Narrabri Underground Mine Stage 3 Extension Project

Scoping Report

In Support of a Request for Secretary's Environmental Assessment Requirements

March 2019

WHITEHAVEN COAL

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EXECUTIVE SUMMARY

The Narrabri Mine is an existing underground coal mining operation situated in the Gunnedah Coalfield. The mine is located approximately 25 kilometres (km) south-east of Narrabri and approximately 60 km north-west of Gunnedah, within the Narrabri Shire Council (NSC) Local Government Area (LGA), in the New England North West region of New South Wales (NSW).

Narrabri Coal Operations Pty Ltd (NCOPL), on behalf of the Narrabri Mine Joint Venture, is seeking a Gateway Certificate for an underground extension to the south of the existing Narrabri Mine (the Narrabri Underground Mine Stage 3 Extension Project [the Project]).

The existing Narrabri Mine extracts coal from the Hoskissons Seam using underground longwall mining methods. Project Approval 08_0144 allows for the production and processing of up to 11 million tonnes per annum (Mtpa) of run-of-mine (ROM) coal until July 2031. ROM coal is processed at the Narrabri Mine coal handling and preparation plant (CHPP) to produce thermal and pulverised coal injection product coal. Product coal is then transported from site by rail.

NCOPL is seeking a new Development Consent to extend the underground mining areas at the Narrabri Mine to gain access to additional areas of ROM coal reserves within Exploration Licence 6243. This extension would also include development of supporting infrastructure, an extension to the mine life and continued use of existing infrastructure.

The Project would provide continued employment of the existing Narrabri Mine residential workforce, with some short-term increases possible (for construction and potential additional development requirements).

Key environmental issues associated with the Project are likely to be:

- Subsidence effects associated with longwall mining.
- Potential impacts on surface water and groundwater resources.
- Potential impacts on biodiversity associated with clearing for supporting surface infrastructure.
- Potential impacts on Aboriginal cultural heritage items.
- Potential impacts on agricultural resources.
- Potential impacts of air and noise emissions associated with the processing, handling and transportation of coal on the surface.
- Potential direct and indirect greenhouse gas emissions.

Potential impacts would be comprehensively assessed in the Project Environmental Impact Statement.

A Social Impact Assessment Scoping Report was undertaken. As part of this, the existing Community Consultative Committee has been consulted regarding the potential social effects of the Project. Relevant points of note:

- The Narrabri area is largely an agricultural area, with cotton, cereal crops (e.g. wheat) and sheep and cattle grazing making up the primary land uses. Forestry and mining comprise other land uses.
- The Project would result in the continued employment of the existing residential workforce of approximately 370 (with some short-term increases possible); therefore, no major changes to demand for public infrastructure are anticipated.
- Potential impacts of the Project are generally expected to be similar in nature to the existing Narrabri Mine.
- A Social Impact Assessment would be included in the Project Environmental Impact Statement.

A stakeholder engagement program has been developed for the Project. Key objectives of this program are to:

- engage with government and public stakeholders about the Project;
- seek input from key stakeholders on elements of the Project;
- recognise and respond to local interest or concerns regarding the Project; and
- continue the ongoing dialogue between NCOPL and stakeholders initiated through the development and operation of the Narrabri Mine.

1 INTRODUCTION

1.1 PURPOSE AND STRUCTURE OF THIS DOCUMENT

The Narrabri Mine is an existing underground coal mining operation situated in the Gunnedah Coalfield. The mine is located approximately 25 kilometres (km) south-east of Narrabri and approximately 60 km north-west of Gunnedah, within the Narrabri Shire Council (NSC) Local Government Area (LGA), in the New England North West region of New South Wales (NSW) (Figure 1).

The Narrabri Mine is operated by Narrabri Coal Operations Pty Ltd (NCOPL), on behalf of the Narrabri Mine Joint Venture, which consists of Whitehaven Coal Limited's wholly owned subsidiary Narrabri Coal Pty Ltd (70 percent [%]), Upper Horn Investments (Australia) Pty Ltd (7.5%), J-Power Australia Pty Limited (7.5%), EDF Trading Australia Pty Limited (7.5%), and Posco Daewoo Narrabri Investment Pty Limited and Kores Narrabri Pty Limited (7.5%).

Existing mining operations are undertaken in accordance with Project Approval 08_0144 (as modified), the Approval Decision (EPBC 2009/5003) under the Commonwealth *Environment Protection and Biodiversity Conservation Act, 1999* (EPBC Act) and the conditions of Mining Lease (ML) 1609.

NCOPL is seeking a new Development Consent to extend the underground mining areas at the Narrabri Mine to gain access to additional areas of run-of-mine (ROM) coal reserves within Exploration Licence (EL) 6243. This extension would also include development of additional supporting infrastructure, a mining rate increase, an extension to the mine life and continued use of existing infrastructure. The proposal is herein referred to as the Narrabri Underground Mine Stage 3 Extension Project (the Project).

This document has been prepared to provide a description of the Project to key State regulatory agencies to initiate the preparation of the Secretary's Environmental Assessment Requirements (SEARs) in accordance with clause 3 of Schedule 2 of the NSW *Environmental Planning and Assessment Regulation, 2000* (EP&A Regulation). The SEARs will identify any further matters that will need to be addressed in the Environmental Impact Statement (EIS).

The Project will also be referred to the Commonwealth Minister for the Environment and Energy for consideration as to whether the Project meets the criteria of a 'Controlled Action' and requires approval under the EPBC Act.

The SEARs will be prepared by the NSW Department of Planning and Environment (DP&E) in consideration of:

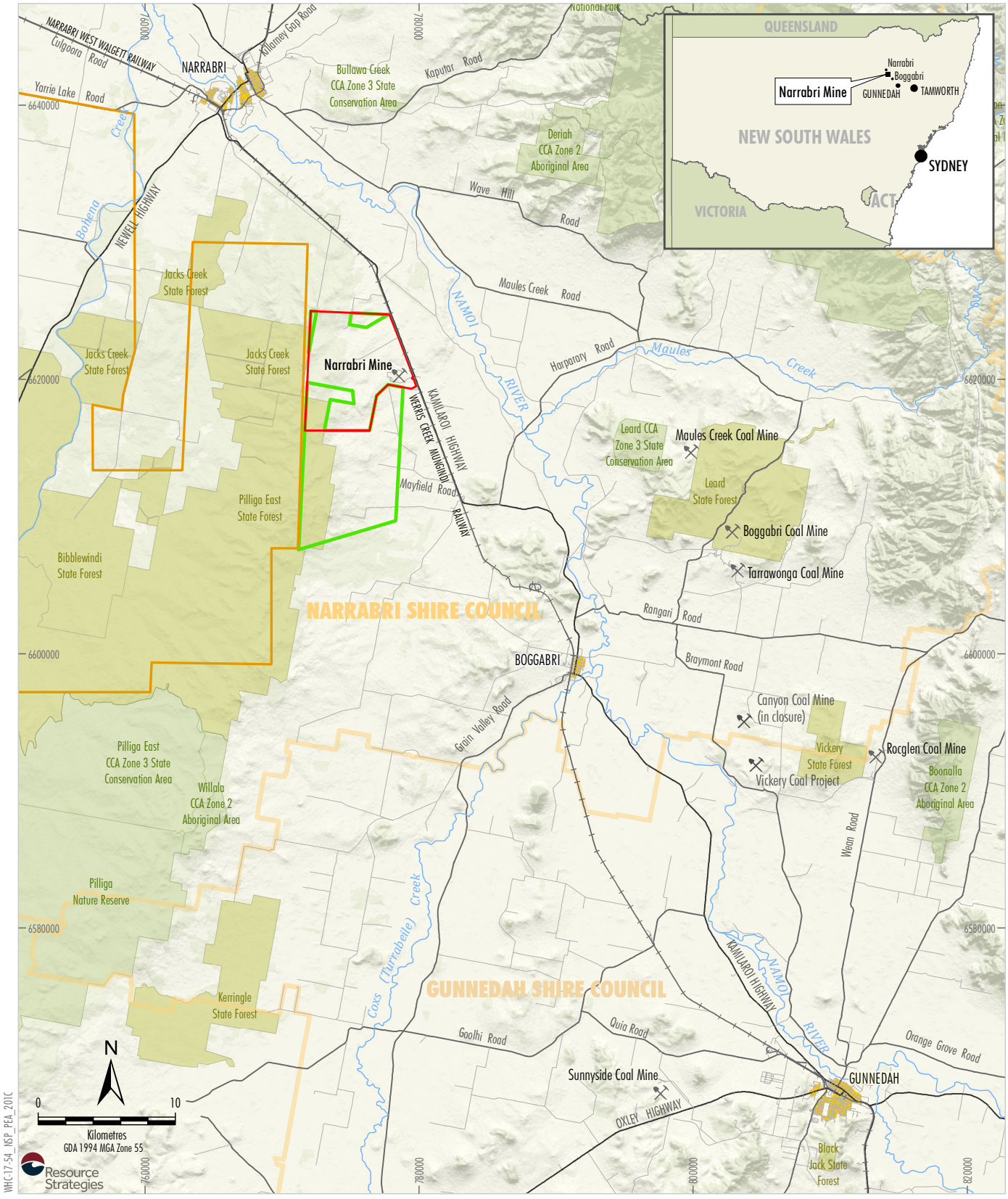
- this document;
- a Social Impact Assessment (SIA) Scoping Report;
- issues raised by relevant regulatory agencies;
- *Indicative Secretary's Environmental Assessment Requirements for State Significant Mining Developments* (NSW Government, 2015a);
- the decision of the Commonwealth Minister for the Environment and Energy regarding the referral of the relevant 'Action' under the EPBC Act;
- any recommendations of the Mining and Petroleum Gateway Panel for any gateway certificate issued in relation to the Project; and
- applicable guidelines and statutory considerations.

This document has been prepared in consideration of the *Mine Application Guideline* (NSW Government, 2015b) and the Draft *Scoping an Environmental Impact Statement* Guideline (NSW Government, 2017) and is structured as follows:

Section 1 Introduction – provides background to the approved Narrabri Mine and an overview of the Project.

Section 2 Strategic and Statutory Context – summarises the characteristics of the target coal resource, describes the local and regional context of the Project, and outlines the permissibility of the Project, potential relevant statutory planning instruments and strategic planning documents.

Section 3 Project Description and Project Rationale – provides a concise description of the Project, indicates the types of activities that would be undertaken and includes a description of the rationale for the Project.



LEGEND

- Mine Site
- Proposed Narrabri Gas Project (Santos NSW [Eastern] Pty Ltd)
- Mining Lease (ML 1609)
- Exploration Licence (EL 6243)
- Local Government Boundary
- State Forest
- State Conservation Area, Aboriginal Area

Source: Department of Land and Property Information (2017); NSW Department of Industry (2017); Geoscience Australia (2011)

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NARRABRI STAGE 3 PROJECT

Regional Location

Figure 1

Section 4 Preliminary Environmental Impact Assessment – identifies key environmental issues of particular relevance to the Project, outlines the proposed level and scope of environmental assessment, and identifies strategies to address the impacts identified.

Section 5 Preliminary Social Significance Assessment – describes the existing social profile and potential social impacts associated with the Project.

Section 6 Community and Other Stakeholder Engagement – outlines consultation with relevant stakeholders which has already been, and is proposed to be, carried out for the Project.

Section 7 Conclusion – provides a summary of what is proposed to be included in the EIS.

Section 8 References.

1.2 OVERVIEW OF THE NARRABRI MINE

Stage 1 of the Narrabri Mine was approved under Part 3A of the NSW *Environmental Planning and Assessment Act, 1979* (EP&A Act) in 2007 and involved initial site establishment activities and continuous miner mining operations.

Project Approval 08_0144 for Stage 2 of the Narrabri Mine was issued under Part 3A of the EP&A Act in 2010 and allowed the mine to convert to a longwall mining operation.

The Narrabri Mine extracts coal from the Hoskissons Seam. Project Approval 08_0144 allows for the production and processing of up to 11 million tonnes per annum (Mtpa) of ROM coal until July 2031. ROM coal is processed at the Narrabri Mine coal handling and preparation plant (CHPP) to produce thermal and pulverised coal injection (PCI) product coal (i.e. coal that can be used for steel production). Product coal is then transported from site by rail.

CHPP rejects consisting of coarse rejects are emplaced in a dedicated rejects emplacement.

The approved Narrabri Mine comprises 20 longwall panels, Longwalls 101 to 120. Longwall mining is currently being undertaken in Longwall 108a, with extraction of Longwalls 101 to 107 complete.

The pit top area incorporates the majority of the Narrabri Mine surface infrastructure, including the box cut, CHPP, ROM and product coal stockpiles, rail loop and product coal load-out infrastructure (Figure 2).

A further description of the approved Narrabri Mine is provided in Section 3.2.

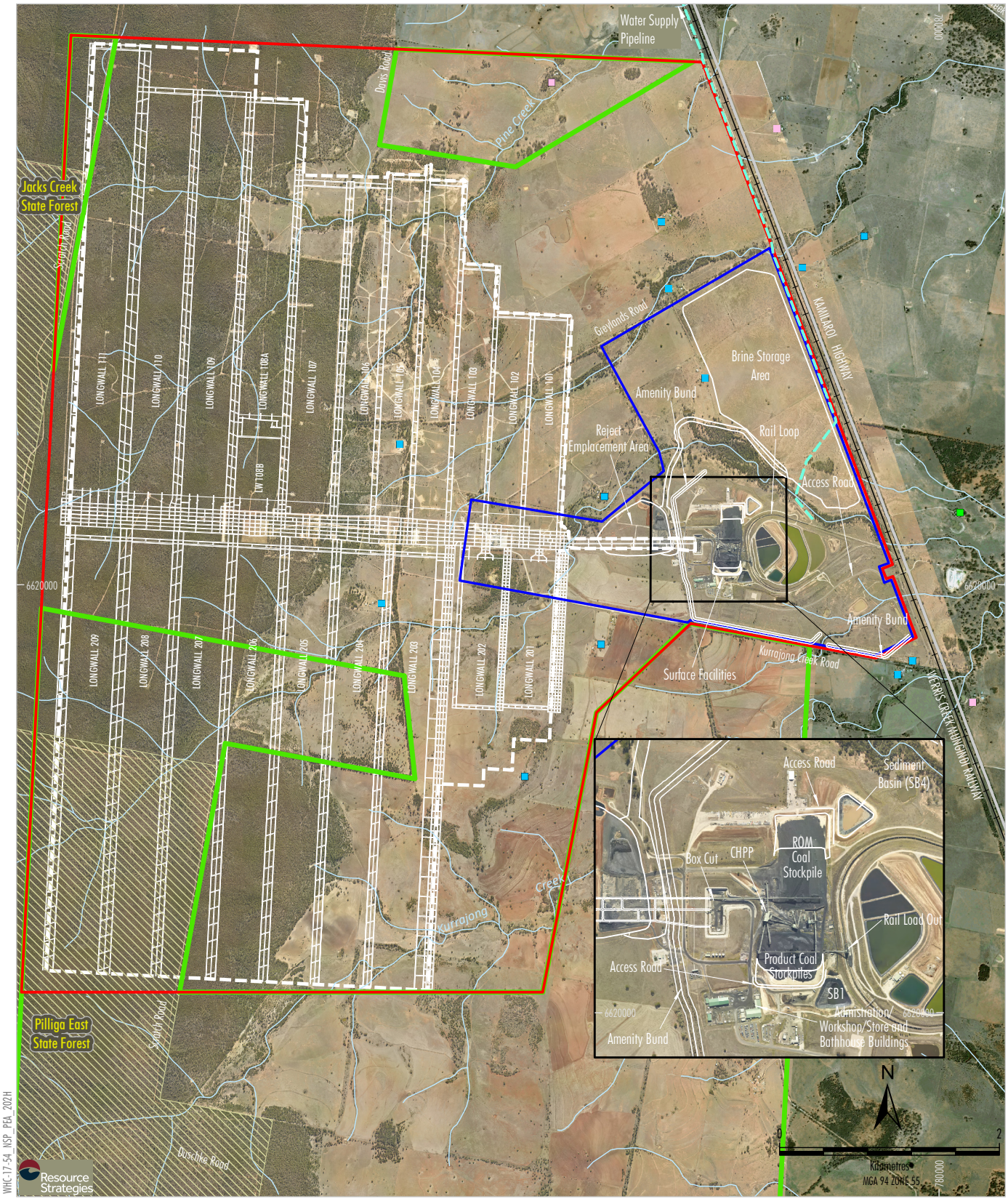
1.3 PROJECT SUMMARY

The Project includes an extension of the southern longwall panels at the Narrabri Mine to gain access to additional coal reserves within EL 6243 (Figure 3). This extension would also include development of supporting infrastructure, an extension to the mine life and continued use of existing infrastructure.

The Project would provide continued employment of the existing Narrabri Mine residential workforce to 2045, with some short-term increases possible (for construction and potential additional development requirements).

The Project would include the following activities:

- continued longwall mining of the Hoskissons Seam including a southern extension of the existing underground mining area;
- development of roadways within the Hoskissons Seam and adjacent strata to access mining areas;
- continued use of existing roadways and drifts for personnel and materials access, ventilation, dewatering and other ancillary activities;
- increased production of up to 13 Mtpa of ROM coal (increased from 11 Mtpa);
- continued use of the existing surface facilities (with minor upgrades and extension) and development of additional surface infrastructure associated with mine ventilation, gas management and other ancillary infrastructure above the extended underground mining area;
- continued use and extension of the existing coal reject emplacement area;
- continued transport of product coal from site by rail;
- continued use and progressive development of the Namoi River water pipeline, sumps, pumps, pipelines, water storages and other water management infrastructure;



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Resource Strategies

LEGEND

- State Forest
- Mining Lease Boundary (ML 1609)
- Exploration Licence (EL 6243)
- Approved Narrabri Mine
- Pit Top Area
- Surface Development (Not Constructed)
- Underground Mine Footprint
- Underground Mine Development
- Water Supply Pipeline
- NCOPL-owned Dwelling
- Private Dwelling
- Private Dwelling - NCOPL Agreement

Source: Orthophotos - Whitehaven Coal (2017); Google Earth (Feb 2015); R.W. Corkery & Co Pty Ltd (2009); NSW Trade & Investment (2017); NCOPL (2018)

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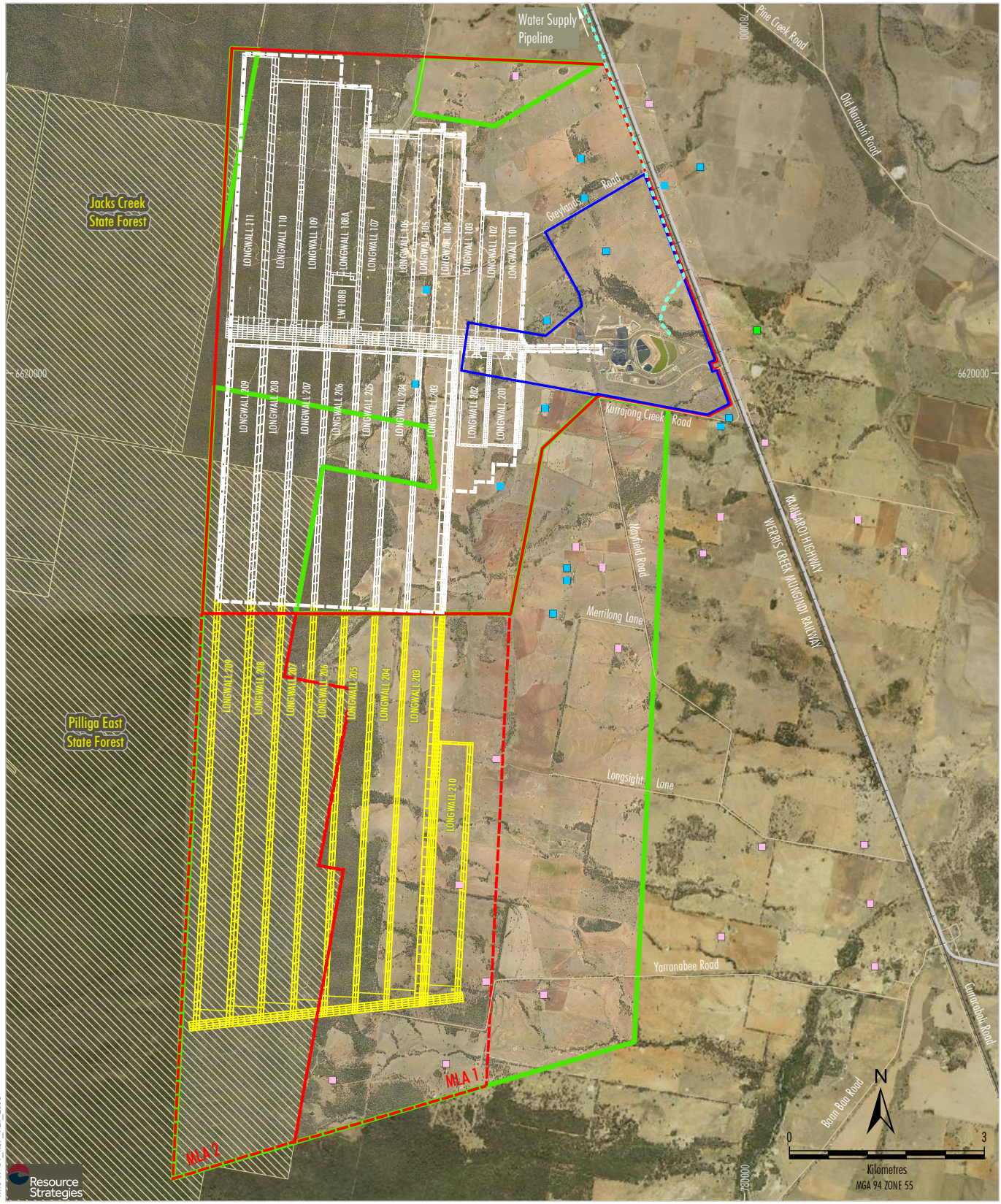
NARRABRI STAGE 3 PROJECT

Existing/Approved Narrabri Mine Indicative General Arrangement

Figure 2



LEGEND

- State Forest
- Mining Lease Boundary (ML 1609)
- Exploration Licence (EL 6243)
- Provisional Mining Lease Application Area
- Project Underground Mine Development

Approved Narrabri Mine

- Pit Top Area
- Underground Mine Footprint
- Underground Mine Development
- Water Supply Pipeline
- NCOPL-owned Dwelling
- Private Dwelling
- Private Dwelling - NCOPL Agreement

Source: Orthophotos - Whitehaven Coal (2017); R.W. Corkery & Co Pty Ltd (2009); NSW Trade & Investment (2017); NCOPL (2018)

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NARRABRI STAGE 3 PROJECT

Modified Narrabri Mine
Indicative General Arrangement

Figure 3

- continued employment of the existing residentially based workforce;
- continued monitoring, rehabilitation and remediation of subsidence and other mining effects;
- development associated with exploration in EL 6243; and
- other associated minor infrastructure, plant, equipment and activities.

Table 1 provides a comparative summary of activities associated with the Project and the approved Narrabri Mine. It is proposed to surrender the existing Narrabri Mine (Stage 2) Project Approval 08_0144 if the Project is approved (i.e. the new Development Consent would consolidate/replace the current Project Approval).

An indicative Project general arrangement showing the extended underground mining areas and key infrastructure locations is provided on Figure 3. Additional detail on the main Project components is provided in Section 3.

The Project does not include changes to the approved underground mining operations in Longwalls 101 to 111 and 201 to 202 (formerly Longwalls 119 and 120) (and associated surface activities [such as monitoring and remediation]).

Table 1
Summary Comparison of the Approved Narrabri Mine and the Project

Project Component	Approved	Project
Mining Method	• Longwall mining of the Hoskissons Seam.	• Unchanged.
Underground Mine Geometry	• Twenty longwall panels (Longwalls 101 to 120). • 295 metres (m) wide longwall panels for Longwalls 101 to 106. • 400 m wide longwall panels for Longwalls 107 to 120.	• Additional and/or longer longwall panels within EL 6243. • Variable longwall panel widths of approximately 400 m.
Tenement	• Mining operations conducted within ML 1609.	• Continued mining operations conducted within ML 1609. • Mining operations conducted within new Mining Lease Application areas to the south in EL 6243.
Mine Life	• Mining operations approved until July 2031.	• An extension in mine life to 2045.
ROM Coal Production	• Total ROM coal production of approximately 170 million tonnes (Mt). • ROM coal production of up to 11 Mtpa.	• Total ROM coal production increased to approximately 280 Mt. • ROM coal production rate increased to 13 Mtpa.
Underground Mine Surface Infrastructure	• Ventilation shafts, pre-drainage and post-drainage sites, mine safety pre-conditioning sites (Longwalls 101 to 120), access roads and electricity transmission lines.	• Augmentation of the existing gas drainage, mine safety pre-conditioning, mine ventilation system, access roads and electricity transmission lines.
Coal Washing	• CHPP and secondary crusher/screen capable of processing approximately 2,000 tonnes (t) per hour.	• Unchanged.
Coal Handling and Stockpiling	• ROM coal stockpile capacity of 700,000 t. • Product coal stockpile capacity of 500,000 t.	• Unchanged.
Coal Reject Management	• CHPP rejects placed in rejects emplacement area.	• Total rejects production increased. • Increased rejects emplacement capacity.
Product Coal Transport	• Product coal transported from site by rail. • Average of four trains per day. • Peak of eight trains per day.	• Average increased to five trains per day. • No change to peak number of trains per day.

Table 1 (Continued)
Summary Comparison of the Approved Narrabri Mine and the Project

Project Component	Approved	Project
Subsidence Commitments and Management	• The subsidence impact performance measures listed in Conditions 1 and 2, Schedule 3 of Project Approval 08_0144.	• To be determined through the EIS process.
Water Management	• Conducted in accordance with the Water Management Plan (including discharge under the conditions of Environment Protection Licence [EPL] 12789).	• Water management strategy generally unchanged.
Water Supply	• Make-up water demand to be met from mine dewatering, runoff recovered from operational areas, and licensed extraction from Namoi River and Namoi River Alluvium.	• Unchanged.
Power	• Permanent mains power supplied via a spur line from a 66 kilovolt (kV) powerline located to the east of Kamilaroi Highway. • Power converted from 66 kV to 11 kV on-site and reticulated, using progressively developed 11 kV powerlines.	• No change to key power supply infrastructure, however demand for mains power may increase. • Continued progressive development of electricity transmission lines to service the extended underground mining area.
Hours of Operation	• 24 hours per day, seven days per week.	• Unchanged.
Employment	• Residential operational workforce (employees and contractors) of approximately 370 employees.	• Operational workforce unchanged. • Possible short-term increases in employment for construction activities and potential additional development requirements.
Surface Development Footprint	• Approximately 750 hectares.	• Additional surface development areas to support underground mining, similar to the existing Narrabri Mine.
Rehabilitation Strategy	• Conducted in accordance with the Landscape Management Plan.	• Unchanged.
Capital Investment Value	• Not applicable.	• To be determined through the EIS process.

2 STRATEGIC AND STATUTORY CONTEXT

2.1 TARGET RESOURCE

The Project would target the Hoskissons Seam. Further information on resource recovery and characteristics of the coal resource are provided below.

Mining and Exploration Tenements

Table 2 provides details of the existing mining and exploration tenements relevant to the Project.

Table 2
Mining and Exploration Tenements

Tenement Reference	Expiry
Mining Tenement	
ML 1609	18 January 2029
Exploration Tenement	
EL 6243	20 May 2019 (currently being renewed)

The Project underground mining area would be located within ML 1609 and new Mining Lease Application (MLA) areas (that would be within the limits of EL 6243) (Figure 3).

Geology

The Project is located near the northern and western boundaries of the Gunnedah Basin and the eastern margin of the Surat Basin, a sub-basin of the Great Artesian Basin. In summary, the stratigraphy of the Narrabri Mine is characterised by two main geological basins:

- Surat Basin Units of Jurassic age which include Pilliga Sandstone, Purlawaugh Formation and Garrawilla Volcanics; and
- Gunnedah Basin Units, comprising:
  - Napperby and Digby Formations of Triassic age; and
  - Permian coal measures within the Black Jack Group which includes Hoskissons Seam, and Arkarula and Pamboola Formations. Locally, these coal measures are characterised by an east (shallowest) to west (deepest) gradient (or dip).

The existing operations at the Narrabri Mine currently extract coal from the Hoskissons Seam. Further mineable areas of the Hoskissons Seam have been identified in the Project underground mining area.

Thickness and quality characteristics of the coal seams present in EL 6243 are such that only the Hoskissons Seam is currently considered to contain coal resources with mining potential.

Typical depths of cover to the target seam range from 160 m to 420 m within the MLA areas (Ditton Geotechnical Services, 2019). The Hoskissons Seam has a maximum working section thickness of up to 4.5 m and the extraction height has been approximately 4.2 m to 4.3 m to date (Ditton Geotechnical Services, 2019).

Exploration Methods

Exploration, including exploration drilling and seismic surveys, in the new MLA areas (in EL 6243) is ongoing.

The current exploration program is focused on determining seam quality, gas levels, geotechnical constraints and the locations of geological structures and igneous intrusions. This information will be used to develop the preferred mine layout.

The EIS would present the outcomes of the current exploration program, including the estimated Coal Resources and Coal Reserve, and details of the ROM coal and marketable product coal planned to be produced for each year over the life of the Project.

Exploration activities would continue to be undertaken over the life of the Project as input to detailed mine planning and engineering studies to refine the understanding of geological structures and coal quality.

Resource Recovery

NCOPL will seek to maximise resource recovery within geological, environmental and infrastructure constraints via continued use of the existing high-reach longwall mining method. At this stage, the Project would not be expected to have a significant impact on future extraction or recovery of coal (i.e. other than the Hoskissons Seam).

Outcomes of environmental assessment studies would also be considered during mine planning conducted in parallel with the EIS.

2.2 REGIONAL CONTEXT

The Project is located in the New England North West region of NSW, which includes the Namoi River valley and associated agricultural land uses and elevated, vegetated country managed as State Forests and National Parks (Figure 1).

The provisional Development Application Area is located wholly within the NSC LGA (Attachment A).

Topography in the vicinity of the Narrabri Mine is characterised by the vegetated, hilly country of Jacks Creek State Forest and Pilliga East State Forest to the west, grading down to the alluvial plains associated with the Namoi River to the east.

The Namoi River stretches for over 350 km and flows in a north-westerly direction approximately 5 to 7 km to the east of the Narrabri Mine. The Namoi River catchment extends from the Great Dividing Range in the east to Walgett in the west where the Namoi River discharges into the Barwon River. The Namoi River has a total catchment area of approximately 42,000 square kilometres (km^2) to Walgett (WRM Water & Environment, 2015).

The existing/approved land use, in the vicinity of the existing Narrabri Mine and the Project, is characterised by a combination of mining and agricultural (grazing, cereal production and horticulture) land uses as well as the Pilliga East State Forest.

The Narrabri South Solar Farm is a recently approved development located approximately 16 km north of the Narrabri Mine. It was approved in December 2018 and involves the development of a 60 megawatt (MW) solar farm and associated infrastructure by Canadian Solar (Australia) Pty Ltd.

Other proposed developments in the region include:

- Inland Rail (Narrabri to North Star Section) (located approximately 28 km north-west of the Narrabri Mine) – part of the Inland Rail Proposal from Brisbane to Melbourne by the Australian Rail Track Corporation Ltd. The EIS had an exhibition period from November to December 2017 and the proponent is responding to submissions at the time of writing this document.
- Inland Rail (Narromine to Narrabri Section) (located approximately 23 km north-west of the Narrabri Mine) – part of the Inland Rail Proposal from Brisbane to Melbourne by the Australian Rail Track Corporation Ltd. SEARs have been issued for this development at the time of writing this document.
- Narrabri Gas Project (located on the neighbouring property to the west of the Narrabri Mine) – involves the progressive development of a coal seam gas field comprising up to 850 gas wells on up to 425 well pads over 20 years by Santos Ltd. The EIS for this project had an exhibition period from February to May 2017, and the proponent has submitted a RtS. Agency advice has been provided on the RtS and more information has been requested by the DP&E from the proponent to finalise the assessment at the time of writing this document.
- Silverleaf Solar Farm (located approximately 28 km north-east of the Narrabri Mine) – involves the development of a 120 MW photovoltaic solar farm and associated infrastructure by ENGIE Renewables Australia Pty Ltd. SEARs have been issued for this development at the time of writing this document.

Environmentally Sensitive Areas

A preliminary investigation of environmentally sensitive areas of State significance (as defined in the *State Environmental Planning Policy (State and Regional Development) 2011* [State and Regional Development SEPP]) with respect to the Project has identified the following:

- The provisional Development Application Area is not within coastal waters of the State.
- No lands protected or preserved under *State Environmental Planning Policy No. 14 - Coastal Wetlands* or *State Environmental Planning Policy No. 26 - Littoral Rainforests* occur within the provisional Development Application Area.
- No lands reserved as an aquatic reserve under the NSW *Fisheries Management Act, 1994* or as a marine park under the NSW *Marine Parks Act, 1997* occur within the provisional Development Application Area.
- No lands within a wetland of international significance declared under the Ramsar Convention on Wetlands or lands within a World Heritage area declared under the World Heritage Convention occur in or near the provisional Development Application Area.
- No lands identified in an Environmental Planning Instrument as being of high Aboriginal cultural significance or biodiversity significance have been identified within the provisional Development Application Area.

- No lands reserved as a State Conservation Area under the NSW *National Parks and Wildlife Act, 1974* have been identified within the provisional Development Application Area.
- No lands, places, buildings or structures listed on the State Heritage Register under the NSW *Heritage Act, 1977* occur within the provisional Development Application Area.
- No lands declared as critical habitat under the NSW *Threatened Species Conservation Act*, *1995* or *Fisheries Management Act, 1994* occur within the provisional Development Application Area.

Crown Land within the provisional MLA areas are shown on Figure 4, including a leased lot of Crown Land in the south of the areas.

A portion of the provisional Development Application Area is beneath the Pilliga East State Forest.

2.3 PERMISSIBILITY AND STRATEGIC PLANNING

Applicability of Part 4 of the Environmental Planning and Assessment Act, 1979

Development Consent for the Project will be sought under the State Significant Development provisions (i.e. Division 4.7) under Part 4 of the EP&A Act. The EP&A Act and EP&A Regulation generally set the framework for planning and environmental assessment in NSW.

Under section 4.36 of the EP&A Act, a class of development such as mining may be declared as State Significant Development by a State Environmental Planning Policy (SEPP).

Clause 8 of the State and Regional Development SEPP provides that development is declared to be State Significant Development for the purposes of the EP&A Act if:

- the development on the land concerned is, by the operation of an environmental planning instrument, not permissible without Development Consent under Part 4 of the EP&A Act (first criterion); and
- the development is specified in Schedule 1 or 2 of the State and Regional Development SEPP (second criterion).

With respect to the first criterion identified above, pursuant to clause 7 of the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* (Mining SEPP), the Project may be carried out only with Development Consent under Part 4 of the EP&A Act (described further below).

In regard to the second criterion identified above, development for the purpose of mining that is coal or minerals sands mining, is specified in Schedule 1, Item 5 of the State and Regional Development SEPP as being State Significant Development.

The Project is development for the purpose of coal mining (Section 2) and therefore will be State Significant Development. Development Consent will be sought from the NSW Minister for Planning or the NSW Independent Planning Commission.

Permissibility of the Project

The provisional Development Application Area is within the Narrabri LGA (Attachment A), which is covered by the *Narrabri Local Environmental Plan 2012* (Narrabri LEP).

The provisional Development Application Area includes land zoned under the Narrabri LEP as:

- Zone RU1 (Primary Production); and
- Zone RU3 (Forestry).

In accordance with the Land Use Table in Part 2 of the Narrabri LEP, underground mining is not listed as a permissible use in Zone RU1 and Zone RU3.

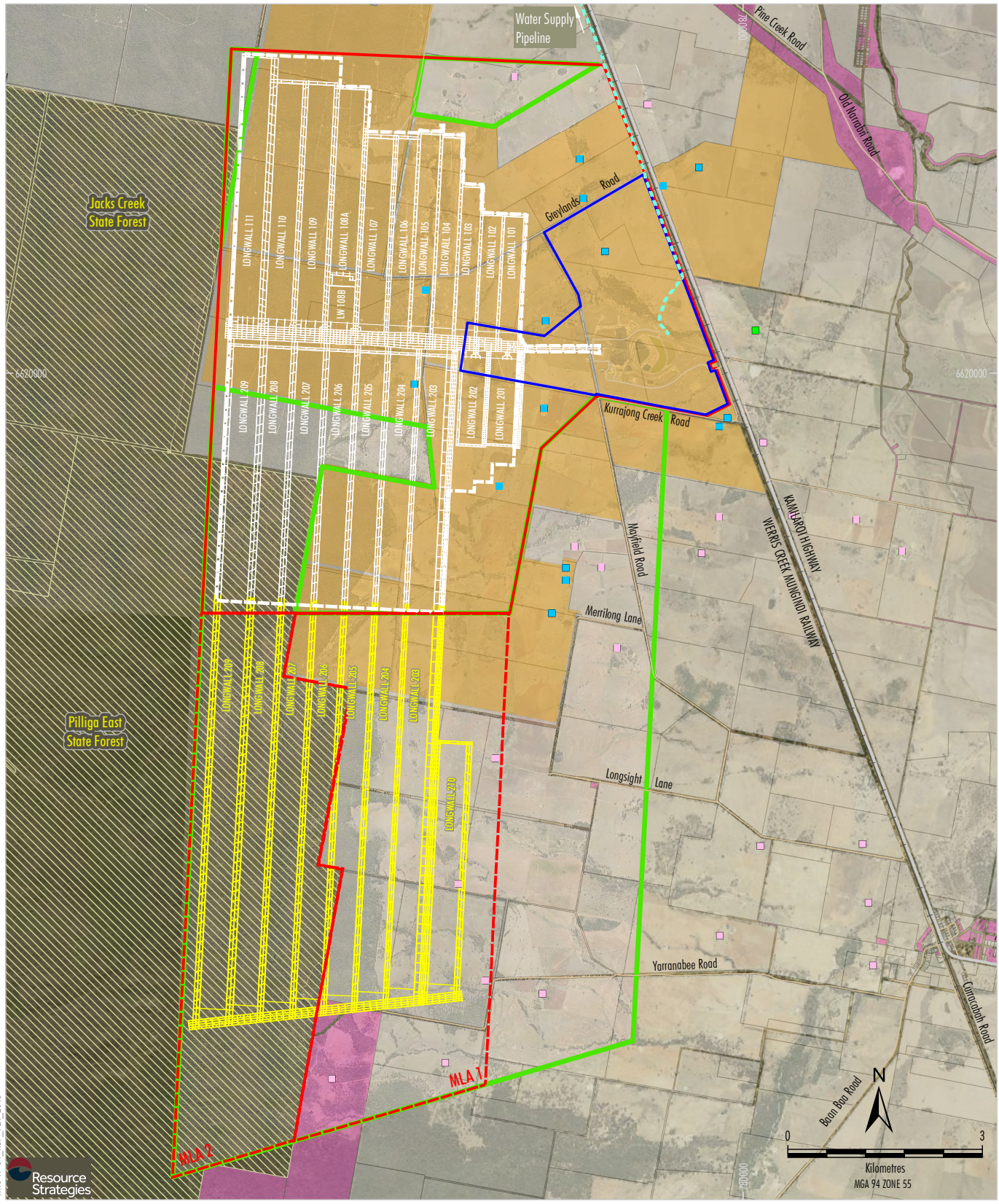
As underground mining is not nominated as either a type of development that is permissible without consent or a type of development that is permissible with consent, the consequence is that underground mining is prohibited (as “any development not specified in item 2 or 3”) under the Narrabri LEP.

Subject to the application of the Mining SEPP (as discussed below), underground mining would be prohibited under the Narrabri LEP in these zones.

Clause 4 of the Mining SEPP relevantly provides:

4 Land to which Policy applies

This Policy applies to the State.



LEGEND

- State Forest
- Mining Lease Boundary (ML 1609)
- Exploration Licence (EL 6243)
- Provisional Mining Lease Application Area
- Project Underground Mine Development
- Approved Narrabri Mine
  - Pit Top Area
  - Underground Mine Footprint
  - Underground Mine Development
- Water Supply Pipeline
- NCOPL-owned Dwelling
- Private Dwelling
- Private Dwelling - NCOPL Agreement
- NCOPL-owned Land
- Privately Owned
- Crown Land

Source: Orthophotos - Whitehaven Coal (2017); R.W. Corkery & Co Pty Ltd (2009); NSW Trade & Investment (2017); NCOPL (2018)

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NARRABRI STAGE 3 PROJECT

Relevant Land Ownership

Figure 4

Clause 5(3) of the Mining SEPP gives it primacy where there is any inconsistency between the provisions in the Mining SEPP and the provisions in any other environmental planning instrument (subject to limited exceptions).

Clause 5(3) relevantly provides:

> ***5 Relationship with other environmental planning instruments***
>
> *(3) … if this Policy is inconsistent with any other environmental planning instrument, whether made before or after this Policy, this Policy prevails to the extent of the inconsistency.*

The practical effect of clause 5(3) for the Project is that if there is any inconsistency between the provisions of the Mining SEPP and those contained in the Narrabri LEP, the provisions of the Mining SEPP will prevail.

Clauses 6 and 7 of the Mining SEPP provide what types of mining development are permissible without development consent and what types are permissible only with development consent.

In this regard, clause 7(1) states:

> ***7 Development permissible with consent***
>
> *(1) **Mining***
>
> *Development for any of the following purposes may be carried out only with development consent:*
>
> *(a) underground mining carried out on any land,*
>
> *…*
>
> *(d) facilities for the processing or transportation of minerals or mineral bearing ores on land on which mining may be carried out (with or without development consent), but only if they were mined from that land or adjoining land,*
>
> *...*

The term 'underground mining' in the Mining SEPP is given an extended definition in clause 3(2) as follows:

> ***underground mining** means:*
>
> *(a) mining carried out beneath the earth's surface, including bord and pillar mining, longwall mining, top-level caving, sub-level caving and auger mining, and*
>
> *(b) shafts, drill holes, gas and water drainage works, surface rehabilitation works and access pits associated with that mining (whether carried out on or beneath the earth's surface),*
>
> *but does not include open cut mining.*

The effect of clause 7(1)(a), in conjunction with the operation of clause 5(3) of the Mining SEPP, is that notwithstanding any prohibition in the Narrabri LEP, development for the purpose of underground mining may be carried out with development consent.

Accordingly, it would be permissible for the Minister or the NSW Independent Planning Commission to grant approval under section 4.38 of the EP&A Act for the Project despite the provisions of the Narrabri LEP.

Planning Provisions

State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007

The EIS would include detailed consideration of the aims of the Mining SEPP (Part 1) and the matters for consideration in Part 3 of the Mining SEPP based on the final description of the Project and impact assessment.

A preliminary review of the Project against the Mining SEPP did not identify any matters which could prevent the Project proceeding.

The Project would require the issue of a new mining lease as the mining area would extend outside the existing mining lease (ML 1609) (i.e. to the land subject to EL 6243). Therefore Part 4AA of the Mining SEPP applies.

Clause 50A of the EP&A Regulation requires that a development application for consent to mine on certain land (including land shown on the *Strategic Agricultural Land Map*) must be accompanied by a gateway certificate or a site verification certificate (that certifies that the land on which the proposed development is to be carried out is not biophysical strategic agricultural land [BSAL]).

An Agricultural Resource Assessment prepared for the Project has identified land that meets the BSAL criteria (Soil Management Designs, 2019). Accordingly, NCOPL has lodged an application for a gateway certificate with the Mining and Petroleum Gateway Panel for the Project area in accordance with Division 4 of Part 4AA of the Mining SEPP.

No land near the Project has been mapped as equine critical industry cluster or viticulture critical industry cluster on the Strategic Agricultural Land Map in the Mining SEPP.

State Environmental Planning Policies

In addition to the Mining SEPP, the following SEPPs may potentially be relevant to the Project:

- State and Regional Development SEPP;
- *State Environmental Planning Policy (Infrastructure) 2007*;
- *State Environmental Planning Policy No. 33 (Hazardous and Offensive Development)* (SEPP 33);
- *State Environmental Planning Policy No. 44 - Koala Habitat Protection*; and
- *State Environmental Planning Policy No. 55 (Remediation of Land)*.

Relevant provisions and objectives of the above SEPPs would be considered in the preparation of the EIS.

Mining Act, 1992

NCOPL would lodge MLAs separately with the NSW Division of Resources and Geoscience (DRG) (within the DP&E) for the Project. Under the NSW *Mining Act, 1992*, environmental protection and rehabilitation are regulated by conditions included in all mining leases, including requirements for the submission of a Mining Operations Plan prior to the commencement of operations, and subsequent Annual Environmental Management Reports.

Under section 380AA of the *Mining Act, 1992*, an application for Development Consent to mine for coal cannot be made or determined unless (at the time it is made or determined) the applicant is the holder of an authority that is in force in respect of coal and the land where mining for coal is proposed to be carried out, or the applicant has the written consent of the holder of such an authority to make the application.

For the purposes of section 380AA, a mining lease that only authorises ancillary mining activities is not an authority.

At the time that the Development Application for the Project is made, the applicant for the Project, NCOPL, will have secured the written consent of the holders of the two authorities that are in force in respect of coal and the land where mining for coal is proposed to be carried out, being the holders of ML 1609 and EL 6243.

Under section 4.42(1)(c) of the EP&A Act, if the Project is approved as State Significant Development, the grant of one or more mining leases under the *Mining Act, 1992* cannot be refused if those leases are necessary for the carrying out of the approved Project and are to be substantially consistent with the Project's development consent.

Water Management Act, 2000

Under section 4.41(1)(g) of the EP&A Act, if the Project is approved as a State Significant Development, water use approvals under section 89, water management work approvals under section 90, or activity approvals (excluding aquifer interference approvals) under section 91 of the *Water Management Act, 2000* would not be required for the Project.

The EIS would include consideration of the Project against the water management principles and access licence dealing principles under the *Water Management Act, 2000.* The EIS would also identify access licences required for each water source associated with the Project.

Protection of the Environment Operations Act, 1997

The NSW *Protection of the Environment Operations Act, 1997* (PoEO Act) and the NSW *Protection of the Environment Operations (General) Regulation, 2009* set out the general obligations for environmental regulation in NSW.

The Narrabri Mine currently operates under EPL 12789 granted under the PoEO Act. The EPL contains conditions which relate to emission and discharge limits, environmental monitoring and reporting. If approved, the Project would require a variation of EPL 12789.

Coal Mine Subsidence Compensation Act, 2017

The *Coal Mine Subsidence Compensation Act, 2017* (CMSC Act) commenced on 1 January 2018, and provides a scheme for the provision of compensation for damage caused by subsidence resulting from coal mine operations, and the assessment and management of risks associated with subsidence resulting from coal mine operations.

At all times while the Project is an active mine, NCOPL would be liable to pay compensation in relation to damage caused by subsidence arising from the Project on improvements or goods under Part 2 of the CMSC Act. Any claims for compensation by another party under the CMSC Act would be lodged with Subsidence Advisory NSW.

The Narrabri Mine is not located within a Mine Subsidence District declared under section 20 of the CMSC Act, and the regulations made under the CMSC Act.

Roads Act, 1993

If the Project is approved, NCOPL would apply for the necessary consents under section 138 of the NSW *Roads Act, 1993*.

Under section 4.42(1)(f) of the EP&A Act, if the Project is approved as a State Significant Development, consent under section 138 of the *Roads Act, 1993* cannot be refused and is to be substantially consistent with any Development Consent granted under Division 4.1 of Part 4 of the EP&A Act.

Forestry Act, 2012

The NSW *Forestry Act, 2012* provides for the dedication, reservation, control and use of State forests, timber reserves and Crown lands for forestry and other purposes.

The Project would involve activities within Pilliga East State Forest No. 266.

Section 35 of the *Forestry Act, 2012* provides that the exercise of any right under the *Mining Act, 1992* within a State Forest is subject to conditions relating to forestry or the purpose of the reserve.

NCOPL will seek a new mining lease (as per the provisional MLA areas shown on Figure 3) to enable the exercise of rights under the *Mining Act, 1992* within the Pilliga East State Forest outside of the existing ML 1609. Activities within Pilliga East State Forest would be conducted in accordance with the conditions of the relevant mining tenements.

Under section 67 of the *Forestry Act, 2012,* it is an offence to occupy or use any land within a State Forest without a lawful authority. NCOPL would apply for necessary permits, leases and/or licences for activities that would be conducted as a component of the Project within Pilliga East State Forest.

Biodiversity Conservation Act, 2016

The overarching objective of the *Biodiversity Conservation Act, 2016* (BC Act) is to 'maintain a healthy, productive and resilient environment…'. The EIS would contain a Biodiversity Assessment Report consistent with the requirements of the BC Act.

Dark Sky Planning Guideline

Under clause 92 of the EP&A Regulation, if the Project is approved as State Significant Development and is located within 200 km of the Siding Spring Observatory, the Minister or NSW Independent Planning Commission must consider the Dark Sky Planning Guideline (DP&E, 2016).

The Siding Spring Observatory is located approximately 105 km south-west of the Project. The EIS would include consideration of the *Dark Sky Planning Guideline* (DP&E, 2016).

Commonwealth EPBC Act

The Project is being referred to the Commonwealth Minister for the Environment and Energy for consideration as to whether the Project is a 'Controlled Action' and requires approval under the EPBC Act.

If the Project is assessed under the bilateral agreement with the NSW Government for impacts on water resources, NSW and the Commonwealth will jointly obtain the advice of the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development.

Planning Strategies

The planning of the Project and the preparation of the EIS would also consider the *Narrabri Shire Community Strategic Plan 2017 – 2027* (NSC, 2016) and the *New England North West Regional Plan 2036* (DP&E, 2017a).

3 PROJECT DESCRIPTION AND PROJECT RATIONALE

The Project objectives are to develop and extract additional and/or longer longwall panels at the Narrabri Mine and use existing surface infrastructure (with minor upgrades and extensions) to handle, process and transport the resulting product coal.

This would include a physical extension to the approved underground mining area to gain access to additional ROM coal reserves, an increase in the mine life to 2045, and development of supporting surface infrastructure (including gas drainage, mine safety pre-conditioning and mine ventilation).

NCOPL is seeking approval from the NSW Minister for Planning or NSW Independent Planning Commission for Development Consent under Part 4 of the EP&A Act for the Project. It is proposed to surrender the existing Narrabri Mine (Stage 2) Project Approval 08_0144 if the Project is approved.

Table 1 provides a comparative summary of activities associated with the Project compared to the approved Narrabri Mine.

The proponent's details are provided in Section 3.1. A brief description of the existing Narrabri Mine is provided in Section 3.2 and a description of key Project components is provided in Sections 3.3 to 3.6. A Project rationale is provided in Section 3.7.

3.1 PROPONENT

NCOPL (ABN 15 129 850 139) is the proponent for the Project. The contact details for NCOPL are:

Narrabri Coal Operations Pty Ltd
Locked Bag 1002
Narrabri NSW 2390
Phone: (02) 6794 4755

The Narrabri Mine is located at 10 Kurrajong Creek Road, Baan Baa, NSW, 2390.

Whitehaven is the parent company of NCOPL and further information on Whitehaven and its coal mining operations can be found at:

http://www.whitehavencoal.com.au

The Project Director is David Ellwood, his contact details can be found below:

Phone: (02) 6794 4184
Email: DEllwood@whitehavencoal.com.au

3.2 EXISTING NARRABRI MINE

The Narrabri Mine has an approved operational capacity of 11 Mtpa of ROM coal from the Hoskissons Seam until July 2031.

Surface Facilities

Key surface infrastructure at the Narrabri Mine (Figure 2) pit top area includes:

- box cut;
- CHPP;
- ROM and product coal stockpiles and associated coal handling infrastructure;
- reject emplacement area;
- rail loop and product coal load-out infrastructure;
- site water management infrastructure (water treatment plants; water storages, brine storage area, environmental storages and associated pumps and pipelines);
- administration, workshop, store and bathhouse buildings;
- range of service facilities (i.e. potable water, sewerage, electricity, waste management);
- longwall unit assembly area;
- access roads;
- car parking; and
- amenity bunds.

The CHPP produces a combined (or part washed) (thermal) and washed (PCI) coal products. Product coal is then transported from site by rail.

Underground Mining Areas

Key existing/approved underground mine surface infrastructure includes:

- mine safety pre-conditioning sites;
- ventilation shafts;
- pre-drainage and goaf gas drainage sites;
- access roads; and
- electricity transmission lines.

The Narrabri Mine comprises 20 longwall panels, Longwalls 101 to 120. Longwall mining is currently being undertaken in Longwall 108a, with extraction of Longwalls 101 to 107 complete.

3.3 PROJECT ACTIVITIES

Underground Mining Operations

The Project involves longwall mining operations in ML 1609 and new MLA areas (within EL 6243) to extract coal within the Hoskissons Seam.

The Project would involve an increase from the approved production limit of 11 Mtpa of ROM coal to 13 Mtpa of ROM coal and an increase in the mine life from 2031 to 2045.

Other associated infrastructure and activities would include:

- development of roadways within the Hoskissons Seam and adjacent strata to access mining areas;
- continued use of existing roadways and drifts for personnel and materials access, ventilation, dewatering and other ancillary activities;
- continued mine safety pre-conditioning of the adjacent strata using a series of boreholes along the longwall panels to manage risk;
- materials handling and transport systems to convey coal from the longwall and development faces to the surface;
- underground equipment (e.g. shearers, continuous miners, conveyors, bins) and mobile fleet (e.g. load haul dump vehicles, drill rigs, shuttle cars, personnel carriers);
- continued use of the existing surface facilities (with minor upgrades and extensions) and development of additional surface infrastructure associated with mine ventilation and gas management, and other ancillary infrastructure;
- continued use and extension of the existing coal reject emplacement area;
- continued transport of product coal from site by rail;
- continued use and progressive development of the Namoi River water pipeline, sumps, pumps, pipelines, water storages and other water management infrastructure;
- continued monitoring, rehabilitation and remediation of subsidence and other mining effects;
- progressive development of power reticulation infrastructure;
- development associated with exploration in EL 6243; and
- other associated minor infrastructure, plant, equipment and activities.

The locations of surface infrastructure would be refined through detailed mine planning, environmental assessment outcomes and consideration of alternatives, and would be documented in the EIS. Because of the overlap between the approved Narrabri Mine and the Project, additional surface infrastructure would be required in the approved Narrabri Mine area, which would also be documented in the EIS.

Coal Processing, Handling and Transport Infrastructure

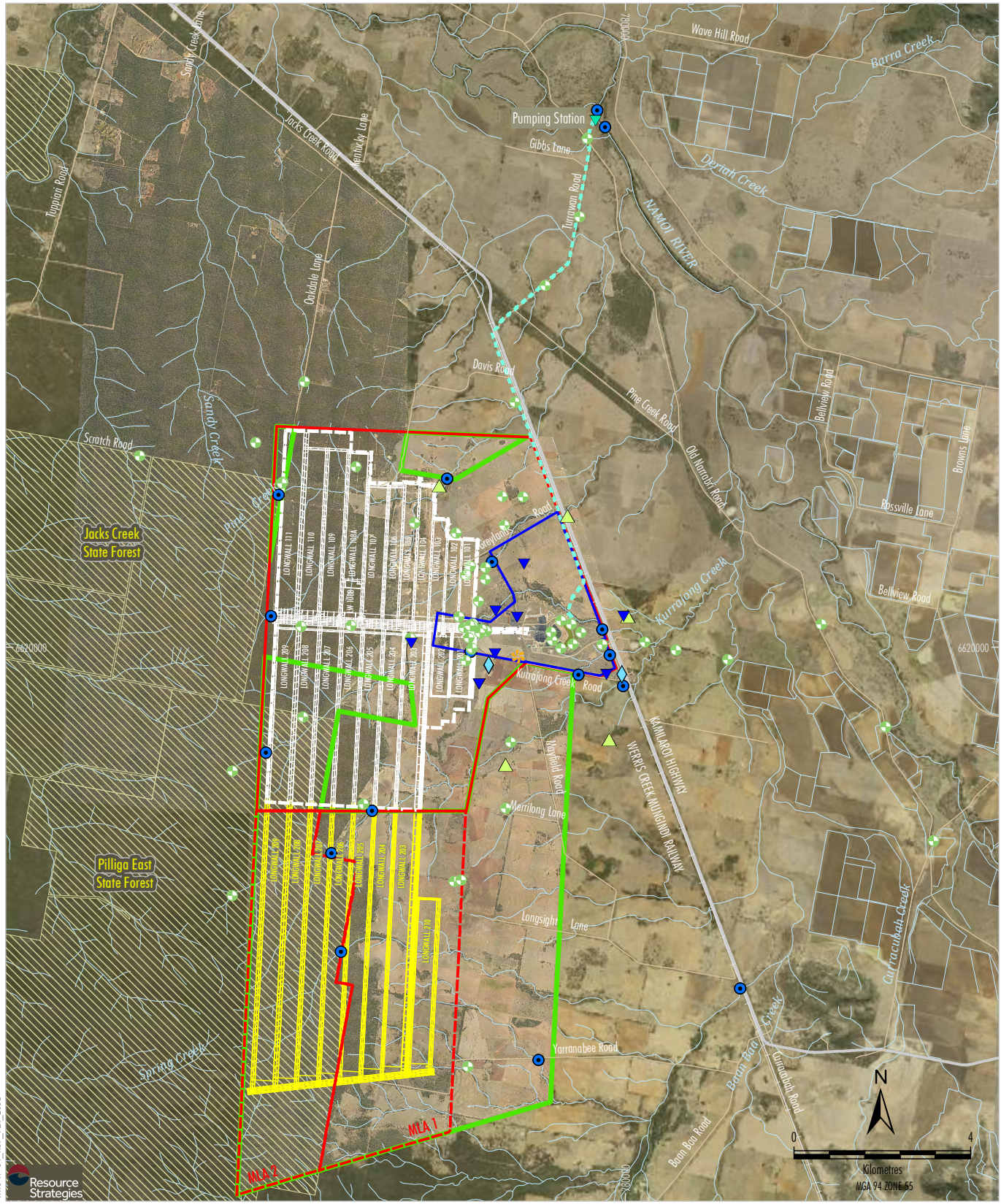
The Project would include the continued use of the existing Narrabri Mine surface facilities (Section 3.2) for handling, processing and transportation of coal for the life of the Project.

The Project may incorporate minor upgrades and extensions to existing infrastructure, which would be documented in the EIS.

Water Management

The site water management strategy for the Narrabri Mine is based on the containment and re-use of mine water while diverting upstream water around the Narrabri Mine. The approved water management system includes:

- up-catchment diversion structures;
- raw water storage dams;
- saline water storage dams;
- filtered water storage dams;
- brine storage dams;
- sediment dams;
- evaporation ponds;
- reverse osmosis plant;
- Namoi River water pipeline and pump station (Figure 5);
- any groundwater supplementary supply and associated infrastructure;
- Namoi River licensed discharge point; and
- other water transfer infrastructure (i.e. tanks, pumps and pipelines).



LEGEND

- State Forest
- Mining Lease Boundary (ML 1609)
- Exploration Licence (EL 6243)
- Provisional Mining Lease Application Area
- Project Underground Mine Development
- Approved Narrabri Mine
  - Pit Top Area
  - Underground Mine Footprint
  - Underground Mine Development
- Water Supply Pipeline
- Surface Water Monitoring Site
- Groundwater Monitoring Site
- Noise Monitoring Site
- Deposited Dust Monitoring Site
- PM_{10} Monitoring Site
- Meteorological Station
- Pumping Station

Source: Orthophotos - Whitehaven Coal (2017); R.W. Corkery & Co Pty Ltd (2009); NSW Trade & Investment (2017); NCOPL (2018)

WHITEHAVEN COAL

NARRABRI STAGE 3 PROJECT

Environmental Monitoring Locations

Figure 5

The water management system is progressively developed subject to its ongoing performance, prevailing climatic conditions and actual underground mine inflows.

The Project would involve the use of the existing infrastructure with minor augmentations and extensions, including the progressive development of sumps, pumps, pipelines, water storages and other water management infrastructure.

Water supply and release requirements for the Project would be subject to the outcomes of a detailed water balance that would be presented in the EIS.

Other Activities

Other activities that would be conducted as a component of the Project include development associated with exploration in EL 6243, rehabilitation of surface disturbance, and development of other associated minor infrastructure, plant, equipment and activities.

Disposal of drilling waste products within the rejects emplacement, including potential receipt and disposal of similar drilling waste products from off-site (subject to further consideration and assessment).

Hours of Operation

The Narrabri Mine would continue to be operated on a continuous basis (24 hours per day, seven days per week) during the Project.

3.4 EMPLOYMENT

The Narrabri Mine currently employs approximately 370 personnel (employees and contractor workforce). The Project would facilitate continued employment of the existing residential workforce and would also result in the extension of existing economic opportunities for NCOPL's suppliers and service providers.

Possible short-term increases in employment would be generated by Project construction activities and potential additional development requirements. This additional employment would be quantified and assessed in the EIS.

3.5 CONCEPTUAL PROJECT SCHEDULE

Longwall extraction in Longwall 111 at the Narrabri Mine (i.e. the final longwall in the northern series of longwall panels) is scheduled for completion in 2023. The longwall miner would be installed in a southern longwall block thereafter (i.e. to allow development of the Project). First workings development would be required to commence in 2021 to facilitate continuity of mining.

The sequence of underground mining operations is determined by the requirements of the coal market, product specification and/or blending requirements. As these requirements vary over the life of the mine, the development and extraction sequence may vary accordingly.

The development and extraction sequence is regularly reviewed and documented in the Extraction Plan.

3.6 MANAGEMENT COMMITMENTS

Preliminary strategies to address potential impacts associated with the Project are outlined in Section 4, which would be developed and refined through the environmental assessment process.

It is proposed to continue the management approach at the existing Narrabri Mine for the Project.

It is anticipated that any new Development Consent would require a contemporary Extraction Plan process for the Project to mitigate, remediate, monitor, manage and offset potential impacts associated with subsidence.

3.7 PROJECT RATIONALE

The extraction of coal from the Narrabri Mine provides benefits at national, state and local levels. The Project would facilitate the continuation of benefits derived from the Narrabri Mine and would also result in increased coal production.

Benefits from the Narrabri Mine occur through employment, expendable income, export earnings and government revenue. NCOPL provides local jobs for its direct employees and contract workforce, suppliers and service providers with flow-on benefits for the Narrabri region.

The Narrabri Mine has 370 residential employees and contractors. These jobs are reliant on maintaining continuity of longwall extraction at the Narrabri Mine through the Project.

First workings development for the Project is required to commence in 2021 to allow for efficient access/extraction of this additional coal resource. Delays in the development of first workings for the Project would result in the sterilisation of some coal (due to inaccessibility at later dates).

The Project is considered to be compatible with the existing agricultural land use as evidenced by the existing Narrabri Mine and the findings of the Agricultural Impact Assessment (Eco Logical Australia, 2019).

Full justification of the Project on social, environmental and economic grounds, including consideration of the principles of ecologically sustainable development, consideration of alternatives and a cost benefit analysis, would be included in the EIS. This evaluation would consider the *Guidelines for the Economic Assessment of Mining and Coal Seam Gas Proposals* (NSW Government, 2015c) and the *Social impact assessment guideline - For State significant mining, petroleum production and extractive industry development* (DP&E, 2017) (the SIA Guideline).

The EIS would also consider various alternatives to the Project including:

- changes in the longwall layout, panel width and development workings;
- increase in extraction height; and
- alternative coal clearance infrastructure.

4 PRELIMINARY ENVIRONMENTAL IMPACT ASSESSMENT

4.1 OVERVIEW

The following Scoping Report has been prepared to identify the key potential environmental issues associated with the construction and operation of the Project. This information has been prepared to assist the DP&E with the issuing of the SEARs for the Project under clause 3 of Schedule 2 of the EP&A Regulation.

The DP&E has published a draft Scoping Tool that includes a generic checklist of matters to assist proponents to: consider all matters; filter out any matters that are not relevant to the project; and inform the likely level of assessment required in the EIS.

The Scoping Tool has been reviewed to identify the key potential environmental issues associated with the construction and operation of the Project. Key potential environmental issues are those environmental aspects that will require Project-specific assessment to assess the potential impacts and develop measures to avoid, mitigate and/or monitor the potential impacts of the Project.

The proposed level and scope of assessments have been identified (Attachment B) to assist the DP&E with issuing of the SEARs for the Project under clause 3 of Schedule 2 of the EP&A Regulation. The proposed level and scope of assessments were determined based upon:

- NCOPL's experience from operating the approved Narrabri Mine;
- understanding of the local and regional context (Section 2) and the Project (Section 3);
- feedback from stakeholder consultation undertaken to date;
- baseline environmental data;
- monitoring data from the existing Narrabri Mine monitoring network (Figure 5); and
- preliminary environmental assessments undertaken for the Gateway Certificate Application.

The preliminary risk assessment involved the following:

1. **Identification of Potential Issues –** Consideration of how the Project is likely to affect the physical or biological aspects of the environment; natural or community resources; environmentally sensitive areas; areas allocated for conservation purposes; and areas sensitive because of community factors.
2. **Identification of Key Potential Environmental Issues –** Identification of the priority issues based on consideration of the extent of the potential impacts; the nature of the potential impacts; and the potential impacts on environmentally sensitive areas.
3. **Preliminary Consideration of the Study Requirements** – Each of the key environmental issues identified were considered with respect to the level and scope of assessment that would be required for the EIS. Preliminary strategies to address the key impacts were also identified.

Recognised specialists will be commissioned to conduct the studies outlined in Table 3, and independent peer reviews will be conducted for selected key studies in consideration of the draft *Peer Review* Guideline (DP&E, 2017b).

4.2 LEVEL AND SCOPE OF ASSESSMENT

In addition to the consideration of the key potential environmental issues (Table 3), the following environmental aspects would also be addressed as a component of the EIS to consider other potential issues:

- geochemistry;
- land contamination;
- rehabilitation; and
- preliminary hazard analysis in accordance with SEPP 33.

Assessment of the key potential environmental issues (Table 3), and the other potential impacts identified above, would include consideration of:

- the existing environment using sufficient baseline data (including additional monitoring where necessary [Figure 5]);
- potential impacts of all stages of the Project including any cumulative impacts;

Table 3
Key Potential Environmental Issues, Proposed Environmental Assessments and Preliminary Management Strategies

Environmental/Social Matter	Likely Extent and Nature of Potential Impacts	Proposed Level and Scope of Environmental Assessment	Preliminary Strategies to Address Potential Impacts (to be refined during Impact Assessment)
Impacts on local and regional groundwater resources.	• Potential drawdown of groundwater levels, alteration of groundwater flow directions and decrease in baseflow to surface water systems due to depressurisation associated with the mine dewatering activities. • Impacts on groundwater quality. • Long-term changes to groundwater levels, flow direction and quality.	• Groundwater assessment involving numerical modelling to quantify potential impacts on groundwater resources (including cumulative impacts). • Groundwater investigation programme to assess the hydrogeological characteristics of the Project mining area and surrounds. • Development of management and monitoring systems to minimise potential impacts.	• Development and implementation of a management plan and monitoring program to mitigate, monitor and manage potential impacts on groundwater resources. • Appropriate licensing in accordance with the legislative requirements of the *Water Management Act, 2000*. • Assessment in accordance with the *Aquifer Interference Policy* (Department of Primary Industries [DPI], 2012). • Provision of mitigation/compensation/offset measures commensurate with the level of impact to any privately-owned groundwater supply bores impacted by the Project.
Impacts on surface water resources.	• Changes to flow characteristics due to changes in grade associated with underground mine subsidence. • Increased potential for erosion and sedimentation due to the increased area of land disturbance. • Continued surface water extraction and/or discharge of water as part of the on-site water management system.	• Surface water assessment involving hydrological models to quantify potential impacts to surface water resources. • Development of a site water balance to assess water supply and/or discharge requirements. • Development of management and monitoring systems to minimise potential impacts.	• Regular reviews of the site water balance and water management strategy for the Project. • Development and implementation of a management plan (incorporating the site water balance, an erosion and sediment control plan, surface water and groundwater monitoring and a surface water and groundwater response plan) to mitigate, monitor and manage potential impacts on surface water resources. • Appropriate licensing in accordance with the legislative requirements of the *Water Management Act, 2000*. • Remediation of incidences of subsidence-induced ponding, where necessary.
Noise impacts on nearby private receivers.	• Noise impacts associated with operational noise, construction activities, the use of mining equipment, train movements and road transport movements.	• Development and use of a predictive noise model to quantify potential noise impacts. • Assessment of rail and road noise impacts.	• Reasonable and feasible mitigation measures on-site to minimise noise generation during construction and operation. • Review and, if necessary, augmentation of the existing management plan and associated real-time noise monitoring network, meteorological forecasting and proactive noise management. • Consideration of acquisition and negotiated agreements with relevant landowners. • Acoustical mitigation at receivers where required (which may include measures such as enhanced glazing, insulation and/or air-conditioning), in consultation with the relevant landowner.

Table 3 (Continued)
Key Potential Environmental Issues, Proposed Environmental Assessments and Preliminary Management Strategies

Environmental/Social Matter	Likely Extent and Nature of Potential Impacts	Proposed Level and Scope of Environmental Assessment	Preliminary Strategies to Address Potential Impacts (to be refined during Impact Assessment)
Air quality impacts on nearby private receivers.	• Air quality impacts associated with dust and odour generation from land disturbance, product coal handling/transport and greenhouse gas emissions.	• Development and use of a predictive air quality model to quantify potential air quality impacts. • Assessment of potential greenhouse gas emissions in accordance with the *National Greenhouse Accounts Factors* (Department of the Environment and Energy, 2018) and any applicable State or national policies, programs or guidelines concerning greenhouse gas emissions.	• Best practice mitigation measures to minimise dust generation during construction and operation. • Review and, if necessary, augmentation of the existing management plan and associated real-time air quality monitoring network, meteorological forecasting and proactive management.
Impacts on Aboriginal and non-Aboriginal heritage.	• Direct impacts on items of Aboriginal heritage or Aboriginal cultural values or on items of non-Aboriginal heritage. • Potential indirect effects (e.g. subsidence) on items of Aboriginal heritage or non-Aboriginal heritage.	• Assessment of significance and impacts on items of Aboriginal heritage and Aboriginal cultural values in accordance with NSW Department of Environment, Climate Change and Water (DECCW) (2010a; 2010b) and NSW Department of Environment and Conservation (2005). • Assessment of impacts on items of non-Aboriginal heritage, in accordance with relevant Heritage Branch guidelines. • Investigation of measures to avoid, mitigate, remediate, monitor and/or offset the potential impacts of the Project.	• Consideration of assessment outcomes during detailed mine planning (e.g. locations of Aboriginal and non-Aboriginal heritage sites). • Involvement of Aboriginal stakeholders during the assessment and operational phases. • Surface disturbance protocols (including salvage or demarcation of sites where applicable). • Review and, if necessary, augmentation of existing management plans to mitigate, monitor and manage potential impacts on Aboriginal and non-Aboriginal heritage.
Impacts on ecology as a result of vegetation disturbance and subsidence effects.	• Vegetation clearance-related impacts on flora, fauna and their habitats. • Introduction of weeds and feral animals. • Potential subsidence effects on large trees. • Impacts on groundwater dependent ecosystems as a result of groundwater drawdown.	• Targeted surveys for threatened flora and fauna species known or considered possible occurrences within the provisional Development Application Area. • Assessment of potential impacts on any terrestrial species, populations, ecological communities or their habitats. • Identification of measures that would be implemented to maintain or improve the biodiversity values of the surrounding region in the medium to long term.	• Consideration of environmental assessment outcomes during detailed mine planning (including minimisation of vegetation disturbance, particularly disturbance of areas with higher ecological value). • Surface disturbance protocols, pre-clearance surveys and salvage of habitat features. • Progressive rehabilitation of site disturbance areas, including the establishment of native vegetation. • Review and, if necessary, augmentation of the existing management plan to mitigate, monitor and manage potential impacts on biodiversity.

Table 3 (Continued)
Key Potential Environmental Issues, Proposed Environmental Assessments and Preliminary Management Strategies

Environmental/Social Matter	Likely Extent and Nature of Potential Impacts	Proposed Level and Scope of Environmental Assessment	Preliminary Strategies to Address Potential Impacts (to be refined during Impact Assessment)
Impacts to the agricultural suitability of lands in the provisional Development Application Area and surrounds.	• Changes to the potential uses of land directly disturbed or otherwise impacted as a result of mining activities.	• Agricultural impact assessment of land within and surrounding the provisional Development Application Area to determine the existing agricultural productivity capacity. • Assessment of potential agricultural productivity capacity following the completion of mining activities and rehabilitation of disturbed land.	• Development of soil resource management practices (including the stripping and stockpiling of soil for use in rehabilitation). • Identification of strategies to maintain agricultural production of land.
Positive impacts on the regional and NSW economy.	• Employment of approximately 370 personnel, including flow-on effects to the regional and NSW economies. • Payment of royalties to the State and other tax payments.	• Socio-economic assessment of potential impacts on the regional and NSW community and economy, including a cost-benefit analysis. • Project justification, including consideration of alternatives, principles of Ecological Sustainable Development and the objects of the EP&A Act.	• Strategies to increase local employment and support of local businesses. • Continued community contributions by NCOPL/Whitehaven.
Potential lighting effects on the Siding Springs Astronomical Observatory.	• Potential night-lighting effects on the Observatory.	• Additional night-lighting sources may result in potential for additional night-lighting impacts on the Observatory.	• Limiting new sources of light and consideration of mitigation measures in the *Dark Sky Planning Guideline* (DP&E, 2016).
Visual Amenity	• Visual changes associated with land use changes from agriculture to mining activities.	• Visual impact assessment, including consideration of key viewpoints.	• Design of infrastructure and rehabilitation of disturbance areas.
Road Transport	• Minor increase in traffic during construction activities and continuation of traffic impacts until 2045.	• Road transport assessment in accordance with the *Guide to Traffic Generating Developments* (Roads and Traffic Authority, 2002).	• Use of designated roads for site access and movement of heavy vehicles.

- measures that could be implemented to avoid, mitigate, rehabilitate/remediate, monitor and/or offset the potential impacts of the Project; and
- contingency plans and/or adaptive management for managing any potentially significant residual risks to the environment.

Some preliminary strategies to address each of the key environmental issues are presented in Table 3. These strategies would be developed and refined through the assessment process. Detail on the proposed measures would be presented in the EIS.

Assessments for the EIS would consider applicable policies, guidelines and plans included in the *Indicative Secretary's Environmental Assessment Requirements for State Significant Mining Developments* (NSW Government, 2015a). Therefore, these policies, guidelines and plans have not been repeated within this document.

5 PRELIMINARY SOCIAL SIGNIFICANCE ASSESSMENT

In accordance with the *Social impact assessment guideline – For State significant mining, petroleum production and extractive industry development* (SIA Guideline) (DP&E, 2017), this section provides a preliminary social significance assessment for the Project.

5.1 COMMUNITY CONTRIBUTIONS

NCOPL has made the following contributions in accordance with Condition 9, Schedule 2 of Project Approval 08_0144:

- upgrade and seal of 7 km length of the Kurrajong Creek Road for the NSC;
- a $7,000 contribution to the NSC for provision of bush fire services;
- a total contribution of $93,000 to the NSC for community infrastructure;
- a total contribution of $100,000 to the Gunnedah Shire Council (GSC) for the Gunnedah Urban Riverine Scheme;
- a total contribution of $1,500,000 to the NSC for the Narrabri Swimming Complex; and
- a total contribution of $100,000 to the GSC for community enhancement.

NCOPL also makes financial and in-kind contributions to a number of non-government and community organisations in the region. NCOPL and Whitehaven's financial contributions (in the form of sponsorships and donations) in the region in Financial Year (FY) 2018 were $86,049 explicitly in the Narrabri LGA (e.g. a $15,000 and $5,000 donation to the NSC and the Winanga-Li Aboriginal Child and Family Centre, respectively) and $445,000 in total in the regions where Whitehaven operates.

5.2 COMPLAINTS

In accordance with the requirements of the Environmental Management Strategy (NCOPL, 2015a) and Project Approval 08_0144, NCOPL records and responds to all complaints and provides a complaints register summary in the Annual Review each year.

From April 2014 to March 2015, a total of 41 complaints were received from nine different complainants (NCOPL, 2015b). The complaints received were related to air quality (30) and noise (11).

From April 2015 to March 2016, a total of 22 complaints were received from six different complainants (NCOPL, 2016a). The complaints received were related to noise (15), air quality (6) and visual amenity (1).

From April to December 2016, a total of 27 complaints were received from five different complainants (NCOPL, 2016b). The complaints received were related to noise (14) and air quality (13).

From January to December 2017, a total of 14 complaints were received from two complainants (NCOPL, 2017). The complaints received were related to air quality (7), noise (4), visual amenity (2) and other (1).

From January to December 2018, a total of six complaints were received (NCOPL, 2018). The complaints received were related to noise (5) and air quality (1).

Mine-related complaints are managed in accordance with the Complaints Management Protocol as outlined in the Environmental Management Strategy (NCOPL, 2015a).

5.3 PRELIMINARY SOCIAL SIGNIFICANCE ASSESSMENT

Attachment C provides a SIA Scoping Report, including a preliminary social significance assessment.

5.4 CONSULTATION

Project briefings with the Community Consultative Committee (CCC) were held in June 2017, June 2018, September 2018 and December 2018. In particular, in June 2017 and December 2018, NCOPL met with the Narrabri Mine CCC to seek validation of the key concepts presented in Attachment C.

The CCC will continue to be briefed regarding the Social Impact Assessment to be included in the EIS and feedback will be sought from the committee regarding key findings.

Other planned consultation is described in Section 6.

6 COMMUNITY AND OTHER STAKEHOLDER ENGAGEMENT

6.1 ENGAGEMENT TO DATE

Whitehaven and NCOPL engages regularly with the community through the following mechanisms:

- a dedicated website (www.whitehavencoal.com.au);
- CCC quarterly meetings (with meeting minutes provided on the website and emailed to interested stakeholders);
- community factsheets;
- media releases and other media activities;
- general community surveys and reports;
- landholder relations program; and
- information days and mine open days.

Specific engagement completed in relation to the Project has included:

- Presentations to the CCC to provide a briefing regarding the Project and to seek validation of key social attributes.
- Presentations to the Narrabri Gomeroi Nation Aboriginal Corporation (GNAC), the Narrabri Local Aboriginal Land Council (NLALC) and the NSC regarding the Project in December 2018 and January 2019.
- A Conceptual Project Development Plan meeting with representatives of the DRG in June 2017.
- Discussions with landholders located above the proposed extended underground mining area.
- Project briefings with the DP&E in July and September 2017 and November 2018.
- Meeting with the NSC in December 2018.
- Meeting with the Narrabri Chamber of Commerce in December 2018.

In addition, Dr Paul Frazier conducted interviews with landholders and property managers as part of the Agricultural Impact Assessment (Eco Logical Australia, 2019) for the Gateway Certificate Application.

6.2 STAKEHOLDER ENGAGEMENT PROGRAM

The EIS would be supported by a SIA prepared in accordance with the SIA Guideline (DP&E, 2017).

A stakeholder engagement program has been developed for the Project. Key objectives of this program are to:

- engage with government and public stakeholders about the Project;
- seek input from key stakeholders on elements of the Project;
- recognise and respond to local interest or concerns regarding the Project; and
- continue the ongoing dialogue between NCOPL and stakeholders initiated through the development and operation of the Narrabri Mine.

The issues raised and outcomes of the stakeholder engagement program will be reported in the EIS.

Attachment C provides a SIA Scoping Report prepared by CDM Smith in consideration of the SIA Guideline. The SIA Scoping Report:

- identifies the Project's area of social influence, including people who may be affected by the project; and
- identifies social impacts needing further investigation in the SIA and assigns a proportionate level of assessment.

Consultation will include, but not necessarily be limited to, the following government agencies and authorities:

- DP&E;
- Forestry Corporation of NSW;
- NSC;
- DRG;
- NSW Resources Regulator;
- NSW Office of Environment and Heritage (including the National Parks and Wildlife Service and Heritage Branch);
- NSW Environment Protection Authority;
- NSW DPI (including DPI Forestry, DPI Agriculture and DPI Fisheries);
- NSW Department of Industry – Water;
- NSW Health;

- Subsidence Advisory NSW;
- Transport for NSW (including the Roads and Maritime Services); and
- Commonwealth Department of the Environment and Energy.

The stakeholder engagement program also recognises other key stakeholders including:

- directly affected landholders;
- Narrabri Mine CCC;
- the Registered Aboriginal Parties;
- local, State and Federal elected representatives;
- interested non-Government organisations;
- Narrabri Mine employees;
- infrastructure owners; and
- local customers and suppliers.

The EIS engagement program will include the use of a variety of consultation mechanisms such as:

- public availability of key documents (e.g. this request for SEARs and the EIS);
- existing community information mechanisms (Section 6.1), including:
    - regular updates to the Narrabri Mine CCC;
    - community factsheets;
    - provision of information on the Narrabri Mine website (www.whitehavencoal.com.au);
    - face-to-face meetings with near neighbours; and
    - information sessions;
- consultation with the Aboriginal community in consideration of the requirements of the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010b); and
- meetings with government agencies and other stakeholders.

7 CONCLUSION

An EIS will be prepared for the Project in accordance with the SEARs and in consideration of feedback obtained during the community and stakeholder engagement program. It is proposed that this EIS will include the following:

Executive Summary	A summary of the Project and the key conclusions of the EIS.
Section 1	An introduction to the Project and the EIS.
Section 2	Description of the various components and stages of the Project.
Section 3	Outline of the strategic planning context and statutory provisions relevant to the Project.
Section 4	Description of the consultation and engagement undertaken in relation to the EIS and SIA and ongoing community involvement.
Section 5	Details of the environmental assessment of the Project, including a description of the existing environment, an assessment of potential impacts and a description of measures that would be implemented to avoid, minimise, mitigate, offset, manage and/or monitor the potential impacts of the Project.
Section 6	Description of rehabilitation of the Project and mine closure.
Section 7	A summary of the proposed environmental management, mitigation, monitoring and reporting in relation to the Project.
Section 8	Description of how the Project (when compared with other alternatives) is in the public interest and balances impacts, strategic needs, and benefits.

8 REFERENCES

Department of Environment and Conservation (2005) *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation*.

Department of Environment, Climate Change and Water (2010a) *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW*.

Department of Environment, Climate Change and Water (2010b) *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*.

Department of Planning and Environment (2016) *Dark Sky Planning Guideline.*

Department of Planning and Environment (2017) *Social impact assessment guideline – For State significant mining, petroleum production and extractive industry development.*

Department of Primary Industries (2012) *Aquifer Interference Policy.*

Department of the Environment and Energy (2018) *National Greenhouse Accounts Factors.*

Department of Planning and Environment (2017a) *New England North West Regional Plan 2036*.

Department of Planning and Environment (2017b) *Peer Review* Guideline.

Ditton Geotechnical Services (2019) *Narrabri Underground Mine Stage 3 Extension Project Gateway Application – Subsidence Assessment.*

Eco Logical Australia (2019) *Narrabri Underground Mine Stage 3 Extension Project Agricultural Impact Assessment.*

Narrabri Coal Operations Pty Ltd (2015a) *Environmental Management Strategy.*

Narrabri Coal Operations Pty Ltd (2015b) *Annual Environmental Management Report (ML 1609) and Annual Review (PA 08_0144 MOD 2)*.

Narrabri Coal Operations Pty Ltd (2016a) *Narrabri Mine 2015-2016 Annual Review*.

Narrabri Coal Operations Pty Ltd (2016b) *Narrabri Mine 2016 Annual Review*.

Narrabri Coal Operations Pty Ltd (2017) *Narrabri Mine 2017 Annual Review*.

Narrabri Coal Operations Pty Ltd (2018) *Narrabri Mine 2018 Complaints Register.*

Narrabri Shire Council (2016) *Narrabri Shire Community Strategic Plan 2017 – 2027.*

NSW Government (2015a) *Indicative Secretary's Environmental Assessment Requirements for State Significant Mining Developments.*

NSW Government (2015b) *Mine Application Guideline – Specific development application requirements for State significant mining and extractive industry developments under the Environmental Planning and Assessment Act 1979*.

NSW Government (2015c) *Guidelines for the Economic Assessment of Mining and Coal Seam Gas Proposals*.

NSW Government (2017a) *Scoping an Environmental Impact Statement.*

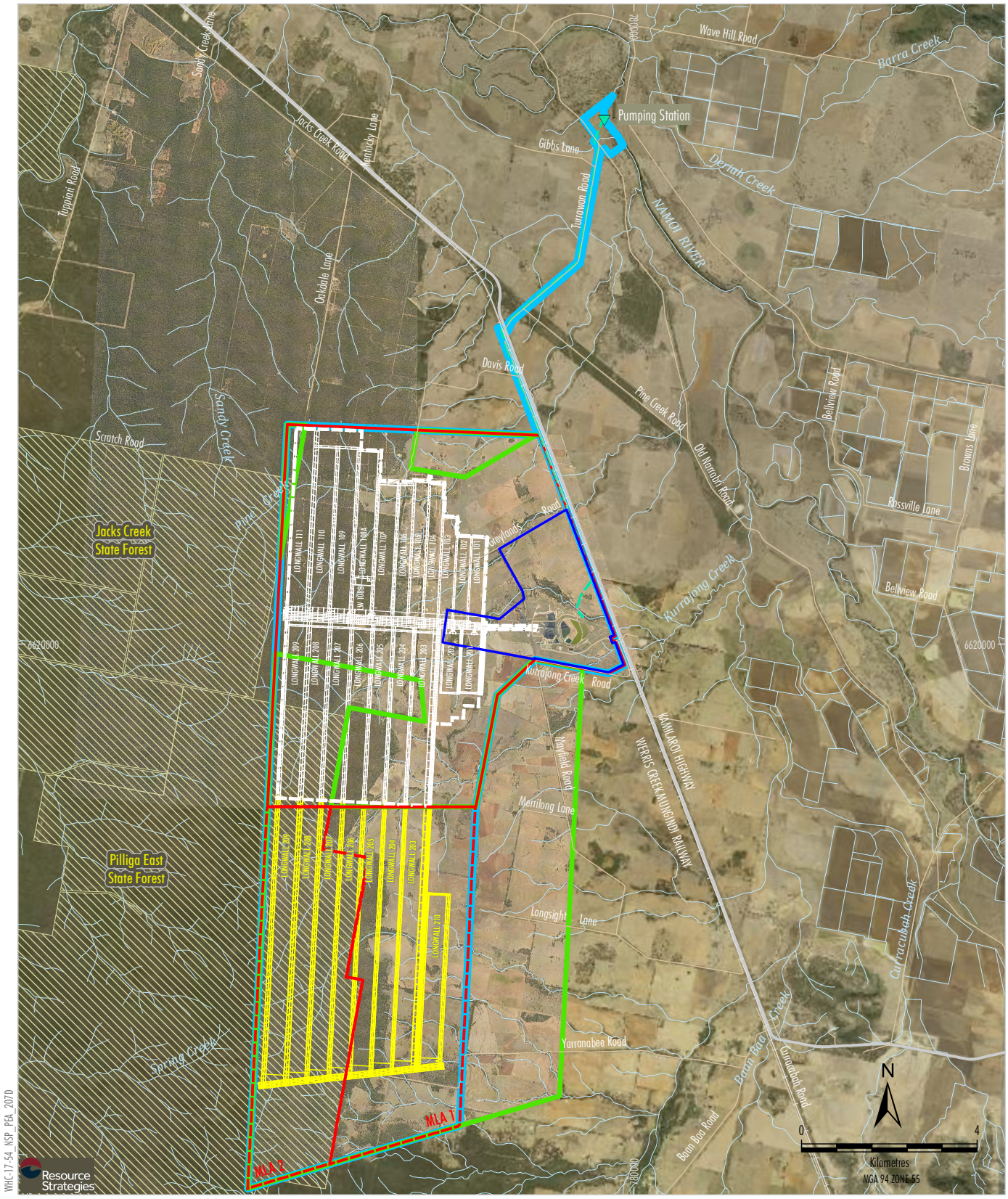
Roads and Traffic Authority (2002) *Guide to Traffic Generating Developments.*

Soil Management Designs (2019) *Narrabri Underground Mine Stage 3 Extension Project Gateway Application – Agricultural Resource Assessment*.

WRM Water & Environment (2015) *Narrabri Mine Modification 5 – Surface Water Assessment*. Report prepared for Narrabri Coal Operations Pty Ltd. Appendix C of the *Narrabri Mine Modification 5 Environmental Assessment*.

ATTACHMENT A

PROVISIONAL DEVELOPMENT APPLICATION AREA



LEGEND

- State Forest
- Mining Lease Boundary (ML 1609)
- Exploration Licence (EL 6243)
- Provisional Mining Lease Application Area
- Provisional Development Application Area
- Project Underground Mine Development

Approved Narrabri Mine

- Pit Top Area
- Underground Mine Footprint
- Underground Mine Development
- Water Supply Pipeline
- Pumping Station

Source: Orthophotos - Whitehaven Coal (2017); R.W. Corkery & Co Pty Ltd (2009); NSW Trade & Investment (2017); NCOPL (2018)

WHITEHAVEN COAL

NARRABRI STAGE 3 PROJECT

Provisional Development Application Area

Figure A1

ATTACHMENT B

KEY OUTPUTS OF THE EIS SCOPING WORKSHEET

Environmental Impact Statement (EIS) scoping worksheet for:	*Narrabri Underground Mine Stage 3 Extension Project*						
What matters might be impacted?			**What activities might cause an impact?**		**What are the characteristics of the impact?**	**How will the impact be managed?**	**What are the community and other stakeholder views?**
Social and environmental matters **I.e. natural or human assets or values aggregated at the level most appropriate for informing management and assessment requirements** ***Click on the matter for a description, or the link above for full glossary***			**Without any mitigation, is the proposal likely to impact on the matter?** ***(Select from list)***	**If there is a 'likely' impact:** **1. list the activities expected to cause the impact; and** **2. if applicable, list the receptor being impacted and its status.** *E.g. construction noise will be heard at nearby school* **If 'unlikely', briefly explain why. Has the impact been actively avoided through project design or site location?** ***(Manual entry)***	**Does the impact need assessment in the EIS?** ***(Auto fills)***	**Is the impact, without mitigation, expected to have a material cumulative effect with other impacts (including from other projects)?** ***(Select from list)***	**What safeguards and management measures are expected to be required to address the impact?** ***(Select from list)***	**Are there community or other stakeholder concerns regarding the impact or activity?** ***(Based on engagement with community and other stakeholders)*** ***(Select from list)***
What does the proposal mean for people?	AMENITY	Acoustic	Likely	Noise and vibration generating activities during construction, operation and decommissioning will be heard by nearby rural residents.	Yes	No	Project Specific	Yes
		Visual	Likely	Visual changes associated with land use change from agriculture to mining activities, and a change in the vegetation coverage in the Project area will create visual impacts for nearby landholders.	Yes	No	Project Specific	Yes
		Odour	Unlikely	Potential odours would be limited to potential coal stockpile self-heating (no adverse impacts to date).				No
		Microclimate	n/a	No change to microclimate expected.				
	ACCESS	Access to property	n/a	Access to public and private property would be maintained.				
		Utilities	n/a	Access to utilities would be maintained.				
		Road and rail network	Likely	A minor increase in traffic is likely during Project construction. Competition for rail infrastructure / scheduled truck paths may increase with agricultural produce. Ongoing use of roads and rail will occur during operation as currently experienced.	Yes	Yes	Project Specific	Yes
		Offsite parking	n/a	Sufficient parking would be provided on-site for construction and operations.				
	BUILT ENVIRONMENT	Public domain	Unlikely	Spaces and streets in nearby towns unlikely to be impacted as the closest community (Baan Ban) is approximately 10 km from the Project site.				No
		Public infrastructure	Likely	Planned subsidence would occur during underground mining operations which may impact public infrastructure.	Yes	No	Project Specific	No
		Public infrastructure	Likely	Project lighting may contribute to impacts on the Siding Springs Astronomical Observatory.	Yes	No	Project Specific	No
		Public infrastructure	Likely	Road quality may be impacted due to minor increase during construction period and ongoing use throughout life of Project.	Yes	No	Project Specific	Yes
		Other built assets	Likely	Planned subsidence would occur during underground mining operations potentially impacting built assets.	Yes	No	Project Specific	Yes
	HERITAGE	Natural	Likely	Planned subsidence and surface development would impact natural features including social and recreational use and/or value relating to Pilliga East State Forest.	Yes	No	Project Specific	Yes
		Cultural	Likely	Planned subsidence and surface development would potentially impact cultural heritage places or objects.	Yes	No	Project Specific	No
		Aboriginal cultural	Likely	Planned subsidence and surface development would potentially impact Aboriginal heritage places, objects and connection with Country.	Yes	No	Project Specific	Yes

Environmental Impact Statement (EIS) scoping worksheet for:			*Narrabri Underground Mine Stage 3 Extension Project*				
What matters might be impacted?			**What activities might cause an impact?**		**What are the characteristics of the impact?**	**How will the impact be managed?**	**What are the community and other stakeholder views?**
Social and environmental matters **I.e. natural or human assets or values aggregated at the level most appropriate for informing management and assessment requirements** ***Click on the matter for a description, or the link above for full glossary***			**Without any mitigation, is the proposal likely to impact on the matter?** ***(Select from list)***	**If there is a 'likely' impact:** **1. list the activities expected to cause the impact; and** **2. if applicable, list the receptor being impacted and its status.** *E.g. construction noise will be heard at nearby school* **If 'unlikely', briefly explain why. Has the impact been actively avoided through project design or site location?** ***(Manual entry)***	**Does the impact need assessment in the EIS?** ***(Auto fills)***	**Is the impact, without mitigation, expected to have a material cumulative effect with other impacts (including from other projects)?** ***(Select from list)***	**What safeguards and management measures are expected to be required to address the impact?** ***(Select from list)***	**Are there community or other stakeholder concerns regarding the impact or activity?** ***(Based on engagement with community and other stakeholders)*** ***(Select from list)***
What does the proposal mean for people? (cont.)	HERITAGE (cont.)	Built	Likely	Planned subsidence and surface development would potentially impact historic built structures.	Yes	No	Project Specific	No
	COMMUNITY	Health	Likely	Potential for property owners (affected and adjacent) to experience stress and anxiety in relation to uncertainty about the Project's timing, and/or perceived or actual impacts.	Yes	Yes	Project Specific	Yes
		Safety	Likely	Potential for safety and perceived safety to be impacted resulting from any construction workforce.	Yes	Yes	Project Specific	No
		Services and facilities	Likely	Potential for community infrastructure impacts, such as health, emergency, child care, and recreational services and facilities.	Yes	Yes	Project Specific	Yes
		Cohesion, capital and resilience	Likely	Potential to change population levels and stability in the Narrabri and Gunnedah LGAs.	Yes	Yes	Project Specific	Yes
		Cohesion, capital and resilience	Likely	Differences of opinion about the Project, land use change and changes to environmental values may affect community harmony.	Unknown	Yes	Project Specific	Yes
		Cohesion, capital and resilience	Likely	Community concern that mining diminishes the agricultural character of the region, as well as the value of affected land and/or adjacent land (even after rehabilitation).	Yes	Yes	Project Specific	Yes
		Cohesion, capital and resilience	Likely	Whitehaven and NCOPL's community investments would contribute to community cohesion, capital and resilience.	Unknown	Yes	Project Specific	Yes
		Housing	Likely	Short-term low-level demands for temporary accommodation or rental housing are possible during construction/mine development. Housing impacts during operation would likely remain as currently experienced, however may be cumulative impacts on housing markets.	Yes	Yes	Project Specific	Yes
		Indigenous Wellbeing	Likely	Indigenous employment training programs and employment opportunities/loss would affect wellbeing of Indigenous community.	Yes	Yes	Project Specific	Yes
	ECONOMIC	Natural resource use	Likely	Reduction in agricultural and forestry land uses during the Project life.	Yes	No	Project Specific	Yes
		Livelihood	Likely	Acquisition of agricultural properties or temporary use of agricultural land for surface infrastructure via landholder agreement, impacting farming families.	Yes	No	Project Specific	Yes
		Livelihood	Likely	Continuity of direct and indirect employment in the Narrabri and Gunnedah LGAs.	Yes	Yes	Project Specific	Yes
		Livelihood	Likely	Mine closure (in the long term at around 2045) to reduce direct and indirect employment in the Narrabri and Gunnedah LGAs.	Yes	Yes	Project Specific	Yes
		Opportunity cost	Likely	Reduction in agricultural and forestry land uses during the Project life.	Yes	No	Project Specific	Yes

Environmental Impact Statement (EIS) scoping worksheet for:			*Narrabri Underground Mine Stage 3 Extension Project*					
What matters might be impacted?			**What activities might cause an impact?**		**What are the characteristics of the impact?**		**How will the impact be managed?**	**What are the community and other stakeholder views?**
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What does the proposal mean for the natural environment?	AIR	Particulate matter	Likely	Particulate matter emissions (principally from the Project's coal handling operations) may impact surrounding receivers.	Yes	No	Project Specific	Yes
		Gases	Unlikely	Not expected to emit significant gaseous emissions (such as No_x and So_x).				No
		Atmospheric emissions	Likely	Greenhouse gas emissions (Scope 1, 2 and 3) would contribute to Australia's total emissions, however the Project's contribution will be minor compared to Australian and global emissions.	Yes	Yes	Project Specific	No
	BIODIVERSITY	Native vegetation	Likely	Additional vegetation clearance would be required for surface infrastructure impacting native vegetation on the site and broader ecosystems.	Yes	No	Project Specific	Yes
		Native fauna	Likely	Additional vegetation clearance would be required for surface infrastructure impacting native fauna on the site and broader ecosystems.	Yes	No	Project Specific	No
	LAND	Stability and/or structure	Likely	Planned subsidence and surface development would potentially impact land stability and/or structure and impact long-term agricultural viability.	Yes	No	Project Specific	Yes
		Soil chemistry	Likely	Planned subsidence and surface development would potentially impact land stability and/or structure and impact long-term agricultural viability.	Yes	No	Project Specific	Yes
		Capability	Likely	Planned subsidence and surface development would potentially impact land stability and/or structure and impact long-term agricultural viability.	Yes	No	Project Specific	Yes
		Topography	Likely	Planned subsidence would potentially impact land topography of value to Aboriginal people and community.	Yes	No	Project Specific	Yes
	WATER	Water quality	Likely	Planned subsidence and surface development would potentially impact water quality and long-term agricultural viability.	Yes	No	Project Specific	Yes
		Water availability	Likely	Project dewatering and water demand would potentially impact water availability and long-term agricultural viability.	Yes	Yes	Project Specific	Yes
		Hydrological flows	Likely	Planned subsidence and surface development would potentially impact hydrological flows.	Yes	No	Project Specific	Yes
What risks does the proposal face?	RISKS	Coastal hazards	n/a	No assessment necessary as not a coastal location.				
		Flood waters	Unlikely	Not located in the Namoi River flood plain and not expected to impact flood waters.				No
		Bushfire	Likely	Project activities may increase the risk of bushfire.	Yes	No	Project Specific	No
		Undermining	Likely	Planned subsidence would occur as a result of the Project.	Yes	No	Project Specific	No
		Steep slopes	Unlikely	No significant steep slopes are located in the Project area.				No

ATTACHMENT C

SOCIAL IMPACT ASSESSMENT SCOPING REPORT

Please refer to separate document


WHITEHAVEN
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