

ATTACHMENT 1

Environmental Assessment for Proposed Modifications to Rix's Creek DA 49/94 N90/00356 (Mod 7) and Integra Open Cut Project 08_0102 (Mod 5).

Introduction

Bloomfield Collieries Pty Limited (Bloomfield) has operated the Rix's Creek Open Cut Mine, 5km North of Singleton, since 1990. The mine currently operates under consent N90/00356 granted on the 16/10/1995 and subsequent modifications.

In December 2015 Bloomfield completed the purchase of the adjoining Integra Open Cut Mine inclusive of the Coal Preparation Plant (CHPP) and Rail Loading facility. The Integra Open Cut sits on the northern boundary of the Rix's Creek Mine and had been placed in care and maintenance mode under the previous ownership of Vale. Integra Open Cut operates under consent 08_0102, 2010 and subsequent modifications.

Bloomfield intends to recommence production activities in the Integra Open Cut by integrating the operation into the Rix's Creek Mine. Rix's Creek Mine will now manage the two open cut workings, the two CHPP's and the two Rail Loading facilities as one combined mine. Whilst the combined operation is Rix's Creek the working areas will be referred to as Rix's Creek North and Rix's Creek South for clarity of development consent requirements and access arrangements.

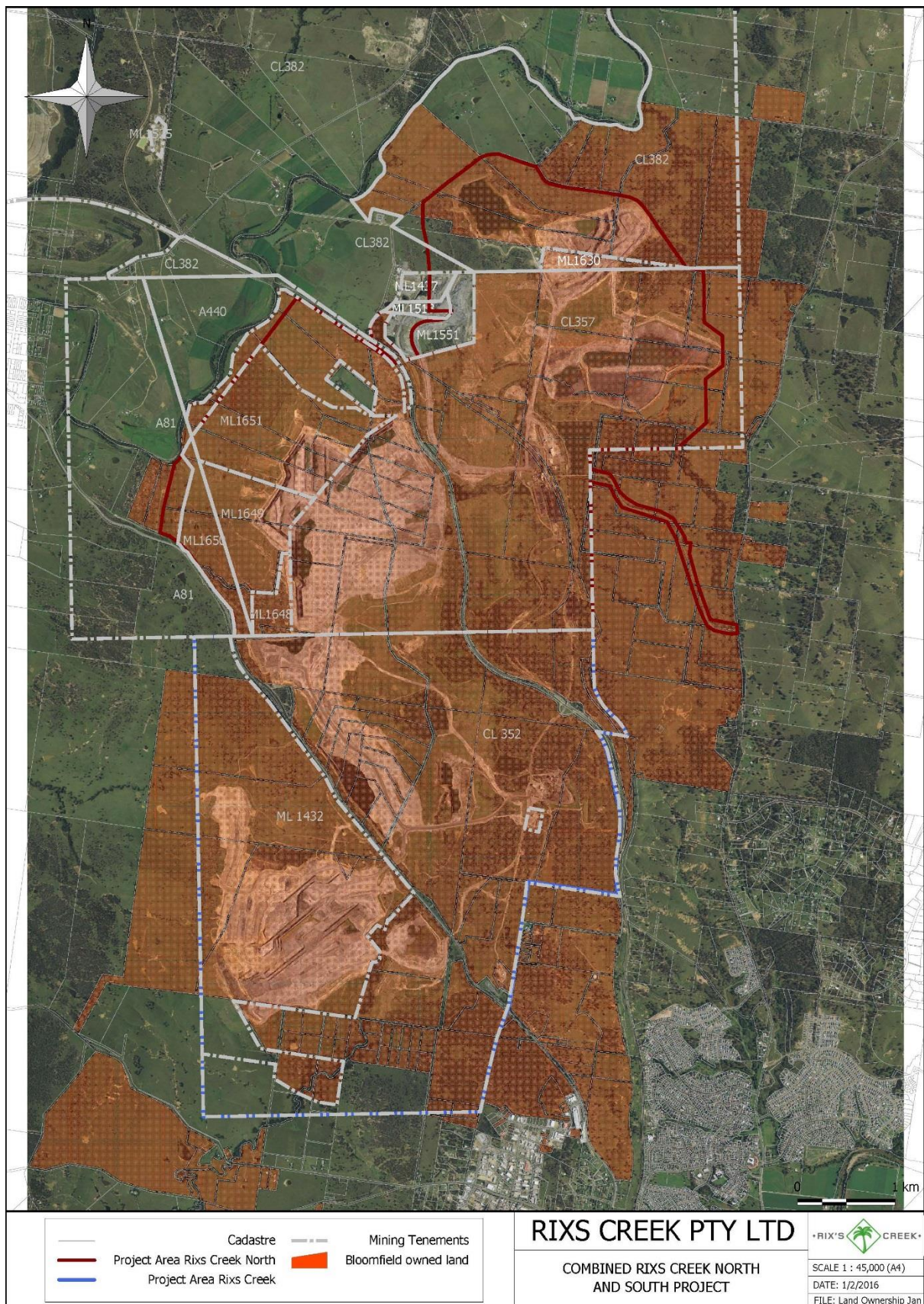
The recommencement of production from Rix's Creek North will offer substantial employment opportunities to the local area. While planned production levels are well below past production rates, Rix's Creek North production will result in up to 70 additional employees working on the combined site.

For operational efficiency opportunities Bloomfield seeks approval for modification of both mining area consent's to allow Run of Mine Coal (ROM) from Rix's Creek North (Integra) to be transported and processed at the Rix's Creek South (Rix's Creek) CHPP and or Rix's Creek South ROM to be transported to Rix's Creek North CHPP for processing. Product coal from both CHPP's reports to their separate Rail loading facilities which are both located on the former Integra rail loop.

Site Location

The combined Rix's Creek Mine sits 5 kilometres north of Singleton adjoining the New England Highway (NEH) and extends to 10 kilometres North West of Singleton along Bridgeman Road. Access to Rix's Creek South is via NEH and Rix's Creek lane while Rix's Creek North is accessed from Bridgeman Road. Figure 1 shows the site location, consent boundaries, mining tenements and land ownership. Bloomfield owns the mining tenements for the combined site and the vast majority of the land within the consent areas. All current mining operations are contained within Bloomfield owned land.

Figure 1



Proposed Modification

Bloomfield is seeking modification to DA N90/00356 and DA 08_0102 to allow ROM coal to be processed at either CHPP within the combined consent areas. The ongoing operation of Rix's Creek Mine will in the majority of cases involve processing of Rix's Creek North coal at the Rix's Creek North CHPP and Rix's Creek South coal at Rix's Creek South CHPP.

However the following circumstances may offer greater operational flexibility if ROM coal can be transported and processed at the adjacent consent area;

- Maintenance shutdowns at either CHPP
- Maintenance shutdowns at either Rail Loading facility
- Operational restrictions to product coal stockpile space
- Building and storing of specific customer coal quality shipments (stockpile)
- Opportune change of ROM coal route to assist with environmental performance (e.g. noise levels associated with prevailing metrological conditions).

In all instances production levels will be managed to ensure the individual development consent maximum production levels are not exceeded. This will ensure the environmental impact stays within the assessed impact levels of the consent's EIS's.

The Proponent

Bloomfield is a wholly Australian owed, Hunter Valley based, family company which operates Rix's Creek North and Rix's Creek South combined into one management structure and one work force. Bloomfield is the approved proponent of both N90/00356, 08_0102 consents and owner of Coal Leases 352, 357 and Mining Licenses 1432 and 1649 across the combined site.

Approval Pathway and Permissibility

Bloomfield is seeking approval to modify both development consents N90/00356 (Rix's Creek) and 08_0102 (Integra Open Cut) under Section 75W of the EP&A Act as transitional Part 3A projects.

Existing Approvals

Development consent for mining operations was first issued;

- Rix's Creek 1989
- Integra (Camberwell) 1990

The history of subsequent modifications and development consents for both mine is shown in Table 1.

Table 1 – History of Development Consents for Rix’s Creek Mine Operations and Integra Open Cut Operations

Year	Project	Description	Approval Reference
1989	Rix’s Creek Mine	Construction and operation of a Surface coal mine, associated transport and coal loading facilities, including CHPP. Consent was granted to mine up to 1.5Mtpa of ROM coal. CL 352 was subsequently granted on 20 October 1989.	Minister for Local Government and Minister for Planning
1995	Rix’s Creek Mine	Coal Mining within CL 352 and on land subject to Coal Lease Application No 17 om Singleton, construction and operation of surface coal mine and infrastructure and equipment upgrades. Total mine production capped at 15 million bank cubic metres of material movement.	DA 49/94 – Minister for Urban Affairs and Planning
1999	Rix’s Creek Mine	Modification to amend applicable potentially affected lands monitoring requirements.	DA 49/94 Modification 1 – Minister for Infrastructure and Planning
2003	Rix’s Creek Mine	Modification to receive ROM coal from Glennies Creek underground mine, process the coal and transport by rail.	DA 49/94 Modification 2 – Minister for Infrastructure and Planning
2004	Rix’s Creek Mine	Modification to receive process and transport bulk coal samples from the Bickham exploration project.	DA 49/94 Modification 3 – Minister assisting the Minister for Infrastructure and Planning
2009	Rix’s Creek Mine	Modification to allow a cut and cover tunnel under the New England Highway.	DA 49/94 Modification 4 – Minister for Planning
2013	Rix’s Creek Mine	Modification to enable the construction and operation of a rail loop and associated clean coal stockpile and rail loading facility on the Rix’s Creek mine site.	DA 49/94 Modification 5 – Minister for Planning and Infrastructure
2014	Rix’s Creek Mine	Modification of the total volume of material that can be moved annually from 15 million bank cubic metres to 16.1 million bank cubic metres.	DA 49/94 Modification 6 – Minister for Planning
1990	Camberwell Coal Mine	Application for open cut mining of the North and South pits, development and operation of a coal handling and preparation plant, train loader and associated facilities submitted in 1990.	DA 86/2889 approved in 1990 (and subsequently modified). Approved open cut activities were incorporated into the Integra Open Cut Project (MP 08_0102).
2006	Surface Facilities Project	Construction of surface facilities at the Complex. This application was submitted in 2006.	Approved under MP 06_0057 in 2007. Approved open cut activities were incorporated into the Integra Open Cut Project (MP 08_0102).
2007	Glennies Creek Open Cut Coal Mine (NOC Project)	The NOC Project was assessed in the Glennies Creek Open Cut Coal Mine EA prepared by R.W. Corkery & Co Pty Limited in 2007 (referred to as the NOC EA).	Approved under MP 06_0073 in 2008 (and subsequently modified). Approved open cut activities were incorporated into the Integra Open Cut Project (MP 08_0102).
2009	Integra Open Cut Project (incorporating SOC and western mining area)	Western extension of the existing SOC (the western mining area) and incorporation of the approved NOC operations. An application and accompanying EA (URS 2009) (Open Cut Project EA) was lodged in 2009.	The Combined Project Approval was granted in 2010 for the Integra Open Cut Project which incorporated the NOC Project (MP 06_0073) and Surface Facilities Project (MP 06_0057). Modifications relating the Open Cut include: a) Modification 1 – extension of the NOC out-of-pit emplacement area. Approved 2012. b) Modification 3 – interim modification to timeframes in project approval. Approved 2012. c) Modification 2 – amendment to overland conveyor and extension of timeframes to secure biodiversity offsets. Approved 2013. d) Modification 4 – in relation to biodiversity

Mining tenements for both operations are owned by Bloomfield and shown in figure 1.

Environmental Protection Licence (EPL) has now been issued for the combined Rix's Creek site. Post the sale of the Integra Mine Complex that mines EPL 3390 was transferred to Glencore and varied so it only applies to the underground operations. Bloomfield has varied its EPL 3391 (Rix's Creek) to encompass all the open cut operations. See figure 2.

Figure 2



Existing onsite Coal Haulage

Rix's Creek South currently utilises large Excavators and Front End loaders to load large Rear Dump Trucks (180T and 240T), for the mining of ROM coal. Rix's Creek North's existing open cut machine fleet was included in Bloomfield's purchase of the Vale mine. Its fleet of large Excavators, Front End Loaders and Rear Dump Trucks will be utilised across the site to augment the existing Rix's Creek fleet. Both fleets are predominately of the same

manufacture and class size, with the utilisation of the former Vale Rear Dump Trucks (fully noise attenuated) offering some improved environmental performance with this operation.

The operational haul roads have all been constructed using the same overburden rock types and are maintained by the same Caterpillar Road Graders and Water Carts.

Existing Coal Production

Rix's Creek (South) currently has a maximum allowable movement of material onsite of 16.1m bank cubic metres (bcm) per annum total. Currently 1.8m bcm of ROM coal is produced leaving an additional 1 million ROM tonnes of coal movement available up to maximum consent production level.

Rix's Creek North (Integra Open Cut) is currently under care and maintenance with Rix's Creek recently obtaining an approved production Mining Operations Plan, from DRE, for a maximum production level of 1 million saleable tonnes of coal per annum (2 million ROM). The maximum consented levels of ROM production are 4.5 million per annum from the Western Extension Area and 1.5 million per annum from the North Open Cut.

Existing Employment

Rix's Creek's employment level has been 150 persons since 2013. An additional 8 people have currently been employed to continue the care and maintenance functions at Rix's Creek North.

The Proposal

The proposal allows for the transportation and processing of ROM coal from the adjacent consent areas (Rix's Creek (South) and Integra Open Cut (Rix's Creek North)) within the now combined Rix's Creek Mine. In the majority of circumstances it will be operationally more efficient to transport and process the ROM coal inside its own consent area.

However at re-commencement of production operations, the Rix's Creek North CHPP, may require a longer production preparation period than in the mining area. In this instance ROM coal could be transported to the Rix's Creek South CHPP to allow completion of customer requirements. Ongoing there could be many operational efficiency gains with the ability of transferring the ROM coal to either CHPP, these would include;

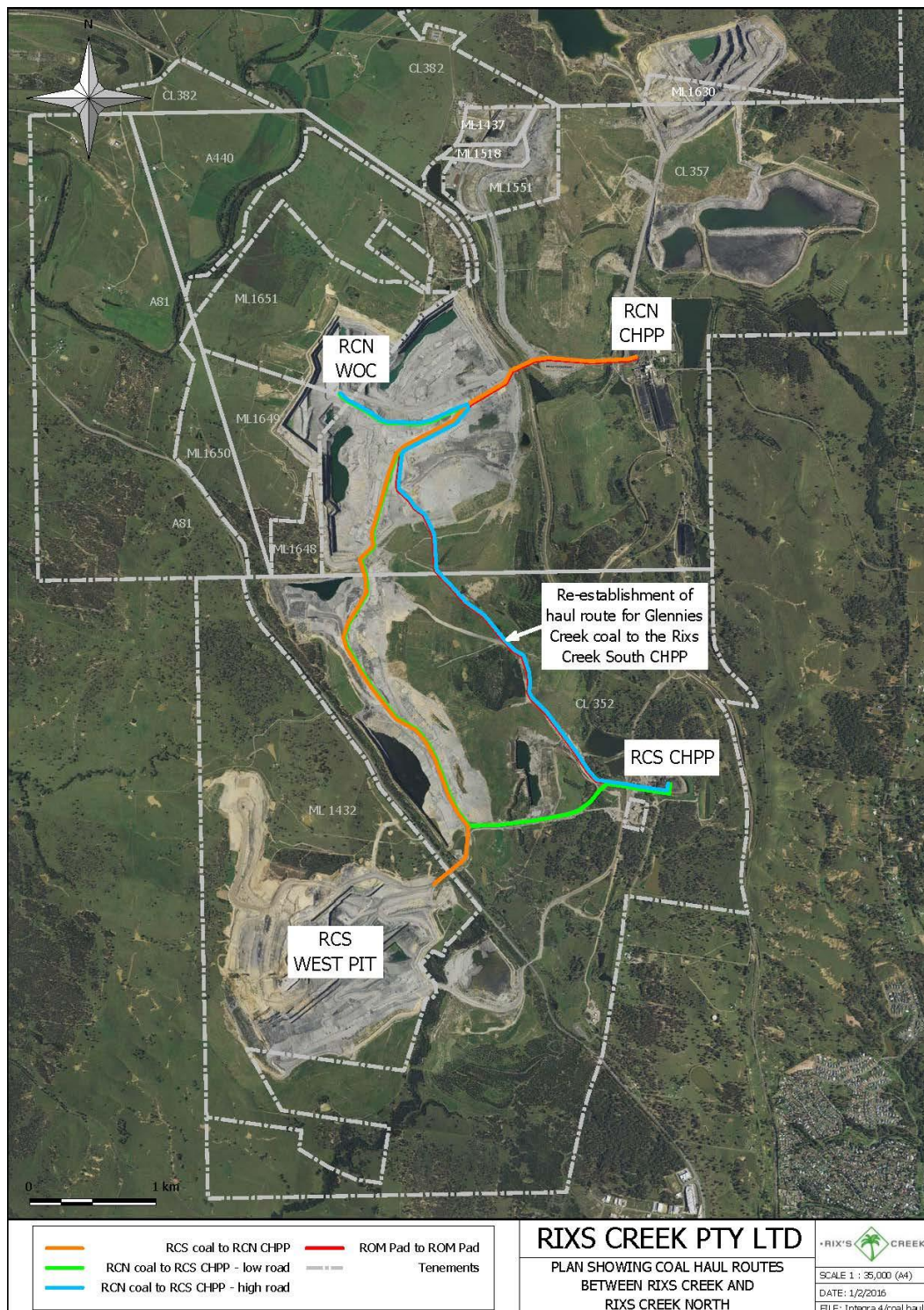
- CHPP maintenance shutdown periods,
- Rail Loading Facility shutdown periods,
- Unforeseen extended breakdown period on the above infrastructure,
- Operational restrictions to product coal stockpile space
- Building and storage of specific customer product stockpiles
- Opportune change to ROM coal haul route to assist environmental performance (associated with the prevailing meteorological conditions).

Proposed Coal Haulage

The ROM coal, in all instances will continue to be hauled by large Caterpillar Rear Dump Trucks (180T and 240T). The haul routes used will be the existing mine haul roads as well

as the re-establishment of the haul road previously used to cart Glennies Creek underground coal to the Rix's Creek South CHPP. This is shown in figure 3

Figure 3



Proposed Coal Production

Current budgeted coal production levels are;

- 2.6 million tonnes of ROM Coal p.a. from Rix's Creek South
- 1.5 million tonnes of ROM Coal p.a. from Rix's Creek North.

Rix's Creek (South) at current production levels has the ability to transport and process an additional 1 million tonnes of ROM coal and stay within current maximum consent production levels. Bloomfield currently has the Rix's Creek Extension Project undergoing major project assessment. This application is to increase mine production levels and extend the consent period to 2038, the full environmental impact of these increased production levels is being assessed by this project.

Rix's Creek North at proposed production levels will have the ability to transport and process an additional 4.5 million ROM coal tonnes and stay within current maximum consent production levels. This consent allows 4.5 million ROM p.a. production from the Western Extension Area and 1.5 million ROM p.a. production from the North Open Cut up to 2022. As Rix's Creek plans to mine at production levels well below consent maximum levels there will be considerable coal resources remaining by 2022. Bloomfield will make application, prior to this date, to renew this consent. As with Rix's Creek South the full environmental impact of coal haulage and processing at maximum consent levels has been evaluated by the existing development consent, any proposed transfer of ROM coal across the project boundary will remain under the consent level of environmental impact.

Proposed Employment

With recommencement of production from Rix's Creek North the total number of Rix's Creek employees will increase from 158 to approximately 220. Sufficient applications for these positions have come from local residents to fill all positions from within the local area.

Environmental Assessment of the Proposal

The now combined Rix's Creek site will manage its environmental impacts using the Rix's Creek Environmental Management Plans (EMP). The operational EMP's have been modified to ensure compliance with the environmental conditions of both consents, N90/00356 and 08_0102, as well as EPL 3391. These EMP's will be modified post the Rix's Creek Extension Project to ensure compliance with any modification to consent levels.

Air Quality

The modification will have an insignificant air quality impact, as there are no changes to the number of vehicles on the site or the number of trips required to transport the ROM coal under the existing approvals. Existing monitoring sites and management techniques will control dust emissions. Existing development criteria would continue to apply to the project.

Noise

The modification will have an insignificant noise impact, as there are no changes to the number of vehicles on site or the number of trips required to transport the ROM coal under the existing approvals. Existing monitoring sites and management techniques will control noise emissions. Existing development criteria would continue to apply to the project.

Surface Water

The haulage routes are on existing haul roads or across disturbed (overburden) material and all runoff from these areas report to the sites existing dirty water management infrastructure. Rix's Creek is a nil water discharge site with no mine or contaminated water allowed to leave the site.

No changes will occur to the water balance as there will be no significant increase or decrease in site water requirements from the project. Existing site water monitoring will continue to gauge impacts under existing controls.

Ground Water

The proposed modifications will have no impact on groundwater as the mine plans and mining extraction process will not be changed.

Visual Impacts and Night Lighting

The haul routes are on existing haul roads apart from a small section of overburden dump at the common boundary of the consents where the haul road will need to be re-established. The existing overburden dump profiles and the planned rehabilitated landform will assist in shielding any visual impacts or headlights from impacting on the community and the NEH.

Ecology

The haulage routes are on existing haul roads or across disturbed (overburden) material in the area of common consent boundary. All of these areas have been mined through and have not currently reached final rehabilitation standards. There are no flora or fauna present on the haul routes.

Waste Management

The existing consents, approvals and licences which currently cover reject and tailings emplacement on the site will not need to be modified.

Heritage

The haul route is on areas that have been completely disturbed by open cut mining activities and entirely contained within the mining lease areas. These areas were surveyed for archaeological sites as part of the original approval processes. Consents to destroy were obtained for areas that would be impacted such as mined areas. No sites remain along the haul routes.

Social and Economic

The modifications will deliver some operational efficiencies that will assist in the long term viability of Rix's Creek and its employment opportunities.

Traffic and Transport

All product coal will continue to be transported from site utilising the Rix's Creek rail loop.

Greenhouse Gas

The modifications will mean no more changes to the number of vehicles on site or the number of trips required to transport the ROM coal. The impacts will continue to be managed under the Air Quality and Greenhouse Gas Management Plan.

Rehabilitation

At completion of the useful life of the haul routes they will be rehabilitated to the rehabilitation standards for the site.

Conclusion

Bloomfield proposes to modify development consents N90/00356 and 08_0102 pursuant to Section 75W of the EP&A Act to allow for ROM coal to be transported, within the combined Rix's Creek Mine, to either of the sites CHPP's. The proposed modifications will allow for the utilization of some operational efficiencies that this will allow.

All mining will be undertaken within existing approved mining areas within current approved mining rates. All environmental impacts will remain within the limits currently assessed for Rix's Creek North and Rix's Creek South mining operations. Bloomfield will continue to actively manage the environmental impacts utilising the existing approved EMP's.