

**Vickery Coal Project**

**Environmental  
Impact  
Statement**



**SECTION 1**

**INTRODUCTION**

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## 1 INTRODUCTION

This document is an Environmental Impact Statement (EIS) for the Vickery Coal Project (the Project). The Project would involve the development and operation of an open cut coal mine and associated infrastructure.

The Project would be located at the Vickery Coal Mine, approximately 15 kilometres (km) south-east of Boggabri and approximately 25 km north of Gunnedah in New South Wales (NSW) (Figure 1-1). The Project would be owned and operated by Whitehaven Coal Limited (Whitehaven).

Run-of-mine (ROM) coal from the Project would be transported by road for processing at the Whitehaven Coal Handling and Preparation Plant (CHPP) located approximately 20 km to the south of the Vickery Coal Mine on the outskirts of Gunnedah (Figure 1-1).

### 1.1 PROJECT OVERVIEW

#### 1.1.1 Purpose of this Report

This EIS has been prepared to accompany a Development Application made for the Project, in accordance with Part 4 of the NSW *Environmental Planning and Assessment Act, 1979* (EP&A Act).

The Project was determined to be a “State Significant Development” to which Division 4.1 of Part 4 of the EP&A Act applies in accordance with the *State Environmental Planning Policy (State and Regional Development) 2011* (State and Regional Development SEPP).

This EIS considers the potential environmental impacts of the Project in accordance with clauses 6 and 7 in Schedule 2 of the NSW *Environmental Planning and Assessment Regulation, 2000* (EP&A Regulation) and the Director-General's Requirements (DGRs) issued by the NSW Department of Planning and Infrastructure (DP&I) on 19 January 2012 (Attachment 1). The DGRs were issued in accordance with clause 3 of Schedule 2 of the EP&A Regulation. A summary of the DGRs is provided in Section 1.2.

The Project was determined to be “not a controlled action if undertaken in a particular manner” by the Commonwealth Minister for Sustainability, Environment, Water, Population and Communities (Commonwealth Minister) under the Commonwealth *Environment Protection and Biodiversity Conservation Act, 1999* (EPBC Act) on 17 May 2012.

The relevance of the EPBC Act for the Project is discussed in Section 6.3.2.

#### 1.1.2 Background

Development Consent for the Vickery Coal Mine (formally known as the Namoi Valley Coal Project) was originally granted in October 1986 by the NSW Minister for Planning and Environment pursuant to section 101 of the EP&A Act. The proponent at the time was Namoi Valley Coal Pty Ltd (a subsidiary of Conzinc Riotinto of Australia [to later become Rio Tinto Limited]).

Mining commenced in 1986 with a small underground operation which continued until March 1991. Three minor modifications to the Development Consent were approved between 1987 and 1990. From 1991 to 1998 approximately 4 million tonnes (Mt) of coal was extracted using open cut mining methods.

Mining operations at the Vickery Coal Mine ceased in 1998, when approval from the NSW Department of Primary Industries (DPI) was granted to suspend operations and complete rehabilitation works on-site.

Rehabilitation activities at the open cut and waste emplacement areas are now complete and the site is currently in care and maintenance.

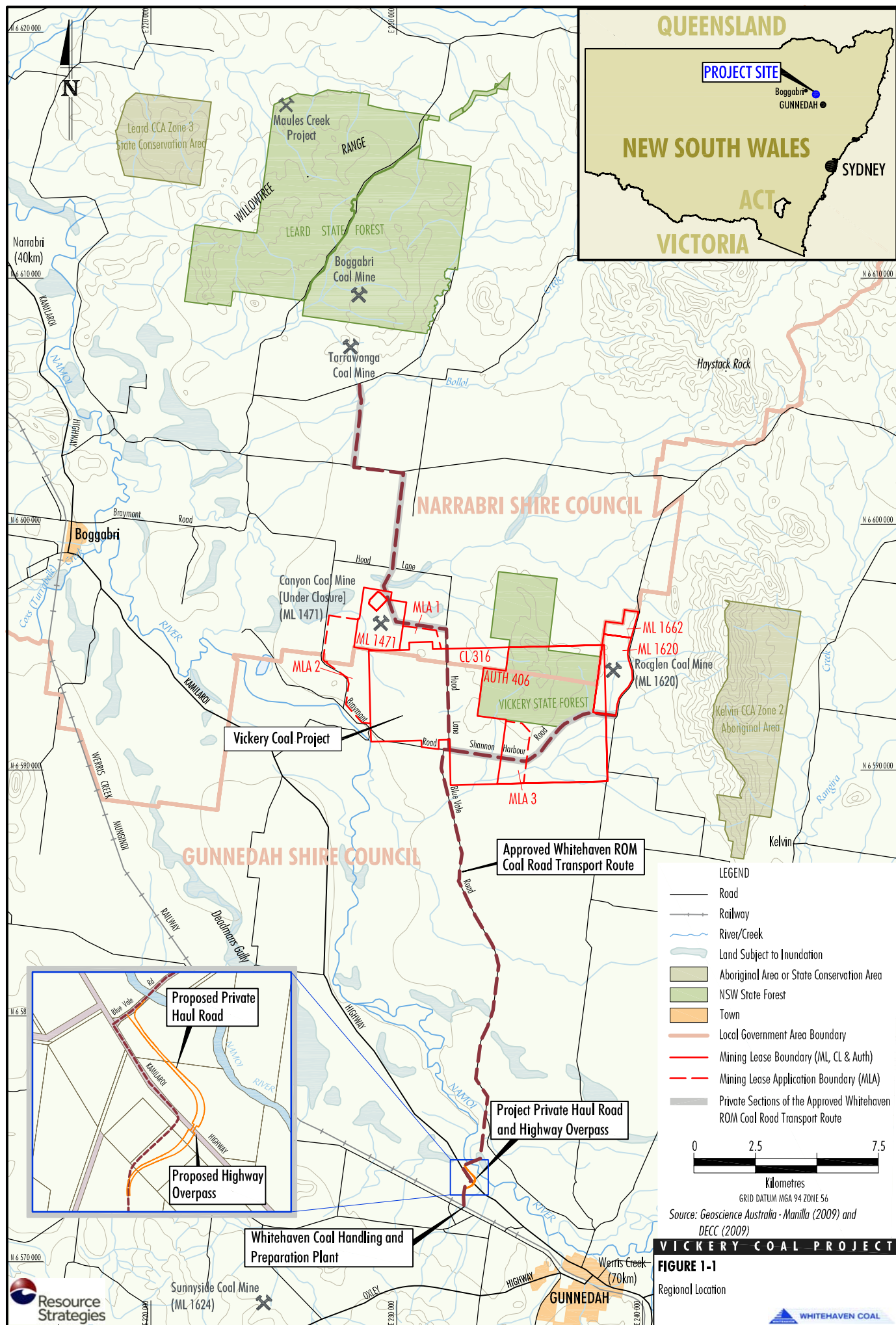
Whitehaven acquired 100 percent (%) of Coal Lease (CL) 316 and Authorisation (AUTH) 406 from Rio Tinto Limited in January 2010.

#### 1.1.3 Project Summary

The proposed life of the Project is 30 years.

The main activities associated with the development of the Project are listed below:

- Development and operation of an open cut mine within CL 316, AUTH 406, Mining Lease (ML) 1471, Mining Lease Application (MLA) 1, MLA 2 and MLA 3.
- Use of conventional mining equipment, haul trucks and excavators to remove up to 4.5 million tonnes per annum (Mtpa) of ROM coal and approximately 48 million bank cubic metres (Mbcm) of waste rock per annum from the planned open cut.



- Placement of waste rock (i.e. overburden and interburden/partings) within external emplacements to the west and east of the planned open cut (i.e. Western Emplacement and Eastern Emplacement) and within mined-out voids.
  - Construction and use of a Mine Infrastructure Area (MIA), including on-site coal crushing, screening and handling facilities to produce sized ROM coal, workshops, offices and services.
  - Transport of ROM coal by haulage trucks to the Whitehaven CHPP on the outskirts of Gunnedah (approximately 20 km to the south of the Project open cut) for processing.
  - Use of an on-site mobile crusher for coal crushing and screening of up to 150,000 tonnes (t) of domestic specification coal per annum for direct collection by customers at the Project site.
  - Use an on-site mobile crusher to produce up to approximately 90,000 cubic metres (m<sup>3</sup>) of gravel materials per annum for direct collection by customers at the Project site.
  - Construction and use of a water supply bore, and a surface water extraction point on the bank of the Namoi River and associated pump and pipeline systems.
  - Construction and use of new dams, sediment basins, channels, dewatering bores and other water management infrastructure required to operate the mine.
  - Construction and use of new soil stockpile areas, laydown areas and gravel/borrow areas.
  - Construction of a 66 kilovolt (kV)/11 kV electricity sub-station and 11 kV electricity transmission line (ETL).
  - Transport of coarse rejects generated within the Whitehaven CHPP via truck to the Project for emplacement within an in-pit emplacement area.
  - Transport of tailings (i.e. fine rejects) generated within the Whitehaven CHPP via truck to the Project for emplacement within co-disposal storage areas in the open cut and/or disposal in existing off-site licensed facilities (e.g. the Brickworks Pit).
  - Realignment of sections of Blue Vale Road, Shannon Harbour Road and Hoad Lane to the east and south of the open cut.
  - Realignment of the southern extent of Braymont Road to the south of the open cut.
  - Construction of an approximately 1 km long section of private haul road (including an overpass over the Kamilaroi Highway) between Blue Vale Road and the Whitehaven CHPP (referred to as the private haul road and Kamilaroi Highway overpass).
  - Ongoing exploration, monitoring and rehabilitation activities.
  - Construction and use of other associated infrastructure, equipment and mine service facilities.
- Approximately 135 Mt of ROM coal would be mined from the open cut during the life of the Project. Mining operations would be conducted up to 24 hours per day, seven days per week.

#### 1.1.4 Site location and Tenure

The Vickery Coal Mine is located within CL 316, however, the Project mining area would extend into three MLA areas (MLA 1, MLA 2 and MLA 3) as well as the Canyon Coal Mine ML 1417 (Figure 1-2a).

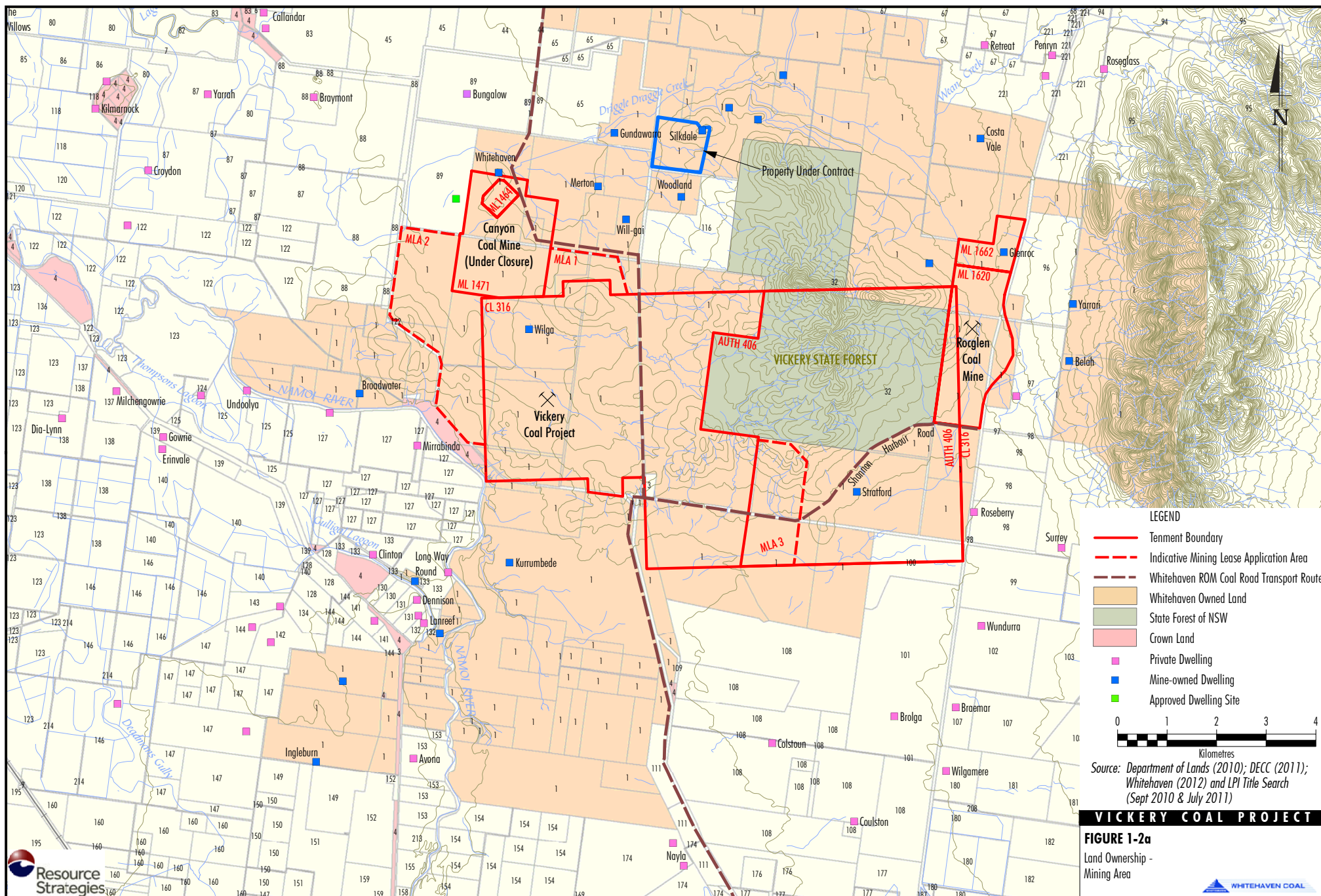
Relevant land ownership information for parcels of land associated with the Project mining area is provided on Figures 1-2a and 1-2b.

The private haul road and Kamilaroi Highway overpass would be located approximately 5 km west of Gunnedah, and would run parallel to the Kamilaroi Highway before crossing the highway immediately east of the existing Whitehaven CHPP access road. The road corridor would be located on both Crown and privately owned land.

Relevant land ownership information for parcels of land associated with the private haul road and Kamilaroi Highway overpass and surrounds is provided on Figures 1-3a and 1-3b.

The real property descriptions provided in support of the Development Application are provided in Attachment 2.

The Project mining area is located within both the Gunnedah Local Government Area (LGA) and the Narrabri LGA. The private haul road and Kamilaroi Highway overpass is located wholly within the Gunnedah LGA. A description of the land zoning which applies to the Project is provided in Attachment 3.



REFERENCE No.	LANDHOLDER	REFERENCE No.	LANDHOLDER
1	Whitehaven Coal Mining Pty Ltd	128	GA & TJ Mcilveen
3	Gunnedah Shire Council	130	HM Cassidy
4	The State of New South Wales	131	BJ & DP Keeler
6	Narrabri Shire Council	132	EJ & CA Hannan
7	The Council of the Shire of Namoi	133	GA Mcilveen
9	The Commissioner for Railways	134	TB Roberts
32	State Forests of NSW	136	EF Darley
39	DV Gillham	137	AC & GT Carrigan
44	RR & PL Crosby	138	AC Carrigan
45	RP & RD McGregor	139	KL & SR Crawford
65	TR Hall & AI Myers Johnson	140	DA & JE Watt
67	RL & KA Penrose	141	DM & AM Heinemann
68	PG & IL Capel	142	TB & A Roberts
78	JM & NM McKechnie	143	SL Johns
79	KD Gillham	144	EF & JT Darley
80	A D Watson Holdings Pty Ltd	146	GC Carrigan
82	EC & JE Clarke	147	TJ & C Loveridge
83	RP McGregor	149	PJ Loveridge
85	Kilmarnock (Boggabri) Pty Ltd	150	TJ Loveridge
86	PJ Watson Holdings Pty Ltd	151	LG Sims
87	DS Riley	152	CJ Sims
88	MJ & JH Maunder	153	RG & HK Mansfield
89	KA & C Blanch	154	MM & SM Dawson
94	RJ & A Barnes	155	M & GO Jensen
95	CW & MJ Harmse	157	IK, KD, PRB & JE Mcarthur
96	GJ Rennick	158	BC Martin & LD Curran
97	RS & GJ Rennick	159	IE Sims
98	RS Rennick	160	RS Blackmore
99	WN & KE Sales	161	PRB & JE Mcarthur
100	C McKillop Laurie	168	GW & GN Thibault
101	WF & SE Nicholls	169	WJ & SL Evans
102	JC & JE Meyers	174	Selkirk Pastoral Co Pty Limited
103	KG Perrett	176	WM & KL Campbell
104	DA & RK Torrens	177	South Weroona Pty Limited
105	JC & MA King	178	BA & D Edwards
106	MJ Pickett	180	RJ & PF Fitzpatrick
107	JC Wise & LD Miller	181	M & TC Clifton
108	AC Wannan & PM Winter	182	DJ & DA Shaw
109	Namoi Valley Coal Pty Limited	183	GL Knapman
111	RB Kelly	184	JR & JE Floyd
112	NP & SA Jackson (Under Contract)	187	BJ, LA, AJ & MA Thibault
116	C R & C P Stewart Investments Pty Limited	195	DW & KA Rolinson
118	AD Watson	197	CAL & CG Boileau
120	Nambarloo Pty Limited	199	RP & SM Urquhart
122	Nandewar Pty Limited	200	DK & BM Swain
123	Primeag Australia Limited	208	O Gremmer
124	JP Carrigan	211	LJ Carrigan
125	S & AJ Maunder	213	Damilabe Pty Ltd
127	JK Barlow	214	GC Carrigan GM Carrigan

# VICKERY COAL PROJECT

## FIGURE 1-2b

Relevant Land Ownership List -  
Mining Area





REFERENCE No.	LANDHOLDER
1	Whitehaven Coal Mining Pty Ltd
3	Gunnedah Shire Council
4	The State of New South Wales
222	Walleroy Crescent Pty Limited Chamberlain Avenue Pty Limited
223	RW Tibbs
224	TD & PA Burns, GR & KL Harris
225	JC & DL Wilkinson
226	CJ & WD Jaeger
227	PA & DL Rankin
228	RS & CA Brown
229	North West Projects (NSW) Pty Limited
230	WP Small
231	JB & DA Tibbett
232	CBC Finlay & KM Hunt
233	GS & HA Finlay
234	Pryde and Scott Investments Pty Limited
235	Pryde's Tucker Bag Pty Ltd
237	Manildra Flour Mills Retirement Fund Pty Limited
238	CJ & S Beattie Pty Limited
241	CJ & PA Waters
243	RT Dugan
244	PJ & D Fuller
246	RO & AF Cochrane
247	BD Kelly
248	SV Wicks
249	KB Hill
250	PJ Hedges
252	Blackjack Carbon Pty Limited
253	TM Bruce
254	AG, KJ, MA & SL Kennedy
255	Mackellar Equipment Hire Pty Ltd
256	GH & TG Foster
257	KJR Barnard & JE Niquet
258	North West Scrap Metal Pty Limited
259	OD & BJ Dennis
274	TB & AK Donoghue
275	JI Knebel
276	BA & K Edmonston
277	EC Riordan
278	VV Snape
279	PD Jones
284	RI & JE Horne
285	WH & SGBA Heath
286	RF & CC Wall
287	SM & RL Middleton
288	MJ Furner & A Ogi
289	RN Thomson
290	Gunnible Pastoral Company Pty Limited
291	PA Ryman
292	RI & JR Paterson

# VICKERY COAL PROJECT

## FIGURE 1-3b

Relevant Land Ownership List -  
Private Haul Road and  
Kamilaroi Highway Overpass



Source: LPI (2010 & 2011)

### 1.1.5 Interaction with other Mining Operations in the Vicinity of the Project

Other operating Gunnedah Basin coal mining operations of potential relevance to Project interactions include:

- the Canyon Coal Mine site (100% Whitehaven owned) located immediately north of the Project (operations at this mine ceased in 2009);
- the Rocglen Coal Mine (100% Whitehaven owned) located approximately 5 km east of the Project;
- the Tarrawonga Coal Mine (70% Whitehaven owned) located approximately 10 km north of the Project;
- the Boggabri Coal Mine located approximately 12 km north of the Project;
- the Maules Creek Coal Project (100% Whitehaven owned) located approximately 20 km north of the Project;
- the Narrabri Coal Mine (70% Whitehaven owned) located some 40 km west-northwest of the Project; and
- the Sunnyside Coal Mine (100% Whitehaven owned) located approximately 25 km south of the Project.

Whitehaven acquired the Vickery South Exploration Licence (EL) 7407 (known as the Vickery South Project), located immediately to the south of the Project, in July 2012. Whitehaven is currently reviewing the exploration data and conducting feasibility studies to determine the development potential of the Vickery South area. As only exploration activities are currently proposed to be conducted within EL 7407, no cumulative impacts associated with Vickery South have been identified for the Project.

The Watermark Project, owned by Shenhua, and the Caroona Coal Project, owned by BHP Billiton, are located approximately 60 km and 75 km south of Gunnedah respectively.

Descriptions of Project potential interactions and potential cumulative impacts with these and other nearby mining operations are provided in Attachment 4 and, where relevant, Section 4.

### 1.1.6 Proponent

The Project is being developed by Whitehaven. The contact details for Whitehaven are:

Whitehaven Coal Limited  
Post Office Box 600  
GUNNEDAH NSW 2380  
Telephone: (02) 6742 4337

The registered and principal office for Whitehaven is:

Whitehaven Coal Limited  
Level 25, 259 George Street  
SYDNEY NSW 2000  
Telephone: (02) 8507 9700

## 1.2 DIRECTOR-GENERAL'S REQUIREMENTS

The DGRs for the Project were issued by the DP&I on 19 January 2012 (Attachment 1). A summary of the DGRs is provided in Tables 1-1 and 1-2. Tables 1-1 and 1-2 also provide cross references to the relevant sections of the EIS where the DGRs are addressed.

## 1.3 PROJECT CONSULTANTS

This EIS was prepared by Resource Strategies Pty Ltd with specialist input provided by the following organisations:

- Whitehaven (*project design, alternatives and justification, preliminary hazard analysis, background data, resource economics, consultation, rehabilitation, final landform, agricultural impact assessment and Statement of Commitments*);
- UGM and Enginecom (*mine scheduling*);
- Heritage Computing Pty Ltd (*groundwater assessment*);
- Groundwater Exploration Services Pty Ltd (*groundwater testwork*);
- Evans & Peck Pty Ltd (*surface water assessment*);
- Fluvial Systems Pty Ltd (*geomorphologic review*);
- Wilkinson Murray (Sydney) Pty Limited (*noise and blasting assessment*);
- PAEHolmes (*air quality assessment and greenhouse gas assessment*);

**Table 1-1**  
**Director-General's Requirements – Reference Summary\***

Summary of Director-General's Requirements	EIS Reference
<b>General Requirements</b>	
The EIS must include:	
• Executive Summary.	Front of EIS
• Description of the Project.	Section 2
• A need for the proposed development.	Section 6.6.1
• Justification of the Project including efficiency of coal resource recovery, mine safety and environmental protection.	Section 6.6
• Likely staging of Project development.	Section 2
• Opportunities for co-operation and efficiencies with existing, approved and proposed mining operations in the vicinity of the site.	Attachment 4
• Likely interactions between the Project and existing, approved and proposed mining operations in the vicinity of the site.	Section 4 and Attachment 4
• Plans of proposed Building Works.	Section 2
• Consideration of relevant environmental planning instruments.	Section 6, Attachment 3, and wherever relevant in the Main EIS and Appendices
• Risk assessment of potential environmental impacts of the Project, identifying key areas for further assessment.	Section 4 and Appendices M and N
• Description of existing environment, assessment of potential impacts, description of measures and monitoring programs to manage risks to the environment.	Sections 4, 5 and 7
• A summary of proposed environmental management and monitoring measures.	Section 7
<b>Key Issues</b>	
• Land Resources.	Section 4.3 and Appendices G and K
• Water Resources.	Sections 4.4 and 4.5, Appendices A and B and Attachment 5
• Biodiversity.	Sections 4.9 and 4.10 and Appendix E
• Heritage.	Sections 4.13 and 4.14 and Appendices I and J
• Air Quality.	Section 4.7 and Appendix D
• Greenhouse Gases.	Section 4.8 and Appendix D
• Noise, Vibration and Blasting.	Section 4.6 and Appendix C
• Traffic and Transport.	Section 4.11 and Appendix F
• Visual.	Section 4.12 and Appendix H
• Waste.	Section 2.11 and Appendix L
• Hazards.	Section 4.17 and Appendix N
• Social and Economic.	Sections 4.15, 4.16 and 6.6 and Appendix K
• Rehabilitation.	Section 5 and Appendix G
<b>Consultation Requirements</b>	
• Describe consultation with relevant local, State or Commonwealth government authorities, service providers, community groups or affected landowners.	Section 3.1 and Attachment 6
• The consultation process, and the issues raised during this process, must be described in the EIS.	Section 3.1

\* The complete version of the DGRs is presented in Attachment 1.

**Table 1-2**  
**Content Requirements of an EIS – Clause 7 of Schedule 2 of the EP&A Regulation**

Summary of Clause 7 of Schedule 2 of the EP&A Regulation	EIS Reference
The EIS must include:	
• Summary of the EIS.	Executive Summary
• Objectives of the Project.	Sections 1.1 and 6.6.1
• Analysis of any feasible alternatives to the Project, including the consequences of not carrying out the Project.	Section 6.6.2
• Description of the Project.	Section 2
• Description of the environment likely to be affected by the Project.	Section 4
• The likely impact on the environment of the Project.	Section 4
• Description of the measures proposed to mitigate any adverse effects of the Project on the environment.	Section 4
• A list of any approvals that must be obtained under any other Act or law before the Project may lawfully be carried out.	Section 6
• Compilation (in a single section of the EIS) of the measures proposed to mitigate any adverse effects of the Project on the environment.	Section 7
• Justification of the Project, having regard to biophysical, economic and social considerations, including the principles of ecologically sustainable development (ESD).	Section 6.6

- Niche Environment and Heritage Pty Ltd (*offset flora surveys, flora assessment, vertebrate and aquatic fauna assessment*);
- GTA Consultants and Halcrow (*road transport assessment*);
- McKenzie Soil Management Pty Ltd (*agricultural resource assessment and agricultural impact assessment*);
- Urbis Pty Ltd (*visual assessment*);
- Landskape (*Aboriginal cultural heritage assessment*);
- Heritage Management Consultants Pty Ltd (*non-Aboriginal heritage assessment*);
- Gillespie Economics (*socio-economic assessment and agricultural impact assessment*);
- Geo-Environmental Management Pty Ltd (*geochemistry assessment*);
- Safe Production Solutions Pty Ltd (*environmental risk assessment*);
- Lloyd Consulting Pty Ltd (*land contamination assessment*); and
- Ashurst (*legal review*).

## 1.4 DOCUMENT STRUCTURE

This EIS comprises a main text component and supporting studies. The main text component consists of:

- |           |  |
|-----------|--|
| Section 1 | Provides an introduction to the Project and the EIS.   |
| Section 2 | Describes the components and stages of the Project.  |
| Section 3 | Describes the consultation undertaken in relation to the EIS and ongoing community involvement.  |
| Section 4 | Details the environmental assessment for 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 5 | Describes the rehabilitation and mine closure strategies for the Project.  |
| Section 6 | Outlines the planning framework and statutory provisions relevant to the Project, describes the Project alternatives, details ESD considerations and provides a Project justification.   |

- Section 7 Provides a summary of the proposed environmental mitigation, management, monitoring and reporting, and specific environmental commitments in relation to the Project.
- Section 8 Lists documents referenced in Sections 1 to 7 of this EIS.
- Section 9 Defines abbreviations, acronyms and terms used in Sections 1 to 7 of this EIS.

Attachments to the main text are also provided as follows:

- Attachment 1 Director-General's Requirements.
- Attachment 2 Development Application Area and Real Property Descriptions.
- Attachment 3 Relevant Environmental Planning Instruments.
- Attachment 4 Potential Interactions between the Project and Other Major Projects.
- Attachment 5 Water Licensing Requirements.
- Attachment 6 Community Information.
- Attachment 7 Peer Review.

Appendices A to O contain supporting documentation, including a number of specialist reports:

- Appendix A Groundwater Assessment.
- Appendix B Surface Water Assessment.
- Appendix C Noise and Blasting Assessment.
- Appendix D Air Quality and Greenhouse Gas Assessment.
- Appendix E Ecological Assessment.
- Appendix F Road Transport Assessment.
- Appendix G Agricultural Impact Statement.
- Appendix H Visual Assessment.
- Appendix I Aboriginal Cultural Heritage Assessment.
- Appendix J Non-Aboriginal Heritage Assessment.
- Appendix K Socio-Economic Assessment.
- Appendix L Geochemistry Assessment.
- Appendix M Environmental Risk Assessment.
- Appendix N Preliminary Hazard Analysis.
- Appendix O Land Contamination Assessment.