



CS8856 11/18

# Call for Tenders for Exploration Permits for Coal

Bowen and Eromanga basins

*Tender details and process document (CLR2018-1)*

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# INVESTING IN QUEENSLAND

## **A leading destination for mining and resources investment**

Queensland is recognised globally as a world-class producer and leading resources investment destination.

Rich in unexplored resources of coal, metallic and non-metallic minerals, and petroleum and gas, Queensland offers significant opportunities for exploration investment.

The State's mining and resources industries are supported by modern rail, port and pipeline infrastructure, with programs in place to expand capacity to meet increasing local and international export demand.

Queensland also has a high standard of safety and environmental management, and a proven history of using sustainable and innovative exploration and production practices. The industry is also supported by a high-quality mining equipment, technology, and services sector, as well as access to precompetitive geological data.

## **Exploration opportunities**

The Queensland Government actively encourages and welcomes investment in the State's mining and resources sector through releases of areas for exploration via the competitive tendering process to support the industry, regional economic development and jobs growth.

More information on exploration incentives and opportunities can be found at [www.business.qld.gov.au/industries/invest/mining/exploration-incentives](http://www.business.qld.gov.au/industries/invest/mining/exploration-incentives)

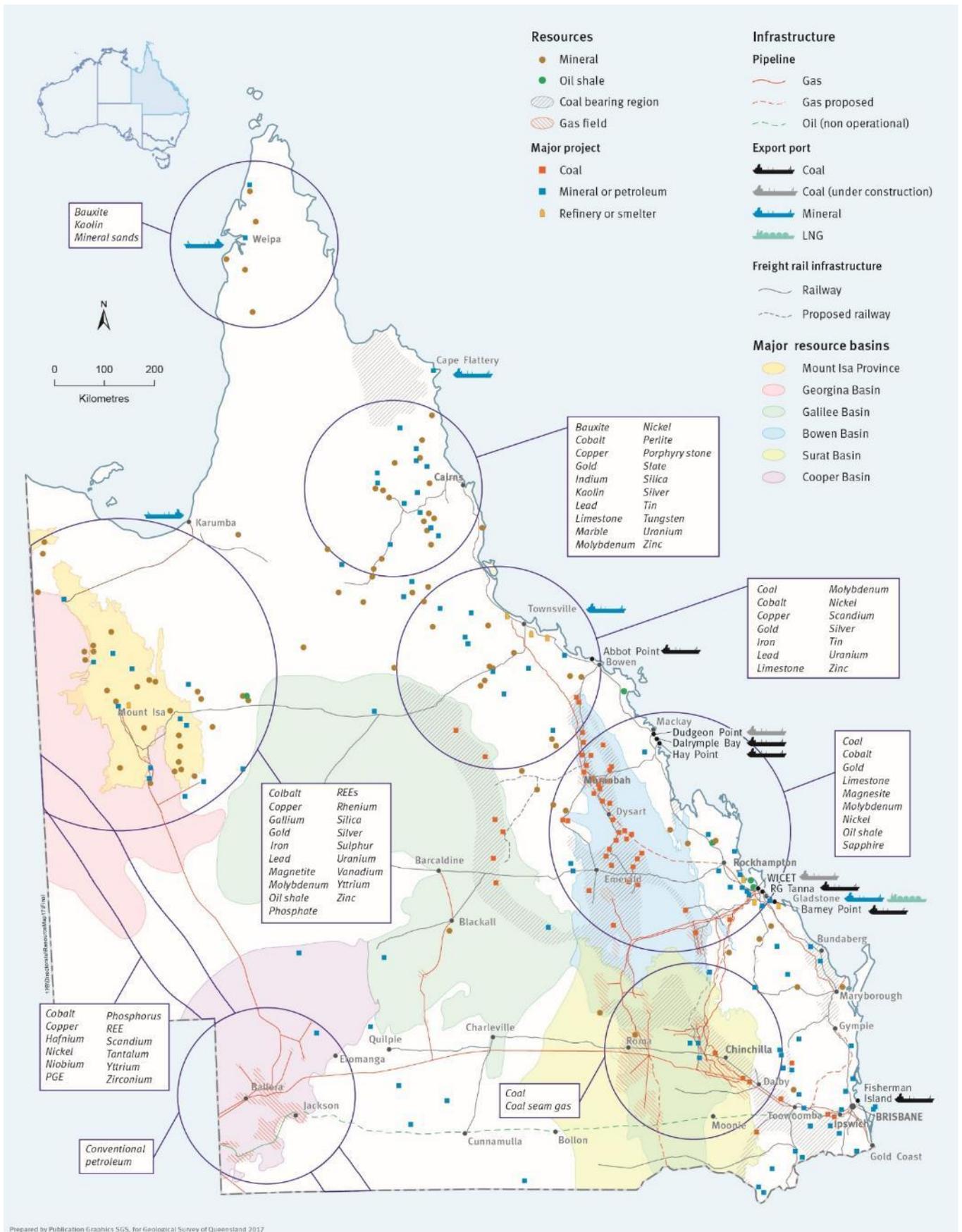


Figure 1: Queensland's Resources and Infrastructure

## THE TENDER OPPORTUNITY

### Call for Tenders for Exploration Permits for Coal (CLR2018-1)

The Queensland Government has released four prospective coal areas totalling approximately 672 km<sup>2</sup> (218 sub-blocks) via competitive tender with a cash bid component for coal exploration in Queensland's Bowen Basin and Eromanga Basin.

The Bowen Basin is the most important coal-bearing province in Queensland in terms of resources, coal types and current coal production. The northern Bowen Basin has long been explored and exploited for coal.

The Eromanga Basin contains vast quantities of undeveloped thermal coal at shallow depths. It has the potential to support a number of large open cut operations if suitable coal transport infrastructure could be constructed.

All areas have been released via competitive tender with a cash bid component for an Exploration Permit for Coal (EPC).

The Queensland Government has engaged with directly affected landowners, native title parties, overlapping resource tenure holders and local councils. Regional natural resource management groups along with agricultural, environmental, local government and industry peak bodies have also been engaged about this opportunity.

A preferred tenderer must meet environmental, native title and other approval requirements before an EPC may be granted for a term of five years under the *Mineral Resources Act 1989* (MRA). Following grant, the EPC-holder will also need to complete land access and potentially other approval requirements before commencing on-ground exploration.

### Queensland Government tender objectives

Through this tender opportunity, the Queensland Government is seeking suitable companies and/or individuals with the financial and technical capabilities to:

- Explore these areas and potentially take the resources to market and drive growth in these regions.
- Contribute to the Queensland Government's strategy for continued resources sector development.
- Support regional economic development and employment opportunities.

Tender CLR2018-1 is the first coal release of tenders announced under the Queensland Government's Queensland Exploration Program (QEP) released in June 2018.

The QEP provides a forward schedule of exploration opportunities to be released via competitive tender processes for petroleum and gas and coal. It assists resource companies to plan their exploration activities and also provides clarity to investors, explorers, landholders, native title parties, local governments and industry groups.

For more information about this tender, other competitive tenders and the competitive tendering program, visit [www.dnrme.qld.gov.au/resources-tenders](http://www.dnrme.qld.gov.au/resources-tenders) or email [resources-tenders@dnrme.qld.gov.au](mailto:resources-tenders@dnrme.qld.gov.au).

You can also [subscribe to our mailing list](#) to keep up to date with competitive tendering processes.

# 1. INTRODUCTION

This *Tender Details and Process Document (CLR2018-1)* (the tender document) contains information about the *Call for Tenders for Exploration Permit for Coal Notice (No 2) 2018* (the Call for Tenders) made under the MRA published in the Queensland Government Gazette on 6 December 2018. To view the Call for Tenders gazette notice refer to Appendix A: Call for Tenders.

As required by the MRA this document contains details relevant to the Call for Tenders. It also explains the process by which the Call for Tenders will be conducted. The Department of Natural Resources, Mines and Energy (the department) is committed to a competitive tendering process that is transparent, accountable and adheres to probity requirements.

Additional information about competitive tendering can be found at [www.dnrme.qld.gov.au/resources-tenders](http://www.dnrme.qld.gov.au/resources-tenders).

## 2. IMPORTANT NOTICE

This notice applies to all potential tenderers, regardless of whether they submit a tender.

The information in this document has been compiled to assist persons interested in submitting a tender or tenders under the Call for Tenders. It does not contain all information that potential tenderers may require in assessing a proposed EPC or deciding whether to submit a tender. Neither the State nor the Minister are liable for any of the information in the tender document.

Tenderers should refer to the Call for Tenders and all sections of this document and satisfy themselves of all the requirements and matters associated with the grant of a proposed EPC before submitting a tender.

Nothing in this document, the Call for Tenders or any other documentation relating to the grant of a proposed EPC constitutes an offer or recommendation by the State in relation to the tendering process or the grant of an EPC.

Participation in the tendering process is at the sole cost and risk of a tenderer.

**Important note:** Tenderers must comply with strict confidentiality requirements as stated in section 7.15 Confidentiality of this tender document, which includes the following requirement:

- The tenderer must not make any public or media statement in relation to the tender process or the outcome of the tender process, any proposed EPC or any other matter referred to in the tender documents without the prior written consent of the State.

### 3. KEY INFORMATION

**Table 1** Table of key information

Item	Particulars	Section reference in this document
<b>KEY INFORMATION FOR TENDER</b>		
Tender code	CLR2018-1	This document
Tender area codes	CLR2018-1-1, CLR2018-1-2, CLR2018-1-3 and CLR2018-1-5.	This document
Contact details <i>(All queries in relation to this tender should be made to this contact)</i>	Exploration and Policy Support Department of Natural Resources, Mines and Energy E: <a href="mailto:resources-tenders@dnrme.qld.gov.au">resources-tenders@dnrme.qld.gov.au</a> P: +61 7 3199 7334	N/A
Probity Advisor	An independent probity advisor provides oversight of this tender process.	5.2 Governance and probity
Call for Tenders	<i>Call for Tenders for Exploration Permit for Coal Notice (No 2) 2018</i> published in the Queensland Government Gazette on 6 December 2018.	Appendix A: Call for Tenders
Obtaining tender documents	Potential tenderers and interested parties should register on QTenders to download the tender document and related documents  Please visit QTenders at <a href="http://www.hpw.qld.gov.au/qtenders">www.hpw.qld.gov.au/qtenders</a> and search for "CLR20181"	5.3 Obtaining tender documents
Tender documents	Tender Details and Process Document (CLR2018-1)	This document
	<i>Call for Tenders for Exploration Permit for Coal Notice (No 2) 2018</i> published in the Queensland Government Gazette on 6 December 2018	Appendix A: Call for Tenders
	Tender application form	Appendix B: Tender application form
	Response templates	Appendix C: Response template
	Checklist	Appendix D: Checklist
	Regional and geological considerations	Appendix E: Regional and geological considerations
	Block and sub-block descriptors of tender areas	Appendix F: Block and sub-block descriptors of tender areas
Other tender related online resources only available via electronic copy of this tender document	<ul style="list-style-type: none"> <li>Online visual resource (Story Map) – <a href="http://qldspatial.information.qld.gov.au/CLR20181/index.html">http://qldspatial.information.qld.gov.au/CLR20181/index.html</a></li> <li>MinesOnlineMaps – <a href="https://minesonlinemaps.business.qld.gov.au/">https://minesonlinemaps.business.qld.gov.au/</a></li> </ul>	

Item	Particulars	Section reference in this document
<b>KEY INFORMATION FOR TENDER</b>		
	<ul style="list-style-type: none"> <li>Shape files for tender areas – can be downloaded from QTenders directly or from the Queensland Spatial Catalogue <a href="http://www.qldspatial.information.qld.gov.au">www.qldspatial.information.qld.gov.au</a></li> </ul>	
Submission of tender	Tenders must be submitted in the format outlined in section 5.4 of the tender document.	5.4 Submission of tender
<b>TENDER TIMELINES</b>		
Tender open	6 December 2018	N/A
Last date for questions to the department <i>(only via email - resources-tenders@dnrme.qld.gov.au)</i>	28 February 2019	N/A
Last date for answers by the department to be published on the tender website (QTenders)	14 March 2019	N/A
Tender closing time	2:30 pm (AEST) 28 March 2019	N/A
<b>DETAILS REQUIRED BY THE MRA ACT FOR THE EXPLORATION PERMIT FOR COAL (EPC)</b>		
Any proposed conditions of the EPC likely to impact significantly on exploration in the proposed area	Nil	N/A
Term of EPC	Five (5) years	N/A
Initial work program period	Five (5) years	N/A
Special criteria	Special Criterion 1 – Approach to community consultation	6.2 Requirements for making tender
	Special Criterion 2 – Compliance with relevant resources legislation	
	Special Criterion 3 – Capability for compliance with relevant environment, health, safety, cultural heritage and native title requirements	
	Special Criterion 4 – Amount of cash bid	
Cash bid component to be used for deciding the call for tenders	Yes	7.6 Cash bid and tender security

## 4. TENDER AREAS AND TENDER AREA CONSIDERATIONS

The Queensland Government has released four areas (CLR2018-1-1, CLR2018-1-2, CLR2018-1-3 and CLR2018-1-5) via competitive tender with a cash bid component for coal exploration in Queensland's Bowen and Eromanga basins

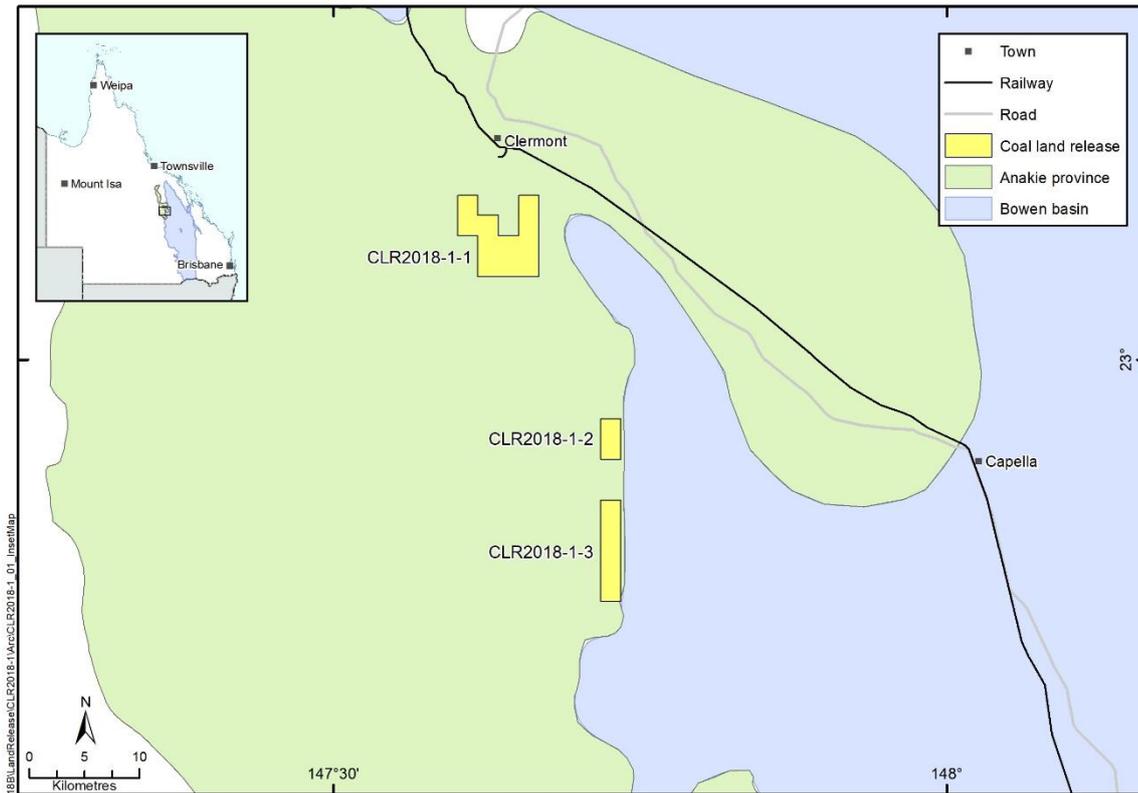


Figure 2 Location of CLR2018-1-1, CLR2018-1-2 and CLR2018-1-3

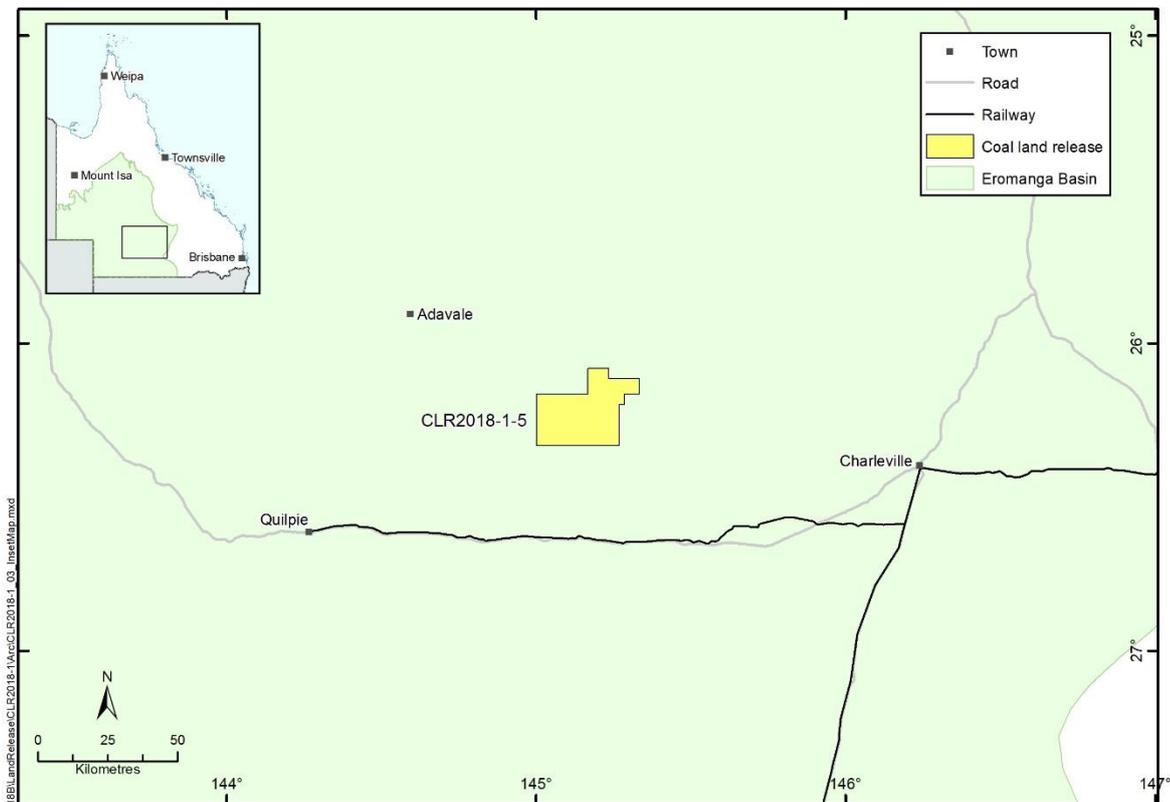


Figure 3 Location of CLR2018-1-5

Shape files for the tender areas are available on the QTenders website and form part of the tender document. Please refer to section 5.3 5.3 Obtaining tender documents of the tender document for information about QTenders. Shapefiles can also be downloaded from Queensland Spatial Catalogue – refer to link in Table 1.

An online visual resource (story map) has been developed to provide information about the Call for Tenders and the tender area regional and geological considerations. A link to the story map is in Table 1.

Maps of the tender areas are also available on the department’s MinesOnlineMaps spatial mapping system – refer to link in Table 1.

More details about geological considerations are provided in Appendix E.

## 4.1 CLR2018-1-1, CR2018-1-2, CLR2018-1-3 & CLR2018-1-5

CLR2018-1-1, CLR2018-1-2 and CLR2018-1-3 are situated in the Bowen Basin. CLR2018-1-5 is situated in the Eromanga Basin. Further details for the tender areas are detailed in Tables 2, 3, 4, and 5 below:

Note: Area CLR2018-1-4 in the Queensland Exploration Program has not been released as part of this tender.

**Table 2:** Further details on CLR2018-1-1

<b>Size</b>	35 km <sup>2</sup> (11 sub-blocks)
<b>Location</b>	Approx. 6 km south of Clermont
<b>Basin</b>	Bowen Basin
<b>Commodity</b>	Coal (coking)
<b>Prospectivity</b>	Good potential for coking coal resources.

**Table 3:** Further details on CLR2018-1-2

<b>Size</b>	6 km <sup>2</sup> (2 sub-blocks)
<b>Location</b>	Approx. 25 km south of Clermont
<b>Basin</b>	Bowen Basin
<b>Commodity</b>	Coal (coking)
<b>Prospectivity</b>	Some potential for coking coal. Known coal occurrences appear localised, with limited lateral continuity.

**Table 4:** Further details on CLR2018-1-3

<b>Size</b>	16 km <sup>2</sup> (5 sub-blocks)
<b>Location</b>	Approx. 32 km south of Clermont
<b>Basin</b>	Bowen Basin
<b>Commodity</b>	Coal (coking)
<b>Prospectivity</b>	Some potential for coking coal. Known coal occurrences appear localised, with limited lateral continuity.

**Table 5:** Further details on CLR2018-1-5

<b>Size</b>	615 km <sup>2</sup> (200 sub-blocks)
<b>Location</b>	Approx. 95 km west of Charleville
<b>Basin</b>	Eromanga Basin
<b>Commodity</b>	Coal (thermal)
<b>Prospectivity</b>	Fair potential for thermal coal. Although the extent of the Winton Formation is considerable, the coals it contains are of low rank.

A description of the tender areas in graticular blocks and sub-blocks as provided on the Block Identification Map (BIM) Series B held by the department is provided in Appendix F: Block and sub-block descriptors of tender areas.

## 4.2 Tender area considerations

A summary of the environmental and native title tender area approval requirements and obligations that a preferred tenderer for CLR2018-1 will have to address prior to the grant of an EPC for each tender area is outlined below in Table 6: Summary of Environmental and Native title approval requirements and obligations for each tender area

**Table 6:** Summary of Environmental and Native title approval requirements and obligations for each tender area

Area	Environment	Native title
CLR2018-1-1	An Environmental Authority (EA) is required	Native title requirements need to be addressed
CLR2018-1-2	Please refer to section 4.2.1 for further information	Please refer to section 4.2.2 for further information
CLR2018-1-3		
CLR2018-1-5		

### 4.2.1 Environment

Every mining or petroleum/gas project requires both a tenure from the department that gives access to the land, and an environmental authority (EA) from the Department of Environment and Science which regulates the environmental management of the project.

The preferred tenderer will need to apply for an EA to undertake an environmentally relevant activity (ERA) as defined in the *Environmental Protection Act 1994* (EP Act). This application should be made at the same time as the application for the relevant resource tenure or after the resource tenure application is made.

An integrated approvals process for ERAs has been established to allow approval requirements to be proportional to the environmental risk of the activity. Under this process, any new resource activity that meets the eligibility criteria and can comply with all of the standard conditions for an ERA can make a standard application for an EA to carry out the activity. Detailed environmental assessment will not need to be undertaken for a standard EA application. Note that if the activity meets the eligibility criteria but cannot meet all of the standard conditions, the conditions can be varied through a variation application. This is similar to a standard application, but additional information will be required in the application relevant to the conditions that need to be varied.

Where a resource activity cannot comply with the eligibility criteria for that ERA, the explorer must apply for a site specific EA. There is a higher level of environmental assessment under a site-specific approvals process.

Applicants can research the potential environmental constraints on tender areas, including location of Environmentally Sensitive Areas (ESAs) and Matters of State Environmental Significance (MSES), from a number of sources, including:

- MinesOnlineMaps
- Qspatial – Download Matters of State Environmental Significance – Queensland Series
- Queensland Government Globe
- Department of Environment and Science

Where a prescribed activity is likely to result in a significant residual impact to a MSES, an environmental offset may be required as a condition of approval following consideration of avoidance and mitigation measures.

### Requirements under the Environmental Protection and Biodiversity Conservation Act

The *Environmental Protection and Biodiversity Conservation Act 1999* (the EPBC Act) is the Australian Government's central piece of environmental legislation. The EPBC Act provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places – defined in the EPBC Act as matters of national environmental significance.

The EPBC Act comes into play when a proposal has the potential to have a significant impact on a matter of national environmental significance. When a person (a 'proponent') wants an action (often called a 'proposal' or 'project') assessed for environmental impacts under the EPBC Act, he or she must refer the project to the Australian Government Department of the Environment and Energy. This 'referral' is then released for comment on whether the project is likely to have a significant impact on matters of national environmental significance (MNES). A decision is then made whether the likely environmental impacts of the project are such that it should be assessed under the EPBC Act.

Anyone unsure on whether the EPBC Act applies to them, or of what they need to do to comply with the EPBC Act is strongly encouraged to seek further information from the Department of the Environment and Energy.

For further information on this section, tenderers should refer to Table 7 below.

**Table 7:** Further information for tenderers

Description	References
General information on applying for an EA (including a link to Forms and Fees finder)	<a href="http://www.business.qld.gov.au/business/running/environment/licences-permits/applying-environmental-authority">www.business.qld.gov.au/business/running/environment/licences-permits/applying-environmental-authority</a> <a href="http://www.business.qld.gov.au/business/running/environment/licences-permits/form-fees-finder">www.business.qld.gov.au/business/running/environment/licences-permits/form-fees-finder</a>
Eligibility criteria and standard conditions for mining exploration and mineral development activities	<a href="https://environment.des.qld.gov.au/assets/documents/regulation/rs-es-exploration-mineral-development-projects.pdf">https://environment.des.qld.gov.au/assets/documents/regulation/rs-es-exploration-mineral-development-projects.pdf</a>
Contact the Department of Environment and Science for any EA enquiries	Website: <a href="https://environment.des.qld.gov.au/">https://environment.des.qld.gov.au/</a> Telephone: +61 1300 130 372, option 4 Email: <a href="mailto:palm@des.qld.gov.au">palm@des.qld.gov.au</a>
Requesting an ESA map	<a href="https://environment.des.qld.gov.au/licences-permits/maps_of_environmentally_sensitive_areas.php">https://environment.des.qld.gov.au/licences-permits/maps_of_environmentally_sensitive_areas.php</a>
Requesting a MSES map	<a href="https://environment.des.qld.gov.au/management/planning-guidelines/method-mapping-mses.html">https://environment.des.qld.gov.au/management/planning-guidelines/method-mapping-mses.html</a>
Queensland Environmental Offset Information	<a href="http://www.qld.gov.au/environment/pollution/management/offsets/what-when/index.html">www.qld.gov.au/environment/pollution/management/offsets/what-when/index.html</a>
Contact the Department of Natural Resources, Mines and Energy for any vegetation enquiries	Telephone: +61 13 58 34 Email: <a href="mailto:vegetation@dnrme.qld.gov.au">vegetation@dnrme.qld.gov.au</a>
Contact the Department of Environment and Energy for general information approvals under the EPBC Act	Website - <a href="http://www.environment.gov.au">www.environment.gov.au</a> Telephone - +61 1800 803 722 (General Enquires) <a href="http://www.environment.gov.au/epbc/do-you-need-approval">www.environment.gov.au/epbc/do-you-need-approval</a>

## 4.2.2 Native Title

Native Title is defined as the rights and interests that are possessed under the traditional laws and customs of Aboriginal and Torres Strait Islander peoples, and that are recognised by common law.

The *Native Title Act 1993* (Commonwealth) (NT Act) sets out specified processes that must be followed for any 'future act' on land or waters that would affect native title rights and interests. Applications for most resource authorities are considered future acts and are subject to these native title processes.

Tenderers will need to undertake a native title assessment to determine how they intend to address the requirements of the NT Act. MinesOnlineMaps provides a starting point to determine whether land is subject to Native Title.

On appointment of a preferred tenderer for an EPC that includes any land or waters where native title may exist, the preferred tenderer will be required to nominate whether it will address the requirements of the *NT Act* by entry into an Indigenous Land Use Agreement or by requesting the State to commence the Right to Negotiate process.

Where Native Title has been determined or may continue to exist within the area of an EPC, but less than or equal to 10 per cent of the total area of the EPC and does not cover an entire block, an EPC may proceed to grant with Native Title excluded, in accordance with the department's Policy Number 6/2012.

For further information on these processes, tenderers should refer to Table 8 below.

**Table 8:** Further information for tenderers

Description	References
General information on native title as it relates to mining and resources	<a href="http://www.business.qld.gov.au/industry/mining/land-access-environment/native-title/mining-resources">www.business.qld.gov.au/industry/mining/land-access-environment/native-title/mining-resources</a>
Operational Policy 6/2012 – excluding land subject to Native Title- version 1.01	<a href="http://www.dnrme.qld.gov.au/?a=109113:policy_registry/operational-policy-excluding-land-subject-to-native-title.pdf&amp;ver=1.01">www.dnrme.qld.gov.au/?a=109113:policy_registry/operational-policy-excluding-land-subject-to-native-title.pdf&amp;ver=1.01</a>
Contact the Department of Natural Resources, Mines and Energy for any enquiries about the Native Title process for an EPC	Website - <a href="http://www.dnrme.qld.gov.au">www.dnrme.qld.gov.au</a> Telephone – +61 (7) 4936 0138 Email – <a href="mailto:nativetitleservices@dnrme.qld.gov.au">nativetitleservices@dnrme.qld.gov.au</a>
National Native Title Tribunal	<a href="http://www.nntt.gov.au">www.nntt.gov.au</a>

## 4.2.3 Additional information – Land access

Queensland's land access laws provide landholders with greater protection and security in relation to resource exploration and development activities. Following the granting of an EPC, the exploration resource authority holder must address land access requirements.

The effect of these laws is that an exploration resource authority holder is not able to enter private land to undertake preliminary activities without first having provided the landholder(s) with an entry notice 10 business days prior to entry. Some exceptions apply to this requirement, such as when a landholder has agreed to waive the requirement to receive an entry notice.

An exploration resource authority holder is also not able to enter private land to conduct advanced activities unless they have entered into a conduct and compensation agreement, deferral agreement or opt-out agreement with the affected landholder(s). Additionally, if the negotiation process for a conduct and compensation agreement is unsuccessful and an application is made to the Land Court for determination, the exploration resource authority holder may enter land 10 business days after giving an entry notice. These laws also require all exploration resource authority holders to comply with the conditions of the Land Access Code.

The code states best practice guidelines for communication between resource companies and landholders, and imposes mandatory conditions on exploration resource authority holders conducting activities on private land. These mandatory conditions relate to key concerns landholders have regarding access points, use of roads and tracks, weeds and declared pests, items brought onto land and activities conducted around livestock and property.

In addition, the Office of the Land Access Ombudsman has been established to improve the land access framework. The Land Access Ombudsman provides a free, independent dispute resolution service for landholders and resource companies. It investigates breaches of conduct and compensation agreements and makes practical recommendations to resolve the dispute. More information is available as [www.lao.org.au](http://www.lao.org.au)

#### Preliminary analysis indicates that:

- There are 24 landholders within CLR2018-1-1
- There are 12 landholders within CLR2018-1-2
- There are 21 landholders within CLR2018-1-3
- There are 25 landholders within CLR2018-1-5

For further information on this section refer to Table 9: Further information for tenderers on land access

**Table 9:** Further information for tenderers on land access

Description	References
Land Access Code	<a href="http://www.business.qld.gov.au/industries/mining-energy-water/resources/land-environment/accessing-private-land/land-access-code">www.business.qld.gov.au/industries/mining-energy-water/resources/land-environment/accessing-private-land/land-access-code</a>
General information on land access	<a href="http://www.business.qld.gov.au/industry/mining/land-access-environment/conducting-exploration-and-mining-activities-on-private-land">www.business.qld.gov.au/industry/mining/land-access-environment/conducting-exploration-and-mining-activities-on-private-land</a>

#### 4.2.4 Additional information – Overlapping tenure

Queensland's resources framework includes provision for managing overlapping tenures. CLR2018-1-1, CLR2018-1-2 and CLR2018-1-3 have overlapping tenures whereas CLR2018-1-5 is not currently overlapped.

Tenderers must satisfy themselves as to the existence of overlapping tenures and the statutory obligations arising under the MRA in any area subject to an overlapping tenure. Tenderers may wish to include information in their work program addressing their proposed approach to dealing with overlapping tenure.

Maps of overlapping tenure is available on the department's MinesOnlineMaps spatial mapping system – refer to link in Table 1.

### 4.2.5 Additional information – Transfer of EPC granted from this tender

A condition will be imposed on any EPC granted as a result of this tender to the effect that no application to transfer the EPC will be considered in the first 5 years of the term of the EPC.

### 4.2.6 Additional information – No amendment to initial work program

Any EPC granted as a result of this tender will be subject to a condition prohibiting amendment of the initial work program.

## 5. TENDERING PROCESS

### 5.1 Call for Tenders

The competitive tendering process for Exploration Permits for Coal is governed by the MRA and associated regulations. Notwithstanding anything stated in the Call for Tenders, the tender document or associated documents, all tenderers must satisfy themselves as to all legislative requirements relevant to their tender.

Eligible persons<sup>1</sup> are invited to submit a tender for the proposed EPCs released under the Call for Tenders.

### 5.2 Governance and probity

The department leads the competitive tendering process for the grant of an EPC. The tender process is subject to strict probity requirements.

The department has appointed an independent probity advisor to ensure the competitive tendering process is conducted in accordance with the approved probity framework.

Queensland Government and department officers may in the course of their work inform others about the Call for Tenders and tender documents however any questions regarding the Call for Tenders or the tender process be directed to the Exploration and Policy Support team as set out in section 3.

**Important note:** Tenderers must comply with strict confidentiality requirements as stated in section 7.15 Confidentiality of this tender document, which includes the following requirement:

- The tenderer must not make any public or media statement in relation to the tender process or the outcome of the tender process, any proposed EPC or any other matter referred to in the tender documents without the prior written consent of the State.

Failure to conform strictly with confidentiality requirements of this call for tenders may result in the Minister exercising his or her discretion to refuse to receive, process or consider the tender.

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<sup>1</sup> Eligible person is defined under the MRA and means, for the purpose of this tender, a) an adult; b) a company; c) a local government that acquires a mining claim or mining lease under the *Local Government Act 2009* for overdue rates and charges; or d) an educational institution the Minister treats as an eligible person under section 7.

## 5.3 Obtaining tender documents

Potential tenderers and interested parties must register on QTenders to download the tender and related documents. Registration via QTenders enables potential tenderers and interested parties to be kept informed and updated via email by the Exploration and Policy Support team until the Call for Tenders closes. This may include any variations to the Call for Tenders, questions from potential tenderers and interested parties and the responses from the department.

Please visit QTenders at [www.hpw.qld.gov.au/qtenders](http://www.hpw.qld.gov.au/qtenders) and search for “CLR20181”.

A hard copy of this document and the Call for Tenders (Gazette Notice) can be viewed by appointment at 1 William Street, Brisbane. Please contact the Exploration and Policy Support team via email to [resources-tenders@dnrme.qld.gov.au](mailto:resources-tenders@dnrme.qld.gov.au) to arrange an appointment.

## 5.4 How to submit tender

In order to make a tender submission, tenderers must follow the steps outlined below **for each tender area** applied for:

1. Complete the tender application form (Appendix B) and the response templates (Appendix C) for each tender area.

**Note:** The tender must be for the whole area of the proposed EPC (not part).

2. Obtain proof of identity for the tenderer

For each company: Proof of identity in the form of a copy of a current company certificate issued by the Australian Securities and Investments Commission is required.

For individuals: Proof of identity in the form of a copy of a current drivers licence or passport is required.

3. Obtain a letter of authority for the authorised holder representative (if applicable)

A letter of authority signed by the holders for the EPC for the authorised holder representative to act on their behalf is required.

A letter of authority is not required if the holder is an individual and representing themselves.

4. Pay the application fee for the amount of A\$1,308<sup>2</sup> for each tender area applied for.

The application fee must be paid via electronic funds transfer to the following account:

**Bank:** Commonwealth Bank of Australia  
**BSB:** 064-013

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<sup>2</sup> The application fee for an EPC is prescribed in Part 3, Schedule 5 of the Mineral Resources Regulation 2013 (Qld). This fee is adjusted annually and applicants should confirm the amount before a tender submission is made. Please also refer to <https://www.business.qld.gov.au/industries/mining-energy-water/resources/minerals-coal/authorities-permits/applying/authorities/exploration-permit>

**Account number:** 10041702  
**Account Name:** Department of Natural Resources, Mines and Energy – Administered  
**Swift code:** CTBAAU2S  
**Reference number:** <insert tender area code for area tendered – see example below>

*Example:*

*CLR2018-1-1 (if submitting a tender for CLR2018-1-1)*

*CLR2018-1-2 (if submitting a tender for CLR2018-1-2)*

Please ensure that all details are entered correctly (including the reference number) prior to submitting payment and a copy of the payment advice/receipt is retained.

5. Provide tender security equal to 10% of the cash bid amount in the form of an original written bank guarantee:
  - a. in favour of the State of Queensland, represented by the Department of Natural Resources, Mines and Energy.
  - b. in the form of a non-expiring unconditional undertaking to pay, from an Australian domiciled authorised deposit-taking institution (ADI) entitled to refer to itself as a bank under the *Banking Act 1959* (Commonwealth) whose prevailing credit rating from S&P or Moody's is at least 'A-' or 'A3' respectively.

**Notes:**

- Please upload the scanned copy of the original written bank guarantee to QTenders as part of your tender submission. The original bank guarantee must also be delivered to the department within ten business days of the tender closing date, failing which the tender may be rejected.
- Delivery may be made in person or via courier to 1 William Street, Brisbane using the contact details in Section 3 Table 1, or posted to:

Exploration and Policy Support Section  
 Department of Natural Resources, Mines and Energy  
 PO Box 15216, City East  
 Qld 4002

- The tender security is held by the department as security for the tenderer's obligations, including if successful, obligations required to be performed by the preferred tenderer.
  - Tenderers are encouraged to read the Tender Conditions as it relates to the tender security.
6. If submitting a tender for multiple areas, obtain a cover letter listing all areas for which a tender is submitted, in order of preference of award.
  7. Complete the tender checklist (Appendix D) for each tender area.
  8. Upload the documents listed in the Checklist (Appendix D) to QTenders in PDF format. Documents should be submitted using the naming convention outlined in Table 10 below.
  9. Submit tender on QTenders before the closing time. Once your tender has been submitted, please retain a copy of the QTender submission receipt.

Tenderers must register on QTenders as a supplier in order to submit their tender.

The QTenders website is at: [www.hpw.qld.gov.au/qtenders](http://www.hpw.qld.gov.au/qtenders):

**Note:**

- For any technical issues relating to the QTender system and/or uploading your tender, please contact QTenders directly:  
Phone: +61 (7) 3215 3699  
Email: [BSU@hpw.qld.gov.au](mailto:BSU@hpw.qld.gov.au)  
Business hours: 8am to 5pm AEST, Monday to Friday
- Tenders will only be accepted through QTenders.

**Table 10:** Tender submission format details

Document name	Document content
General.pdf	<ul style="list-style-type: none"> <li>• Completed tender application form</li> <li>• Proof of identity of tenderer</li> <li>• Letter of authority for the authorised holder representative (if applicable)</li> <li>• Payment advice/receipt for the application fee</li> <li>• If submitting a tender for multiple areas, a cover letter listing all areas for which a tender is submitted in order of preference</li> <li>• Completed checklist</li> </ul>
Response Section621.pdf	<ul style="list-style-type: none"> <li>• Completed response template for section 6.2.1; and</li> <li>• All supporting documents to response for section 6.2.1 Matters associated with financial capability</li> </ul>
Response Section622.pdf	<ul style="list-style-type: none"> <li>• Completed response template for section 6.2.2; and</li> <li>• All supporting documents to response for section 6.2.2 Matters associated with work program</li> </ul>
Response Section623.pdf	<ul style="list-style-type: none"> <li>• Completed response template for section 6.2.3; and</li> <li>• All supporting documents to response for section 6.2.3 Matters associated with technical capability</li> </ul>
Response Section624.pdf	<ul style="list-style-type: none"> <li>• Completed response template for section 6.2.4; and</li> <li>• All supporting documents to response for section 6.2.4 Matters associated with approach to community consultation (Special Criteria 1)</li> </ul>
Response Section625.pdf	<ul style="list-style-type: none"> <li>• Completed response template for section 6.2.5; and</li> <li>• All supporting documents to response for section 6.2.5 Matters associated with compliance with relevant resources legislation (Special Criteria 2)</li> </ul>
Response Section626.pdf	<ul style="list-style-type: none"> <li>• Completed response template for section 6.2.6; and</li> <li>• All supporting documents to response for section 6.2.6 Matters associated with tenderer's capability for compliance with relevant environment, health, safety, cultural heritage and native title requirements (Special Criteria 3)</li> </ul>
Response Section627.pdf	<ul style="list-style-type: none"> <li>• Completed response template for section 6.2.7</li> <li>• All supporting documents to response for section 6.2.7 Matters associated with the amount of cash bid (Special Criteria 4)</li> </ul>

## 5.5 Timing

The timing for the tender process is set out in Table 1. The Minister may, using absolute discretion, vary the timing. Any changes to the timing will be communicated to tenderers via the QTenders website.

## 5.6 Tender evaluation process

A summary of the evaluation activities, and how they fit into the evaluation phases, is illustrated in Figure 4: Tender evaluation process flow chart below.

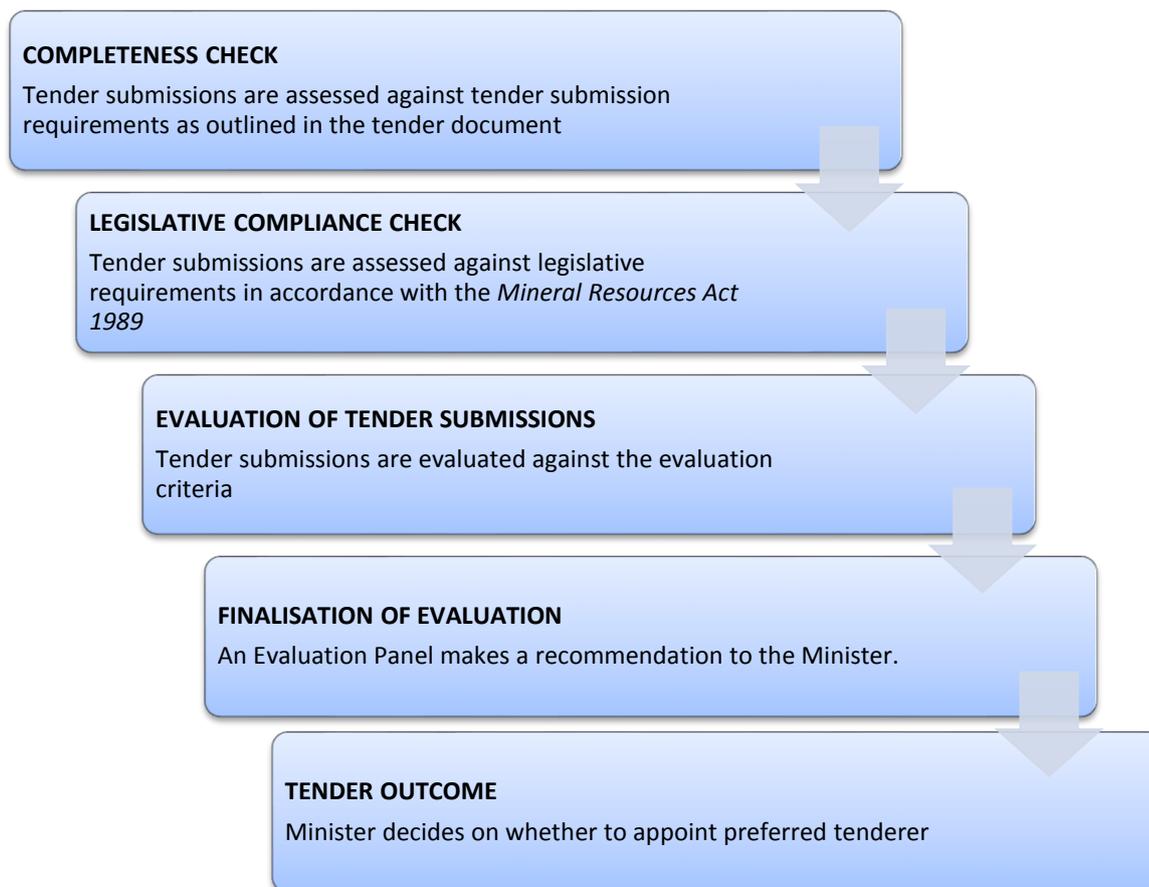


Figure 2: Tender evaluation process flow chart

## 5.7 Preferred tenderer obligations

Following the completion of the tender evaluation process and the Minister or delegated officer decision to appoint a preferred tenderer, the successful tenderer will be notified in writing on a confidential basis of its preferred tenderer status prior to a public announcement of the tender outcome.

**Important note:** Tenderers must comply with strict confidentiality requirements as stated in section 7.15 of this tender document, which includes the following requirement:

- The tenderer must not make any public or media statement in relation to the tender process or the outcome of the tender process, any proposed EPC or any other matter referred to in the tender documents without the prior written consent of the State.

The written notice will outline requirements that the preferred tenderer will have to fulfil within set timeframes. These include, but are not limited to, the obligations outlined in Table 11.

**Table 11:** Preferred Tenderer Obligations

Timeframe	Description of activity
Within 10 business days of the date of the written notice.	Provide written acceptance to DNRME to proceed as preferred tenderer for the tender area.
Within 20 business days of the date of the written notice.	Payment in full of the cash bid.

A preferred tenderer's appointment as preferred tenderer may be revoked and another preferred tenderer appointed, if the preferred tenderer does not:

- comply with pre-grant requirements
- do all things reasonably necessary to satisfy the department to allow an EPC to be granted to the preferred tenderer.

Before the preferred tenderer's appointment is revoked, the department will give the preferred tenderer a reasonable opportunity to provide reasons for, and to rectify, the failure to comply with the pre-grant requirements or other activities reasonably necessary to enable an EPC to be granted.

## 5.8 Feedback to unsuccessful tenderers

The department recognises the effort and financial investment incurred in preparing a tender. Unsuccessful tenderers will be notified in writing of the outcome of the competitive tendering process.

After the appointment of a preferred tenderer, the department may offer an opportunity for unsuccessful tenderers to attend individual tender debriefing sessions. These individual sessions are aimed at:

- providing feedback to tenderers on their tender submission
- allowing tenderers to provide feedback to the department regarding the competitive tendering process.

Any feedback will be provided on an individual basis and confined to the tender submission only. An independent probity advisor will be involved in all feedback sessions.

Alternatively, the department may instead provide feedback to unsuccessful tenderers in writing.

## 5.9 Grant of an EPC

A departmental representative will assist the preferred tenderer in relation to their pre-grant requirements.

The Minister or delegated officer has the discretion to decide whether to grant an EPC and attach relevant conditions. This decision is conditional on the preferred tenderer meeting pre-grant requirements including:

- the tenderer is an eligible person
- written acceptance of the preferred tenderer obligations
- the relevant EA has been obtained
- any relevant native title process has been completed
- payment of all relevant fees and monies (including the tender security and cash bid) within the stated timeframes
- other matters which the department may require (e.g. signing of a preferred tenderer's Deed)
- other matters required under the MRA.

## 6. TENDER INFORMATION AND EVALUATION

### 6.1 Information and evaluation

This section sets out the information that each tenderer is required to provide in their tender submission for each tender area.

#### Important notes:

- It is the responsibility of the tenderer to ensure that, for each tender area:
  - tenders must be submitted according to section 5.4 of this document and address the requirements as set out in section 6.2 of this document to be assessed as a compliant tender under section 136E of the MRA.
  - independent legal advice is sought to ensure its tender submission is compliant with the tender documents and provisions of the MRA

Further information about section 136E and associated provisions of the MRA has been provided below:

#### **Section 136E of the MRA relates to the requirements for making a tender.**

A tender for an exploration permit for coal must –

- (a) be in the approved form; and
- (b) be accompanied by a statement –
  - (i) specifying a description of the program of work proposed to be carried out under the authority of the exploration permit, if granted; and
  - (ii) specifying the estimated human, technical and financial resources proposed to be committed to exploration work during each year of the exploration permit, if granted; and
- (c) be accompanied by a statement, separate from the statement mentioned in paragraph (b), detailing the tenderer's financial and technical resources; and
- (d) be accompanied by the following—
  - (i) proof of the tenderer's identity;
  - (ii) the application fee prescribed under a regulation;
  - (iii) if a process for appointing a preferred tenderer involving a cash bid component is to be used for deciding the call—the tenderer's cash bid.

**Section 136K of the MRA relates to deciding whether to grant an exploration permit.**

- (1) The Minister may, after the closing time for the call for EP (coal) tenders—
  - (a) grant an exploration permit for coal to 1 tenderer, with or without conditions; or
  - (b) refuse to grant any exploration permit for coal.
- (2) However, the Minister must not grant the exploration permit unless the Minister is satisfied the prescribed criteria for the grant of the permit are met.
- (3) Also, in deciding whether to grant an exploration permit or deciding its provisions, the Minister must consider any special criteria for the call.

### 6.1.1 Prescribed criteria

The following provisions of the MRA define the special criteria, capability criteria and work program criteria against which tenders will be evaluated:

**Section 137 of the MRA relates to the prescribed criteria for grant of an exploration permit.**

- (1) This section states the criteria (*prescribed criteria*) for the grant of an exploration permit under part 2 or 3.
- (2) The criteria are as follows—
  - (a) the requirements of this Act have been complied with;
  - (b) the applicant is an eligible person;
  - (c) the applicant has paid rental for the first year of the term of the exploration permit under section 138;
  - (d) the Minister has, under subsection (3), approved the program of work that accompanied the application for the exploration permit;
  - (e) the Minister has not, under subsection (4), decided the person is disqualified from being granted the permit.

*Notes—*

  - 1 Under section 144, an exploration permit cannot be granted until the applicant has deposited security decided under that section.
  - 2 If the application relates to acquired land, see also section 10AAC.
- (3) In deciding whether to approve the program of work, the Minister must have regard to the following matters—
  - (a) the extent of the proposed activities in the proposed area of the exploration permit;
  - (b) when and where the applicant proposes to carry out exploration activities in the proposed area of the exploration permit;
  - (c) whether the applicant has the financial and technical capability for carrying out the work.
- (4) The Minister may decide an applicant is disqualified from being granted an exploration permit if—
  - (a) the Minister reasonably believes the applicant or, if the applicant is a company, an associate of the applicant has, at any time, contravened a provision of this Act, the repealed Acts or other mining legislation (whether or not the applicant or associate has been charged or convicted of an offence for the contravention); and

(b) having regard to the matters mentioned in subsection (5), the Minister considers the applicant is not a suitable person to carry out activities under the exploration permit.

(5) For subsection (4)(b), the matters to which the Minister may have regard are as follows—

(a) the nature of the contravention, including, for example—

- (i) whether it relates to an administrative or procedural requirement; and
- (ii) the extent to which the applicant or applicant's associate was involved in the contravention; and
- (iii) whether the contravention involved the applicant or associate engaging in fraudulent or dishonest conduct; and
- (iv) the degree of harm caused or likely to be caused by the contravention to persons other than the applicant or to the environment;

(b) whether the applicant or applicant's associate has been proceeded against for the contravention and, if so, the outcome of the proceeding;

(c) whether the applicant or an associate of the applicant has previously engaged in similar contraventions or other contraventions of a kind mentioned in subsection (4)(a), and the nature of the contraventions and the outcome of any proceedings for the contraventions;

(d) any other matters the Minister considers relevant.

(6) In this section—

associate, for an applicant that is a company, means—

- (a) an officer or employee of the company; or
- (b) another person who in the Minister's opinion is in a position to control or influence substantially the company's affairs.

For further information, please refer to the MRA available at

[www.legislation.qld.gov.au/view/pdf/inforce/current/act-1989-110](http://www.legislation.qld.gov.au/view/pdf/inforce/current/act-1989-110)

## 6.2 Requirements for making tender

Each tender must comply with the requirements of section 136E of the MRA which sets out mandatory requirements for the tender.

For each tender area, tender submissions must include the documentation required in Section 5.4. This includes the response templates (Appendix C: Response templates) which must be completed to address the information (the evaluation criteria) set out below.

### Important note:

- **Tenderer's responses must include information relating to parent entities, sub-contractors and joint-venture partners, where applicable.**
- Tenderers should, where possible, demonstrate their experience in Queensland, and/or other jurisdictions to support their tender.
- The department may undertake due diligence checks internally and with other Queensland Government agencies to verify information submitted by tenderers.

- Tenderers that are unable to provide details and evidence of any of the matters requested below are to provide a statement of reasons explaining their inability to do so.

## Information to be submitted

Section No.	Information to be submitted
6.2.1	Matters associated with Information on financial capability
6.2.2	Matters associated with work program
6.2.3	Matters associated with technical capability
6.2.4	Matters associated with Special Criteria 1 – Approach to community consultation
6.2.5	Matters associated with Special Criteria 2 – Compliance with relevant resources legislation
6.2.6	Matters associated with Special Criteria 3 – The tenderer's capability for compliance with relevant environment, health, safety, cultural heritage and native title requirements
6.2.7	Matters associated with Special Criteria 4 – Amount of cash bid

### 6.2.1 Matters associated with information on financial capability

Tenderers <b>must</b> provide the following:	
6.2.1.1	Audited balance sheets of the tenderer (including associated entities), profit and loss statements and cash flow summary for the last three years including the last six-monthly financial statements.
6.2.1.2	Details of funding sources for at least the first two years of the work program which demonstrates the tenderer's ability to secure sufficient funds for the tender area applied for. This could include loans from financial institutions, letter of financial support from a parent company where there is a guarantee involved, letters of commitment from debt/equity providers including an outline

Tenderers <b>must</b> provide the following:	
	of conditions precedent for external funding sources capital raising plans, future cash flows and any other similar information to support your application.
6.2.1.3	Any valid unconditional bank guarantees, future cash flows and loan statements from financial institutions or similar to demonstrate tenderer's ability to secure sufficient funds for at least the first two years of the term of the EPC for the area applied for. If funding support is to be provided from a parent and/or related company, details of the parent/cross company guarantee including a letter of financial support from the parent entity.
6.2.1.4	A summary of any (current and foreseeable future) other Australian and international commitments clearly showing respective fund allocation that could impact upon the progress of the tender area.
6.2.1.5	A summary of any potential financial risks and the tenderer's risk management strategy associated with the initial work program for the tender area. These could be internal to your entity and/or external due to market conditions. This could include your policies, approach and track record with managing material financial risk relevant to the size and nature of the area applied for.
6.2.1.6	In case the tenderer's entity is a joint venture or similar, financial commitments and relevant allocations to ascertain your entity's share in the corporate structure.
6.2.1.7	If a trust is involved in the tenderer's organisational structure, special purpose financial statements for the last three financial years.
6.2.1.8	All other resource authority applications currently under consideration in other jurisdictions that could impact availability of funds to undertake or progress the exploration activities stated in the work program.
6.2.1.9	Statement of approvals from the authorised officer of the tenderer – confirmation and evidence that the tenderer has obtained all internal and external approvals required for it to lodge an unconditional tender for the proposed EPC in accordance with the Call for Tenders.
6.2.1.10	A written declaration that there are no known immediate and material risks of potential financial claims against the tenderer (e.g. pending legal financial obligations) which could adversely impact the capability of the tenderer to proceed with the tender submitted.
6.2.1.11	A statement specifying the estimated financial resources proposed to be committed to exploration work during each year of the EPC, if granted.
Tenderers <b>may</b> provide the following:	
6.2.1.12	Any other relevant information that can help the department assess the tenderer's financial capability to support the application.

**Notes:**

1. If the required funds for the entire term of exploration are not fully secured at the time of submitting the tender, the tenderer must demonstrate the ability to secure future funds based on available exploration results.
2. It is in the best interest of the tenderer to demonstrate availability of sufficient funds for the entire term of the work program.

## 6.2.2 Matters associated with work program

Tenderers <b>must</b> provide the following; company specific:	
6.2.2.1	Demonstration of meeting or exceeding previous work program commitments similar to the nature and scale of the proposed work program.
Tenderers <b>must</b> provide the following; tender area specific:	
6.2.2.2	A statement specifying the targeted coal in relation to the work program for this tender.
6.2.2.3	An assessment of the tenure area's potential for resource discovery including:

	<ul style="list-style-type: none"> <li>- a summary of its current or previous exploration activities near the tender area (if available)</li> <li>- relevant exploration data gathered by the applicant prior to the application in relation to the tender area or surroundings</li> <li>- reasoning that led to the proposed work program and how the tenderer envisages that the proposed work program will lead to better geological or prospectivity knowledge of the area or a potential economic resource</li> <li>- provision for any contingencies.</li> </ul>
6.2.2.4	<p>Explanation and details of the geological model and rationale developed for proposed work program inclusive of at least the following aspects:</p> <ul style="list-style-type: none"> <li>- details about the activities to be undertaken</li> <li>- high-priority areas to be explored during the permit term (include where possible, the methodology)</li> <li>- details of the interpretations made and models developed which the applicant proposes to test during the work program period. This should include the regional geological settings and models for mineralisation.</li> </ul>
6.2.2.5	<p>A description of the work program proposed to be carried out for each year of the term of the exploration permit. This can include, but is not limited to:</p> <ul style="list-style-type: none"> <li>- drill holes (number, type and expected depth to target formation)</li> <li>- geological/geophysical/geochemical activities</li> <li>- estimated human, technical and financial resources (including expenditure) proposed to be committed to exploration work during each year of the exploration permit</li> <li>- maps that show where all activities under the work program are proposed to occur on the tender area. (More than one map may be provided, and each map can show the location of proposed activities on a year-by-year basis).</li> </ul>
6.2.2.6	Any proposed joint activities, studies or reprocessing of data with adjacent tenure holders that could improve the State's geological knowledge of the tender area.
6.2.2.7	If relevant, how the exploration work program will align with any other commitments for tenure held by the tenderer in the region.

**Note:**

Tenderers are encouraged to provide as much detail as possible including maps, technical requirements, comments on the proposed tenure area's potential for coal discovery and the reasons why the proposed work program is appropriate.

### 6.2.3 Matters associated with technical capability

Tenderers <b>must</b> provide the following:	
6.2.3.1	Technical qualifications, expertise and experience of the tenderer and of key employees and their suitability in carrying out the activities proposed in the work program either via the tenderer's own resources or consultants, contractors or joint venture partners.
6.2.3.2	Evidence the tenderer will continue to have access to sufficient human and technical resources to meet the requirements of the proposed work program, having regard to other commitments in relation to other coal tenure areas or otherwise.
6.2.3.3	Experience in undertaking exploration activities including adoption of any new and innovative technology.
6.2.3.4	Summary of previous risk identification and management similar to the nature and scale of the exploration activities likely to occur in relation to this tender.
6.2.3.5	Summary of tenderer's experience in managing sub-contractors.

## 6.2.4 Matters associated with approach to community consultation (Special Criteria 1)

Tenderers <b>must</b> provide the following; company specific:	
6.2.4.1	A statement about the tenderer's commitment to community consultation which includes details about: <ul style="list-style-type: none"> <li>• approaches to open and transparent dealings with the landowners and community</li> <li>• accepting the rights, interests and diversity of the community</li> <li>• building trust</li> <li>• free exchange of information and notification.</li> </ul>
6.2.4.2	A statement about the corporate systems and procedures already in place to consult, inform and communicate with the following stakeholders: <ul style="list-style-type: none"> <li>• landowners and occupiers of private or public land</li> <li>• local community</li> <li>• native title holders and Indigenous groups (if relevant).</li> </ul>
6.2.4.3	A statement and examples about the tenderer's procedures relating to: <ul style="list-style-type: none"> <li>• social impact management</li> <li>• community engagement</li> <li>• cultural heritage management.</li> </ul>
Tenderers <b>must</b> provide the following; tender area specific:	
6.2.4.4	Tenderer's initial profile of the local community in the tender area.
6.2.4.5	Based on the tenderer's initial profile of the local community in the tender area, a statement about how and when the tenderer proposes to consult with and keep informed, each owner and occupier of private or public land on which authorised activities for the proposed exploration permit are or are likely to be carried out with emphasis on: <ul style="list-style-type: none"> <li>• identification of the stakeholders and potential issues</li> <li>• proposed community and landholder engagement strategy including notifying and consulting with landowners and occupiers and providing them with sufficient information to enable them to make informed decisions about the impact or potential impact of the proposed exploration activities on the tender area</li> <li>• setting arrangements regarding infrastructure (e.g. water sources, roads, tracks and gates)</li> <li>• previous land access arrangements.</li> </ul>
Tenderers <b>may</b> provide the following:	
6.2.4.6	Contact details of the two landowners/traditional owners/community members who can be contacted by the department as referees.

## 6.2.5 Matters associated with compliance with relevant resources legislation (Special Criteria 2)

Tenderers <b>must</b> provide the following:	
6.2.5.1	A summary of any non-compliance(s) (within last five years) resulting in regulatory action(s) in Queensland or other jurisdictions
6.2.5.2	A list of all tenures held in Queensland (within last five years) (if relevant).

**Note:** The department will undertake due diligence checks internally and with other Queensland Government agencies.

### 6.2.6 Matters associated –with the tenderer's capability for compliance with relevant environment, health, safety, cultural heritage and native title requirements (Special Criteria 3)

Tenderers <b>must</b> provide the following:	
6.2.6.1	A summary of any non-compliance (within last five years) including any enforcement action undertaken by the regulatory authorities in Queensland or other jurisdictions in relation to environmental, health, safety and cultural heritage legislation
6.2.6.2	If applicable, a summary of how the tenderer intends to address the requirements of the <i>Native Title Act 1993</i> (Commonwealth).
Tenderers <b>may</b> provide the following:	
6.2.6.3	A summary of tenderer's existing policies or procedures in regard to Indigenous engagement
6.2.6.4	Any other relevant information that can help the department assess the tenderer's response to this criterion
6.2.6.5	A summary of tenderer's previous cultural heritage management plans (if available) in relation to the <i>Aboriginal Cultural Heritage Act 2003</i>
6.2.6.6	A summary of previous agreements/negotiations (if any) with native title parties under the <i>Native Title Act 1993</i> (Commonwealth)
6.2.6.7	A summary of any certified management systems relating to Environmental Management (ISO 14001) and Occupational Health and Safety Management (ISO 18001)

**Note:** The department will undertake due diligence checks internally and with other Queensland Government agencies.

### 6.2.7 Matters associated with the amount of cash bid (Special Criteria 4)

Tenderers <b>must</b> provide the following:	
6.2.7.1	Cash bid amount for the area tendered in Australian dollars (inclusive of GST and exclusive of other fees and charges payable).

**Note:**

1. The cash bid tendered is separate and in addition to the statutory application fee payable at the time of tender submission, as prescribed in the Regulation.
2. Tenderers are should read the Tender Conditions as it relates to the cash bid, including section 7.6.

## 7. TENDER CONDITIONS

### 7.1 Statutory framework

1. The tender process is conducted by the Minister under and in accordance with the MRA and the Regulations.
2. All tenders are subject to and must comply with the MRA and Regulations and tenderers must satisfy themselves in relation to requirements for compliance with the MRA and Regulations.
3. To the extent of any inconsistency, the requirements of the MRA and Regulations prevail over these Tender Conditions.

### 7.2 Application of Tender Conditions

1. By participating in the tender process, and submitting a tender, the tenderer acknowledges and agrees to be bound by the Tender Conditions.
2. Except to the extent the Minister expressly agrees otherwise, the Tender Conditions shall continue to apply to any process that the Minister may undertake in connection with the selection of the preferred tenderer or granting an EPC (including without limitation, any process involving the re-issuing of the Call for Tenders, shortlisting of tenderers or negotiations with any of the tenderers).

### 7.3 Tenderer to acquaint itself before tendering

#### 7.3.1 General

By submitting a tender, the tenderer confirms it has and shall be deemed to have:

1. examined and fully acquainted itself with:
  - i. the tender documents and any documents and information referred to in the tender documents
  - ii. any other information made available by the Minister, or on the Minister's behalf to the tenderer, for the purpose of tendering
2. examined all information relevant to the risks, contingencies and other circumstances having an effect on the proposed EPC or this tender and which is obtainable by the making of reasonable enquiries
3. satisfied itself as to all matters and things relevant to the proposed EPC, the granting of an EPC, the responsibilities of an EPC holder and the tenderer's tender including without limitation:
  - i. the tender documents or any information provided or made available by or on behalf of the department (including information in the tender documents)
  - ii. the risks, contingencies and other circumstances having an effect on its tender or the EPC
  - iii. the area(s) of the proposed EPC(s) and its surroundings
  - iv. the correctness and sufficiency of its tender.

### 7.3.2 No warranty

Any information provided to the tenderer by or on behalf of the Minister (including as part of the tender documents) is not warranted or held out by the Minister as accurate, correct or adequate.

## 7.4 Tender costs and fees

1. The tenderer must bear its costs of:
  - i. preparing its tender
  - ii. responding to any requests from the Minister
  - iii. compliance with any other obligation imposed by the tender documents
2. The tenderer acknowledges that all application fees are non-refundable (whether the tender is accepted or rejected or whether the tender was submitted or received).

## 7.5 Contents of tender lodgement

### 7.5.1 Form of tender

Each tender must be submitted in the manner and format and within the time set out in the Call for Tenders and the tender documents.

### 7.5.2 Late tenders

Any tender not submitted before the closing time will be rejected.

### 7.5.3 Opening of tenders

Tenderers or their representatives are not entitled to be present at the opening of tenders.

### 7.5.4 Non-compliant tenders

Subject to the requirements of the MRA, the Minister may reject any tender which is not submitted in accordance with the MRA or the tender documents.

Nothing in this section limits the ability of the Minister to request a tenderer rectify minor or administrative errors or omissions in a tender that had otherwise been submitted in accordance with the MRA and the tender documents. The request may be subject to any conditions the Minister considers appropriate including a requirement to respond within a prescribed timeframe.

## 7.6 Cash bid and tender security

### 7.6.1 Cash bid

1. The tenderer must indicate its cash bid for the area tendered as part of submitting its tender.
2. The tenderer must state the cash bid (inclusive of GST and exclusive of other fees and charges payable) offered to be paid for the grant of the proposed EPC, in Australian dollars.

3. The cash bid tendered is separate and in addition to the statutory application fee payable at the time of tender submission, as prescribed in the Regulation.
4. The cash bid is payable as follows: payment of the cash bid in full within 20 business days after the appointment as preferred tenderer is notified.

### 7.6.2 Tender security for cash bid

1. Tenderers must provide a tender security equal to 10 per cent of the cash bid amount in the form of an original written bank guarantee:
  - i. in favour of the State of Queensland, represented by the Department of Natural Resources, Mines and Energy
  - ii. in the form of a non-expiring unconditional undertaking to pay, from an Australian domiciled authorised deposit-taking institution (ADI) entitled to refer to itself as a bank under the *Banking Act 1959* (Commonwealth) whose prevailing credit rating from S&P or Moody's is at least 'A-' or 'A3' respectively.
2. The tender security must be submitted with the tender and is held by the department as security for the tenderer's obligations, including if successful, obligations required to be performed by the preferred tenderer.

### 7.6.3 Currency

For any tender, the cash bid and tender security must be expressed in Australian dollars.

### 7.6.4 Retention of security

If a tender is withdrawn, the Minister reserves the rights under the MRA to retain the whole or part of any tender security given by the tenderer where he considers it is reasonable in the circumstances.

## 7.7 State's consideration of tenders

Subject to the Tender Conditions, the State shall consider any tender that complies with and is lodged in accordance with these conditions and the MRA.

## 7.8 Acceptance of tenders

### 7.8.1 The Minister's discretion

1. The Minister may, in using absolute discretion, accept any tender or no tender.
2. For a tender involving a cash bid, the Minister may accept a tender other than the tender with the highest cash bid.
3. The Minister may accept only part of any tender.
4. If no tender is accepted, the Minister may terminate the tender process or proceed in such manner as the Minister may choose.

### 7.8.2 Notification of appointment of preferred tenderer

1. The preferred tenderer for any EPC will be notified on a confidential basis of its appointment.
2. The preferred tenderer must give notice to the Minister that it accepts the appointment within 10 business days of the date of the written notice.

3. The Minister may select another tenderer as preferred tenderer, if the notice of acceptance is not received within that period.

### **7.8.3 Notification of successful tender**

The Minister may notify all unsuccessful tenderers of the appointment of the preferred tenderer and the date of acceptance of the successful tender.

## **7.9 Collusive tendering**

Tenderers must not engage in collusive tendering, anti-competitive conduct or any similar conduct with another tenderer or any other person in relation to the tender process.

## **7.10 Communication with the Minister or the department**

1. The tenderer must not try to influence or offer inducements, solicit or communicate with the Minister or any person representing the Minister or the State about the tender or the tender process except in the manner prescribed in section 3 of the tender document.
2. Unauthorised communication with department officers or representatives of the Minister or the State about the tender or the tender process may lead to disqualification of the tenderer and the rejection of its tender.
3. All queries in relation to this tender should be made to the key contact as detailed in Section 3 Table 1, Table of key information of this document.

## **7.11 Conflict of interest**

1. Tenderers must avoid any actual or potential conflict of interest or their potential involvement during the competitive tendering process, including (without limitation) place itself in a position which may have given, or did give rise to a conflict of interest or a potential conflict of interest during the competitive tendering process or in relation to their potential involvement in the Call for Tenders process.
2. Tenderers are responsible for advising the Exploration and Policy Support team as to any conflict of interest or a potential conflict of interest during the tender process or in relation to their potential involvement in the tender process.
3. Tenderers undertake to promptly inform the Minister of any actual or potential conflicts that may arise after lodgement of a tender.
4. The State reserves the right, in its absolute discretion, at any stage to undertake investigations to satisfy itself that there are no conflicts of interest or potential conflicts of interest which may preclude a tenderer from becoming the preferred tenderer.

## **7.12 Ownership of tender**

Once submitted, the tender and all associated documents become the property of the Queensland Government and will not be returned.

## 7.13 Preferred tenderer's deed

If appointed as preferred tenderer, the Minister may require the tenderer to sign a deed on terms reasonably required by the Minister to give effect to the preferred tenderer's tender and its proposed initial work program.

## 7.14 Requests for information or clarification by tenderers

1. If a tenderer has any doubt about the meaning of any of the tender documents, or requires further information to ensure its clear understanding of the nature and extent of the successful tenderer's obligations under the contract, it is to contact the Exploration and Policy Support team as set out in Section 3 Table 1, Table of key information of the tender document.
2. The Minister or delegated authority in using absolute discretion is not obliged to (and reserves the right not to) answer all request for clarification(s).
3. The department will publish all answers and any additional information on the QTenders website which can be viewed by all potential tenderers. The identity of the questioner will not be disclosed.
4. The department may publish variations (modifications) on the QTenders website, or insert questions and answers of its own in order to provide clarifications. Any variations to the tender documents will become part of the tender documents upon being posted on the QTenders website.
5. Tenderers should register on the QTenders website to ensure they are informed of questions, answers and variations to the tender documents.
6. The department may contact tenderers after the closing date where that is considered necessary for purposes which may include, but are not limited to, the following:
  - a. clarification
  - b. seeking more information
  - c. any other relevant information to enable the assessment of the tender.

## 7.15 Confidentiality

### 7.15.1 Disclosure by the tenderer

1. The tenderer acknowledges and agrees that it will at all times (including after the completion or termination of the tender process) keep confidential and not disclose to any person, copy, use or otherwise deal with for any purpose, any information regarding its tender, the tender application package, the proposed EPC or the State (including its business or activities in relation to the tender) except to the extent:
  - i. the tenderer is specifically authorised in writing by the Minister
  - ii. the information is necessarily disclosed to and used by others (who are also bound to keep the information confidential) for the purposes of enabling the tenderer to prepare a tender.
2. The tenderer must not make any public or media statement in relation to the tender process or the outcome of the tender process, any proposed EPC or any other matter referred to in the tender documents without the prior written consent of the State.

## 7.15.2 Disclosure by the Minister or the State

The tenderer acknowledges and agrees that the Minister may, without the consent of the tenderer:

1. disclose information contained in the tender to other Ministers, department officers, consultants and advisers as may be necessary to evaluate any tender received
2. seek information as necessary from third parties and regulatory agencies
3. make public statements about the tender process including the appointment of a preferred tenderer.

## 7.16 Right to Information

1. The tenderer acknowledges that any information provided in the tender may be subject to disclosure under and in accordance with the *Right to Information Act 2009* (Queensland).
2. If disclosure of its tender would be of substantial concern to a tenderer, all documents forming the tender must be marked 'Commercial in Confidence'. The tenderer will be consulted in accordance with the *Right to Information Act 2009* (Queensland) before any disclosure.

## 7.17 Governing law

The tender documents are governed by and must be construed in accordance with the laws of Queensland and the parties unconditionally submit to the non-exclusive jurisdiction of the courts of Queensland (and courts of appeal from them).

## 7.18 Validity of tender

The tenderer agrees that its tender will remain open for acceptance until the grant of the EPC or the termination of the tender process unless the tender is withdrawn in accordance with the MRA.

## 7.19 Amendments to tender documents or processes

The Minister may (in using absolute discretion) at any time:

1. before the closing time by a revision issued on the website:
  - i. amend the tender documents
  - ii. extend the closing date for lodgement of tenders
2. suspend or terminate the tender process or any aspect of it.

## 7.20 Tender process

Subject to, but without limitation of any power under, the MRA and Regulations, the Minister may using absolute discretion (but shall be under no obligation to):

1. regard all tenderers as equal (i.e. provide all tenderers any further information provided to a particular tenderer)
2. investigate any tenderer's capacity and resources to fulfil the obligations of an EPC holder

3. refuse to receive, process or consider any tender that:
  - i. is lodged by any means other than in accordance with the Tender Conditions
  - ii. does not conform strictly with the Tender Conditions in any respect
  - iii. includes any conditions, assumptions, clarifications or exclusions
4. in its evaluation and assessment of tenders:
  - i. if the State considers any tender to be ambiguous, erroneous or incomplete – do any of the following as it sees fit:
    - refuse to consider the tender
    - request further information from the tenderer
    - request the tenderer to amend its tender
  - ii. where a cash bid component is applicable – not accept the highest priced tender or highest cash bid or any tender at all
  - iii. take into account any information from its own or other sources
  - iv. accept or reject any tender at any time irrespective of the extent to which it satisfies any particular evaluation criteria
  - v. give preference to any one or more of the evaluation criteria over another to achieve the best outcome for the State
  - vi. change the nature of or omit any stage or add additional stages to the tender evaluation process.
5. at any time:
  - i. decide not to accept a tenderer's tender for the grant of an EPC
  - ii. decide not to proceed with the granting of an EPC
  - iii. before the granting of an EPC re-issue a Call for Tenders
  - iv. pre-qualify, shortlist, prefer or enter into negotiations with any one or more tenderers before appointing a preferred tenderer
  - v. amend the area, term or conditions of an EPC prior to grant.

## 7.21 Discretion not fettered

Every tenderer acknowledges that:

1. the Minister gives no warranty and makes no representation as to the way he, the State or any other person may exercise any discretion relevant to any aspect of an EPC or the tendering process
2. nothing in the tender documents or any information that may be provided in association with it fetters the Minister's power to exercise any discretion whether to grant (whether in whole or part), grant subject to conditions, or refuse to grant an EPC, or any discretion or other powers or actions whatsoever
3. the Minister's decision under the tender process is final, and no review applications will be accepted.

## 7.22 Tenderer's further assistance

The tenderer must:

1. execute all such further documents and do all acts and things required by the Minister for the purposes of giving effect to these Tender Conditions

2. provide such additional information or clarification as may be required by the Minister
3. must do all things reasonably necessary to assist the State's evaluation of tenders or granting of an EPC.

## 7.23 Information requests by the Minister

1. The tenderer must provide, after the opening of tenders, all additional information requested by the Minister for evaluation of the tender, which information will form part of the tender.
2. After the closing time, the Minister may notify the tenderers, or any of them, of a place and time for an interview between the tenderer and the Minister.
3. If the Minister notifies a tenderer of a requirement to attend an interview in accordance with this clause, the tenderer must:
  - i. attend at the time and place specified by the Minister
  - ii. be represented by representatives familiar with all details of the tender and authorised to make any decision on behalf of the tenderer.

## 7.24 Post tender negotiations

### 7.24.1 Negotiations

After the closing time, the Minister may short-list its preferred tenderer or tenderers and negotiate with one or more tenderers about the terms of their tenders, including negotiations to:

1. amend the tender
2. amend the proposed EPC
3. negotiate the tenderer's cash bid
4. enter into any other discussions and negotiations necessary for grant of an EPC.

### 7.24.2 Best and final offer

The Minister may require one or more tenderers to submit a best and final offer as part of the negotiation process.

### 7.24.3 The Minister not obliged

The Minister is not obliged to reissue the Call for Tenders, or in any other way provide an opportunity to any tenderer to amend or re-submit its tender, irrespective of:

1. any tender submitted by any tenderer
2. any best and final offer submitted by a preferred tenderer
3. any matter arising out of the discussions and negotiations with the preferred tenderers.

### 7.24.4 Unsuccessful post tender negotiations

If any discussions, negotiations or approvals associated with the preferred tenderer EPC grant is unsuccessful, the Minister may:

1. enter into discussions and negotiations with any new preferred tenderers relying and based on the state of discussions with any of the previous preferred tenderers
2. appoint one or more new preferred tenderers without reissuing the tender.

## 7.25 Changes

The Call for Tenders shall not under any circumstances be taken to create an implication that there was or will be no material change in the affairs, the operations or status of the State or any other government parties. While every care is taken to provide correct and up-to-date information in the tender documents, neither the Minister nor any government party will not be responsible for any errors, inaccuracy or omissions in the tender documents, nor will they have any responsibility to inform any recipient of the Call for Tenders or other tender documents of any matter or information coming to their attention, which may affect any other matter or information contained or referred to in the tender documents.

## 7.26 Tenderer's warranties

The tenderer warrants that, it has, at the time of submission of its tenderer:

1. not entered into any agreement with other tenderers as to who should be the successful tenderer
2. not been involved in the exchange of information with other tenderers about the tender.

## 7.27 Exclusion of claims against the Minister and the State

The tenderer acknowledges and agrees that:

1. the Minister's only obligations to the tenderer (including with respect to the tender process) are those expressly set out in these Tender Conditions or under the MRA
2. it shall have no entitlement to make any claim for:
  - i. any costs, expenses or other liabilities incurred by the tenderer in preparing a tender or otherwise in connection with the tender (whether or not a tender is lodged by the tenderer or the tenderer's tender is accepted) including any costs, expenses, or other liabilities incurred by the tenderer in providing any further information or in carrying out any further work at the request of the State; or
  - ii. any costs, losses, expenses or damages it may suffer as a consequence of the tender process
3. it releases the Minister and the State and its employees, agents and contractors from all claims (whether under the law of tort, submission or otherwise) arising from or in connection with:
  - i. the tender documents or any information provided by or on behalf of the Minister (including due to incompleteness, errors, discrepancies or other inadequacy)
  - ii. the Minister or the State exercising any discretions conferred by the Tender Conditions or the MRA or Regulations
  - iii. any costs, expenses or liabilities incurred by the tenderer in obtaining the tender documents (or any other related documents) from the Minister
  - iv. any of the matters or things relevant to the proposed EPC in respect of which the tenderer must satisfy itself under the Tender Conditions
  - v. any costs, expenses or other liabilities incurred by the tenderer in preparing a tender or otherwise in connection with the tender (whether or not a tender is lodged or

accepted by the Minister) including any costs incurred by the tenderer in providing any further information or carrying out any further work at the request of the Minister.

## 7.28 No reliance

The tenderer acknowledges and agrees that:

1. information supplied by or on behalf of the Minister in relation to the tender and the proposed EPC as part of the tender documents or otherwise (State Supplied Information) is provided in good faith and only for the tenderer's convenience
2. it has not relied and will not rely upon the State Supplied Information for any purpose, including but not limited to determining whether or not to lodge a tender or preparing its tender
3. the State does not assume any responsibility for, duty of care in respect of, give any warranty or guarantee or make any representations as to State Supplied Information (including its accuracy or adequacy)
4. it shall have no claim against the State or any employee, agent or contractor of the State (whether in contract, tort [including negligence], equity, under statute or otherwise) arising from or in connection with the provision of the State Supplied Information
5. without prejudice to any other condition of tender, it must satisfy itself entirely from its own sources as to the meaning, effect and interpretation of, and take into account any matter or thing disclosed by any State Supplied Information relevant to the proposed EPC
6. the above acknowledgements by tenderers regarding State Supplied Information applies, without limitation, to both:
  - i. information contained or referred to in surveys, reports, studies, advices, papers, records or other material referred to in this Call for Tenders, the tender application package or any other documents provided by the State (Third Party Material)
  - ii. statements made by the State (whether as part of the tender application package, this Call for tenders or otherwise) as to the meaning, effect or interpretation of the Third Party Material (State's Opinion).



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## Appendix A: Call for Tenders

The *Call for Tenders for Exploration Permit for Coal Notice (No 2) 2018* published on 6 December 2018 may be viewed at the Queensland Government Gazette website available at:

<https://publications.qld.gov.au/dataset/extraordinary-gazettes-december-2018/resource/b13c6b27-10cc-4be6-b4ab-5ca7a49015e7>

## Appendix B: Tender application form

The most current version of application form (MMOL-01) is available at:

[www.business.qld.gov.au/industries/mining-energy-water/resources/applications-compliance/forms-fees](http://www.business.qld.gov.au/industries/mining-energy-water/resources/applications-compliance/forms-fees)

## Appendix C: Response templates

The response templates for this tender can be downloaded from the QTenders website [www.hpw.qld.gov.au/qtenders](http://www.hpw.qld.gov.au/qtenders).

Please refer to Table 1, Table of key information or Section 5.3 Obtaining tender documents of the tender document for information about the QTenders website.

## Appendix D: Checklist

Tenderers are required to provide the information outlined in the checklist below for their tender submission. Note a checklist needs to be completed **for each tender area**.

<b>Full individual or company name of tenderer:</b>	
<b>If joint venture, full name of each venturer:</b>	
Tender code: CLR2018-1	
Tender area code:	
Required component	Completed (Please tick)
Completed tender application form for each tender area	
Proof of identity for the tenderer obtained	
Letter of authority for the authorised holder representative obtained (if applicable) for the tender area	
Paid application fee for the amount of A\$1308.00 for each tender area (include a copy of payment advice/receipt)	
Completed response templates (with response for each criterion as a separate document), for each tender area, including (if required) supporting documentation	
Scanned copy of the original bank guarantee security equal to 10 per cent of the cash bid amount for each tender area. (Note: the original bank guarantee must hand delivered/posted to the department within 10 business days of the tender closing date).	
(If submitting a tender for multiple areas) a cover letter listing all areas for which a tender is submitted in order of preference of award	
This completed checklist	
Upload the above documents to QTenders.	
<i>For each tender area, tenderers should submit documents using the naming convention outlined in Table 10 of section 5.4 in the tender document.</i>	
<b>Signature (Authorised holder representative):</b>	
<b>Name:</b>	
<b>Title:</b>	
<b>Telephone No:</b>	
<b>Email:</b>	
<b>Date:</b>	

## Appendix E: Regional and geological considerations

### Introduction

Areas in CLR2018-1 have been released for Exploration Permits for Coal (EPC), in accordance with the *Mineral Resources Act 1989*. Three areas within CLR2018-1 are located on the western margin of the Bowen Basin and one is located in the Eromanga Basin (Figure 1).

#### Geological Data Availability

The call for tender can be viewed at [MinesOnlineMaps](#).

Queensland open file company reports, well data, wireline log data and seismic survey reports are available for download from [QDEX Reports](#). Some datasets are too large to download from QDEX Reports and are available for download from [QDEX Data](#). Well data can also be downloaded from [QSpatial](#).

For further information please contact [resources-tenders@dnrme.qld.gov.au](mailto:resources-tenders@dnrme.qld.gov.au)

### Regional considerations

Tender areas CLR2018-1-1, CLR2018-1-2 and CLR2018-1-3 are geologically situated in the Bowen Basin/Anakie Inlier and CLR2018-1-5 is situated in the Eromanga Basin (Figure 1, below).

#### Bowen Basin

The Bowen Basin covers approximately 160 000 km<sup>2</sup> and contains almost all of Queensland's hard coking coal. The basin supplies all of the metallurgical coal currently mined within Queensland and also produces a wide range of thermal coal products, principally for export.

The Bowen Basin is in close proximity to the major town centres of Mackay and Gladstone along with local community centres in Emerald and Middlemount. These centres offer essential services including a skilled workforce, accommodation, health, education and community services.

#### Eromanga Basin

The Eromanga Basin's extent is approximately 1 025 995 km<sup>2</sup>, covering a large part of western Queensland and extending into the Northern Territory, South Australia and New South Wales. It is therefore one of the largest basins of the world. The Eromanga Basin was first defined and named along with the Carpentaria and Surat Basins, as separate depositional and tectonic subdivisions of the Great Artesian Basin (Mott, 1952).

The basin sequences thicken to the south-west in south-west Queensland and South Australia up to about 2700m (Gallagher & Lambeck, 1989). Sequences comprise Jurassic non-marine and Cretaceous non-marine to marine sediments. Towards the Eromanga Basin margins, where sandstone is more common, the rocks tend to show predictable facies variations (Vine, 1976).

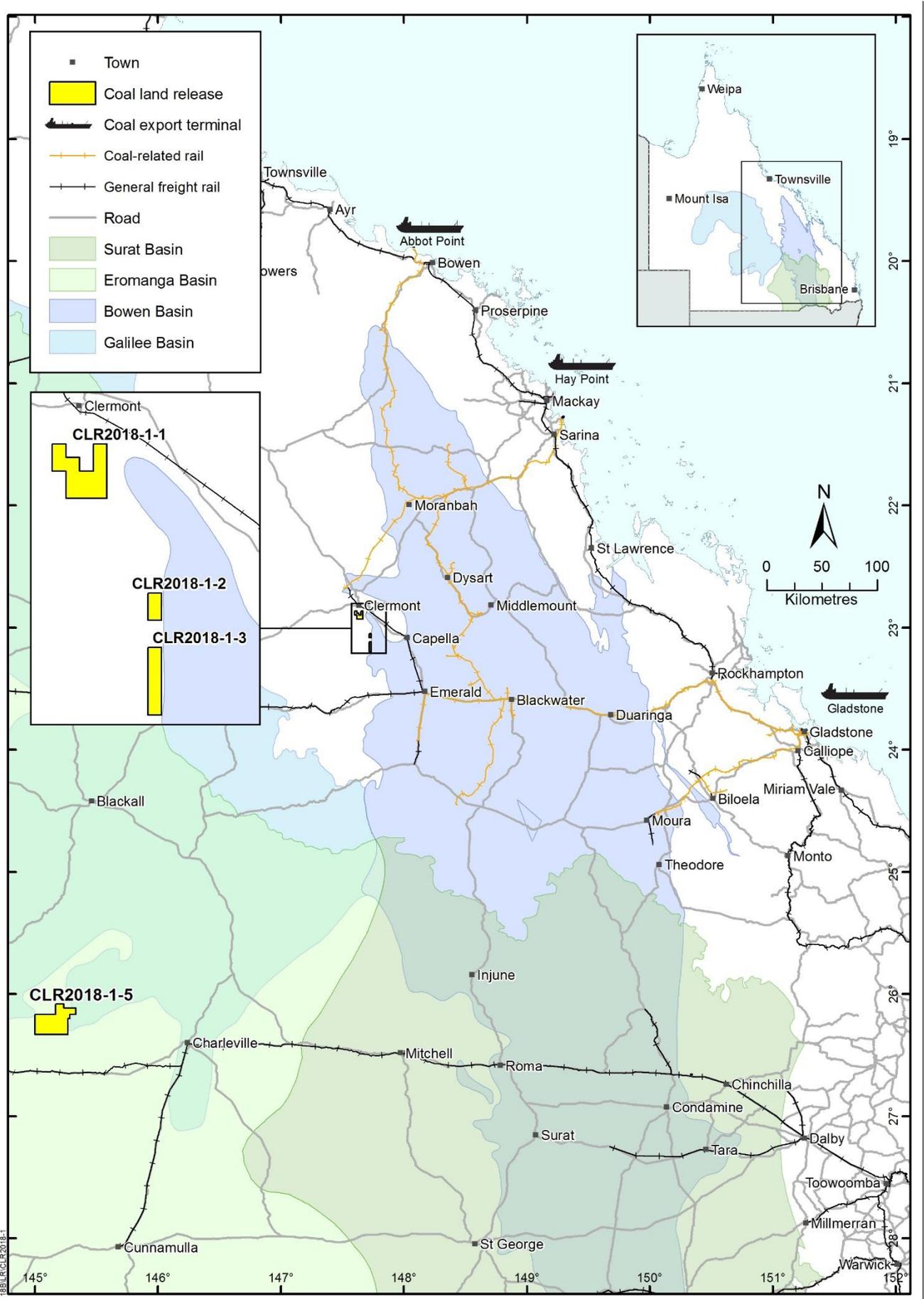


Figure 1. Tender areas in relation to geological basins and major infrastructure

## Existing infrastructure in the region relevant to the tender areas

### Roads

In the Bowen Basin, the Capricorn and Peak Downs Highways are the primary east-west arterial link, providing a direct connection between the mines and the basins' major population centres of Rockhampton and Mackay respectively.

The primary north-south road corridors are the New England Highway (Yarraman-Wallangarra), Leichhardt Highway (Wandoan-Goondiwindi), Carnarvon Highway (Mungindi-Rolleston) and Castlereagh Highway (St George-Hebel). These highways and other connections provide important interstate links to New South Wales and Victoria.

These major highways carry a large number of heavy vehicles as a result of established industry sectors, such as agriculture, manufacturing and oil, gas and energy, in addition to regular vehicular movements associated with the local population and tourists.

### Rail

The coal industry in Queensland, is serviced by five dedicated rail networks link coal mines in the Bowen and Surat/Clarence-Moreton basins to major coal export terminals. These networks service mines in the southeast of the state. There is no coal related rail infrastructure as yet in the Galilee Basin.

Coal is transported from mines via the Newlands, Goonyella, Blackwater, Moura and West Moreton rail systems to the four coal exporting ports in Queensland at Abbot Point, Hay Point, Gladstone, and Brisbane.

Coal is also transported by rail to power stations at Stanwell and Gladstone, as well as various industrial users. The Central Queensland coal rail network comprises the Newlands, Goonyella, Blackwater and Moura rail systems.

### Ports

The port of Abbot Point is located approximately 25 km north of Bowen. Abbot Point has 1 operating terminal, the Adani Abbot Point Coal Terminal (T1) which has an operating capacity of 50 Mtpa.

The port of Hay Point is located approximately 30 km south of Mackay and contains two coal terminals – the Dalrymple Bay Coal Terminal (DBCT) and the Hay Point Services Coal Terminal (HPSCT). The DBCT is a multi-user terminal and has a nominal capacity of 85 Mtpa. The HPSCT is a single-user terminal of 55 Mtpa capacity.

The Wiggins Island Coal Export Terminal (WICET), located at the port of Gladstone, has a capacity of 27 Mtpa.

### Air transport

The Bowen Basin is serviced by certified aerodromes for regular public transport flights at Emerald, Moranbah and Roma. There are also a further three registered aerodromes at Bowen, Clermont, Taroom, Chinchilla, Dalby and Injune.

Along the coast, regional airports in Mackay, Rockhampton and Gladstone support the communities and facilitate employment opportunities in the basins via interconnecting flights through to Brisbane.

## Utilities

A high voltage transmission grid (a key piece of infrastructure for electricity generation) is located in the vicinity of the Bowen basin, and is owned and operated by Powerlink Queensland. The high voltage transmission grid is dominated by the Queensland-New South Wales Interconnector, a 330 kilovolt transmission line connecting the transmission grids of Queensland and New South Wales. The 275 kilovolt transmission grid, running roughly east-west, connects the majority of the region's generating plants with the rest of Queensland's transmission grid. Together with the 132 kilovolt transmission lines in the region, this grid connects key economic areas and regional centres.

There is major public and private investment in water supply infrastructure for urban, industrial and agricultural use in and surrounding the Bowen Basin. The main water sources are publicly owned dams and weirs, stream and overland flow harvesting, and groundwater.

Telecommunications infrastructure also plays an integral role within modern businesses enabling access to the internet, real time communication between companies and also innovative use of technology like telemetry. There have been recent improvement in the delivery of telecommunications to the region.

## Geological considerations

### Bowen Basin

#### Coal geology of the northern Bowen Basin

##### Introduction

The Bowen Basin is the most important coal-bearing province in Queensland in terms of resources, coal types and current coal production. The northern Bowen Basin has long been explored and exploited for coal. This chapter aims to provide a summary of the progression in knowledge of the geology in the northern Bowen Basin to provide an understanding of the type, quality and controls on coal distribution.

##### Bowen Basin – overview

The Bowen Basin of central Queensland is a major coal basin of global significance and currently accounts for roughly one eighth of global coking coal production. The Bowen Basin contains most of the known Permian coal resources of Queensland, including virtually all of the known mineable prime coking coal.

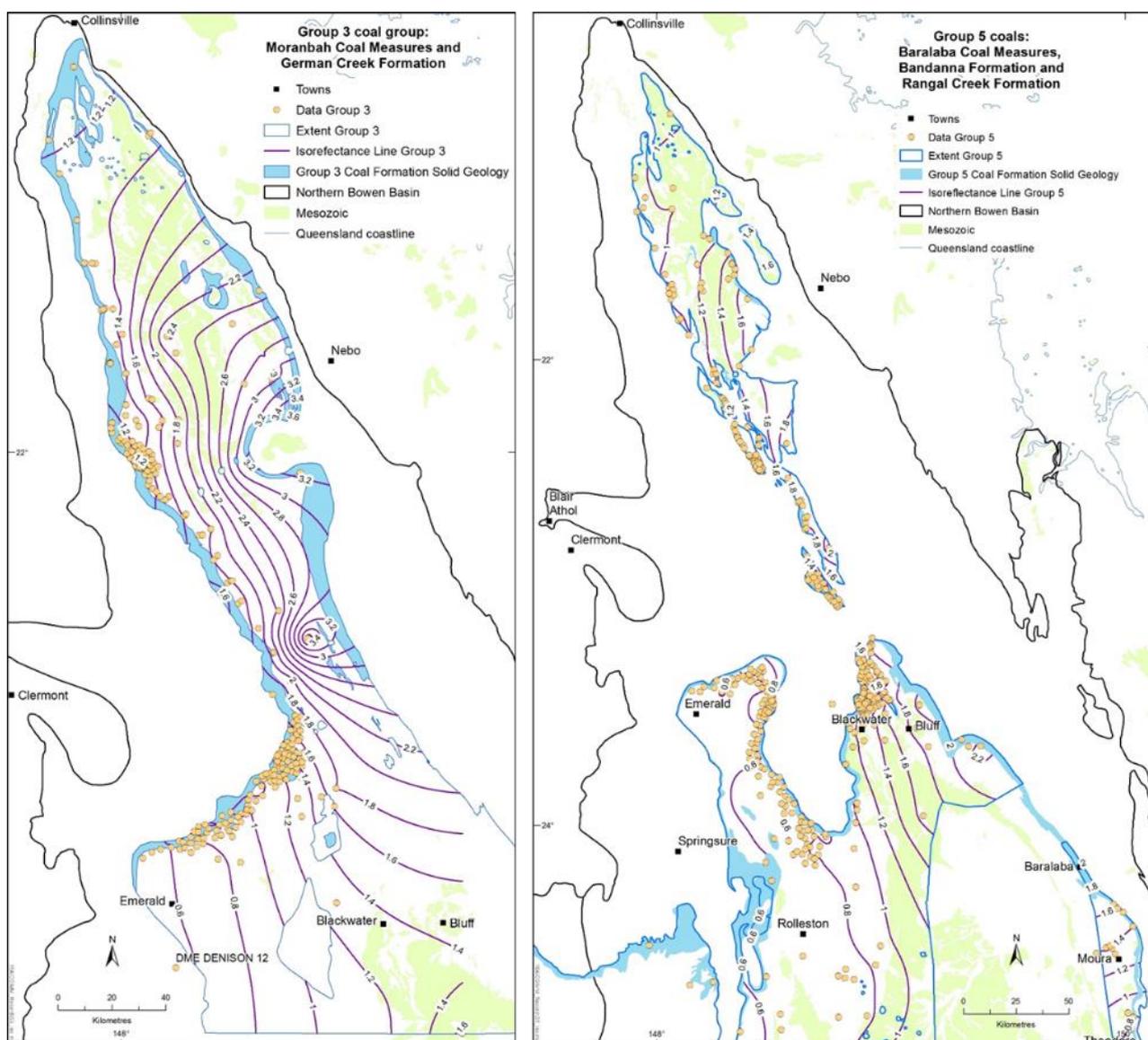
The basin is exposed in a large, triangular-shaped area some 600 km long and up to 250 km wide between Collinsville in the north and Theodore in the south before it plunges beneath the Mesozoic sediments of the Surat Basin to connect with the Gunnedah and Sydney basins of New South Wales.

The Bowen Basin has a maximum thickness of about 10 000 metres consisting of two northerly trending depocentres, the Taroom Trough in the east and the Denison Trough in the west.

As coal accumulation in the basin occurred in a wide variety of depositional environments, the coal measures reflect this diversity with considerable variation in seam thickness, lateral continuity and coal quality. A broad pattern of increasing coal rank from west to east reflective of relative depth of burial is prevalent (Figure 2), however higher heat flow caused by the Middle—Late Triassic Goondiwindi event in the northeast of the basin led to semi-anthracite rank coal in this area known as the Dawson Fold Zone (Beeston, 1986). Later localised igneous intrusions have influenced coal rank, particularly in the north-east.

In the eastern part of the basin, the coal rank generally ranges from low volatile bituminous to anthracitic and deposits are generally more structurally complex. Coals in the central and north-western part of the basin trend toward medium to high volatile bituminous and generally include the best coking coals. Structural deformation in these central deposits is less pronounced than in the east. To the central-west and south-west, coal rank falls below the coking range and the most significant deposits are of high volatile bituminous thermal coals (Figure 2).

A simplified solid geological map of the northern Bowen Basin modified from Sliwa et al. (2008) is shown in Figure 3. A more detailed overview of the geology of the Bowen Basin was summarised by Draper (2013) in which he provided a tectonic model for the basin and subdivided the basin into various structural elements (Figure 4 and Figure 5).



**Figure 2.** Vitrinite reflectance maps, Bowen Basin (after McKillop, 2016)

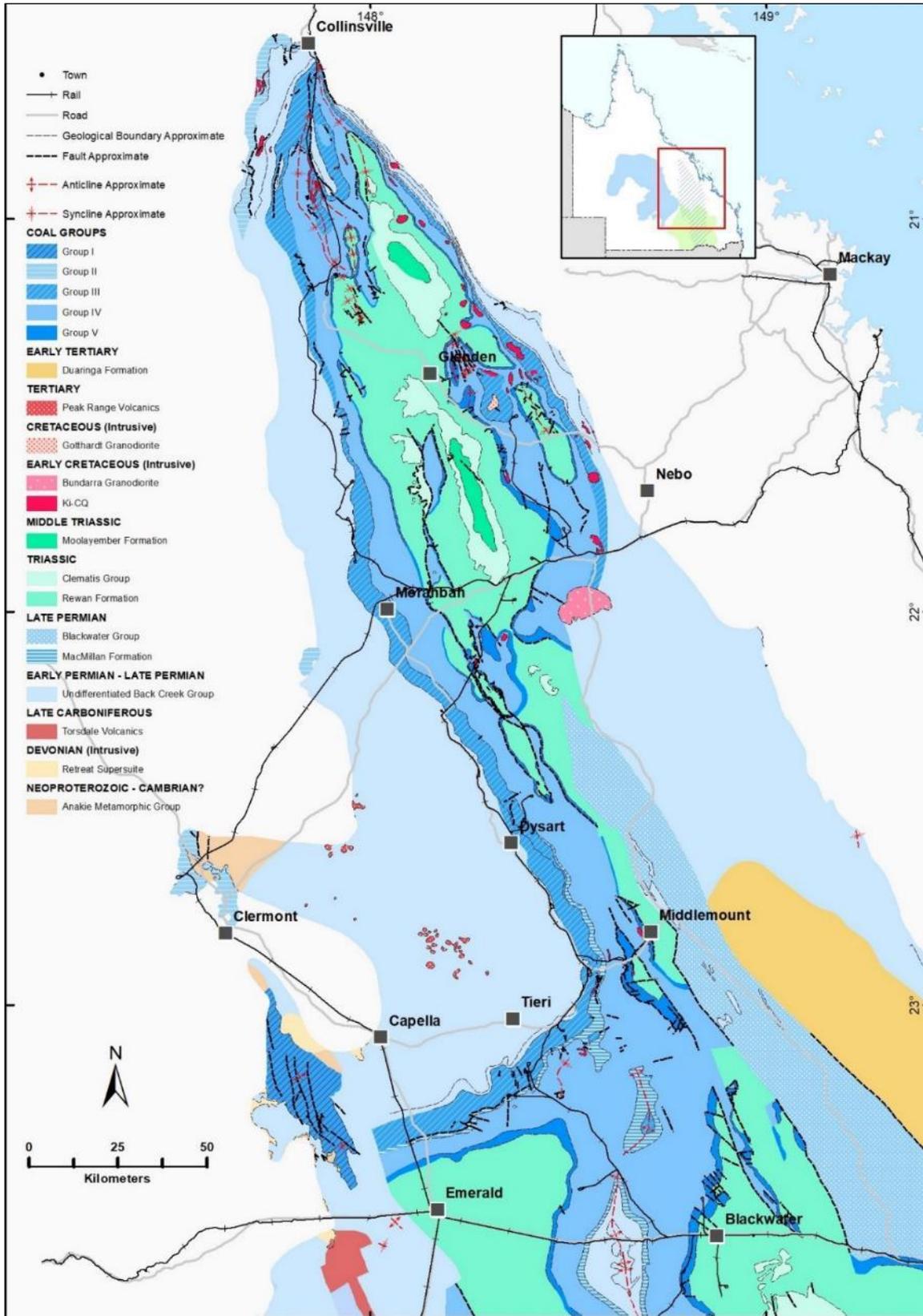


Figure 3 Simplified solid geology of the Bowen Basin (after Sliwa *et al.*, 2008)

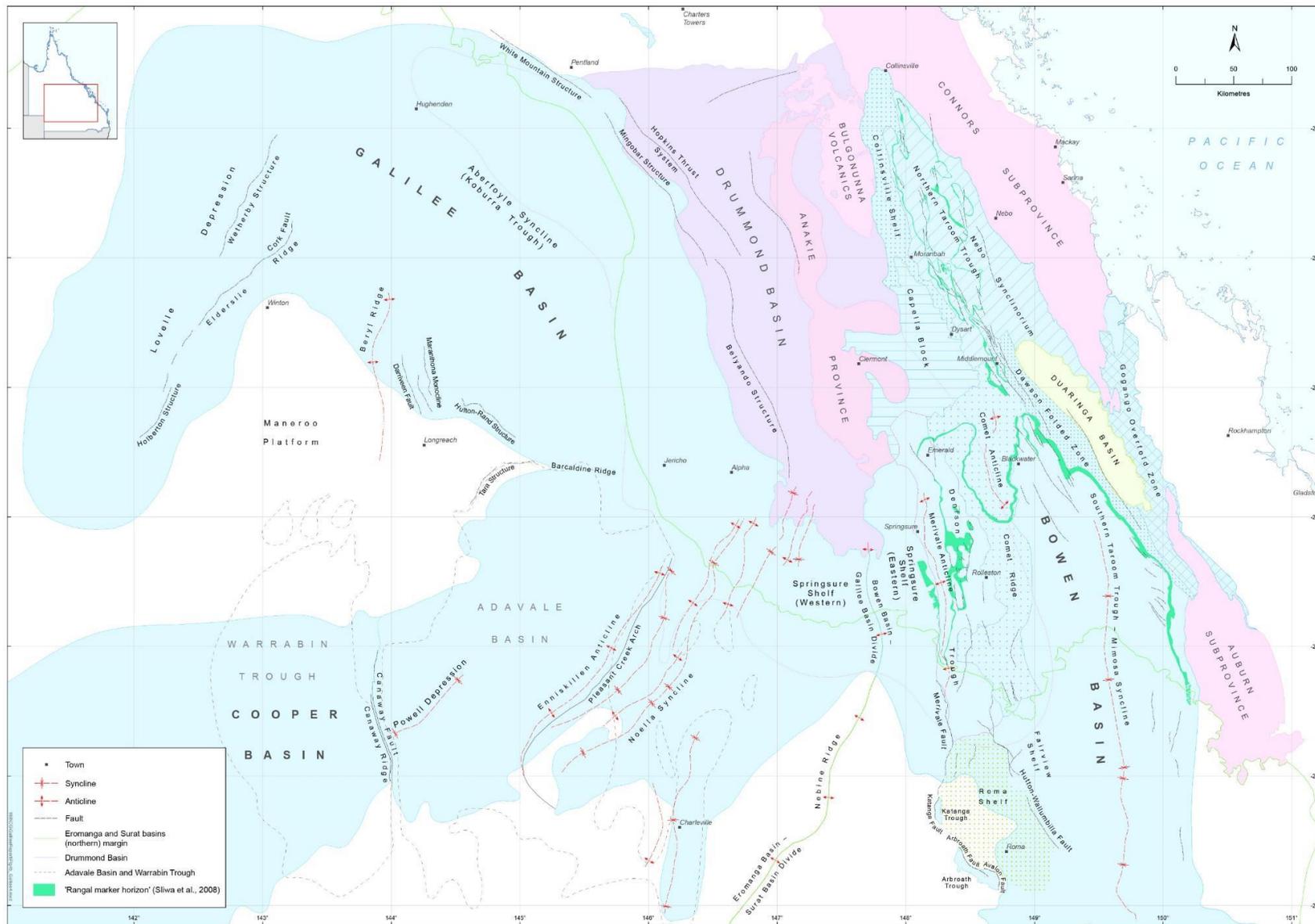
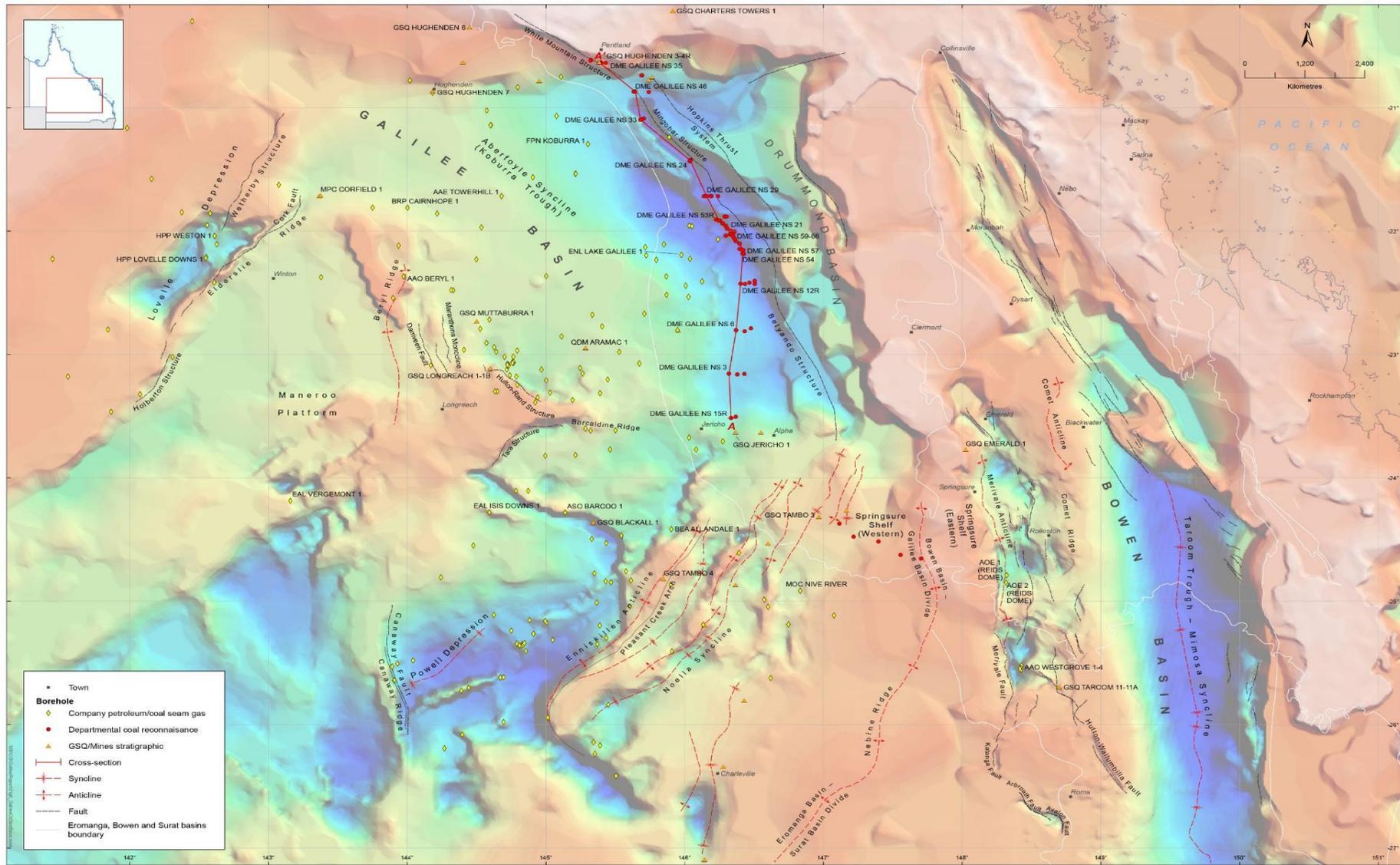


Figure 4. Structural elements and setting, Galilee and Bowen basins (after Coffey *et al.*, 2017)



**Figure 5.** Structural elements, Galilee and Bowen basins, plotted over Australian Phanerozoic OZ SEEBASE (2005); blue is for deep basement graduating to brown-orange for shallow basement (after Coffey *et al.*, 2017).

The stratigraphic units in the Bowen Basin are listed in Table 1 and their relationships are shown on Figure 6.

**Table 1:** Stratigraphic units of the Bowen Basin (after Draper, 2013)

Formation (thickness)	Description/comments	Interpretation	References
Moolayember Formation (including basal Snake Creek Mudstone Member) (736 m)	Interbedded olive and greenish mudstone and lithic to sublabile, medium- to coarse-grained sandstone; grey to black carbonaceous shale, siltstone, mudstone, conglomerate	Enclosed fluvial system with marginal alluvial fans, meandering streams and lakes	Dickins and Malone (1973); Mollan et al. (1972); Kassin and Fielding (1991, 1996); Green et al. (1997)
Showgrounds Sandstone (in Roma area = upper Clematis Group) (<40 m)	Medium-grained to very coarse grained, quartzose sandstone, minor granule to pebble conglomerate	Braided fluvial stream system in the Roma Shelf area	Traves and Thralls (1960); Kassin and Fielding (1996); Green et al. (1997)
Expedition Sandstone (250 m)	Medium- to coarse-grained, sublabile to quartzose sandstone, pebbly in part; siltstone and mudstone in lower part	Braided fluvial system	Jensen (1975); Kassin and Fielding (1996); Green et al. (1997); Fielding et al. (2000)
Glenidal Formation (130 m)	Sublabile sandstone, red to red-brown, yellow-green or grey mudstone, carbonaceous mudstone and brown to red, micaceous siltstone	Meandering fluvial system with palaeosol development	Jensen 1975; Kassin and Fielding (1996); Green et al. (1997); Fielding et al. (2000)
Arcadia Formation (520–800 m)	Red-brown mudstone and silty mudstone interbedded with green siltstone and fine- to medium-grained sandstone	Meandering fluvial system with widespread palaeosol	Jensen (1975); Kassin and Fielding (1996); Green et al. (1997); Fielding et al. (2000)
Sagittarius Sandstone (300–400 m)	Fine- to medium-grained lithic sandstone interbedded with green to brown mudstone and siltstone; conglomerate present on eastern basin margin	Meandering fluvial system	Jensen (1975); Kassin and Fielding (1996); Green et al. (1997); Fielding et al. (2000)
Baralaba Coal Measures (556 m)	Fine- to medium-grained, feldspatholithic sandstone, siltstone, mudstone, carbonaceous mudstone, siltstone, coal, tuff (including Kaloola Tuff Member)	Non-marine alluvial plain	Mallett, Flood and Ledger (1983); Fielding, Falkner and Scott (1993); Green et al. (1997); Fielding et al. (2000)
Rangal Coal Measures (240 m)	Feldspatholithic sandstone, interbedded siltstone/sandstone, carbonaceous siltstone and mudstone, coal	Alluvial plain	Jensen (1975); Fielding, Falkner and Scott (1993); Matheson (1990); Mallett et al. (1995); Fielding et al. (2000)
Bandanna Formation (370 m)	Fine- to coarse-grained feldspatholithic sandstone, siltstone, mudstone, carbonaceous mudstone, coal, oil shale	Non-marine fluvio-deltaic	Mollan et al. (1969); Paten and Groves (1974); Beeston and Draper (1991); Green et al. (1997)
Black Alley Shale (358 m)	Mudstone, siltstone, tuff; coal present on the Roma Shelf	Lacustrine, prodelta	Mollan et al. (1969); Paten and Groves (1974); Beeston

Formation (thickness)	Description/comments	Interpretation	References
			and Draper (1991); Green et al. (1997)
Burunga Formation (677 m)	Fine- to medium-grained, poorly sorted sandstone, volcanoclastic conglomerate, shale, siltstone, coal and tuff; marine shells present	Delta, offshore marine (transgressive), prodelta	Beeston and Green (1995); Green et al. (1997)
Wiseman Formation (321 m)	Mudstone, siltstone, medium- to coarse-grained lithic sandstone, tuff, minor coal	Delta, prodelta	Derrington, Glover and Morgan (1959); Green et al. (1997)
Burngrove Formation (90 m)	Mudstone, siltstone, labile sandstone, coal, tuff	Prodelta, delta	Malone, Olgers and Kirkegaard (1969); Jensen (1975)
Fort Cooper Coal Measures (500 m)	Labile sandstone, conglomerate, mudstone, carbonaceous shale, coal, tuff, tuffaceous (cherty) mudstone	Alluvial plain	Jensen (1975); Anderson (1985); Matheson (1990); Hutton et al. (1991)
Fair Hill Formation (140 m)	Labile and sublabilite sandstone, siltstone, mudstone, carbonaceous mudstone, coal	Delta plain, alluvial plain	Prouza and Park (1973); Jensen (1975); Balfe (1982)
Tinowon Formation (99 m)	Shale, siltstone, fine- to medium-grained, poorly sorted, quartzose sandstone, coal and tuff; marine fossils throughout	Delta	Paten and Groves (1974); Green et al. (1997)
Muggleton Formation (197 m)	Shale, siltstone, sandstone (fine- to coarse-grained, locally conglomeratic, quartzose, feldspathic), and minor coal and tuff; marine fossils present	Nearshore to delta	Paten and Groves (1974); Green et al. (1997)
Banana Formation (526 m)	Siltstone, shale, minor tuff and sandstone, rare coal	Lake or standing brackish water	Derrington, Glover and Morgan (1959); Green et al. (1997)
Flat Top Formation (660 m)	Siltstone, sandstone, shale, conglomerate and coal with minor tuff; marine fossils	Fan delta, shallow marine	Derrington, Glover and Morgan (1959); Green et al. (1997)
Peawaddy Formation (345 m)	Mudstone, siltstone, sublabilite sandstone, coquinitic limestone	Prograding delta system	Mollan, Exon and Kirkegaard (1964); Gray (1980); Bann and Fielding (2004)
Macmillan Formation (75 m)	Mudstone, siltstone, sandstone; marine fossils	Offshore marine	Prouza and Park (1973); Holmes (1983)
Moranbah Coal Measures (800 m)	Labile sandstone, siltstone, mudstone, coal	Delta plain	Koppe (1978); Johnson, Robertson & Martini (1985); Falkner and Fielding (1993); Hutton et al. (1991); Esterle, Leblanc Smith and Yago (2000)
Exmoor Formation (110 m)	Quartzose to sublabilite sandstone, siltstone, mudstone, minor coal; rare marine fossils	Nearshore marine, delta complex	Koppe (1974); Draper (1985); Hutton et al. (1991)

Formation (thickness)	Description/comments	Interpretation	References
German Creek Formation (240 m)	Quartzose to sublabilite sandstone, siltstone, mudstone, coal; marine fossils	Mixed influence delta complex	Prouza and Park (1973); Falkner and Fielding (1993); Bann and Fielding (2004)
Crocker Formation (55 m)	Quartzose to sublabilite sandstone, siltstone, mudstone	Shallow-marine delta	Prouza and Park (1973)
Catherine Sandstone (160 m)	Quartzose to sublabilite sandstone, siltstone, mudstone; marine fossils	Shallow-marine delta	Phillips (1960); Gray (1980); John and Fielding (1993); Bann and Fielding (2004)
Ingelara Formation (200 m)	Mudstone, siltstone, minor tuffs; marine fossils	Offshore marine	Mollan et al. (1969); Dickins and Malone (1973); Bann and Fielding (2004)
Maria Formation (240 m)	Mudstone, siltstone, sandstone, minor tuff; marine fossils	Offshore marine	Prouza and Park (1973); Dickins and Malone (1973); Koppe (1978)
Blenheim Formation (725 m)	Micaceous siltstone (pebbly), labile sandstone, quartzose sandstone, coquinite	Offshore marine	Jensen, Gregory and Forbes (1966); Waterhouse and Jell (1983); Hutton et al. (1991)
Boomer Formation (1000 m)	Lithic sandstone, cleaved mudstone	Offshore marine turbidite fans	Mollan et al. (1969); Withnall et al. (2009)
Barfield Formation (900 m)	Mudstone, siltstone and tuff; conglomerate and sandstone occur locally; marine fossils	Offshore marine with local turbidite fans	Derrington, Glover and Morgan (1959); Green et al. (1997)
Oxtrack Formation (400 m)	Fossiliferous limestone, calcareous siltstone	Marine shelf	Derrington, Glover and Morgan (1959); Draper (1988); James, Frank and Fielding (2009)
Brae Formation (160 m)	Mudstone, siltstone, fossiliferous sandstone	Marine shelf	Flood, Jell and Waterhouse (1981); Waterhouse (1983)
Pindari Formation (100 m)	Spicule-rich sandstone, siltstone	Marine shelf	Flood, Jell and Waterhouse (1981); Waterhouse (1983); Draper (1985)
Freitag Formation (120 m)	Sandstone, siltstone, mudstone	Coastal plain	Power (1967); Fielding and McLoughlin (1992); Bann and Fielding (2004)
Colinlea Sandstone (200 m)	Sandstone, pebbly sandstone, conglomerate	Fluvial plain, marginal marine	Mollan et al. (1969); Fielding, Kassin and Draper (1996)
Aldebaran Sandstone (650 m)	Quartzose sandstone, pebbly sandstone, conglomerate, siltstone, mudstone, minor coal	Delta	Mollan et al. (1969); Baker (1991); Fielding et al. (2000)
Gebbie Formation (600 m)	Quartzose to lithic sandstone, siltstone, carbonaceous shale, calcareous sandstone, coquinite; scattered marine fossils	Barrier, strand plain	Malone et al. (1966); Runnegar and McClung (1973); Waterhouse and Jell (1983); Hutton et al. (1991)
Collinsville Coal Measures (250 m)	Quartzose sandstone, siltstone, mudstone, carbonaceous shale, conglomerate, coal	Delta, delta plain	Webb and Crapp (1960); Johnson, Robertson and Martini (1985); Martini and Johnson (1987)

Formation (thickness)	Description/comments	Interpretation	References
Blair Athol Coal Measures (>250 m)	Sandstone, coal, conglomerate, siltstone, mudstone	Alluvial plain	Staines and Koppe (1980); Preston (1985); Miller (1995); Smith and Miller (1995)
Tiverton Formation (700 m)	Lithic sandstone, coquinite, calcareous sandstone and siltstone	Shallow-marine shelf	Malone et al. (1966); Waterhouse and Jell (1983); Martini and Johnson (1987); Hutton et al. (1991)
Yatton Limestone (40 m)	Limestone (bioclastic, brachiopodal calcarenite and coquinite)	Shallow-marine shelf	Withnall et al. (2009)
Cattle Creek Formation (800 m)	Quartzose sandstone, mudstone, siltstone, coal; marine fossils (unit contains three mudstone members and two sandstone members)	Marine shelf, delta	Mollan et al. (1969); Gray (1980); Balfe (1982); Fielding (1989)
Buffel Formation (100 m)	Fossiliferous limestone, calcareous siltstone, volcanoclastic sandstone and conglomerate	Marine shelf	Waterhouse, Jell and Flood (1981); Draper (1988); James, Frank and Fielding (2009)
Arbroath beds (1149 m)	Shale and siltstone with lesser sandstone and conglomerate and minor coal	Half-graben fill, coal swamp, then alluvial	Green et al. (1997)
Reids Dome beds (>2800 m)	Quartzose to sublabilite sandstone, mudstone, siltstone, conglomerate, coal	Alluvial fan, alluvial plain, lake	Power (1967); Draper and Beeston (1985)
Combarngo Volcanics (>145 m)	Rhyolite, andesite, olivine basalt	Continental volcanics	Traves (1966); Murray (1994); Green et al. (1997)

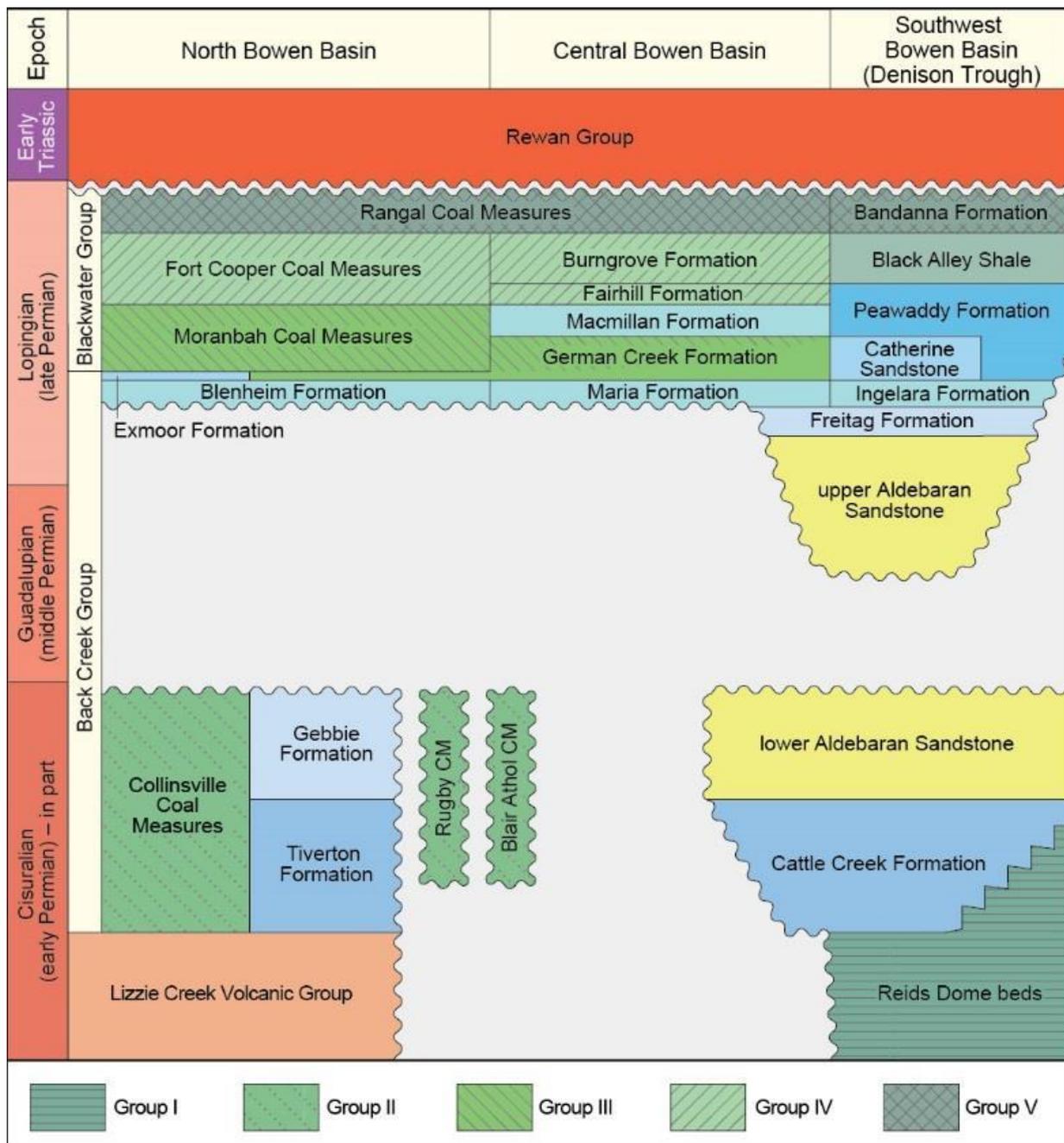


Figure 6. Stratigraphic unit relationships, Bowen Basin (J.L. McKellar pers. comm. and Draper, 2013).

A more detailed review of the stratigraphy and coal geology of northern part of the Bowen Basin is provided in Staines and Koppe (1980). Mallet et al., (1995) have comprehensively reviewed the Permian coal measures in the basin and provided a more detailed outline of the distribution of the coal measures, coal seam correlations and structure.

Available information indicates:

- Coals in the Moranbah Coal Measures and German Creek Formation in the central part of the basin are typically medium to high volatile bituminous coals and include the best coking coals. Structural deformation of these formations is generally mild in the west along the Collinsville Shelf, but becomes more complex towards the east.
- The Baralaba Coal Measures in the south-east range from low-volatile bituminous near Bluff to semi-anthracite at Baralaba. Rank then decreases again southward passing through the coking range near Moura before becoming high-volatile bituminous coals around Theodore.

- In the south-west of the basin, the coals of the Bandanna Formation generally are of lower (high-volatile bituminous) rank.

### Coal measures and their distribution

Coal seams occur at a number of discrete stratigraphic intervals throughout the Permian strata of the Bowen Basin. These coal measures were described by Hawthorne (1974) and subsequently grouped by Staines and Koppe (1980) and Mallett et al., (1995) into four sequences. Draper (2013) has since re-categorised these sequences into five groups of coal measures numbered sequentially from oldest (I) to youngest (V) as shown in Table 2.

**Table 2:** Coal Groups of the Bowen Basin based on geological age and quality characteristics (after Draper & Boreham, 2006 and Draper, 2013)

Coal group	Coal measures	Coal facies	R <sub>v</sub> max (%)	Mines	Product type
V	Rangal Coal Measures, Baralaba Coal Measures, Bandanna Formation	Fluvial, deltaic	0.6–2.6	Yes	thermal, PCI, coking
IV	Fort Cooper Coal Measures, Burngrove Formation, Fair Hill Formation, Burunga Formation, Tinowon Formation	Fluvial, deltaic	0.5–2.5	Yes	high ash thermal and coking
III	Moranbah Coal Measures, German Creek Formation	Delta, delta plain	0.6–3.5	Yes	coking
II	Collinsville Coal Measures, Blair Athol Coal Measures, Clermont deposit	Delta, back barrier, fluvial	0.7–2.2	Yes	coking, thermal
I	Reids Dome beds	Fluvial	0.6–1.4	Yes	thermal

Available information indicates that all coal seams in all coal measure groups have been commercially exploited except for the high ash, tuff-banded Group IV coals. Some mines have trialled mining the uppermost and lowest seams in this group and there are some projects planned which are considering mining more of these seams.

The general stratigraphic relationships of these coal measures are shown in Figure 6 and their distribution throughout the Bowen Basin is shown in Figure 7.

The following general information is indicative only and is based on interpretation of available information collected by geologists over several years of study and research.

#### Group I

Group I coals are restricted to the Early Permian Reids Dome beds in the south-west Bowen Basin. This unit was deposited in a series of half-grabens during the early extensional phase of the basin's development and is comprised of up to 2700 metres of fluvial and lacustrine sedimentary rocks. Coal seams up to 30 metres thick occur at depth in the south-west. Seams are generally thickest toward the western margin and split to the east. Vitrinite content ranges between 30 and 70 per cent and R<sub>v</sub>max is between 0.6 per cent and 0.9 per cent.

Near-surface resources of good-quality thermal and some coking coal have been delineated in the Valeria deposits south-west of Capella. Significant deposits of low-ash thermal coals in seams up to 11 metres thick have been identified at Cullin-la-riango, Athena (Gindie) and Minerva, south of

Emerald. The Minerva Mine, which currently produces high-energy, low sulphur thermal coal for export, is the only mine producing Group I coals.

**Group II**

Group II coals were deposited during the late Early Permian in a number of unconnected deposits around the northern and western margins of the Bowen Basin. These include coals of coking rank ( $R_v$ max 0.9 per cent to 1.6 per cent) in the Collinsville Coal Measures in the far north and thermal coal deposits at Rugby (south-west of Moranbah), at Blair Athol and Wolfgang near Clermont, and at Taraborah west of Emerald.

At the northern tip of the basin, the Collinsville Coal Measures represent the non-marine facies of a back barrier island swamp system and are laterally continuous with the lagoonal Gebbie Formation present to the south-east of Collinsville (Staines & Koppe, 1980). These coal measures are mined at Collinsville, Clermont (Wolfgang) and Blair Athol mines.

**Group III**

Group III is comprised of late Permian coals deposited on the Collinsville Shelf, in dominantly fluvial floodplain environments. Economically important units include the Moranbah Coal Measures and German Creek Formation, which contain most of the high-grade, vitrinite-rich, hard coking coal mined in Queensland. Mines exploiting these formations extend from Kestrel (near Emerald) to Sonoma (near Collinsville), over a distance of around 300 km.

Other mines accessing Group III coals include, Oaky Creek, German Creek (Grasstree), Saraji, Peak Downs, Caval Ridge, Moranbah North, Grosvenor, Goonyella Riverside, Broadmeadow Underground, North Goonyella, Wollombi and Sonoma. Some mines are currently under care and maintenance such as Gregory / Crinum and German Creek (Aquila). A new mine is being developed at Eagle Downs.

Coal rank within the Group III coals spans the coking range ( $R_v$ max 0.8 per cent to 1.8 per cent) and extends to anthracite in the north-east, such as at the Nebo West deposit, where  $R_v$ max is 3.1 per cent.

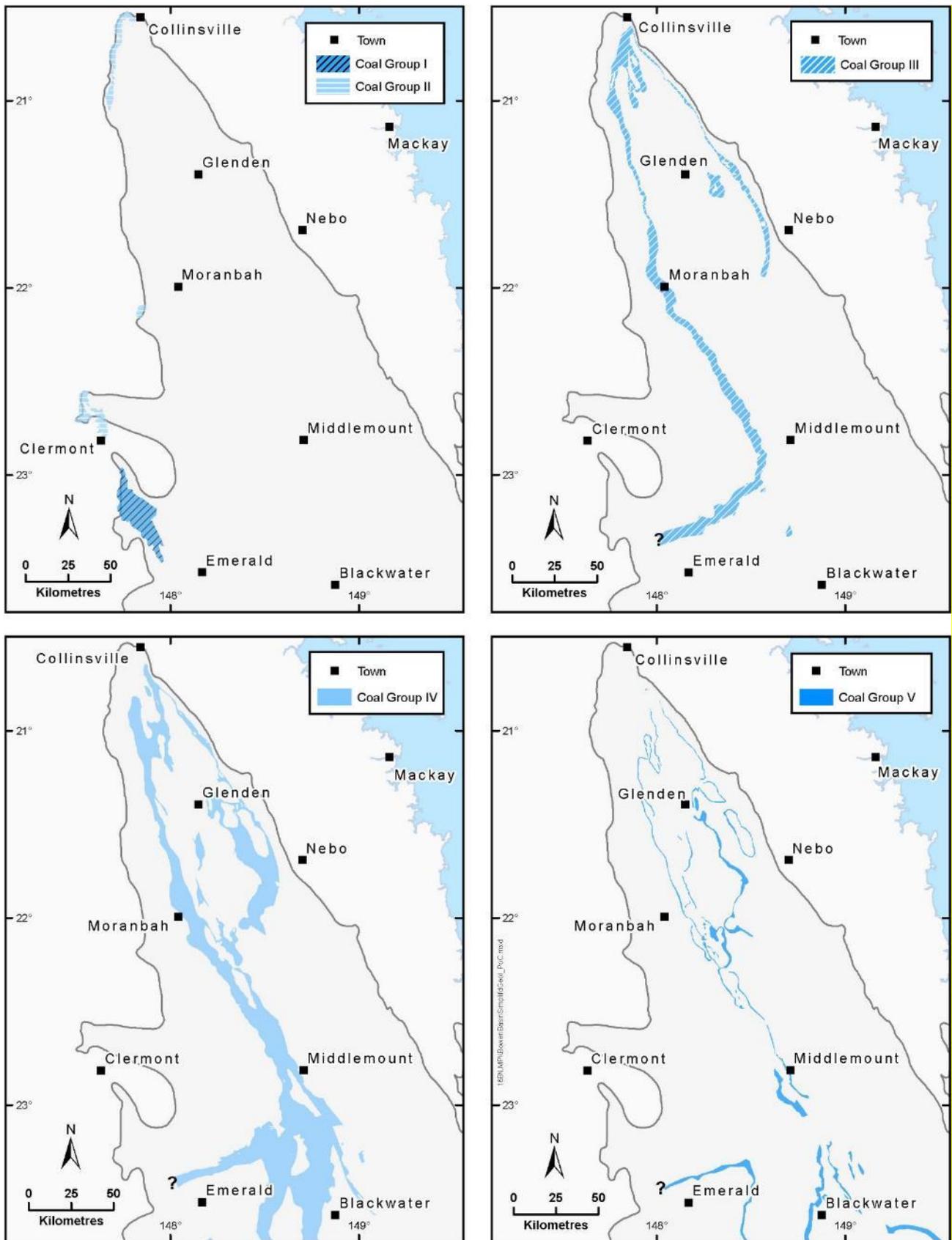


Figure 7. Coal facies distribution of the Bowen Basin

**Group IV** Group IV is represented by the Fort Cooper Coal Measures in the northern part of the Bowen Basin, and the Fairhill and Burngrove formations in the south. Mallet et al., (1995) referred to these as 'Group IIIA' coal measures. These seams are characterised by numerous tuff bands and beds, which has raised their inherent ash content.

Although some of these coals are capable of producing a coking fraction, beneficiation yields are very low, due to the high ash content of the seams. Consequently, there has been no 'stand-alone' commercial production from this group to date, although some trials have been undertaken at a few mine sites of blending these coals with coal produced from other seam groups. Recent exploration in the Bowen Basin has been concentrated on identifying areas with seams of lower ash content and has resulted in a number of open-cut mining proposals now being evaluated for mining Group IV coals on a 'stand-alone' basis.

**Group V** Group V coals include the seams of the Rangal Coal Measures, Baralaba Coal Measures and Bandanna Formation. These coal measures form the uppermost portion of the Permian sequence in the Bowen Basin and are the most diverse in terms of coal quality.

The numerous coal seams present commonly split and coalesce, both along strike and down dip, making detailed correlations problematic. Several attempts have been made to correlate seams in local areas (Chui Chong, 1969; Staines, 1972, 1973; Anderson & Jameson, 1982) but basin-wide definitive seam correlations are yet to be established.

Matheson (1990) provided an overview of coal exploration in the Rangal Coal Measures in the north of the basin and identified major seams of economic significance as the Leichhardt and Vermont seams. This nomenclature is not universally adopted however, with various mines having their own local names such as the Elphinstone Seam and Hynds Seam at Hail Creek, and astrological seam names in the Blackwater area.

Although the quality and rank of Group V coals can vary greatly, they are generally characterised by their relative dullness (higher durain content) and low sulphur content, particularly in the north. These coals can still yield a range of coking, pulverised coal injection (PCI) and thermal coal products and have been continuously mined for more than 50 years.

Open-cut mines exploiting Group V coals include Blackwater, Coppabella, Curragh, Daunia, Dawson (formerly Moura), Ensham, Foxleigh, Hail Creek, Isaac Plains, Jellinbah, Lake Lindsay, Lake Vermont, Middlemount, Millennium, Moorvale, Newlands (Eastern Creek), Oak Park, Poitrel, Rolleston, South Walker Creek and Yarrabee. Underground mines include Carborough Downs, Cook, Newlands Northern UG and Ensham. Burton, German Creek East, Suttor Creek, Norwich Park and Baralaba are currently under care and maintenance.

### **Coal seam characteristics**

While available information indicates that coal seams of up to 30 metres thickness have been identified at Blair Athol, Clermont (Wolfgang) and at depth in the Reids Dome beds, most economic seams in the Bowen Basin are generally less than 10 metres thick (Staines & Koppe, 1980).

Individual coal plies and dirt bands within seams in all groups of coals are commonly laterally persistent, facilitating local seam correlations.

Some tuff beds are particularly laterally persistent within the coal measure sequences and constitute useful time correlation markers basin wide. Notable such marker horizons include the 'P tuff' horizon within the

Moranbah Coal Measures (Group III) and the Yarrabee Tuff which is used to define the base of the Rangal Coal Measures (Group V).

Seam splitting is relatively common across all the coal sequences but in some cases shows patterns, which are characteristic of a particular coal-bearing formation. For example, the seams in the Rangal Coal Measures show an anastomosing pattern of splitting and coalescence that links all the seams in the formation at the regional level. In contrast, major coal seams in the Moranbah Coal Measures and German Creek Formation, while commonly displaying a degree of internal seam splitting and coalescence, do not in general coalesce with one another (Staines & Koppe, 1980).

### **Igneous intrusions**

A significant geological factor inhibiting the exploitation of coals in the northern Bowen Basin is the complexities caused by a series of Cretaceous and Tertiary igneous intrusions. These intrusions reflect combinations of major plugs with lesser dykes and sills that have locally destroyed or altered seams. Coal seams within the Collinsville, Moranbah and Rangal coal measures in the far northern portion of the Bowen Basin have been the most widely impacted by these intrusions.

### **Coal quality and product types**

A variety of products are produced from coal seams of the Bowen Basin. These include:

- high-grade metallurgical coking coal used by the iron and steel industry
- blending coals for coke making for the iron and steel industry
- high-energy PCI coals for the iron and steel industry
- high and low volatile thermal coals for power generation
- high to low volatile thermal coals for the industrial market (cement manufacture, pulp and paper manufacturing, and the chemical industry)
- low volatile semi-anthracites used for domestic heating and cooking.

The premium low and medium volatile hard coking coals from the Bowen Basin are widely acknowledged as among the best coking coals in the world, producing strong cokes of low reactivity and possessing high strength after reaction indices.

High-volatile, high-fluidity coking coals and a range of other coking coals suitable for inclusion in coking blends are produced.

The sulphur content of Queensland export coal is generally less than 0.8 per cent (air-dried basis) and a number of thermal coals contain <0.5 per cent sulphur (Mutton, 2003). Investigations of the trace elements of Queensland thermal coals indicate lower levels of mercury and selenium and other harmful trace elements compared with many other internationally traded coals (Riley & Dale, 2000).

## Eromanga Basin

### Coal geology of the Eromanga Basin

#### Introduction

##### Eromanga Basin – overview

The Eromanga Basin is part of the Great Australian Basin and was deposited during the Jurassic to Cretaceous periods and covers an area of approximately 1 000 000 km<sup>2</sup> west of the Surat Basin (Smith, 2013). It includes the Birkhead Formation, a lithostratigraphic correlative of the Walloon Coal Measures. The formation crops out from Injune northwest to 24° S near Blackall. Although seams up to 1.5 m thick have been intersected, it appears that they are generally much thinner than coal seams of the Walloon Coal Measures. The Eromanga Basin also contains a number of Cretaceous units, the youngest of which (the Winton Formation) contains seams of subhydrous lignite – subbituminous black coal. Gray (1975) reported that three bores drilled in 1966 by the BMR in the Augathella and Adavale areas intersected lignite with the thickest continuous seam 2.1 m. A typical analysis of this coal was reported as moisture 25.7%, volatile matter 29.7%, ash 12%, fixed carbon 32.9%, sulfur 0.41% and specific energy in the range 15.5–18.2 MJ/kg. Koppe and Tuttle (1975) concluded that while thin coal seams in the Winton Formation were intersected over a wide area near Winton, all were of uneconomic thickness and of poor quality.

##### Stratigraphy

The Eromanga Basin rocks reflect deposition associated with two major depositional events. The lower, of late Triassic–Jurassic to early Cretaceous age, is predominantly of terrestrial origin and consists of a mix of generally permeable sandstone units with more argillaceous tighter units. Deposition in the northern part of the Eromanga Basin began in the early Jurassic. The sandstone units are mainly quartzose or sublamine, commonly medium to coarse-grained and non-calcareous. They include some of the main artesian aquifers of the Great Artesian Basin.

The upper consists of marine and non-marine sequences. The early Cretaceous marine sequences show a lithological change from quartz rich to being dominated by contemporaneous volcanogenic detritus. During widespread shallow marine conditions, the Wallumbilla Formation, Toolebuc Formation and Allaru Muststone were deposited. The final stage of the upper sequence is represented by the marginal marine Mackunda Formation and the later fluvial Winton Sandstone, a sequence of volcanogenic sandstones and siltstones with minor shales and coals. The late Cretaceous to Palaeogene (early Tertiary) is marked by a period of deep chemical weathering of the Winton Formation (Gallagher & Lambeck, 1989).

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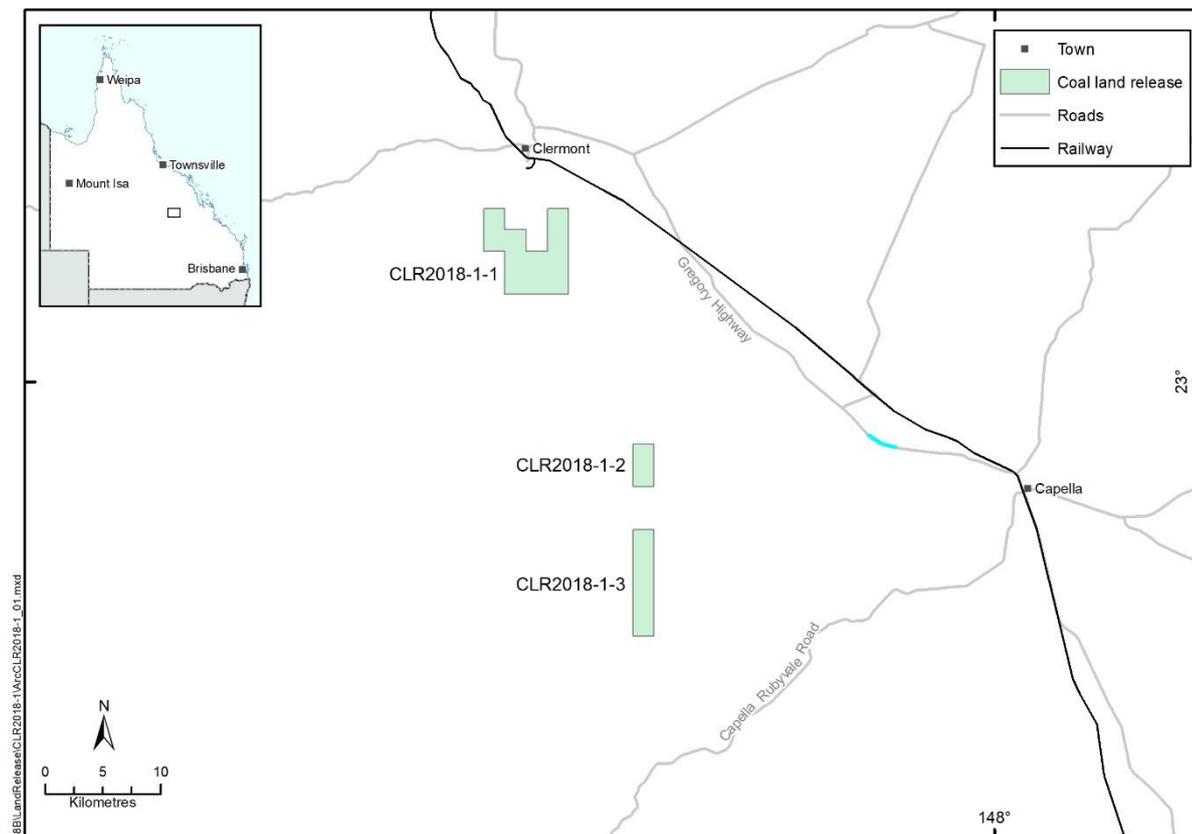
## Geological considerations – CLR2018-1-1

### 1. Overview of CLR2018-1-1

#### 1.1 Location

CLR2018-1-1 consists of 11 sub-blocks (approximately 35 km<sup>2</sup>) and is located approximately 6 km south of Clermont (Figures 1 & 2, below). The area adjoins EPC 1241 (126 sub-blocks) held by Vitrinite Pty Ltd. It lies about 240 km south-west of the Hay Point Port situated to the south of Mackay, on the Queensland coast.

CLR2018-1-1 can be accessed by the Clermont Rubyvale Road in the west and by McDonald Flat Road in the east. Both lead to Clermont and access to the Peak Downs Highway to the north or to the Gregory Highway that leads to Emerald and the Capricorn Highway to the south.



**Figure 1:** Location of CLR2018-1-1 , CLR2018-1-2 and CLR2018-1-3.

#### 1.2 Local Geology Summary

##### *Geological setting*

The area lies on the western margin of the Bowen Basin and eastern side of the Anakie Inlier where a number of outliers of Permian Back Creek Group unconformably overlie the Anakie Metamorphic Group (Figure 3). These structurally controlled sub-basins host coal-bearing targets within the Blair Athol Coal Measures of the Back Creek Group (Richter, 2013). The release area overlies the Anakie Metamorphic Group (Bathampton Metamorphics), Douglas Creek Limestone, Tertiary sediments and a small portion of the structurally controlled Karin Basin of the Bowen Basin. Vitrinite Pty Ltd (2017) reported that a coal quality analysis suggested the coking coal present in the Karin Basin correlates with the Reids Dome beds within Rio Tinto's Valeria Deposit

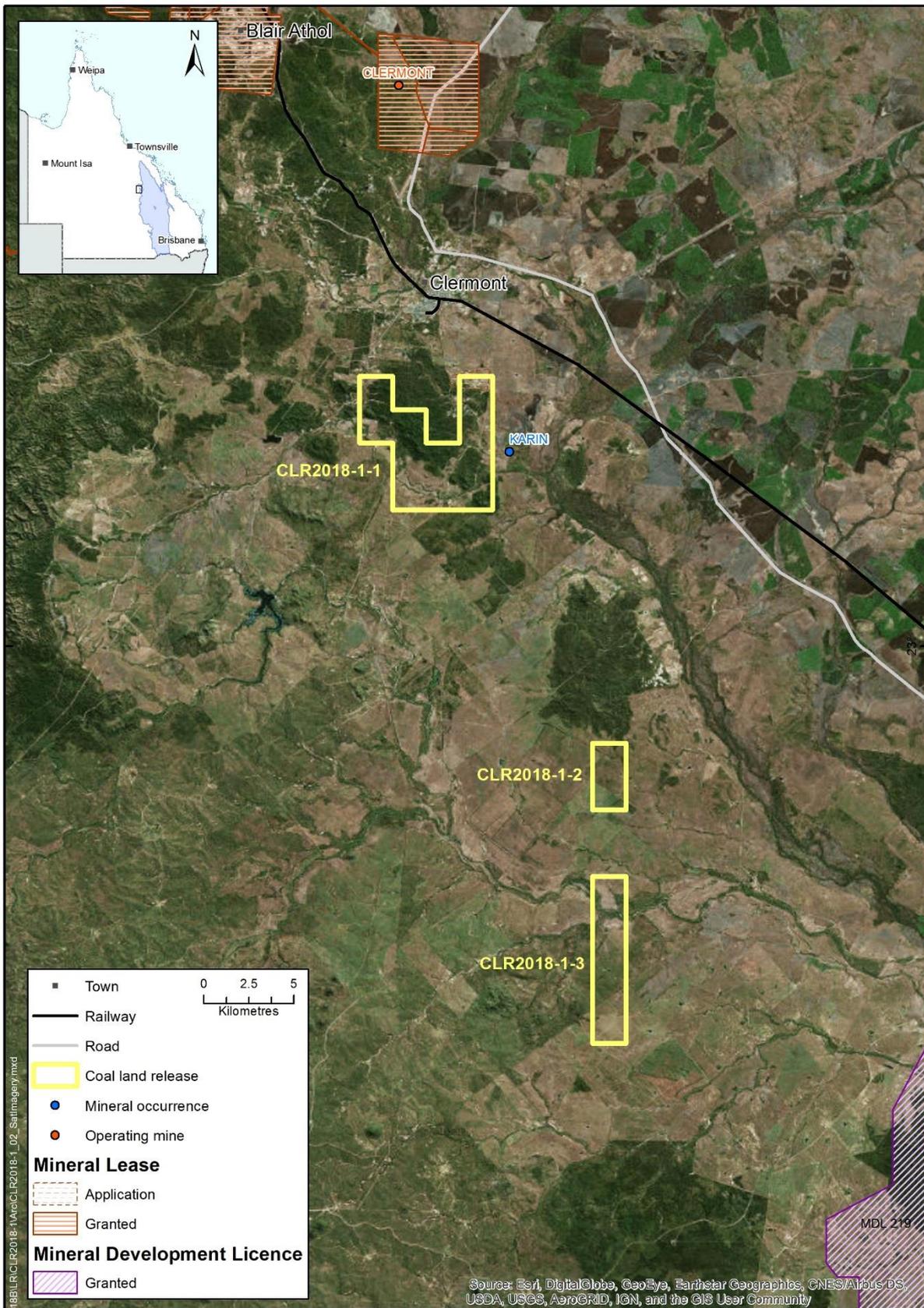
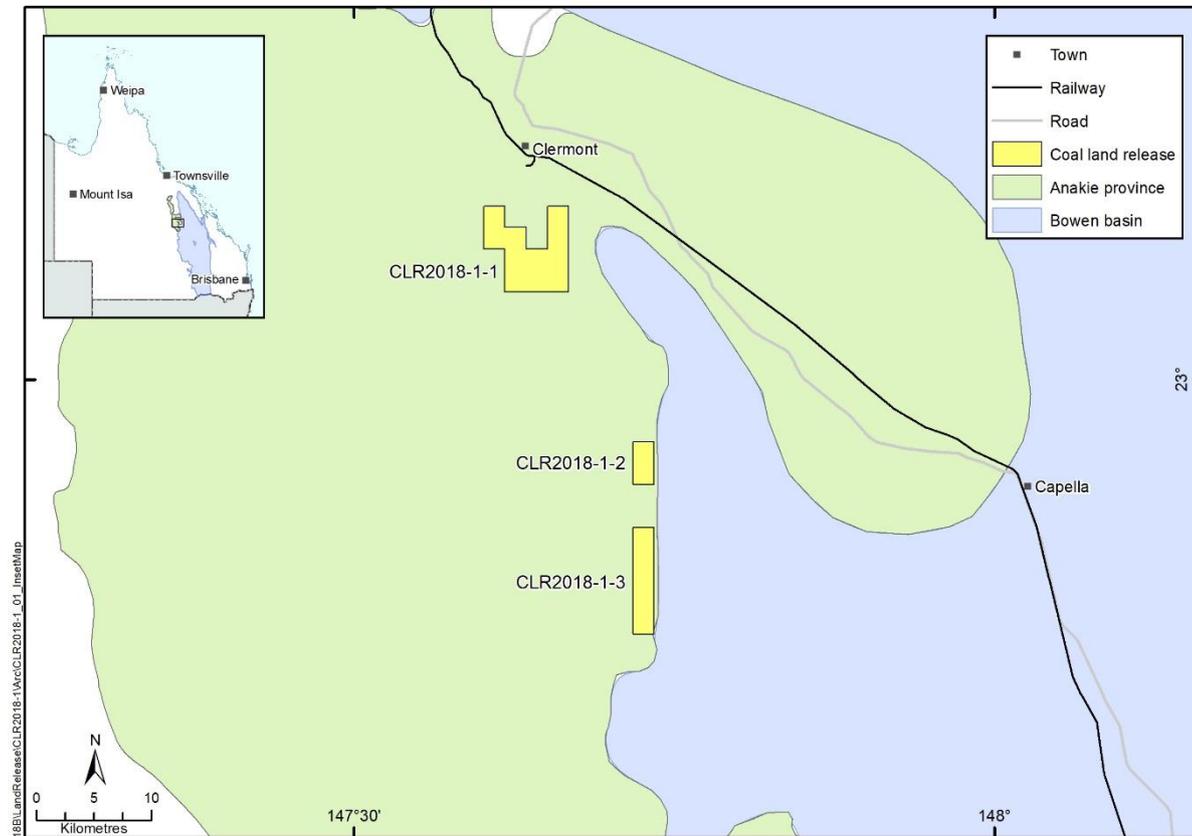


Figure 2: Satellite image of CLR2018-1-1, CLR2018-1-2 and CLR2018-1-3.



**Figure 3:** Geological setting of CLR2018-1-1, CLR2018-1-2 and CLR2018-1-3.

### **Historical coal exploration**

Exploration Permits for Coal (EPC) which have previously, either wholly or partially covered CLR2018-1-1, are presented in Table 1.

**Table 1.** CLR2018-1-1 historical coal exploration tenure.

<b>Tenure No</b>	<b>Principal Holder</b>	<b>QDEX Company Report no</b>
EPC 52	Blair Athol Coal Pty Ltd	CR 4181, 5518, 6225,
EPC 71	Blair Athol Coal Pty Ltd	CR 3033, 3034, 3686, 3885,3911, 4138
EPC 294	White Industries (Qld) Pty Ltd	CR 8910, 9796, 10089, 12012, 15965, 97942, 98070
EPC 627	Rio Tinto Exploration Pty Limited	CR 31406, 31407
EPC 669	Rio Tinto Exploration Pty Limited	N/A
EPC 2018	Bowen Basin Coal Qld Aust Pty Ltd	N/A

Available aerial geophysical surveys which either wholly or partially cover CLR2018-1-1 are listed in Table 2.

**Table 2:** Aerial geophysical surveys

Survey No.	Survey Name	Company Name	Geophysics Contractor	Date Flown	Line Interval (m)	Total Line Length (km)
1173	Chalcophile (Clermont) VTEM	Diatreme Resources Limited	Geotech Airborne	28/05/07	250	N/A

Further information on seismic surveys or other geophysical data may be obtained by contacting the Department via [resources-tenders@dnrme.qld.gov.au](mailto:resources-tenders@dnrme.qld.gov.au).

### 1.3 Coal exploration target and potential

The sub-blocks making up CLR2018-1-1 were previously held under EPCs 52, 71, 294, 524, 627, 669, 1241, 2011 and 2018. The area may contain an extension of the coking coal resources defined in the Karin Basin to the east of the release area.

No coal resources have been identified within CLR2018-1-1 but the release area is approximately one kilometre west of the medium sized (100-500 Million tonnes) inferred coking coal resource at the Karin Project (DNRME, MinesOnlineMaps Coal resource layer).

## Geological considerations – CLR2018-1-2

### Overview of CLR2018-1-2

#### Location

Area CLR2018-1-2 consists of 2 sub-blocks (approximately 6 km<sup>2</sup>) located about 25km south of Clermont on the western flank of the Bowen Basin (Figures 1 & 2, above). It lies about 250 km south-west of the Hay Point Port situated to the south of Mackay, on the Queensland coast.

CLR2018-1-2 lies about 16 km west of the Gregory Highway that leads to Clermont and the Peak Downs Highway to the north or to Emerald and the Capricorn Highway to the south.

Adjoining CLR2018-1-2 are EPC 864 (126 sub-blocks) to the south and east held by Auriga Coal Pty Ltd and EPC 1241 (126 sub-blocks) to the north and west held by Vitrinite Pty Ltd.

#### Local Geology Summary

##### Geological setting

The area lies on the western margin of the Bowen Basin and the eastern portion of the Anakie Inlier (Figure 3, above). A number of small outliers of Permian Back Creek Group are known to unconformably overlie the Anakie Metamorphic Group in the region. The south-eastern portion of the release area is currently mapped as Permian Reids Dome beds of the Bowen Basin (Department of Natural Resources, Mines and Energy, MinesOnline maps).

##### Historical coal exploration

Exploration Permits for Coal (EPC) which have previously, either wholly or partially covered CLR2018-1-2, are presented in Table 3.

**Table 3.** CLR2018-1-2 historical coal exploration tenure.

Tenure No	Principal Holder	QDEX Company Report no
EPC 52	Blair Athol Coal Pty Ltd	CR 4181, 5518, 6225,
EPC 71	Blair Athol Coal Pty Ltd	CR 3033, 3034, 3686, 3885,3911, 4138
EPC 294	White Industries (Qld) Pty Ltd	CR 8910, 9796, 10089, 12012, 15965, 97942, 98070
EPC 864	Auriga Coal Pty Ltd	CR 37544, 43052, 46726, 56386, 103495

Available aerial geophysical surveys which either wholly or partially cover CLR2018-1-2 are listed in Table 4.

**Table 4:** Aerial geophysical surveys

Survey No.	Survey Name	Company Name	Geophysics Contractor	Date Flown	Line Interval (m)	Total Line Length (km)
1084	Anakie (GSQ)	Geological Survey of Queensland	World Geoscience Corporation Ltd	22/10/90	400	N/A

Further information on seismic surveys or other geophysical data may be obtained by contacting the Department via [resources-tenders@dnrme.qld.gov.au](mailto:resources-tenders@dnrme.qld.gov.au).

### Coal exploration target and potential

The sub-blocks making up CLR2018-1-2 were previously held under EPCs 52, 71, 294 864 and 1241. Available information indicates that the area may contain coking coal resources in the Bowen Basin and Bowen Basin outliers within the Anakie Metamorphics.

No coal resources have been identified within CLR2018-1-2.

## Geological considerations – CLR2018-1-3

### Overview of CLR2018-1-3

#### Location

CLR2018-1-3 consists of five sub-blocks (approximately 16 km<sup>2</sup>) located about 32 km south of Clermont (Figures 1 & 2, above). It is situated about 30 km west of the Gregory Highway that leads to Clermont and the Peak Downs Highway to the north or to Emerald and the Capricorn Highway to the south.

The area adjoins EPC 864 (126 sub-blocks), held by Auriga Coal Pty Ltd, to the north and east and EPC 1241 (126 sub-blocks), held by Vitrinite Pty Ltd, to the south and west.

#### Local Geology Summary

##### *Geological setting*

The area lies on the western margin of the Bowen Basin and the eastern portion of the Retreat Supersuite (Middle to Late Devonian granitoid bodies) and the Anakie Inlier (Figure 3, above). A number of small outliers of Permian Back Creek Group are known to occur in the region. The northern and southern portions of the release area are currently mapped as Permian Reids Dome beds of the Bowen Basin while the centre section contains an area of the Anakie Metamorphic Group and the western portion is over the Retreat Supersuite (Department of Natural Resources, Mines and Energy, MinesOnline maps).

#### Historical coal exploration

Exploration Permits for Coal (EPC) which have previously, either wholly or partially covered CLR2018-1-3, are presented in Table 4.

**Table 4.** CLR2018-1-3 historical coal exploration tenure.

Tenure No	Principal Holder	QDEX Company Report no
EPC 52	Blair Athol Coal Pty Ltd	CR 4181, 5518, 6225,
EPC 71	Blair Athol Coal Pty Ltd	CR 3033, 3034, 3686, 3885,3911, 4138
EPC 864	Auriga Coal Pty Ltd	CR 37544, 43052, 46726, 56386, 103495

Available aerial geophysical surveys which either wholly or partially cover CLR2018-1-3 are listed in Table 5.

**Table 5:** Aerial geophysical surveys

Survey No.	Survey Name	Company Name	Geophysics Contractor	Date Flown	Line Interval (m)	Total Line Length (km)
1084	Anakie (GSQ)	Geological Survey of Queensland	World Geoscience Corporation Ltd	22/10/90	400	N/A

Further information on seismic surveys or other geophysical data may be obtained by contacting the Department via [resources-tenders@dnrme.qld.gov.au](mailto:resources-tenders@dnrme.qld.gov.au).

### Coal exploration target and potential

The sub-blocks making up CLR2018-1-3 were previously held under EPCs 52, 71 and 864. Available information indicates that the area may contain coking coal resources in the Bowen Basin and Bowen Basin outliers within the Retreat Supersuite and Anakie Metamorphics.

No coal resources have been identified within CLR2018-1-3.

## Geological considerations – CLR2018-1-5

### Overview of CLR2018-1-5

#### Location

CLR2018-1-5 consists of 200 sub-blocks (approximately 615 km<sup>2</sup>) located about 95 km west of Charleville (Figure 4, below). CLR2018-1-5 is located in the Eromanga Basin of south west Queensland.

The area lies approximately 33 km north of the Diamantina Developmental Road. The Paroo River runs through the central portion of the area. There are no close coal mines close to the release area.

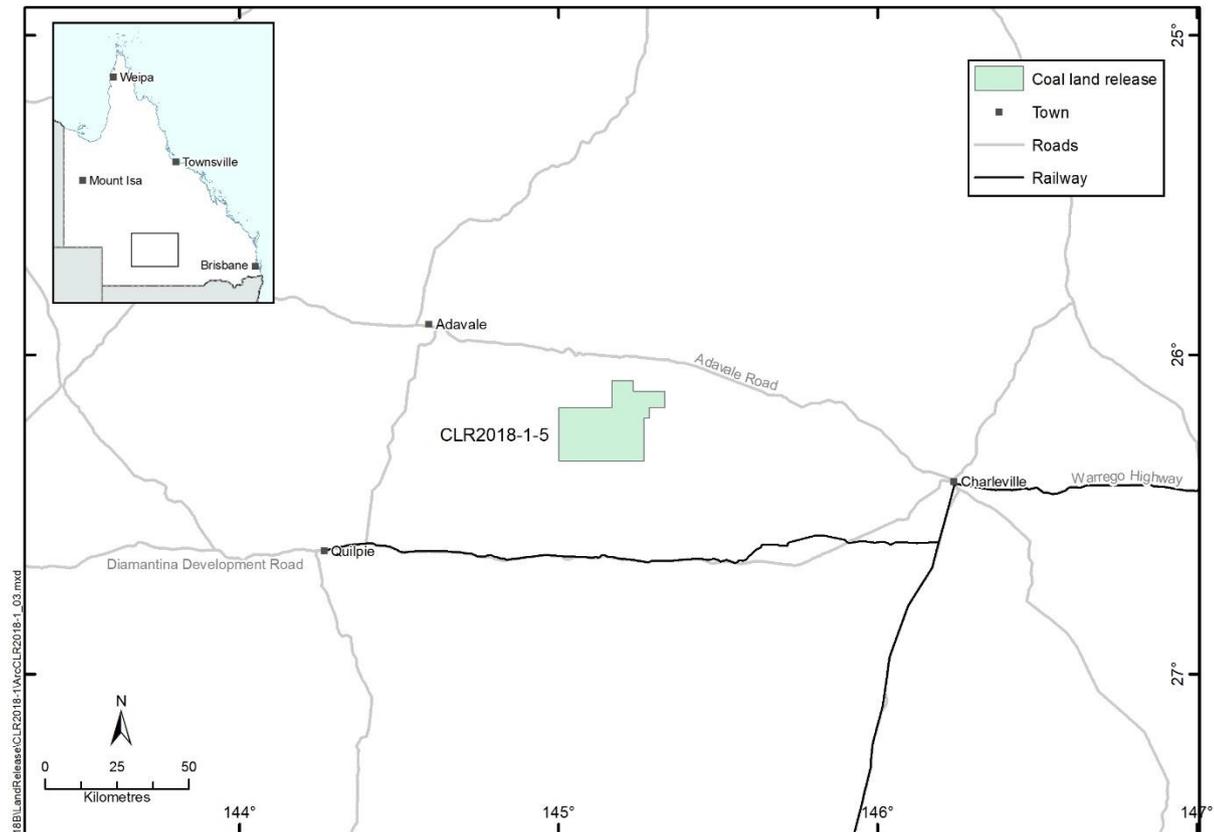


Figure 4: Location of CLR2018-1-5

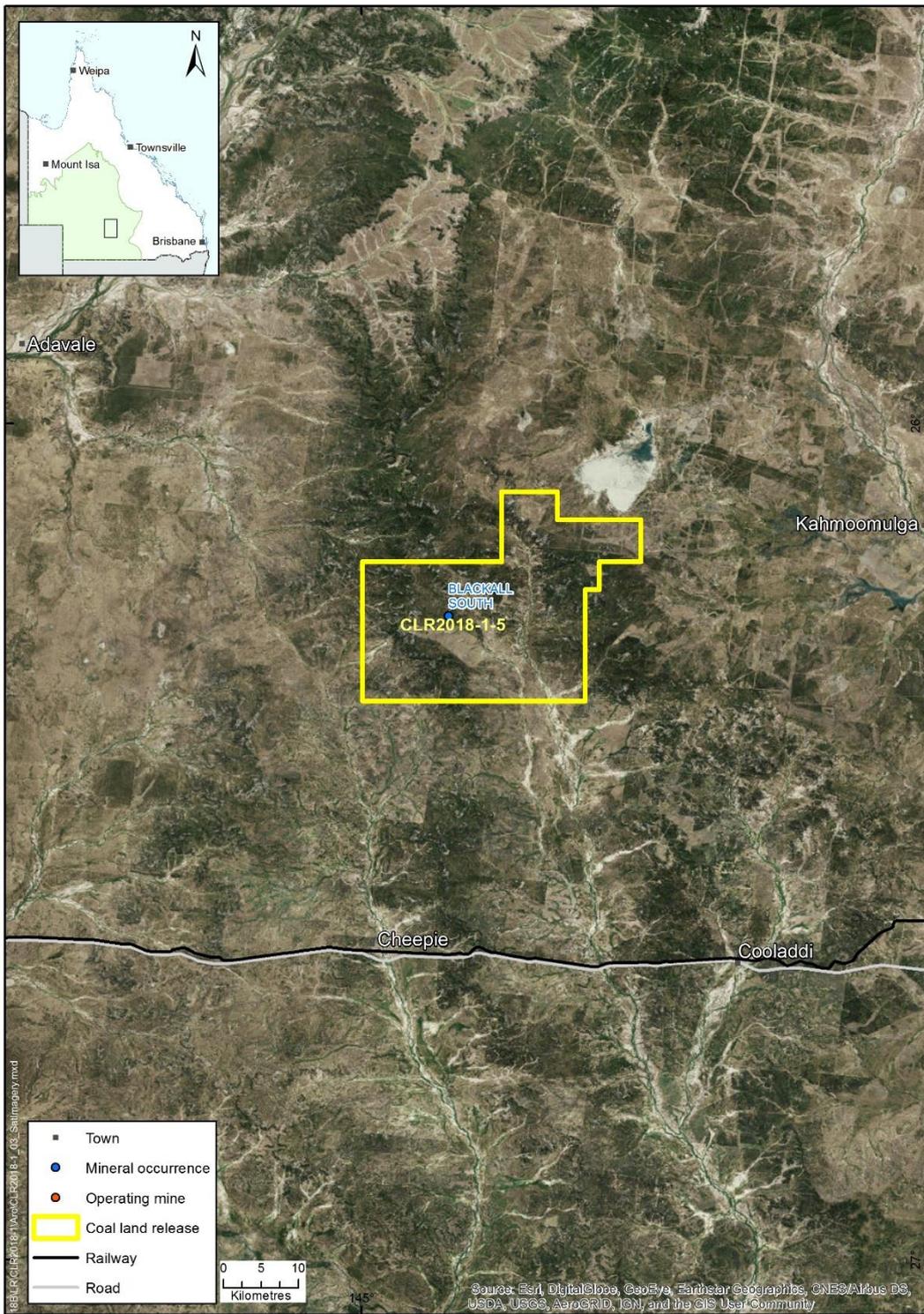
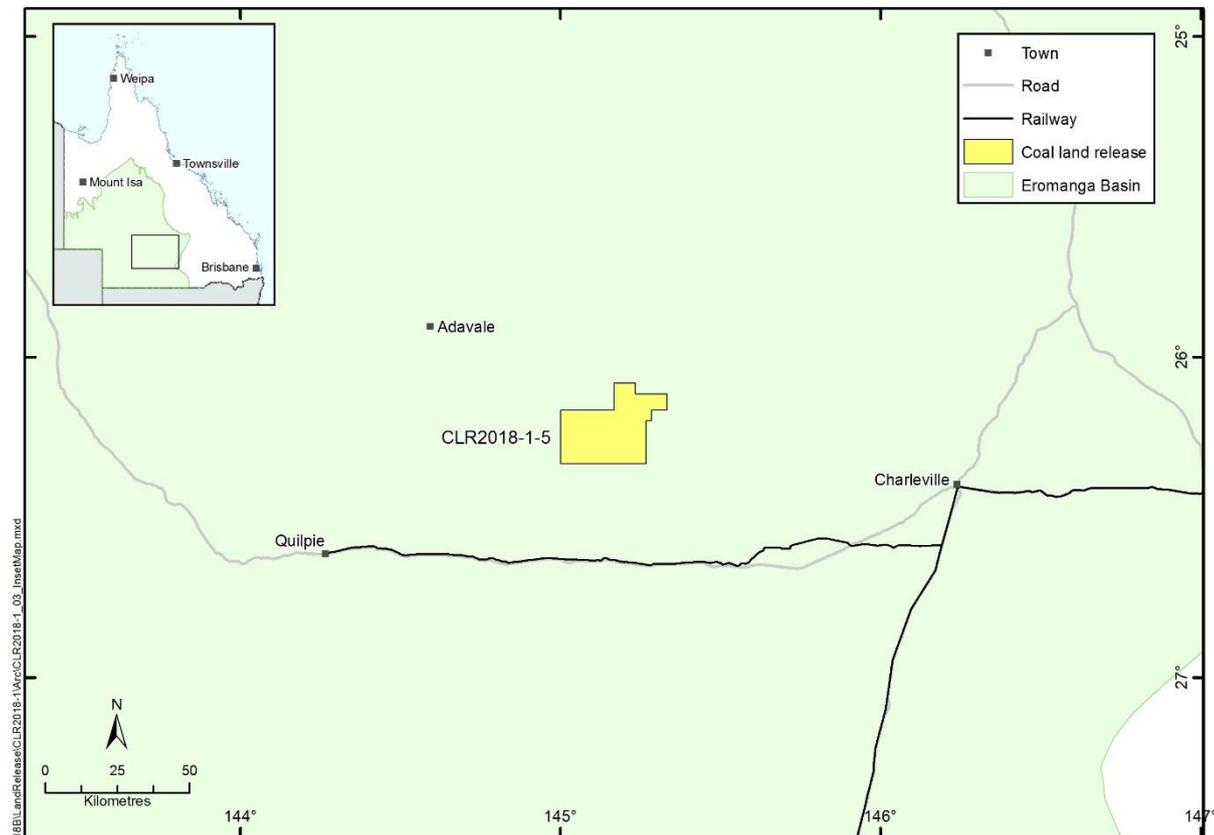


Figure 5: Satellite image of CLR2018-1-5.

## Local Geology Summary

### Geological setting

CLR2018-1-5 is located in the Eromanga Basin which contains a number of Cretaceous units, the youngest of which (the Winton Formation) contains seams of subhydrous lignite - subbituminous black coal. Gray (1975) reported that three bores drilled in 1966 by the BMR in the Augathella and Adavale areas intersected lignite with the thickest continuous seam 2.1 m. A typical analysis of this coal was reported as moisture 25.7%, volatile matter 29.7%, ash 12%, fixed carbon 32.9%, sulfur 0.41% and specific energy in the range 15.5-18.2 MJ/kg. Koppe and Tuttle (1975) concluded that while thin coal seams in the Winton Formation were intersected over a wide area near Winton, all were of uneconomic thickness and of poor quality.



**Figure 6:** Geological setting of CLR2018-1-5.

### Historical coal exploration

Exploration Permits for Coal (EPC) which have previously, either wholly or partially covered CLR2018-1-5, are presented in Table 6.

**Table 6.** CLR2018-1-5 historical coal exploration tenure.

Tenure No	Principal Holder	QDEX Company Report no
EPC 2197	Gen Resources Pty Ltd	CR 76794

Gen Resources Pty Ltd held EPC 2197 over the release area as part of their exploration program seeking large shallow thermal coal resources. The EPC was granted in 2011 and became non-current in 2016.

Sixteen coal boreholes were drilled in the release area for Gen Resources Pty Ltd (100% owned by International Coal Limited) under EPC 2197 in 2012. At their South Blackall project, they identified 39 seams and modelled 22 of the seams deemed suitable. An estimated 1.25 billion tonnes of inferred resource (JORC standard) was delineated. Their washed coal target product was to have had an ash content of between 12 – 16%. Testing

indicated the coal was low in sulphur and high in volatiles with a gross calorific value of 5,150 kcal/kg on an air dried basis (B. Smith, 2013).

One petroleum well has been drilled in the release area. Rolwegan Creek 1 was drilled in 1984 by Western Mining Corporation Limited. Coal was encountered in the Winton Formation and was described as brown to black, soft to moderately hard, dull to subvitreous, woody texture preserved in some cuttings (Lydyard, 1984). No petroleum was encountered and the well was converted to a water bore.

Available aerial geophysical surveys which either wholly or partially cover CLR2018-1-5 are listed in Table 7.

**Table 7:** Aerial geophysical surveys

Survey No.	Survey Name	Company Name	Geophysics Contractor	Date Flown	Line Interval (m)	Total Line Length (km)
118	Cheepie Shelf	Lennard Oil NL	Geoterrex	30/03/1986	2000	N/A

Further information on seismic surveys or other geophysical data may be obtained by contacting the Department via [resources-tenders@dnrme.qld.gov.au](mailto:resources-tenders@dnrme.qld.gov.au).

### Coal exploration target

Coal exploration in the region has targeted seams in the Winton Formation of the Eromanga Basin. It appears the Winton Formation is at shallow depth or absent in parts of the release area but represents the main exploration target. The area contains a very large inferred coal resource (Blackall South) (DNRME, MinesOnlineMaps, Coal resource layer).

The Eromanga Basin also includes the Birkhead Formation, a lithostratigraphic correlative of the Jurassic Walloon Coal Measures. Although seams up to 1.5 m thick have been intersected in this formation, it appears that they are generally much thinner than coal seams of the Walloon Coal Measures (R.J. Smith, 2013). To date no coal from the Birkhead Formation has been mined and prospects for large workable deposits appear limited.

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## Appendix F: Block and sub-block descriptors of tender areas

The description of the tender areas in graticular blocks and sub-blocks as provided on the Block Identification Map (BIM) Series B held by the department is provided below:

CLR2018-1-1			
BIM Name	BIM Code	Block No	Sub-blocks
Clermont	CLER	2492	m,p,r,s,u,x,y,z
		2564	c,d,e

CLR2018-1-2			
BIM Name	BIM Code	Block No	Sub-blocks
Clermont	CLER	2637	t,y

CLR2018-1-3			
BIM Name	BIM Code	Block No	Sub-blocks
Clermont	CLER	2709	o,t,y
		2781	d,j

CLR2018-1-5			
BIM Name	BIM Code	Block No	Sub-blocks
Charleville	CHAR	1815	a,b,c,d,f,g,h,j,l,m,n,o,p,q,r,s,t,u,v,w,x,y,z
		1816	l,m,n,o,p,q,r,s,t,u,v,w,x,y,z
		1885	a,b,c,d,e,f,g,h,j,k,l,m,n,o,p,q,r,s,t,u,v,w,x,y,z
		1886	a,b,c,d,e,f,g,h,j,k,l,m,n,o,p,q,r,s,t,u,v,w,x,y,z
		1887	a,b,c,d,e,f,g,h,j,k,l,m,n,o,p,q,r,s,t,u,v,w,x,y,z
		1888	a,b,f,g,l,q,v
		1957	a,b,c,d,e,f,g,h,j,k,l,m,n,o,p,q,r,s,t,u,v,w,x,y,z
		1958	a,b,c,d,e,f,g,h,j,k,l,m,n,o,p,q,r,s,t,u,v,w,x,y,z
		1959	a,b,c,d,e,f,g,h,j,k,l,m,n,o,p,q,r,s,t,u,v,w,x,y,z
		1960	a,f,l,q,v



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