ABEL UNDERGROUND MINE

May 2010 Modification (Downcast Ventilation Shaft)

Environmental Assessment

donaldson coal

Abel Underground Mine

Project Approval No. 05_0136

May 2010 Modification (Downcast Ventilation Shaft) Environmental Assessment

Modification to the Minister's Project Approval Pursuant to Section 75W of the *Environmental Planning and Assessment Act, 1979*

By: Donaldson Coal Pty Limited

Date: May 2010

REV 4

Abel Underground Mine

Project Approval No. 05_0136

May 2010 Modification (Downcast Ventilation Shaft) Environmental Assessment

Modification to the Minister's Project Approval Pursuant to Section 75W of the *Environmental Planning and Assessment Act, 1979*

By: Donaldson Coal Pty Limited

Date: May 2010

DOCUMENT CONTROL

Reference	Revision Status	Release Date	Reviewed
Abel Mine_75W Mod_Shaft & Headings_Report	Rev 1	20/8/09	NC
Abel Mine_75W Mod_Shaft & Headings_Report	Rev 2	20/9/09	NC
Abel Underground Mine April 2010 Modification - Environmental Assessment	Rev 3	14/04/10	MMc
Abel Underground Mine May 2010 Modification - Environmental Assessment	Rev 4	10/05/10	MMc

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

1. Introduction

1.1 Purpose of this Report

This Environmental Assessment (EA) is a supporting document for an application by Donaldson Coal Pty Limited (Donaldson) to modify the New South Wales (NSW) Minister for Planning's Project Approval for the Abel Underground Mine pursuant to Section 75W of the *Environmental Planning Act, 1979* (EP&A Act, 1979).

1.2 Background – Abel Underground Mine Project Approval

The Abel Underground Mine, operated by Donaldson, was approved by the NSW Minister for Planning on 7 June, 2007. The Project consists of an underground mining operation which is approved to extract up to 4.5 million tonnes per annum run-of-mine coal over an operating life of 21 years. Coal is extracted using a high productivity, continuous miner based bord and pillar system, using pillar extraction techniques. Coal is brought to the surface via headings which have been established beneath John Renshaw Drive. These headings are accessed via the Abel boxcut (**Figure 1**). Coal is then transported approximately 4 kilometres (km) north to the Bloomfield washery for processing and transported by rail to the Port of Newcastle for export.

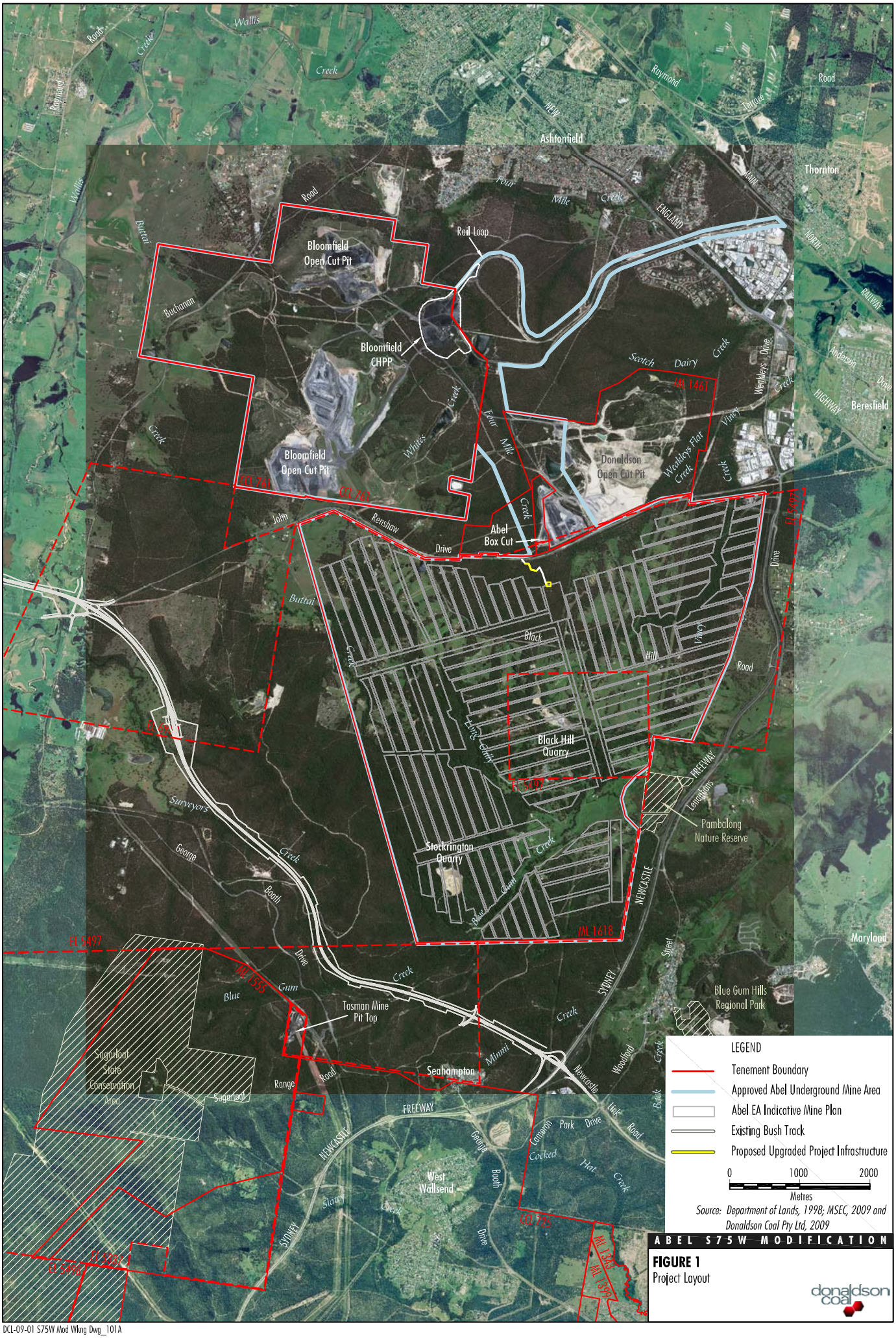
The Abel Underground Mine Lease (ML 1618) extends from the Donaldson Open Cut Mine which is north of John Renshaw Drive, Black Hill, southwards towards George Booth Drive. It is bounded on the eastern side by the F3 Freeway and on the western side by a geological feature in the vicinity of Buttai Creek. The location of the Abel Underground Mine is shown on **Figure 1**.

1.3 Overview of the Proposed Modification

Donaldson propose to install a downcast ventilation shaft south of John Renshaw Drive. Installation of the downcast ventilation shaft would require clearing an area of approximately 0.23 hectares (ha) for access and construction (**Figure 2**).

The proposed ventilation upgrade would not alter the overall Operations Plan for the Abel Underground Mine, and would not alter the method of mining, tonnages, hours of operation or employment levels as described in the Abel Underground Mine EA (Donaldson, 2006).

A detailed description of the construction and operation of these works, and their need, is provided in this EA. A description of the surrounding environment and any potential impacts is also provided.

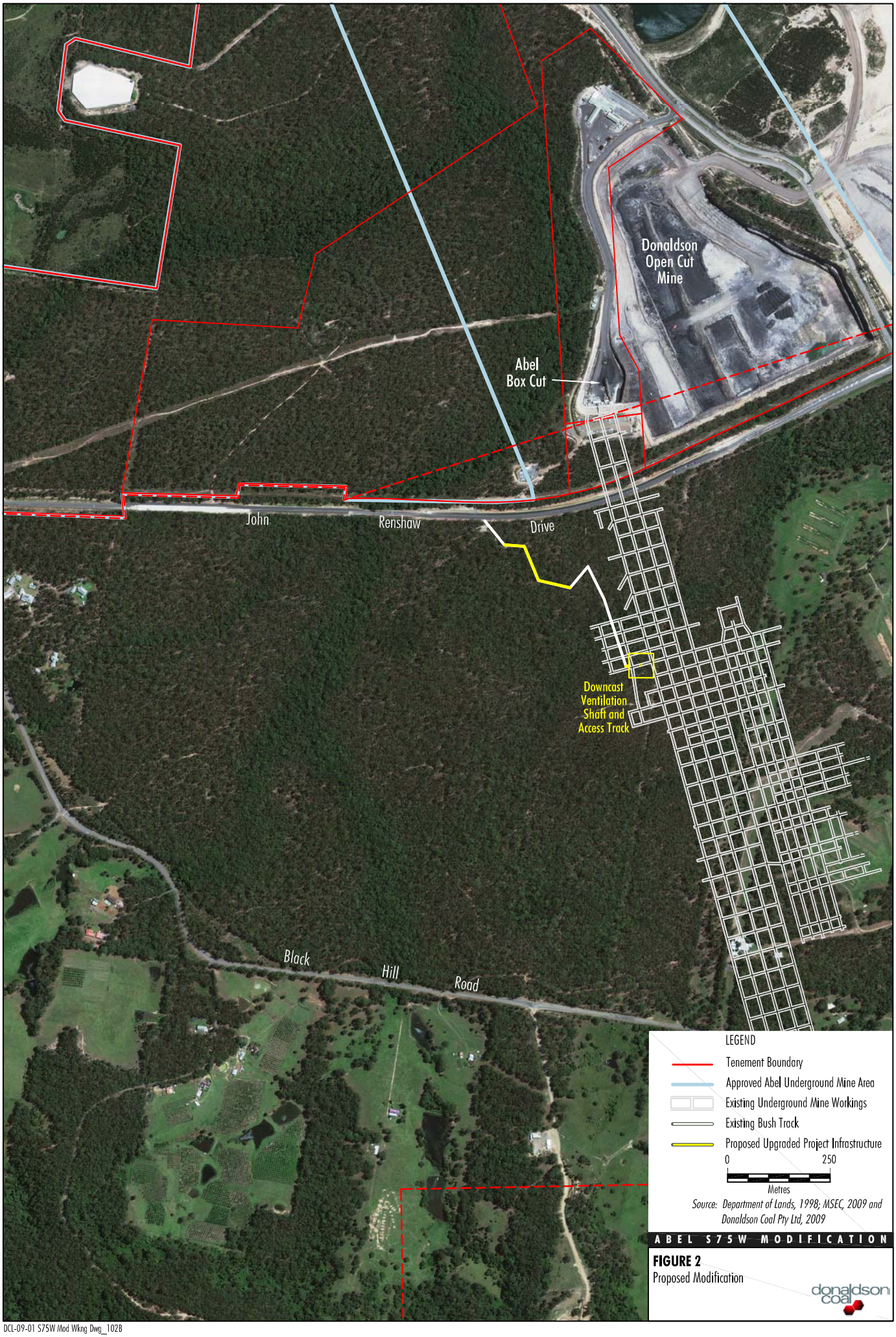


ABEL S75W MODIFICATION

FIGURE 1
Project Layout

donaldson coal

DCL-09-01 S75W Mod Wkng Dwg_101A



ABEL S75W MODIFICATION

FIGURE 2
Proposed Modification

DCL-09-01 S75W Mod Wkng Dwg_102B

2. Description of the Proposed Modification

2.1 Downcast Ventilation Shaft

2.1.1 Location

Figure 1 shows the approved Abel Underground Mine layout. Donaldson propose to install a downcast ventilation shaft approximately 400 metres (m) south of John Renshaw Drive (**Figure 2**).

2.1.2 Justification for the Proposed Modification

Ventilation engineering studies have identified the need for a downcast ventilation shaft to supply additional air to the mine and support ongoing development of the underground workings. To address this, Donaldson propose to install a downcast ventilation shaft south of John Renshaw Drive (**Figure 2**).

The downcast ventilation shaft would create an additional air intake point for the underground mine. High intake velocities increase the risk of liberating dust from the underground mine roadways and conveyor belts, thus contaminating the fresh intake air which ventilates the areas where people are working. The proposed downcast ventilation shaft would aid mine ventilation by reducing pressure loss of air entering the mine, and would also reduce intake velocities.

2.1.3 Detailed Description of the Proposed Downcast Ventilation Shaft

Construction and operation of the shaft would require access by truck for construction purposes, and later by light vehicle for regular inspection and maintenance. The shaft would consist of a 5.5 m diameter, 55 m deep bore, concrete encased with a steel cap and mounted on a concrete pad. The shaft would be topped by a steel secured screen to prevent unauthorised access to the shaft. Construction would be by a 'raise bore' method, meaning a drill rig located on the surface would drill a pilot hole down into the existing workings. After the pilot hole is complete, a drill bit for the shaft would be attached at the bottom to allow the drill rig to excavate the shaft from the existing workings upwards to the surface. Using this method, material from the excavation would be removed via the existing underground workings, surfacing at the existing portal.

Figure 3 shows a typical downcast ventilation shaft construction site, with the concrete pad and shaft mountings.

Construction of the downcast ventilation shaft would require clearing of a pad of approximately 30 m by 45 m (**Appendix A**). Access to the proposed downcast ventilation shaft site would be from John Renshaw Drive via a combination of an existing bush track and a purpose-built track (**Figure 2**). The existing bush track would require some grading and levelling but no widening or vegetation removal (**Figure 2**). Clearing associated with the purpose-built sections of the access track total approximately 250 m long by 3.5 m wide.

Clearing materials would be stockpiled within the disturbance area for subsequent use in rehabilitation in accordance with the Landscape Management Plan (GSS Environmental, 2008).

The total clearing associated with the upgraded ventilation infrastructure would be approximately 2,225 square metres (m^2) or 0.23 ha.

Figure 3 Photograph of typical downcast ventilation shaft construction site

The disturbance area is located within an area of Lower Hunter Spotted Gum-Ironbark Forest (LHSGIF), which is listed as an Endangered Ecological Community (EEC) by the NSW *Threatened Species Conservation Act, 1995*.

An Ecology Survey and Assessment Report including a 7 part test assessing the impact of the proposed works on the LHSGIF community is provided in **Appendix B**. Other environmental considerations are addressed in **Section 6.**

3. Environmental Management Strategy & Plans

3.1 Existing Environmental Management Strategy & Plans

The Abel Underground Mine Project Approval required a number of management strategies and plans to be prepared. These have been approved by or provided to the Department of Planning (DoP) in line with Project Approval requirements. The strategies and plans that are relevant to the proposed modification to the Abel Underground Mine Project Approval are as follows:

- Environmental Management Strategy (EMS) Integrated Manual;
- Abel Mine Erosion and Sedimentation Control Plan (ESCP) (Donaldson, 2007a);
- Abel Underground Mine Aboriginal Heritage Management Plan (AHMP) (Donaldson, 2007b);
- Abel Mine Energy Saving Action Plan (Advitech, 2007);
- Abel Underground Mine Air Quality Monitoring Plan (AQMP) (Holmes Air Sciences, 2008);
- Abel Noise Monitoring Program (Heggies, 2007);
- Abel Underground Coalmine Flora and Fauna Management Plan (FFMP) (Ecobiological, 2007);
- Donaldson Bushland Conservation Area (BCA) Management Plan (Donaldson, 2005);
- Donaldson Open Cut and Abel Underground Coal Mine Landscape Management Plan including Rehabilitation Management Plan, Final Void Management Plan and Mine Closure Plan (GSS Environmental, 2008);
- Donaldson Bushfire Management Plan (Donaldson, 2004); and
- Abel Underground Coal Mine Integrated Environmental Monitoring Program (IEMP) (GSS Environmental, 2007).

The EMS Integrated Manual describes how the various plans have been prepared and implemented, and how activities such as monitoring, communications and training are undertaken. It also includes the overall environmental policy and environmental planning process for the operation of the mine.

The AHMP includes specific requirements for pre-clearance surveys for previously unrecorded Aboriginal Heritage sites (Donaldson, 2007b).

The FFMP includes specific requirements for pre-clearance surveys for threatened flora and fauna (Ecobiological, 2007).

The Donaldson BCA Management Plan includes management measures for key environmental aspects within the Donaldson BCA such as erosion and sediment control, weed management, flora and fauna and Aboriginal heritage (Donaldson, 2005).

The IEMP provides for integrated monitoring between the Abel, Donaldson, Tasman and also adjacent Bloomfield Mine sites for aspects such as noise and blasting, air quality, water, ecology and Aboriginal and cultural heritage (GSS Environmental, 2007).

All activities associated with the construction and operation of the downcast ventilation shaft would be undertaken in accordance with these existing plans.

3.2 Revisions to Existing Environmental Management Strategy & Plans

The Donaldson BCA Management Plan would be revised to incorporate the ventilation upgrade (**Section 4.2**). There are no additional impacts that cannot be managed through the continued implementation of the existing EMS and management plans.

It is not considered necessary for items to be added to any other existing management plans in order to control or manage potential impacts from the construction and operation of the downcast ventilation shaft.

No existing monitoring locations would require re-location to cater for the proposed ventilation upgrade, and it is considered that any impact associated with the proposed ventilation upgrade would be adequately managed by the existing monitoring activities.

4. Regulatory Framework & Consultation

The proposed ventilation upgrade would require a modification to the Abel Underground Mine Project Approval (**Section 4.1**). The Donaldson BCA Management Plan would also be revised (**Section 4.2**).

4.1 Modification to the Abel Underground Mine Project Approval

This EA is a supporting document for an application by Donaldson to modify the NSW Minister for Planning's Project Approval for the Abel Underground Mine, pursuant to Section 75W of the EP&A Act, 1979.

In April 2010 Donaldson consulted with the DoP in regard to the modification. Based on this consultation, this EA has been prepared under Section 75W of the EP&A Act, 1979 to assess the modification. Section 75W of the EP&A Act, 1979 states:

> **75W Modification of Minister's approval**
>
> *(1) In this section:*
>
> *"Minister's approval" means an approval to carry out a project under this Part, and includes an approval of a concept plan.*
>
> *"modification of approval" means changing the terms of a Minister's approval, including:*
>
> *a) revoking or varying a condition of the approval or imposing an additional condition of the approval, and*
>
> *b) changing the terms of any determination made by the Minister under Division 3 in connection with the approval.*
>
> *(2) The proponent may request the Minister to modify the Minister's approval for a project. The Minister's approval for a modification is not required if the project as modified will be consistent with the existing approval under this Part.*
>
> *(3) The request for the Minister's approval is to be lodged with the Director-General. The Director-General may notify the proponent of environmental assessment requirements with respect to the proposed modification that the proponent must comply with before the matter will be considered by the Minister.*
>
> *(4) The Minister may modify the approval (with or without conditions) or disapprove of the modification.*
>
> *…*

This EA has determined the key issues associated with the proposed activities and undertaken impact assessment studies with the aim that the Director-General would be able to utilise this information in determination of the modification.

The proposed ventilation upgrade is directly related to the mining of coal as defined by State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007 (Mining SEPP 2007). As the Abel Underground Mine was approved under Part 3A of the EP&A Act, 1979 it is considered appropriate that additional activities directly related to mining operations under the Abel Underground Mine Project Approval be considered via an application to modify the Project Approval under Section 75W of the EP&A Act, 1979.

The installation of the downcast ventilation shaft would not modify any of the major elements of the Abel Underground Mine Project Approval, such as the total or annual tonnages of coal to be extracted, mining methods, employment rates, or key environmental aspects such as subsidence. Potential impacts on ecology, Aboriginal cultural heritage, air quality, noise and water management are addressed in **Section 6**.

4.2 Revision of the Donaldson Open Cut Mine Bushland Conservation Area Management Plan

The proposed downcast ventilation shaft is located within the Donaldson BCA which was implemented in accordance with the Donaldson Open Cut Mine Development Consent. The Donaldson BCA is shown in **Appendix C**. The Donaldson BCA was required to "*adequately compensate for the impact of the mine on biodiversity, provide compensatory habitat and be managed for the primary purposes of conservation.*" (Item 70 of DA 98/01173 and DA 118/698/22).

The Donaldson BCA was selected in consultation with National Parks and Wildlife Service (now Department of Environment, Climate Change and Water [DECCW]), Maitland and Cessnock City Councils and the Director-General of the DoP. The Donaldson BCA was required to be of a ratio size of "*2:1 in terms of compensatory habitat to the area to be directly impacted by mining and associated infrastructure*" (Item 71 of DA 98/01173 and DA 118/698/22). The Donaldson BCA is managed via the Donaldson BCA Management Plan (**Appendix C**) (Donaldson, 2005).

Donaldson have set aside 655 ha of compensatory habitat for the BCA. To date, there has been approximately 324.9 ha of disturbance associated with the Donaldson Open Cut Mine (including the approved extension of the Donaldson Open Cut pit [DIPNR, 2005]). The existing ratio of compensatory habitat to disturbance is 2.016. Clearing associated with construction of the downcast ventilation shaft (i.e. an additional 0.23 ha of clearing) would change the ratio of compensatory habitat to disturbance to 2.015. Therefore removal of a minor area of vegetation for the construction of the downcast ventilation shaft would retain the Donaldson BCA within the required ratio.

No changes to the Donaldson Open Cut Mine Development Consent are proposed as the compensatory habitat ratio for the BCA would remain intact.

The Donaldson BCA Management Plan would be revised to show, on a plan, the new BCA extent following disturbance associated with the downcast ventilation shaft (i.e. the removal of 0.23 ha of vegetation from the BCA). No changes to management measures or strategies presented in the BCA Management Plan area are required as a result of this modification.

The disturbance would be revegetated with local native seed consistent with species present in the LHSGIF EEC at the completion of the Abel Underground Mine life, in accordance with the Landscape Management Plan (GSS Environmental, 2008).

4.3 Other Relevant Instruments, Policies, Permits & Licences

No other planning instruments, policies, permits, licences or guidelines are required to be addressed for the construction and operation of the additional downcast ventilation shaft. No changes to the existing Environmental Protection Licence issued for the Abel Underground Mine or Donaldson Open Cut Mine are considered to be required. No additional licences are considered to be required.

4.4 Consultation

The need for the additional ventilation requirements have been discussed with the existing Abel Community Consultative Committee (refer to Item 7.1 of the *Draft Minutes of Abel Underground Coal Mine Community Consultative Committee Meeting 29 June 2009*) (**Appendix D**).

Discussions relevant to the ventilation upgrade were focussed on the modification process, minimal noise associated with the downcast ventilation shaft, location of the downcast ventilation shaft and access to the downcast ventilation shaft.

The downcast ventilation shaft site was surveyed by the Mindaribba Local Aboriginal Land Council (MLALC) on 22 April and 6 May 2010 (**Section 6.6**). A member of the MLALC would be on site during all clearing in accordance with the approved AHMP (Donaldson, 2007b).

5. Risk Assessment and Key Issues

5.1 Environmental Risk Identification

Table 1 has been prepared to assist in the identification of potential environmental risks associated with the proposed ventilation upgrade. This table is based on the comprehensive risk assessment undertaken for the Abel Underground Mine EA (Donaldson, 2006 & GSS Environmental, 2006).

Table 1 Environmental Risk Assessment Overview

Activity	Aspect (Potential Impact)[1]	Existing or Proposed Control	Probability/ Consequence Overview
Construction of the downcast ventilation shaft	Erosion of existing access track and construction site	Works in accordance with Donaldson's existing ESCP (Donaldson, 2007a). Contractor induction process (for all aspects).	Low – small area of disturbance.
	Flora and fauna loss	Pre-clearing survey (existing protocol). Works in accordance with existing FFMP (Ecobiological, 2007) & Donaldson BCA Management Plan (Donaldson, 2005).	Low – 7 part test concluded no significant impact and found no threatened species. Negligible change to the Bushland Conservation Area.
	Dust	Works in accordance with existing AQMP (Holmes Air Sciences, 2008). Regular monitoring undertaken to detect excessive dust.	Low – small isolated area of disturbance.
	Noise	Works in accordance with existing Noise Monitoring Program (Heggies, 2007). Implement noise mitigation measures if necessary (e.g. acoustic screening or similar)	Low – isolated area of disturbance, no nearby residences (nearest residence is 1.5 km to the west), short construction period.

Activity	Aspect (Potential Impact)[1]	Existing or Proposed Control	Probability/ Consequence Overview
Construction of the downcast ventilation shaft (continued)	Disturbance of Aboriginal heritage	Survey undertaken with MLALC. Works in accordance with existing AHMP (Donaldson, 2007b).	Low – survey completed, one artefact of low scientific/cultural significance located, to be managed in accordance with the AHMP (Donaldson, 2007b).
	Traffic movement to and from construction site	Existing Contractor Safety Induction. Temporary signage on Black Hill Road.	Low – minimal traffic movements, short construction period.
	Community concerns	Works in accordance with existing Communications Plan and complaints procedure.	Low – procedures in place, minor construction area and time frame.
Operation of the downcast ventilation shaft	No aspects associated with operation of the shaft as no powered fan is required, therefore there is no noise or dust generated and no potential impact on ecology, Aboriginal heritage or traffic.		
Maintenance of the downcast ventilation shaft	Traffic movements by maintenance staff	Maintenance works to be in accordance with existing management plans.	Low – minimal traffic movements required.

Notes:

[1] Selected from those aspects identified in the Abel Underground Mine EA Risk Register (GSS Environmental, 2006)

6. Review of Environmental Issues

6.1 Introduction

This section provides an analysis of the existing environment, proposed works and potential environmental impacts that may occur due to the construction and operation of the downcast ventilation shaft. It is based on the Environmental Risk Assessment Overview provided in **Table 1.** Any cumulative impact, that is, the impact of the Abel Underground Mine (as modified) and surrounding mines, is addressed in each section as relevant.

Table 1 identifies that for the downcast ventilation shaft, there is some minor potential for environmental impact during construction. However, operation of the downcast ventilation shaft has very low potential for environmental impact. This is because the shaft requires only sporadic maintenance access and has negligible noise and dust emissions associated with its operation (i.e. it is an intake point only with no fan mechanism).

6.2 Socio-Economic and Community Issues

There are no socio-economic or community impacts associated with the proposed ventilation upgrade. The downcast ventilation shaft site is located on land owned by Donaldson and there is no residence on this land. Access to the downcast ventilation shaft from John Renshaw Drive would not use any existing residential or public access road (**Figure 2**).

The proposed modification does not impact on employment, length of mine life or other aspects that may alter the socio-economic aspects of the Abel Underground Mine as assessed by the EA.

Donaldson's existing Community Consultation procedures, including the involvement of the Donaldson Community Consultative Committee, require the local community to be notified of any construction works that would interfere with their access or land and would continue to be used for the construction of the downcast ventilation shaft.

6.3 Water, Erosion & Sedimentation

The downcast ventilation shaft construction site is located within an area of bushland approximately 400 m south of John Renshaw Drive (**Figure 2**). Clearing of approximately 0.23 ha of vegetation would be required. Sediment and erosion controls as required by Donaldson for existing works (described by the approved ESCP [Donaldson, 2007a]) would be implemented at the construction site. The concrete slab and shaft that constitutes the operational area has minimal potential to generate erosion or sedimentation.

6.4 Ecology

Construction of the proposed downcast ventilation shaft requires approximately 250 m by 3.5 m of vegetation clearance to link John Renshaw Drive to the downcast ventilation shaft site. An area of approximately 30 m by 45 m would require clearing for the construction of the downcast ventilation shaft. The total disturbance area is approximately 0.23 ha.

An Ecology Survey and Assessment Report for the proposed downcast ventilation shaft site has been prepared by Hunter Eco (2010) (**Appendix B**). The results of this survey, and a 7-part test of the LHSGIF EEC located at the site, is provided in **Appendix B**. The 7-part test concludes that due to the small size of the disturbance area there would be no significant impact on the local occurrence of the LHSGIF EEC (**Appendix B**).

No threatened flora species were found during the survey, and no impacts on threatened flora are expected (**Appendix B**). No threatened fauna species are likely to be significantly impacted due to the small size of the disturbance area (i.e. 0.23 ha) and the associated minor removal of potential habitat (**Appendix B**). Pre-clearance surveys for threatened flora and fauna would be undertaken in accordance with the FFMP (Ecobiological, 2007).

6.5 Bushfire

The construction site for the downcast ventilation shaft is within the scope of the existing Donaldson Bushfire Management Plan prepared for the Donaldson Open Cut Mine as a requirement of its Development Consent (Donaldson, 2004). The Donaldson Bushfire Management Plan aims to *"ensure that land owned by the Company is managed in a way that minimises the risk of bushfire as far as is practicable, and reduces the risk of fire originating on Donaldson Coal owner land spreading to adjacent properties."*. Control measures within the Donaldson Bushfire Management Plan would be employed at the proposed downcast ventilation shaft site (Donaldson, 2004).

6.6 Aboriginal Heritage

There are no previous records of Aboriginal heritage artefacts/sites at the proposed downcast ventilation shaft site or access track (Donaldson, 2006).

The downcast ventilation shaft site and access track were surveyed by the MLALC on 22 April and 6 May 2010. The MLALC representative surveyed a larger area than is required to be cleared for the construction pad (i.e. a 60 m by 60 m area centred on the shaft) to allow the contractor to align the construction pad around the downcast ventilation shaft (**Appendix A**). In summary, an area of 3,600 m^2 was inspected for the downcast ventilation site, although only 1,350 m^2 of this area would actually be disturbed.

The survey by the MLALC was undertaken in accordance with Donaldson's approved AHMP (Donaldson, 2007b). The MLALC identified one red, silcrete flake artefact of low scientific and cultural significance measuring approximately 10 mm in length within the alignment of the proposed access track.

A member of the MLALC would be on-site during all clearing activities in accordance with standard Donaldson protocols. Any artefacts identified by the MLALC (note that the potential for additional artefacts to be located is considered to be very low) and the one artefact identified above, would be managed in accordance with the AHMP (the AHMP includes measures such as collection and placement of artefacts outside of the area of direct disturbance prior to surface works) (Donaldson, 2007b).

6.7 Noise

The downcast ventilation shaft is not powered and therefore no noise is associated with its operation.

Noise associated with the construction of the downcast ventilation shaft would be limited to a period of 12 weeks. Construction activities would be undertaken during daytime hours, with the exception of the raise bore drilling. Drilling of the raise bore would be undertaken up to 24 hours a day, seven days a week for a period of approximately three to four weeks.

As described in **Section 2.1.3**, construction of the downcast ventilation shaft would be by the 'raise bore' method, meaning that although there would be a drill rig and generator located at the surface, excavation would occur from the underground workings towards the surface (i.e. noise emanating from the drill bit would be underground).

Construction of the downcast ventilation shaft is not expected to impact on any residence, with the nearest residence being approximately 1.5 km to the west.

Heggies identified construction noise goals at nearby privately owned residences for the Abel Underground Mine in the 2006 Noise Assessment for the Abel Underground Mine EA (Donaldson, 2006). The construction noise goals are applicable between the hours of 7.00 am and 6.00 pm Monday to Friday, and 8.00 am to 1.00 pm Saturdays. For all other times construction noise must be inaudible at the receiver.

The Abel Noise Monitoring Program would continue to be used to monitor the performance of the Abel Underground Mine (as modified) (Heggies, 2007). In consideration of the raise bore drilling schedule, should construction noise associated with the raise bore drilling exceed the construction noise goals at any privately owned residence, noise mitigation works would be undertaken so that the construction noise associated with the downcast ventilation shaft would be inaudible at that residence when operating outside of the periods stipulated above. Mitigation measures would include additional acoustic insulation/housing of the generator and drill rig motor (or similar measures) to ensure the drill rig is inaudible at privately owned residences.

Should any construction noise exceed the construction noise goals at any nearby privately owned residence, noise mitigation works would be undertaken so that the construction noise associated with the downcast ventilation shaft would comply with the construction noise goals, as described above.

6.8 Air Quality

Minimal dust would be generated by the construction of the downcast ventilation shaft. As described in **Section 2.1.3**, construction of the downcast ventilation shaft would use the 'raise bore' method, meaning excavation would occur from the underground workings towards the surface. The construction period would be limited to approximately 12 weeks, and the disturbance area is small and isolated from sensitive receptors. The nearest residence is approximately 1.5 km to the west.

Dust associated with the construction would be monitored as part of Donaldson's existing air quality monitoring plan (Holmes Air Sciences, 2008; GSS Environmental, 2007). Existing Donaldson dust control procedures, such as the use of a water cart on the access road due to dry conditions, would be undertaken if required.

The total amount of air to be ventilated from the mine remains unchanged from that assessed in the Abel Underground Mine EA (Donaldson, 2006). No dust or air quality impacts are expected from the operation of the downcast ventilation shaft. The AQMP and IEMP describe the current monitoring regime at the Abel Underground Mine and would continue to be used to monitor particulates and dust deposition on-site (Holmes Air Sciences, 2008; GSS Environmental, 2007).

6.9 Visual Aspects

The downcast ventilation shaft is to be located within a bushland area with no potential for public viewing from John Renshaw Drive, residences or other public land or roads. Therefore there would be no impact on the visual amenity of the local area as a result of the proposed ventilation upgrade.

6.10 Traffic

Very limited and short-term truck access would be required for construction of the downcast ventilation shaft site via John Renshaw Drive. Sporadic access by a maintenance vehicle would be required for maintenance requirements associated with the downcast ventilation shaft. Therefore it is unlikely that there would be a measurable impact on the traffic of the local area due to this modification.

6.11 Subsidence

There is no potential subsidence associated with construction and operation of the downcast ventilation shaft.

6.12 Rehabilitation

The downcast ventilation shaft would be sealed at the end of the mine life to Department of Industry and Investment standards and in accordance with the Landscape Management Plan (GSS Environmental, 2008). All surface disturbance works would be rehabilitated in accordance with the Landscape Management Plan (GSS Environmental, 2008). The Landscape Management Plan includes rehabilitation management measures (e.g. revegetation, stabilisation of topsoil and management of weeds and pests etc.) and mine closure management measures for surface disturbance areas (e.g. ripping, revegetation and post-closure maintenance of rehabilitated areas) (GSS Environmental, 2008).

7. Conclusion

This EA is a supporting document for an application by Donaldson to modify the NSW Minister for Planning's Project Approval for the Abel Underground Mine pursuant to Section 75W of the EP&A Act, 1979 to enable the construction and operation of additional ventilation infrastructure for the Abel Underground Mine.

The Abel Underground Mine, operated by Donaldson, was approved by the NSW Minister for Planning on 7 June, 2007. Ventilation engineering studies have identified the need for a downcast ventilation shaft to supply additional air to the mine and support ongoing development of the underground workings. To address this, Donaldson propose to install a downcast ventilation shaft south of John Renshaw Drive (**Figure 2**).

A description of the construction and operation of the downcast ventilation shaft, together with a discussion of its need, is provided in this EA. The EA also discusses existing Environmental Management Strategies and Plans and notes that the Donaldson BCA Management Plan would be revised for the proposed modification.

The proposed upgrade to ventilation infrastructure does not alter the overall mine plan, tonnages, mining timeframes or employment numbers for the Abel Underground Mine.

An assessment of potential environmental impacts has been undertaken. This included an assessment of the following:

- socio-economic and community issues;
- water, erosion and sedimentation;
- ecology;
- bushfire;
- Aboriginal heritage;
- noise;
- air quality;
- visual aspects;
- traffic; and
- subsidence.

The proposed downcast ventilation shaft is to be located in an isolated area south of John Renshaw Drive on land owned by Donaldson. No operational impact, including noise, is associated with the operation of the shaft. Material extracted from the shaft during construction would be removed via the existing underground mining materials transport system.

A 7 part test of significance under the NSW *Threatened Species Conservation Act, 1995* was undertaken for the removal of a minor amount of LHSGIF EEC within the existing Donaldson BCA, for the downcast ventilation shaft disturbance area and access track. The 7 part test concluded that due to the small size of the disturbance area there would be no significant impact on the local occurrence of the LHSGIF EEC.

The Donaldson BCA, initiated as a condition of the Development Consent for the Donaldson Open Cut Mine, would remain larger than its required offset ratio of 2:1. The Donaldson BCA Management Plan would be revised to show, on a plan, the new BCA extent following disturbance associated with the downcast ventilation shaft. No changes to management measures or strategies presented in the BCA Management Plan area are required as a result of this modification.

This EA demonstrates that the additional ventilation requirements can be constructed and operated in a manner that has minimal impact on the environment.

8. References

Advitech (2007) Abel Mine Energy Saving Action Plan.

Department of Infrastructure, Planning and Natural Resources (2005) Assessment Report, Proposed Modification – Donaldson Coal Mine.

Donaldson Coal Pty Limited (2007a) Abel Mine Erosion and Sedimentation Control Plan.

Donaldson Coal Pty Limited (2007b) Abel Underground Mine Aboriginal Heritage Management Plan.

Donaldson Coal Pty Limited (2006) Abel Underground Mine Part 3A Environmental Assessment. Vol 1-5.

Donaldson Coal Pty Ltd (2005) Donaldson Bushland Conservation Area Management Plan (OP-8).

Donaldson Coal Pty Ltd (2004) Donaldson Bushfire Management Plan.

Ecobiological (2007) Flora and Fauna Management Plan.

GSS Environmental (2008) Landscape Management Plan.

GSS Environmental (2007) Integrated Environmental Monitoring Program - Abel Underground Coal (Integrated with Donaldson Open Cut, Tasman Underground and Bloomfield Open Cut Coal Mines).

GSS Environmental (2006) Environmental & Community Risk Assessment and Establishment of a Site Based Risk Register for the Abel Project. Appendix C of the Abel Underground Mine Environmental Assessment.

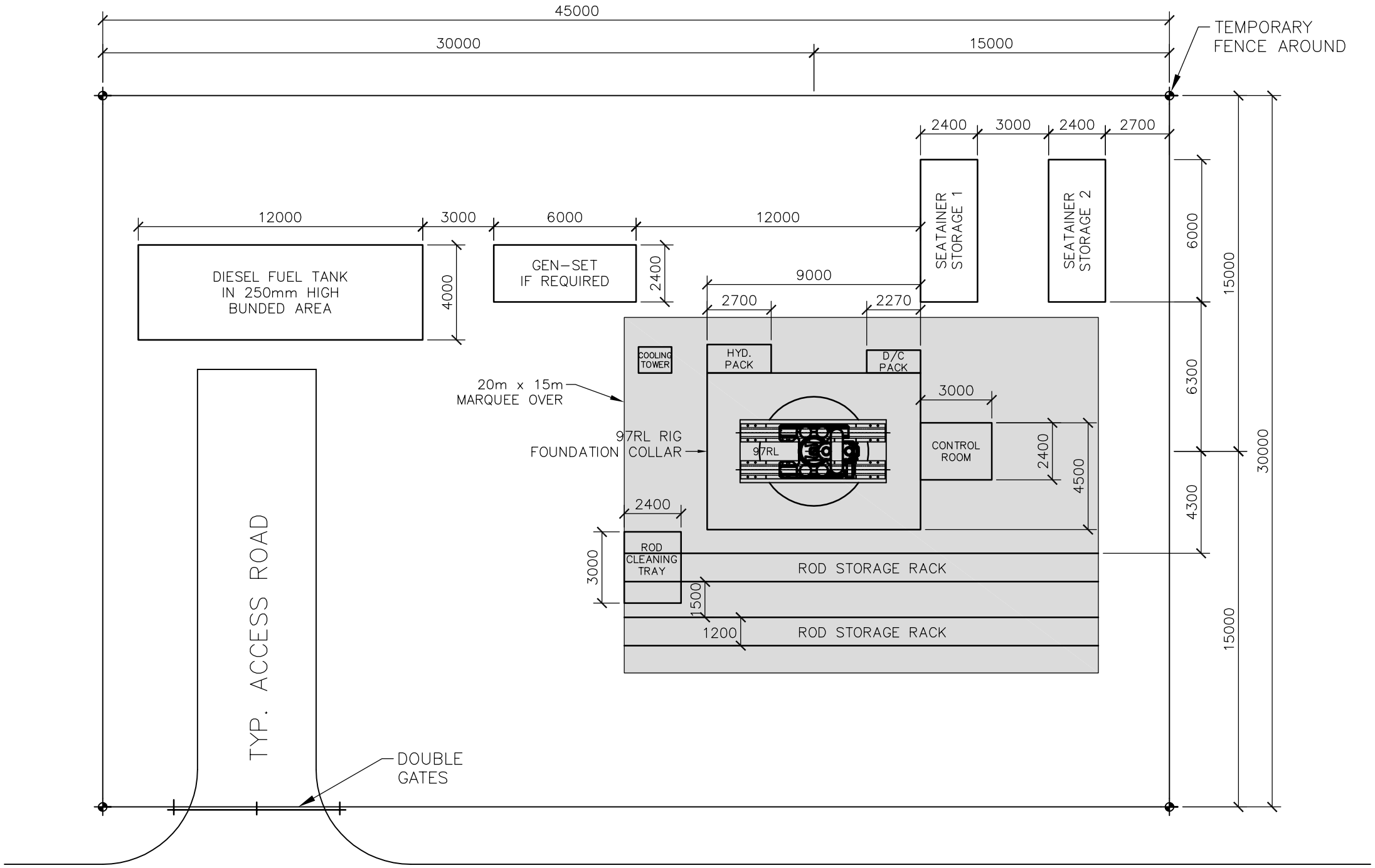
Heggies Pty Ltd (2007) Abel Noise Monitoring Program.

Holmes Air Sciences (2008) Abel Underground Mine Air Quality Monitoring Plan.

Hunter Eco (2010) Abel Downcast Shaft Ecology Survey and Assessment Report.

Appendix A

Typical Construction Site Layout (Downcast Ventilation Shaft)



SITE LAYOUT

SCALE 1:200

ITEM	QTY	ITEM	
1	1	97RL FOUNDATION	9000 x 6600
2	1	CONTROL ROOM	3000 x 2400
3	1	SEATAINER 1	6000 x 2400
4	1	SEATAINER 2	6000 x 2400
5	1	GEN–SET	6000 x 2400
6	1	FUEL TANK	12000 x 4000
7	4	ROD STORAGE RACK	20000 x 1200
8	1	ROD CLEANING TRAY	3000 x 2400
9	1	D/C PACK	2270 x 970
10	1	HYDRAULIC PACK	2700 x 1200
11	1	COOLING TOWER	1400 x 1100
12	1	MARQUEE	20000 x 15000

CLIENT TO LEVEL AND FILL SO SURFACE IS GRADED AT 1:100 AWAY FROM THE CONCRETE PAD. COMPACTION ACHIEVED TO BE SUITABLE FOR HEAVY VEHICLE TRANSPORT. CLIENT TO BATTER FROM ROADWAY INCLUDING RUNOFF DRAIN AT BOTTOM OF BATTER

ISSUE	AMENDMENTS	INT./DATE
B	REVISED AFTER COMMENT	CB 03.09.09
A	PRELIMINARY ISSUE	CB 03.09.09

Magryn & Associates Pty Ltd

Consultant Civil, Structural & Coastal Engineering.

267 Brighton Road,
Somerton Park, SA 5044
ABN: 651 455 748 34

Telephone: (08) 8295 8677
Facsimile: (08) 8295 5104
www.magryn.com.au

CLIENT:
RAISEBORE AUSTRALIA

PROJECT:
PROPOSED RAISEBORE SITE
DONALDSON COAL
ABEL COLLIERY

PROJECT ADDRESS:

TITLE:
SITE LAYOUT

CONTRACTORS MUST VERIFY ALL DIMENSIONS PRIOR TO ANY OFF SITE FABRICATION.

DESIGN: TM	SCALE: AS SHOWN	DATE: SEP 2009
SHEET SIZE: A3	DRAWING NUMBER: 01741–13	REVISION B

Appendix B

Ecology Survey and Assessment Report

Donaldson Coal Pty Limited
PO Box 2275
Greenhills NSW 2323

5 May 2010

Attn Phil Brown

Dear Phil

Re: Abel Downcast Ventilation Shaft

This ecology survey and assessment report has been prepared to support an application to modify the Abel Underground Mine with the installation and operation of a proposed downcast ventilation shaft (Figure 1).

Project Description Summary

The Abel Underground Mine would be modified by the addition of one downcast ventilation shaft south of John Renshaw Drive. Construction and operation of the shaft would require access by truck for construction purposes, and later by light vehicle for regular inspection and maintenance. The shaft would consist of a 5.5 metre (m) diameter, 55 m deep bore, concrete encased with a steel cap and mounted on a concrete pad. The shaft would be topped by a steel secured screen to prevent unauthorised access to the shaft. Construction would be by a 'raise bore' method, meaning the shaft is excavated from the bottom of the shaft upwards. Using this method, material from the excavation would be removed inwards via the existing underground system, surfacing at the existing portal.

The downcast ventilation shaft site would require clearing of approximately 30 m by 45 m to enable the shaft installation. For the purposes of this assessment, the downcast ventilation shaft construction area inspected was a square 60 m by 60 m area to allow for orientation of the 30 m by 45 m construction pad around the shaft, as would be required by the construction crew during their works (Figure 1). In summary, an area of 3,600 m^2 was inspected for the downcast ventilation shaft construction area (Figure 1), although only 1,350 m^2 of this area would actually be disturbed.

Access to the proposed downcast ventilation shaft site would be from John Renshaw drive via a combination of an existing bush track and a purpose-built track. The track would be 660 m long and 3.5 m wide. However, clearing would only be required along sections totalling approximately 250 m by 3.5 m. Therefore, the total clearing required would be approximately 1,350 m^2 for the downcast ventilation shaft construction area and 875 m^2 for the access track. The total disturbance area for the project would be 0.23 hectares (ha).

Inspection and Survey Methods

On 23 April and 3 May 2010, I inspected the proposed Abel downcast ventilation shaft site and access route (Figure 1). A list of the dominant plant species was compiled and used to identify the vegetation communities present in the disturbance area, referring to the classification in NPWS (2000). Particular attention was given to the possible presence of threatened flora species and Endangered Ecological Communities (EEC). Two threatened flora species are known to occur in the Donaldson Bushland Conservation Area (BCA) in which the proposed downcast ventilation shaft and access would be constructed: *Grevillea parviflora* subsp *parviflora* and *Tetratheca juncea.* The Atlas of NSW Wildlife also has records for *Rutidosis heterogama* a few kilometres west of the subject site. Also, any trees having potential fauna habitat hollows that were in or near the disturbance area were marked with a band of orange survey paint.

Survey results

The subject site and the majority of the access is located within *Lower Hunter Spotted Gum – Ironbark Forest* (LHSGIF) although the access track passes across a low drainage basin about 40 m wide which contains species typical of *Hunter Valley Moist Forest* (HVMF). The LHSGIF community is listed as an EEC in the *NSW Threatened Species Conservation Act 1995*.

The dominant species in the LHSGIF community were:

- Canopy: *Eucalyptus fibrosa, Corymbia maculata, Eucalyptus umbra, Eucalyptus globoidea*
- Shrubs: *Acacia fimbriata, Bursaria spinosa, Macrozamia reducta*
- Ground: *Entolasia stricta, Imperata cylindrica, Aristida vagans, Joycea pallida, Dianella longifolia, Lomandra filiformis* subsp *coriacea*

The dominant species in the HVMF were:

- Canopy: *Eucalyptus punctata, Eucalyptus siderophloia, Corymbia maculata, Eucalyptus resinifera*
- Midstorey: *Melaleuca styphelioides*
- Ground: *Oplismenus imbecillis, Imperata cylindrica*

No habitat trees were found to be directly in the access route although as a precaution any nearby trees having hollows were marked for avoidance; one large Spotted Gum with hollows was located in the shaft investigation area.

Impact assessment

Because the site is located in an EEC, a 7-part test assessing the impact on the LHSGIF is provided in **Attachment 1**. The conclusion of the 7-part test was that, due to the small size of the disturbance area (i.e. 0.23 ha) there would be no significant impact.

No threatened flora species were found during the survey, and no impacts on threatened flora are expected.

A number of threatened fauna species may occur in the area. Annual fauna monitoring within the BCA since the commencement of mining in 2000 has shown the following species of threatened fauna to be present at various locations and times: Squirrel Glider, Powerful Owl, Sooty Owl, Barking Owl, Masked Owl, Large Footed Myotis, Yellow-bellied Sheathtail Bat, Eastern Bent-wing Bat, Eastern Freetail Bat, Greater Broad-nose Bat and the Little Bent-winged Bat. These threatened fauna species are unlikely to be impacted due to the small size of the disturbance area (i.e. 0.23 ha) and the associated minor removal of potential habitat.

Recommendations

At the time of removal of any marked habitat trees, a suitably qualified fauna ecologist should be present to ensure that any fauna are adequately cared for, in accordance with the Donaldson Flora and Fauna Management Plan (Ecobiological, 2007).

Following the completion of construction all disturbance at the edge of the existing vegetation should be rehabilitated in a manner consistent with the surrounding vegetation. Periodic inspections should be conducted to ensure that no weed species have become established in these areas.

Yours Faithfully

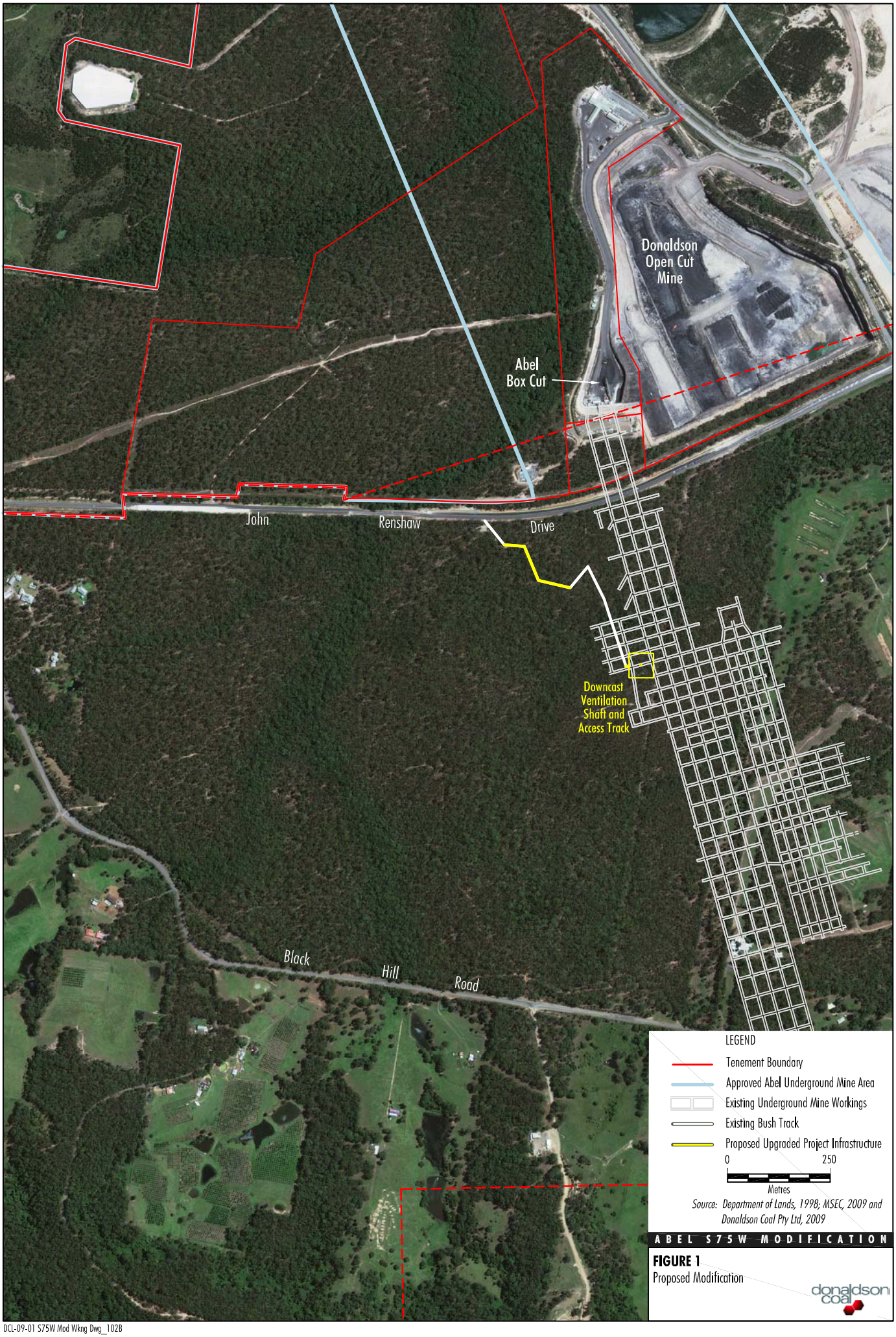
HUNTER ECO

Colin Driscoll
Environmental Biologist
NPWS Licence S10565
Exp January 2011

References

Ecobiological (2007) *Abel Underground Coalmine – Flora and Fauna Management Plan.*

NPWS (2000) *Vegetation Survey, Classification and Mapping Lower Hunter and Central Coast Region.* Version1.2. A project undertaken for The Lower Hunter and Central Coast Regional Environment Management Strategy CRA Unit Sydney Zone National Parks and Wildlife Service.



ABEL S75W MODIFICATION

FIGURE 1
Proposed Modification

DCL-09-01 S75W Mod Wkng Dwg_102B

Attachment 1

The 7-part test

The 7-part test is here applied to the EEC *Lower Hunter Spotted Gum – Ironbark Forest* (LHSGIF) at the proposed study area. The 'local occurrence' is the amount of LHSGIF on the study area.

(a) in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

Not applicable to the consideration of an EEC.

(b) in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,

Not applicable to the consideration of an EEC.

(c) in the case of an endangered ecological community, whether the action proposed:

(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or

(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,

Mapping of the vegetation communities in the study area (Driscoll & Bell 2004) showed that approximately 187 ha of LHSGIF was present. The disturbance for the downcast ventilation shaft and site access would involve clearing about 0.12% of this mapped community.

The presence of the existing bush tracks that have been permanently established through the area has had no discernable detrimental effect on the LHSGIF.

The proposed works would not place the local occurrence of LHSGIF at risk of extinction.

(d) in relation to the habitat of a threatened species, population or ecological community:

(i) the extent to which habitat is likely to be removed or modified as a result of the action proposed, and

(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and

(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,

Fragmentation occurs where a disturbance creates a barrier to fauna movement or to dispersal vectors. A total of 0.12% of the local occurrence of LHSGIF would be disturbed and the disturbance would be a narrow linear, cul-de-sac feature. This disturbance would not result in fragmentation or isolation and would not impact on the long-term survival of LHSGIF in the locality.

(e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),

No critical habitat was present.

(f) whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,

No recovery plan or threat abatement plan for LHSGIF has been prepared. However the downcast ventilation shaft disturbance area falls within the Donaldson Open Cut Coal Mine Bushland Conservation Area (BCA), an offset area formed under the Donaldson Open Cut Mine Development Consent. The BCA Management Plan (Donaldson, 2006) was prepared to "*adequately compensate for the impact of the mine on biodiversity, provide compensatory habitat and be managed for the primary purposes of conservation.*" (Item 70 of the Donaldson Open Cut Mine Development Consent, 1999).

Priority actions for this EEC are:

1. ***Ensure that the fire sensitivity of the community is considered when planning hazard reduction and asset management burning. (High priority)***
   Donaldson Coal has a Bushfire Management Plan in place to control the frequency and intensity of any burning. The BCA Management Plan also addresses bushfire control.

2. ***Fence remnants where necessary to protect from off-road vehicle use and rubbish dumping. (Medium priority)***
   The area in which the subject site is located is fenced from John Renshaw Drive but not from Black Hill Road to the south. The BCA Management Plan also addresses management of access, including fencing.

3. ***Identify and map priority site for conservation and restoration. (Medium priority)***
   Not applicable.

4. ***Map and describe the EEC across its entire range in the Lower Hunter. (Medium priority)***
   Not applicable.

5. ***Promote public involvement in restoration activities. (Medium priority)***
   Not applicable.

6. ***Promote regeneration by avoiding prolonged or heavy grazing. (High priority)***
   No grazing occurs in the area. The BCA Management Plan addresses management of access by stock.

7. ***Protect habitat by minimising further clearing of the community. This requires recognition of the values of all remnants in the land use planning process, particularly development consents, rezonings and regional planning. (High priority)***
   Clearing for construction of the downcast ventilation shaft has been kept to a minimum. The BCA Management Plan addresses management of clearing within the BCA.

8. ***Undertake research into aspects of restoration of the EEC. (Medium priority)***
   Not applicable.

9. ***Undertake restoration including bush regeneration and revegetation. (Medium priority)***
   Rehabilitation of disturbed areas would be undertaken following completion of construction in accordance with Donaldson's Rehabilitation Management Plan.

(g) whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

The following listed Key Threatening processes are considered to be relevant to the construction and operation of the Abel downcast ventilation shaft:

- *Clearing of native vegetation*

  Clearing of up to 0.23 ha would be necessary but would be kept to a minimum.

- *High frequency fire resulting in the disruption of life cycle processes in plants and animals and loss of vegetation structure and composition*

  Fire frequency is controlled by the Donaldson Bushfire Management Plan.

- *Invasion and establishment of exotic vines and scramblers*

  The Donaldson Rehabilitation Management Plan addresses weed control at the Abel Underground Mine.

- *Invasion of native plant communities by exotic perennial grasses*

  The Donaldson Rehabilitation Management Plan addresses weed control at the Abel Underground Mine.

- *Invasion, establishment and spread of Lantana camara*

  The Donaldson Rehabilitation Management Plan addresses weed control at the Abel Underground Mine.

- *Loss of Hollow-bearing Trees*

  Only one hollow bearing tree may need to be removed.

- *Removal of dead wood and dead trees*

  There is very little dead wood on the ground, probably as a result of a high frequency fire history prior to ownership and management by Donaldson Coal. No dead trees would need to be removed.

The conclusion of the 7-part test is that there would be no significant impact on the local occurrence of LHSGIF and that no further investigation is required.

References

Donaldson Coal Pty Ltd (2004) *Donaldson Bushfire Management Plan*.

Donaldson Coal Pty Ltd (2005) *Donaldson Bushland Conservation Area Management Plan (OP-8).*

Driscoll C & Bell S (2004) *The Vegetation of Donaldson Coal Property: Beresfield NSW Part 1: The Vegetation of the Donaldson Coal Property. Part 2: A Re-classification of Spotted Gum – Ironbark Communities within the Lower Hunter & Central Coast Region*. A report prepared by Ecobiological for Donaldson Coal. August 2004.

GSS Environmental (*2007) Donaldson Open Cut and Abel Underground Coal Mines Rehabilitation Management Plan*.

Appendix C

Donaldson Bushland Conservation Area Management Plan

ENVIRONMENTAL MANAGEMENT STRATEGY FOR DONALDSON COAL MINE

ENVIRONMENTAL MANAGEMENT PROGRAMS (OPERATIONAL PLANS)

BUSHLAND CONSERVATION AREA MANAGEMENT PLAN SUMMARY (OP-8)

DONALDSON COAL Pty Ltd

~~**January 2005**~~
Revised October 2005

This rectangle will appear green on a controlled copy of the EMS

ENVIRONMENTAL MANAGEMENT STRATEGY FOR DONALDSON COAL MINE

ENVIRONMENTAL MANAGEMENT PROGRAMS (OPERATIONAL PLANS) –

Bushland Conservation Area Management Plan Summary of Management Committments (OP-8).

Prepared for:

Donaldson Coal Pty Ltd

Prepared by:

GSS Environmental

Authorised by:	Doug Gordon (General Manager)
Signature:	
Distributed to:	
Location:	

C O N T E N T S:

1.0 PURPOSE

The purpose of establishing and maintaining environmental management programs or operational environmental management plans (EMPs) is to ensure that the Donaldson Coal Mine (Donaldson) has a means and time frame of achieving its environmental objectives and targets as well as complying with the requirements of all approvals, consents and licences.

2.0 OVERVIEW

In accordance with **Section 10.3** of the EMS **Operating Manual (EOM-1)** and the requirements of AS/NZS ISO 14001:1996, Donaldson has established and maintained environmental management programs or operational Environmental Management Plans.

This document (OP-8) has been prepared in accordance with the requirements of the EMS as a ***summary*** of the management actions relating the management of the bushland surrounding the mine disturbance area. The aim of this document is to bring together the numerous management actions that are contained within each of the operational Environmental Management Plans **(see EM-3)** as they apply to the management of the bushland area.

3.0 SCOPE

This Management Plan summary (OP-8) has been prepared with specific reference to the area known as the Bushland Conservation Area (BCA) as defined by condition 72 of the Development Consent.

All Donaldson employees, contractors and their sub-contractors operating on the Donaldson Coal Mine are expected to incorporate the actions contained within this summary within their own environmental management programs.

This Management Plan applies to the BCA for the working life of the Mine (upto 2011).

It is anticipated that the Lower Hunter Regional Strategy when released in late 2005 will include an infrastructure hub and rail by-pass in the Stony Pinch area. From 2006, local planning conforming with the Regional Strategy will be undertaken to define the post-mining conservation and development of the Donaldson and surrounding lands and this will include a revision to the BCA Management plan.

4.0 DEFINITIONS

BCA:

Bushland Conservation Area – this is the area of land surrounding the mine disturbance footprint that has been set aside in accordance with requirements of conditions 70 and 71 of the Development Consent.

*The BCA is illustrated by **Figure 2a** (enclosed) which has been revised in conformance with the Modification to Development Consent approved by DIPNR on 26 August, 2005. The modification to the BCA comprises a reduction in area of the western pit of 3 hectares to offset the eastern extension.*

5.0 MANAGEMENT

The Donaldson Coal Environmental Manager is responsible for:

- Providing the Mining Contractor with a copy of the summary plan relating to the BCA;
- Ensuring the commitments within the summary plan are being meet at the Donaldson Coal Mine. This includes reference to responsibility, timing and means of achievement for each of the commitments;
- That the progress in the implementation of each commitment within the various related operational Environmental Management Plans is monitored through environmental audits and inspections;
- Ensuring that the general workforce is aware of the commitments in the summary plan by incorporating key aspects of the plan in environmental training and awareness programs; and
- Updating the various operational Environmental Management Plans in accordance with the Development Consent or as required following a major change in the operation.

The Mining Contractors Operations Manager is responsible for:

- Ensuring the commitments within the supplementary plan are being meet at the Donaldson Coal Mine. This includes reference to responsibility, timing and means of achievement for each of the commitments.
- Ensuring that all their employees are aware of the commitments in the summary plan; and

- Addressing any non-compliance(s) under the various operational Environmental Management Plans as identified either internally or by the Donaldson Coal Environmental Manager as part of an audit or inspection.

6.0 PROCEDURES

Specialist consultants, with specific expertise in each of the relevant disciplines, have completed each of the operational Environmental Management Plans in accordance with the requirements of the Development Consent. In addition, all operational environmental management plans have been developed in consultation with the relevant state and local government authorities. Copies have also been provided to the members of the Donaldson Coal Community Consultative Committee (CCC). The key management requirements contained within each of these operational Management Plans has been detailed in Table 1 attached as **Appendix 1** to this document.

Copies of all operational Environmental Management Plans (including this summary) are available to employees and contractors at the Donaldson Coal Mine, as well as the Community Consultative Committee (CCC) through the Donaldson Environmental Manager.

The Mining Contractor is expected to meet the requirements of these plans and will be subject to routine inspections by the Donaldson Environmental Manager to establish the level of compliance. Non conformance forms will be issued to initiate improvements should they be required (in accordance with **Non-conformances & Corrective/Preventative Actions (RF-3))**.

In addition Six (6) Monthly Internal compliance audits (see **RF-1, Section 6.2**) will be undertaken by the Donaldson Environmental Manager. These audits will ascertain the level of general compliance by the Mining Contractor with the commitments in the operational Environmental Management Plans (and this supplement).

7.0 FORMS

The key management requirements contained within each of these operational Environmental Management Plans has been detailed on **Environmental Management Program - Form No. OP-8(1)** included in ***Appendix 1***.

Details of annual Environmental Management Plan reviews conducted will be recorded on the **Review and Feedback Form No. RF-4(1)**.

8.0 REVIEW

The effectiveness and relevance of each operational Environmental Management Plan will be reviewed as detailed in each individual plan, or annually during the

management review process **(RF-4)** or as required (ie. following a series of non compliance events).

In addition, the Development Consent requires a review of each of the operational environmental management plans five (5) years after the plans is approved. This is listed on the register form **Environmental Management Program (EM-3(1)).** All changes as relevant to OP-8 will be updated at this time.

Details of annual plan reviews conducted will be recorded on the **Review and Feedback Form No. RF-4(1)**.

APPENDIX 1

Summary of Bushland Conservation Area Management Commitments (OP-8(1)).

Summary of Management Actions Applicable to the Bushland Conservation Area Management Plan

Key Management Area	Brief Description of Key Management Actions	Relevant Operational Management Plan	Relevant Section within the Management Plan	Site Responsibility
Flora and Fauna	- No clearing or disturbance within the BCA.	**- Flora & Fauna Mgt Plan (OP-9)**	- Section 4.2.7	- Environmental Manager - Qualified Ecologist
	- Stock are excluded from the site.	**- Erosion & Sediment Control Plan (OP- 7)**	- Section 5.8	
	- Access is limited (no mine equipment outside nominated mine disturbance area).	**- Flora & Fauna Mgt Plan (OP-9)** **- Flora & Fauna Mgt Plan (OP-9)**	- Section 4.3.3 - Section 4.2.6	
	- Fencing of the site along John Renshaw Drive	**- Flora & Fauna Mgt Plan (OP-9)**	- Section 4.2.6	
	- Staff training & Awareness.	**- Flora & Fauna Mgt Plan (OP-9)** **- Environmental Management Strategy**	- Section 4.2.6 - EME-1	
	- Delineation of boundaries to be cleared for mining.	**- Flora & Fauna Mgt Plan (OP-9)**	- Section 4.2.6	
Aboriginal Cultural Heritage and Archaeology	- Aboriginal sites/artefacts identified within the BCA are regularly monitored by an Archaeologist and representative from the local Aboriginal Community to determine whether they are being disturbed by natural or other processes.	**- Heritage & Archeological Area Mgt Plan – Year 4 (OP-10)**	- Section 2.3.2	- Environmental Manager - Qualified Archeologist - Representatives of the Local Aboriginal Lands Council.
	- The Heritage & Archaeological Mgt Plan are revised annually to enable the local Aboriginal community the opportunity to	**- Heritage & Archeological Area Mgt Plan – Year 4 (OP-10)**	- Section 2.3.2	

	provide ongoing comment into the management of all sites within the BCA.			
	- *Section 90* – Consent to Destroy/salvage are obtained from DEC where required (in consultation with the Aboriginal Community) where required	**- Heritage & Archeological Area Mgt Plan – Year 4 (OP-10)**	- Section 2.3.2	
	- Stock are excluded from the site	- **Erosion & Sediment Control Plan (OP- 7)**	- Section 5.8	
	- Access is limited (no mine equipment outside nominated mine disturbance area	**- Flora & Fauna Mgt Plan (OP-9)** **- Flora & Fauna Mgt Plan (OP-9)**	- Section 4.3.3 - Section 4.2.6	
	- Fencing of the site along John Renshaw Drive	**- Flora & Fauna Mgt Plan (OP-9)**	- Section 4.2.6	
	- Staff training & Awareness.	**- Flora & Fauna Mgt Plan (OP-9)** **- Heritage & Archeological Area Mgt Plan – Year 4 (OP-10)** **- Environmental Management Strategy**	- Section 4.2.6 - Section 2.3.2 - EME-1	
	- Delineation of boundaries to be cleared for mining.	**- Flora & Fauna Mgt Plan (OP-9)**	- Section 4.2.6	
Invasive Weeds	- Weed material (from clearing) within the disturbance site to be managed so that it does not spread into the BCA.	**- Flora & Fauna Mgt Plan (OP-9)** **- Erosion & Sediment Control Plan (OP- 7)**	- Section 4.2.7 - Section 5.9	- Environmental Manager - DEC certified contractor
	- Weed control and monitoring.	**- Flora & Fauna Mgt Plan (OP-9)**	- Section 4.3.4	

This rectangle will appear green on a controlled copy of the EMS

Feral Animal Control	- To control the number of feral animals on the site; - Targeted baiting and trapping will be utilised as required.	**- Flora & Fauna Mgt Plan (OP-9)** **- Flora & Fauna Mgt Plan (OP-9)**	- Section 4.3.2 - Section 4.3.2.	- Environmental Manager
Erosion & Sediment Control	- The implementation of specific erosion and sediment control structures along existing tracks and access roads.	- **Erosion & Sediment Control Plan (OP- 7)** **- Flora & Fauna Mgt Plan (OP-9)**	- Section 4.0. - Section 4.3.1.	- Environmental Manager
Surface & Groundwater Management	- Routine Samples are taken at both upstream and downstream sites on the three (3) creeks passing through the property. - Macroinvertebrate & streambed/bank assessments are undertaken at the six sites every six months - Groundwater samples are routinely collected at a number of piezometers located throughout the BCA. Monitoring includes both water quality and Standing Water level.	**- Water Management Plan (OP-4)** **- Water Management Plan (OP-4)** **- Water Management Plan (OP-4)**	- Section 5.9 & 7.2 - Section 5.9.3 - Section 5.9.4 - Section 6.2	- Environmental Manager - Consultants - Environmental Manager - Aquatic Ecologist
Bushfire and Hazard Reduction Burning	- Hazard reduction regimes are to be implemented to maintain natural ecological value within the BCA. - Fuel free & Fuel reduction zones will be created around the mine buildings and key infrastructure areas.	**- Fire Management Plan** **- Flora & Fauna Mgt Plan (OP-9)** **- Fire Management Plan**	- Section 5.5 - Section 4.3.6 - Section 5.1	- Environmental Manager - Local Bushfire Brigade - Rural Fire Service (RFS)

This rectangle will appear green on a controlled copy of the EMS

Conservation of Threatened & Endangered Species	- No clearing or disturbance within the BCA	- **Flora & Fauna Mgt Plan (OP-9)**	- Section 4.2.7	- Environmental Manager - Qualified Ecologist
	- Stock are excluded from the site	- **Erosion & Sediment Control Plan (OP- 7)**	- Section 5.8	
	- Access is limited (no mine equipment outside nominated mine disturbance area	**- Flora & Fauna Mgt Plan (OP-9)**	- Section 4.3.3	
	- Fencing of the site along John Renshaw Drive	**- Flora & Fauna Mgt Plan (OP-9)**	- Section 4.2.6	
	- Staff training & Awareness	**- Flora & Fauna Mgt Plan (OP-9)** **- Environmental Management System**	- Section 4.2.6 - EME-1	
	- Delineation of boundaries to be cleared	**- Flora & Fauna Mgt Plan (OP-9)**	- Section 4.2.6	
	- Preparation of the ***Tetratheca juncea*** **Management Plan** (Gunninah, 2000). This plan outlines the specific management requirements for the population of *Tetratheca juncea* found to exist on the western end of the property This report has been developed following the determination of the Tetratheca juncea conservation area, ***Tetratheca juncea*** **Survey Report & Conservation Area Identification (Gunninah, 2000).**	**- *Tetratheca juncea* Mgt Plan (OP-14)**	- Entire Mgt Plan	
	- A survey has been undertaken to identify Owl Nest and/or Roost Sites within the BCA.	**- Flora & Fauna Mgt Plan (OP-9)**	- Section 3.2 - Appendix G	

Clearing & Vegetation	- No clearing of vegetation allowed within the BCA. - The Environmental Manager undertakes regular inspections of the BCA to ensure that the area is being managed appropriately.	**- Flora & Fauna Mgt Plan (OP-9)**	- Section 4.2.7	- Environmental Manager
Access & Site Security	- Installation of a fence along John Renshaw Drive - Erection of warning signs at access points into the Bushland Area. - Delineation of areas outside the mine disturbance area. - Staff induction and awareness training.	- **Flora & Fauna Mgt Plan (OP-9)** - **Erosion & Sediment Control Plan (OP- 7)** - **Flora & Fauna Mgt Plan (OP-9)** - **Flora & Fauna Mgt Plan (OP-9)** **- Environmental Management System**	- Section 4.2.6 - Section 5.8 - Section 4.2.6 - Section 6.0 - EME-1	- Environmental Manager - Mine Statutory Manager
Seed Collection	- Native Seed collection and propagation will be undertaken to enhance the regeneration of indigenous vegetation within the areas of disturbance.	- **Erosion & Sediment Control Plan (OP- 7)** **- Rehabilitation Mgt Plan (OP – 13)**	- Section 5.1 - Section 3.1.2.2	- Environmental Manager
Illegal Dumping of wastes	- The removal of rubbish from the site (rubbish, car bodies, etc). - The Environmental Manager undertakes regular inspections of the BCA to ensure that the area is being managed appropriately.	- **Flora & Fauna Mgt Plan (OP-9)**	- Section 4.3.3	- Environmental Manager

This rectangle will appear green on a controlled copy of the EMS

	- Access is limited (no mine equipment outside nominated mine disturbance area).	**- Flora & Fauna Mgt Plan (OP-9)** **- Flora & Fauna Mgt Plan (OP-9)**	- Section 4.3.3 - Section 4.2.6	
Monitoring & Measurement	- A program to monitor the flora & fauna impacts in the BCA has been undertaken since the commencement of mining. A series of permanent monitoring quadrants have been established across the site. A detailed baseline report and subsequent annual reports have been completed for all monitoring sites (Barker Harle 2001, 2002, 2003 & 2004). - The results of the monitoring are reported in the AEMR.	- **Flora & Fauna Mgt Plan (OP-9)** - **Flora & Fauna Mgt Plan (OP-9)**	- Section 5.1 - Section 5.2	- Qualified Ecologist - Environmental Manager
Staff Induction & Awareness Training	- All employees at the mine go through "New Starter" inductions and regular toolbox talks detailing the significance of the BCA.	- **Flora & Fauna Mgt Plan (OP-9)** **- Environmental Management System**	- Section 6.0 - EME-1	- Environmental Manager
Scientific Research	- Donaldson has sponsored an Honors student from the University of Newcastle to complete a Thesis. - Donaldson has sponsored an Honors student from the University of Newcastle to complete a Thesis.	- Deborah Landenburger " *Defining the niche of Tetratheca juncea*" - Adam Blundell *"The Powerful Owl (ninox strenua) in disturbed environments".*		- Environmental Manager

Four Mile Cr

Scotch Dairy Cr

Stony Pinch Reservoir

Weakleys Flat Cr

Original Disturbed Area

Additional Disturbed Area

Reclaimed Disturbed Area

ELLEMBY RESOURCES

DONALDSON COAL

Bushland Conservation Area

1:15000

DRAWN:	DATE:	JOB NO.
T. Positti	15/02/05	don520

Appendix D

Community Consultation Committee Minutes 29 June 2009

ABEL UNDERGROUND COAL MINE

COMMUNITY CONSULTATIVE COMMITTEE
Meeting #7

Monday 29th June 2009 at 5.00 pm

Abel Underground Mine Administration Building

DRAFT MINUTES

1. OPENING & WELCOME: Chairman, The Hon. Milton Morris AO

2. PRESENT: Mr Milton Morris (Chairman), Mr Alan Brown, Mr Allan Jennings, Mr Brad Ure, Mr Terry Lewin, Mr Lachlan Crawford (Bloomfield), Mr Mark McPherson, Mr Matthew Blackham, Mr Tony Sutherland, Mr Adam Heeney and Mr Phillip Brown (mins).

3. APOLOGIES: Mr Andrew Pace and Mr Alick Osborne

***4.* CONFIRMATION OF THE MINUTES OF THE PREVIOUS MEETING:**
4.1 *Previous Minutes 30th March 2009 were confirmed by those members present.*

5. BUSINESS ARISING FROM PREVIOUS MINUTES:
5.1 Business Arising.

6. CORRESPONDENCE:
Nil

7. COMPANY REPORTS AND OVERVIEW OF ACTIVITIES:

7.1 Development update

7.1.1 Abel Program 2009

Mr Matthew Blackham provided an update on the mine's progress including:

- Undertaking additional building works including another bathhouse; another office and training room.
- The workforce has increase with 31 new employees from Contractor LDO bringing the site total to 130 people. Looking at a total of 180 employees by December 2009.
- M Blackham and M McPherson detailed the Cleanskin Program that the company undertakes.
- Putting a new conveyor belt in on the weekend for the two new super sections that will be running until Christmas.

Mr A Jennings asked if the geological and water conditions that the min had encountered were as expected. Mr Blackham advised that there was a low depth of cover and that the rock had been much harder than originally thought. Mr M McPherson advised that there is a drill rig drilling across the area to firm up the information on the geology in the area as the coal wasn't thickening up as first thought. Mr McPherson advised that the coal quality is good.

7.2 Monitoring and Environmental Performance

Mr P Brown presented a report on environmental monitoring. See attachments for presentation.

Mr A Jennings asked why the noise report had not been circulated. Mr Brown advised that he will attend to this.

7.3 Community Complaints and response to complaints

Revision History					
Edition	**Revision**	**Comment**	**Author**	**Date**	**Authorised by:**
1	0	Draft Minutes	P Brown	29 July 2009	

Mr P Brown advised that there had been one complaint. Refer to presentation for details.

7.4 Information provided to the Community and any feedback

7.4.1 Website Information

Refer to presentation

7.5 Subsidence Management Plan Update

Mr T Sutherland advised that the presentation from last week's subsidence management plan (SMP) meeting has been sent out and is also available on the website. Mr Sutherland also advised that there would be advertisements in the paper this weekend showing the mine subsidence area.

Mr M McPherson advised that Mr Colin East had suggested a public meeting to discuss the SMP process. Mr McPherson proposed to hold a meeting at a later date after the government reshuffle.

Mr T Lewin suggested holding a public meeting when the results have been obtained for the first works have been done to explain to the residents what the results are.

Mr B Ure asked if they would be doing first workings beneath the creek. Mr McPherson advised that they would be doing first workings until the Company can show that from the results that there would be no impact on the creek and would then undertake secondary extraction.

Mr T Lewin asked if the Catholic Diocese had indicated where the school would be. Mr McPherson said that a representative from the Catholic Diocese advised that they would not be constructing a school on the property.

8. COMMUNITY REPRESENTATIVE COMMENTS

Mr T Lewin asked over what period the subsidence would occur. Mr T Sutherland advised that the main impact (95%) of the subsidence should be completed within 6 – 8 weeks of mining.

Mr Lewin commented that following a review of the SMP presentation that the power lines seem to be the biggest problem. Mr McPherson advised that powerlines are commonly mined under without problem. He said that the fibre optic cable would be the most difficult as it was just laid in the trench.

Mr A Jennings asked when the main headings are pulled out would there be further subsidence. Mr Sutherland advised that there wouldn't be due to the size of the remaining pillars.

9. GENERAL BUSINESS:

9.1 Mr M McPherson advised the Committee of the proposal to install a downcast shaft on the southern side of John Renshaw Drive. Refer to the presentation enclosed for a plan showing the location. Mr McPherson advised that the Company would be submitting a Section 75W application for a modification to the original consent to the department of Planning. They would also include in the modification a proposal to install a further three headings under John Renshaw Drive.

Mr Lewin asked if there would be any noise associated with the shaft. Mr McPherson advised that there would not be any noise as it would be sucking air in and would not be located over a transport roadway.

Mr B Ure asked if it would be located over a transport road in the future. Mr McPherson advised that it would only be above an air roadway.

Mr A Jennings asked if it the Company would be using existing tracks. Mr McPherson advised that they would. Mr Jennings also asked if access would be off John Renshaw Drive. Mr McPherson advised that access would be via Blackhill road and that the site would only be visited as part of regular inspections.

10. NEXT MEETING

10.1 The next meeting of the Abel Community Consultative Committee was set down for Monday 28th September 2009 to be held at the Abel Underground Mine Administration Building at 5.00 pm.