



# Centennial Coal



## ***Environmental Assessment***

**Proposed Extension to Mining and  
Trucking**

**Ivanhoe North Rehabilitation Project**

**November 2011**



## Submission of Environmental Assessment (EA)

Prepared under Section 75W of Part 3A of the *Environmental Planning and Assessment Act 1979*

### EA Prepared by:

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### Development Application:

**Applicant Name:** Ivanhoe Coal Pty Ltd  
(as operator of Ivanhoe North Rehabilitation Project)

**Applicant Address:** Boulder Road  
Portland NSW 2847  
P O Box 42  
Wallerawang NSW 2845

**Land to be developed:** Part of Ben Bullen State Forest (No Title) - See **Table 1**

**Proposed Development:** Modification to Project Approval PA 05\_0103 to:

- Extend the period of the consent to 2 May 2012.

### Certificate:

**We certify that we have prepared the contents of this Statement and to the best of our knowledge:**

- The statement contains all available information that is relevant to the environmental assessment of the development to which the Statement relates; and
- The information contained in the Statement is neither false nor misleading.

**Name:** GSS Environmental  
David Humphris

**GSS Environmental**  
**Jessica Elmes**



**Signature:**

**Date:** 30 November 2011

**30 November 2011**

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## 1.0 INTRODUCTION

### 1.1 Purpose of this Document

This Environmental Assessment (EA) has been prepared to support an application by Ivanhoe Coal Pty Ltd (Ivanhoe Coal), on behalf of Ivanhoe North Rehabilitation Project (INRP), to modify Project Approval 05\_0103 (Project Approval) under Section 75W of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The proposed modification will allow for an extension of the Project Approval from 2 February 2012 until 2 May 2012 to complete mining and trucking operations in a safe and efficient manner. The Project Application is attached as **Appendix 1**.

This EA assesses the matters relevant to the proposed modification and seeks to demonstrate that the proposed modification has no environmental consequences beyond those already approved in Project Approval PA 05\_0103, which is attached as **Appendix 2**, nor will it change the nature of the development originally approved.

### 1.2 The Applicant

INRP is an open-cut coal mine located to the west of the Castlereagh Highway, approximately 22km northwest of Lithgow and 2km to the south of the village of Cullen Bullen in New South Wales (refer to **Figure 1**).

The project is currently owned and operated by Ivanhoe Coal Pty Limited, a wholly owned subsidiary of Centennial Coal Company Limited. Centennial Coal Company Limited is a subsidiary of Banpu Public Company Limited. The INRP commenced operations on 8 July 2009.

INRP operates under Project Approval PA 05\_0103, which was granted 2 February 2009. Operations are also undertaken in accordance with Environmental Protection Licence (EPL) No. 13063.

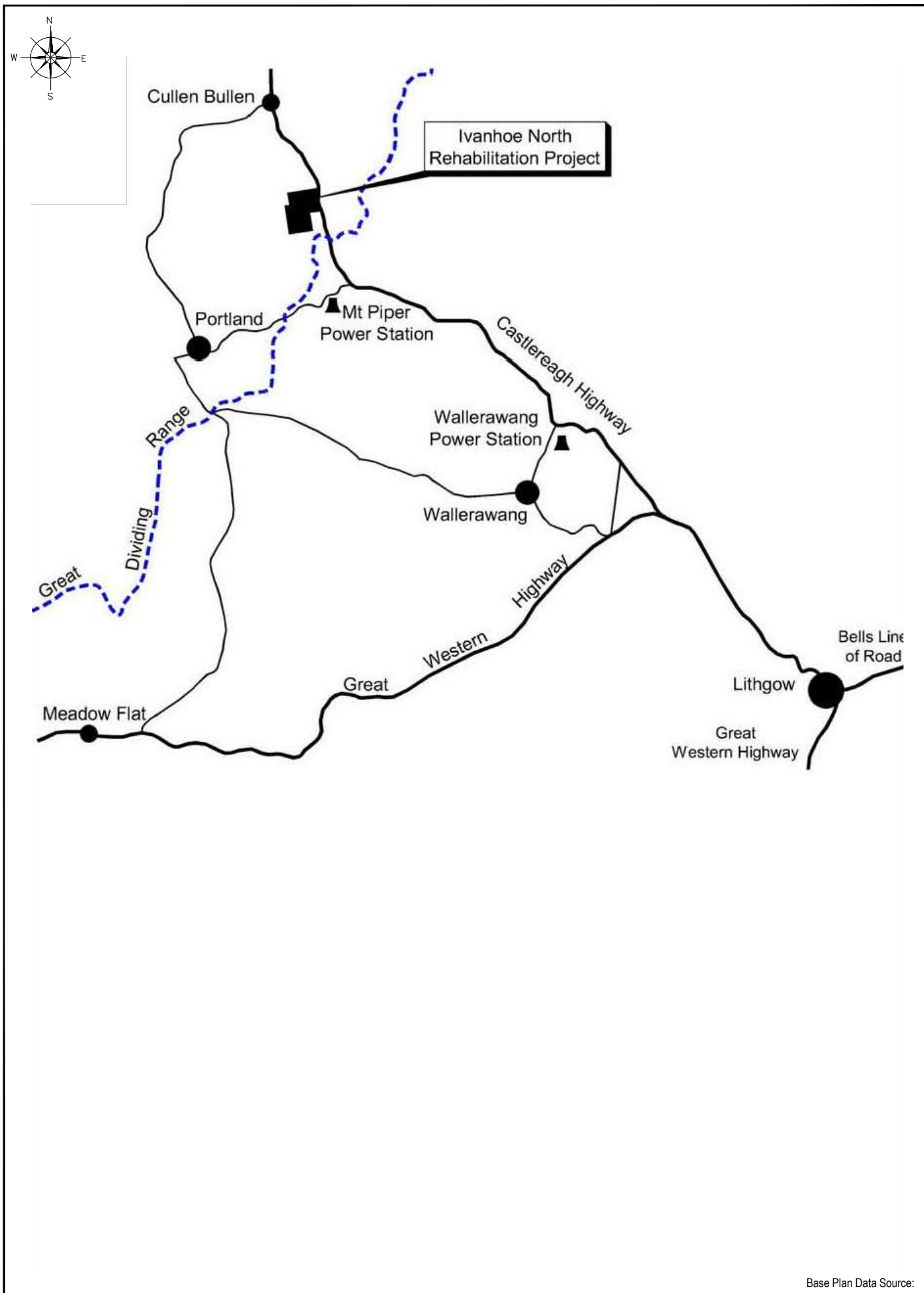
GSS Environmental (GSSE) has prepared this EA on behalf of INRP.

### 1.3 Overview of Proposed Modification

INRP is seeking to modify Project Approval 05\_0103 under Section 75W of the EP&A Act to allow for an extension to the consent until 2 May 2012 to ensure all mining and trucking is completed in a safe and efficient manner. Currently Schedule 2, Condition 5 of the Project Approval requires the coal mining operations to cease by 2 February 2012. This extension is required due to the 5 month delay in the commencement of mining at the Project Site while road works required by the NSW Roads and Traffic Authority (RTA) were undertaken at the mine entrance on the Castlereagh Highway.

The proposed modification will result in no other changes to the currently approved coal mining operations. The mining methods, type of equipment and infrastructure already in use by INRP will remain the same. No changes are proposed to the coal recovery operations, coal crushing and stockpiling, coal reject management, product transportation, hours of operation, rehabilitation and mine decommissioning. There will also be no change to the currently approved total Run-of-Mine (ROM) coal to be extracted over the life of the mine.

Current approved environmental monitoring programs and procedures will also continue as per the project approval requirements.



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Ivanhoe North Extension 75W Modification (2011)  
Regional Locality Plan

**FIGURE 1**

## 1.4 Approval Process

This EA has been prepared to accompany an application to modify the current Project Approval 05\_0103, which was granted on 11 April 2007 by the Minister for Planning under the now repealed Part 3A of the EP&A Act. Modification is sought under Section 75W of Part 3A of the EP&A Act which allows for the modification of Ministerial approvals (*Note: The provisions of Part 3A of the EP&A Act were repealed on 1 October 2011. However, pursuant to Schedule 6A of the EP&A Act, the project comprises a “transitional Part 3A Project” to which the provisions of Part 3A of the EP&A Act continue to apply*).

Further details regarding the approval process are provided in **Section 4**.

### 1.4.1 Environmental Assessment Requirements

In an email dated 21 September 2011 the DoPI advised Ivanhoe Coal that Section 75W of the EP&A Act would be the most appropriate means for assessing the proposal. The DoPI further advised that the EA is to address implications associated with an extended period of mining, particularly the continued interaction of coal trucks with those generated by Invincible Colliery located on the opposite side of the Castlereagh Highway.

Environmental Assessment Requirements were not issued for the modification. As a result, the EA has considered the key environmental issues identified in the *Proposed Ivanhoe North Rehabilitation Project – Environmental Assessment* (May 2006), prepared by RW Corkery & Co that forms part of the Project Approval.

## 1.5 Project Area

The Project Site for the proposed modification is illustrated in **Figure 2**, and has been defined as all land encompassed by the existing Project Approval boundary, which remains unchanged from the currently approved project site.

## 1.6 Land Ownership

The INRP Site is located wholly within the Ben Bullen State Forest and partly covered (20%) by MPL 79, (a previous Ivanhoe Coal Pty Ltd surface lease of 12.2ha). INRP operates under Mining Lease 1627.

The Ben Bullen State Forest is Crown land without any specific land title. As a State Forest, the land is managed by the Department of Trade and Investment, Regional Infrastructure and Services (DTIRIS - previously DPI). The project was approved by the then DPI, with appropriate compensation was payable under the mining lease.

Land ownership is detailed below in **Table 1**.

**Table 1 – Land Ownership**

Ref	Land Parcel (Lot / DP Number)	Land Owner
1	Lot 11, DP 249955, Lot 4, DP 1008594 and Lot 112, DP 877190	M. Bulkeley
2	Lots 1 and 2, DP 860892	Coalpac Pty Ltd* (formerly B. Muenzer)
3	Lot 10, DP 249955	I. Palmer
4	Lot 13, DP 755769, Lot 17, DP 755769 & Lot 177, DP 755769	V. & F. Fava, C. Rositano, F. Tedesco, E. Todorello
5	Lot 38, DP 755769, Lot 68, DP 755769, Lot 69, DP 755769, Lot 72, DP 755769, Lot 73, DP 755769, Lot 76, DP 755769 Lot 280, DP 755769 and Lot 281, DP 755769	S. & D. Taylor

Ref	Land Parcel (Lot / DP Number)	Land Owner
6	Lot 14, DP 755769, Lot 15, DP 755769, & Lot 178, DP 755769	A. & K. Brown
7	Lot 264, DP 755769, Lot 263, DP 755769 & Lot 186, DP 755769	J. & S. Taylor
8	Lot 18, DP 755769, Lot 22, DP 755769, Lot 64, DP 755769, Lot 185, DP 755769, Lot 5, DP 1071704 & Lot 6, DP 1071704	R. Clark
9	Lot 1, DP 1016508	G. & J. Clark
10	Lot 362, DP 740604, Lot 366, DP 740604	Delta Electricity
11	Lot 11, DP 614429	Big Rim Pty Ltd (formerly Hyrock Pty Limited)
12	Lot 1, DP 180294 and Lot 113, DP 877190	Coalpac Pty Limited *
13	Ben Bullen State Forest (no title)	Crown Land
<i>Source: Land Property Information Service</i>		<i>*Coalpac Pty Ltd own Invincible Colliery</i>

The Project Site boundary of the proposed modification remains unchanged from the Project Approval.

The detail of consultation undertaken with owners of land adjacent to the proposed modification is discussed in **Section 6.0**.

## 1.7 Land Use

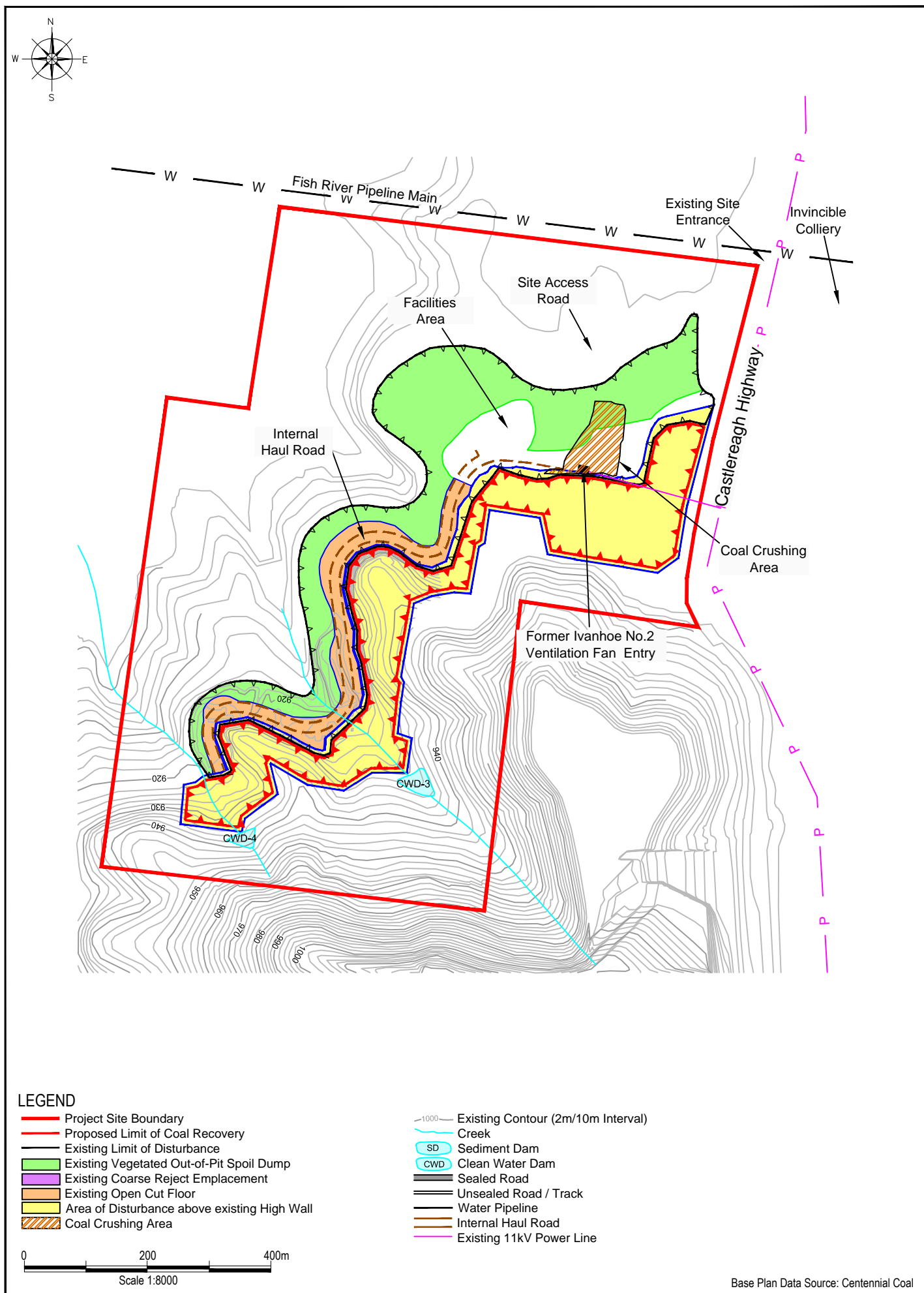
The area within Ben Bullen State Forest on which INRP is located has been the subject of previous coal mining, and mining related operations including the Cullen Main West open cut mining operations completed in the years following World War II and more recently mine ventilation and mine waste disposal for the Ivanhoe and Invincible Collieries. The ventilation fan has subsequently been removed.

The Cullen Main West open cut was abandoned following the cessation of mining in the early 1950s. Some rehabilitation works were completed during early 2000 by Coalpac Pty Ltd, holder of the underlying sections of MPL 79. The remainder of the abandoned open cut remained un-rehabilitated, although there has been significant tree regrowth on parts of the open cut floor and “out-of-pit” spoil dumps.

The remainder of the Project Site is comparatively well vegetated with eucalypt woodland over gentle to moderate slopes. There is a relatively thin topsoil and subsoil layer over a competent conglomerate base rock. Numerous roads / tracks traverse the INRP Site.

Land use surrounding the Project Site consists of agricultural grazing and rural residential properties, and forestry and nature conservation within Ben Bullen State Forest. Ben Bullen State Forest also contains the coal mining operation of the Invincible Colliery (owned by Coalpac Pty Ltd) to the immediate east of the Project Site.

The pre-disturbance Land Capability of the Project Site is Class VII, which is land best protected by green timber. The Agricultural Land Suitability of the Project Site is Class 5, that is, land unsuitable for agriculture (INRP EA, 2006).



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Ivanhoe North Extension 75W Modification (2011)  
Project Site Layout

**FIGURE 2**

## 2.0 CURRENT APPROVED OPERATIONS

### 2.1 Project Site History and Background to Approved Operations

INRP operates under Project Approval PA 05\_0103, granted 11 April 2007. This development application was supported by an EA for the development and operation of a project that would rehabilitate the abandoned Cullen Main West open cut and recover up to 300,000 tonnes of ROM coal per annum. This section describes the existing and approved INRP operation to provide background to the current modification. No prior modifications to the original Project Approval have occurred.

The Cullen Main West open cut was a contour mining operation which operated shortly after World War II until the early 1950's when it was abandoned. With the approval of then DPI (Mineral Resources), Ivanhoe Coal used approximately 20% (2.0ha) of the abandoned open cut (through Mining Purpose Lease (MPL) 79) for mine ventilation for the Ivanhoe Colliery and placement of coarse reject generated by the Ivanhoe and Invincible Collieries.

Some rehabilitation works were completed at the Cullen Main West open cut during early 2000 by Coalpac Pty Ltd, holder of the underlying sections of MPL 79. The rehabilitation was undertaken for the purpose of reducing the safety risk associated with remnant high walls. Berms and benches were put in place at the top of high walls to reduce the risk to walkers and bike riders of falling rocks with associated drains used to divert water from running over the high wall. One particularly dangerous section of the high wall was fully reshaped.

A number of factors including availability of equipment and the coal price combined to make the rehabilitation of the entire former open cut and concurrent recovery of the remaining coal, practically and economically feasible. A Project Application for the INRP was submitted to the then NSW Department of Planning in December 2005, and Project Approval PA 05\_0103 was granted in April 2007. On 2 February 2009 Mining Lease 1627 was granted to Ivanhoe Coal Pty Ltd, with mining operations commencing on 8 July 2009.

The INRP EA (RW Corkery & Co Pty Ltd, 2006) stated that up to 300,000 tonnes of ROM coal per annum would be extracted from the Irondale, Lidsdale and Lithgow Coal Seams. The INRP is approved to transport the recovered and crushed coal to local power stations, the Lidsdale Siding for rail transport to export markets and/or Western Main Colliery for coal washing.

The INRP targets the coal currently remaining between the remnant high wall of the Cullen Main West open cut and the underground workings of Ivanhoe Colliery No. 2. In recommencing mining operations from the abandoned open cut, Ivanhoe assumed responsibility for the rehabilitation of the previous disturbance.

### 2.2 Project Site Layout

The INRP Site includes the existing area of disturbance from the Cullen Main West open cut, as well as the active mining area that has been, or is due to be open-cut mined. Surface infrastructure on the Project Site includes a coal crushing area and facilities area, an upgraded Project Site entrance, access road and internal haul road, coal stockpiles and water storage and water management structures (see **Figure 2**). The coal crushing area, facilities area and internal haul road are all located within the area of pre-existing disturbance.

#### 2.2.1 Major Components of the Approved Operation and Proposed Modification

**Table 2** summarises and compares the major components of the existing INRP approved under Project Approval 05\_0103 with the modification now proposed.

**Table 2 – Major Components of the Approved Operation and Proposed Modification**

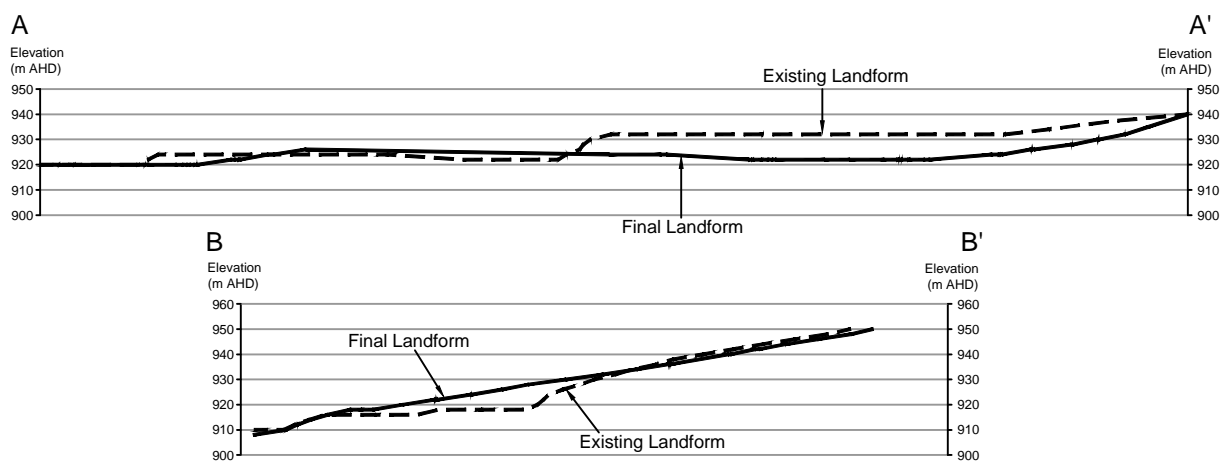
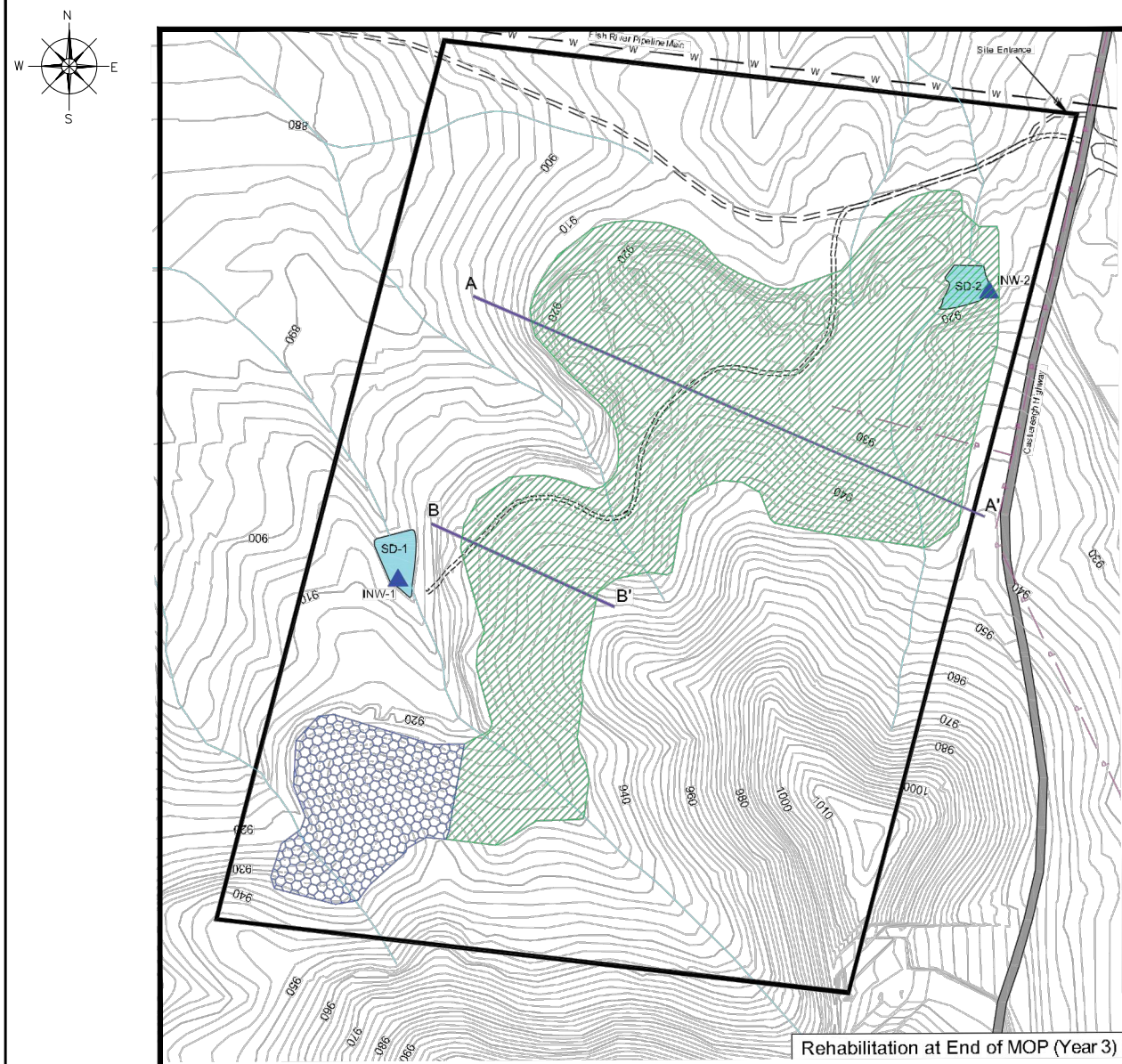
Aspect	Existing Approved INRP Operation	Proposed Modification
Project Details	The INRP project site covers 80.2 hectares, and is approved to produce 300,000 tonnes ROM coal per annum from the Irondale, Lidsdale and Lithgow Seams by open cut mining methods until 2 February 2012.	Extension to 2 May 2012
<b>Project Site Layout</b>		
Project Site Entrance and Intersection	The Project Site entrance intersects the Castlereagh Highway approximately 2km south of the village of Cullen Bullen. All ingress movements are via a left turn into the Project Site. For trucks exiting the Project Site, they are required to cross the Castlereagh Highway in an easterly direction, into the existing Invincible Colliery site. Trucks then manoeuvre back to the Castlereagh Highway in a westerly direction and exit back onto the Castlereagh Highway in a southerly direction.	No Change
Coal Crushing Area	The Coal Crushing Area, is located within the partially backfilled void adjacent to the ventilation entry of the Ivanhoe No. 2 underground workings. The crushed coal stockpiles have a nominal maximum capacity of 20,000 tonnes.	No Change
Facilities Area	The project facilities area includes a mine office and crib room building, car parks, a concrete surface maintenance works area for mine equipment with a lined sump with an oil/water separator. A 30,000 litre self-bunded fuel tank and a refuelling bay is also located within the facilities area which also provides an area for the storage of bulk storage tanks for waste oils and greases. Power for the buildings, coal crushing plant and other Project Site facilities is provided by an 11kV power supply line. Sewage is captured within a septic tank and pumped out and transferred to the Lithgow Sewage Treatment Plant as required.	No Change
Internal Haul Road	A 6m wide internal haul road exists along the existing open cut floor to provide access for mobile equipment and haul trucks between the coal crushing area and active coal recovery and rehabilitation activities (see <b>Figure 2</b> ).	No Change
Services	<p>The following services are currently established at the INRP:</p> <ul style="list-style-type: none"> <li>- Potable and ablutions water is sourced from both the rainwater tanks on site as well as water brought to the Project Site.</li> <li>- Power for Project Site facilities is provided by on-site generators.</li> <li>- Off-site and on-site communications are by mobile communications and 2-way radio.</li> <li>- Sewage is captured within a septic tank and pumped out and transferred to the Lithgow Sewage Treatment Plant as required.</li> <li>- Storage of diesel and refuelling facilities comprise a single 30,000 Litre self-bunded fuel tank and a refuelling bay.</li> </ul>	No Change
<b>Coal Recovery Operations</b>		
Land Preparation	The areas cleared of existing vegetation are generally restricted to the areas directly upslope from the abandoned high wall. A royalty is paid to DTIRIS (Forests NSW) for any timber removed from Ben Bullen State Forest. Clearing of the remaining vegetation is undertaken progressively with only an area sufficient for the ensuing 3 to 4 months of operations. Once vegetation has been removed, topsoil is stripped and transported to completed sections of the final landform for immediate respreading, or stockpiled if this is not practicable. Topsoil and any subsoil are stockpiled separately.	No Change
Overburden Removal and Replacement	Overburden is placed in the mined-out sections of preceding blocks, with the southern blocks filled with overburden in 2010. Central and northern blocks will be filled and rehabilitated in 2011 and 2012.	No Change
Coal Recovery	The overburden removal exposes the upper-most coal seam to create the upper mining bench. As coal is exposed on the bench, it is ripped, excavated and transported by bulldozer or the bucket of the excavator and loaded into	No Change

Aspect	Existing Approved INRP Operation	Proposed Modification
	<p>haul trucks by excavator or front-end loader for delivery to the ROM stockpile within the coal crushing area. Once the coal has been removed, the interburden material between the targeted coal seams is removed in the same manner as the overburden to create the lower mining bench.</p> <p>During each coal recovery campaign, up to 7,500 tonnes of coal are removed and transferred to the ROM stockpile within the coal crushing area each day. Each campaign typically lasts between 1 and 5 days with a similar period between each campaign.</p>	
Water Management	<p>The water management system for the INRP is centred on the separation of clean water (runoff from undisturbed parts of the surrounding catchments) and dirty water (stormwater runoff generated in disturbed areas, which has the potential for contamination). This is achieved primarily through the construction of clean water dams and diversion drains upstream of proposed areas of disturbance, retention of water within proposed areas of disturbance in temporary sediment basins/ponds, with overflow from these directed to either of two sediment dams constructed downstream of the proposed areas of disturbance.</p> <p>The volume of dirty water to be treated is minimised by both limiting the contamination of clean water, and through maximising the re-use of dirty water for dust suppression and other water requirements as necessary.</p>	No Change
<b>Coal Crushing, Stockpiling, Reject Management &amp; Transportation</b>		
Coal Crushing & Stockpiling	<p>ROM coal is transported between the active coal recovery area and the coal crushing area in haul trucks travelling along the internal haul road. The ROM coal is unloaded and temporarily stockpiled on a ROM pad in stockpile(s) &lt;5m in height. The coal crushing area provides a ROM pad stockpiling capacity of approximately 15,000 tonnes or approximately two day's production.</p> <p>Coal stockpiled within the ROM coal stockpile is loaded by front-end loader into a crusher (structures of approximately 4m in height). Crushed coal is then directed by a stacker to one of two crushed product stockpiles to await dispatch. The product is generally transported from the Project Site on the day it is crushed. The crusher plant normally operates on a campaign basis for between 15 and 20 days per month at up to 400 tonnes per hour to provide up to 300kt/yr.</p>	No Change
Coal Reject Management	<p>An estimated 40,000m<sup>3</sup> of coal reject had previously been stockpiled within the existing coarse reject emplacement of MPL 79. This reject is typically coarse (up to 75mm), comprises predominantly carbonaceous shale and sandstone and has a low potential for acid and salt generation.</p> <p>Ivanhoe Coal intends to relocate the bulk of this material into the voids within the northern area towards the end of the project life.</p>	No Change
Product Transportation	<p>Crushed coal from the product stockpiles is currently loaded by front-end loader and dispatched off site using highway trucks (semi-trailers or rigid-bodied trucks with trailers) to either the Mt Piper or Wallerawang Power Stations, the Western Main Colliery or Lidsdale Siding.</p> <p>The Project Site currently generates an average of 10,000 truckloads from the Project Site each year. INRP does not dispatch coal from the Project Site each day; with the average number of truck loads dispatched from the Project Site varying between 0 and approximately 50 per day.</p>	No Change
<b>Working Hours Project Life</b>		
Working Hours Project Life	<p>Operating hours at the Project Site are currently be between 7:00am and 6:00pm, Monday to Saturday, with equipment maintenance allowed to take place outside these hours. All coal transportation occurs between 7:00am and 5:00pm, Monday to Friday.</p> <p>From commencement to final rehabilitation of the created landform, the overall</p>	The project life is now expected to be 3.25 years.



Aspect	Existing Approved INRP Operation	Proposed Modification
	project life was initially expected to be approximately 3 years.	
<b>Rehabilitation and Decommissioning</b>		
Final Landform	<p>The proposed final landform recreates the natural slope of the land surrounding the abandoned Cullen Main West open cut (see <b>Figure 3</b>). The recreated final slopes will vary from between 6° within sections of the Southern Area and 14° within sections of the Northern Area, which approximates the topography of the existing natural landform.</p> <p>Natural drainage lines that currently traverse the abandoned Cullen Main West open cut will be reinstated and the entire Project Site revegetated with native woodland species endemic to the local area.</p>	No Change
Rehabilitation Procedures	<p>A bulldozer is currently used to profile the backfilled operational blocks to the final landform. Topsoil is placed on the shaped landform. The thickness of the topsoil and subsoil layers to be replaced is determined on the basis of the actual volumes of these materials stripped as part of site operations. Tree trunks and other smaller vegetative debris removed during clearing activities are spread over the topsoiled landform. A program of supplementary seeding of trees and shrubs is currently undertaken, principally through direct seeding.</p> <p>The pre-mining drainage lines of the Project Site will be reinstated as part of the final rehabilitation activities.</p>	No Change
Monitoring & Maintenance	<p>The Project Site is regularly inspected following the completion of all rehabilitation activities. During regular inspections, aspects of rehabilitation monitored include evidence of any erosion or sedimentation, success of tree and shrub growth and grass re-establishment; adequacy of drainage controls, and general stability of the Project Site.</p> <p>The success of vegetation re-establishment is undertaken through Ecosystem Function Analysis and photo monitoring across the final landform. Where rehabilitation success appears limited, maintenance activities are initiated.</p>	No Change
<b>Environmental Management Plans &amp; Monitoring Programs</b>		
Environmental Management Plans	A comprehensive set of environmental management plans have been developed by Ivanhoe Coal in accordance with the conditions of the Project Approval, Mining Lease 1627, EPL 13063, and Centennial Coal standards. These management plans include a Site Water Management Plan (Revised and lodged with DoPI 15 October 2010 – see <b>Figure 4</b> ), Rehabilitation Management Plan, Bushfire Management Plan, Traffic Management Plan, Mine Closure Plan and an Environmental Management Strategy.	No Change
Monitoring Programs	<p>The INRP implement a number of environmental monitoring programs on site, including a Noise Monitoring Program, Air Quality Monitoring Program, Environmental Monitoring Program, and a Rehabilitation Monitoring Program.</p> <p>Results from the monitoring program are reported to the DTIRIS, DoPI, NSW Office of Environment and Heritage (OEH), NSW Office of Water (NOW), Lithgow City Council and other relevant stakeholders via the Annual Environmental Management Report (AEMR).</p>	No Change
Environmental Monitoring	<p>Meteorological data, including rainfall, wind speed and direction, and temperature, is currently sourced from a weather station located at the Pinedale Mine.</p> <p>Ivanhoe North has three licensed surface water discharge points, and monitors five surface water sites at locations on a monthly basis, including the three discharge points, analyzing pH, electrical conductivity, total suspended solids, and oil and grease.</p> <p>INRP operates a total of four dust depositional gauges. INRP also monitors Total Suspended Particulates (TSP) using four high volume air samplers, as well as particulate matter less than 10µm (PM10).</p>	No Change

Aspect	Existing Approved INRP Operation	Proposed Modification
	<p>Noise resulting from the INRP is recorded at three locations in accordance with the Project Approval and EPL 13063.</p> <p>Clearing is minimised to the smallest possible area required for mining. Following mining, areas are rehabilitated to ensure the disturbed areas are rehabilitated to create a landform similar to that of the surrounding Ben Bullen State Forest. All Project Site personnel are aware of clearing procedures for the INRP</p> <p>A rehabilitation monitoring program is currently undertaken at the Project Site utilising the CSIRO developed Ecosystem Function Analysis (EFA) tool, vegetation monitoring components and visual monitoring. The monitoring aims to achieve sustainable post mining vegetation communities which are aligned to the proposed post mining land use.</p>	
Waste Management		
Waste Management	<p>Waste overburden and interburden from the existing high wall of the abandoned Cullen Main West open cut are progressively placed between the final high wall of the open cut and revegetated stockpiles of the Cullen Main West open cut operations.</p> <p>All paper and general wastes originating from the Project are disposed of into bins to await removal by a licensed industrial waste collection contractor. Industrial waste collection is undertaken as required. Other recyclables such as ferrous and non-ferrous metals are dispatched offsite as required.</p>	No Change



# LEGEND

- ML 164 Boundary
- 1000 Existing Contour (2m Interval)
- Storage Dam
- INW-1 Water Monitoring Site
- Creek
- Sealed Road
- Unsealed Road/Track
- Water Pipeline
- Existing 11kV Power Line
- A-A' Cross Section through Proposed Mining and Rehabilitation
- Rehabilitation Under Maintenance
- Rehabilitation Complete

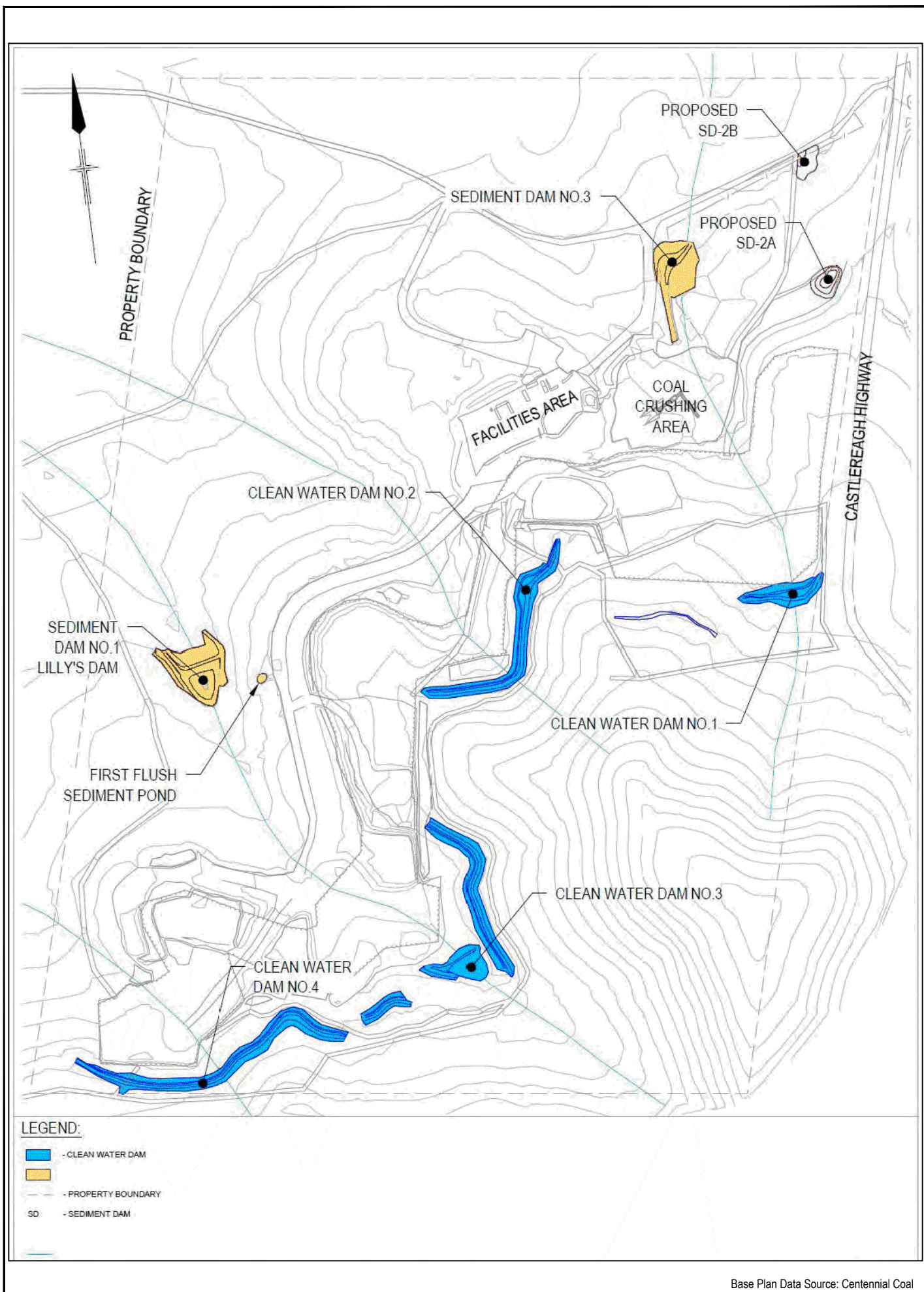


Base Plan Data Source: R.W. Corkery & Co. Pty Limited

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Ivanhoe North Extension 75W Modification (2011)  
Final Landform  
**FIGURE 3**





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Ivanhoe North Extension 75W Modification (2011)  
Revised Surface Water Management Plan

**FIGURE 4**



## 2.3 Environmental Performance

### 2.3.1 Overview

The implementation of the Project Site Environmental Management Plans and integration of Centennial Coal's Environmental Policy remains a focus for environmental management at INRP. Reviews of existing documentation and updates to reflect the Project Site requirements are regularly undertaken, with actions from internal and external audits being carried out as required. The environmental performance relating to the mining, construction and transportation activities of the INRP during the 2010 reporting period is provided in the *INRP Annual Environmental Management Report* (AEMR). A summary of the existing operational environmental performance is provided in **Table 3** below.

**Table 3 – INRP Environmental Performance**

Aspect	Environmental Performance
Operational Noise	Noise monitoring at the Project Site and surrounding area is undertaken in accordance with the approved Noise Monitoring Program, pursuant to the requirements of Schedule 3, Condition 3 of the Project Approval and EPL 13063. This includes attended noise monitoring at three private residences in March, June, September and December each year, with results reported in quarterly reports and the AEMR. The 2010 AEMR reports that following validation noise modelling at the relevant sites, LAeq(15 minute) noise levels were within the consent limits.
Surface Water	Surface water monitoring is undertaken in accordance with the Surface Water Monitoring Program, which forms part of the approved SWMP. INRP has three licensed discharge points from three of the sediment dams. The concentration of a pollutant discharged at each point, must not exceed the concentration of pollutants specified in EPL 13063. These discharge points are monitored monthly (during discharge) by Ivanhoe North, with results reported in the quarterly reports and the AEMR. Monitoring includes pH levels, electrical conductivity, total suspended solids, oil and grease. During the monitoring periods in 2010, some samples gave high total oil and grease levels which were believed to be an analytical error by the laboratory as similar unexplained high levels had been reported at other operations. This was reported to both the laboratory and the then Department of Environment, Climate Change and Water accordingly. No other abnormal results were recorded.
Erosion & Sediment Control	Erosion and Sediment Control is managed at the INRP through the Erosion and Sediment Control Plan, which forms part of the approved SWMP. The Erosion and Sediment Control Plan is a requirement of Schedule 3, Condition 10 of the Project Approval, and Sediment and erosion control strategies are continuously implemented at the Project Site.
Air Quality	Schedule 3, Condition 5 of the Project Approval and EPL 13063 require Ivanhoe North to ensure that criteria for particulate matter and deposited dust do not exceed the following criteria at any residence on privately owned land:  Air quality monitoring, sampling methods and frequencies are undertaken in accordance with the approved Environmental Monitoring Program, pursuant to the requirements of Condition 2 of Schedule 4 of the Project Approval and EPL 13063. During mining and processing operations, deposited dust levels are required to be monitored at three dust deposition gauge monitoring sites with results reported quarterly and in the AEMR. The 2010 AEMR reported that dust depositional results had decreased during 2010 with this likely being due to an increase in rainfall in 2010. The dust monitoring results showed that generally gauges registered results below the impact assessment criteria, however, there were some elevated dust levels recorded with laboratory results indicating that these samples had been contaminated by insects and plant debris.
Visual Amenity	Since the preparation of the EA, the progressive rehabilitation of the Project Site has started to create a vegetated landform that is similar to the surrounding Ben Bullen State Forest. Schedule 3, Condition 25 of the Project Approval 05_0103 also includes the requirement to prepare a 4 metre high bund wall along the eastern perimeter of operational blocks Nth04 and Nth05 prior to the commencement of mining in this area. Following consultation with the DoPI, approval was given to replace this bund with a green shade cloth fence to ensure existing mature trees are retained.

Aspect	Environmental Performance
Flora and Fauna	<p>A Flora and Fauna Survey and Assessment was undertaken by Gingra Ecological Surveys (2006) (Gingra) as part of the preparation of the EA. When considering the objectives of the project and operational safeguards to be implemented by Ivanhoe North, Gingra concluded that no threatened species would be significantly affected by the project; therefore no specific controls are in place to manage threatened species.</p> <p>Clearing is minimised to the smallest possible area required for mining. Following mining, areas will be rehabilitated to ensure the disturbed areas are rehabilitated to create a landform similar to that of the surrounding Ben Bullen State Forest. Rehabilitation practices are further outlined in <b>Table 2</b>.</p>
Aboriginal Heritage	<p>OzArk Environmental and Heritage Management Pty Ltd (OzArk) was commissioned to identify any artefacts or sites of Aboriginal heritage significance on the Project Site as part of the EA. No Aboriginal artefacts or sites were identified during a field survey by OzArk's archaeologists and the Bathurst Local Aboriginal Land Council representative.</p> <p>As no Aboriginal sites or artefacts were identified on the Project Site, no specific safeguards or management practices form part of the Project Approval. Notwithstanding, Project Site employees and contractors have been advised about their responsibilities under the National Parks and Wildlife Act 1974 to immediately cease work in the vicinity of any identified or suspected site or artefact until such time as the site/artefact has been discussed with an NSW Office of Environment and Heritage archaeologist and a representative of the Bathurst Local Aboriginal Land Council. All employees have also undertaken cultural awareness training to understand their responsibilities with regard to aboriginal sites/artefacts.</p> <p>To date, no Aboriginal sites or artefacts have been identified during progressive mining and rehabilitation works at the Project Site. The proposed modification will not alter ongoing management practices in this regard.</p>
Contaminated Lands	<p>A Phase 1 Environmental Site Assessment (ESA) was completed by AECOM at the Project Site in 2010. The Phase 1 ESA assessed the potential for soil, sediment, surface water and groundwater to be contaminated by the activities occurring at the Project Site. The assessment identified no contamination of the Project Site and concluded that the risk of contamination was moderate to low. Based on the outcomes of the Phase 1 ESA, AECOM recommended that a Phase 2 ESA be undertaken prior to lease relinquishment to physically assess and characterise any potential contamination.</p>
Groundwater	<p>The EA identified the interaction between groundwater and surface water as being restricted to the percolation of surface water to groundwater beneath the Project Site. Furthermore, no groundwater dependent ecosystems were identified in the Flora and Fauna Survey and Assessment undertaken by Gingra (2006) as part of the EA.</p> <p>Pursuant to the above, no specific groundwater management or monitoring activities formed part of the Project Approval and none take place at the Project Site. Groundwater has not been intercepted by the progressive mining and rehabilitation works and the potential for contamination by hydrocarbons has also been mitigated through the use of low permeable bunding.</p>
Greenhouse Gasses	<p>In accordance with Schedule 3, Condition 27 of the Project Approval, GHG emissions are monitored on an absolute basis and on a per tonne of coal produced basis. The main source of GHG emissions is the burning of diesel fuel and methane generation on site. The operation constantly seeks ways of reducing fuel consumption through efficient mine planning and machinery maintenance.</p> <p>Centennial Coal has statutory reporting obligations for data collected under the National Greenhouse and Energy Reporting Act 2007. The data measured under this Act is independently verified by an external auditor prior to submission to Government. This data is collected, audited and reported on a financial year basis and as such is reported externally to any agency on a financial year basis using the most up to date recently audited data.</p>

### 3.0 PROPOSED MODIFICATION

Schedule 2, Condition 5 of Project Approval 05\_0103 for the INRP, which was signed by the Minister for Planning on 11 April 2007, states the following:

*“In respect of the right to conduct coal mining operations, this consent is limited to a period of 3 years from the date of grant of the mining lease to mine coal.” Note: Under this consent, the Applicant is required to rehabilitate the site to the satisfaction of the DPI and the consent will continue for this and related purposes.”*

The relevant ML 1627 was granted on 2 February 2009 and the Project Approval requires “Mining Operations” to be completed by 2 February 2012.

INRP is now seeking to modify Project Approval 05\_0103 under Section 75W of the EP&A Act to allow for an extension to the consent until 2 May 2012 to enable all mining and trucking to be completed in a safe and efficient manner. The Project Application is attached as **Appendix 1**.

Mining of the coal is expected to be completed by the end of March 2012, however, trucking of the mined coal could take until May 2012.

The remaining coal to be mined is in the order of 100,000 tonnes. The proposed modification will result in no other changes to the currently approved coal mining operations, as outlined in **Table 2**.

## 4.0 STATUTORY REQUIREMENTS

By notice dated 11 April 2007 the then NSW Department of Planning granted development consent under Part 3A of the EP&A Act to the INRP pursuant to Project Approval 05\_0103, which represents the current operation.

INRP now proposes to modify Project Approval pursuant to the provisions of Section 75W of Part 3A of the EP&A Act to provide a three month extension to the current Project Approval.

*(Note: The provisions of Part 3A of the EP& A Act were repealed on 1 October 2011. However, pursuant to Schedule 6A of the EP&A Act, the project comprises a “transitional Part 3A Project” to which the provisions of Part 3A of the EP&A Act continue to apply).*

In an email dated 21 September 2011 the DoPI advised Ivanhoe Coal that Section 75W of the EP&A Act would be the most appropriate means for assessing the proposal.

Accordingly, the modification is sought under Section 75W, and the proposal will be subject to assessment by the Director General of the DoPI and determination by the Minister for Planning in accordance with Part 3A of the EP&A Act.

The modification would not have a significant impact on matters of National Environmental Significance (NES) as listed in the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Accordingly, a referral has not been made to the Commonwealth Minister for the Environment. This is discussed further in **Appendix 5**.

The proposed modification is of minor environmental impact however an environmental assessment is detailed in **Section 5**.

**Appendix 5** describes the statutory planning instruments relevant to INRP and the proposed modification, and assesses their implications in relation to the required approval process.



## 5.0 ENVIRONMENTAL ASSESSMENT

### 5.1 Project Risk Assessment

The EA for the project included a risk assessment to quantify the environmental risk posed by each issue identified in the Director General's Requirements as well as the other issues identified through stakeholder consultation. The environmental risk associated with each issue was then determined through consideration of both the potential consequence and likelihood of occurrence of each impact and categorised as low, medium or high risk. **Table 4** presents the summarised results of the risk assessment undertaken in the 2006 EA.

In addition to the risk assessment undertaken as part of the 2006 EA, an assessment of risk posed by each environmental issue has also been undertaken to determine any additional risks associated with the proposed three month extension. This is also presented in **Table 4**.

**Table 4 – Risk Assessment Results**

Environmental Issue	Risk Identified and Addressed in the Environmental Assessment	Risk Identified for the Proposed Extension of Time Modification
Traffic & Transport	<ul style="list-style-type: none"> <li>Traffic Impacts on the Castlereagh Highway (<b>Low</b>).</li> <li>Increased traffic congestion (<b>Low</b>).</li> <li>Degradation of the road surface (<b>Low</b>).</li> </ul>	<p><b>Low Risk Identified.</b></p> <ul style="list-style-type: none"> <li>Traffic Impacts on the Castlereagh Highway (<b>Low</b>).</li> <li>Increased traffic congestion (<b>Low</b>).</li> <li>Traffic conflicts between the Project Site and Invincible Colliery (<b>Low</b>).</li> </ul>
Operational Noise	<ul style="list-style-type: none"> <li>Minor, marginal and major noise exceedances associated with operational activities (<b>Medium</b>)</li> </ul>	<p><b>None Identified.</b></p> <p>The proposed modification will not alter the approved mining operations, the approved mining footprint, current management practices or the approved rehabilitation activities. Operations will continue to occur in accordance with the relevant requirements of Project Approval, EPL 13063 and the <i>Noise Monitoring Program</i>.</p>
Road Traffic Noise	<ul style="list-style-type: none"> <li>Minor, marginal and major noise exceedances associated with project-related traffic (<b>Low</b>)</li> </ul>	<p><b>None Identified.</b></p> <p>The noise impact assessment within the EA (Heggies 2006) included an assessment of road traffic noise, using predicted future traffic levels and including the concurrent operation of INRP, Invincible Colliery, Baal Bone Colliery and Cullen Valley Colliery. This found that the daytime LAeq(15 hour) traffic noise levels would be lower than the 60dB(A) criterion at all residential offset distances greater than 50m and less than 2dB(A) above the existing traffic noise level at all other off-set distances up to 500m, thereby complying with the NSW <i>Environmental Criteria for Road Traffic Noise</i> (EPA, 1999).</p> <p>Road traffic noise is controlled through the hours of operation (7am to 6pm Monday to Saturday) (Schedule 2, Condition 7) and limiting truck despatches from the Project Site to no more than 50 per day (Schedule 3, Condition 19). The proposed modification will not result in any change to current operations and associated traffic noise levels.</p> <p>Road transport will be undertaken in accordance with the INRP Traffic Management Plan.</p>

Environmental Issue	Risk Identified and Addressed in the Environmental Assessment	Risk Identified for the Proposed Extension of Time Modification
Surface Water Resources	<ul style="list-style-type: none"> <li>Discharge of “dirty” water from the Project Site (<b>Medium</b>).</li> <li>Hydrocarbon spill discharge to natural drainage (<b>Medium</b>).</li> <li>Flooding of active operational areas (<b>Low</b>).</li> </ul>	<p><b>None Identified.</b></p> <p>Surface water management and monitoring has occurred in accordance with the approved <i>SWMP</i> [as per the requirements of Project Approval (Schedule 3, Condition 8)] and EPL 13063. Surface water monitoring is undertaken in accordance with the <i>Surface Water Monitoring Program</i>, which forms part of the approved <i>SWMP</i>.</p> <p>The proposed modification will not require any change to the approved <i>SWMP</i> and there will be no change to existing INRP site water management plans and procedures. There will also be no change to the <i>Surface Water Monitoring Program</i> or the approved rehabilitation and reinstatement of the streams that traverse the Project Site.</p>
Erosion & Sediment Control	<ul style="list-style-type: none"> <li>Erosion of natural drainage lines (<b>Low</b>).</li> <li>Erosion of rehabilitated final landform (<b>Low</b>).</li> </ul>	<p><b>None Identified.</b></p> <p>Erosion and Sediment Control is managed at the INRP through the <i>Erosion and Sediment Control Plan</i>, which forms part of the approved <i>SWMP</i>. The <i>Erosion and Sediment Control Plan</i> is a requirement of Schedule 3, Condition 10 of the Project Approval.</p> <p>The proposed modification will not require any change to the approved <i>Erosion and Sediment Control Plan</i> and there will be no change to existing controls and procedures.</p>
Air Quality	<ul style="list-style-type: none"> <li>Dust generated by the rehabilitation and coal recovery activities (<b>Low</b>).</li> <li>Particulate matter generated by the rehabilitation, recovery and coal crushing activities (<b>Low</b>).</li> </ul>	<p><b>None Identified.</b></p> <p>Operations will continue to occur in accordance with the relevant requirements of the Project Approval, EPL 13063 and the <i>Environmental Monitoring Program</i>.</p>
Visual Amenity	<ul style="list-style-type: none"> <li>Visibility of exposed operational areas to the north-northwest, west and southwest (<b>Medium</b>).</li> </ul>	<p><b>None Identified.</b></p> <p>The proposed modification will not alter the ongoing rehabilitation and screening works, which will still be completed in accordance with the current approvals. There would be no change to visual amenity when comparing the approved project with the proposed modification.</p> <p>Schedule 3, Condition 25 of the Project Approval 05_0103 includes the requirement to prepare a 4 metre high bund wall along the eastern perimeter of operational blocks Nth04 and Nth05 prior to the commencement of mining in this area. Following consultation with the DoPI, approval was given to replace this bund with a green shaded cloth fence to ensure existing mature trees are retained.</p>
Flora and Fauna	<ul style="list-style-type: none"> <li>Disturbance to native vegetation (<b>Medium</b>).</li> <li>Disturbance to threatened flora and fauna (<b>Medium</b>).</li> <li>Possible local extinctions of threatened flora and fauna (<b>Medium</b>).</li> </ul>	<p><b>None Identified.</b></p> <p>The proposed modification will not alter the approved mining footprint, current management practices or the approved rehabilitation activities. No additional impacts on fauna or flora, other than those already assessed, will occur.</p>
Property Values	<ul style="list-style-type: none"> <li>Possible temporary and/or long term devaluation of</li> </ul>	<p><b>None Identified.</b></p> <p>The proposed modification represents a three month</p>

Environmental Issue	Risk Identified and Addressed in the Environmental Assessment	Risk Identified for the Proposed Extension of Time Modification
	local properties ( <b>Low/Medium</b> ).	extension to the life of the operations (to 3.25 years). Given that rehabilitation works will be completed in accordance with the current approvals, it is considered there will be no material effect on property values over the short term. Over the medium to long term, following rehabilitation and tree growth, it is likely that property values would recover from any previous losses.
Soils	<ul style="list-style-type: none"> <li>Disturbance to soils and possible degradation of soil quality (<b>Low</b>)</li> </ul>	<p><b>None Identified.</b></p> <p>The progressive rehabilitation of the landscape would have a positive impact on soils as they would be stabilised and would facilitate regeneration of native vegetation communities. The proposed modification will not alter the ongoing soil management and rehabilitation works, which will still be completed in accordance with the current approvals and plans.</p>
Rehabilitation	<ul style="list-style-type: none"> <li>Temporary disturbance to the landform (<b>Low</b>).</li> <li>Possibility of permanent alteration to the local landform (<b>Low</b>).</li> </ul>	<p><b>None Identified.</b></p> <p>The proposed modification will not alter the ongoing rehabilitation works, which will still be completed in accordance with the current approvals and plans.</p>
Contaminated Lands	<ul style="list-style-type: none"> <li>Hydrocarbon spills to undisturbed lands (<b>Low</b>).</li> <li>Contamination of landform by coal reject already stockpiled or generated by the project (<b>Low</b>).</li> </ul>	<p><b>None Identified.</b></p> <p>The proposed modification does not pose any additional risk with regard to land contamination. Further assessment will take place across the Project Site during the lease relinquishment process and any recommendations made with regard to land remediation will be implemented.</p>
Bushfire and Spontaneous Combustion	<ul style="list-style-type: none"> <li>Localised spontaneous combustion event (<b>Low</b>).</li> <li>Initiation of bushfire on the Project Site (<b>Low</b>).</li> <li>Spread of bushfire initiation on the Project Site to Ben Bullen State Forest and beyond (<b>Medium</b>).</li> </ul>	<p><b>None Identified.</b></p> <p>The proposed modification will not alter the bushfire risk or management procedures that apply to the Project Site.</p>
Aboriginal Heritage	<ul style="list-style-type: none"> <li>No major risks.</li> </ul>	<p><b>None Identified.</b></p> <p>To date, no Aboriginal sites or artefacts have been identified during progressive mining and rehabilitation works at the Project Site. The proposed modification will not alter ongoing management practices in this regard.</p>
European Heritage	<ul style="list-style-type: none"> <li>No major risks.</li> </ul>	<p><b>None Identified.</b></p> <p>There are no items of European heritage within the mining lease.</p>
Groundwater Resources	<ul style="list-style-type: none"> <li>No major risks.</li> </ul>	<p><b>None Identified.</b></p> <p>Groundwater has not been intercepted by the progressive mining and rehabilitation works and the potential for contamination by hydrocarbons has also been mitigated through the use of low permeable bunding. The proposed extension of mining operations will not result in a change to mining operations or methods and the same coal seam will be mined. As a result, there will be no change to the risk</p>

Environmental Issue	Risk Identified and Addressed in the Environmental Assessment	Risk Identified for the Proposed Extension of Time Modification
		factors associated with groundwater impacts.
Greenhouse Gas Emissions	<ul style="list-style-type: none"> <li>Not addressed in 2006 EA</li> </ul>	<p><b>None Identified.</b></p> <p>The proposed three month extension of mining operations will not result in any significant increase in GHG emissions from the Project Site. Any potential additional emissions are largely offset by the 5 month delay in commencing operations between February and 8 July 2009 whilst the RTA required road works at the mine entrance on Castlereagh Highway were completed (see <b>Section 8.1</b>).</p> <p>There has also been no change to the total extraction of ROM coal from the Project Site per year. As per Schedule 2, Condition 6 of the Project Approval, this has remained at below 300,000 tonnes of ROM coal a year.</p> <p>There would be no material effect on national or global GHG emissions from the proposed modification.</p>

Pursuant to the above risk assessment, the proposed modification has the potential to have an impact on the key environmental area of Traffic and Transport. The following section provides an assessment of this key environmental issue.

## 5.2 Traffic and Transport

Traffic management was identified as a key issue in the 2006 EA and a Traffic Assessment was prepared by Barnson Pty Ltd (2006). A *Traffic Management Plan* (TMP) was developed and approved by the NSW Roads and Traffic Authority (RTA) for the INRP as part of Schedule 3, Condition 22 of the Project Approval.

As part of the initial works, the intersection for the INRP was designed by Barnson (2006) in consultation with the RTA and with reference to the *Road Design Guide* (RTA, 1989). The intersection has undergone road widening works, realignment, the completion of acceleration and deceleration lanes and the removal/pruning of trees to improve visibility.

As part of the TMP, all ingress movements are via a left turn into the Project Site. For trucks exiting the Project Site, they are required to cross the Castlereagh Highway in an easterly direction, into the existing Invincible Colliery site. Trucks then manoeuvre back to the Castlereagh Highway in a westerly direction and exit back onto the Castlereagh Highway in a southerly direction.

Schedule 3, Condition 19 of the development consent states Ivanhoe Coal Pty Ltd must not despatch more than 50 truck loads of coal from the Project Site on any day. The coal is dispatched in accordance with the RTA approved TMP. Several other controls are in place to ensure road user safety is not affected by the project. These include:

- all transportation activities are to be undertaken in accordance with the appropriate approval and licence conditions;
- all trucks are to be well maintained and all truck drivers to be instructed to act in a courteous manner and obey all road rules;
- the entering and exiting of heavy vehicles is staggered to prevent the creation of truck convoys;
- truck drivers are instructed to not enter the Castlereagh Highway at the same time as trucks from the Invincible Colliery;

- cross traffic between the Project Site and the Invincible Colliery is controlled by a procedure prepared in consultation with Invincible and the coal haulage company;
- appropriate warning signs and line markings were installed in accordance with RTA;
- Centennial Coal instructs truck drivers to monitor the condition of the roads along the proposed transport route and report any deterioration; and
- the sight distance available to truck drivers is regularly monitored and grass / shrubs slashed accordingly.

A further Traffic Assessment has now been prepared by Barnson Pty Ltd to assess the impacts of the proposed modification and extended mining operations (see **Appendix 3**). The most recent traffic counts for the Castlereagh Highway in the area were in 2005. Projected figures for 2011 have the Annual Average Daily Traffic (AADT) as approximately 3500 vehicles per day (vpd). The INRP currently does not dispatch more than 50 truck loads of coal from the Project Site on any day. No additional truck movements are proposed from the Project Site until 2 May 2012, at which time, mining truck movements will cease.

It has been assessed that for the proposed three month extension to the INRP, the impact on the existing traffic environment is negligible and no further mitigation measures are required. There is not expected to be any significant increase in traffic growth on the Castlereagh Highway during this time.

## 6.0 CONSULTATION

### 6.1 Overview

Centennial seeks to keep open communication channels with the local community. INRP undertook consultation with local and state government authorities, the local community and other relevant stakeholders in preparation of the original 2006 EA. Concerns originally identified during the preparation of the EA included noise, visual amenity and air quality. INRP manages these potential issues through implementing controls outlined in the Project Site management plans.

The Project Site continues to communicate with neighbours by informing them of the progress of the INRP. With rehabilitation and closure continuing in 2012, INRP will continue to inform the neighbours about the Project Site operation and rehabilitation status. Stakeholder consultation (community and government) regarding rehabilitation and closure procedures for the INRP are outlined in the *INRP Rehabilitation and Mine Closure Plan* (RMCP) (March 2010).

A summary of the consultation that has been undertaken for the INRP to date and which continues to occur, is included in **Table 5**.

**Table 5 – Consultation Requirements for the INRP**

Stakeholder	Information Requirements and Method of Consultation
Centennial Coal Pty Ltd	Regular updates on the status of the project. RMCP reviewed by the Centennial corporate office. Centennial corporate are informed throughout the project process and assist in decision making.
Neighbouring mine sites (non-Centennial – Invincible and Cullen Bullen)	Consulted as part of original EA. Centennial and Big Rim Pty Ltd regularly liaise with the neighbouring mine Invincible Colliery. Invincible are made aware of final production date. Invincible are made aware of status of the project during rehabilitation and closure through meetings.
Land owner (Forests NSW)	Consulted during original EA. A copy of the original RMCP sent to Forests NSW for comment. Forests NSW provided with a copy of the AEMR. Forests NSW invited to AEMR presentation. Centennial will liaise with Forests NSW throughout the closure process.
Land leased from Forests NSW and nearby neighbours	Consulted during original EA. Ongoing consultation. AEMR provided to long term tenant. Letters sent outlining the status of the project.
Big Rim (Contract Miner)	Centennial Ivanhoe participates in a fortnightly meeting with Big Rim and discusses mine scheduling and general operations. Big Rim provided with a copy of the RMCP for comment. A final date for end of mining will be established following discussions between Big Rim and Centennial Ivanhoe. The Big Rim Mining Contract will be completed following the completion of mining and landform shaping at Ivanhoe North to the agreed standard. All equipment owned by Big Rim will be removed from the Project Site at the end of the

Stakeholder	Information Requirements and Method of Consultation
	project
Contract transport company	Centennial regularly liaise with the contracting transport company. The company will be given sufficient notice prior to the completion date for coal haulage.
Nearby neighbours	A community newsletter will be distributed outlining the ceasing of operation, rehabilitation and closure methodology. Ongoing consultation.
Lithgow City Council	LCC consulted as part of EA. LCC sent copy of AEMR. LCC invited to AEMR inspection. A copy of the original RMCP was sent to the LCC.
Department of Planning and Infrastructure	Consulted as part of the EA and management plans. DoPI provided with a final copy of the RMCP. DoPI provided with a copy of the AEMR. DoPI invited to AEMR inspection.
Department of Industry and Investment	Consulted as part of the EA. Ongoing consultation and inspections of the Project Site. DTIRIS provided with a final copy RMCP for comment. DTIRIS sent a copy of the AEMR. DTIRIS invited to AEMR inspection. DTIRIS provided with a copy of the MOP and various amendments. Centennial continue to consult with DTIRIS throughout closure process. Rehabilitation monitoring results are supplied to DTIRIS. Centennial will discuss the lease relinquishment requirements with DTIRIS (long term).
Office of Environment and Heritage	Consulted as part of the EA. OEH sent a copy of the final RMCP. OEH provided with a copy of the AEMR. OEH invited to AEMR inspection.
Roads and Traffic Authority	Consulted as part of EA and preparation of intersection. Approved the existing intersection upgrade. A letter will be sent to RTA outlining the proposed date of final production.
Aboriginal Groups.	No requirement to inform. Consultation undertaken during the EA process

As part of the proposed EA modification, the following consultation has occurred with the stakeholders outlined in **Table 6**.

**Table 6 – Consultation Undertaken for the INRP Modification**

Date	Method	From Whom	To Whom	Summary	Outcomes/ Actions/Comments
21/09/11	Letter	Neil Larcombe, Mine Manager, Ivanhoe Coal, Centennial	Howard Reed, Manager Mining, DoPI	Letter sent regarding an application for an extension of time to the INRP.	Email response from Colin Phillips, Senior Planner, DoPI.

Date	Method	From Whom	To Whom	Summary	Outcomes/ Actions/Comments
21/09/11	Email	Colin Phillips for Howard Reed, DoPI	Rob Hunt, Environment & Community Coordinator, Centennial	Stated that minor approval is required, involving an application form, EA and political donations form.	No major issues raised.
6/10/11	Face to Face	Neil Larcombe, Mine Manager, Ivanhoe Coal, Centennial	Greg Kininmonth, DTIRIS	Discussed the intention of Centennial to apply for a time extension for INRP and to send a follow up letter stating this.	No issues raised.
7/10/11	Phone	Neil Larcombe, Mine Manager, Ivanhoe Coal, Centennial	Graeme Goodwyn General Manager, Invincible Colliery	Phone call discussing the intention of Centennial to apply for a time extension for INRP and to send a follow up letter stating this.	No issues raised.
7/10/11	Phone	Neil Larcombe, Mine Manager, Ivanhoe Coal, Centennial	Neighbouring Landowner	Phone call discussing the intention of Centennial to apply for a time extension for Ivanhoe North and to send a follow up letter stating this.	No issues raised. Discussed writing a letter asking Centennial to leave dams and roads in place.
10/10/11	Phone	Neil Larcombe, Mine Manager, Ivanhoe Coal, Centennial	Neighbouring Landowner	Phone call discussing the intention of Centennial to apply for a time extension for Ivanhoe North and to send a follow up letter stating this.	No issues raised with extension. Requested assistance with road works.
10/10/11	Letter	Neil Larcombe, Mine Manager, Ivanhoe Coal, Centennial	NSW Roads and Traffic Authority	Letter to NSW RTA providing details of the proposed time extension.	Letter from RTA dated 25 October 2011 (see <b>Appendix 4</b> ) confirming no objection to the proposed time extension.
11/10/11	Phone	Neil Larcombe, Mine Manager, Ivanhoe Coal, Centennial	Michelle Blakely, Commercial Manager, Delta - Mt Piper Power Station	Phone call discussing the intention of Centennial to apply for a time extension for Ivanhoe North and to send a follow up letter stating this.	Letter from Delta dated 23 October 2011 confirming support for the proposed extension.
11/10/11	Letter	Neil Larcombe, Mine Manager, Ivanhoe Coal, Centennial	To all neighbouring landowners (see <b>Table 1</b> ).	Letter to neighbours stating intention of Centennial to apply for a time extension for Ivanhoe North.	No responses received.
10/10/11	Letter	Neil Larcombe, Mine Manager, Ivanhoe Coal, Centennial	NSW Office of Environment & Heritage; DTIRIS, NSW Office of Water, Forests NSW.	Letter to NSW Government Agencies providing details of the proposed time extension.	No responses received.



## **6.2 Government Consultation**

### **6.2.1 NSW Department of Planning and Infrastructure**

The government consultation program for this modification comprised briefing the DoPI with a letter sent on 21 September 2011 regarding the proposed modification. The DoPI subsequently responded, confirming Section 75W as the most appropriate means of assessing the proposal.

Environmental Assessment Requirements were not issued for the modification.

### **6.2.2 Other Relevant Departments and Agencies**

As detailed in **Table 6**, letters were sent to various NSW government departments, including the Roads and Traffic Authority, DTIRIS, Office of Water, Office of Environment and Heritage and Forests NSW. The RTA responded in a letter dated 25 October 2011 confirming that they had no objections to the proposed extension (see **Appendix 4**).

## **6.3 Community Consultation**

As shown in **Table 6**, INRP has consulted with various local landholders, all of whom raised no issues with the proposed modification.

## **6.4 Future Consultation**

The consultation undertaken to date has provided a two-way mechanism to continue future communications between Ivanhoe Coal and its neighbours. Consultation will continue to occur between Ivanhoe Coal and its neighbours throughout the assessment process and up until the completion of mining and rehabilitation.

## **7.0 STATEMENT OF COMMITMENTS**

Pursuant to Schedule 2, Condition 2 of the Project Approval, the INRP is required to be undertaken pursuant to the *Proposed Ivanhoe North Rehabilitation Project – Updated Statement of Commitments* (SOC) dated September 2006 compiled by RW Corkery & Co.

The proposed modification will not require any amendments to the approved SOC's.

As previously outlined, a comprehensive set of environmental management plans have been developed by INRP in accordance with conditions of the Project Approval, Mining Lease 1627, EPL 13063, and Centennial Coal standards. These plans are backed by an environmental monitoring network including air quality, water quality, and noise monitoring. The existing environmental management plans will continue to apply to all operations at INRP.

## 8.0 JUSTIFICATION AND CONCLUSION

### 8.1 Project Justification

The three month extension to the current Project Approval is sought for the following reasons:

- Due to road works required by the NSW Roads and Traffic Authority (RTA) at the mine entrance on the Castlereagh Highway, mining commenced on 8 July 2009 (5 months after the granting of ML 1627 on 2 February 2009).
- Although mining progressed well in the Southern and Central blocks, the rate of mining has slowed in the Northern blocks. The remaining coal at Ivanhoe North is in the northern blocks which is an area above the previously mined Ivanhoe 2 Colliery workings. Due to safety concerns associated with mining over old workings, procedures have been jointly prepared by the Mine Operator and the DTIRIS to ensure safe operations. This has resulted in a slower than expected rate of mining which will continue until mining is completed. The remaining coal is also in a relatively small area and the possibility of using additional equipment is not feasible, again for safety reasons.
- The recently granted MOP amendment has resulted in an increase in coal quantity of around 80,000 tonnes, within the approved project approval area. This MOP amendment was granted by the then NSW Industry and Investment in March 2011. This coal is barrier coal and relatively easy to mine, but still requires additional time. *(Note: This additional coal quantity is largely offset by the resource loss of up to 50,000 tonnes of coal in the Nth 01 to Nth 05 blocks at the northern end of the INRP that could not be mined due to the risk of destabilising the Castlereagh Highway. This resource loss was notified to DoPI and DTIRIS in December 2010 and February 2011, respectively. Notwithstanding the above changes to the MOP, there has been no change to the total extraction of ROM coal from the Project Site per year).*

There is to be no significant change to the character or nature of the operation at INRP in relation to the proposed modification. Operations undertaken during the extended time will be unchanged when compared with the existing and approved operations. The total volume of traffic will not increase from the approved volumes.

Through the extension of the consent expiry date, the modification will allow for the remaining 100,000 t (approximate) of INRP coal to be mined, which will ensure maximum resource extraction.

The proposal will use the same mining methods, type of equipment and infrastructure already in use at the INRP. No changes are proposed to the surface infrastructure areas, coal handling techniques, coal transportation, approved operating hours, approved volume of coal extracted, or mining methods currently in use at the mine, and the proposed modification would not require any additional tailings or coarse rejects storage.

Potential environmental impacts associated with the proposed modification have been assessed and are predicted to be negligible. A specialist Traffic Assessment was completed which found that there would be minimal adverse impacts as a result of the proposed modification.

There is expected to be no significant environmental degradation or problems resulting from the modification. Continued monitoring will provide evidence to show that existing environmental criteria can be maintained and that environmental impacts associated with the activities are minimised.

The existing INRP environmental management plans and procedures will continue to be implemented for the remainder of the project.

## 8.2 Ecologically Sustainable Development (ESD)

Ecologically Sustainable Development (ESD) has emerged as a primary objective of environmental protection in NSW. ESD is an objective of the EP&A Act (under Section 5(a)(vii) of the Act), and is defined under Section 6(2) of the *Protection of the Environment Administration Act 1991* as -

*6(2) For the purposes of subsection (1)(a), ecologically sustainable development requires the effective integration of economic and environmental considerations in decision-making processes. Ecologically sustainable development can be achieved through the implementation of the following principles and programs:*

- (a) the precautionary principle—namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation...*
- (b) inter-generational equity—namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations,*
- (c) conservation of biological diversity and ecological integrity—namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration,*
- (d) improved valuation, pricing and incentive mechanisms—namely, that environmental factors should be included in the valuation of assets and services....*

The overall objectives of ESD are to use, conserve and enhance our natural resources. This ensures that ecological processes are maintained facilitating improved quality of life, now and into the future.

In order to provide sound management of the mining operations, INRP understand that social, economic and ecological objectives are independent. INRP also acknowledges that a well-designed and run operation will avoid irreversible or costly environmental degradation through polluting activities. The Environmental Management Plans in place at INRP are designed to demonstrate environmental due diligence and to implement procedures that provide ongoing monitoring and maintenance of the operation in line with the objectives of ESD.

### 8.2.1 The Precautionary Principle

The precautionary principle requires that, in the absence of any other scientific information, caution should be applied when developing projects to consider environmental and social impacts. The proposed modification will have minimal environmental consequences beyond those already approved.

### 8.2.2 Social Equity, Inter-Generational Equity

Social equity requires that the needs of future generations are considered with respect to any activity. In regard to this, the proposed modification and activities associated with it will not create permanent impact on the natural and human environments outside of existing conditions.

### 8.2.3 Conservation of Biological Diversity

The proposed modification will not result in any additional loss of vegetation. Mining activities will occur within the approved mining footprint. Through a strategic mine closure planning process and by undertaking progressive rehabilitation where possible within the mining lease, all disturbed areas will be rehabilitated following cessation of mining.

### 8.2.4 Improved Valuation and Pricing of Environmental Resources

Given the proposed modification is for an extension of time, and will not alter mining operations, there will be no additional disturbance of surface areas, and as such, the modification will not alter environmental resources.

If the remaining coal (approximately 100,000 t) in the proposed modification area is not recovered by INRP as part of its existing operation, the likelihood of the resource being extracted in the future is considered very low. The high cost associated with establishing a new mining operation for such a small amount of coal will mean that the coal resource will be effectively sterilised. By recovering the coal now as part of the current approval, it allows for operational efficiencies to be realised that would otherwise make the proposition uneconomical.

### **8.3 Conclusion**

INRP seeks approval to modify Project Approval PA 05\_0103 under Section 75W of Part 3A of the EP&A Act. The modification would allow for an extension to the consent until 2 May 2012 to ensure all mining and trucking is completed in a safe and efficient manner.

The EA and supporting Traffic Assessment conclude that adverse environmental impacts will be negligible, with limited environmental consequences beyond those already approved.

The INRP currently does not dispatch more than 50 truck loads of coal from the Project Site on any day, pursuant to the conditions of the Project Approval. No increase in current truck movements are proposed from the Project Site until 2 May 2012, at which time, mining truck movements will cease. The impact on the existing traffic environment will therefore be negligible and there is not expected to be any significant increase in traffic growth on the Castlereagh Highway during this time.

Existing environmental management strategies will be applied to the proposed modification. No additional measures are anticipated to be required as a result of this modification.

The proposal will use the same mining methods, type of equipment and infrastructure already in use by INRP. No changes are proposed to the surface infrastructure, coal handling techniques, coal transportation, approved operating hours, volume of coal extracted from the mine, or mining methods currently in use at the mine, and the proposed modification would not require any additional tailings or coarse rejects storage.

The proposed modification will allow a small increase in the life of the mine, and the positive socio-economic impacts will continue.

## 9.0 REFERENCES

AECOM Pty Ltd (2010) *Phase 1 Environmental Site Assessment*

Barnson Pty Ltd (2011) *Traffic Assessment of the Proposed Modification to the Ivanhoe North Rehabilitation Project.*

Geoff Cunningham Natural Resource Consultants Pty Ltd (2006) *Soils and Land Capability Study of the Proposed Ivanhoe North Rehabilitation Project.*

GHD (2010) *Ivanhoe North Rehabilitation Project Revised Site Water Management Plan (Revision 3).*

Gingra Ecological Surveys (2006) *Flora and Fauna Assessment of the Proposed Ivanhoe North Rehabilitation Project.*

GSS Environmental Pty Ltd (2006) *Surface Water Assessment of the Proposed Ivanhoe North Rehabilitation Project.*

GSS Environmental Pty Ltd (2011) *Ivanhoe North Rehabilitation Project Annual Environmental Management Report.*

GSS Environmental Pty Ltd (2011) *Ivanhoe North Rehabilitation Project Rehabilitation and Mine Closure Plan.*

Heggies Australia Pty Ltd (2006) *Air Quality Impact Assessment of the Proposed Ivanhoe North Rehabilitation Project.*

Heggies Australia Pty Ltd (2006) *Noise Impact Assessment of the Proposed Ivanhoe North Rehabilitation Project.*

NSW Department of Environment, Climate Change and Water (2010) *Environmental Protection Licence 13063 for the Ivanhoe North Rehabilitation Project.*

OzArk Environmental and Heritage Management Pty Limited (2006) *Indigenous Heritage Survey and Assessment of the Proposed Ivanhoe North Rehabilitation Project.*

Project Approval for Ivanhoe North Rehabilitation Project PA 05\_0103.

R.W. Corkery and Co Pty Ltd (2006) *Environmental Assessment for Proposed Ivanhoe North Rehabilitation Project.*

R.W. Corkery and Co Pty Ltd (2006) *Updated Statement of Commitments for the Proposed Ivanhoe North Rehabilitation Project.*

R.W. Corkery and Co Pty Ltd (2008) *Mining Operations Plan for the Ivanhoe North Rehabilitation Project.*



# Centennial Coal

Centennial Coal Company Limited  
P O Box 1000  
Toronto NSW 2283  
[www.centennialcoal.com.au](http://www.centennialcoal.com.au)



# Project Application Form



**APPENDIX 1**



# Application to modify a development consent



NSW GOVERNMENT  
Department of Planning

Date lodged: \_\_\_\_/\_\_\_\_/\_\_\_\_

DA modification no. \_\_\_\_\_  
(Office use only)

## 1. Before you lodge

This form is to be used for applications to modify Part 4 development consents under section 96 or 96AA of the *Environmental Planning and Assessment Act 1979* (EP&A Act). This form is also to be used for Part 4 development consents that are to be modified under section 75W of the Act.

### Disclosure statement

Persons lodging modification applications are required to declare reportable political donations (including donations of or more than \$1,000) made in the previous two years. For more details, including a disclosure form, go to [www.planning.nsw.gov.au/donations](http://www.planning.nsw.gov.au/donations).

### Lodgement

Anyone wishing to lodge an application is recommended to call the Department of Planning to discuss their proposal and modification application requirements prior to lodging their application. You can lodge your completed form, together with attachments and fees at the relevant Department of Planning office listed below. Please lodge Part 4 modification applications with the Department of Planning head office or, for modification applications that are within the Kosciuszko ski resorts area, the Department's Alpine Resorts team.

NSW Department of Planning  
Head Office  
Ground Floor, 23–33 Bridge Street, Sydney NSW 2000  
GPO Box 39 Sydney NSW 2001  
Phone: 1300 305 695 Fax: (02) 9228 6555  
Email: [information@planning.nsw.gov.au](mailto:information@planning.nsw.gov.au)

NSW Department of Planning  
Alpine Resorts Team  
Shop 5A, Snowy River Avenue  
PO Box 36, Jindabyne NSW 2627  
Phone: (02) 6456 1733 Fax: (02) 6456 1736  
Email: [alpineresorts@planning.nsw.gov.au](mailto:alpineresorts@planning.nsw.gov.au)

To minimise delay in receiving a decision about your application, please ensure you submit all relevant information to the Department. When your application has been assessed, you will receive a notice of determination.

## 2. Applicant and contact details

Company/organisation/agency

Ivanhoe Coal Pty Limited

ABN

79 064 237 154

☒ Mr ☐ Ms ☐ Mrs ☐ Dr ☐ Other

First name

Richard

Family name

Tacon

STREET ADDRESS

Unit/street no.

1384

Street name

Castlereagh Highway

Suburb or town

Lidsdale

State

NSW

Postcode

2790

POSTAL ADDRESS (or mark 'as above')

Locked Bag 1002

Suburb or town

Wallerawang

State

NSW

Postcode

2845

Daytime telephone

02 6355 9819

Fax

02 6355 9838

Mobile

0418678819

Email

[richard.tacon@centennialcoal.com.au](mailto:richard.tacon@centennialcoal.com.au)

### 3. Property description

Unit/street no. (or lot no. for Kosciuszko ski resorts)

Street or property name

Castlereagh Highway

Suburb, town or locality

Cullen Bullen

Postcode

2794

Local government area

Lithgow

Lot/DP or Lot/Section/DP or Lot/Strata no.

Please ensure that you put a slash ( / ) between lot, section, DP and strata numbers. If you have more than one piece of land, you will need to separate them with a comma e.g. 123/579, 162/2.

Ben Bullen State Forest

Note: You can find the lot, section, DP or strata number on a map of the land or on the title documents for the land, if title was provided after 30 October 1983. If you have documents older than this, you will need to contact the NSW Department of Lands for updated details. If the subject land is located within the Kosciuszko ski resorts area, DP and strata numbers do not apply.

### 4. Details of the original development consent

Briefly describe your approved development in the space below. If the development has been modified previously you must list all previous modifications and the relevant determination date(s).

SEE SECTION 1.3 of EA

What was the original development application no.?

05\_0103

What was the date consent was granted?

11 April 2007

What was the original application fee?

UNKNOWN

### 5. Type of modification

An application under section 96 of the EP&A Act is an application to modify a development consent. Modifications to a development consent can also be made under section 75W of the EP&A Act, or section 96AA for court granted consents.

There are five types of modification applications. Please tick the type of modification application that is being sought:

- ☐ Section 96(1) involving minor error, misdescription or miscalculation.
- ☐ Section 96(1A) involving minimal environmental impact, where the development as originally approved remains substantially the same.
- ☐ Section 96(2) other modification, where the development as originally approved remains substantially the same.
- ☐ Section 96AA modification of consent granted by the Land and Environment Court, where the development as originally approved remains substantially the same.
- ☒ Section 75W modification, involving use of Part 3A processes to modify the Part 4 consent.

Note: If the proposed modification will lead to the consented development being not 'substantially the same' (except in the case of a proposed modification under section 75W) then you will need to submit a new development application.

### 6. Extent of modification

Will the modified development be substantially the same as the development that was originally approved?

No ☐ > Please submit a new development application.

Yes ☐ > Please provide evidence that the development will remain substantially the same. (If you need to attach additional pages, please list below the material attached).

NOT APPLICABLE

Note: Question 6 does not apply to proposed modifications under section 75W.

## 7. Description of modification

- In the case of a section 96(1) application, indicate the nature of the minor error, misdescription or miscalculation in the space below.
- In the case of a section 96(1A), section 96(2) or section 96AA application describe the impact of the modification in the space below. A statement of environmental effects will need to accompany the application, which includes an assessment of the development as proposed to be modified in accordance with section 79C(1) of the EP&A Act. Provisions of the *Heritage Act 1977* may also apply for works to a heritage item or works adjoining a heritage item.
- In the case of a section 75W application under clause 8J(8) of the Environmental Planning and Assessment Regulation 2000, a development consent in force immediately before the commencement of Part 3A of the Act may be modified under section 75W as if the consent were an approval under that Part. However, approval from the Minister is required to lodge a section 75W application. **Applicants should contact the Department first if they are considering applying for a modification under section 75W.**

Regardless of the type of modification, please state below the specific conditions of consent to be modified, deleted or additional conditions request, and details of any other changes being sought.

SEE SECTION 3.0 OF EA

Note: If your proposal is within Kosciuszko ski resorts area, please attach a copy of the Interim Lease Variation Approval received from the Department of Environment and Climate Change to your application.

## 8. General terms of approval from State agencies

If the original development application was classified as integrated development and required approval from one or more State agencies, list them in the space below and their respective general terms of approval. Depending on the type of modification, it may be necessary to refer the modification application to the approval body.

NOT APPLICABLE

## 9. Number of jobs to be created

Please indicate the number of jobs the proposed development will create. This should be expressed as a proportion of full time jobs over a full year, (e.g. a person employed full time for 6 months would equal 0.5 of a full time equivalent job; six contractors working on and off over 2 weeks equate to 2 people working full time for 2 weeks, which equals approximately 0.08 of an FTE job).

Construction jobs (full time equivalent)

0

Operational jobs (full time equivalent)

0

## 10. Application fee

Part 15 of the Environmental Planning and Assessment Regulation 2000 sets out how to calculate the fees for an application for modification of a development consent. If your development needs to be advertised to the public you may also need to include an advertising fee.

Note: Advertising fees attract GST, all other fees do not.

Please contact the Department in order to calculate the fee for your modification application.

Estimated cost of the development

0

Original application fee

UNKNOWN

Total fees lodged

\$5,000

## 11. Political donation disclosure statement

Persons lodging modification applications are required to declare reportable political donations (including donations of or more than \$1,000) made in the previous two years. Disclosure statements are to be submitted with your application.

Have you attached a disclosure statement to this application?

Yes ☒

No ☐

Note: For more details about political donation disclosure requirements, including a disclosure form, go to [www.planning.nsw.gov.au/donations](http://www.planning.nsw.gov.au/donations).

## 12. Owner's consent

**The owner(s) of the land to be developed must sign the application.** If you are not the owner of the land, you must have all the owners sign the application. If the land is Crown land, an authorised officer of the NSW Department of Lands must sign the application. **An original signature must be provided.**

As the owner(s) of the above property, I/we consent to this application:

Signature

N/A EP&A Regs cl 8

Name

Date

Signature

Name

Date

Note: For applications within the Kosciuszko ski resorts area, the approval of the lessee rather than the owner is required.

## 13. Applicant's signature

**The applicant, or the applicant's agent, must sign the application. Only an original signature will be accepted** (photocopies or faxed copies will not be accepted).

Signature

Date

25 Nov 2011

In what capacity are you signing if you are not the applicant

General Manager Ops - West

Name, if you are not the applicant

## 14. Privacy policy

The information you provide in this application will enable the Department, and any relevant state agency, to assess your application under the *Environmental Planning and Assessment Act 1979* and other applicable state legislation. If the information is not provided, your application may not be accepted.

If your application is for designated development or advertised development, it will be made available for public inspection and copying during a submission period. Written notification of the application will also be provided to the neighbourhood. You have the right to access and have corrected any information provided in your application. Please ensure that the information is accurate and advise the Department of any changes.

# Project Approval PA 05\_0103



## APPENDIX 2

# Project Approval

## Section 75J of the *Environmental Planning and Assessment Act 1979*

I, the Minister for Planning, approve the Project referred to in Schedule 1, subject to the conditions in Schedules 2 to 5.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the Project.

**SIGNED BY MINISTER SARTOR ON 11 APRIL 2007**

Frank Sartor MP  
Minister for Planning

Sydney

2007

File No: 9039486

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### SCHEDULE 1

<b>Application No:</b>	05_0103
<b>Proponent:</b>	Ivanhoe Coal Pty Limited
<b>Approval Authority:</b>	Minister for Planning
<b>Land:</b>	Part of Ben Bullen State Forest (No Title, see Appendix 2)
<b>Project:</b>	Ivanhoe North Rehabilitation Project

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## DEFINITIONS

AEMR	Annual Environmental Management Report
Coal haulage	The movement of coal trucks to or from the Ivanhoe North site on public roads
Council	Lithgow City Council
Day	Day is defined as the period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and public holidays
DEC	Department of Environment and Conservation
Department	Department of Planning
Director-General	Director-General of Department of Planning, or delegate
DNR	Department of Natural Resources
DPI	Department of Primary Industries
EA	Environmental Assessment
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
Evening	Evening is defined as the period from 6pm to 10pm
Land	Land means the whole of a lot, or contiguous lots owned by the same landowner, in a current plan registered at the Land Titles Office at the date of this approval
Minister	Minister for Planning, or delegate
Privately owned land	Land that is not owned by a public agency, or a mining company or its subsidiary; and where relevant, land that is not covered by a private agreement between the Applicant and the land owner that specifically allows for variances to criteria for environmental performance in this consent
Proponent	Ivanhoe Coal Pty Limited, or its successors in title
ROM	Run of mine
RTA	Roads and Traffic Authority
Site	Land to which the Project Application applies

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## SCHEDULE 2 ADMINISTRATIVE CONDITIONS

### Obligation to Minimise Harm to the Environment

1. The Proponent shall implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the Project.

### Terms of Approval

2. The Proponent shall carry out the Project generally in accordance with the:
  - (a) Project Application 05\_0103;
  - (b) *Proposed Ivanhoe North Rehabilitation Project - Environmental Assessment*, dated May 2006, and prepared by RW Corkery & Co;
  - (c) *Ivanhoe North Rehabilitation Project - Updated Statement of Commitments*, dated September 2006, compiled by RW Corkery & Co; and
  - (d) conditions of this approval.
3. If there is any inconsistency between the above documents, the latter document shall prevail over the former to the extent of the inconsistency. However, the conditions of this consent shall prevail over all other documents to the extent of any inconsistency.
4. The Proponent shall comply with any reasonable requirement/s of the Director-General arising from the Department's assessment of:
  - (a) any reports, plans, programs or correspondence that are submitted in accordance with this approval; and
  - (b) the implementation of any actions or measures contained in these reports, plans, programs or correspondence.

### Limits on Approval

5. In respect of the right to conduct coal mining operations, this consent is limited to a period of 3 years from the date of grant of the mining lease to mine coal.

*Note: Under this consent, the Applicant is required to rehabilitate the site to the satisfaction of the DPI and the consent will continue for this and related purposes.*

6. The Proponent shall not extract more than 300,000 tonnes of ROM coal a year from the site.
7. The Proponent shall comply with the operating hours in Table 1:

*Table 1: Operating hours*

Activity	Days of the Week	Time
Coal recovery Coal processing Rehabilitation activities	Monday to Saturday (inclusive)	7 am to 6 pm
	Sunday and public holidays	No work at any time
Coal transportation	Monday to Saturday (inclusive)	7 am to 6 pm
	Sunday and public holidays	No work at any time
Minor maintenance works on plant and machinery	7 days a week and public holidays	Any time

### Demolition

8. The Proponent shall ensure that all demolition work is carried out in accordance with *Australian Standard AS 2601-2001: The Demolition of Structures*, or its latest version.

### Structural Adequacy

9. The Proponent shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.

*Notes:*

- Under Part 4A of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works.
- Part 8 of the EP&A Regulation sets out the requirements for the certification of the Project.

**Operation of Plant and Equipment**

10. The Proponent shall ensure that all plant and equipment used at the site is:
- (a) maintained in a proper and efficient condition; and
  - (b) operated in a proper and efficient manner.

**Community Enhancement Contribution**

11. Within 6 months of this approval, the Proponent shall contribute \$15,000 to Lithgow City Council for the provision of community facilities in the Cullen Bullen area. Any monies not expended on such facilities within 2 years of their receipt shall be returned to the Proponent by the Council.
-

### SCHEDULE 3 SPECIFIC ENVIRONMENTAL CONDITIONS

#### NOISE

##### Noise Impact Assessment Criteria

1. The Proponent shall ensure that the noise generated by the Project does not exceed the noise impact assessment criteria in Table 2 for any privately owned residence.

Table 2: Noise impact assessment criteria dB(A)

<i>L<sub>Aeq</sub>(15 minute)</i>	<i>Land Reference and Owner</i>
36	K (Muenzer)
35	All other residences

*Notes:*

- a) Noise from the Project is to be measured at the most affected point or within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary, to determine compliance with the *L<sub>Aeq</sub>(15 minute)* noise limits in the above table. The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.
- b) Where it can be demonstrated that direct measurement of noise from the Project is impractical, the DEC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).
- c) The noise emission limits identified in the above table apply under meteorological conditions of:
  - wind speeds of up to 3 m/s at 10 metres above ground level; or
  - temperature inversion conditions of up to 3°C/100m, and wind speeds of up to 2 m/s at 10 metres above ground level.
- d) The locations of residences in Table 2 are shown in Appendix 2 of this approval.

#### Continuous Improvement

2. The Proponent shall:
  - (a) implement all reasonable and feasible noise mitigation measures;
  - (b) investigate ways to reduce the noise generated by the Project; and
  - (c) report on these investigations and the implementation and effectiveness of these measures in the AEMR,
 to the satisfaction of the Director-General.

#### Monitoring

3. Prior to the commencement of mining and/or rehabilitation activities, the Proponent shall prepare (and following approval implement) a Noise Monitoring Program for the Project, to the satisfaction of the Director-General. This Program must include attended monitoring at residences C, G, and K, and include a noise monitoring protocol for evaluating compliance with the noise impact assessment criteria in this approval.

#### Additional Noise Mitigation Measures

4. Upon receiving a written request from the owner of any privately owned residence where subsequent noise monitoring shows the noise generated by the Project is greater than, or equal to, *L<sub>Aeq</sub>(15 minute)* 38 dB(A), the Proponent shall implement additional noise mitigation measures such as double glazing, insulation and/or air conditioning at any residence on the land in consultation with the landowner. These additional mitigation measures must be reasonable and feasible. If within 3 months of receiving this request from the landowner, the Proponent and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution.

#### AIR QUALITY

##### Impact Assessment Criteria

5. The Proponent shall ensure that the dust emissions generated from the Project do not cause exceedances of the air quality impact assessment criteria listed in Tables 4, 5 and 6 at any residence on any privately owned land.

Table 4: Long term impact assessment criteria for particulate matter

Pollutant	Averaging period	Criterion
Total suspended particulate (TSP) matter	Annual	90 µg/m <sup>3</sup>
Particulate matter < 10 µm (PM <sub>10</sub> )	Annual	30 µg/m <sup>3</sup>

Table 5: Short term impact assessment criterion for particulate matter

Pollutant	Averaging period	Criterion
Particulate matter < 10 µm (PM <sub>10</sub> )	24 hour	50 µg/m <sup>3</sup>

Table 6: Long term impact assessment criteria for deposited dust

Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level
Deposited dust	Annual	2 g/m <sup>2</sup> /month	4 g/m <sup>2</sup> /month

Note: Deposited dust is assessed as insoluble solids as defined by Standards Australia, 2003, AS 3580.10.1-2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulates - Deposited Matter - Gravimetric Method.

### Continuous Improvement

6. The Proponent shall:
  - (a) implement all reasonable and feasible air quality impact mitigation measures;
  - (b) investigate ways to reduce the air quality impacts generated by the Project;
  - (c) ensure any visible air pollution generated by the Project is assessed regularly; and
  - (d) report on these assessments and investigations and the implementation and effectiveness of these measures in the AEMR,
 to the satisfaction of the Director-General.

### SURFACE WATER

#### Discharge Limits

7. Except as may be expressly provided by a DEC Environment Protection Licence, the Proponent shall not discharge any water from the site or to underground mine workings.

#### Site Water Management Plan

8. Prior to the commencement of works, the Proponent shall prepare (and following approval implement) a Site Water Management Plan for the Project, in consultation with the DEC, and to the satisfaction of the Director-General. This plan must include:
  - (a) a Site Water Balance;
  - (b) an Erosion and Sediment Control Plan; and
  - (c) a Surface Water Monitoring Program.

#### Site Water Balance

9. The Site Water Balance must:
  - (a) include details of all water extracted, dewatered, transferred, used and/or discharged by the Project; and
  - (b) provide for the annual re-calculation of the water balance and its reporting in the AEMR.

## **Erosion and Sediment Control Plan**

10. The Erosion and Sediment Control Plan must:

- (a) be consistent with the requirements of the Department of Housing's Managing Urban Stormwater: Soils and Construction manual;
- (b) identify activities that could cause soil erosion and generate sediment;
- (c) describe measures to minimise soil erosion and the potential for the transport of sediment to downstream waters;
- (d) describe the location, function, and capacity of erosion and sediment control structures; and
- (e) describe what measures would be implemented to maintain the structures over time.

## **Surface Water Monitoring Plan**

11. The Surface Water Monitoring Plan must include:

- (a) surface water impact assessment criteria;
- (b) a program to monitor the volume and quality of any off-site water discharges;
- (c) a program to monitor surface water flows and quality in local watercourses;
- (d) a protocol for the investigation, notification, and mitigation of identified exceedances of the surface water assessment criteria.

## **REHABILITATION MANAGEMENT**

12. Prior to commencement of mining and/or rehabilitation activities, the Proponent shall prepare (and following approval implement) a Rehabilitation Management Plan for the mine, in consultation with DNR, DEC and DPI, and to the satisfaction of the Director-General.

13. The Proponent shall progressively rehabilitate the site in a manner that is generally consistent with the final landform in the Rehabilitation Management Plan, to the satisfaction of the Director-General.

14. The Rehabilitation Management Plan must include:

- (a) the rehabilitation objectives for the site;
- (b) a description of the short, medium, and long term measures that would be implemented to:
  - rehabilitate the site; and
  - manage the remnant vegetation and habitat on the site;
- (c) a detailed completion criteria for the rehabilitation of the site;
- (d) a detailed description of how the performance of the rehabilitation of the mine would be monitored over time to achieve the stated objectives;
- (e) a detailed description of what measures would be implemented to rehabilitate and manage the landscape of the site including the procedures to be implemented for:
  - collecting and propagating seed for rehabilitation works;
  - the provision of adequate propagation stock for each rehabilitation area;
  - progressively rehabilitating areas disturbed by mining;
  - how operational works and rehabilitation works will be phased so as to ensure that sufficient viable seed and propagations stock is available
  - implementing revegetation and regeneration;
  - rehabilitating watercourses on the site;
  - managing impacts on fauna;
  - conserving and reusing topsoil;
  - salvaging and reusing material from the site for habitat enhancement;
  - controlling weeds and feral pests;
  - controlling access;
  - bushfire management; and
  - mine closure;
- (f) a description of the measures that would be implemented if any Aboriginal objects are discovered during the rehabilitation of the site; and
- (g) details of who is responsible for monitoring, reviewing, and implementing the plan.

*Note: References to "rehabilitation" in this approval include all works associated with the rehabilitation and restoration of the site as described in the Environmental Assessment and Part 3 of the Specialist Consultant Studies Compendium.*

15. Following the completion of mining activities, the Proponent must remove and rehabilitate the Retained Water Storage (as shown on Figure 2.7 of the EA), to the satisfaction of the Director-General, except with the agreement of the Director-General.

16. Prior to the commencement of stream rehabilitation works for "Stream 3" (as shown in Figure 3.4 of the EA), the Proponent must prepare (and following approval implement) a design for the stream rehabilitation works, to the satisfaction of the DNR.

## **BEN BULLEN STATE FOREST**

17. Prior to the removal of any commercially viable timber within Ben Bullen State Forest, the Proponent shall consult with the Macquarie Region office of Forests NSW.
18. Prior to the commencement of mining and/or rehabilitation operations within Ben Bullen State Forest, the Proponent shall prepare a Bush Fire Management Plan, to the satisfaction of the Macquarie Region office of Forests NSW.

## **TRAFFIC AND TRANSPORT**

### **Monitoring of Coal Transport**

19. The Proponent must not despatch more than 50 truck loads of coal from the site on any day.
20. The Proponent shall:
  - (a) keep records of the:
    - amount of coal transported from the site each year;
    - number of truck loads generated by the Project (on a daily basis)
    - departure times of trucks; and
  - (b) include these records in the AEMR.

### **Traffic Management**

21. Prior to the transport of any coal from the site by road, the Proponent shall obtain a written agreement from the Invincible Colliery to allow the use of its site entrance and internal roads by trucks hauling coal from the Project.
22. Prior to commencement of mining and/or rehabilitation operations, the Proponent shall prepare a Traffic Management Plan, as detailed in the EA, in consultation with the RTA and to the satisfaction of the Director-General. This plan must include:
  - (a) details of how coal transport from both the Project site and the Invincible Colliery would be co-ordinated;
  - (b) identify how coal transport from the Project site will be managed to minimise inconvenience to other road users and operate safely on public roads; and
  - (c) identify how the implementation and effectiveness of the plan will be monitored and reported.
23. Prior to the transport of any coal from the site by road, the Proponent shall re-design and re-construct:
  - (a) the site access road-Castlereagh Highway intersection; and
  - (b) the Western Main Colliery-Castlereagh Highway intersection, to the satisfaction of the RTA.
24. The Proponent shall ensure that all coal trucks exiting from the site access road do not enter the southbound lane of the Castlereagh Highway.

## **VISUAL IMPACT**

25. Prior to commencement of mining in operational blocks Nth04 and Nth05, the Proponent must construct a 4 metre high bund wall along the eastern perimeter of those blocks in accordance with the specifications included in the EA for construction and revegetation.

### **Lighting Emissions**

26. The Proponent shall:
  - (a) take all practicable measures to mitigate off-site lighting impacts from the Project; and
  - (b) ensure that all external lighting associated with the Project complies with *Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting*, to the satisfaction of the Director-General.

## **GREENHOUSE GASES**

27. The Proponent shall:
  - (a) estimate the greenhouse gas emissions generated by the Project;
  - (b) investigate ways to reduce greenhouse gas emissions generated by the Project; and
  - (c) report on greenhouse gas estimation and abatement measures in the AEMR, to the satisfaction of the Director-General.

## WASTE MINIMISATION

28. The Proponent shall:

- (a) monitor the amount of waste generated by the Project;
  - (b) investigate ways to minimise waste generated by the Project;
  - (c) implement reasonable and feasible measures to minimise waste generated by the Project;
  - (d) ensure any irrigation of treated wastewater is undertaken in accordance with DEC's *Environmental Guideline for the Utilisation of Treated Effluent*; and
  - (e) report on waste management and minimisation in the AEMR, to the satisfaction of the Director-General.
-

**SCHEDULE 4**  
**ENVIRONMENTAL MANAGEMENT, MONITORING, AUDITING AND REPORTING**

**ENVIRONMENTAL MANAGEMENT STRATEGY**

1. Prior to carrying out any mining and/or rehabilitation activities, the Proponent shall prepare and implement an Environmental Management Strategy for the Project to the satisfaction of the Director-General. This strategy must:
  - (a) provide the strategic context for environmental management of the Project;
  - (b) identify the statutory requirements that apply to the Project;
  - (c) describe in general how the environmental performance of the Project would be monitored and managed during the Project;
  - (d) describe the procedures that would be implemented to:
    - keep the local community and relevant agencies informed about the operation and environmental performance of the Project;
    - receive, handle, respond to, and record complaints;
    - resolve any disputes that may arise during the course of the Project;
    - respond to any non-compliance;
    - manage cumulative impacts; and
    - respond to emergencies; and
  - (e) describe the role, responsibility, authority, and accountability of all the key personnel involved in environmental management of the Project.

**ENVIRONMENTAL MONITORING PROGRAM**

2. Prior to commencement of mining and/or rehabilitation activities, the Proponent shall prepare an Environmental Monitoring Program for the Project in consultation with relevant agencies, and to the satisfaction of the Director-General. This program must consolidate the various monitoring requirements in Schedule 3 of this approval into a single document.

**INCIDENT REPORTING**

3. Within 7 days of detecting an exceedance of the limits/performance criteria in this approval, the Proponent shall report the exceedance to the Department, and any relevant agency. The report must:
  - (a) describe the date, time, and nature of the exceedance;
  - (b) identify the cause or likely cause of the exceedance;
  - (c) describe what action has been taken to date; and
  - (d) describe the proposed measures to address the exceedance.

**ANNUAL REPORTING**

4. The Proponent shall prepare and submit an AEMR to the Director-General and other relevant agencies. This report must:
  - (a) identify the standards and performance measures that apply to the Project;
  - (b) describe the works carried out in the last 12 months;
  - (c) describe the works that will be carried out in the next 12 months;
  - (d) include a summary of the complaints received during the past year, and compare this to the complaints received in previous years;
  - (e) include a summary of the monitoring results for the Project during the past year;
  - (f) include an analysis of these monitoring results against the relevant:
    - impact assessment criteria;
    - monitoring results from previous years; and
    - predictions in the EA;
  - (g) identify any trends in the monitoring results over the life of the Project;
  - (h) identify any non-compliance during the previous year; and
  - (i) describe what actions were, or are being, taken to ensure compliance.

**INDEPENDENT ENVIRONMENTAL AUDIT**

5. At the end of year 1 of the Project, and on completion of coal mining operations, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the Project. This audit must:
  - (a) be conducted by suitably qualified, experienced, and independent expert/s whose appointment has been endorsed by the Director-General;
  - (b) assess the various aspects of the environmental performance of the Project, and its effects on the surrounding environment;
  - (c) assess whether the Project is complying with the relevant standards, performance measures, and statutory requirements;



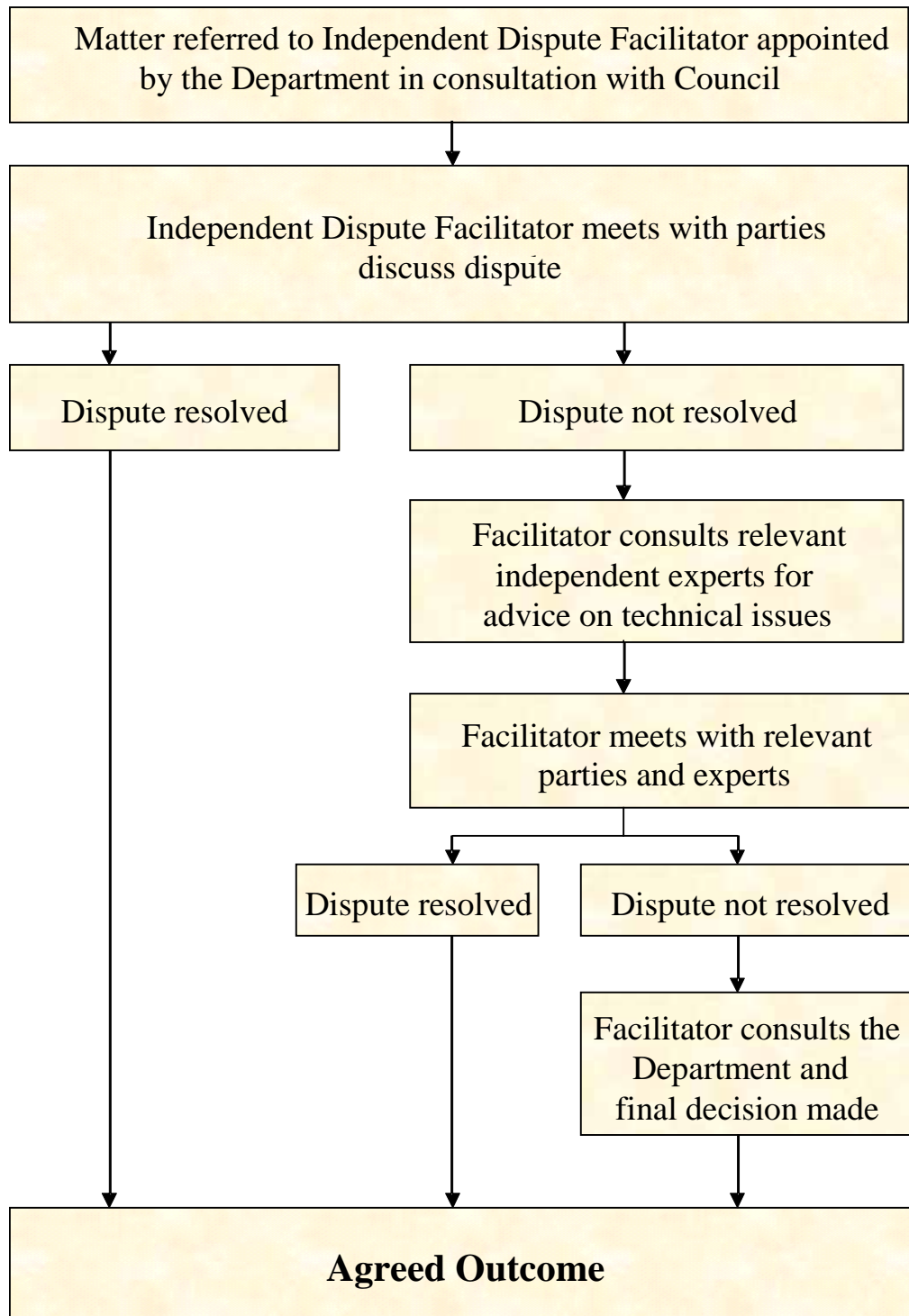
- (d) assess whether the Project is complying with the works as described in the EA and conditions of consent;
  - (e) review the adequacy of any strategy/plan/program required under this approval; and, if necessary,
  - (f) recommend measures or actions to improve the environmental performance of the Project, and/or any strategy/plan/program required under this approval.
6. Within 3 months of commissioning this audit, or as otherwise agreed by the Director-General, the Proponent shall submit a copy of the audit report to the Director-General, with a response to any recommendations contained in the audit report.

#### **ACCESS TO INFORMATION**

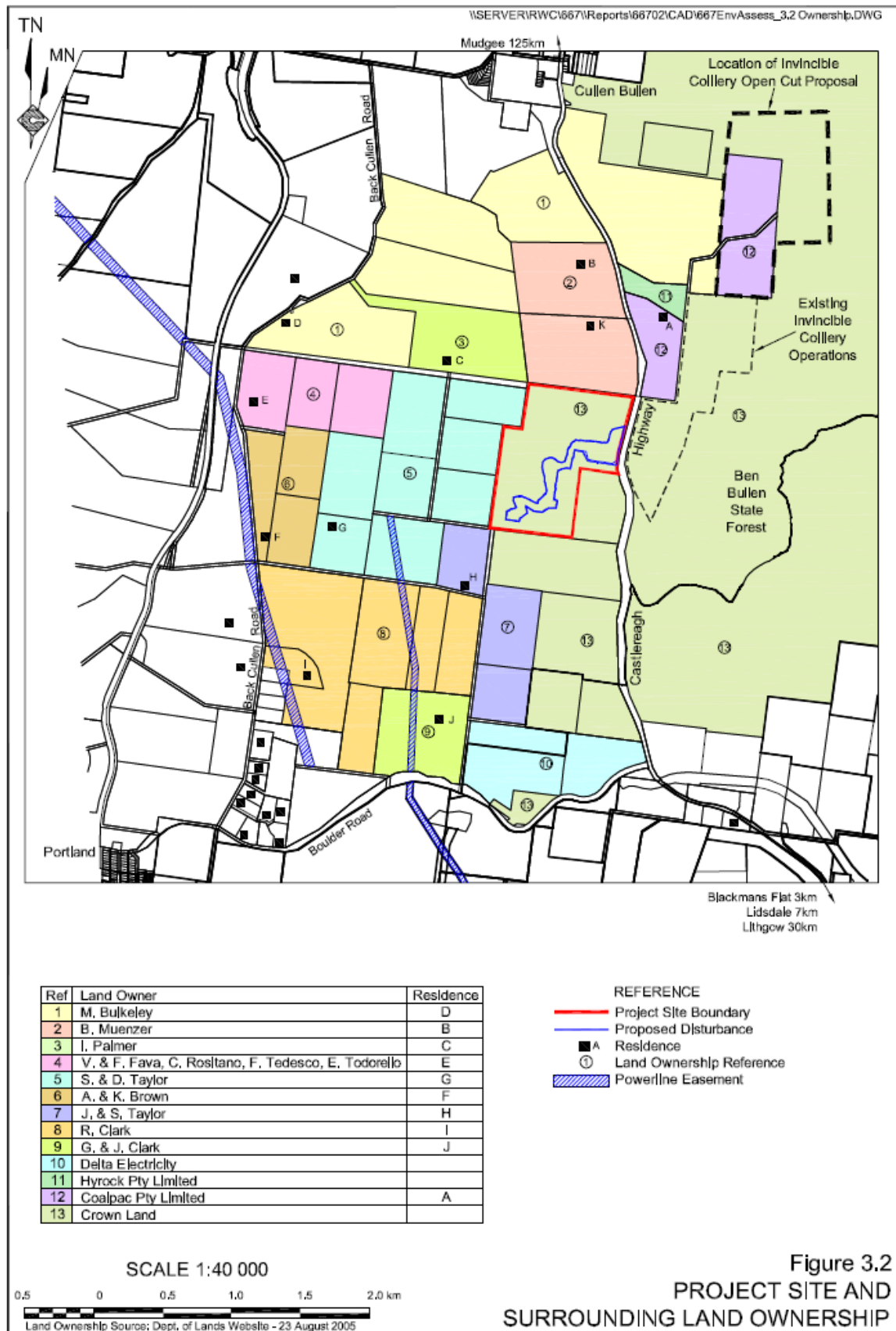
7. Within 3 months of the approval of any plan/strategy/program required under this approval (or any subsequent revision of these plans/strategies/programs), the completion of the Independent Environmental Audits required under this approval, or the completion of the AEMR, the Proponent shall:
- (a) provide a copy of the relevant document/s to the Council and relevant agencies;
  - (b) ensure that a copy of the relevant document/s is made publicly available; and
  - (c) put a copy of the relevant document/s on the Proponent's website;
- to the satisfaction of the Director-General.
8. During the life of the Project, the Proponent shall:
- (a) make a summary of monitoring results required under this approval publicly available on its website; and
  - (b) update these results on a regular basis (at least every 6 months),
- to the satisfaction of the Director-General.

APPENDIX 1  
INDEPENDENT DISPUTE RESOLUTION PROCESS

**Independent Dispute Resolution Process  
(Indicative only)**



## APPENDIX 2



**Traffic Assessment prepared by  
Barnson PTY LTD**



**APPENDIX 3**



## Ivanhoe North Rehabilitation Project

**Request for Extension of time to complete project  
Traffic Assessment**

Job Contact: Mr Neil Larcombe

structural engineering  
project management  
residential design  
civil engineering  
registered surveyors  
commercial design  
geotechnical engineering  
town planning  
graphic representations  
environmental drilling  
construction management  
mechanical engineering  
industrial design  
environmental consulting  
nata accredited  
testing laboratory  
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Dubbo . Mudgee . Bathurst . Parkes



Nov-11

(Our Reference: 8586-TR01\_a)

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## APPENDICES

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Appendix 1 – Existing Intersection Plan

Appendix 2 – Accident Map



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## **1.0 EXECUTIVE SUMMARY**

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### **1.1 Existing traffic environment**

The Ivanhoe North Rehabilitation Project (INRP, Project No. 05\_0103) is located approximately 2.5km north of the Castlereagh Highway and the Boulder Road intersection. Schedule 3 Condition 19 of the development consent states Ivanhoe Coal Pty Ltd must not despatch more than 50 truck loads of coal from site on any day. The coal is dispatched in accordance with an RTA approved Traffic Management Plan, as prepared by Barnson Pty (2007).

As such, all ingress movements are via a left turn into the site. For trucks exiting the site, they are required to cross the Castlereagh Highway in an easterly direction, into the existing Invincible Colliery site. Trucks then manoeuvre back to the Castlereagh Highway in a westerly direction and exit back onto the Castlereagh Highway in a southerly direction.

The most recent traffic counts for the Castlereagh Highway in the area were in 2005. Projected figures for 2011 have the Annual Average Daily Traffic (AADT) as approximately 3500 vehicles per day (vpd).

### **1.2 Proposed Modification to Approved Project**

INRP is seeking to modify Project Approval 05\_0103 under Section 75W of the EP&A Act to allow for an extension to the consent until 2<sup>nd</sup> May 2012 to ensure all mining and trucking is completed in a safe and efficient manner. Currently condition 5 of the Project Approval 05\_0103 requires the coal mining operations to cease by 2 February 2012. A three (3) month extension to the current project approval is therefore the subject of this modification.

### **1.3 Future traffic environment**

The Ivanhoe North Rehabilitation Project currently does not dispatch more than 50 truck loads of coal from site on any day. No additional truck movements are proposed from the site until 2<sup>nd</sup> May 2012, at which time, mining truck movements will cease.



## 1.4 Mitigation of traffic impacts

As part of their initial works, Traffic management was identified as a key issue in the 2006 EIS. A Traffic Management Plan was developed and approved by the RTA for the INRP as part of the development consent requirement (Sch 3 Condition 22).

The intersection for the INRP was designed by Barnson (2006) in consultation with the RTA and with reference to the *Road Design Guide* (RTA, 1989). The intersection has undergone road widening works, realignment, the completion of acceleration and deceleration lanes and the removal/pruning of trees to improve visibility. A plan of the approved intersection is shown in Appendix A.

Several other controls are in place to ensure road user safety is not affected by the project. These include:

- All transportation activities are to be undertaken in accordance with the appropriate approval and licence conditions;
- All trucks are to be well maintained and all truck drivers to be instructed to act in a courteous manner and obey all road rules;
- The entering and exiting of heavy vehicles is staggered to prevent the creation of truck convoys;
- Truck drivers are instructed to not enter the Castlereagh Highway at the same time as trucks from the Invincible Colliery;
- Cross traffic between the project site and the Invincible Colliery is controlled by a procedure prepared in consultation with Invincible and the coal haulage company;
- Appropriate warning signs and line markings were installed in accordance with RTA;
- Centennial instructs truck drivers to monitor the condition of the roads along the proposed transport route and report any deterioration; and
- The sight distance available to truck drivers will be regularly monitored and grass / shrubs slashed accordingly.

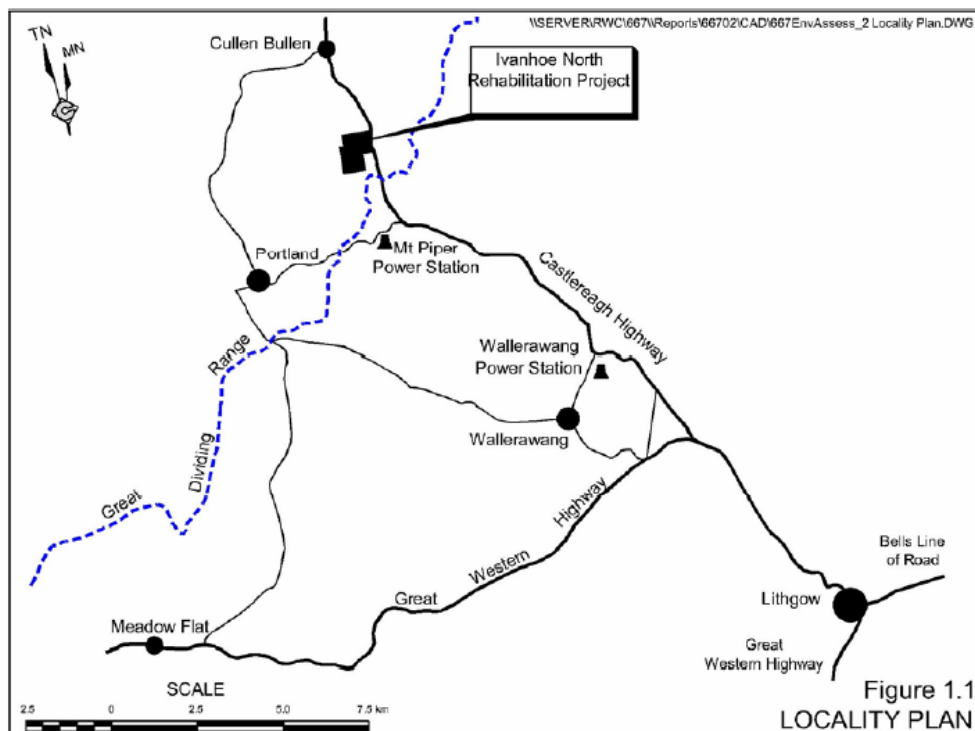
## 1.5 Conclusion

It has been assessed that for the proposed three (3) month extension to the Ivanhoe North Rehabilitation Project, the impact on the existing traffic environment is negligible and no further mitigation measures are required.

## 2.0 INTRODUCTION

Ivanhoe Coal Pty Limited own and operate the Ivanhoe North Rehabilitation Project (INRP), which commenced operation in 8<sup>th</sup> July, 2009. The mine operates under the Environmental Protection Licence (EPL 13063) and Development Consent (05\_0103).

A locality map for the mine is shown in **Figure 1** – Locality Plan.



**Figure 1 – Locality Plan**

### **Ivanhoe North Rehabilitation Project 2009 AEMR Page 2**

The INRP ("the mine") targets the coal currently remaining between the remnant high wall of the Cullen Main West open cut and the underground workings of Ivanhoe Colliery No. 2. In recommencing mining operations from the abandoned open cut, Ivanhoe Coal Pty Ltd has assumed responsibility for the rehabilitation of the previous disturbance within the mining lease.

Ivanhoe Coal Pty Limited is the owner and operator of the Ivanhoe INRP. Ivanhoe Coal has been transporting coal from the site. Hours of production are between 7:00am and 6:00pm, Monday to Saturday, with maintenance allowed outside these hours.

## 3.0 EXISTING TRAFFIC ENVIRONMENT

### 3.1 Traffic volume

#### 3.1.1 Ivanhoe North traffic

The Ivanhoe North Rehabilitation Project is located approximately 2.5km north of the Castlereagh Highway and the Boulder Road intersection. Schedule 3 Condition 19 of the development consent states Ivanhoe Coal Pty Ltd must not despatch more than 50 truck loads of coal from site on any day.

#### 3.1.2 Castlereagh Highway traffic

The most recent traffic counts for the Castlereagh Highway north of the Boulder Road intersection (counter 99.254) in the area were in 2005. Projected figures for 2011 have the Annual Average Daily Traffic (AADT) as approximately 3500 vehicles per day (vpd), as shown below:

**Table 3.1.2 – Castlereagh Highway Traffic**

Year	AADT
1992	3047
1996	3652
1999	3512
2002	3028
2005	3011
2011/2012	3500* (Interpolated)

### 3.2 Road Pavement

The existing road pavement at the intersection of the Ivanhoe North Rehabilitation Project and the Castlereagh Highway is a granular pavement with a bitumen seal. The pavement is in good condition with no potholes or visible deformation. The area south of the intersection has a rigid concrete pavement. This section of the road was constructed under a Works Authorisation Deed (WAD) with full RTA supervision.

### 3.3 Traffic Safety

The company has been transporting coal by the Castlereagh Highway to Mt. Piper or Wallerawang Power Stations for the past two years. There have been no accidents at the intersection in the last three (3) years.

There has, however, been some 'near misses' as a result of the right turn lane into the site, heading south. These near misses have been previously reported to the RTA.

### **3.4 Current Intersection design**

The intersection was upgraded in 2007 to the satisfaction of the RTA. All plans and construction works were approved by the RTA.

#### **3.4.1 Site Entry**

The intersection at present has a designated left turn lane into the site for all vehicles coming from Mount Piper (south). This lane is approximately 200m long, which exceeds the RTA requirements for a 'BAL' type layout. For vehicles entering the site via a right turn from Cullen Bullen (north), there is a 'CHR' type intersection, although this is used by a small number of light vehicles only.

#### **3.4.2 Site Exit**

Exit from the site is through Invincible Colliery, back onto the Castlereagh Highway via a long acceleration lane which also exceeds the RTA's requirements.

### **3.5 Sight distance – heavy vehicle exit**

At the intersection of the heavy vehicle exit/entrance and the Castlereagh Highway, sight distance of over 500m is available to the south, while sight distance of around 200m is currently available to the north.

### **3.6 Surrounding intersections**

There are no other major intersections in the vicinity of the heavy or light vehicle entrances to the mine, other than the Invincible Colliery intersection adjacent.

### **3.7 Bus Stop**

There are no bus-stops located in the area.

### **3.8 Hours of Operation and Project Life**

Hours of production are between 7:00am and 6:00pm, Monday to Saturday, with maintenance allowed outside these hours. The relevant mining lease (ML1627) was granted on the 2<sup>nd</sup> February 2009, for a three (3) year period. This implies that mining operations should be complete by the 2<sup>nd</sup> February 2012.

An extension of three (3) months is currently being sought.

## **4.0 FORECAST TRAFFIC ENVIRONMENT**

---

### **4.1 Traffic data associated with the project**

The Ivanhoe North Rehabilitation Project currently does not dispatch more 50 truck loads of coal from site on any day. No additional truck movements are proposed from the site until 2<sup>nd</sup> May 2012, at which time, mining truck movements will cease.

### **4.2 Future Highway traffic growth**

As stated previously, an extension of approximately three (3) months is being sought to complete the mining activities at the Ivanhoe North Rehabilitation Project. There is not expected to be a significant increase in traffic on the Castlereagh Highway during this time.

## 5.0 CUMULATIVE EFFECT ON HIGHWAY TRAFFIC FROM OTHER DEVELOPMENTS

---

### 5.1 Original Cumulative Impact Traffic Generation

To assess the original impact on Castlereagh Highway traffic following the commencement of operations of the Ivanhoe North Rehabilitation Project projected traffic data was analysed based on a number of possible situations.

Those situations provided for a realistic assessment of coal production from within the local area, ie. it was assumed that should production commence at the project and Invincible Colliery, production at Cullen Valley Colliery would cease, or at least be heavily reduced. The assessed situations were as follows:

- 1) Ivanhoe North Rehabilitation Project and Invincible Colliery not operational, other local collieries continue current at current production levels;
- 2) Ivanhoe North Rehabilitation Project operational, Invincible Colliery not operational, Cullen Valley Colliery production reduced to 200 000tpa;
- 3) Ivanhoe North Rehabilitation Project and Invincible Colliery operational, operations at Cullen Valley Colliery reduced to 200 000tpa;
- 4) Ivanhoe North Rehabilitation Project and Invincible Colliery operational, operations at Cullen Valley Colliery and Baal Bone Colliery maintained at 800 000tpa and 500 000tpa respectively.

**Table 5.1** presents the projected vehicles per day for the four situations. This assumed an existing proportion of heavy vehicles using the road of 11%, which includes existing coal transport from the Baal Bone and Cullen Valley Collieries. Average traffic projections assumed 35 truck loads are despatched from the project and Invincible Colliery daily, whereas maximum projections assume a daily despatch of 50 truck loads.

To account for the reduced traffic generated by the Cullen Valley Colliery (600 000tpa) for Situations 2 and 3, a similar rate of despatch was assumed to that of the project, ie. 600 000tpa equates to an average of 70 and maximum of 100 truck loads per day.

**Table 5.1 - Original Traffic Projection Data**

	2006 Projection						
	Situation 1	Situation 2		Situation 3		Situation 3	
		Average	Peak <sup>4</sup>	Average	Peak <sup>4</sup>	Average	Peak <sup>4</sup>
<b>Heavy vehicles/day<sup>3</sup></b>	284	214	314	284	344	424	584
<b>Vehicles/ day<sup>3</sup></b>	2580	2540 <sup>1</sup>	2630 <sup>1</sup>	2670 <sup>2</sup>	2830 <sup>2</sup>	2810	2960
<p>Note 1: Includes an estimated 30 light vehicle movements per day associated with the project work force.</p> <p>Note 2: Includes an estimated 60 light vehicle movements per day associated with the combined projects work forces.</p> <p>Note 3: Refers to traffic movements, ie. two-way trip.</p> <p>Note 4: Peak traffic from the proposed project(s), and a reduction in the average traffic from the Cullen Valley Colliery</p>							

To assess a worst case scenario, the situation whereby production at Cullen Valley Colliery did not cease or reduce as predicted was considered. Therefore, in 2006, the traffic projection based on this situation was as follows:

	<b>Average</b>	<b>Maximum</b>
<b>Heavy vehicles per day</b>	424	584
<b>Vehicles per day</b>	2810	2960

## 5.2 Current Cumulative Impact Traffic Generation

Invincible Colliery is owned and operated by Coalpac Pty Ltd (Coalpac). The mine operates under project approval 07\_0127 which was granted by the Minister of Planning in December 2008. The original EA sought approval to transport 900,000tpa of product coal from the site.

The quality of coal extracted to date is better than expected, and does not require washing or other processing prior to being sold. Consequently, Coalpac has sought approval to transport an additional 300,000 tpa to the Mount Piper Power Station. This will bring the total amount proposed to be trucked from the Colliery to 1.2Mtpa.

To transport 900,000tpa of product coal, an average of 110 laden trucks leave the site each day – 95 to the power station and 15 to other domestic customers. These trucks are dispatched at rates of up to 12 per hour, over 12 hours.

The increase in production will require an additional 36 laden trucks per day. The proposed maximum number of project-related laden coal trucks is therefore 146 (110 + 36) per day, or 292 truck movement per day (combined entry and exit). This equates to a maximum hourly

discharge rate of 16 laden coal trucks (exit) or 36 laden coal trucks combined movements (combined entry and exit).

The cumulative effect on highway traffic volumes due to heavy vehicles associated with the Invincible Colliery is shown in Table 5.2.

**Table 5.2 – Current Cumulative effect on Highway traffic**

	<b>Existing from Ivanhoe North</b>	<b>Proposed from Invincible Colliery</b>	<b>Existing Castlereagh Highway</b>
<b>Heavy vpd<sup>1</sup></b>	100	292	385 <sup>3</sup>
<b>Light vpd<sup>1</sup></b>	30	30	3115
<b>Total vpd<sup>1</sup></b>	130	322	3500 <sup>4</sup>
<b>Heavy vph<sup>2</sup></b>	10	36	39 <sup>5</sup>
<b>Light vph<sup>2</sup></b>	3	5	312 <sup>5</sup>
<b>Total vph<sup>2</sup></b>	13	41	350 <sup>5</sup>
<p>Note 1: Vehicles per day (vpd), both ways.</p> <p>Note 2: Vehicles per hour (vph), both ways.</p> <p>Note 3: Based on 11% heavy vehicle rate.</p> <p>Note 4: See section 3.1.2;</p> <p>Note 5: Assumed 10% rate for vpd to vph conversion.</p>			

### 5.3 Comparison of traffic projections

A comparison of the 2006 and 2012 traffic projections is shown below, based on scenario 3 from 2006, namely: Ivanhoe North Rehabilitation Project and Invincible Colliery operational, operations at Cullen Valley Colliery reduced to 200 000tpa. It is assumed 100 trucks per day are generated by the Cullen Valley Colliery.

**Table 5.3 – Comparison of traffic projections**

	<b>2006</b>	<b>2012</b>
<b>Heavy vehicles per day</b>	344	492 <sup>1</sup>
<b>Vehicles per day</b>	2830	3500
Note 1: (292 + 100 + 100) = 492 (Invincible + Ivanhoe Cullen Valley)		



The comparison shows a 3% cumulative increase in total vehicles per day, which can be attributed to normal growth. There is a 6% cumulative increase in heavy vehicles per day, which can be attributed to additional mining activity in the area.

## **5.4 Impact on Traffic Safety**

For heavy vehicles crossing the Castlereagh Highway from the Ivanhoe North Rehabilitation Project, we have assumed a maximum of five (5) heavy vehicles per hour. We have assumed the corresponding traffic along the Castlereagh Highway to be 350vph.

Using the Austroads 1988 "Intersections at Grade" standard, Part 5, and with a critical acceptance gap of eight (8) seconds and a follow-up headway of three (5) seconds, the average delay to minor stream vehicles (from Ivanhoe North) is less than 4 seconds.

For heavy vehicles exiting the site, there is a designated acceleration lane.

## **5.5 Assessment of Cumulative Impact**

The Ivanhoe North Rehabilitation Project is proposing to extend its mine life by three months and this will include trucking from site. The Ivanhoe North Rehabilitation Project proposes to maintain its existing approved rate of truck movements of 50 laden coal trucks per day and no increase is sought. In the 2006 EA, it was determined that the impacts of the trucking from Ivanhoe North Rehabilitation Project were acceptable, provided additional mitigation measures were implemented. These mitigation measures, as described in section 6, are now in place as part of the current operation.

An assessment of the 2011/2012 traffic impacts has been made using projected AADT and the cumulative impacts from other neighbouring coal mines. Whilst the percentage heavy vehicle percentage has increased from 2006 to 2011, this is due to an increase in trucking from other neighbouring mines, namely Invincible Colliery.

This assessment has determined that the impact of continuing the Ivanhoe North Rehabilitation Project for an additional three months will result in negligible impacts to the existing road network, the condition of the road pavement and the safety of the road network. It is also noted that at the expiration of the additional three months extension, heavy vehicle usage on the road will decrease by 100 vehicles per day.

Therefore, no additional mitigation measures are required, other than the maintenance of those already implemented, as outlined in section 6.

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## 6.0 MITIGATION OF TRAFFIC IMPACTS

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The existing traffic mitigation measures should be maintained. These include:

- All transportation activities are to be undertaken in accordance with the appropriate approval and licence conditions;
- All trucks are to be well maintained and all truck drivers to be instructed to act in a courteous manner and obey all road rules;
- The entering and exiting of heavy vehicles is to be staggered to prevent the creation of truck convoys;
- Truck drivers are instructed to not enter the Castlereagh Highway at the same time as trucks from the Invincible Colliery;
- Cross traffic between the project site and the Invincible Colliery is controlled by a procedure prepared in consultation with Invincible and the coal haulage company;
- Appropriate warning signs and line markings were installed in accordance with RTA;
- Centennial instructs truck drivers to monitor the condition of the roads along the proposed transport route and report any deterioration; and
- The sight distance available to truck drivers will be regularly monitored and grass / shrubs slashed accordingly.

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## 7.0 CONCLUSION

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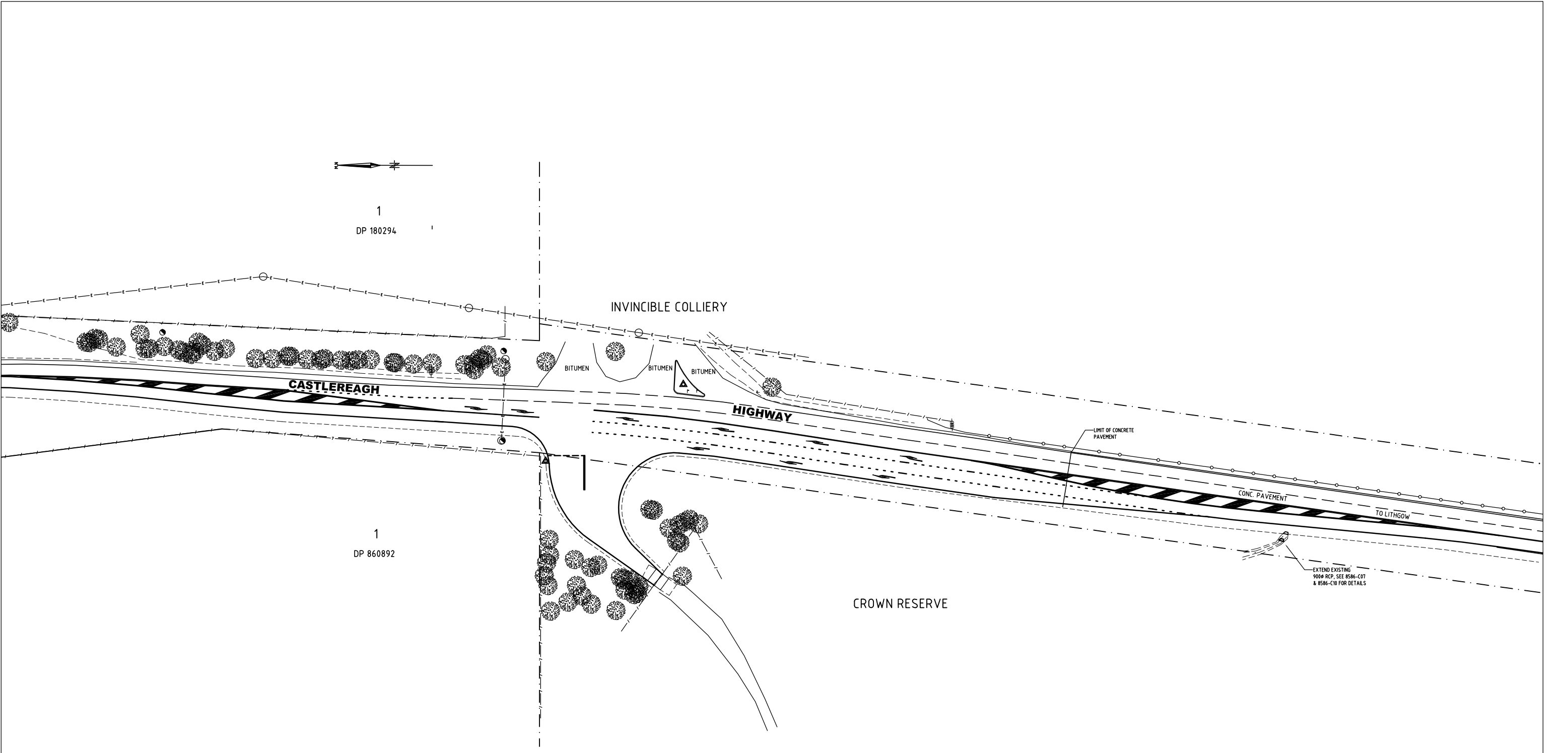
This report has assessed the traffic impact of the proposed request for an extension of time for Ivanhoe North Rehabilitation Project.

The Ivanhoe North Rehabilitation Project currently does not dispatch more 50 truck loads of coal from site on any day. No additional truck movements are proposed from the site until 2<sup>nd</sup> May 2012, at which time, mining truck movements will cease.

The impact of the time extension is negligible and no additional mitigation measures are required.



## **Appendix 1 – Existing Intersection Plan**



**PROPOSED SITE PLAN**

SCALE: 1:600  
CONTOURS NOT SHOWN FOR CLARITY

**LEGEND**

- FENCE
- OVERHEAD POWER
- PROPERTY BOUNDARY
- BENCHMARK
- GATE
- POWER POLE
- SIGN POST
- TELSTRA PILLAR
- TREE

**NOTES**

- BEARINGS AND DISTANCES ARE BY TITLE AND/OR DEED ONLY. NO BOUNDARY INVESTIGATION HAS BEEN CARRIED OUT.
- CONTOURS SHOWN DEPICT THE TOPOGRAPHY. EXCEPT AT SPOT LEVELS SHOWN THEY DO NOT REPRESENT THE EXACT LEVEL AT ANY PARTICULAR POINT.
- SERVICES SHOWN HEREON HAVE BEEN DETERMINED FROM VISUAL EVIDENCE ONLY. PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON THE SITE THE RELEVANT AUTHORITY SHOULD BE CONTACTED TO ESTABLISH DETAILED LOCATION AND DEPTH.
- AUSTRALIAN HEIGHT DATUM WAS ESTABLISHED FROM SSM 2063 (889.94 metres) AT CASTLEREAGH HIGHWAY TOWARDS CULLEN BULLEN.



**Offices Located**  
Dubbo, Mudgee, Parkes & Bathurst  
**Contact Us**  
P 1300 138 657  
E bamson@bamson.com.au



**Client:** CENTENNIAL IVANHOE PTY LTD  
**Project:** PROPOSED ROAD WIDENING,  
CASTLEREAGH HIGHWAY, IVANHOE NORTH,  
CULLEN BULLEN, NSW.

**Drawing Title:**  
PROPOSED SITE PLAN

**Drawing Status:**

<b>Design</b>	<b>Drawn</b>	<b>Check</b>	<b>QA</b>
LM	LM	PB	PB

Rev	Date	Amendment
2	31.10.08	ISSUED FOR CONSTRUCTION
1	27.10.08	ISSUED FOR CONSTRUCTION
E	07.10.08	RTA COMMENTS
D	02.10.08	RTA COMMENTS
C	25.09.08	GENERAL AMENDMENTS
B	08.09.08	GENERAL AMENDMENTS
A	12.06.08	PRELIMINARY

This drawing is to be read in conjunction with general building drawings, specifications and other consultant's drawings applicable to this project. All figures should be checked prior to the commencement of work. Barnson Pty Ltd is not responsible for any errors or omissions. This drawing is copyright and the property of BARNSON PTY LTD and must not be reprinted, copied or used without their authority.

**Certification**

**Date**

**Drawing Sheet**  
A1 - Original size - Scales as noted  
A3 - Minimisation - Not to scale

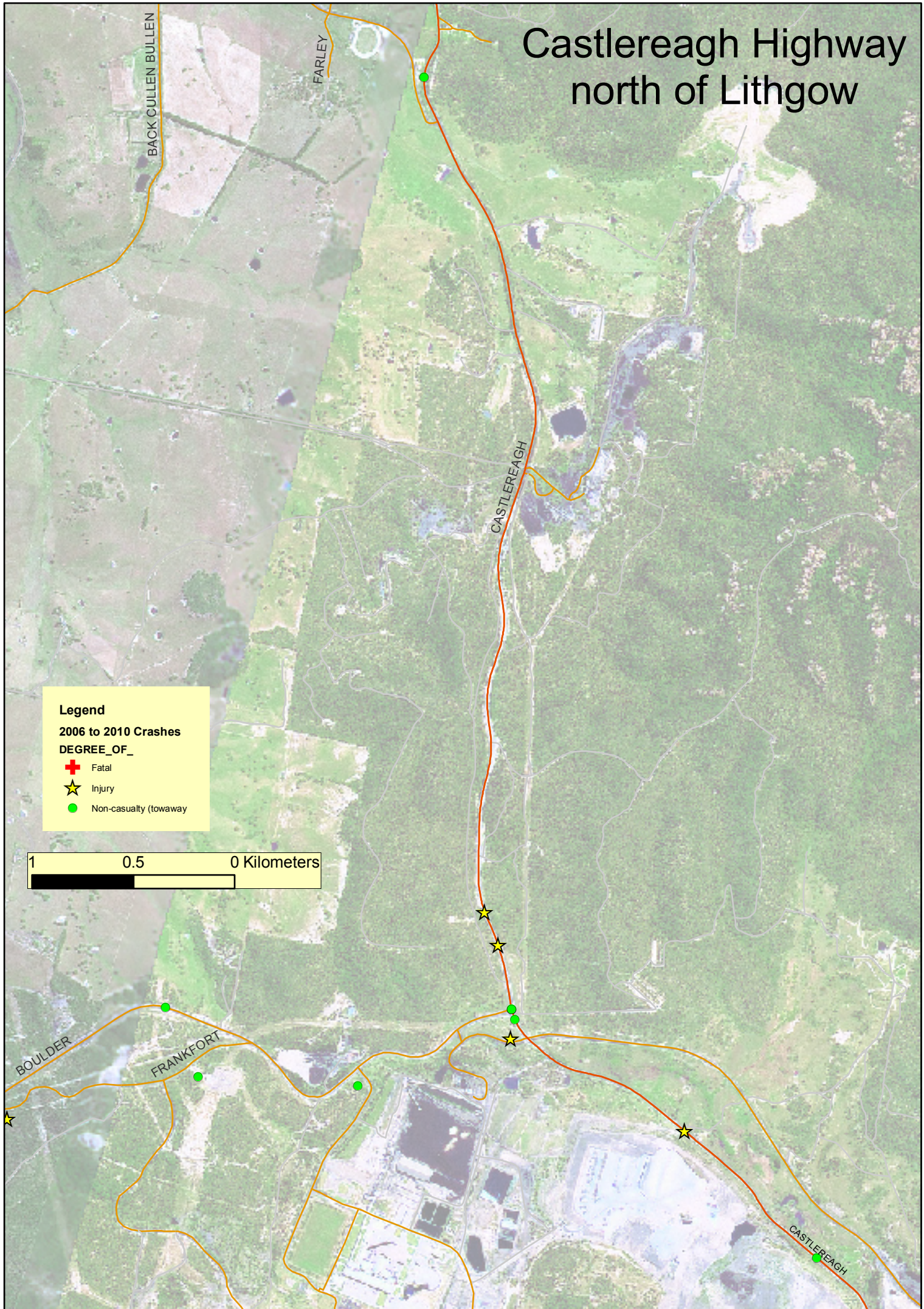
**Drawing Number**  
**8586-C02**



## Appendix 2 – Accident Map



# Castlereagh Highway north of Lithgow





**Letter from Roads and Traffic  
Authority dated 25 October 2011**



**APPENDIX 4**





**Transport**  
Roads & Traffic  
Authority

258.5395 05/2 C11/1151; WST11/00134/01

General Manager  
Centennial Coal  
PO Box 42  
Wallerawang NSW 2845

Dear Sir

**DA 05\_0103: Minor Modification to Existing approval for the Ivanhoe North Rehabilitation Project**

Thank you for your letter dated 11 October 2011 advising Centennial Coal's intention to apply for a three month extension to the development application 05\_0103.

The Roads and Traffic Authority of New South Wales has no objection to the extension of the operating permit an additional three months to 2<sup>nd</sup> May 2012.

Should you require further information please contact Fiona Francis on (02) 6861 1688.

Yours faithfully

Tony Hendry  
Road Safety & Traffic Manager  
Western

25 OCT 2011

**Roads and Traffic Authority of New South Wales**

51-55 Currajong Street Parkes NSW 2870  
PO Box 334 Parkes NSW 2870 DX 20256

www.rta.nsw.gov.au 13 47 87

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## Statutory Requirements



## APPENDIX 5

## **STATUTORY REQUIREMENTS**

This appendix describes the statutory planning instruments relevant to INRP and the proposed modification, and assesses their implications in relation to the required approval process.

### **NSW State Legislation**

#### **Environmental Planning and Assessment Act 1979**

The EP&A Act provides a framework for environmental planning in NSW. The EP&A Act provides the basis for both the making of environmental planning instruments and the assessment of development.

Pursuant to Schedule 6A of the EP&A Act, the project comprises a “transitional Part 3A Project” to which the provisions of Part 3A of the Act continue to apply. Accordingly, an approval granted by the Minister under Part 3A of the EP&A Act to carry out a project may be modified under Section 75W.

As authorised by the DoPI in an email dated 21 September 2011, the modification is to be considered pursuant to Part 3A, Section 75W of the EP&A Act.

#### **Local Environmental Plan**

It is noted that the Minister cannot approve the development if it is prohibited under an environmental planning instrument (Section 75J(3)(b) of Part 3A the EP&A Act). The subject land is zoned Rural (Forestry) 1(f) under the Lithgow City Council Local Environment Plan 1994. “Coal mining” is permissible with consent in this zone. Consequently, the Minister can approve the carrying out of the project.

#### **State and Regional Planning Policies**

Pursuant to Section 75R(3) of Part 3A the EP&A Act, environmental planning instruments, other than State Environmental Planning Policies, do not apply to a project approved under Part 3A of the Act. However, Section 75I(2)(e) states that environmental planning instruments that would otherwise substantially govern the carrying out of the project must be referenced by the Director General in the Environmental Assessment. This section therefore considers the provisions of such environmental planning instruments in relation to the proposed modification.

#### **SEPP (Major Development) 2005**

With the repeal of Part 3A of the EP&A Act, various amendments have been made to SEPP (Major Development) 2005. Prior to these amendments, the primary aim of this SEPP was to identify development to which development assessment and approval processes under Part 3A of the EP&A Act applied. Specific types of development were listed in Schedule 1 attached to the SEPP which required assessment under Part 3A of the Act, with the Minister being the consent authority. Coal mining was defined as a major project in Schedule 1 of the SEPP.

Although Schedule 1 of the SEPP has been repealed, Clause 2A of the SEPP allows for the continuation of the provisions of relevant sections of the SEPP for “transitional Part 3A projects”. Pursuant to Schedule 6A of the EP&A Act, the project comprises a “transitional Part 3A Project” to which the provisions of Part 3A of the EP&A Act continue to apply.

#### **SEPP (State and Regional Development) 2011**

This SEPP came into effect upon the repeal of Part 3A of the EP&A Act and identifies development to which the State significant development and approval process under Part 4 of the EP&A Act apply. Coal mining is listed as State significant development in Schedule 1 of the SEPP. However, pursuant to Clause 24 of the SEPP, the transitional provisions outlined in Schedule 6A of the EP&A Act continue to apply to

“transitional Part 3A projects.” As a result, the provisions of this SEPP do not apply to the proposed modification.

### **SEPP (Mining, Petroleum Production and Extractive Industries) 2007**

The aims of the policy are, in recognition of the importance to NSW of mining, petroleum production and extractive industries:

- a) *to provide for the proper management and development of mineral, petroleum and extractive material resources for the purpose of promoting the social and economic welfare of the state;*
- b) *to facilitate the orderly and economic use of development of the land containing mineral, petroleum and extractive material resources; and*
- c) *to establish appropriate planning controls to encourage ecologically sustainable development through the environmental assessment, and sustainable management, of development of mineral, petroleum and extractive resources.*

It is considered that this proposed modification is consistent with the aims and objectives of the SEPP.

Although this is an assessment under Part 3A of the EP&A Act, the content of this SEPP has been considered. Part 3 of the SEPP discusses matters a consent authority must consider when assessing development applications. In particular, Clause 12 (a) states that the consent authority must consider the following:

- i. *the existing uses and approved uses of land in the vicinity of the development, and*
- ii. *whether or not the development is likely to have a significant impact on the uses that, in the opinion of the consent authority having regard to particular land use trends, are likely to be the preferred uses of land in the vicinity of the development, and*
- iii. *any ways in which the development may be incompatible with any of those existing, approved or likely preferred uses.*

The proposed modification comprises a three month continuation of an approved coal mining project. It is considered to be consistent with the provisions of the previous environmental assessment with regard to the above matters.

### **SEPP 33 – Hazardous and Offensive Development**

SEPP 33 - Hazardous and Offensive Development (SEPP 33) requires the consent authority to consider whether an industrial proposal is a potentially hazardous industry or potentially offensive industry. The aim of this policy is to link the permissibility of a proposal to its safety and pollution control performance. The assessment process establishes whether the proposal is potentially hazardous and if this is not the case, SEPP 33 is not applicable.

The proposed modification will not be adding any additional hazards to the current approved development, and therefore SEPP 33 is not applicable.

### **SEPP 44 – Koala Habitat Protection**

SEPP 44 - Koala Habitat Protection applies to the extent that a consent authority is restricted from granting development consent to proposals on land identified as core koala habitat without the preparation of a Plan of Management. The EA found that no Koala feed tree species, as defined in Schedule 2 of the SEPP, were identified on the Project Site. Consequently the Project Site is not considered to be potential Koala habitat and SEPP 44 does not apply.

### 1.1.1 SEPP 55 – Remediation of Land

State Environmental Planning Policy No.55 – Remediation of Land (SEPP 55) provides a state-wide planning approach to the remediation of contaminated land. SEPP 55 requires consent authorities to consider contamination and remediation in zoning/rezoning proposals as well when determining development applications.

Matters relating to land contamination have been addressed in **Section 5.1** of the EA. The proposed modification will not pose any additional risk with regard to land contamination.

#### Protection of the Environment Operations Act 1997 (POEO Act)

The POEO Act governs environmental licensing and monitoring matters. Sections 43(b), 48 and 55 of the POEO Act require that an Environmental Protection Licence be issued prior to carrying out a Scheduled Activity. INRP currently holds an Environment Protection Licence (EPL - 13063) for the premises. No changes to this licence will be required as a result of the proposed modification.

### Commonwealth Legislation

#### Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act)

The purpose of the EPBC Act is to ensure that actions likely to cause an impact on a matter of National Environmental Significance undergo a rigorous assessment and approval process. Under the EPBC Act, an action includes a project, undertaking, development or activity.

An action that “*has, will have or is likely to have a significant impact on a matter of National Environmental Significance (NES)*” may not be undertaken without prior approval from the Commonwealth Minister for the Environment, as provided under Part 9 of the EPBC Act.

The flora and fauna assessment carried out as part of the EA prepared for the INRP, which encompassed the entire Project Site for this modification, (refer **Section 5.1** of the EA) found no nationally threatened species within the lands associated with the proposed modification. The preparation and assessment of a referral to the Department of Sustainability, Environment, Water, Population and Communities (DSEWPC), and approval from the Commonwealth Minister for the Environment is therefore not required for this modification.

### Summary of State and Commonwealth Legislation

In addition to the requirement for approval under Part 3A of the EP&A Act, INRP operates under a number of other pieces of legislation. A summary of the applicable Acts is included in **Table 1**.

**Table 1 – Summary of Relevant Legislation**

Act	Approval, Licence, Permit or Authority
<i>Environmental Planning and Assessment Act 1979</i>	INRP was granted project approval under Part 3A of the EP&A Act on 11 April 2007. INRP requires consent from the Minister of the Department of Planning and Infrastructure for modifications to this Project Approval.
<i>Mining Act 1992</i>	INRP operates under the mining lease 1627. No changes to this lease are required. Statutory mining documents such as the MOP will be revised as necessary to reflect the additional time extension.
<i>Coal Mine Health and Safety Act 2002</i>	INRP currently holds all necessary approvals under this Act. No further approvals will be required.
<i>Mine Subsidence Compensation Act 1961</i>	Approval from the Mine Subsidence Board (MSB) is required on the basis that INRP is within a mine subsidence district. However if there is damage caused by subsidence, no compensation can be sought for Ivanhoe North owned infrastructure.

Act	Approval, Licence, Permit or Authority
<i>Protection of the Environment Operations Act 1997</i>	INRP operates under EPL No. 13063. The EPL will not need to be varied to incorporate the project modification.
<i>Water Management Act 2000</i>	INRP does not hold any licences under the <i>Water Management Act 2000 / Water Act 1912</i> .
<i>National Parks and Wildlife Act 1974</i>	<p>If previously unrecorded Aboriginal artefacts are discovered, work must stop in the vicinity of the discovery so that further disturbance is prevented. Ivanhoe North would notify the NSW Office of Environment and Heritage and follow their requirements.</p> <p>As discussed in <b>Section 5.1</b> of the EA, no Aboriginal artefacts or sites have been identified at the Project Site to date.</p>
<i>Roads Act 1993</i>	Ivanhoe North obtained an approval pursuant to Section 138 of the <i>Roads Act 1993</i> following project approval for the required connection to the Castlereagh Highway (classified road). No further approvals from the NSW Roads and Traffic Authority would be required as a result of the proposed modification (refer to <b>Appendix 4</b> ).
<b>Commonwealth</b>	
<i>Environment Protection and Biodiversity Conservation Act 1999</i>	Approval from the Commonwealth Minister for the Environment is not required for this modification as detailed in <b>Section 4.3</b> of the EA.