tenement Introduction

Resolve Geo Pty Ltd holds 100% of EL 5210 (Yalungah) covering 52.51 km<sup>2</sup> within the Gippsland Basin, Victoria. It is located approximately 125km south east of Melbourne, to the west of the township of Moe (Figure 1). Resolve Geo Pty Ltd entered into a joint venture agreement with Syngas Ltd, an Australian leader in Synfuel production effective from the 15<sup>th</sup> of September 2009. Syngas will earn 70% interest on completion of a Pre-Feasibility Study. This shareholding can be increased to 100% on completion of a Definitive Feasibility Study.

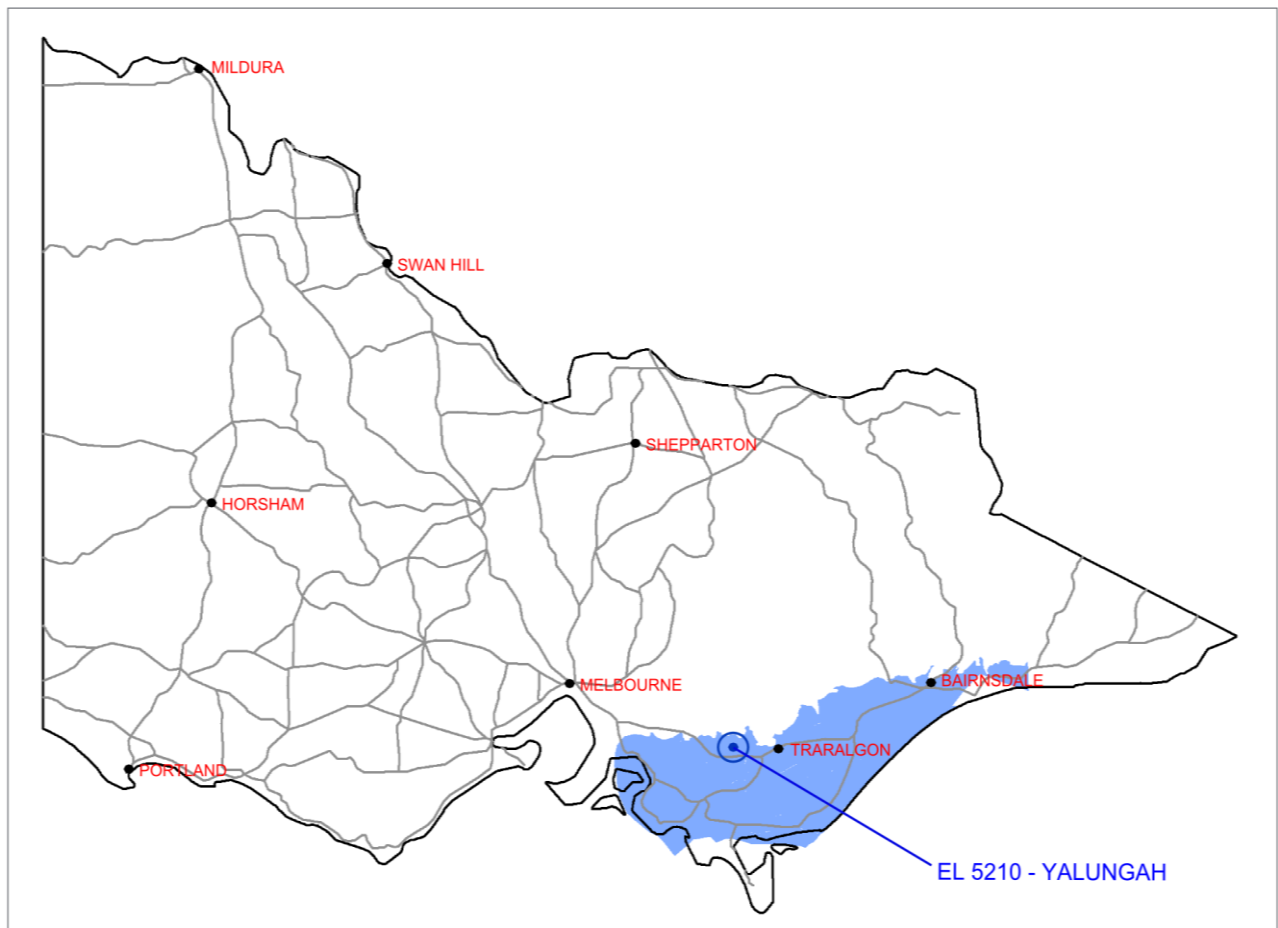


Figure 1 : Regional map of EL 5210 Yalungah, located within the northern section of the Gippsland basin.

## 3. Geology

The Tertiary brown coal deposits within the Yalungah lease form part of the Moe Swamp sub-basin which lies on the northern boundary of the Gippsland Basin, separated from the Latrobe Valley depression by the Hunted Hill fault block. The elongate basin is bound to the south by the Yarragon Monocline and to the west by the Darnum Fault. Tertiary sediments are stratigraphically correlative to those found in the Latrobe Valley which support a number of coal mining and power generation developments, including the large Yallourn coal mining complex. Land use in the

area is dominated by pastoral dairy farming. Infrastructure is excellent with the Gippsland Highway traversing the southern portion of the lease, with a tier 1 rail line situated adjacent to this highway.

#### 4. Drilling & Points of Observation

A total of 30 historical coal boreholes have been drilled within EL5210. The majority of these holes were drilled between 1965 and 1985 by the Victorian State Electricity Commission and Esso Australia Ltd. The holes were rotary drilled commonly using a diamond core bit. Data collected from all these holes have been collated and presented in a digital format by Geo Eng Pty Ltd. Fifteen of the boreholes within the eastern section of the Yalungah lease have proximate coal quality recorded. The coal quality data derived from these 15 core holes form the basis for the interpretations and conclusions in this estimation. An additional 59 water bores have been drilled throughout the lease, whilst these have not been used as a points of observation they have helped to confirm seam continuity, along with the remaining coal boreholes that did not report coal quality analysis. All bore hole locations are shown in Figure 2, points of observation are shown in Figure 3.

Drill holes that can be classified as valid points of observation for the determination of the inferred resource can be summarized as follows;

- Coal core hole intersecting greater than 4 metres of coal.
- Raw proximate coal analysis completed
- Survey coordinates provided
- Logged by a geologist

#### 5. Coal Seam Identification

Historical reporting of the region typically divides the Yarragon Brown Coal Formation into an upper and lower seam, the Yarragon A and Yarragon B Seams respectively. These seams are correlatable throughout the Moe Swamp sub-basin portion of EL5210. Relative levels and coal intersections from the 15 points of observation have been modelled in Micromine Pty Ltd's "Micromine" software, to enable a 3D interpretation of the seams. The Yarragon B seam is shown to be continuous throughout the eastern portion of the lease (Figure 4). The B Seam dips to the west at *ca.* 3° and appears to split and thin west of hole 333896 (Figure 4). Eastward the seam decreases in dip east of hole 333894, and sub-crops east of hole 333926. More exploration work needs to be completed in this area to fully understand the seam geometry. The footprint of the Yarragon A seam is smaller, sub-cropping east of hole 333894 within the eastern portion of the lease. The Yarragon A Seam dips westward at *ca.* 3° (Figure 4).

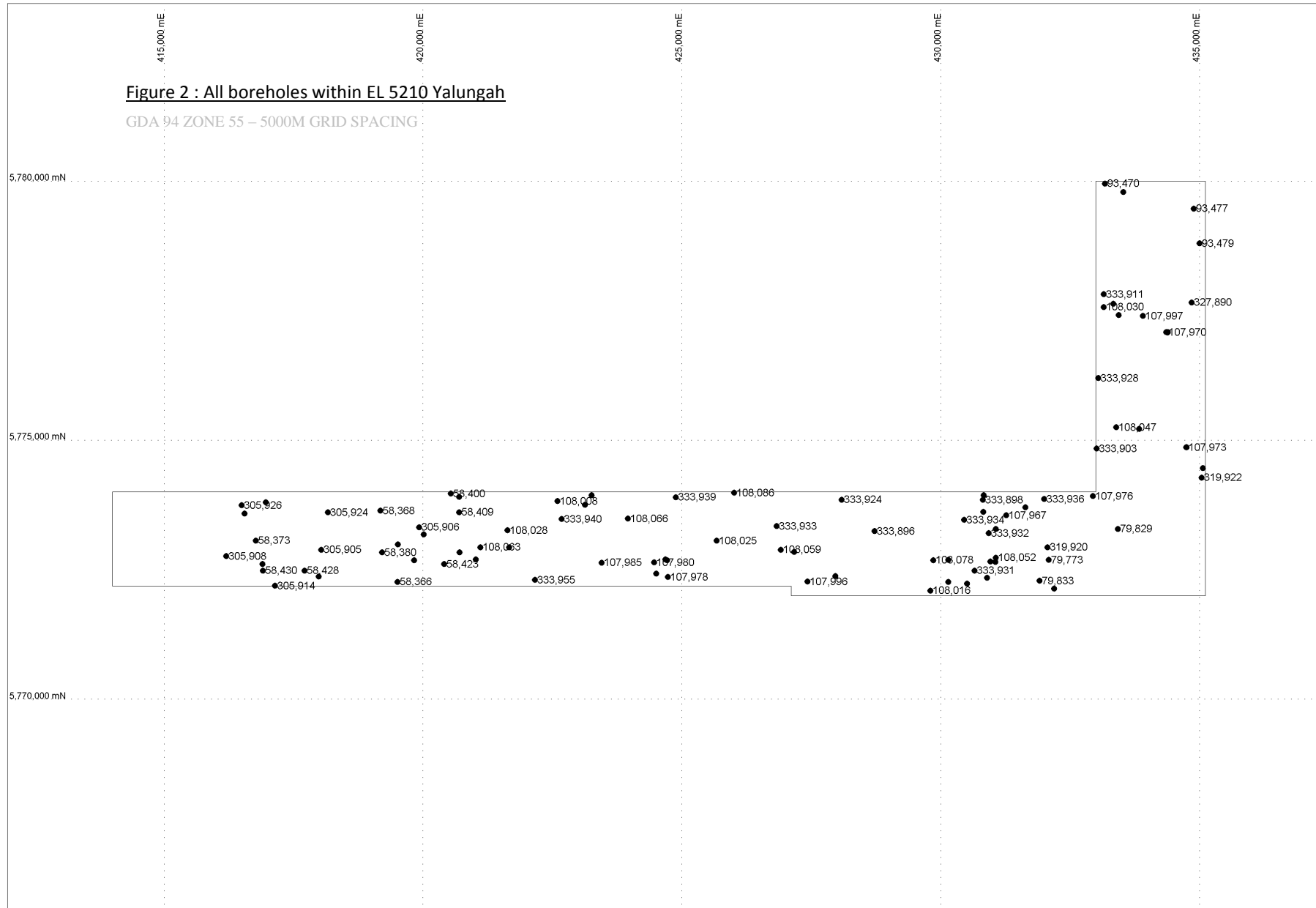
Hole	Easting	Northing	RL (m)	Depth (m)	Top Yarragon A Seam (m)	Base Yarragon A Seam (m)	Thickness (m)
333934	430455	5773463	61	81.4	38.2	44.2	6
319959	429209	5771077	105.5	101.9	42.2	54	11.8
333927	429607.4	5774060	56.3	221.1	128.3	134.3	6
333896	428727.2	5773247	56.8	185.5	140	144	4
333923	430146.6	5772265	75.4	105.8	51.4	66.5	15.1
333898	430817.1	5773847	57	65	21.5	31.8	10.3
333894	430824.3	5773620	59.1	121.3	15.5	19.5	4

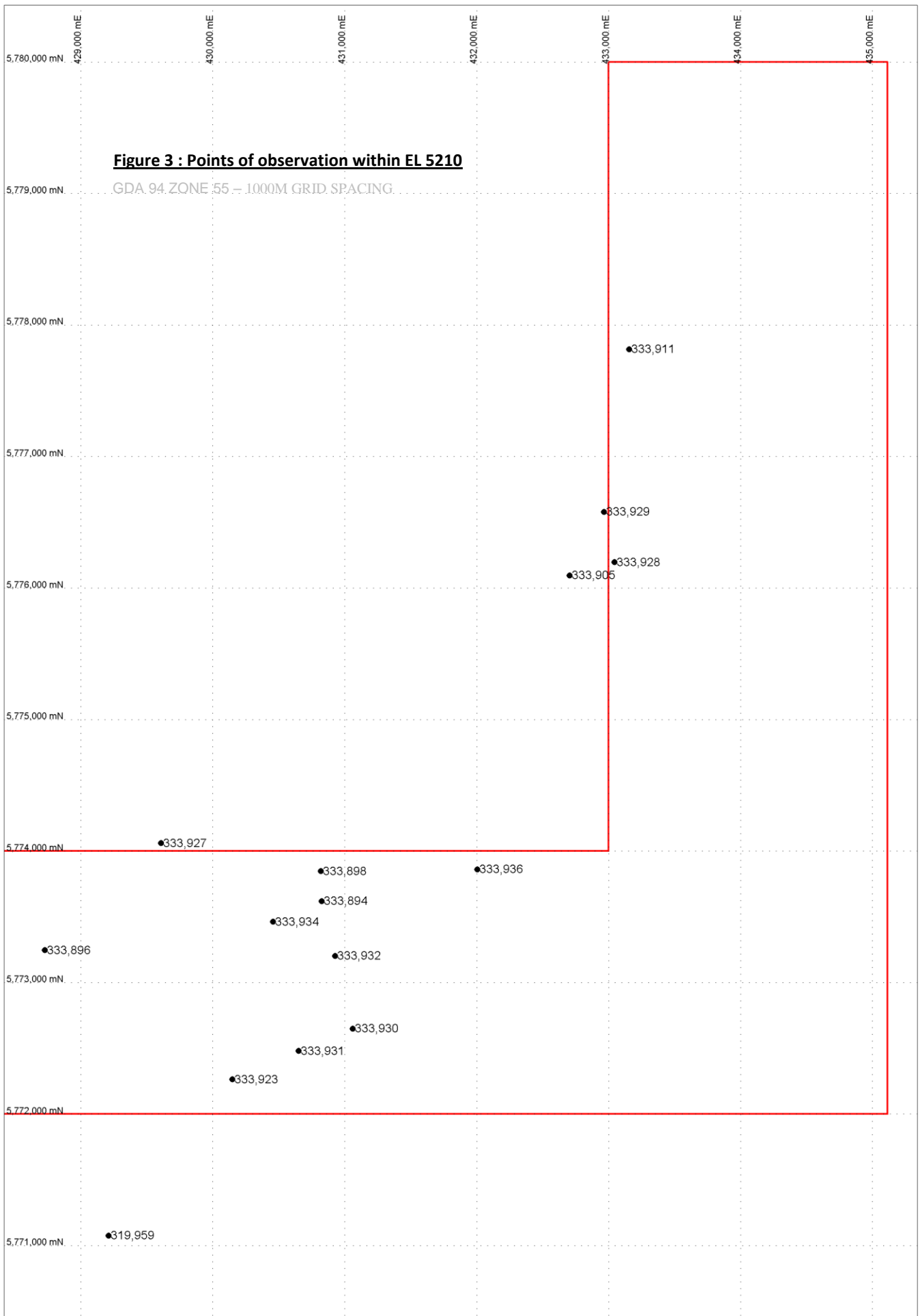
Table 1 : Yarragon A seam points of observation.

Hole	Easting	Northing	RL (m)	Depth (m)	Top Yarragon B Seam (m)	Base Yarragon B Seam (m)	Thickness (m)
333931	430650.1	5772481	79.3	47.8	10.8	38.2	27.4
333934	430455	5773463	61	81.4	56	80.2	24.2
319959	429209	5771077	105.5	101.9	60.2	96.6	36.4
333927	429607.4	5774060	56.3	221.1	135.5	140.4	4.9
333896	428727.2	5773247	56.8	185.5	155.5	162	6.5
333923	430146.6	5772265	75.4	105.8	68.5	97.5	29
333932	430925.9	5773204	64.2	32.5	11	23.5	12.5
333930	431060.2	5772650	77.7	32	11	20	9
333898	430817.1	5773847	57	65	36.8	64.2	27.4
333894	430824.3	5773620	59.1	121.3	20.5	52.1	31.6
333929	432964	5776580	79	60	23.8	43.4	19.6
333936	432003	5773862	60.5	48	21.2	38.5	17.3
333928	433043	5776196	79.2	60	21.7	29.8	8.1
333905	432705	5776096	82.2	44	19.1	32.6	13.5
333911	433154	5777816	69.6	55	21.4	27.5	6.1

Table 2 : Yarragon B Seam Points of Observation.

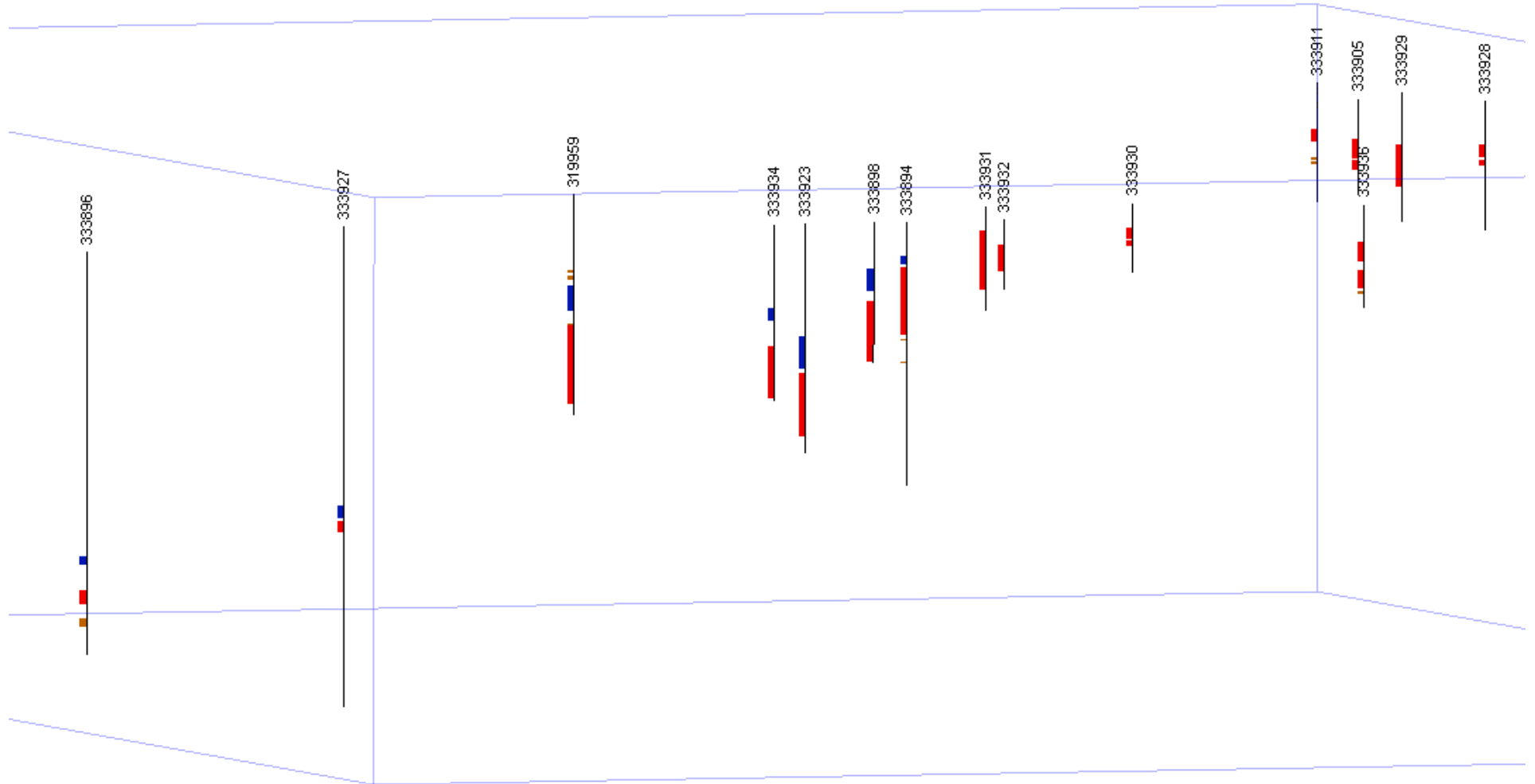






**Figure 4 : Spatial 3D model of the Yarragon A and the Yarragon B seams within the eastern portion of EL 5210**

Yarragon A seam ■  
Yarragon B seam ■



## 7. Coal Quality

Coal quality within the modelled seams is presented in Table 3 below. Coal quality is comparable to other producing coal mines within the Latrobe Valley with ash is averaging *ca.* 7%, total moisture *ca.* 63%, Specific energy (adb) *ca.* 23 MJ/kg and volatiles (adb) range from 46 – 51%. The coal quality parameters presented below appear to indicate a wide range of uses for this material, including as feed stock for domestic electricity generation, hydrogenation to synthetic fuels, and potential feed stock for the petrochemical industry.

	HOLE	ASH%	TOTAL MOISTURE %	AL2O3%	Ca%	Cl%	Fe (total)	Mg%	KO2%	SiO2%	S%	TiO2%	Na%	VOLATILES (ADB)	SE (ADB) MJ/Kg
SEAM A	319959	4.11	59.87	1.25	0.15	0.10	0.30	0.13	0.00	1.23	0.43	0.01	0.08	51.50	24.16
	333894	10.60	65.40	1.58	0.58	0.11	0.73	0.42	0.00	4.74	0.30	0.05	0.11	50.90	22.96
	333934	4.30	66.00	0.27	0.55	0.06	0.91	0.36	0.00	0.51	0.27	0.00	0.06	51.50	24.15
	333927	9.80	60.80	0.79	0.21	0.01	0.37	0.46	0.10	0.03	6.12	0.06	0.03	55.80	22.16
	333896	5.40	58.60	0.17	0.71	0.04	1.23	1.26	0.27	0.01	0.83	0.01	0.06	51.80	23.98
	333923	6.00	62.47	0.64	0.39	0.09	0.55	0.29	0.00	2.91	0.36	0.03	0.06	51.58	23.19
	333898	9.34	62.48	1.00	0.65	0.11	0.85	0.44	0.00	3.54	0.32	0.02	0.12	51.08	23.07
YARRAGON SEAM B	333936	6.92	65.18	0.78	1.02	0.08	0.68	0.43	0.01	2.32	0.16	0.09	0.11	50.39	23.75
	333894	7.40	65.09	1.12	0.69	0.07	0.84	0.33	0.02	2.49	0.13	0.05	0.06	50.92	24.32
	333934	6.04	63.96	0.70	0.74	0.06	0.78	0.37	0.01	1.28	0.26	0.01	0.05	50.53	24.15
	333931	4.82	66.18	0.46	0.56	0.07	0.72	0.34	0.00	1.06	0.49	0.01	0.06	51.53	24.41
	319959	5.17	62.15	0.86	0.21	0.08	0.38	0.23	0.01	2.32	0.33	0.04	0.08	51.06	24.41
	333927	15.61	57.09	2.65	0.74	0.04	1.25	1.26	0.27	0.10	8.65	0.22	0.04	46.80	20.94
	333896	5.02	58.07	0.45	0.65	0.04	1.04	1.13	0.25	0.01	0.69	0.01	0.05	51.90	24.01
	333923	6.43	63.11	0.86	0.44	0.07	0.58	0.31	0.02	2.33	0.23	0.05	0.06	52.03	23.87
	333932	6.11	64.70	1.47	0.31	0.07	0.47	0.29	0.03	2.75	0.33	0.09	0.12	50.60	24.15
	333930	9.25	67.39	3.00	0.16	0.09	0.30	0.28	0.06	3.05	1.44	0.17	0.10	50.29	23.49
	333898	7.90	64.40	1.12	0.69	0.07	0.97	0.36	0.03	2.64	0.17	0.05	0.06	51.23	23.75
	333929	6.45	64.31	0.69	0.44	0.07	1.08	0.33	0.01	2.07	0.21	0.03	0.08	51.29	23.69
	333928	10.81	65.26	2.70	0.25	0.11	0.56	0.34	0.06	5.62	0.00	0.15	0.17	48.78	22.95
	333905	11.17	65.99	2.79	0.24	0.09	0.57	0.27	0.09	6.12	0.36	0.18	0.08	48.87	23.25
333911	7.25	66.82	1.33	0.34	0.07	1.16	0.23	0.04	2.54	0.10	0.03	0.08	51.60	23.54	

Table 3 : Coal quality reported as weighted averages for each seam and point of observation. Reported on an air dried basis (ADB).

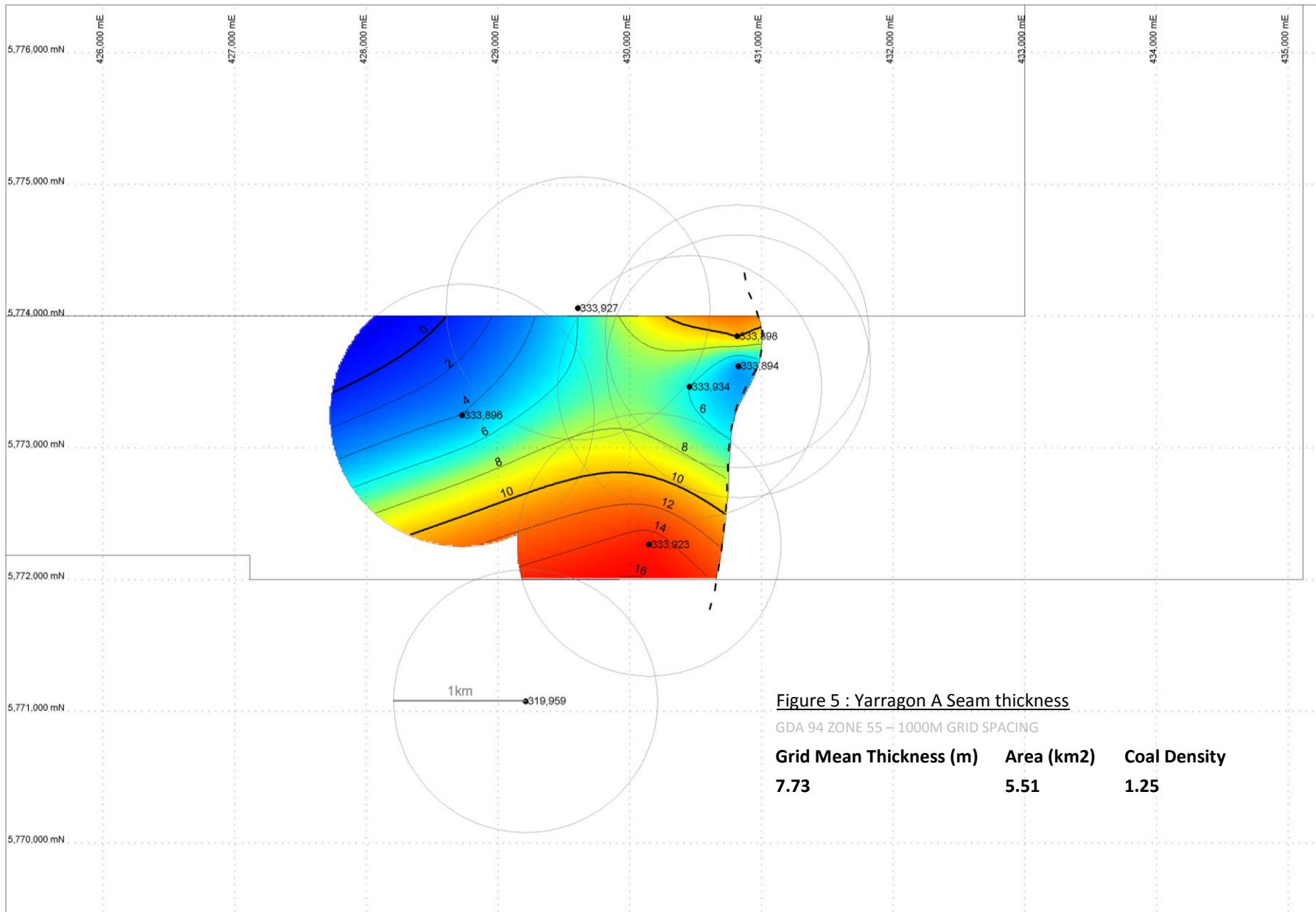
## 8. Modelling

To gain an accurate resource estimation each seam has been modelled individually. The Yarragon A Seam is shown in Figure 5. The Yarragon B Seam has been split into two separate areas (north and south)(Figures 6 & 7). Inferred resources have been extrapolated to a maximum of 1000m beyond any point of observation. A minimum of 3 adjacent interconnecting radii has been used to ensure continuity throughout the estimate. Points of observation are therefore no further than 2000m apart.

An in-situ coal density of 1.25 g/ml has been used in these calculations based on work carried out by Esso Australia Ltd within the Moe Swamp Basin. Their work under exploration licence EL 1080 (Trafalgar) comprised 3 drilling programs totalling 100 holes to outline the thickness and extent of the Latrobe Valley coal measures. The average in-situ [mass](#) per unit [volume](#) used in Esso Australia's regional resource estimation was a density of 1.25 g/ml.

The Yarragon A seam resource has been clipped to an inferred sub-crop line, as shown in Figure 5. Interpretation using the Micromine 3D model suggests the Yarragon A Seam sub-crops between boreholes 333894 and 333932 (Figure 5).

All models are projected and displayed in GDA 94 Zone 55. Thickness contours are displayed in metres.



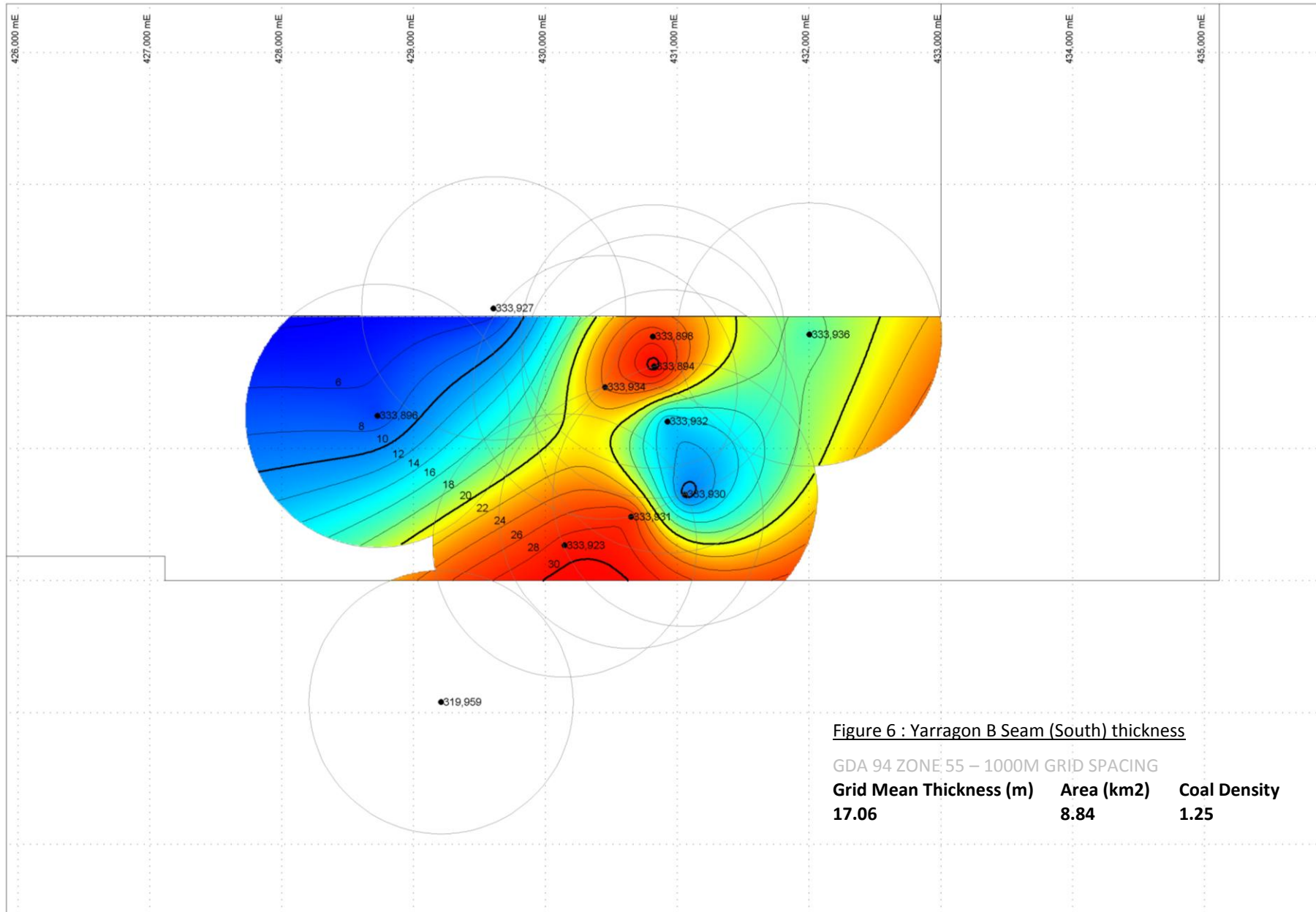
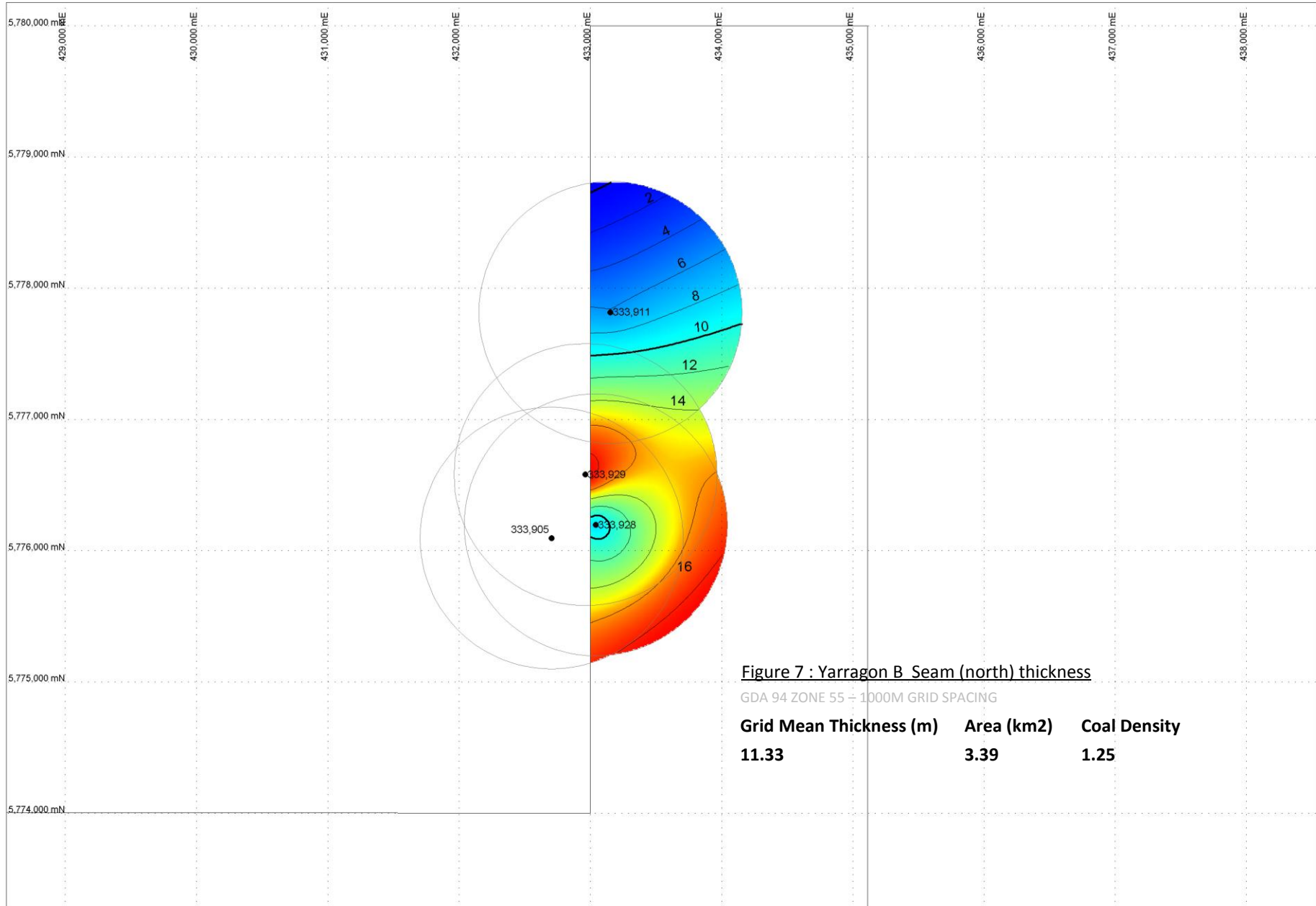


Figure 6 : Yarragon B Seam (South) thickness

GDA 94 ZONE 55 – 1000M GRID SPACING

Grid Mean Thickness (m)	Area (km2)	Coal Density
17.06	8.84	1.25





## 9. Inferred Resource

An estimated in situ resource of 289 Mt has been calculated using the Pitney Bowes "Mapinfo Encom Discover" modelling system. A total of 64Mt has been calculated for the Yarragon A Seam. A total of 46 Mt (North) and 180 Mt (South) have been calculated for the Yarragon B Seam.

Region	Grid Mean Thickness (m)	Area (km <sup>2</sup> )	Density	Tonnage (Mt)
Yarragon A seam	7.73	5.51	1.25	53
Yarragon B seam north	11.33	3.39	1.25	48
Yarragon B seam south	17.06	8.84	1.25	188
<b>Total</b>				<b>289</b>

Table 4 Table illustrating the in-situ resource calculations

## 10. Depth to seam

Figure 8 shows the approximate depth of cover for the Yarragon A Seam within EL5210. Figures 9 and 10 show the approximate depth of cover for the Yarragon B Seam within the north eastern and south eastern portions of EL5210 respectively. Thickness contours are in metres.

**Signed**

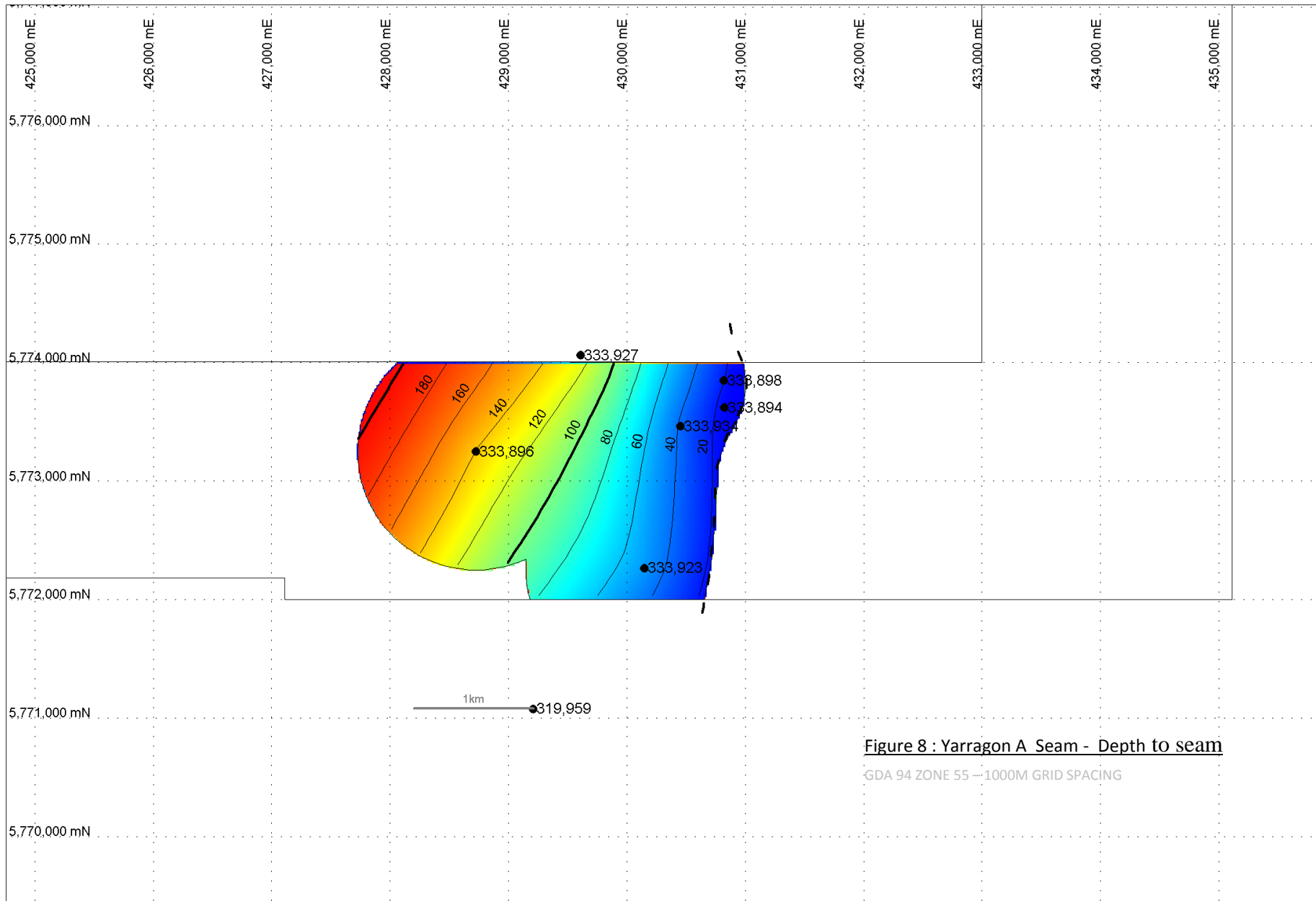


**Gordon Saul**

**Date: 9<sup>th</sup> of June, 2010**

## **JORC Statement**

The information compiled in this report relating to resources is based on information compiled by Gordon Saul, who is a member of the Australian Institute of Geoscientists and who is employed by Resolve Geo Pty Ltd. Gordon has sufficient experience which is relevant to the style of mineralization and type of deposit under consideration and to the activity 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". Gordon Saul consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.



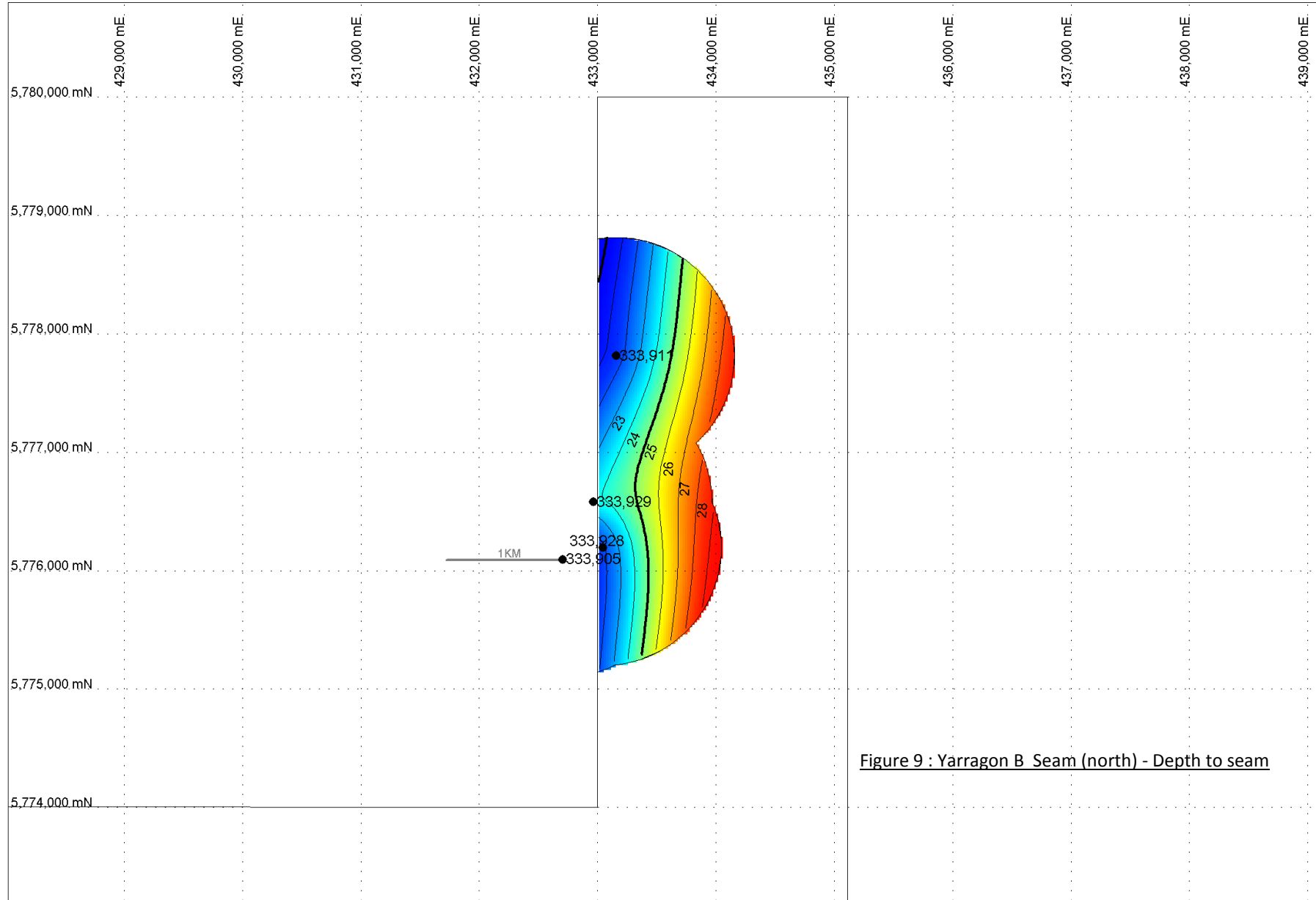


Figure 9 : Yarragon B Seam (north) - Depth to seam

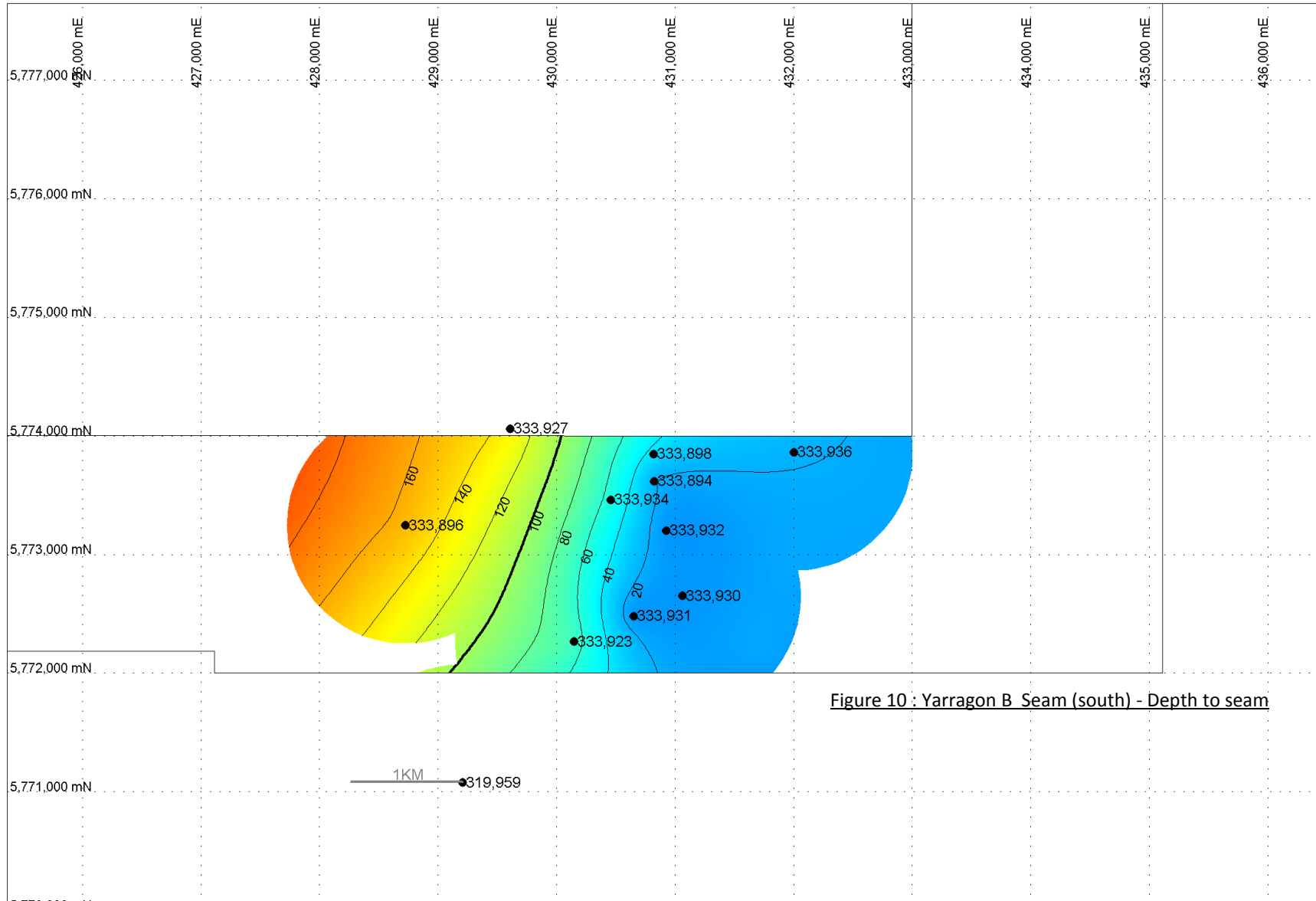


Figure 10 : Yarragon B Seam (south) - Depth to seam