

29 November 2010

Company Announcements Office  
Australian Stock Exchange

## **Inaugural Resource Statement – Cooroorah Project 107 million tonnes of PCI coal**

### **Details**

- Inaugural JORC inferred resource of 107 million tonnes
- Average seam thickness 8.6 metres within the Aries, Pollux and Pisces seams
- Located at depths from 225 to 400 metres
- Low volatile PCI coal with potential for coking coal from Aries seam
- Bounded by Macarthur's Stanwell project, Jellinbah Mine, 16 km north of Blackwater

### **Background**

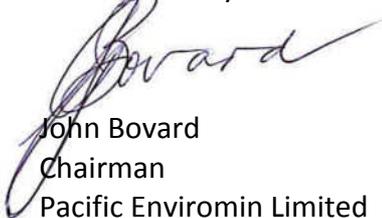
The attached Cooroorah (EPC 1827) Resource Statement prepared for Pacific Enviromin Limited by The Minserve Group represents a positive result for our company. Shareholders will be aware that in November 2009 the company acquired a number of new coal tenements and since that time has been working to identify prospective resources.

Cooroorah is strategically located in an area with quality metallurgical coal close to existing infrastructure including Macarthur's Stanwell Project, the Jellinbah Mine, road, rail and other infrastructure.

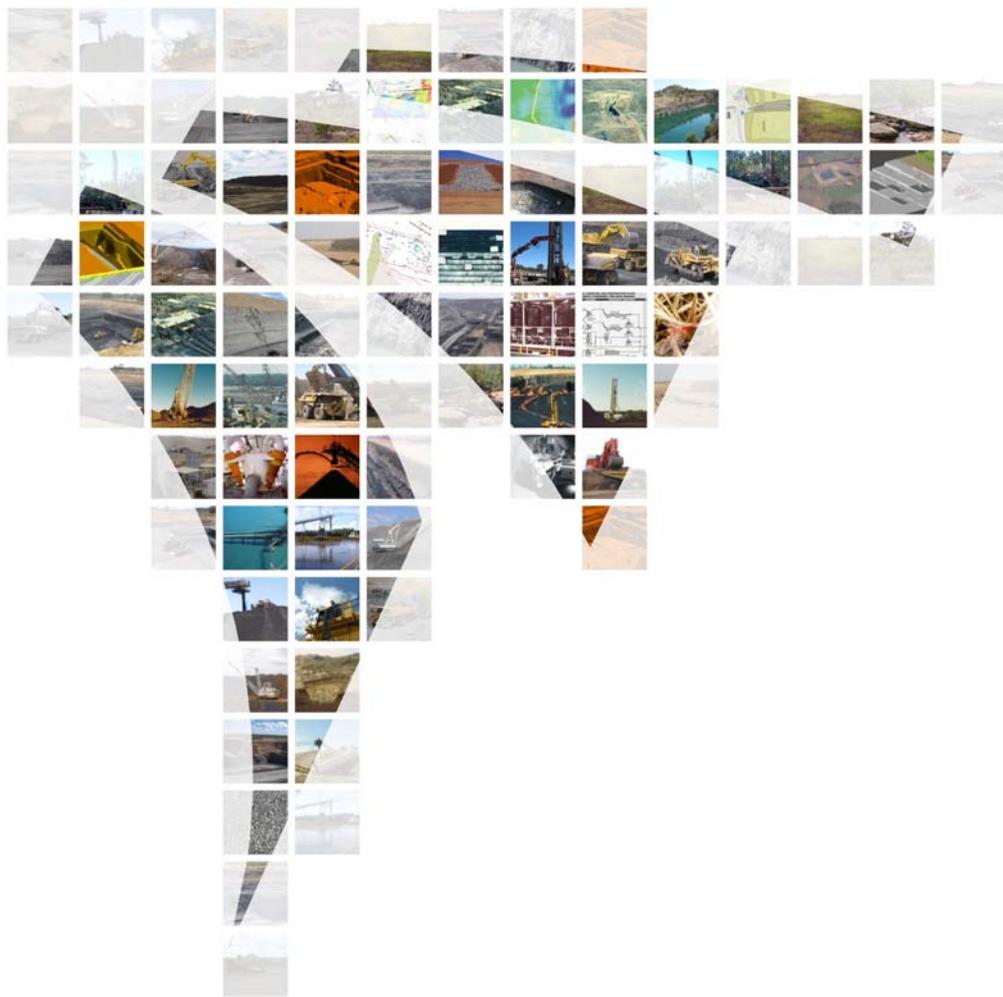
The Minserve report has identified that "EPC 1827 contains 107Mt of Inferred Resources of low volatile PCI coal in the Aries, Pollux and Pisces seams of the Rangal Coal Measures at depths ranging from 225m to greater than 400m. The resources are restricted to the sub-blocks on the western side of the Jellinbah Fault."

The company is commencing an active exploration program across all of the company's tenements for the coming twelve month period. Consultants Global Ore Discovery is assisting the company to identify target areas in prospective tenements. Proposed exploration of identified target areas is expected to include drilling and seismic survey. The company is optimistic that the results of this exploration program will provide additional positive results.

Yours faithfully



John Bovard  
Chairman  
Pacific Enviromin Limited



# EPC 1827

## Resource Statement

November 2010

prepared for

**Pacific Enviromin Limited**



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**CLIENT** | Pacific Enviromin Limited  
**Project Name** | EPC 1827  
**Minserve Project No.** | PEV001M  
**Project Coordinator** | Ken O'Reilly

## DOCUMENT CONTROL

**Prepared by** | Ken O'Reilly  
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**Print Date** | 26 November 2010  
**Document Name** | EPC 1827 Resource Statement

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# 1 INTRODUCTION

This report has been prepared at the request of Paul Byrne, Pacific Enviromin Limited. The purpose of this report is to provide an estimate of the coal resources occurring in EPC 1827 which has been prepared in accordance with the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code), 2004 Edition".

EPC 1827 comprises seven sub-blocks and is located in the Central Bowen Basin between Curragh Mine and Jellinbah Mine (Figure 1). The EPC was granted to Area Coal Pty Ltd, a fully owned subsidiary of Pacific Enviromin Limited, for a term of five years on 25 November 2009. The northeastern sub-block is almost totally overlain by three mining leases (MLs) that are part of Jellinbah Mine; and two adjacent sub-blocks are also heavily impacted by the MLs. The parts of the EPC overlain by the MLs are excluded from the EPC.

## 2 GEOLOGY

### 2.1 REGIONAL GEOLOGY

Three Permo-Triassic units occur within the EPCA. These are, in descending stratigraphic order, the Triassic Rewan Group, and the Rangal Coal Measures (RCM) and Burngrove Formation of the Late Permian, Blackwater Group. The RCM in the Bowen Basin provide some high quality hard coking coal, but dominantly supply semi-hard to semi-soft coking coal and high quality PCI coal for export, as well as high quality thermal coal for export, and lower quality thermal coal for domestic power generation. The Burngrove Formation contains a number of thick, high inherent ash, heavily tuff banded coal seams, that until now have not had any commercial potential because of their very low yields at high ashes. However, because of their excellent coking properties, seams of the Burngrove Formation are actively being explored by several companies in the area between Curragh and Ensham, to the west of EPC 1827.

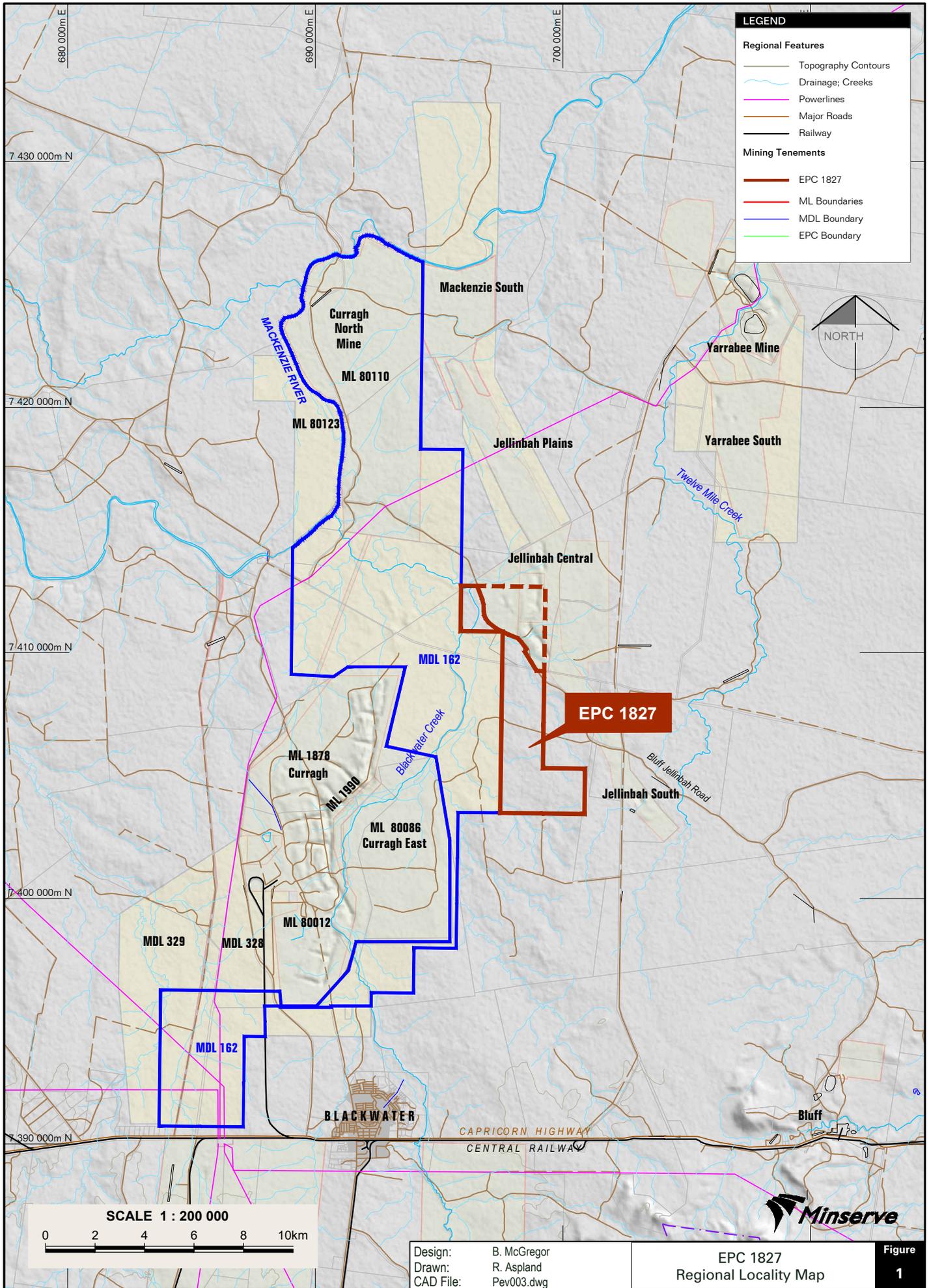
### 2.2 DEPOSIT GEOLOGY

The deposit is divided into two by the northwest trending Jellinbah Fault (Figure 2). To the west of the fault (downdip of Curragh), the upper seams of RCM occur, below sediments of the Rewan Group at depths ranging from approximately 225m east of HU1/2R and HU7 to more than 370m in BW1. Depth to the Aries seam, the uppermost potentially economic seam in the RCM, in the southeast corner of the deposit is likely to exceed 400m. To the east of the fault, which has a throw of 400m to 500m, high ash seams of the Burngrove Formation have been thrust over the Rewan Group sediments. The only seam of apparently clean coal to the east of the fault was intersected in NC9906 (Figure 2), close to the eastern boundary of the EPC. It is highly likely that the 2m thick seam intersected at 31m depth in NC9906 was the Pisces seam, the basal seam of the RCM, which occurs at 387m in HU5, some 2km W of NC9906.

## 2.3 COAL SEAMS

Three potentially economic seams are present in the RCM in EPC 1827: Aries seam, Pollux seam, and Pisces seam. The uppermost seam, the Aries seam is typically 2m to 4m thick, but thins to less than 1m in hole HU2R near the northwestern corner of the EPC (Figure 2). The Pollux seam is located 54m to 61m below the Aries seam over the southern half of the EPC, but the interburden thins to less than 30m in BL184R in the north. The Pollux seam maintains a consistent thickness of 2m to 2.5m through the southern part of the EPC, but thins to less than 1m through the central part of the EPC (BL177 and HU5) before thickening to between 3m and 4m in the northwestern corner of the EPC (Table 2). The Pisces seam is located 20m to 30m below the Pollux seam and is typically 2m to 4m thick in holes drilled in and adjacent to the EPC, but thins to less than 1m in in hole HU2R near the northwestern corner of the EPC (Figure 2).

All three seam have suitable thickness to host underground coal resources in parts of the EPC.



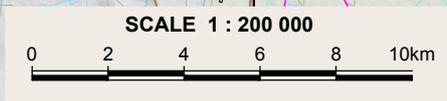
**LEGEND**

**Regional Features**

- Topography Contours
- Drainage: Creeks
- Powerlines
- Major Roads
- Railway

**Mining Tenements**

- EPC 1827
- ML Boundaries
- MDL Boundary
- EPC Boundary

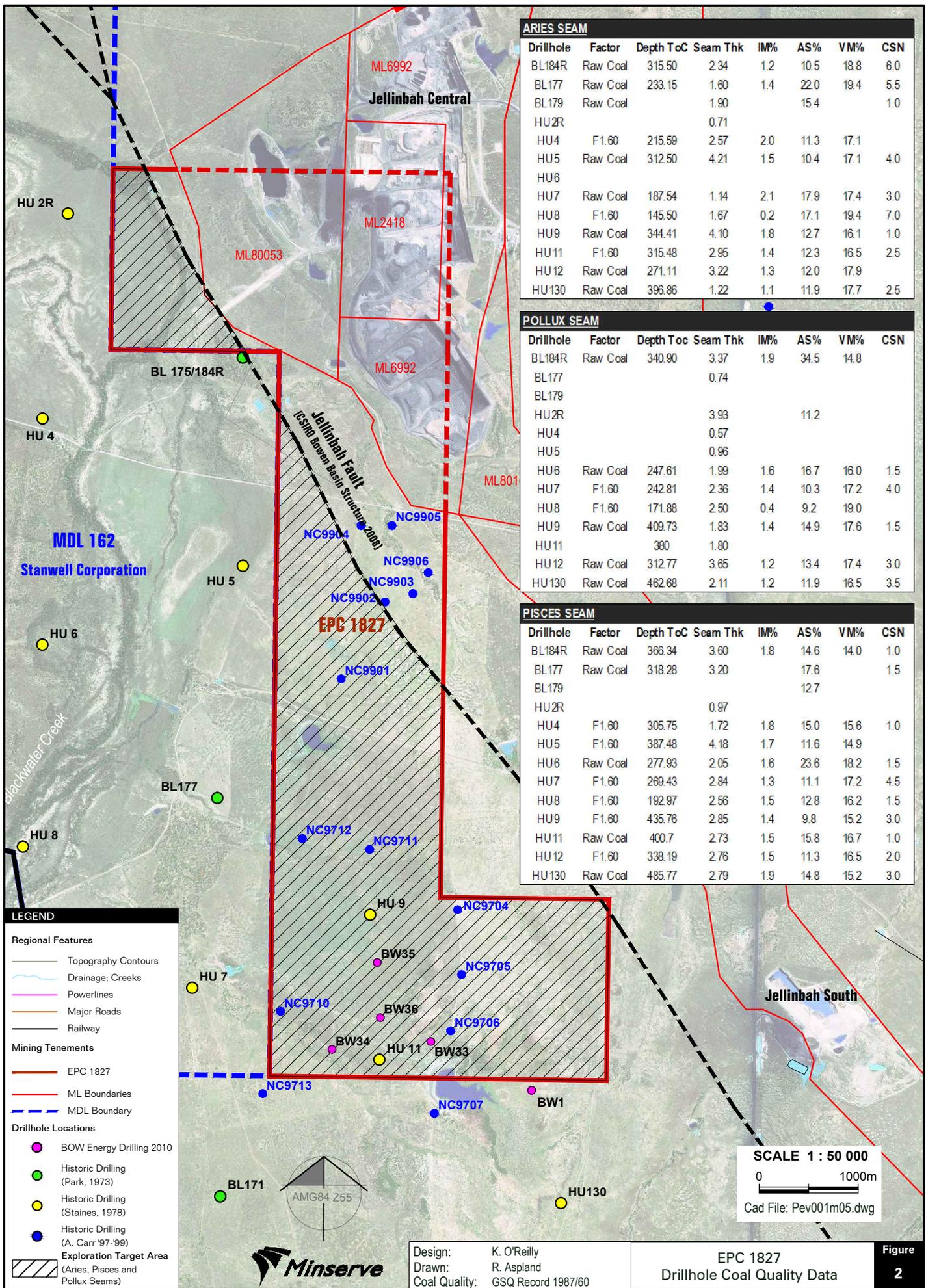


Design: B. McGregor  
 Drawn: R. Aspland  
 CAD File: Pev003.dwg

**EPC 1827**  
 Regional Locality Map

**Figure**  
 1





ARIES SEAM							
Drillhole	Factor	Depth ToC	Seam Thk	IM%	AS%	VMP%	CSN
BL184R	Raw Coal	315.50	2.34	1.2	10.5	18.8	6.0
BL177	Raw Coal	233.15	1.60	1.4	22.0	19.4	5.5
BL179	Raw Coal		1.90		15.4		1.0
HU2R			0.71				
HU4	F1.60	215.59	2.57	2.0	11.3	17.1	
HU5	Raw Coal	312.50	4.21	1.5	10.4	17.1	4.0
HU6							
HU7	Raw Coal	187.54	1.14	2.1	17.9	17.4	3.0
HU8	F1.60	145.50	1.67	0.2	17.1	19.4	7.0
HU9	Raw Coal	344.41	4.10	1.8	12.7	16.1	1.0
HU11	F1.60	315.48	2.95	1.4	12.3	16.5	2.5
HU12	Raw Coal	271.11	3.22	1.3	12.0	17.9	
HU130	Raw Coal	396.86	1.22	1.1	11.9	17.7	2.5

POLLUX SEAM							
Drillhole	Factor	Depth ToC	Seam Thk	IM%	AS%	VMP%	CSN
BL184R	Raw Coal	340.90	3.37	1.9	34.5	14.8	
BL177			0.74				
BL179							
HU2R			3.93		11.2		
HU4			0.57				
HU5			0.96				
HU6	Raw Coal	247.61	1.99	1.6	16.7	16.0	1.5
HU7	F1.60	242.81	2.36	1.4	10.3	17.2	4.0
HU8	F1.60	171.88	2.50	0.4	9.2	19.0	
HU9	Raw Coal	409.73	1.83	1.4	14.9	17.6	1.5
HU11		380	1.80				
HU12	Raw Coal	312.77	3.65	1.2	13.4	17.4	3.0
HU130	Raw Coal	462.68	2.11	1.2	11.9	16.5	3.5

PISCES SEAM							
Drillhole	Factor	Depth ToC	Seam Thk	IM%	AS%	VMP%	CSN
BL184R	Raw Coal	366.34	3.60	1.8	14.6	14.0	1.0
BL177	Raw Coal	318.28	3.20		17.6		1.5
BL179					12.7		
HU2R			0.97				
HU4	F1.60	305.75	1.72	1.8	15.0	15.6	1.0
HU5	F1.60	387.48	4.18	1.7	11.6	14.9	
HU6	Raw Coal	277.93	2.05	1.6	23.6	18.2	1.5
HU7	F1.60	269.43	2.84	1.3	11.1	17.2	4.5
HU8	F1.60	192.97	2.56	1.5	12.8	16.2	1.5
HU9	F1.60	435.76	2.85	1.4	9.8	15.2	3.0
HU11	Raw Coal	400.7	2.73	1.5	15.8	16.7	1.0
HU12	F1.60	338.19	2.76	1.5	11.3	16.5	2.0
HU130	Raw Coal	485.77	2.79	1.9	14.8	15.2	3.0

**LEGEND**

**Regional Features**

- Topography Contours
- Drainage; Creeks
- Powerlines
- Major Roads
- Railway

**Mining Tenements**

- EPC 1827
- ML Boundaries
- MDL Boundary

**Drillhole Locations**

- BOW Energy Drilling 2010
- Historic Drilling (Park, 1973)
- Historic Drilling (Staines, 1978)
- Historic Drilling (A. Carr '97-'99)

**Exploration Target Area**  
(Aries, Pisces and Pollux Seams)

**SCALE 1 : 50 000**

0 1000m

Cad File: Pev001m05.dwg

Design: K. O'Reilly  
 Drawn: R. Aspland  
 Coal Quality: GSQ Record 1987/60

**EPC 1827**  
**Drillhole Coal Quality Data**

### 3 EXPLORATION

#### 3.1 HISTORIC DRILLING

Eight deep stratigraphic holes were drilled in or adjacent to the EPC by the Geological Survey of Qld (GSQ) in the 1970s as part of the Department's regional stratigraphic drilling program. These holes intersected seams of the RCM at depths ranging from approximately 200m to in excess of 400m.

Fourteen shallow holes (NC9704-NC9707, NC9710-NC9713, and NC9901-NC9906, Figure 2) were drilled in or adjacent to the EPC between 1997 and 1999 to depths ranging from 27m to 72m, in an unsuccessful attempt to find shallow RCM in up-thrown fault blocks. The eight holes drilled in the south, and NC9901, intersected sediments of the Rewan Group below unconsolidated Tertiary cover. The remaining five holes intersected mainly tuffaceous, banded seams of the Burngrove Formation.

Although not intersecting coal seams of any economic interest, holes NC9901 to NC9906 have been useful in refining the location of the Jellinbah Fault through the central part of the EPC.

#### 3.2 BOW DRILLING

In the period 2009 to 2010, BOW CSG Pty Ltd drilled one HQ corehole (BW1) and four open holes (BW33 to BW36, Figure 2) in the southern part of the EPC 1827 during exploration for coal seam gas in EPP 1025, which overlies EPC 1827. Seam intersection data for each hole has been provided to Pacific Enviromin by BOW and are presented in Table 1. The MGA 94 co-ordinates in Table 1 were converted to AMG 84 co-ordinates prior to inclusion in the figures presented in this report.

Table 1 — BOW Hole Summary Data

Hole	East	North	RL	TD	Aries		Pollux		Pisces	
	MGA 94				m	m	from	thick	from	thick
BW1	700232	7403516	165.85	724.00	374.58	3.25	438.84	2.20	464.07	3.72
BW33	699213	7404015	160.00	512.00	359.58	4.74	423.21	3.40	445.16	2.56
BW34	698213	7403934	153.00	454.06	295.50	2.56	353.38	2.18	378.58	2.88
BW35	698670	7404821	153.00	503.00	349.86	5.04	408.72	2.40	436.18	2.56
BW36	698702	7404258	157.27	475.00	328.32	3.68	386.98	2.17	415.69	2.56

In addition to providing the hole summary data, BOW also provided access to the downhole geophysics of the holes and to the coal seam gas results from BW1. The downhole geophysics indicate that the thicker intersections of the Aries seam in BW33 and BW35 result from minor reverse faulting rather than genuine seam thickening.

#### 3.3 COAL QUALITY DATA

Data obtained from historical drilling programs are summarised in Table 2. This data comprises raw coal analyses and analyses of coal material <1.60 relative density (F1.60). The data are limited but do give some indications of the potential utilisation of the coal.

Raw coal samples of the Aries seam generally display low (10.4%) to moderate (22%) ash. The only sample taken from within the EPC that had been washed at 1.60RD (from HU11) gave a yield of 86% at 12.3% ash. Samples taken in or adjacent to the EPC had 16% to 19% VM, 0.4% to 0.6% sulphur, and the samples from the Aries seam in HU9 and HU11 had 0.06% to 0.08% phosphorus, which is relatively low for seams of the RCM. The seam should readily produce a PCI product with less than 10% ash at moderate to high washery yields; and the high CSNs of several samples suggest that it may even be possible to derive a coking coal fraction from the seam.

Raw coal samples of the Pollux seam display low (12%) to moderate (17%) ash; and the sample taken from HU7 gave a very high (96%) yield at 10.3% ash. Samples taken in or adjacent to the EPC had 15% to 18% VM, 0.4% to 0.5% sulphur, and the sample from HU9 and HU11 had 0.05% phosphorus. The seam should readily produce a PCI product at similar or better yields and ashes than the Aries seam, but only from the southern part of the EPC where the seam is more than 2m thick.

Raw coal samples of the Pisces seam display moderate (15% to 24%) ash; and high (82%) to very high (95%) yields at 10% to 12% ash. Samples taken in or adjacent to the EPC had 14% to 17% VM, and 0.35% to 0.45% sulphur. The seam should also readily produce a PCI product at high washery yields.

The coal seam gas data provided by BOW from BW1 showed that the total desorbable gas content of the samples was typically 12m<sup>3</sup>/t to 20m<sup>3</sup>/t (daf) and that the gas was dominantly (96% to 99.5%) methane. These results indicate that the coal is fully saturated in gas and that gas drainage would be required in advance of mining. BOW may undertake a significant amount of this pre-drainage from its proposed production wells.

Table 2 — Coal Quality Summary

ARIES SEAM													
Hole	East	North	RL	From	Thick	Factor	Yield	IM	Ash	VM	CSN	TS	SE
AMG B4		approx					%	%	%	%		%	(MJ/kg)
BL184R	697199	740804	136	315.50	2.34	Raw		1.2	10.5	18.8	6.0		
BL177	696940	7406315	142	233.15	1.60	Raw		1.4	22.0	19.4	5.5		
BL179	696971	7402254	172		1.90	Raw			15.4		1.0		
HU2R	695429	7412274	129		0.71								
HU4	695174	740186	133	215.59	2.57	F1.60	71.3	2.0	11.3	17.1		0.56	31.16
HU5	697199	7408681	135	312.50	4.21	Raw		1.5	10.4	17.1	4.0	0.39	31.29
HU6	695172	7407878	137										
HU7	696687	7404380	145	187.54	1.14	Raw		2.1	17.9	17.4	3.0	0.51	27.70
HU8	694974	7405819	142	145.50	1.67	F1.60	61.9	0.2	17.1	19.4	7.0	0.48	28.99
HU9	698485	7405125	156	344.41	4.10	Raw		1.8	12.7	16.1	1.0	0.42	30.56
HU11	698579	7403647	156	315.48	2.95	F1.60	86.0	1.4	12.3	16.5	2.5	0.48	31.04
HU12	698659	7401155	173	271.11	3.22	Raw		1.3	12.0	17.9		0.54	30.52
HU130	700547	7402298	183	396.86	1.22	Raw		1.1	11.9	17.7	2.5	0.46	30.75
POLLUX SEAM													
BL184R	697199	740804	136	340.90	3.37	Raw		1.9	34.5	14.8			
BL177	696940	7406315	142		0.74								
BL179	696971	7402254	172										
HU2R	695429	7412274	129		3.93				11.2				
HU4	695174	740186	133		0.57								
HU5	697199	7408681	135		0.96								
HU6	695172	7407878	137	247.61	1.99	Raw		1.6	16.7	16.0	1.5	0.47	29.05
HU7	696687	7404380	145	242.81	2.36	F1.60	96.2	1.4	10.3	17.2	4.0	0.39	31.75
HU8	694974	7405819	142	171.88	2.50	F1.60	89.3	0.4	9.2	19.0		0.42	
HU9	698485	7405125	156	409.73	1.83	Raw		1.4	14.9	17.6	1.5	0.48	29.57
HU11	698579	7403647	156	380.00	1.80								
HU12	698659	7401155	173	312.77	3.65	Raw		1.2	13.4	17.4	3.0	0.38	30.33
HU130	700547	7402298	183	462.68	2.11	Raw		1.2	11.9	16.5	3.5	0.43	31.24
PISCES SEAM													
BL184R	697199	740804	136	366.34	3.60	Raw		1.8	14.6	14.0	1.0		
BL177	696940	7406315	142	318.28	3.20	Raw			17.6		1.5		
BL179	696971	7402254	172						12.7				
HU2R	695429	7412274	129		0.97								
HU4	695174	740186	133	305.75	1.72	Raw		1.8	15.0	15.6	1.0		
HU5	697199	7408681	135	387.48	4.18	F1.60	81.8	1.7	11.6	14.9		0.36	31.17
HU6	695172	7407878	137	277.93	2.05	Raw		1.6	23.6	18.2	1.5	0.38	25.33
HU7	696687	7404380	145	269.43	2.84	F1.60	92.1	1.3	11.1	17.2	4.5	0.38	31.37
HU8	694974	7405819	142	192.97	2.56	Raw		1.5	12.8	16.2	1.5	0.35	28.27
HU9	698485	7405125	156	435.76	2.85	F1.60	94.9	1.4	9.8	15.2	3.0	0.44	
HU11	698579	7403647	156	400.70	2.73	Raw		1.5	15.8	16.7	1.0	0.38	28.94
HU12	698659	7401155	173	338.19	2.76	F1.60	84.5	1.5	11.3	16.5	2.0	0.35	31.32
HU130	700547	7402298	183	485.77	2.79	Raw		1.9	14.8	15.2	3.0	0.39	30.06
x.x	Park Report												
x.x	Staines tables												
x.x	Staines maps												

## 4 COAL RESOURCES

### 4.1 JORC REQUIREMENTS

Coal Resources have been estimated in a manner consistent with the “*Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ~ The JORC Code ~ 2004 Edition*” (the Code) and the associated 2003 edition of “*Australian Guidelines for Estimating and Reporting of Inventory Coal, Coal Resources and Coal Reserves*” (the Guidelines).

The Code outlines minimum standards and includes guides to standardise terminology for reporting, and checklists for criteria to be considered when reporting mineral exploration results. The Guidelines give definitions of the types of data points that can be used at different confidence levels to define the resource categories described below. Points of Observation for defining resource categories have been restricted to cored holes for which coal quality data were available.

**Measured Coal Resources** are that part of the Coal Resource for which the quantity and quality can be estimated with a high level of confidence. There are sufficient data points to reliably estimate coal extent, thickness, depth range, in situ quantity and quality, and the level of confidence in the resource is high enough to support detailed mine planning. Drilling density and coal quality data are not sufficient to define Measured Resources in EPC 1827.

**Indicated Coal Resources** are that part of the Coal Resource for which the quantity and quality can be estimated with a reasonable level of confidence. There are sufficient data points to reasonably estimate coal extent, thickness, depth range, in situ quantity and quality, and the level of confidence in the resource is high enough to support conceptual mine planning. Drilling density and coal quality data are not sufficient to define Measured Resources in EPC 1827.

**Inferred Coal Resources** are that part of the Coal Resource for which quantity and quality can only be estimated with a low level of confidence. There are sufficient data points to allow an estimate of the coal thickness and quality, but at a level which is insufficient for mine planning purposes.

Resources in EPC 1827 qualified for Inferred status where Points of Observation were no more than 4000m apart, with a maximum extrapolation distance of 1000m beyond an existing drillhole.

Prior to the acquisition of the BOW data, which provided confidence in the lateral continuity of coal seams throughout the southern part of the EPC, it had not been possible to define Coal Resources within EPC 1827.

### 4.2 DRILLHOLE DATA

Figure 2 shows the location of the drillholes within and surrounding EPC 1827 for the Aries, Pollux and Pisces seams. Only two drillholes, HU9 and HU11, intersect seams in the RCM within EPC 1827. However, holes located just outside EPC 1827 have been used for resource estimation as they are considered relevant due to their proximity and location. The holes drilled by BOW have not been used as Points of Observation for resource estimation,

but they have been used to increase confidence in the estimate and as points from which the resource estimate can be extended.

### 4.3 RESOURCE AREAS

Resources are restricted to the shaded area in Figure 2, located west of the Jellinbah Fault and outside existing MLs. The small isolated block in the northwestern corner of the EPC has been excised from resources in the Aries and Pisces seam as a result of both seams thinning to less than 1m in HU2R. However, the area has been identified as a potential resource area for the Pollux seam, which is 3m to 4m thick in BL184R and HU2R.

The resource area for the Aries seam (Figure 3) is limited to the south and west by the boundary of the EPC, and to the east and north by the Jellinbah Fault or the extrapolation limit from an existing hole.

The resource area for the Pollux seam (Figure 4) is also limited to the west and south by the boundary of the EPC, to the north by seam thinning, and to the east by the Jellinbah Fault.

The resource area for the Pisces seam (Figure 5) is the same as that for the Aries seam.

### 4.4 METHODOLOGY

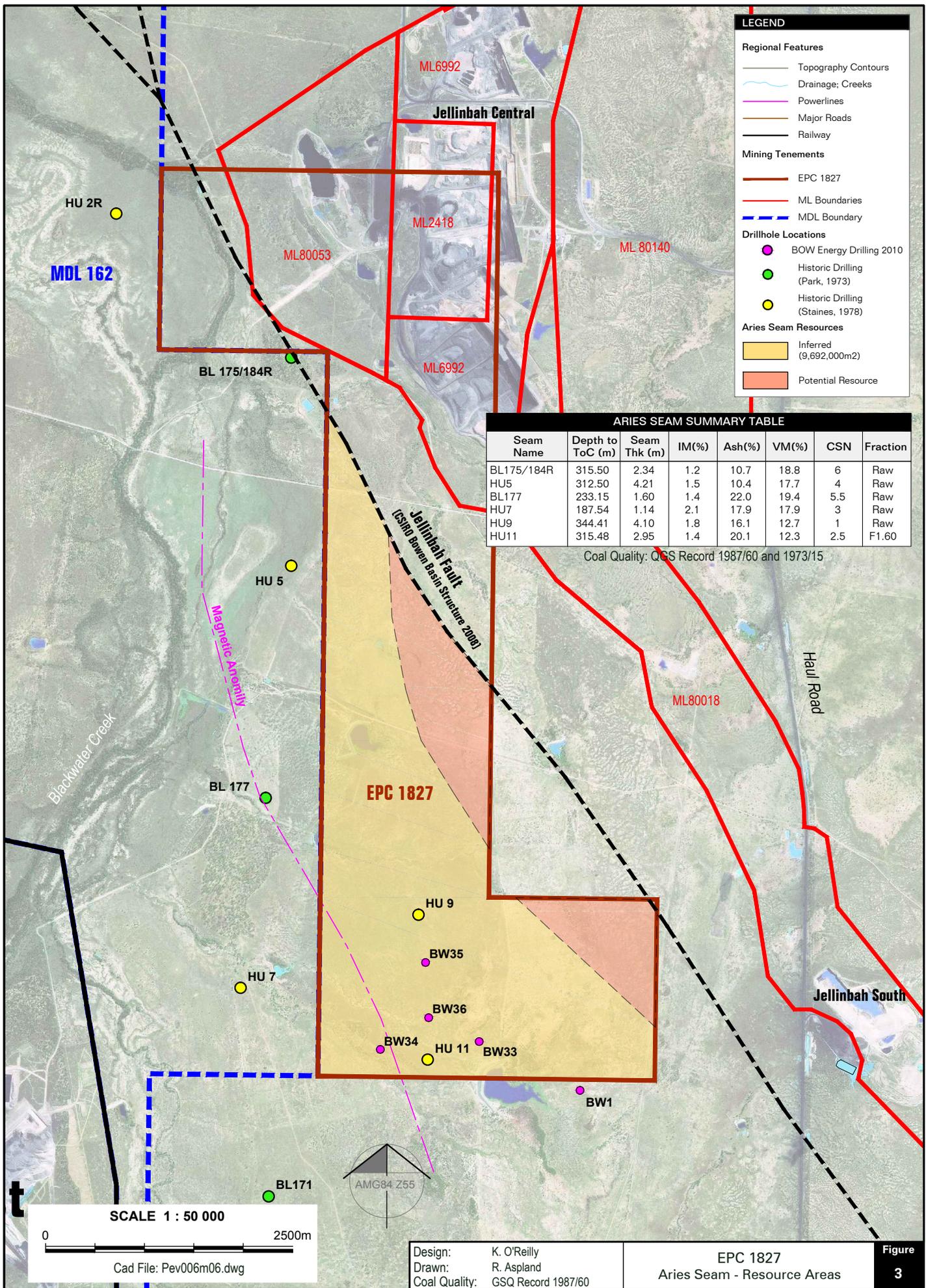
Inferred Resources for the Aries seam were estimated from the area, the average thickness from holes BL184R, HU5, BL177, HU7, HU9, HU11 and BW1. Holes BW33 to BW36 were not used because:

1. They would bias the average thickness data for holes in the south of the EPC; and
2. The Aries seam in holes BW33 and BW35 was anomalously thick, probably as a result of faulting.

Inferred Resources for the Pollux seam were estimated from the area, the average thickness from holes HU7, HU9, HU11, BW1 and BW33 to BW36. Since the Pollux seam resources are restricted to the southern part of the EPC the use of the four geophysically logged open holes (BW33 to BW36) was not considered to bias the seam thickness estimate.

Inferred Resources of the Pisces seam were estimated from the area, the average thickness from holes BL184R, HU5, BL177, HU7, HU9, HU11 and BW1. Holes BW33 to BW36 were not used because they would bias the average thickness data for holes in the south of the EPC.

In situ RDs applied to each seam were based on the RDs used by Staines (1987) of 1.44, 1.45 and 1.47 respectively for the Aries seam, the Pollux seam and the Pisces seam.



**LEGEND**

**Regional Features**

- Topography Contours
- Drainage: Creeks
- Powerlines
- Major Roads
- Railway

**Mining Tenements**

- EPC 1827
- ML Boundaries
- MDL Boundary

**Drillhole Locations**

- BOW Energy Drilling 2010
- Historic Drilling (Park, 1973)
- Historic Drilling (Staines, 1978)

**Aries Seam Resources**

- Inferred (9,692,000m2)
- Potential Resource

**ARIES SEAM SUMMARY TABLE**

Seam Name	Depth to ToC (m)	Seam Thk (m)	IM(%)	Ash(%)	VM(%)	CSN	Fraction
BL175/184R	315.50	2.34	1.2	10.7	18.8	6	Raw
HU5	312.50	4.21	1.5	10.4	17.7	4	Raw
BL177	233.15	1.60	1.4	22.0	19.4	5.5	Raw
HU7	187.54	1.14	2.1	17.9	17.9	3	Raw
HU9	344.41	4.10	1.8	16.1	12.7	1	Raw
HU11	315.48	2.95	1.4	20.1	12.3	2.5	F1.60

Coal Quality: QGS Record 1987/60 and 1973/15

**SCALE 1 : 50 000**

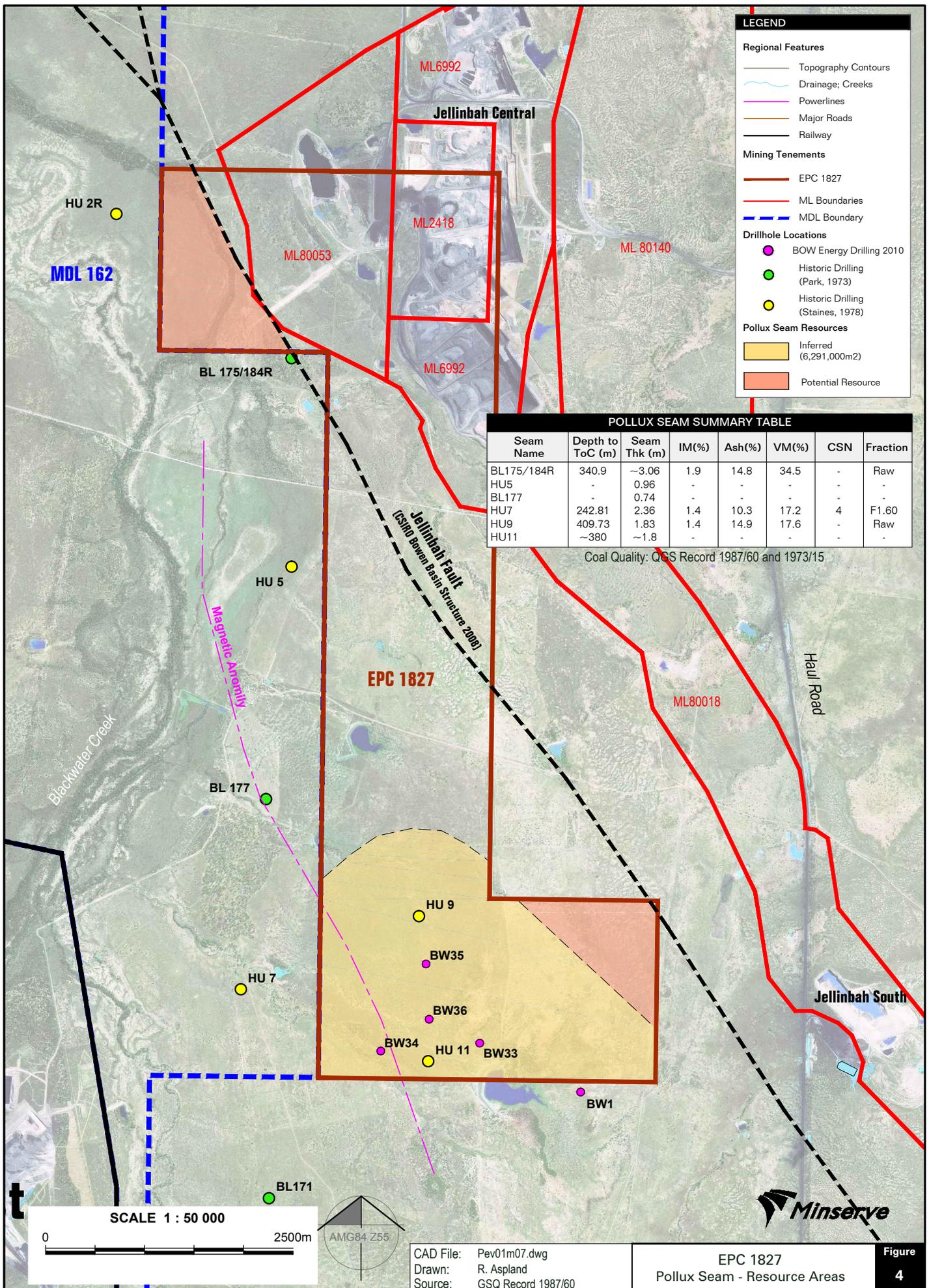
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Design: K. O'Reilly  
 Drawn: R. Aspland  
 Coal Quality: GSQ Record 1987/60

**EPC 1827**  
 Aries Seam - Resource Areas



**LEGEND**

**Regional Features**

- Topography Contours
- Drainage: Creeks
- Powerlines
- Major Roads
- Railway

**Mining Tenements**

- EPC 1827
- ML Boundaries
- MDL Boundary

**Drillhole Locations**

- BOW Energy Drilling 2010
- Historic Drilling (Park, 1973)
- Historic Drilling (Staines, 1978)

**Pollux Seam Resources**

- Inferred (6,291,000m<sup>2</sup>)
- Potential Resource

**POLLUX SEAM SUMMARY TABLE**

Seam Name	Depth to ToC (m)	Seam Thk (m)	IM(%)	Ash(%)	VM(%)	CSN	Fraction
BL175/184R	340.9	~3.06	1.9	14.8	34.5	-	Raw
HU5	-	0.96	-	-	-	-	-
BL177	-	0.74	-	-	-	-	-
HU7	242.81	2.36	1.4	10.3	17.2	4	F1.60
HU9	409.73	1.83	1.4	14.9	17.6	-	Raw
HU11	~380	~1.8	-	-	-	-	-

Coal Quality: QGS Record 1987/60 and 1973/15

**SCALE 1 : 50 000**

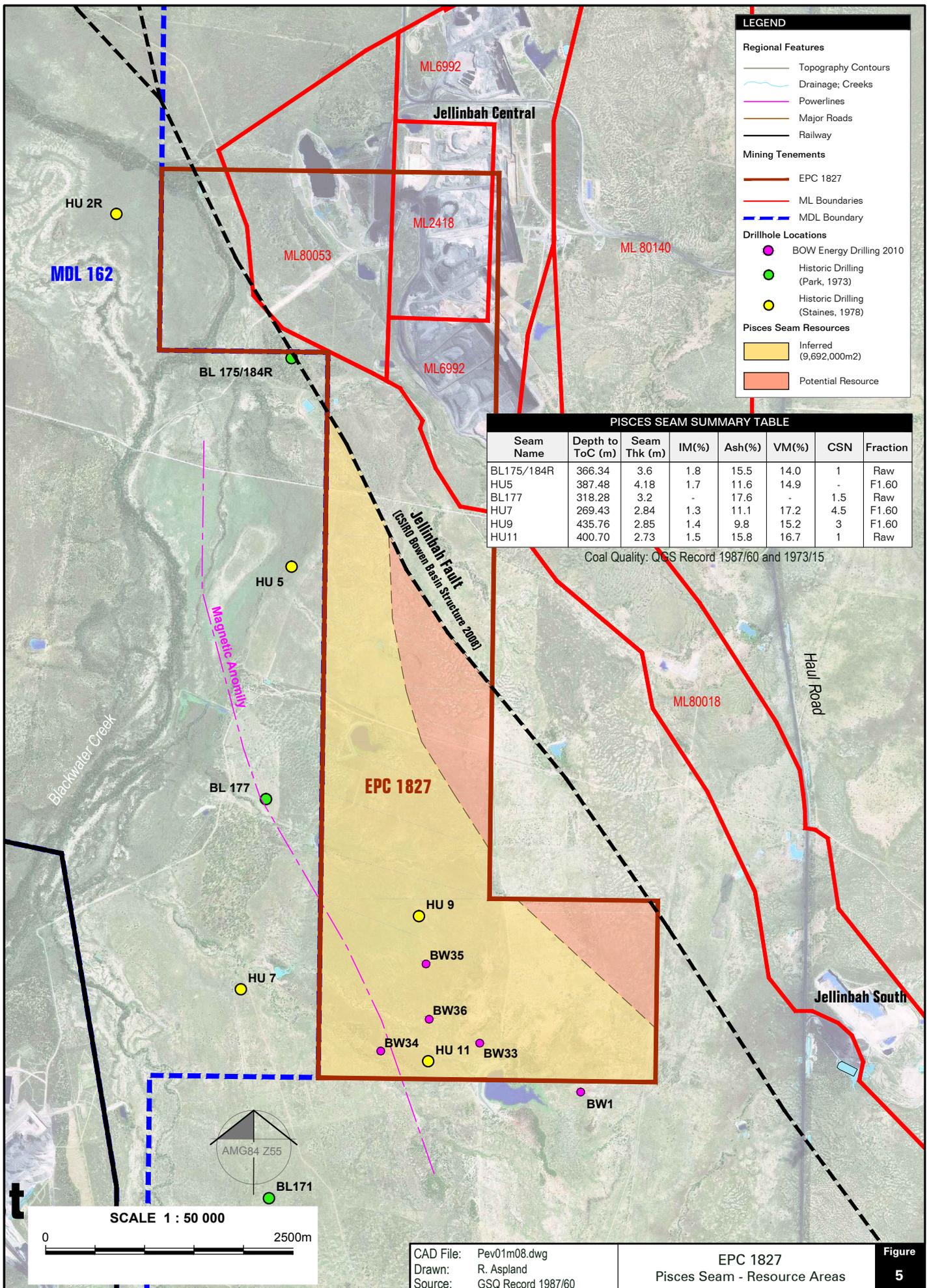
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 Drawn: R. Aspland  
 Source: GSQ Record 1987/60

**EPC 1827**  
 Pollux Seam - Resource Areas





**LEGEND**

**Regional Features**

- Topography Contours
- Drainage: Creeks
- Powerlines
- Major Roads
- Railway

**Mining Tenements**

- EPC 1827
- ML Boundaries
- MDL Boundary

**Drillhole Locations**

- BOW Energy Drilling 2010
- Historic Drilling (Park, 1973)
- Historic Drilling (Staines, 1978)

**Pisces Seam Resources**

- Inferred (9,692,000m2)
- Potential Resource

**PISCES SEAM SUMMARY TABLE**

Seam Name	Depth to ToC (m)	Seam Thk (m)	IM(%)	Ash(%)	VM(%)	CSN	Fraction
BL175/184R	366.34	3.6	1.8	15.5	14.0	1	Raw
HU5	387.48	4.18	1.7	11.6	14.9	-	F1.60
BL177	318.28	3.2	-	17.6	-	1.5	Raw
HU7	269.43	2.84	1.3	11.1	17.2	4.5	F1.60
HU9	435.76	2.85	1.4	9.8	15.2	3	F1.60
HU11	400.70	2.73	1.5	15.8	16.7	1	Raw

Coal Quality: QGS Record 1987/60 and 1973/15

**SCALE 1 : 50 000**

0 2500m

CAD File: Pev01m08.dwg  
 Drawn: R. Aspland  
 Source: GSQ Record 1987/60

**EPC 1827**  
 Pisces Seam - Resource Areas

## 4.5 RESOURCE ESTIMATES

Estimates of Inferred Resources of 39Mt for the Aries seam, 21Mt for the Pollux seam and 47Mt for the Pisces seam are presented in Table 3, Inferred Resources in EPC 1827 as of November 2010 total 107Mt.

Table 3 — Inferred Resource Estimates

Seam	Area km <sup>2</sup>	Ave. thick m	RD	Tonnes x10 <sup>6</sup>
Aries	9.7	2.8	1.44	39
Pollux	6.3	2.3	1.45	21
Pisces	9.7	3.3	1.47	47
<b>TOTAL</b>				<b>107</b>

The resources for the Aries seam and the Pollux seam could potentially be increased by approximately 10Mt and 12Mt respectively by drilling one strategically placed corehole in each of the two potential resource areas shown in Figures 3 and 5. The northern hole would also have the potential to extend resources of the Pollux seam north of the existing resource limit if the Pollux seam had a mineable thickness.

There is potential for additional resources of the Pollux seam in the isolated northwestern corner of the EPC, where the seam is 3m to 4m thick. One corehole in the area has the potential to prove up approximately 8Mt, but this tonnage may not be large enough to justify commercial extraction from such an isolated block.

## 5 CONCLUSIONS

EPC 1827 contains 107Mt of Inferred Resources of low volatile PCI coal in the Aries, Pollux and Pisces seams of the RCM at depths ranging from 225m to greater than 400m. The resources are restricted to the sub-blocks on the western side of the Jellinbah Fault.

Although the deposit contains resources of marketable PCI coal, with some potential to produce a coking fraction from at least the Aries seam and possibly the Pollux seam, the location of the resources on the footwall of the Jellinbah Fault is far from ideal in terms of structure and stress, and they may not prove to be mineable by high volume longwall methods, which have not been sustainable over the long term in the Blackwater area (e.g. Cook Colliery and Kenmare Colliery).

In addition, the large volume of desorbable gas in the coal will need to be reduced to manageable levels by pre-drainage prior to mining if problems like gas outbursts are to be avoided.

## 6 COMPETENT PERSON STATEMENT OF COMPLIANCE

This report has been prepared in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves "The JORC Code" (2004).

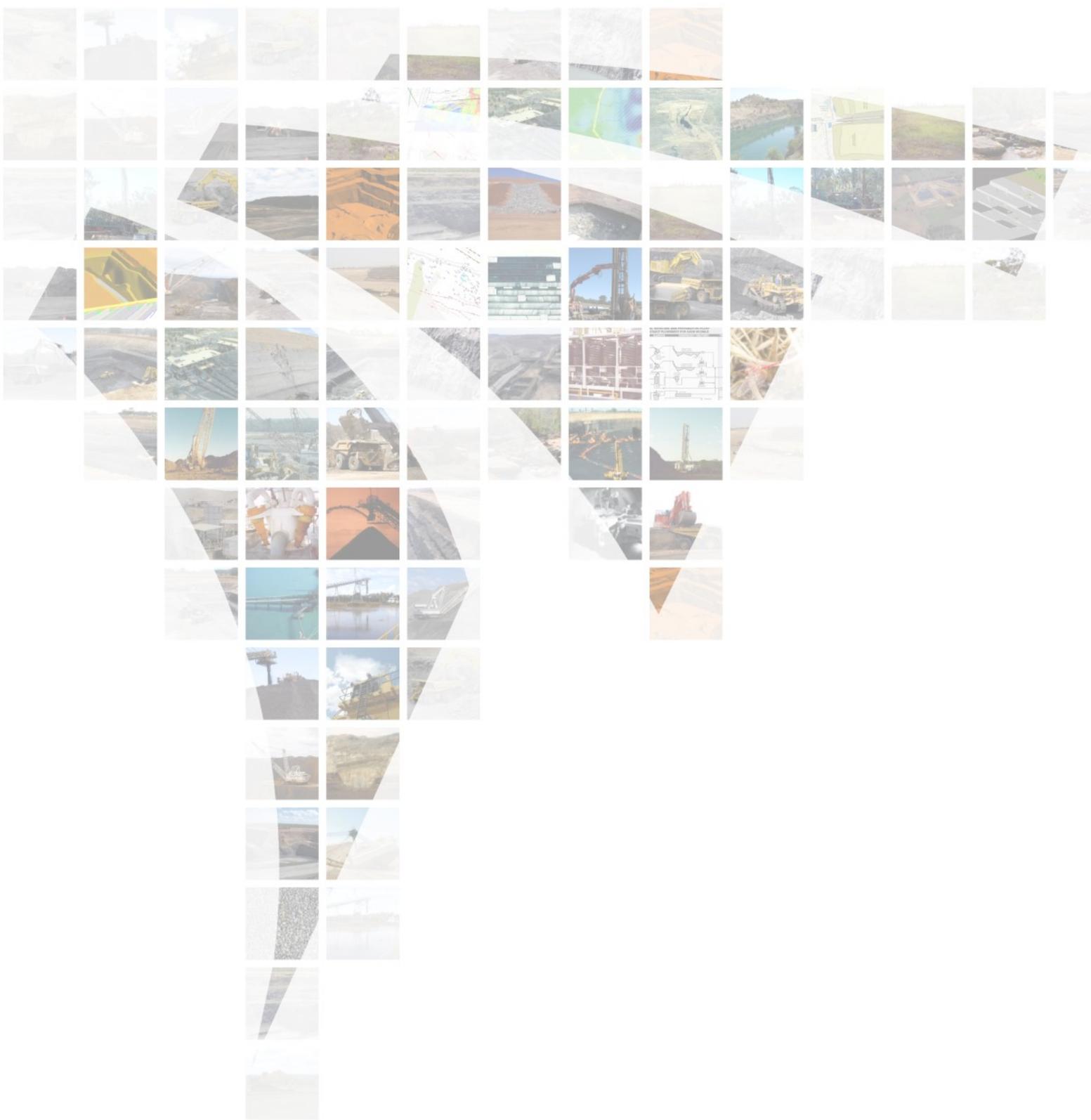
Ken O'Reilly, a member of the AusIMM, is a coal geologist with 29 years' experience in the estimation of coal resources for projects in Australia, principally in the Bowen Basin of Queensland, but also in the Sydney and Gunnedah Basins of NSW. This experience is relevant to the style of mineralisation and type of deposit under consideration, and is more than adequate to qualify him as a Competent Person as defined in the JORC Code.

## 7 REFERENCES

Park, W.J., 1973: Coal Resources, South Central Bowen Basin, Blackwater Coalfield, Caledonia Area. Geological Survey of Queensland, Record 1973/15.

Staines, H.R.E., 1987: Coal exploration, South Central Bowen Basin, Jellinbah - Caledonia Area, Geology and Coal Resources. Geological Survey of Queensland, Record 1987/60.

*Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves "The JORC Code" (2004).*



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