

BARALABA NORTH CONTINUED OPERATIONS PROJECT

Project Description

SEPTEMBER 2013



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Attachment 1 Preliminary Environmental Risk Register

1 Introduction

1.1 History and Background

Cockatoo Coal Limited (CCL) operates the Baralaba Coal Mine in the lower Bowen Basin region of central Queensland (QLD), just north of the township of Baralaba (Figure 1 and Figure 2).

The area has been mined since the discovery of coal in the late 1800s, predominantly by underground extraction methods. Since CCL's acquisition of the mine in 2008, operations have progressed on an open cut basis and have produced approximately 500,000 tonnes of product coal per annum.

The run-of-mine (ROM) coal is crushed and screened to produce a pulverized coal injection (PCI) product and several grades of thermal coal, which is then transported by road to existing product coal stockpiles and train load-out (TLO) facility, located approximately 10 kilometres (km) east of Moura, for transport by rail and export via Gladstone. Currently, product coal specification is based on ash content, and the coal is sold unwashed.

The existing target resource has limited economic mining life, from which CCL has been conducting an active exploration program to the north and south of the current Baralaba Coal Mine.

CCL is a user in the Stage One development of the Wiggins Island Coal Export Terminal (WICET) with a 3.0 million tonnes per annum (Mtpa) allocation. Optimisation of the 3.5 Mtpa Baralaba Expansion Project by CCL has been undertaken to examine all the options to secure the long-term future of the Baralaba Coal Mine, including re-evaluating the feasibility of the Baralaba South Project.

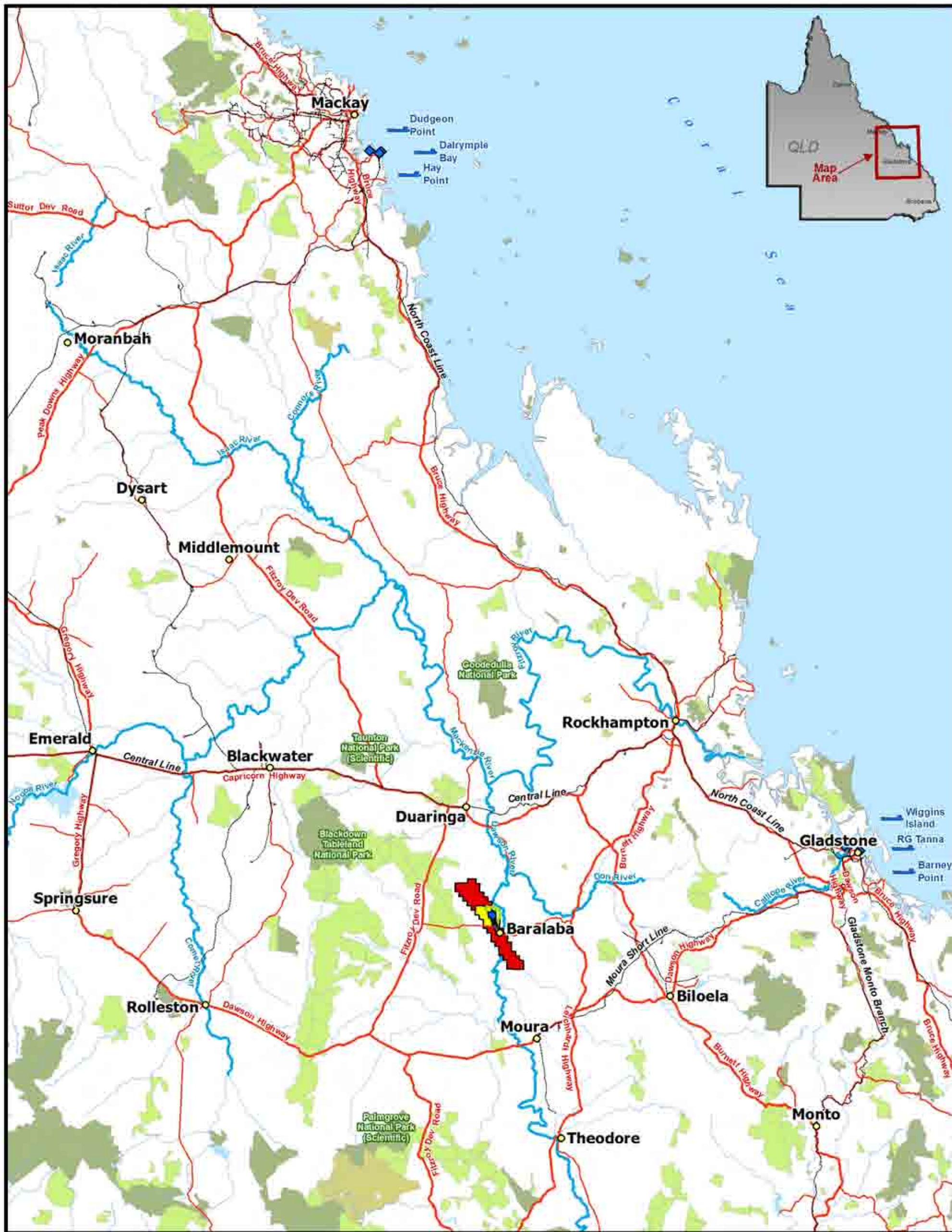
A supplementary bankable feasibility study conducted by CCL has resulted in the Baralaba North Continued Operations Project (herein referred as the [BNCOP]) being preferred over the Baralaba South Project.

This document is the Project Description for the BNCOP. The BNCOP provides for the continuation and expansion of open cut coal mining and introduction of processing activities at the existing Baralaba Coal Mine, and would significantly extend the life of mining operations.

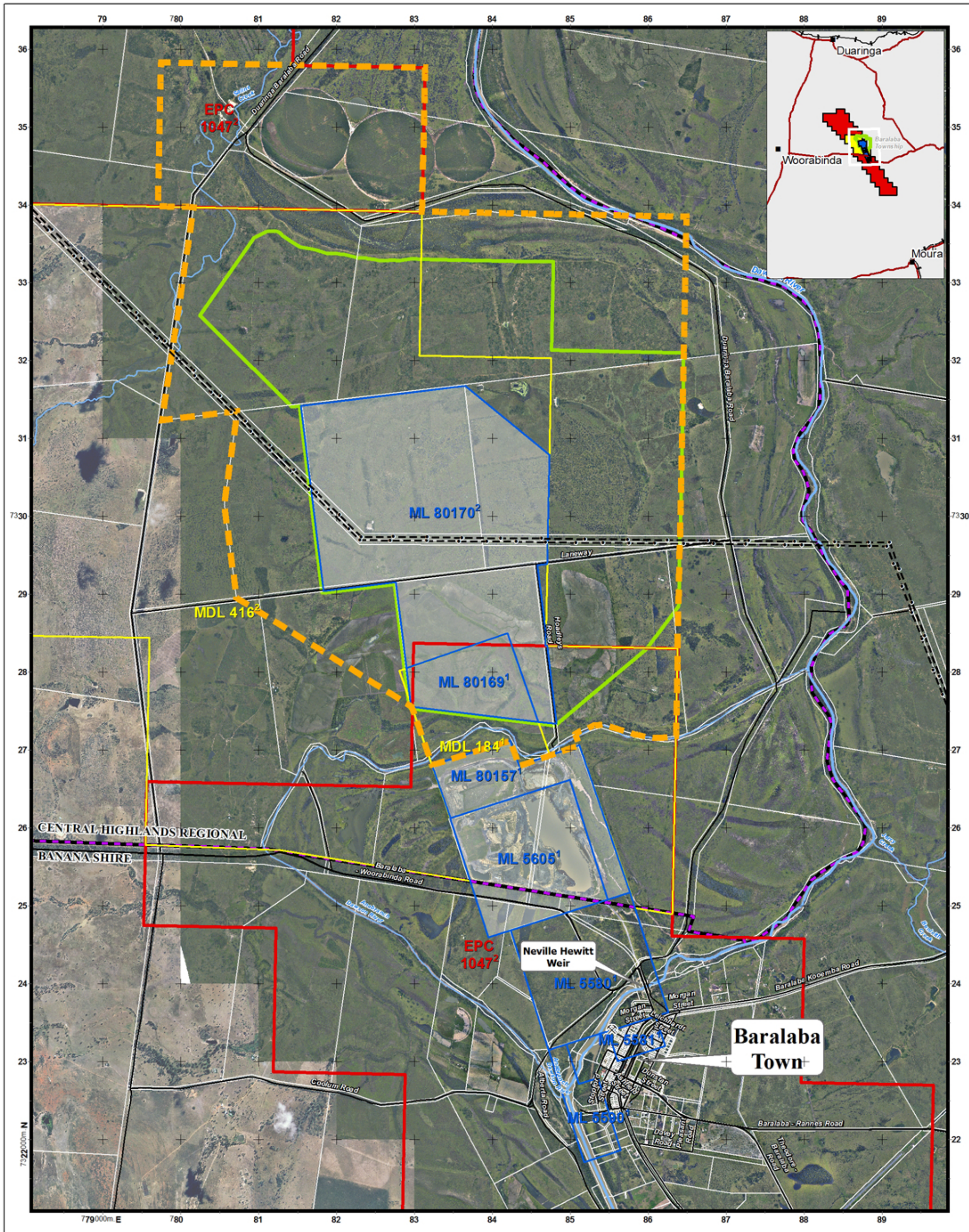
Up to 3.5 Mtpa of product coal would be produced at the BNCOP to meet CCL's full allocation requirement at the Port of Gladstone, in line with the WICET commissioning.

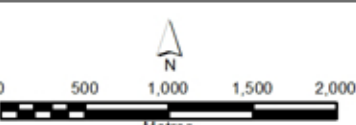
The BNCOP will mean job security for the 135 people currently employed at the Baralaba Coal Mine, and also allow CCL to continue to support local suppliers of the operations, providing additional security and longevity of employment in the region.

The BNCOP is a component of CCL's Baralaba Expansion Project which was declared a 'prescribed project' pursuant to section 76E of the *State Development and Public Works Organisation Act 1971* (QLD) on 31 July 2013 by the QLD Minister for State Development, Infrastructure and Planning.



PROJECT BARALABA NORTH CONTINUED OPERATIONS PROJECT		DISCLAIMER: Cockatoo Coal Ltd has exercised all due care in the production of this map. Cockatoo Coal Ltd makes no warranty or representation to the client or third parties (expressed or implied) in respect to the information conveyed on this map, particularly with regard to any commercial investment decision made on the basis of this map. Use of this map by the client or third parties shall be at their own risk, and extracts from this map may only be published with the permission of Cockatoo Coal Ltd.				DATA SOURCES: VECTOR DATA: © DERM - LAND & PROPERTY DATA © GEOSCIENCE AUSTRALIA PUBLICLY ACCESSIBLE DATA HAS BEEN INCORPORATED INTO THIS MAP (ACCREDITED ABOVE). COCKATOO COAL PROVIDES NO WARRANTY TO THE ACCURACY, COMPLETENESS OR CORRECTNESS OF THIS DATA.			
TITLE Figure 1: Project Location		REV 0	DESCRIPTION Original map output	DATE 20/09/13	SCALE 1:1,500,000	CURRENT ISSUE SIGNATURES		Legend Paradey's Park National Park Watercourses Cockatoo Coal MBL Cockatoo Coal MFL Cockatoo Coal MBL Cockatoo Coal EPC BRICOP Geomaterial L250 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 Coal Tenement Proposed Areas Yellowstone Park Forest Reserve State Forest Timber Reserve Other	
								STATUS FINAL	
								PROJECT NO Baralaba Nth	DRAWING NO BBN-026-130920-01-00



PROJECT		DISCLAIMER:			DATA SOURCES:		NOTE:				
BARALABA NORTH CONTINUED OPERATIONS PROJECT		Cockatoo Coal Ltd has exercised all due care in the production of this map. Cockatoo Coal Ltd makes no warranty or representation to the client or third parties (expressed or implied) in respect to the information conveyed on this map, particularly with regard to any commercial investment decision made on the basis of this map. Use of this map by the client or third parties shall be at their own risk, and extracts from this map may only be published with the permission of Cockatoo Coal Ltd. 			VECTOR DATA:		* : HELD BY BARALABA COAL PTY LTD				
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TITLE		REV	DESCRIPTION	DATE	SCALE	CURRENT ISSUE SIGNATURES		Legend		STATUS	
Figure 2: Project Site		0	Original map output	20/09/13	SIZE	A3	DRAWN	MJS	Road.....		Powerline & Power Pole.....
		1			DATUM	GDA 94	CHECKED	BJD	Watercourse.....		Local Government Area.....
					PROJECTION	MGA Zone 55	APPROVED	BJD	Cadastre.....		Existing Operational Land.....
									Cockatoo Coal MA.....	BNCOP EIS Study Area.....	
									Cockatoo Coal MLA.....	BNCOP Operational Land.....	
									Cockatoo Coal MDL.....		
									Cockatoo Coal EPC.....		



1.2 Project Location and Land Tenure

The Baralaba Coal Mine is an existing open cut mining operation located approximately 115 km west of Rockhampton, in the lower Bowen Basin region of central QLD (Figure 1).

The BNCOP is located within the Central Highlands Local Government Area (LGA) (Figure 2). Relevant land ownership information including the proposed extent of 'operational land' for the BNCOP and adjoining lands is provided on Figure 3.

A list of the affected and interested persons identified for the BNCOP is presented in section 6.

1.3 The Applicant, Mine Tenements and Ownership

CCL is the Applicant for the BNCOP.

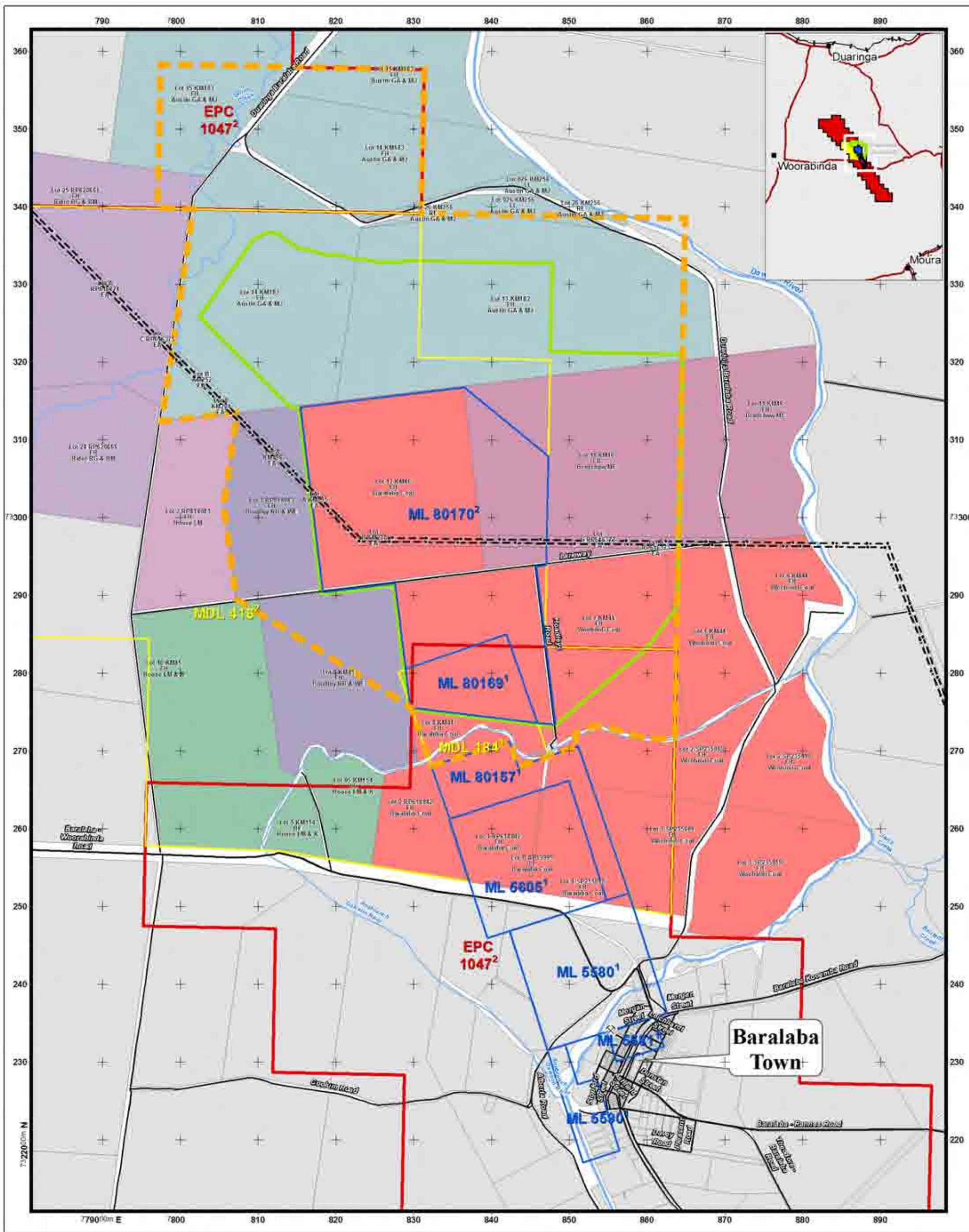
CCL is the owner of the Baralaba Coal Mine and is managed by its subsidiaries Baralaba Coal Pty Ltd (Suitable Operator Reference: 339270) and Wonbindi Coal Pty Ltd (Suitable Operator Reference: 558800) which hold the following tenements of relevance (Figure 2):

- Mining Lease (ML) 5580¹, ML5581¹, ML5590¹, ML5605, ML80157, ML80169 and Mineral Development Licence (MDL) 184 (held by Baralaba Coal Pty Ltd); and
- ML80170, MDL416 and Exploration Permit for Coal (EPC) 1047 (held by Wonbindi Coal Pty Ltd).

Baralaba Coal Pty Ltd is a 62.5 percent (%) owned subsidiary of CCL, with the remaining 37.5% owned by JFE Shoji Trade Corporation (JFE Shoji). Wonbindi Coal Pty Ltd is an 80% owned subsidiary of CCL, with the remaining 20% owned by JS Baralaba Wonbindi Pty Ltd (JSBW), which is a wholly-owned subsidiary of JFE Shoji.

CCL has also entered into a consent agreement with Queensland Coking Coal Pty Ltd on 16 August 2013 for Sub-Blocks C, D, J and O of CHAR142 within EPC1237. These four Sub-Blocks are adjacent to the east of ML80169 and ML80170.

¹ Tenements relating to the historic mine workings of the Dawson Valley Colliery (Figure 2).



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TITLE Figure 3: Land Ownership		REV 0	DESCRIPTION Original map output	DATE 20/09/13	SCALE 1:45,000	CURRENT ISSUE SIGNATURES		Legend Road Watercourse Estate Cockatoo Coal ML Cockatoo Coal MUA Cockatoo Coal MBL Cockatoo Coal MBL Cockatoo Coal EPC Powerline & Power Pole SHCOP 116 Study Area SHCOP Operational Area	
					SIZE A3	DRAWN MJS	CHECKED BJD	APPROVED BJD	
					DATUM GDA 84				
					PROJECTION MG4 Zone 55				
STATUS FINAL									
PROJECT NO Baralaba Nth					DRAWING NO BBN-026-130920-03-00				



1.4 Purpose of this Document

The purpose of this Project Description is to support an application to the QLD Department of Environment and Heritage Protection (DEHP) for approval to prepare a voluntary Environmental Impact Statement (EIS) under sections 70 and 71 of the *Environmental Protection Act 1994* (QLD) (EP Act) for the BNCOP.

In accordance with the DEHP's *Triggers for Environmental Impact Statements under the Environmental Protection Act 1994 for mining, petroleum and gas activities* (EM1128, Version 2a), the BNCOP would produce 'greater than 2 million tonnes per annum of 'run-of-mine' (unprocessed) ore or coal', and therefore the preparation of an EIS is warranted.

This Project Description has been prepared to provide an overview of the BNCOP to stakeholders and the general public with sufficient information to determine their level of interest in the BNCOP. This Project Description includes all supporting information required by the DEHP's *Application to prepare a voluntary environmental impact statement*, and will also inform the preparation of the draft Terms of Reference for an EIS.

2 Project Description

2.1 Existing/Approved Baralaba Coal Mine Operation

Operations at the Baralaba Coal Mine are conducted 24 hours per day, seven days per week by a mining contractor in accordance with the requirements of Environmental Authority (EA) (Mining Activities) Non Code Compliant Level 1 Mining Project Permit Numbers:

- EPML00223213 – Baralaba Coal Mine; and
- EPML00617113 – Baralaba North / Wonbindi North Mine.

It is acknowledged that the open cut mining operations on ML80169 (held by Baralaba Coal Pty Ltd) and ML80170 (held by Wonbindi Coal Pty Ltd) is operated as a single open cut mining operation by way of the “Baralaba North Mine Project Cooperation Deed”, and is jointly referred to as the Baralaba North / Wonbindi North Mine.

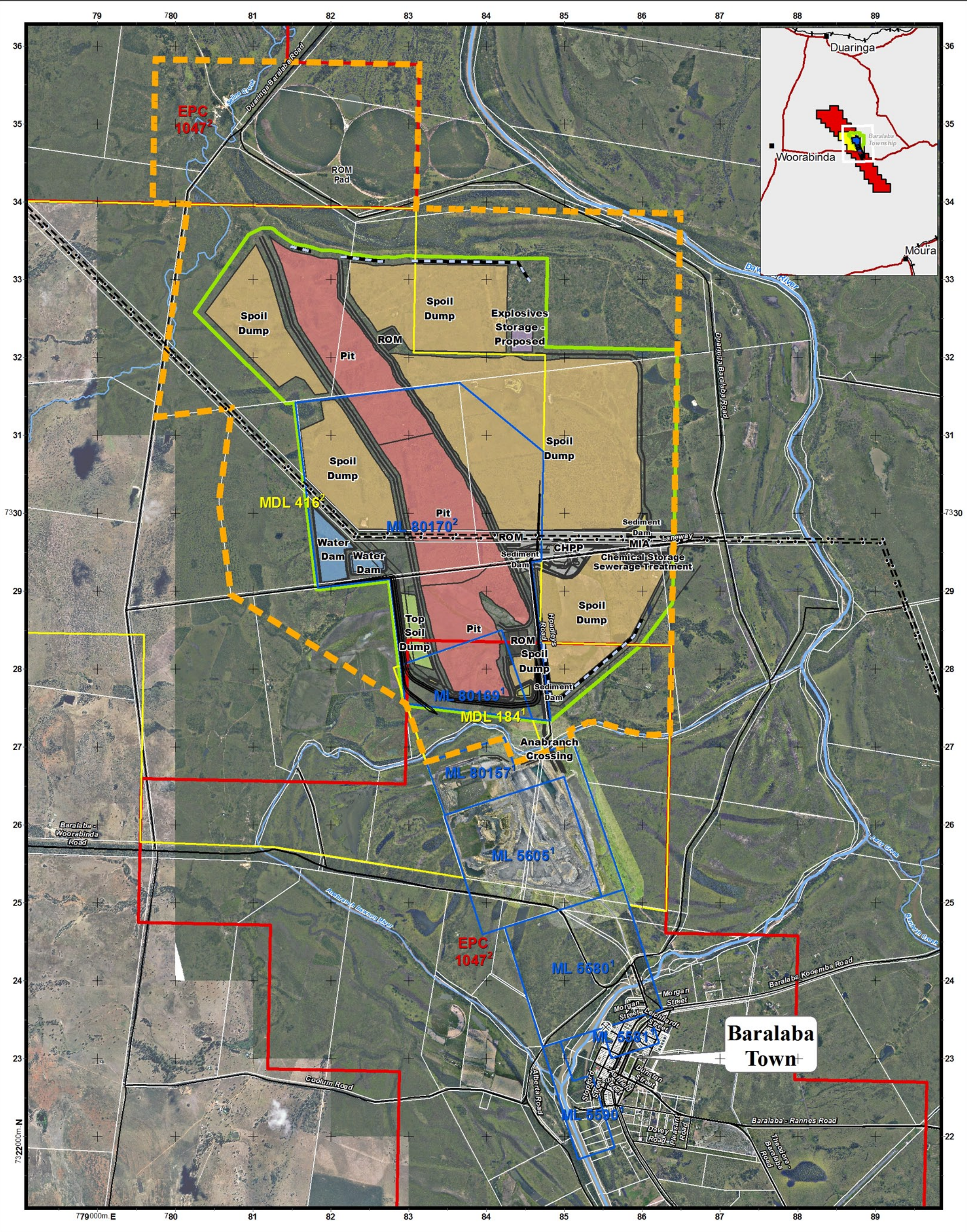
In accordance with EA EPML00223213 and EA EPML00617113, up to 1 Mtpa of run-of-mine (ROM) coal is currently approved to be extracted from the Baralaba North / Wonbindi North Mine (ML80169 and ML80170 combined) and up to 750,000 tonnes per annum (tpa) of ROM coal from Baralaba Central (ML5605 and ML80157 combined), with the total production averaging 1 Mtpa product coal from the Baralaba Coal Mine.

2.2 Project Summary

The proposed life of the BNCOP is 15 years, commencing 1 April 2015 or upon grant of all required approvals.

The general arrangement of the BNCOP uses existing infrastructure and services facilities at the Baralaba Coal Mine and integrates with the development of the approved Baralaba North / Wonbindi North Mine (Figure 4).

Table 1 provides a summary comparison of the existing Baralaba Coal Mine and the BNCOP components.



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TITLE Figure 4: Project Layout		REV	DESCRIPTION	DATE	SCALE 1:45,000	CURRENT ISSUE SIGNATURES		Legend Road..... Watercourse..... Cadastre..... Cockatoo Coal MA..... Cockatoo Coal MLA..... Cockatoo Coal MDL..... Cockatoo Coal EPC..... Powerline & Power Pole..... BNCOP EIS Study Area..... BNCOP Operational Land..... PROPOSED Flood Levee.....		STATUS FINAL		
		0	Original map output	20/09/13	SIZE A3	DRAWN	MJS					
		1			DATUM GDA 94	CHECKED	BJD					
					PROJECTION MGA Zone 55	APPROVED	BJD					
		PROJECT NO Baralaba Nth		DRAWING NO BBN-026-130920-04-00								

PROJECT DESCRIPTION

Table 1 Project Summary

Project Component	Existing/Approved Baralaba Coal Mine	Summary of the BNCOP
ROM Coal Production	ROM coal production up to approximately 750,000 tpa from Baralaba Central and up to approximately 1 Mtpa from Baralaba North / Wonbindi North Mine.	ROM coal production up to approximately 4.1 Mtpa.
Mine Life	Mining operations for at least 15 years (i.e. until 2028).	15 year operations providing approximately 2 years of further operational life (i.e. until 2030), at the increased production rate.
Mining Method	Conventional truck and shovel mining method. Progressive backfilling of mine voids with waste rock behind the advancing open cut mining operations, and where required, continued and expanded placement of waste rock in out-of-pit emplacements adjacent to the pit extents.	Conventional truck and shovel mining method. Progressive backfilling of mine voids with waste rock behind the advancing open cut mining operations, and where required, continued and expanded placement of waste rock in out-of-pit emplacements adjacent to the pit extents.
Mining Operation Hours	24 hours per day, seven days per week.	24 hours per day, seven days per week.
Coal Handling and Preparation	ROM coal hauled to existing ROM pad located on ML 5605. Dry coal screening only.	ROM coal hauled to existing and new ROM pads. Construction and use of a coal handling and preparation plant (CHPP) to achieve product specifications in line with market demand.
Product Coal Types	Pulverized coal injection (PCI) product and several grades of thermal coal.	Increased proportions of high quality low volatile PCI product (up to 100%) and thermal coal.
Product Coal Transport	Product coal haulage using AB triple road-trains along the "Middle Road" (a network of public roads including Theodore-Baralaba Road) to the existing product coal stockpiles and train load-out facility (TLO) located approximately 10 km east of Moura and then transported by rail to the Port of Gladstone.	Road transport of up to 3.5 Mtpa product coal (using AB triple and AAB quad road-trains) along the "Middle Road" to the existing product coal stockpiles and TLO facility, or new product coal stockpiles and TLO facility (subject to separate approvals being in place), and then transported by rail to the Port of Gladstone.
Mine Infrastructure Areas	Administration and maintenance facilities on ML 5605.	Upgrade of administration and maintenance facilities at the Baralaba Coal Mine and establishment of new mine infrastructure areas.
Mine Access	Public access via connection to the Baralaba- Woorabinda Road.	Continued public access via connection to the Baralaba-Woorabinda Road and a new access road connecting the Baralaba-Duringa Road to the new mine infrastructure areas including CHPP.
Water Supply	The current sources of water include: - mine water supplied from pit dewatering (including groundwater inflows); - surface runoff water captured and stored within the environment water dam; and - water supply 'make-up' sourced directly from the Dawson River as required via a licensed agreement.	Water would be supplied according to the following priority (excluding potable water supplies): - mine water supplied from pit dewatering (including groundwater inflows); - recycled process water recovered from the CHPP tailings thickener and belt press filters; - surface runoff water captured and stored within the environment water dam; - water supply 'make-up' sourced directly from the Dawson River as required via a licensed agreement; and - product water from the water treatment plant.
Flood Management	Design 1:1000 Annual Exceedance Probability (AEP) flood levees.	Design 1:1000 Annual Exceedance Probability (AEP) flood levees are proposed to be constructed for the BNCOP.
Workforce and Employment	Approximately 135 people currently employed at the Baralaba Coal Mine.	Ongoing job security for the 135 people currently employed at the Baralaba Coal Mine. The proposed future workforce for the BNCOP is up to approximately 430 people (at peak).

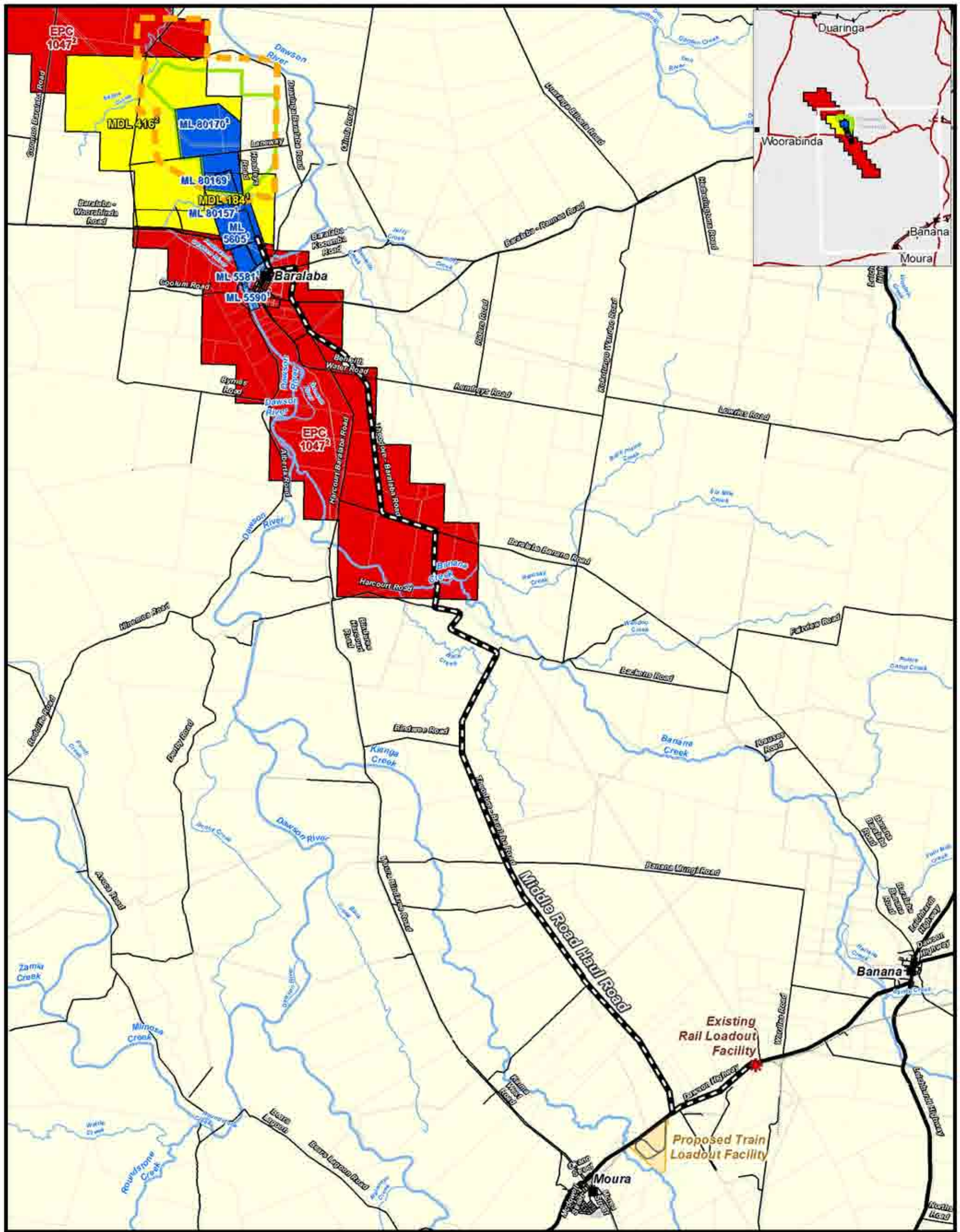


The main activities associated with the development of the BNCOP would include:

- ROM coal production up to 4.1 Mtpa for an additional 15 years (commencing approximately 1 April 2015 or upon grant of all required approvals), including mining operations associated with:
 - continued development of the Baralaba North / Wonbindi North Mine pit;
 - extension of the Baralaba North / Wonbindi North Mine pit to the north within MDL416 / EPC 1047 (both tenements held by Wonbindi Coal Pty Ltd); and
 - waste rock emplacement to the east of the Baralaba North / Wonbindi North Mine pit within EPC 1237 (tenement held by Queensland Coking Coal Pty Ltd).
- exploration activities;
- progressive backfilling of mine voids with waste material behind the advancing open cut mining operations at the Baralaba North / Wonbindi North Mine and/or within the Baralaba Central final void;
- continued and expanded placement of waste material in out-of-pit emplacements adjacent to the pit extents;
- progressive development of new haul roads and internal roads;
- construction and operation of a CHPP at the Baralaba North / Wonbindi North Mine²;
- disposal of CHPP rejects on-site within mine voids behind the advancing open cut mining operations and/or within the Baralaba Central final void;
- progressive development of sediment basins and storage dams, pumps, pipelines and other water management equipment and structures (including levees);
- continued development of soil stockpiles, laydown areas and borrow areas;
- use of upgraded administration and maintenance facilities at the Baralaba Coal Mine and establishment of new mine infrastructure areas in Baralaba North;
- other associated minor infrastructure, plant, equipment and activities, including minor modifications and alterations to existing infrastructure as required to accommodate the increased throughput;
- continued road transport of product coal (using AB triple and AAB quad road-trains) along the "Middle Road" (a network of public roads including Theodore-Baralaba Road) to the product coal stockpiles and TLO facility located approximately 10 km east of Moura, or new product coal stockpiles and TLO facility (subject to separate approvals being in place) (Figure 5); and
- use of existing/new product coal stockpiles and TLO facility for loading of product coal to trains for transport by rail and export via Gladstone.

Based on the planned maximum production rate, approximately 50 million tonnes (Mt) of product coal would be produced during the 15 years of the BNCOP.

² Until the CHPP is commissioned and other relevant approvals and upgrades in place, the BNCOP would make continued use of the existing on-site ROM coal handling and crushing facilities at the Baralaba Coal Mine.



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TITLE Figure 5: Product Road Transport Route		REV 0	DESCRIPTION Original map output	DATE 20/09/13	SCALE: 1:175,000	CURRENT ISSUE DRAWN: MJS		Legend Road: Watercourse: Gasline: Cockatoo Coal ML: Cockatoo Coal BLA: Cockatoo Coal BDL: Cockatoo Coal EPC: Railway: Middle Road Haul road: Existing Train Loadout Facility: Proposed Train Loadout Facility: EPCOP ES Study Area: EPCOP Operational Area:				
		1			DATUM GDA 94	CHECKED: BJD				STATUS FINAL	PROJECT NO Baralaba Nth	DRAWING NO BBN-026-130920-05-00
					PROJECTION MGA Zone 55	APPROVED: BJD						



2.3 Coal Resource, Geological Features and Exploration Activities

The Baralaba Coal Mine lies within the Permo-Triassic aged Bowen Basin. In the southern part of the Bowen Basin, the significant elements are the Comet Ridge anticline in the west and the Mimosa Syncline to the east, which formed during the early Permian extensional tectonic phase.

The Baralaba Coal Mine is situated in a structurally complex zone on the eastern limb of the Mimosa Syncline in the southern Bowen Basin (Figure 1). The economic coal seams lie in the Permian Baralaba Coal Measures, which correlate to the Rangal Coal Measures of the Blackwater Group in other parts of the Bowen Basin.

The coal bearing section of the Baralaba Coal Measures is up to 400 metres thick and contains up to 12 consistent seams. The dominant interseam strata consist of sandstones and siltstones, though finer grained strata such as mudstones also exists throughout the coal measures, and typically adjacent to the roof and floor of the coal seams. The coal measures generally strike in a north to northwesterly direction, and dip relatively steeply at between 25 degrees (°) and 55° to the west. The strata are also variably folded and thrust faulted.

The Baralaba Coal Measures at the Baralaba Coal Mine are almost entirely overlain by Quaternary sediments and outcrop at surface has only been observed along creek and river banks.

Overlying the Baralaba Coal Measures and lying immediately west of where the Coal Measures outcrop at the Baralaba Coal Mine is the Rewan Formation of Triassic age. The unit comprises mainly siltstones and mudstones and is coal barren.

Immediately underlying the Baralaba Coal Measures and outcropping immediately east where the coal measures outcrop at the Baralaba Coal Mine is the Gyranda Formation (Kaloola Member). The Kaloola Member is known to contain minor coal horizons. The Kaloola Member strata are dominantly fine-sandstones and siltstones with subordinate carbonaceous shale, tuffs and banded coal with some coking and thermal properties.

Mine exploration activities would continue to be undertaken in CCL tenements in the vicinity of the BNCOP. These activities would occur within, and external to, the proposed open cut extent and would be used to investigate aspects such as geological features, seam structure and coal/overburden characteristics as input to detailed mine planning and feasibility studies.

Based on the planned maximum production rate, approximately 50 Mt of product coal would be produced from the coal resource during the 15 years of the BNCOP.

2.4 Initial Construction Activities

The BNCOP would utilise existing infrastructure and supporting services at the Baralaba Coal Mine and approved Baralaba North / Wonbindi North Mine. Additional infrastructure and construction/development activities which are required to support the BNCOP (including modifications and alterations to existing infrastructure) would be progressively developed in parallel with ongoing mining operations, including:

- access roads;
- flood levees;
- CHPP;
- mine infrastructure areas;
- sediment dams;
- water dams;
- ROM transfer pads;
- topsoil stockpiles;
- equipment laydown areas; and
- all other ancillary activities necessary to support the BNCOP.

It is anticipated that construction of the BNCOP components to support the planned maximum production rate would take approximately 24 months upon grant of all required approvals.

2.5 Mining Operations

2.5.1 Open Cut Mining Area

The approximate extent of the open cut mining area for the BNCOP, including surface development areas in support of the operations, and in addition to those areas already approved in accordance with EPML00223213 – Baralaba Coal Mine and EPML00617113 – Baralaba North / Wonbindi North Mine is approximately 2,498 ha. The development footprint is shown on Figure 4.

2.5.2 Open Cut Mining Activities

The open cut mining area for the BNCOP would be mined using a conventional truck and shovel mining methods using excavators and haul trucks. The open cut mining area would involve supporting infrastructure such as haul roads, bunding, soil stockpiles, hardstands and water management structures and has been designed to integrate with the existing Baralaba Coal Mine and approved Baralaba North / Wonbindi North Mine operations to minimise the amount of additional infrastructure required.

A summary of the general open cut mining activities and sequence is provided below.



2.5.2.1 Vegetation Clearing

Vegetation would be progressively cleared over the life of the BNCOP ahead of the active mining and waste rock emplacement areas. Specific vegetation clearance procedures (generally consistent with existing procedures at the Baralaba Coal Mine and approved Baralaba North / Wonbindi North Mine) would be developed for the BNCOP.

Topsoil Stripping and Handling

Where stripped topsoils cannot be used directly for progressive rehabilitation, the topsoil would be stockpiled separately. Specific soil management, stockpiling and re-application procedures (generally consistent with existing procedures at the Baralaba Coal Mine and approved Baralaba North / Wonbindi North Mine) would be developed for the BNCOP.

Weathered Overburden Removal

Some weathered or friable overburden (e.g. clays and alluvium) would be removed by scraper, excavator and haul truck, with supporting dozers, and placed in out-of-pit mine waste rock emplacements, or as infill in the mine void, behind the advancing mining operations.

Overburden/Interburden Drill and Blast

Drill and blast techniques are used for the removal of competent overburden and interburden material at the Baralaba Coal Mine and would continue for the BNCOP. To drill both underburden and interburden horizons, a combination of standard rotary drills and rock crawler drills would be used to accommodate both uncommon drill angles or confined bench space. Standard commercial products will be used, with the principal blasting agent being ammonium nitrate fuel oil (ANFO).

Overburden/Interburden Removal and Handling

Overburden and interburden removal would be undertaken by excavator and haul truck, with supporting dozers to expose the underlying coal seams. Overburden and interburden would be placed in out-of-pit mine waste rock emplacements, or as infill in the mine void, behind the advancing mining operations.

Coal Mining and ROM Coal Handling

Coal mining would continue to involve excavators loading ROM coal into haul trucks for haulage to either the existing ROM pad located on ML 5605 or new ROM pads.

Until the CHPP is commissioned and other relevant approvals and upgrades in place, the BNCOP would make continued use of the existing on-site ROM coal handling and crushing facilities at the Baralaba Coal Mine.

Landform Profiling and Rehabilitation

Landform profiling and rehabilitation of disturbed areas would be undertaken progressively over the life of the BNCOP. A detailed description of the rehabilitation strategy and proposed post-mine landform and land use will be provided in the EIS.

The post mining land use considerations (including non beneficial land uses) for the BNCOP is discussed further in section 2.9.

2.6 Processing, Product Loading and Transport

2.6.1 Product Coal Processing and Road Transport

Only dry coal screening is currently undertaken at the Baralaba Coal Mine. Product coal is then loaded by front end loader to AB triple road trains and transported 62 km along the “Middle Road” (a network of private and public roads) to the existing product coal stockpiles and TLO facility located approximately 10 km east of the Moura (Figure 5). The continued use of Middle Road for coal haulage is through existing and amended agreements with Banana Shire Council and the Department of Transport and Main Roads.

Once at full development, ROM coal produced by the BNCOP would be separated into two streams: (1) bypass coal and (2) coal that requires washing.

Bypass coal would be handled in a similar manner to the currently approved operations (i.e. dry coal screening only). Coal would be passed through the mobile screening plant before being transported by AB triple road trains or AAB quad trucks to the product coal stockpiles and TLO facility near Moura. Oversized material from the mobile screening plant would be fed to the CHPP.

Coal that requires washing would be fed to conventional 300 tph (nominal) CHPP. The average yield from the CHPP is estimated to be approximately 82%. Washed coal would be stacked out on the product stockpile prior to blending with bypass coal and/or being placed into AB triple road trains or AAB quad trucks for road transportation to the product coal stockpiles and TLO facility near Moura.

2.6.2 Rail Loading and Transport

Rail haulage (above-rail) arrangements have been negotiated and agreed with Queensland Rail (QR) National Coal.

Contractual agreements for the use of the existing product coal stockpiles and TLO facility will lapse during 2014, therefore CCL proposes to develop new product coal stockpiles and TLO facility to support the proposed mine output of 3.5 Mtpa.



The proposed new product coal stockpiles and TLO facility is located approximately 5 km up-line and east of the township of Moura, adjacent to the Dawson Highway and to the east of Kianga Creek (Figure 5). Assessment and approval of the new product coal stockpiles and TLO facility is currently subject to separate assessment and approval.

CCL is party to the Wiggins Island Rail Project Deed with Aurizon Network Pty Ltd (Aurizon Network) for 3.0 Mtpa of the Stage One capacity, adding to the existing export capacity of 0.5 Mtpa through Gladstone's RG Tanna Coal Terminal (RGCT). This new arrangement provides CCL with a combined tonnage total of 3.5 Mtpa.

In addition to the Aurizon Network rail infrastructure, coal from BNCOP would also traverse approximately 2.6 km of the QR rail network. The Wiggins Island Rail Project Deed places additional obligations on Aurizon Network to acquire and upgrade this rail infrastructure in order to consolidate the ownership of main line track to a single owner and operator.

2.6.3 Port Operations

Coal produced at the Baralaba Coal Mine is currently transported to the RGCT for export.

CCL is one of eight companies that comprise the users for the development of Stage One of the WICET, with an allocation of 3.0 Mtpa. The WICET is currently under construction at Golding Point, to the west of the existing RGCT and Barney Point Coal Terminal (BPCT) in the Port of Gladstone (Figure 1). Once the WICET is constructed, Gladstone Port Corporation (a State-owned corporation) will be the operator on behalf of the WICET consortium.

2.7 Waste Rock and Reject Management

The BNCOP waste rock emplacement strategy would be generally consistent with current Baralaba Coal Mine practices with progressive backfilling of mine voids with waste rock behind the advancing open cut mining operations at the Baralaba North / Wonbindi North Mine and/or within the Baralaba Central final void and continued and expanded placement of waste rock in out-of-pit emplacements adjacent to the pit extents.

Figure 4 shows the approximate extents of the planned mine waste rock emplacements.

CHPP rejects would be disposed of on-site within mine voids behind the advancing open cut mining operations and/or within the Baralaba Central final void.

2.8 Water Management

The existing water management systems at the Baralaba Coal Mine and Baralaba North / Wonbindi North Mine would be progressively augmented as water management requirements change over the life of the BNCOP. Water management infrastructure proposed for the BNCOP include flood levees, diversion drains, sediment basins, storage dams, pumps and pipelines.

2.8.1 Water Consumption

The water consumption requirements for the BNCOP and water balance of the system would fluctuate with climatic conditions and as the extent of the mining operations change over time. A summary of main water demands for the BNCOP (i.e. CHPP water supply and dust suppression) is provided below. In addition, water would be required for washdown of mobile equipment and other minor non-potable uses, such as fire fighting.

CHPP Water Supply

The CHPP make-up water demand rate is related directly to the rate of ROM coal feed to the CHPP, and the rate of production and moisture content of the CHPP rejects.

Based on a preliminary site water balance (CCL, 2013), it is estimated that the CHPP may require in the order of approximately 211 megalitres (ML) per annum over the life of the BNCOP. A detailed site water balance would be completed as a component of the EIS to determine the CHPP water supply requirements.

Dust Suppression

The BNCOP haul road dust suppression demand would be highly seasonal. Based on experience at the Baralaba Coal Mine, the demand for haul road dust suppression is anticipated to be approximately 1.1 ML per day (ML/day) on average, comprising approximately 0.7 ML/day for the mining operations and 0.36 ML/day for haulage along the Middle Road.

2.8.2 Water Sources

The sources of water used at the BNCOP would continue as per the existing Baralaba Coal Mine, and where practicable, would be supplied according to the following priority (excluding potable water supplies):

- mine water supplied from pit dewatering (including groundwater inflows);
- recycled process water recovered from the CHPP tailings thickener and belt press filters;
- surface runoff water captured and stored within the water dam;
- water supply 'make-up' sourced directly from the Dawson River as required via a licensed agreement; and
- product water from the water treatment plant.

In addition to the water supply sources above, a substantial water reservoir exists in the historic workings of the Dawson Valley Colliery within the tenements held by Baralaba Coal Pty Ltd at the Baralaba Coal Mine, and may be used as a contingency water supply similar to past practices during drought conditions.



The water supply infrastructure requirements would be aimed to ensure flexibility of water supply source options available within the mining and processing operations, and cater for site conditions in the extremes of wet and dry conditions that may prevail throughout the life of the BNCOP.

Based on a preliminary site water balance (CCL, 2013), it is anticipated that the CHPP operations may require up to 76 ML per annum of 'make-up' water supply sourced from the Dawson River.

CCL currently holds 400 ML (median priority – Zone M), 100 ML (high priority – Zone D) and 50 ML (median security – Zone D) of volumetric licence water allocation from the Dawson River under the *Water Act 2000* (QLD), which are applied and operated in accordance with the *Water Resource Plan (Fitzroy Basin) Plan 2011* and *Fitzroy Basin Resource Operations Plan 2011*, respectively.

Notwithstanding the above, a detailed site water balance would be completed as a component of the EIS to determine the 'make-up' water supply requirements for the BNCOP.

2.9 Post Mining Land Use

Consistent with the management framework developed for the Baralaba Coal Mine and Baralaba North / Wonbindi North Mine in accordance with EPML00223213 – Baralaba Coal Mine and EPML00617113 – Baralaba North / Wonbindi North Mine, CCL would prepare a **Post Mine Land Use Plan (PMLUP)** for the BNCOP.

Rehabilitation goals, objectives, indicators and completion criteria would be developed and included in a **Rehabilitation Management Plan**. The PMLUP would describe how the rehabilitation goals and objectives for the BNCOP would be achieved and include a **Rehabilitation Monitoring Program**.

2.9.1 Non-Beneficial Land Use

At the cessation of mining, a final void would remain at the northern extent of the open cut which is located outside of the Dawson River flood plain. The surface catchment of the final void would be designed to a suitable minimum by the use of upslope diversions/bunds and contour drains around the perimeter.

Inflows into the final void would comprise incident rainfall, runoff and groundwater (including waste rock emplacement infiltration). Once mining operations and backfilling activities in the open cut cease, inflows to the final void would no longer be collected and pumped out, and as a result, the void would gradually begin to fill with water. It is anticipated that the final void would create a localised groundwater sink which would prevent salts or poorer water quality groundwater from migrating out from the Project area and prevent adversely impacting the beneficial use of local groundwater aquifers. A final void water recovery analysis would be conducted as part of the EIS.

An adaptive management approach to the final void design and mine closure planning would be adopted over the life of the BNCOP.

3 Existing Environment

3.1 Climate

The climate of the Baralaba region is described as sub-tropical, with higher temperatures, higher rainfall and higher evaporation occurring over the summer months.

CCL has installed an on-site meteorological station at the Baralaba Coal Mine for climate monitoring.

3.2 Land Use and Soils

The area is located within the central region of the Brigalow Belt Bioregion, and has creek systems typical of semi-arid Australia. Such systems contain very little to no basal flows during the dry season, contrasting with the wet season, when high flow events are experienced.

Land in the Baralaba district is predominately used for rural activities including dairy farming, beef cattle grazing and fattening, and limited crop cultivation. Crops are generally restricted to providing forage for cattle, with *Leucaena* well-established within the area. Exotic improved pastures dominated by buffel grass are also common, while crops of cotton and wheat are produced on an opportunistic basis.

The land is predominantly privately owned as shown on Figure 3.

Soil surveys have been previously undertaken at the Baralaba Coal Mine and surrounds to identify the principal soil types and their relative distribution including:

- Soil mapping, stripping recommendations and pre-mining land suitability for Stage 2 of the proposed Baralaba Coal Mine Lease Extension (Soil Mapping and Monitoring Pty Ltd, 2010); and
- Pre-mining Agricultural Land Suitability and Soil Reuse Recommendations – Wonbindi North Area, Baralaba QLD (North Queensland Soil Assessment, 2011).

A review of the relevant trigger maps for the properties in the area indicate that areas of potential Strategic Cropping Land (SCL) are present and therefore, an SCL Validation Assessment would be required under the *Strategic Cropping Land Act 2011* (QLD).

3.3 Topography and Surface Water

The topography of the Baralaba area is dominated by the Dawson River floodplain. The area is relatively flat with only slight undulation, with ground elevations ranging between 75 and 105 m Australian Height Datum (AHD). The Baralaba township is sited adjacent to the Dawson River on relatively high ground, at approximately 93m AHD.

The major surface water drainage features include the Dawson River and its tributaries including the Dawson River Anabranch, which flows in an easterly direction and lies north of the Baralaba Central pit and south of the boundary of the Baralaba North / Wonbindi North Mine pit (Figure 2).



Flows in the Dawson River are regulated by the Neville Hewitt Weir near the township of Baralaba, and the weir maintains water levels in the river above what would otherwise be the natural levels upstream of the weir. Flow in the Dawson River is driven by summer dominant precipitation.

Besides the Dawson River and major Anabranche distributaries, the area contains a series of ephemeral watercourses, which become minor streams only during flood flows.

A surface water monitoring network has been established by CCL at the Baralaba Coal Mine and surrounds.

3.4 Groundwater

Previous groundwater studies undertaken for CCL at the Baralaba Coal Mine and surrounds include:

- Baralaba Coal Mine groundwater regime and groundwater monitoring program (AGE, 2005);
- Baralaba North – mine extension groundwater management plan (AGE, 2012);
- Report on groundwater seepage studies and operational monitoring review Baralaba North project (JBT, 2012);
- Baralaba North mine water management support groundwater field installation (SKM, 2013); and
- Baralaba South EIS Groundwater Studies (SKM, 2012, unpublished).

The results of these groundwater studies indicate that two main hydrogeological units exist within the Baralaba area: Quaternary aged shallow alluvial aquifers and the Permian aged Blackwater Group.

The Quaternary aged alluvial aquifer is associated with modern and relict drainage lines of the Dawson River and its tributaries. It comprises an upper layer of clay and silty clay overlying a basal layer of sand and gravel, ranging in total thickness up to 25 m. The thickness of the unit generally decreases away from modern drainage lines and it is known to be absent in some parts of the Baralaba region. The degree of saturation of the alluvial aquifer is highly variable, with some locations displaying up to 5 m of water at the base of the aquifer in areas close to present surface water channels, and at other locations the aquifer is shown to be dry.

Groundwater has been encountered in both the coal seams and interburden of the Permian aged Blackwater Group, but is principally associated with the coal seams.

The Baralaba Coal Mine is located within the Dawson River Groundwater Management Unit, which is a Category 1 low-level resource that has no abstraction allocations, primarily due to the poor water quality. The region is not a Declared Sub-artesian groundwater area, and bores can be drilled for irrigation and stock use without a licence from DNRM, thus additional unregistered bores may be present. However, anecdotal evidence indicates that the surrounding crop and cattle farms generally rely on water from the Dawson River and surface water retention (i.e. dams).

A groundwater monitoring network has been established by CCL at the Baralaba Coal Mine and surrounds.

3.5 Vegetation and Fauna Habitats

The majority of the area surrounding the Baralaba Coal Mine is utilised for grazing and cultivation purposes and therefore is predominantly cleared with only scattered patches and riparian corridors of vegetation.

The flora and fauna habitats in the general locality comprise open-forest, woodland, waterways or wetlands environments. The most prominent feature is the Dawson River which traverses along the eastern boundary of the area.

3.6 Noise and Air Quality

The local environment is typically rural, with noise generation being associated with rural activities including grazing, land clearing, cropping and routine farming activities, and with traffic on unsealed roads. Apart from the existing mining operations at the Baralaba Coal Mine, there is no other industry in the surrounding environment.

The local air shed is typically rural, with dust generation being associated with rural activities including grazing, land clearing, cropping and routine farming activities, and with traffic on unsealed roads. Climatic conditions, such as drought and high winds, contribute to the observed dust levels. Hence, dust generation is highly variable.

Noise and dust monitoring networks have been established by CCL at the Baralaba Coal Mine and surrounds.

3.7 Cultural Heritage

CCL has entered into a Cultural Heritage Investigation Management Agreement (CHIMA) with the Gaangalu Nation and was approved as a cultural heritage management plan under the *Aboriginal Cultural Heritage Act 2003* (QLD) on 12 August 2013. The plan provides for the engagement of the indigenous groups prior to the commencement of any disturbance works, which allows for an assessment of the cultural heritage values within the proposed area of disturbance, and for the development of appropriate management strategies.

The historic Dawson Valley Colliery (part of Mt Morgan Gold Mine) is located on the inactive leases currently held by Baralaba Coal Pty Ltd. In 2009, the Heritage Council included the Dawson Valley Colliery on the Queensland Heritage Register (Place ID 602723). A Conservation Management Plan has been developed for the historic site.



4 Scope of Environmental Assessment

A preliminary environmental risk review was conducted by CCL to identify potential environmental issues associated with BNCOP in order to identify the required level and scope of environmental assessment for key issues (to inform the draft Terms of Reference). The list of potential environmental issues identified during the preliminary environmental risk review is provided in Attachment 1, and were sorted into the following categories:

- flora and fauna;
- air quality;
- noise and blasting;
- rehabilitation, final landforms and voids;
- surface water;
- soils and agriculture;
- traffic;
- groundwater;
- visual;
- cultural heritage; and
- waste and land contamination.

A voluntary EIS will be prepared for the BNCOP. CCL will submit an accompanying draft Terms of Reference for carrying out an EIS to the DEHP's chief executive in accordance with section 41 of the EP Act. The EIS would be prepared in accordance with the DEHP's EIS Terms of Reference for the BNCOP.

For the purposes of defining the scope of the BNCOP EIS, other components of CCL's Baralaba Expansion Project and/or related statutory requirements which are subject to separate assessment, agreements and approvals may include, but are not necessarily limited to, the following:

- Bridge crossing of the Dawson River Anabranh for operations at the Baralaba Coal Mine and Baralaba North / Wonbindi North Mine under the *Sustainable Planning Act 2009* (QLD);
- Riverine Protection Permits under the *Water Act 2000* (QLD);
- Development Permit for Referable Dams under the *Water Act 2000* (QLD);
- Accommodation Projects (including staged expansions of the Baralaba Town Caravan Park) under the *Sustainable Planning Act 2009* (QLD);
- mining lease applications within MDL416 / EPC1047 / EPC1237 for the BNCOP under the *Mineral Resources Act 1989* (QLD);
- assessment of potential impacts of the BNCOP on matters of national environment significance (MNES) under the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth);
- interactions with oil/gas pipelines under the *Petroleum Act 1923* (QLD);

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- co-development agreements with holders of petroleum leases under the *Mineral Resources Act 1989* (QLD);
- Native Title requirements under the *Native Title Act 1993* (Commonwealth) and *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Commonwealth);
- preparation of an appropriate Indigenous Cultural Heritage Management Plan (CHMP) under the *Aboriginal Cultural Heritage Act 2003* (QLD);
- approval for connection of supply and load increase at the Baralaba Town Caravan Park, TLO and Baralaba North / Wonbindi North Mine in accordance with QLD's National Electricity Code;
- realignments of the existing Powerlink electricity transmission line within Baralaba North / Wonbindi North Mine;
- upgrades to existing and/or construction and operation of the new product coal stockpiles and TLO under the *Sustainable Planning Act 2009* (QLD);
- Controlled Action approval for the construction and operation of the new product coal stockpiles and TLO under the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth);
- Ancillary Works and Encroachment Approval for State Controlled Roads for the product coal stockpiles and TLO facility under the *Transport Infrastructure Act 1994* (QLD); and/or
- Approval to Interfere with a railway line for the new product coal stockpiles and TLO facility under the *Transport Infrastructure Act 1995* (QLD).

5 Environmentally Relevant Activities

The Environmentally Relevant Activities (ERAs) under Schedule 2A and Schedule 2 of the *Environmental Protection Regulation, 2008* (QLD) listed in Table 2 with corresponding aggregate environmental score (AES) are proposed to be undertaken as part of the BNCOP (Figure 4).

Table 2 Environmentally Relevant Activities

Environmentally Relevant Activities (ERA)		Aggregate Environmental Score (AES)
Schedule 2A, Environmental Protection Regulation 2008 (QLD)		
• ERA 13 – Mining Black Coal		128
Schedule 2, Environmental Protection Regulation 2008 (QLD)		
• ERA 8 – Chemical Storage	8[1][c] 500m ³ or more of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3	85
• ERA 16 – Extractive and Screening Activities	16[3][c] screening 1,000,000t or more of material, in a year	47
• ERA 33 – Crushing, Milling, Grinding and Screening	33[1] crushing, grinding, milling or screening more than 5,000t of material in a year	No score
• ERA 63 – Sewage Treatment	63[1][a][ii] operating 1 or more sewage treatment works at a site that have a total daily peak design capacity of 21EP to 100EP	27

Note: m³ = cubic metres
AS = Australian Standard
t = tonnes
EP = equivalent persons

6.3 Consultation Mechanisms

CCL has developed a stakeholder engagement strategy for the BNCOP. The stakeholder engagement strategy and supporting documentation (including a comprehensive Community Engagement Plan) has been implemented prior to and during the development and lodgement of this Project Description, and will be implemented during:

- development and finalisation of the Terms of Reference;
- during preparation and lodgement of the EIS; and
- post EIS lodgement, exhibition and supplementary EIS development, lodgement and exhibition prior to determination.

The stakeholder engagement strategy and supporting documentation was used in developing the list of affected and interested persons listed in sections 6.1 and 6.2. Implementation of the stakeholder engagement strategy will include consultation with all affected and interested persons listed in sections 6.1 and 6.2, and any other relevant stakeholders identified during its implementation.

A range of consultation mechanisms have been proposed for implementation during the assessment and approvals process for the BNCOP including, but not necessarily limited to, the following:

- community information sessions including feedback forms;
- publication of CCL office details;
- publishing of factsheets and Frequently Asked Questions (FAQs);
- recording of opportunistic stakeholder interactions including one-on-one meetings;
- local government (council) briefings;
- State government department briefings;
- Commonwealth government department briefings;
- letters, advertising and notifications;
- site tours;
- newsletters and bulletins;
- targeted assessment summaries (for local freehold / leasehold / State landowners);
- media releases;
- regular updates and maintenance of the CCL website;
- DEHP website; and
- establishment of a Community Advisory Committee (CAC).

Consultation with the registered Native Title claimants (Gaangalu Nation People) will be conducted in accordance with the requirements of the *Native Title Act 1993* (Commonwealth) in relation to Native Title issues. Consultation in relation to Indigenous cultural heritage will be conducted with the registered Native Title claimants (Gaangalu Nation People) in accordance with the requirements of the *Aboriginal Cultural Heritage Act 2003* (QLD).



7 References

Australasian Groundwater and Environmental Consultants (AGE) (2005) *Baralaba Coal Mine groundwater regime and groundwater monitoring program.*

Australasian Groundwater and Environmental Consultants (AGE) (2012) *Baralaba North – mine extension groundwater management plan.*

Cockatoo Coal Limited (2013) *Baralaba Coal Expansion Project – Supplementary Bankable Feasibility Study.*

JBT Consulting (JBT) (2012) *Report on groundwater seepage studies and operational monitoring review Baralaba North project.*

North Queensland Soil Assessment (2011) *Pre-mining Agricultural Land Suitability and Soil Reuse Recommendations – Wonbindi North Area, Baralaba QLD.*

SKM (2013) *Baralaba North mine water management support groundwater field installation.*

SKM (2013) (unpublished) *Baralaba South EIS Groundwater Studies.*

Soil Mapping and Monitoring Pty Ltd (2010) *Soil mapping, stripping recommendations and pre-mining land suitability for Stage 2 of the proposed Baralaba Coal Mine Lease Extension.*

Attachment 1

Preliminary Environmental Risk Register

Baralaba North Continued Operations Project
Preliminary Environmental Risk Register

Issue Reference	Identified Issues
Flora and Fauna	
1	<i>Fragmentation of habitats impacting fauna movement.</i>
2	<i>Loss of biodiversity associated with clearing of riparian habitat.</i>
3	<i>Increased bushfire risk (e.g. spontaneous combustion).</i>
4	<i>Potential impacts on State listed threatened species.</i>
5	<i>Potential impacts on Federal listed threatened species.</i>
6	<i>Increase in weed species and feral vertebrate fauna.</i>
7	<i>Ensuring offsets cater for impacts on threatened species.</i>
Air Quality	
8	<i>Potential for an increase in dust and aerial contaminants on homes in region resulting in contamination of tank water supplies.</i>
9	<i>Potential impacts of mine-generated dust on neighbouring landholder crops.</i>
10	<i>Blasting effects - including fume and dust emissions.</i>
11	<i>Mine site dust emissions.</i>
12	<i>Potential for odorous emissions (e.g. spontaneous combustion).</i>
13	<i>Potential increase in greenhouse gas emissions.</i>
Noise and Blasting	
14	<i>Mine site noise emissions.</i>
15	<i>Potential effects of noise emissions on surrounding landowners.</i>
16	<i>Potential effects of blast vibration on nearby buildings.</i>
17	<i>Potential impacts of blast fly rock (off-site).</i>
18	<i>Potential for increases in noise levels associated with additional truck and rail movements on public roads and rail lines.</i>
Rehabilitation and Final Landforms/Void	
19	<i>Long-term stability and rehabilitation of CHPP rejects backfilled in the pit.</i>
20	<i>Final landforms and potential restrictions for future land use.</i>
21	<i>Final void and associated surface water and groundwater management.</i>
22	<i>Stability of final landform/levees and final void location.</i>
23	<i>Mine site rehabilitation performance (e.g. potential failure due to soil nutrient deficiency).</i>
24	<i>Management of mine waste rock (e.g. geochemistry considerations).</i>
25	<i>Final void - risk of spill.</i>
Surface Water	
26	<i>Impacts on flooding in the Dawson River and adjacent floodplain regime (during flood events).</i>
27	<i>Drainage disruption to the east of eastern waste rock emplacements (i.e. reduction in catchment and therefore flows to farm dams).</i>
28	<i>Potential for inadequate water supply for CHPP and dust suppression (and consequent impacts on dust emissions).</i>
29	<i>Excision of natural catchment and consequent impacts (during and post-mining) on downstream surface water flows.</i>
30	<i>Flooding risk of mine infrastructure.</i>
31	<i>Availability of water licences to meet CHPP water supply requirements over the life of the operation.</i>
32	<i>Impacts of continued mine water releases on Dawson River downstream.</i>
33	<i>Potential for generation of sediment and erosion during construction and soil stripping.</i>
34	<i>Mine water containment and potential for significant mine water discharge in extreme weather events.</i>
35	<i>Potential inability to comply with Environmental Authority water quality limits for water releases.</i>
36	<i>Site access for personnel, fuel and coal transport during flooding events.</i>
Soils and Agriculture	
37	<i>Consideration of draft Priority Agricultural Area (PAA) mapping and potential impacts on those areas.</i>
38	<i>Potential for CCL relationships with members of the community to be tested as a result of impacts on existing grazing land.</i>
39	<i>Potential impacts on Strategic Cropping Land.</i>
Traffic	
40	<i>Impacts of increased traffic on Baralaba-Duaringa Road and interaction with school bus timetables.</i>
41	<i>Public road usage impacts and reduced intersection performance.</i>
Groundwater	
42	<i>Potential impacts on alluvial groundwater.</i>
43	<i>Potential impacts on groundwater users/landholder bores.</i>
44	<i>Potential impacts on Great Artesian Basin springs.</i>
45	<i>Potential for high alluvial groundwater inflows and potential inundation of pit (disruption to mining).</i>
46	<i>Potential impacts on groundwater dependent ecosystems (e.g. stygofauna).</i>
Visual	
47	<i>Visual impacts from night-lighting and mine landforms.</i>
Cultural Heritage	
48	<i>Effects of the Project on Indigenous cultural heritage.</i>
49	<i>Opportunities and engagement with the Woorabinda community.</i>
50	<i>Effects of the Project on non-Indigenous historical cultural heritage.</i>
Waste and Land Contamination	
51	<i>Disposal of mine wastes (e.g. tyres).</i>
52	<i>Management of contaminated land (if identified).</i>
Socio-Economic	
53	<i>Perceived social impacts on nearby and regional towns (e.g. Baralaba, Moura, etc.).</i>
54	<i>Potential impacts on community (agricultural) resources.</i>
55	<i>Impacts of closure of the site on the community.</i>
56	<i>Perception of surrounding properties being devalued as a consequence of ongoing mining operations.</i>
57	<i>Socio-economic benefits to the region and State.</i>

