March 2015

Independent Environmental Audit Abel Project

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APPLIED ENVIRONMENTAL MANAGEMENT CONSULTANTS

REPORT: DCPL/REV 2/JULY 2015

Independent Environmental Audit

Abel Coal Project

March 2015

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by

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10 July 2015

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Abbreviations

Abel Project	Abel Underground Coal Mine Project
AEMR	Annual Environmental Management Report
AR	Annual Return required under the EPL
Annual Review	Review required under Schedule 5 condition 3
BCA	Building Code of Australia
BCPP	Bloomfield Coal Preparation Plant
CCC	Community Consultative Committee
CPP	Coal Preparation Plant
DEC	Department or Environment and Conservation
DECC	Department of Environmental and Climate Change
DECCW	Department of Environment, Climate Change and Water
Department	Department of Planning and Infrastructure
DII	Department of Industry and Investment
Director-General	Director-General of Department of Planning and Infrastructure, or delegate
DoP	Department of Planning
DP&I	Department of Planning and Infrastructure
EA	Environmental Assessment
EC	Electrical Conductivity µS/cm
EIS	Environmental Impact Statement
EPA	Environment Protection Authority NSW
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000*
EPL	Environmental Protection Licence
MCC	Maitland City Council
MCoA	Minister's Condition of Approval
Mine Water	Water that accumulates within active mining areas and mine
Minister	Minister for Planning, or delegate
Mitigation	Activities associated with reducing the impacts of the project
MOD	Modification to Consent under the *Environmental Planning and Assessment Act 1979*
OoW	New South Wales Office of Water
OEH	Office of Environment and Heritage
Project Approval	Project approval under section 75J of the *Environmental Planning and Assessment Act 1979*
ROM	Run-of-Mine
SEE	Statement of Environmental Effects
TDS	Total Dissolved Solids

Executive Summary

Donaldson Coal Pty Ltd (DCPL) was granted Project Approval to develop the Abel Coal Project on 7 June 2007. The project is located approximately 23 km from the Port of Newcastle and 4 km south of East Maitland, NSW.

This Independent Environmental Audit of the Abel Coal Project was conducted between 16 and 19 March 2015 to review compliance of the development with the Project Approval 05_0136.

The audit was conducted generally in accordance with the Australian/New Zealand Standards AS/NZS ISO 19011:2003 - Guidelines for Quality and/or Environmental Management System Auditing and the *Draft Guidelines – Independent Environmental Audits of Mining Projects,* DP&E (April 2014) .

The documentation held by Donaldson Coal for the Able Coal Mine and interviews/discussions with the site personnel provided the auditor with the information required for the verification of compliance of the development with the Project Approval conditions.

The independent environmental audit of the Abel Coal Mine project confirmed a high degree of compliance and did not identify any non-compliance with the Project Approval or Statement of Commitments (SoC) for the activities undertaken during the 2012 to 2015 period.

All the management plans and monitoring programs required by the Project Approval have been prepared and approved by DoP/DP&I/DP&E. The Subsidence Management Plans for Areas 1, 2 and 3 and Extraction Plan for Area 4 were submitted to DII for approval, prior to the commencement of mining operations in each Area.

No non-compliances with the Project Approval conditions were identified that required risk assessment of the matter to be conducted in accordance with section 7.2 of the *Draft Guidelines – Independent Environmental Audits of Mining Projects,* DP&I March 2014.

A summary of the audit findings for the Abel Coal Project Independent Environmental Audit are:

Environmental Management Strategy
Status: Compliant

The Environmental Management Strategy prepared under Project Approval 05_0136 Schedule 6 condition 1 and Statement of Commitment 12, satisfies the requirements of Project Approval condition and Statement of Commitment. The components of the Integrated Environmental Management Strategy developed for Donaldson Coal Pty Ltd (for the Abel Coal Mine, Tasman Mine and Donaldson Mine), generally addresses the elements of ISO14001. The strategy provides a sound basis for the environmental management of the project.

Environmental Monitoring Program
Status: Compliant

The Integrated Environmental Monitoring Program developed for Donaldson Coal Pty Ltd (for the Abel Coal Mine, Tasman Mine and Donaldson Mine), has been implemented and is considered adequate to provide data for the assessment of the environmental performance of the Abel Coal Mine Project operations in relation to compliance with the Project Approval, Environment Protection Licence and Mining Lease conditions.

Rehabilitation
Status: Compliant Ongoing

An approved Landscape Management Plan/Rehabilitation Management Plan was developed for the long term rehabilitation of the Abel Project, to satisfy the requirements of the Project Approval 05_136 MOD 2 Schedule 4 condition 20. The Rehabilitation Management Plan (2014) prepared to satisfy Project Approval 05_-136 MOD 3, Schedule 4 condition 29 and Statement of Commitment 12, provides rehabilitation objectives for monitoring rehabilitation and sign-off that objectives have been met.

The Abel Coal Project areas that will not be further disturbed including the extended light vehicle car park batter, the tertiary treatment septic system area, vegetation of batters along Four Mile Creek and the visual bund on the northern side of John Renshaw Drive, have been progressively rehabilitated.

Subsidence and Extraction Plans
Status: Compliant Ongoing

The Subsidence Management Plans for Areas 1 to 3 and Extraction Plan for Area 4 were prepared and approved by the relevant government agencies to satisfy Project Approval 05_0136 MOD 1 and 2 - Schedule 4 condition 7, and Project Approval 05_0136 MOD3 Schedule 3 condition 4 respectively.

Subsidence monitoring has generally demonstrated compliance with predictions for subsidence, compressive strain and tilt in the Subsidence Management Plans for Areas 1 to 3 and Extraction Plan for Area 4, except for Panels 5, 6 and 15 in 2011-2012), East Install Headings (2012-2013) and Pane 19 (2013-2014). Monitoring has indicated some minor surface cracking and ponding had occurred, generally as predicted within vegetated areas and compacted access roads and tracks, and these minor subsidence impacts have been remediated by the Abel Coal Mine Project.

Noise Management
Status: Compliant

The Noise Management Plan implemented for the Abel Coal Mine Project complies with the requirements of Project Approval 05_0136 MOD 3 Schedule 4 condition 6. Quarterly noise monitoring surveys of the Abel Coal Mine Project operations have consistently demonstrated that the mine operations were inaudible at the locations nominated in Project Approval Schedule 4 condition 23. The noise survey results therefore indicate that the Abel Project noise contribution to the noise experienced at the receivers would not exceed the specified criteria and are therefore in compliance with the Project Approval.

Air Quality
Status: Compliant

The Air Quality and Greenhouse Management Plan prepared for the Abel Coal Project addresses the requirements of Project Approval 05_0136 MOD 3 Schedule 4 condition 11. The management of the Abel Coal Project operations in relation to dust generation and the mitigation measures implemented are satisfactory for the management of air quality in the vicinity of the Abel Project. The air quality monitoring program results have demonstrated compliance with the statutory criteria at all locations monitored.

Surface Water Management
Status Compliant Ongoing

The surface water monitoring program developed for the Abel Coal Project appears to be adequate to assess surface water quality in the vicinity of the underground mining activities. Surface water quality monitoring results have exhibited conformance with the *Guidelines for Fresh and Marine Water Quality,* ANZECC 2000 water quality trigger values for Lowland Rivers in NSW. The control measures within the Water Management Plan and Mining Operations Plan (MOP) are considered adequate to manage surface water quality from the operations.

Groundwater
Status Compliant Ongoing

The Groundwater Monitoring Program prepared to satisfy Project Approval Schedule 3 condition 4(i) provides comprehensive data set for the Abel Coal Project to monitor and report groundwater inflows to underground workings and provide a program to predict, manage and monitor impacts to groundwater bores on privately-owned land. The groundwater monitoring program has indicated that groundwater levels and fluctuations have generally remained consistent over the 2011 to 2014 period except for piezometers C080 and C081A, and C063A (that are located in Donaldson Coal Seam). These piezometers have demonstrated a decline in the measured standing water levels. There is no evidence of any drawdown response in the alluvium or regolith groundwater

above the coal seams. The groundwater quality in the various piezometers although variable, has not exceeded the baseline levels of parameters expressed in the Environmental Assessment and it is considered that the Abel Project activities have not had a measurable effect on the groundwater quality at this time.

Biodiversity Management
Status: Compliant

The Biodiversity Management Plan under Project Approval 05_0136 MOD 3 Schedule 4 condition 20, is required by the condition to be prepared prior to the commencement of construction of the coal conveyor. The construction of coal conveyor had not commenced at the date of this audit (March 2015).

Biodiversity Management Plans required under Project Approval 05_0136 MOD 2 Schedule 4 condition 7 - Subsidence Management Plans for Area 1, 2 and 3, and Project Approval 05_0136 MOD Schedule 3 condition 4(k) Extraction Plan, have been prepared in consultation with OEH, and provide for the management of potential impacts and/or environmental consequences of the Abel Coal Project second workings on aquatic and terrestrial flora and fauna.

Aboriginal Heritage
Status: Compliant Ongoing

The Aboriginal Heritage Management Plan prepared to satisfy Project Approval 05_0136 MOD 3 Schedule 4 conditions 22 and Statement of Commitment 11.2 in August 2014, provides satisfactory management procedures for the protection of heritage items in the Abel Coal Project area. No known items of Aboriginal heritage were disturbed as part of the operations undertaken during the 2011 to 2015 period.

1. Introduction

1.1 Background

The Project Approval 05_0136 for the Abel Coal Project was granted to Donaldson Coal Pty Ltd on 7 June 2007. Modifications were approved in May 2010 and June 2011. This Independent Environmental Audit was conducted to satisfy Project Approval 05_0136 Schedule 5 condition 5:

> *"Within 1 year of this approval, and every 3 years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:*
>
> - *be conducted by suitably qualified, experienced and independent expert/s whose appointment has been endorsed by the Director-General;*
> - *include consultation with the relevant agencies;*
> - *assess the various aspects of the environmental performance of the project, and its effects on the surrounding environment;*
> - *assess whether the project is complying with the relevant standards, performance measures and statutory requirements;*
> - *review the adequacy of any strategy/plan/program required under this approval; and, if necessary,*
> - *recommend measures or actions to improve the environmental performance of the project, and/or any strategy/plan/program required under this approval."*

The audit was conducted by Trevor Brown & Associates generally in accordance with the Australian/New Zealand Standards AS/NZS ISO 19011:2003 - Guidelines for Quality and/or Environmental Management System Auditing and the *Draft Guidelines – Independent Environmental Audits of Mining Projects*, DP&I March 2014 .

1.2 Scope of Work

The scope of work for the Independent Environmental Audit addressed the requirements of Project Approval 05_0136 Schedule 5 Condition 5 with:

- assessment of the environmental performance of the project, and its effects on the surrounding environment;
- assessment of compliance of the project with the relevant standards, performance measures and statutory requirements;
- review of the adequacy of the strategy/plans/programs required under this Project Approval; and,
- if necessary, recommendation of measures or actions to improve the environmental performance of the project, and/or any strategy/plan/program required under this approval.

1.3 Structure of the Audit Report

The audit report structure to provide an assessment of the Project Approval conditions is presented under the following sections:

Section 1 – Introduction
Section 2 – Abel Coal Project Description
Section 3 – Consents, Approvals and Licences
Section 4 – Review of Environmental Management
Section 5 – Conclusions and Recommendations
Attachment A – Abel Coal Project – Project Approval 05_0136
Attachment B – Statements of Commitments
Attachment C – Environment Protection Licence No. 12856
Attachment D – Mining Lease No. 1618 and 1653

1.4 Compliance Tables

This Independent Environmental Audit assessed the Abel Coal Mine Project activities for compliance with the intent of the Project Approval 05_0136 MOD 2 and MOD 3, Environment Protection Licence No. 12856 and Mining Lease 1618 and 1653 conditions via site inspections, document review and verification of relevant documentation related to the conditions of approval.

The compliance status with conditions of approval is expressed in the Attachments to this report as:

Status	Description
Compliant	Adequacy and appropriateness of implementation against the DA and Project Approval Conditions, or compliance with commitment made.
Compliant Ongoing	The intent and specific requirements of the condition have been met and the requirements are ongoing for the operation of Austar Coal Mine.
Non-Compliant	The intent or one or more specific requirements of the condition have not been met and is environmentally significant.
Administrative Non-compliance	A technical non-conformance with a condition of the consent that would not result in material harm to the environment.
Not active / Not applicable	Condition or requirement has an activation or requirement that had not been triggered at the time of the review, therefore a determination of compliance could not be made.
Noted	Conditions that are statements of requirement but not auditable.
Observation	A finding that is not likely to significantly affect the operations, that does not strictly relate to the scope of the audit of compliance, or an improvement opportunity has been identified.

Any non-compliance identified would be subject to a risk assessment in accordance with the *Draft Guidelines – Independent Environmental Audits of Mining Projects* section 7.2 and reported in section 5 Conclusions of this audit report.

2. Abel Underground Coal Mine Development

2.1 Project Development

The Abel Coal Mine Project (Abel Project) occurs within Mining Lease (ML) 1618, located approximately 23 km from the Port of Newcastle and 4 km south of East Maitland, NSW. The ML extends southwards from John Renshaw Drive towards George Booth Drive, and is bounded on the eastern side by the F3 Freeway and the western side by a geological feature in the vicinity of Buttai Creek. The ML has a surface area of approximately 2750 hectares.

Project Approval 05_0136 for the Abel Project was granted on 7 June 2007 for:

- extraction of up to approximately 4.5 million tonnes of Run-of-Mine (ROM) coal annually using continuous miner bord and pillar extraction underground mining methods;
- transport of extracted coal by conveyor to the Run-of-Mine (ROM) coal stockpile adjacent to the mine entry portal and surface facilities;
- transport of the ROM coal by truck along a private haul road to the Bloomfield Colliery for beneficiation at the Bloomfield Coal Preparation Plant (BCPP); and
- transport of processed coal via the existing Bloomfield rail loop and spur line off the Great Northern Railway Line, to the Port of Newcastle.

The surface infrastructure for the Abel Project is located on land owned by Donaldson Coal Pty Ltd to the north of John Renshaw Drive. The land to the south of John Renshaw Drive within the boundaries of ML 1618 is owned by Coal and Allied, the Catholic Diocese of Maitland and Newcastle, and various private land owners.

The Abel Project surface facilities and ROM stockpiles are located in the void at the base of the high wall excavated as part of the now completed Donaldson West Open Cut Coal Mine (north of John Renshaw Drive). The surface infrastructure and facilities for the Abel Project were constructed within a 9.5ha area of the West Open Cut.

Primary construction activities associated with the Abel Coal Project commenced in March 2008 with the establishment of the mine personnel and equipment access portals to the Abel Underground workings, from the Donaldson Mine West Pit box cut high wall.

Development of the Abel Mine during 2009-2010 included installation of administration facilities (including the safety and training building), bath house and associated sewerage facilities, power substation and connection of mains power.

Between April and July 2011 construction activity included the extension of the light vehicle car park and installation of a new effluent treatment system. Other minor construction works included a Survey Office adjacent the existing administration building and installation of a temporary Bath House within the existing light vehicle car park and activities associated with the temporary and long term access road for the Donaldson Open Cut Mine 'Square Pit' (to the west of the Abel Project surface facilities area.

Construction of the upcast ventilation shaft and relocation of a ventilation fan commenced in December 2011 and was completed during May 2012. Bathhouses extensions were completed in June 2012. A colour-bond shelter was also erected above the downcast ventilation shaft during May 2012 to reduce the ingress of water during rainfall events.

Areas of Donaldson Mine Lease and Bloomfield Colliery, used for Abel Project surface facilities are included in the Mining Lease 1618 area.

2.2 Coal Resource

The Abel Project resource occurs within the Permian Tomago Coal Measures Four Mile Creek formation that outcrops in the ML 1618 area and comprises six seams, the upper seams of which are extracted and blended to produce premium grade steaming coal.

The Abel Project underground workings extract coal mainly from the Upper Donaldson and Lower Donaldson coal seams. These seams dip downwards towards the south across the ML 1618 site, at approximately 5°. The roadways for the underground workings have been driven beneath John Renshaw Drive, to access the coal reserves located south of the road.

The mineable section of the Upper Donaldson Seam is within the northern and central parts of the project area, where seam thickness ranges from 1.5 to 3.3m. Depth of cover ranges from 50m in the north to 200m in the southern area of the lease. Upper Donaldson Seam washed products consist principally of semi-soft coking coal, with high ash thermal coal as a secondary product.

Mineable reserves within the Lower Donaldson Seam are within the central and southern parts of the project area, where the interval below the Upper Donaldson Seam is approximately 20m. Five longwall mining panels and four shortwall mining panels are proposed to be extracted in the area approved to be mined using bord and pillar extraction in the Lower Donaldson Seam. The depth of cover above the longwall mining area proposed in the Lower Donaldson Seam ranges from approximately 190 to 370 m. The depth of cover above the shortwall mining area proposed in the Lower Donaldson Seam ranges from approximately 150 to 300 m. Lower Donaldson Seam washed products consist principally of low and high ash thermal coal, with potential for a semi-soft coking coal product in the southeast part of the project area.

Coal extraction occurs using a combination of longwall, shortwall and bord and pillar mining.

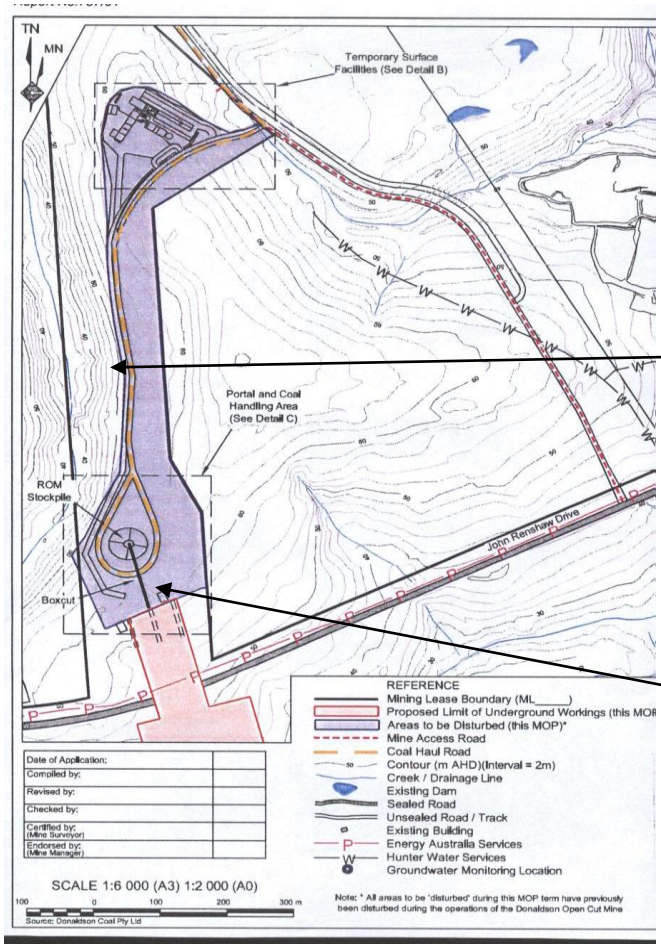
A conveyor from the underground production areas transports the Run-of-Mine (ROM) coal through the mine portal to a surge stockpile within the West Pit box-cut. Trucks transport all the ROM coal along an internal haul road from the ROM surge stockpile to the Bloomfield CPP for beneficiation.

The beneficiated coal product from the Abel Project is conveyed to the Bloomfield rail loader for transport to the Port of Newcastle, 23km to the east.

The Abel Project development at the date of this audit (March 2015) is shown in Figure 1.

Figure 1: Abel Coal Project – March 2015

Big Kahuna water storage pond (400ML)



Abel Coal Project surface layout plan

Native vegetation buffer along Four Mile Creek adjacent to an access road above the mine portals

Abel Coal Mine portal with high wall and vegetation screening along John Renshaw Drive.

Donaldson West Pit open cut high-wall showing Abel portals, looking south towards John Renshaw Drive

3. Consents, Approvals and Licenses

3.1 Project Approval

Project Approval 05_0136 was granted for the Abel Coal Project on 7 June 2007 with conditions for the overall development of the underground mine and surface facilities.

Modifications to Project Approval 05_0136 have included:

Modification No.	Modification Works
June 2010 Modification (MOD 1)	Construction of a downcast ventilation shaft at the Abel coal mine.
May 2011 Modification (MOD 2)	Installation of an upcast ventilation shaft at the Abel Coal Mine.
4 December 2013 Modification (MOD 3)	The proposed Modification to the Abel Underground Mine to involve the continuation of underground mining within the approved area (i.e. ML 1618) and approved coal seams (Upper Donaldson and Lower Donaldson seams) using a combination long-wall, short-wall and bord and pillar mining.

A summary of compliance with the Project Approval 05_0136 conditions is provided in Attachment A. A summary of compliance with the Statements of Commitment included as Project Approval 05_0136 MOD 3 Appendix 5, are provided in Attachment B.

3.2 Environment Protection Licence

Environment Protection Licence No. 12856 was issued to Donaldson Coal Pty Ltd on 9 July 2008 for the Abel Underground Mine for coal mining, coal works and extractive industries. Variations to the EPL have been:

Variation No.	Date	Variation
1104231	27 November 2009	• Coal Works amendment to Fee Based and Scheduled Activity 0 - 2000000 Tonnes of Coal handled • Delete condition L5 Waste • Amend condition O4 O4.1 Effluent application must not occur in a manner which causes surface runoff • Revise Dictionary
1502528	21 December 2011	• This notice amended the licence to include a four step assessment process for a Pollution Reduction Program

A summary of compliance with the EPL 12856 conditions is provided in Attachment C.

3.3 Mining Leases

Mining Lease 1618 was granted to Donaldson Pty Ltd on 15 May 2008 for an area of 2,755ha, for the purpose of prospecting and mining for coal. The Schedule of Mining Lease Conditions include condition 2 to 8 and 17 to 23 related to environmental management for the purposes of Section 374A(1)of the *Mining Act 1992*.

Mining Lease 1653 was granted on 21 January 2011 for an area of 2500 square metres for the development of surface facilities (ventilation shaft) associated with the Abel Mine underground workings. The Schedule of Mining Lease Conditions include condition 2 to 7 and 12 to 16 related to environmental management for the purposes of Section 374A(1)of the *Mining Act 1992*.

An initial Mining Operations Plan (MOP) for the Abel Underground Mine was prepared for the period December 2008 to December 2009 and approved by DPI-Minerals on the 2 December 2008. A further MOP was prepared for the period 1 January 2010 to 31 December 2016.

A summary of compliance with the Mining Lease environmental management conditions is provided in Attachment D.

3.4 Bore Licences

Groundwater impacts involve water takes regulated by both the *Water Act 1912* and the *Water Management Act 2000*.

The predicted maximum water takes from the relevant water sources for the currently approved Abel Mine plan are detailed in Table 3.4. The affected water sources under the *Water Management Act 2000* are the Wallis Creek Water Source and the Newcastle Water Source in the Hunter Unregulated and Alluvial Water Sharing Plan (HUAWSP). The predicted mine inflows are from the Hard Rock water source which is regulated by the *Water Act 1912*.

Table 3.4: Predicted Maximum Water Takes from Approved Mine (MOD 3 Modification)

Water Sharing Plan	Management Zone / Groundwater Source	Currently Approved Maximum Annual Water Take (ML/y)
HUAWSP	Wallis Creek Water Source	0.19
	Newcastle Water Source	11.39
Water Act 1912	Hard Rock	2,304

Operations to date have not exceeded the maximum approved water take from any water source.

Donaldson Coal Pty Ltd has Bore Licence Certificates issued under the *Water Act 1912* section 115:

- Bore Licence Number 20BL171935 issued on 5 August 2008 located on DP109/1100314 for a mining bore authorising groundwater extraction not to exceed 500ML in any 12 month period; and
- Bore Licence Number 20BL172530 issued on 3 August 2010 for a groundwater monitoring bore located on DP1131/1057179.

3.5 RTA Section 138 Approval

Approval was granted on 23 June 2008 for the construction of the mine portals beneath John Renshaw Drive (MR588) for the establishment of the access roadways into the coal deposits of the Abel underground mine in the area of ML 1618. The portal works under John Renshaw Drive was completed in 2008 in accordance with the section138 approval under the *Roads Act 1993*.

4. Review of Environmental Management

4.1 Environmental Management Strategy (EMS)

[Project Approval 05_0136 Schedule 6 condition 1]
[Statement of Commitment 12]

The Environmental Management Strategy prepared for the Abel Project is part of an Integrated Environmental Management Strategy (IEMS) developed for the Abel, Tasman and Donaldson Coal Mine projects. The IEMS was submitted to DoP on 7 December 2007 and approved on 26 February 2008. The IEMS documentation was developed generally in accordance with the elements of ISO14001.

Table 4.1 Environmental Management Strategy vs AS/NZS ISO14001 Elements

ISO 14001 Element	Construction Environmental Management Plan section
4.2 Environmental Policy	Section 9 Environmental Policy
4.3.1 Environmental Aspects	Section 10.1 Environmental Aspects Manual
4.3.2 Legal and Other Requirements	Section 7 Relationship between Relevant Consent Conditions, ISO 14000 and Sections of the EMS
4.3.3 Objectives and Targets	Section 10.4 Environmental Objectives and Targets
4.3.4 Environmental Management Programs	Section 10.3 Environmental Management Programs and Operational Plans
4.4.1 Structure and Responsibility	Section 12.5 Roles and Responsibilities
4.4.2 Training Awareness and Competence	Section 12.1 Training and Awareness Program Environmental Awareness Training
4.4.3 Communication	Section 12.2 Communications and Public Relations
4.4.7 Emergency Preparedness and Response	Section 11 Incident Response
4.5.1 Monitoring and Measurement	Section 13.2 Monitoring and Measurements
4.5.2 Non-conformance, Corrective and Preventative Action	Section 13.3 Non-conformance and Corrective Actions

Any updates or changes to environmental management procedures for the project are achieved through revision of the relevant Environmental Management Plans in accordance with IEMS Operating Manual (EOM-001) Section 13.5.

4.1.1 Conclusion:

Environmental Management Strategy Status: Compliant

The Environmental Management Strategy prepared under Project Approval 05_0136 Schedule 6 condition 1 and Statement of Commitment 12, satisfies the requirements of the Project Approval condition and Statement of Commitment and the components of the Integrated Environmental Management Strategy generally address the elements of ISO14001. The strategy provides a sound basis for the environmental management of the project.

4.2 Environmental Monitoring

[Project Approval 05_0136 MOD 2 Schedule 5 condition 2]
[Statement of Commitments 3.3, 4.4, 5.5, 7.1 and 8.3, 10 and 11.12]

4.2.1 Environmental Monitoring Program

[Project Approval 05_0136 MOD 2 Schedule 5 condition 2]

The monitoring programs for each of the environmental aspects included in the management plans were collated into an Integrated Environmental Monitoring Program (IEMP) dated December 2007. The monitoring

programs are reviewed and updated as required in accordance with IEMS Operating Manual EOM-001 Section 13.5. The environmental monitoring programs include:

- Aboriginal and Cultural Heritage Monitoring
- Air Quality
- Blasting
- Flora and Fauna
- Noise
- Water Management (Surface and Groundwater)
- Meteorological Monitoring

The results from the monitoring programs are summarised in the Annual Environmental Management Report (AEMR)/Annual Review (AR) with data presented in the AEMR Appendices.

4.2.2 Conclusion:

Environmental Monitoring Status: **Compliant**

The Integrated Environmental Monitoring Program is considered adequate to provide data for the assessment of the environmental performance of the Abel Project operations in relation to compliance with the statutory standards and criteria and to determine compliance with the intent of the Project Approval, EPL and ML conditions.

4.3 Subsidence Management

[Project Approval 05_0136 MOD 1 and 2, Schedule 4 condition 7]
[Project Approval 05_0136 MOD 3, Schedule 3 condition 1 to 12]
[Mining Lease 1618 condition 8]

4.3.1 Subsidence Management Plans

[Project Approval 05_0136, MOD 2, Schedule 4 condition 7]
[Mining Lease 1618 condition 8]

Subsidence Management Plans for Areas 1, 2, and 3 were prepared in accordance with the "*New Approval Process for Management of Coal Mining Subsidence – Policy and Guideline for Applications for Subsidence Management Approvals"*, and submitted to the Director-General of DPI/DI&I/DTIRIS for approval prior to the commencement of underground mining operations in each Area:

- SMP Area 1 — Panels 1 to 14 and East Mains approved 27 May 2010. A variation was approved on 29 September to remove Panels 9 to 13 from the SMP area (due to operational difficulties encountered with geological structures).
- SMP Area 2 — Panels 14 to 26 was approved 7 December 2011. Variations were made for the removal of Panel 14, shortening of Panels 15 to 19 and partial pillar extraction in Panels 20 to 22.
- SMP Area 3 — Panels 23 to 26 and part of the East Install Headings was approved 16 July 2012. A variation to increase the width to part of Panel 24 was approved on 23 December 2013.
- Extraction Plan Area 4 — Panels 27 to 35 Appendix K - Subsidence Management Plan, was approved 19 September 2014.

4.3.2 Extraction Plan

[Project Approval 05_0136 MOD 3, Schedule 3 condition 4]

The Extraction Plan was prepared for Area 4 to satisfy Project Approval 05_0136 MOD 3, Schedule 3 condition 4. The Extraction Plan was approved on 19 September 2014.

The Extraction Plan includes the following sub-plans prepared for the management of aspects related to the underground mining operations:

- Built Features Management Plans;

- Water Management Plan;
- Biodiversity Management Plan;
- Land Management Plan;
- Heritage Management Plan;
- Public Safety Management Plan;
- Subsidence Monitoring Program; and
- Rehabilitation Management Plan

4.3.3 Subsidence Monitoring

[Project Approval 05_0136 MOD 3, Schedule 3 condition 4(o)]

Subsidence monitoring has been conducted in accordance with the monitoring program included in the approved Subsidence Management Plans for Areas 1 to 3 and the Extraction Plan – Subsidence Monitoring Program for Area 4 prepared to satisfy Project Approval 05_0136 MOD 3, Schedule 3 condition 4.

All subsidence, tilt and strain results for long-wall panels actively worked during the reporting period were within the predicted range except for the following:

Table 4.5.3a: Subsidence Monitoring Exceedances of Predicted Range 2011 to 2014

Period	Active Panels	SMP Prediction	
2013 - 2014	Panel 19	1,200mm subsidence 25mm/m tilt	1,280mm subsidence 28mm/m tilt
2012 - 2013	East Install Headings	24 to 35mm/m	44mm/m tilt
2011 - 2012	Panels 5	41 to 46mm/m tilt	68mm/m tilt
	Panel 6	17 to 18mm/m Compressive strain 39 to 41mm/m tilt	21mm/m Compressive strain 89.6mm/m tilt
	Panel 15	19 to 32mm/m tilt	47mm/m tilt

Table 4.4.3b: End-of-Year Subsidence Monitoring Summaries 2011 to 2014

Active Panels during Reporting Period	Subsidence Monitoring Results
2013 - 2014	
Panels 19, 22, 23, 24, 24A, 25 and East Mains Headings	The SMP End of Year Report 2013 and Subsidence Management Status Report May 2014 monitoring results indicated that all subsidence, tilt and strain results for Panels actively worked during the period were within the predicted range except for Panel 19 which recorded minor exceedances in some areas above the panel: • No exceedances of predicted cracking occurred, with any remedial works carried out in consultation with landholders and infrastructure owners. • Impacts on Blackhill Road due to mining within Panels 23 and 24 were within predictions (cracking typically 50mm to 80mm). The 24hr monitoring and repair program for the road was implemented and the road remained in a safe and serviceable condition. • All subsidence impacts on the Hunter Water Corporation Waterline or Ausgrid Power Poles or TransGrid Transmission Towers were within predicted levels, with the infrastructure remaining in a safe and serviceable condition. • There were no other observed and/or reported subsidence impacts, incidents, service difficulties, or community complaints during the reporting period that would require notification under the SMP approvals. • Monitoring results displayed no discernible trends.
2012 - 2013	

Active Panels during Reporting Period	Subsidence Monitoring Results
Panels 8, 19A, 20, 21, 22, East Mains, Tailgate Headings and East Install Headings.	With the exception of the East Install Headings 44mm/m tilt recorded (SMP predicted 24 to 35mm/m) all subsidence, tilt and strain results for Panels 8, 20, 21, Tailgate Headings, and East Main Headings) during 2012-2013 were within the predicted ranges. The SMP End of Year Report dated 31 March 2013 and Subsidence Management Status Report, results of visual monitoring were: • No exceedances of predicted cracking, and no notification was required during the reporting period. • No subsidence impacts on the Hunter Water Corporation Waterline or Ausgrid Power Poles or TransGrid Transmission Towers were recorded. • No other observed and/or reported subsidence impacts, incidents, service difficulties, community complaints during the reporting period. • Monitoring results displayed no discernible trends.
2010-2011	
Panels 1 to 3 and part of Panel 4	Visual monitoring of the areas above the Area 1 mining indicated: • Some minor surface cracking and ponding occurred (generally as predicted within vegetated areas and compacted access roads and tracks). Remedial/repair works to any impacted areas were carried out by Abel Project in consultation with the landowner. ○ Surface cracking 200mm in width occurred on an access track above Panels 1 to 3 (which exceeded the predicted 30mm to 150mm where depths of cover exceed 80m). The crack in the compacted area of the track was remediated by the Abel Project. ○ Surface cracking 375mm in width in a clay capped area above Panel 4 occurred (which exceeded the predicted 260mm where depths of cover are less than 80m). This cracking was remediated by Abel Project. • Minor seepage from a connector to a former water supply pipeline was identified and repairs undertaken. • Apparent sag of power lines occurred between Energy Australia Power Poles 17 and 18. Energy Australia was notified and the conductors lifted to reinstate clearance.

4.3.4 Conclusion:

Extraction Plan Status: **Compliant**

The Subsidence Management Plans for Areas 1 to 3 and Extraction Plan for Area 4 were prepared and approved to satisfy Project Approval 05_0136 MOD 1 and 2, Schedule 4 condition 7 and Project Approval 05_0136 MOD 3, Schedule 3 condition 4 respectively.

The subsidence monitoring generally demonstrated compliance with predictions in the Subsidence Management Plans for Areas 1 to 3 and Extraction Plan for Area 4 for subsidence, compressive strain and tilt, except for Panels 5, 6 and 15 in 2011-2012), East Install Headings (2012-2013) and Pane 19 (2013-2014).

Monitoring has indicated some minor surface cracking and ponding had occurred, generally as predicted within vegetated areas and compacted access roads and tracks, and these minor subsidence impacts were remediated by Abel Project.

4.4 Land Management

[Project Approval 05_-136 MOD 2, Schedule 4 condition 19]
[Project Approval 05_-136 MOD 3, Schedule 4 conditions 27 to 29]
[Statement of Commitment 12]

4.4.1 Land Management Plan

[Project Approval 05_-136 MOD 2, Schedule 4 condition 19]

A Landscape Management Plan (including the Rehabilitation Management Plan) was submitted to the Director-General within 6 months of granting of Project Approval 05_0136. The consultants who prepared the Landscape Management Plan, (i.e. Colin Driscoll of Hunter Eco; Rod Masters of GSS Environmental and Mark Burns of Global Soil Services) were endorsed by the Director-General on 26 June 2007. Consultation occurred with the Maitland City Council and Cessnock City Council, DWE and the DECC during the preparation of the Plan.

The Landscape Management Plan was prepared to provide a clear and concise description of responsibilities in relation to Landscape Management (including Rehabilitation, Final Void Management & Mine Closure) during the operation and subsequent closure of the Abel underground coal mine.

4.4.2 Rehabilitation Management Plan

[Project Approval 05_-136 MOD 3, Schedule 4 condition 29]
[Statement of Commitment 12]

A Rehabilitation Management Plan was prepared to satisfy Project Approval 05_0136 MOD 3, Schedule 4 condition 29, by GSS Environmental in August 2014.

The key elements of the rehabilitation strategy in this plan include:

- Setting long-term rehabilitation objectives (Table 2 of the Rehabilitation Management Plan);
- Developing specific Rehabilitation Criteria (section 6.0 of the Rehabilitation Management Plan;
- Specifying and implementing current best practice rehabilitation procedures; and
- Monitoring, continuous improvement feedback and eventual signoff on rehabilitation of the disturbed area for relinquishment of the ML (section 7 of the Rehabilitation Management Plan).

Rehabilitation strategies outlined in the Rehabilitation Management Plan will be further developed and refined in the Abel Mining Operations Plans (MOP) that will detail rehabilitation progress in the MOP term, rehabilitation methodologies for activities in the MOP term, and mine closure planning detail appropriate for the expected remaining life of the project.

4.4.3 Rehabilitation Objectives

[Project Approval 05_0136 MOD 3, Schedule 4 condition 27]

The rehabilitation objectives for the Abel Coal Project are identified in Project Approval 05_0136 MOD 3 Schedule 4 condition 27, and are generally consistent with the objectives described in the Environmental Assessment section 2.12.

Table 4.4.2: Rehabilitation objectives identified (Project Approval 05_0136 MOD 3 Schedule 4 condition 27)

Feature	Objective
Mine site (as a whole).	• Safe, stable & non-polluting; and • Final land use compatible with surrounding land uses.
Surface infrastructure	• To be decommissioned and removed, unless the Executive Director Mineral Resources agrees otherwise
Portals and ventilation shafts	• To be decommissioned and made safe and stable; and • Retain habitat for threatened species (e.g. bats), where practicable
Watercourses within the project area	• Hydraulically and geomorphologically stable.
Cliffs	• No additional risk to public safety compared to prior to mining.
Other land affected by the project	• Restore ecosystem function, including maintaining or establishing self-sustaining ecosystems comprised of: - local native plant species (unless the Executive Director Mineral Resources agrees otherwise); and - a landform consistent with the surrounding environment.

Feature	Objective
Built features damaged by mining operations	• Repair to pre-mining condition or equivalent unless: - the owner agrees otherwise; or - the damage is fully restored, repaired or compensated under the *Mine Subsidence Compensation Act* 1961
Community	• Ensure public safety; and • Minimise the adverse socio-economic effects associated with mine closure

Long term rehabilitation objectives have been developed in the Abel Coal Project Rehabilitation Management Plan (2014) for stabilisation of the following project domains:

- Domain 1: West Pit Open Cut (Box-cut that includes the Square Pit) associated with the Abel Project;
- Domain 2: Surface infrastructure areas, including temporary / permanent surface facilities, coal haulage roads/conveyor route, vent shaft sites and Bloomfield CHPP; and
- Domain 3: Mine Subsidence Areas impacted by subsidence not captured in Domains 1 or 2;

Domain	Rehabilitation Objectives
Domain 1 Pit / Final Void	• Final voids including the box-cut will be made safe, geotechnically stable and non-polluting; • Catchments reporting to the final voids will be minimised with the use of diversion banks and drains; • Where required the eastern, western and southern walls of the box cut will be battered back to 18 degrees or less. The northern side will be battered to 10 degrees or less. • The final void will be rehabilitated with exotic pasture species.
Domain 2: Surface Infrastructure Areas	• All surface infrastructure will be decommissioned and removed (unless the Executive Director Mineral Resources agrees otherwise); • The mine portal and ventilation shafts will be decommissioned and sealed in accordance with regulatory guidelines; • Surface infrastructure areas will be made safe, geotechnically stable and non-polluting; • Disturbed areas will be rehabilitated with exotic pasture species.
Domain 3: Mine Subsidence Areas	• All areas will be safe, geotechnically stable and non-polluting. • Watercourses will be hydraulically and geomorphologically stable; • Areas impacted by subsidence will be rehabilitated with native vegetation to restore ecological function, using local native plant species (unless the Executive Director Mineral Resources agrees otherwise); • Built features impacted by subsidence will be repaired to the pre-mining condition or equivalent, unless otherwise agreed by the relevant land and/or asset owner.

4.4.4 Rehabilitation Progress

The Abel Project is an underground operation so surface disturbance is currently limited to administrative offices/bath house/maintenance facilities/car parks and portal and stockpiles on the infrastructure area near the West Pit high wall of the Donaldson open cut. These facilities are all contained within an area of 9.5ha and are developed for the long term use by the Abel Project. Rehabilitation of these areas will occur when the Abel Coal Project is decommissioned.

Limited rehabilitation of areas disturbed during and following the construction of the Abel Project has been undertaken. Rehabilitation works of disturbed areas has occurred for the extended light vehicle car park batter, the tertiary treatment septic system area, vegetation of batters along Four Mile Creek and the visual bund on the northern side of John Renshaw Drive.

A summary of the areas disturbed by the Abel Coal Project and rehabilitated between 2011 and 2015 is presented in Table 4.11.3.

Table 4.11.3: Rehabilitation Summary 2011 to 2015

	Area Affected (ha)				
	2011	2012	2013	2014	2015
A. Mine Lease Area	2655	2755	2755	2755	2755
B. Disturbed Areas					
B1. Infrastructure Area	10.44	11.02	11.02	11.02	11.02
B2. Active Mining Area Surface	0	0	0	0	
B2. Active Mining Area Underground	123.3	147	278	344	451
B3. Waste Emplacements (active/unshaped/in or out-of-pit)	0	0	0	0	0
B4. Tailings Emplacement (active/unshaped/in or out-of-pit)	0	0	0	0	0

4.4.5 Conclusion:

Rehabilitation Status: Compliant

An approved Landscape Management Plan/Rehabilitation Management Plan was developed for the long term rehabilitation of the Abel Project, to satisfy the requirements of the Project Approval 05_136 MOD 2 Schedule 4 condition 20. The Rehabilitation Management Plan (2014) prepared to satisfy Project Approval 05_-136 MOD 3, Schedule 4 condition 29 and Statement of Commitment 12, provides rehabilitation objectives for monitoring rehabilitation and sign-off that objectives have been met.

The Abel Coal Project areas that will not be further disturbed including the extended light vehicle car park batter, the tertiary treatment septic system area, vegetation of batters along Four Mile Creek and the visual bund on the northern side of John Renshaw Drive, have been progressively rehabilitated.

Plate 4.4.3a: Vegetated bund along Four Mile Creek alignment adjacent to the Abel Coal Project portal and box-cut high wall.

Plate 4.4.3b: Vegetative screen along the West Pit high-wall, north of John Renshaw Drive

4.5 Noise

[Project Approval 05_0136 MOD 2, Schedule 4 condition 23 and 24]
[Project Approval 05_0136 MOD 3, Schedule 4 conditions 1 to 6]

[Statement of Commitment 3]

4.5.1 Noise Management Plan

[Project Approval 05_0136 MOD 2, Schedule 4 condition 24]
[Project Approval 05_0136 MOD 3, Schedule 4 condition 6]

A Noise Monitoring Program submitted to the Director-General in September 2007, was approved 2 June 2008.

The Noise Management Plan prepared to satisfy Project Approval 05_0136 MOD 3, Schedule 4 conditions 6 was prepared by SLR for the Abel Coal Project and submitted to the DP&E in August 2014.

Noise mitigation measures implemented for the operation of the Abel Coal Project have included:

- The ventilation fan for the underground workings was installed below the Donaldson Open Cut Mine high wall, reducing the potential for noise impacts on any surrounding receivers;
- The surface vehicles and equipment used near the portal to the Abel underground mine are fitted with reversing 'quackers' rather than beepers and equipment is operated below the West Pit high wall, mitigating potential noise impacts at the natural surface level.
- Bloomfield CHPP has had noise screening enclosures fitted to its drives and conveyors to reduce potential noise impacts at residences to the north of the BCPP.

4.5.2 Noise Criteria

[Project Approval 05_0136 MOD 3, Schedule 4 conditions 1 and 2]

Project Approval 05_0136 MOD 3, Schedule 4 conditions 1 and 2 dated December 2013, adjusted applicable noise criteria and monitoring to the requirements of MOD 3 conditions and monitoring commenced at Location I and ceased at Location A in March 2014. The Project Approval 05_0136 MOD 3 requires that the noise generated by the project does not exceed the following criteria at any residence on privately-owned land.

Table 4.5.2: Operational noise criteria dB(A) [Table 4 Project Approval 05_0136 MOD 3 condition 1]

Location	Receiver Area	Day	Evening	Night	
		LAeq (15 min)			LA1 (1 min)
I	Lord Howe Drive, Ashtonfield	36	36	36	45
K	Catholic Diocese Land	37	37	37	45
L	Kilshanny Avenue, Ashtonfield	40	40	40	47
All other locations	All other privately owned residences	35	35	35	45

4.5.3 Noise Monitoring

[Statement of Commitment 3.3]

Quarterly noise monitoring for the Abel Mine commenced in December 2008 as an extension of the monitoring survey previously undertaken for the Donaldson Open Cut Coal Mine. The Integrated Noise Monitoring Program for Abel Project and Donaldson Mine provides for quarterly attended and unattended noise surveys (conducted in March, June, September and December) at twelve (12) locations four of which could be potentially affected by the Abel Coal Project activities.

The findings of the monitoring surveys were that the Abel Mine operations were generally inaudible at all monitoring locations with noise measured attributable to non-mine related traffic, birds, cricket, insect and frog noise, wind and other extraneous sources. During some monitoring events operations were audible at Locations F and L. The estimated contribution from the Abel operations was assessed as being below the criteria excepting during the June 2013 night time period at Location L where contributing levels were 2dBA above the criteria.

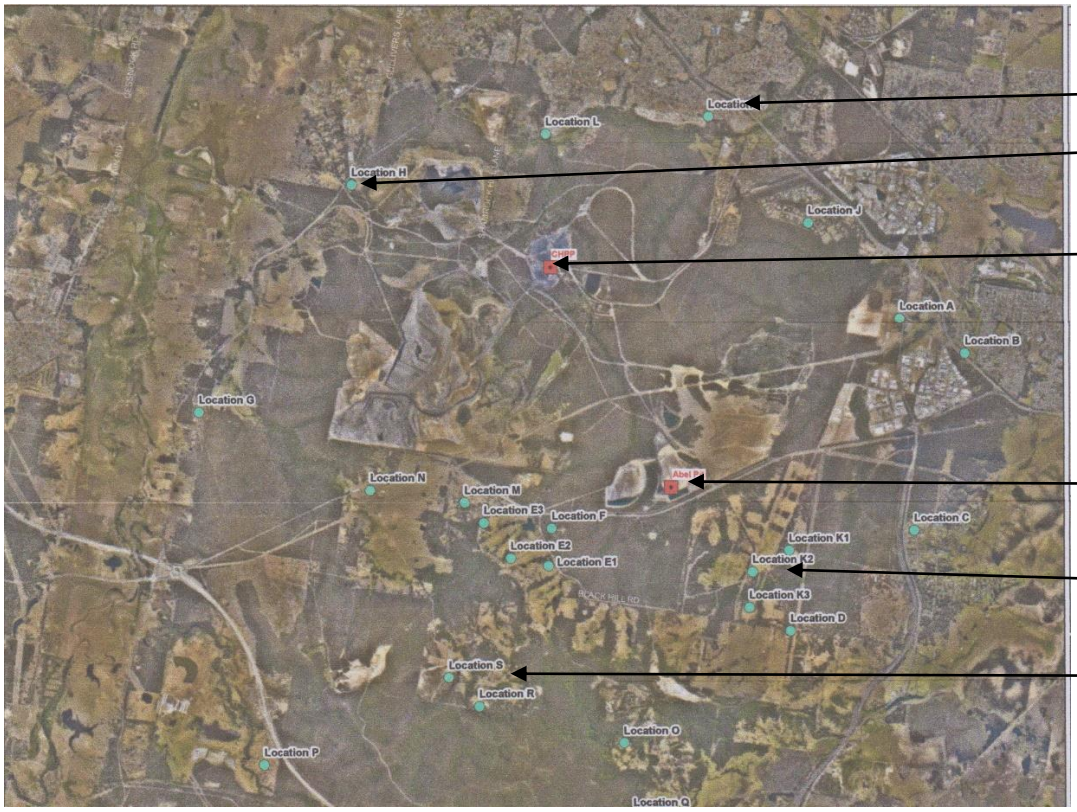


Figure 4.5.3: Sensitive Noise Receivers and Noise Monitoring Locations (Table 4 Project Approval 05_0136 MOD 3 condition 1)

(Note: SLR (2013) confirmed that the NSW Industrial Noise Policy 2000 states that a development is deemed to be non-compliant if the monitored noise level exceeds the criteria by more than 2dBA. As the exceedance was not greater than 2dBA, compliance is considered to have been achieved).

As the Abel Mine operations were inaudible at the locations of the sensitive receivers where monitoring was conducted, the noise monitoring surveys concluded that noise contribution would not have exceeded the noise goals (including night time sleep disturbance criteria ($LA_{1(1min)}$).

4.5.4 Conclusion:

Noise Management Status: Compliant

The Noise Management Plan implemented for the Abel Coal Project complies with the requirements of Project Approval 05_0136 MOD 3, Schedule 4 condition 6. Quarterly noise monitoring surveys of the Abel Coal Project mine operations have consistently demonstrated that the mine operations were inaudible at the locations nominated in Project Approval MOD 2, Schedule 4 condition 23. The noise survey results have indicated that the Abel Project noise contribution to the noise experienced at the receivers would not exceed the specified criteria and are therefore in compliance with the Project Approval.

4.6 Air Quality

[Project Approval 05_0136 MOD 3, Schedule 4 condition 7 to 12]
[Statement of Commitment 4]

4.6.1 Air Quality and Greenhouse Management Plan

[Project Approval 05_0136 MOD 3, Schedule 4 condition 11]

An Air Quality Monitoring Plan was prepared in consultation with the DEC and submitted to the Director-General on 7 December 2007. The Air Quality Monitoring Plan was revised and approved by DoP on 26 February 2008.

The Integrated Environmental Monitoring Program for the Abel, Donaldson and Tasman Projects (2007) included the monthly sampling from ten (10) dust deposition gauges (with four locations specifically for the Abel Project), continuous 6 day cycle for two (2) High Volume Air Samplers (HVAS), a continuous 24 hour DustTrak (PM_{10}) monitor, and a GRIMM (PM_{10} and PM_{25}) analyser operated twice per year.

The Air Quality and Greenhouse Management Plan prepared by Todoroski Air Sciences on 4 August 2014 to satisfy the requirements of Project Approval 05_0136 MOD 3, Schedule 4 condition 11 was submitted to the DP&E in August 2014. This Air Quality and Greenhouse Management Plan has been implemented for the Abel Project.

4.6.2 Air Quality Criteria

[Project Approval 05_0136 MOD 3, Schedule 4 condition 9]

The criteria for the particulate emissions generated by the Abel Coal Project at any residence on privately owned land are specified in Project Approval 05_0136 MOD 3, Schedule 4 condition 9:

Long term criteria for particulate matter

Pollutant	Averaging Period	Criterion
Total suspended particulate (TSP) matter	Annual	90µg/m^3
Particulate matter <10µm (PM_{10})	Annual	30µg/m^3

Short term criterion for particulate matter

Pollutant	Averaging Period	Criterion
Particulate matter <10µm (PM_{10})	24 hour	50µg/m^3

Long term criteria for deposited dust

Pollutant	Averaging Period	Max increase in deposited dust level	Maximum total deposited dust level
Deposited Dust	Annual	2g/m^2/mth	4g/m^2/mth

4.6.3 Air Quality Monitoring Program

[Project Approval 05_0136 MOD 3, Schedule 4 condition 11(e)]
[Statement of Commitment 4.4]
[EPL 12856 condition P1.1]

The Abel Project air quality monitoring network implemented at the date of this audit includes:

- A meteorological station to record wind speed, wind direction, sigma-theta and temperature at 10-minute intervals, equipped and operated in accordance with AS 29221987.
- Eleven (11) dust deposition gauges to measure monthly average dust deposition levels in accordance with AS / NZS 3580.10.1:2003.
- One high volume air sampler fitted with a PM_{10} size selective inlet and operated on a one-day in-six cycle in accordance with AS / NZS 3580.9.6:2003.
- One high volume air sampler fitted with TSP inlet and operated on a one-day-in-six cycle in accordance with AS / NZS 3580.9.3:2003.

4.6.4 Air Quality Monitoring Results

[Project Approval 05_0136 MOD 3, Schedule 4 condition 11]

The dust monitoring results for 2012 to 2015 have demonstrated compliance with the air quality criteria in Project Approval MOD 3, Schedule 4 condition 9, for dust deposition, TSP and PM_{10}:

- Dust deposition was less than 4g/m^2/mth at all sites;
- All TSP monitoring results were less than 90µg/m^3 ;
- All PM_{10} monitoring results were less than50µg/m^3.

4.6.5 Conclusion

Air Quality Status: **Compliant**

The Air Quality and Greenhouse Management Plan prepared for the Abel Coal Project addresses the requirements of Project Approval 05_0136 Schedule 4 condition 11. The management of the Abel Coal Project operations in relation to dust generation and mitigation measures are satisfactory for the management of air quality in the vicinity of the Abel Project. The air quality monitoring program results have demonstrated compliance with the statutory criteria at all locations monitored.

4.7 Water Management

[Project Approval 05_0136 MOD 2, Schedule 4 Conditions 10 to 15]
[Project Approval 05_0136 MOD 3, Schedule 4 Conditions 13 to 17]
[Statement of Commitments 6 to 8]

4.7.1 Water Management Plan

[Project Approval 05_0136 MOD 2, Schedule 4 Conditions 11]
[Project Approval 05_0136 MOD 3, Schedule 4 Condition 17]

A Water Management Plan was prepared by consultants (Dr Steve Perrens of Evans & Peck and Peter Dundon of Peter Dundon & Associates) in consultation with the DECC and DWE to satisfy Project Approval 05_0136 MOD 2 Schedule 4 Conditions 11 and approved by DP&I on 5 May 2008. The Abel Project water management was integrated with the Water Management Plan for the Donaldson Coal and Bloomfield Collieries (adjoining mining operations).

The 2014 Water Management Plan for the Abel Project was prepared to satisfy Project Approval 05_0136 MOD 3 Schedule 4 Condition 17 by a team of suitably qualified and experienced persons approved by the Director-General. The team comprised Donaldson Coal Pty Ltd (agency consultation) Evans & Peck (surface water), and Andrew Fulton (groundwater. The 2014 Water Management Plan was a revision of the 2008 Water Management Plan and provides an overarching management system to ensure the maintenance of best practice controls to manage potential surface water and groundwater impacts during the Abel Project operations.

4.7.2 Site Water Management

[Project Approval 05_0136 MOD 3, Schedule 4 Condition 17]
[Statement of Commitments 5 and 6]

The water management system for the Abel Underground Mine is integrated with the water management system of the adjacent Bloomfield Coal Handling and Preparation Plant (CHPP). ROM coal is transferred from Abel Underground Mine to Bloomfield CHPP for processing. Water from the Abel Cola Project is also transferred to Bloomfield for use as part of the coal processing operations. Formal agreements are in place between Donaldson Coal Pty Ltd and Bloomfield, including protocols relating to the transfer of water from the Abel Coal Project to Bloomfield site.

The key principles for surface water management for the Abel Project detailed in the Statement of Commitments are:

- separation of clean and dirty water sources on the Abel Project site;
- minimising demand for fresh water supply by storage and recycling water collected on the site;
- management and control of stormwater runoff;
- minimising sediment generation, soil erosion and potential transport off-site; and
- discharge of water (if required) only occurs from licensed discharged points in accordance with EPL conditions.

The surface water management system for the Abel Coal Project comprises the following aspects:

- All surface water runoff is directed to the Big Kahuna dam (capacity 400 ML) from the Abel Mine Facilities area, West Pit (containing ROM stockpiles) and Square Pit;
- Water transferred from the Abel Project to the Big Kahuna water storage (within the Donaldson Coal Mine lease area) can be pumped to the Bloomfield CHPP for reuse, as required, as part of the approved Abel Project Water Management Plan;
- Water from the Big Kahuna dam is used for on-site operation purposes, principally dust suppression;
- Water is periodically transferred from the Big Kahuna dam to Lake Kennerson (Bloomfield) via a pipeline (capacity 8 ML/day);
- Water for underground operational purposes can also be drawn from the Hunter Water potable supply; and
- When conditions permit (under the Donaldson Coal EPL 11080), water may be discharged to Four Mile Creek from the Big Kahuna dam.

4.7.3 Site Water Balance

[Project Approval 05_0136 MOD 3, Schedule 4 Condition 17(a)]

A Site Water Balance prepared by Dr Steve Perrens of Evans & Peck in consultation with the DECC and DWE, was approved by DoP on 5 May 2008.

A detailed surface water management model was developed for the Abel Coal Project to establish the overall performance of the water management systems associated with the Donaldson Mine, Abel Project mine and the Bloomfield CHPP facility.

The water management system associated with the Abel Project utilises the Big Kahuna dam to store water for use by the mine and as a temporary storage for either transfer to Bloomfield CHPP or discharge to Four Mile Creek when conditions permit.

The sources of water contributing to the Abel Underground Mine water balance are:

- Water make in the underground workings;
- Surface runoff from the surface operations area in the West Pit, and surface runoff collected in the Donaldson Square Pit;
- Surface runoff from the Mine Facilities area (workshops and offices); and
- Direct rainfall on the Big Kahuna dam.

All stormwater runoff within the Abel Coal Project operational areas is contained and directed to the Big Kahuna dam. Dust suppression for haul roads and ROM stockpiles is sourced from the Big Kahuna dam.

Mine water is the dominant factor in the overall site water balance and ensures security of supply for the water needed for mine operations.

The mine site water balance model indicates that water generated from the Abel underground mine will exceed the requirements of the Abel Project operations and the excess water would be utilised by transferring water to Bloomfield for the CHPP.

4.7.4 Surface Water Monitoring

[Project Approval 05_0136 MOD 1 and 2, Schedule 4 condition 14]
[Project Approval 05_0136 MOD 3, Schedule 4 condition 17(b)]
[Statement of Commitment 7]

An Integrated Environmental Management Program (IEMP) was developed in 2007 to collect and share data between Donaldson, Abel, Bloomfield and Tasman Mines. The Surface Water Monitoring Program, prepared as part of the Water Management Plan by Dr Steve Perrens of Evans & Peck in consultation with the DECC and DWE, was approved by DoP on 5 May 2008.

The objective of the surface water monitoring for the Abel Coal Project was to detect indirect impacts from underground mining activities and activities on the surface infrastructure area, on the natural surface water resources.

Surface Water Monitoring Sites

Groundwater Monitoring Sites

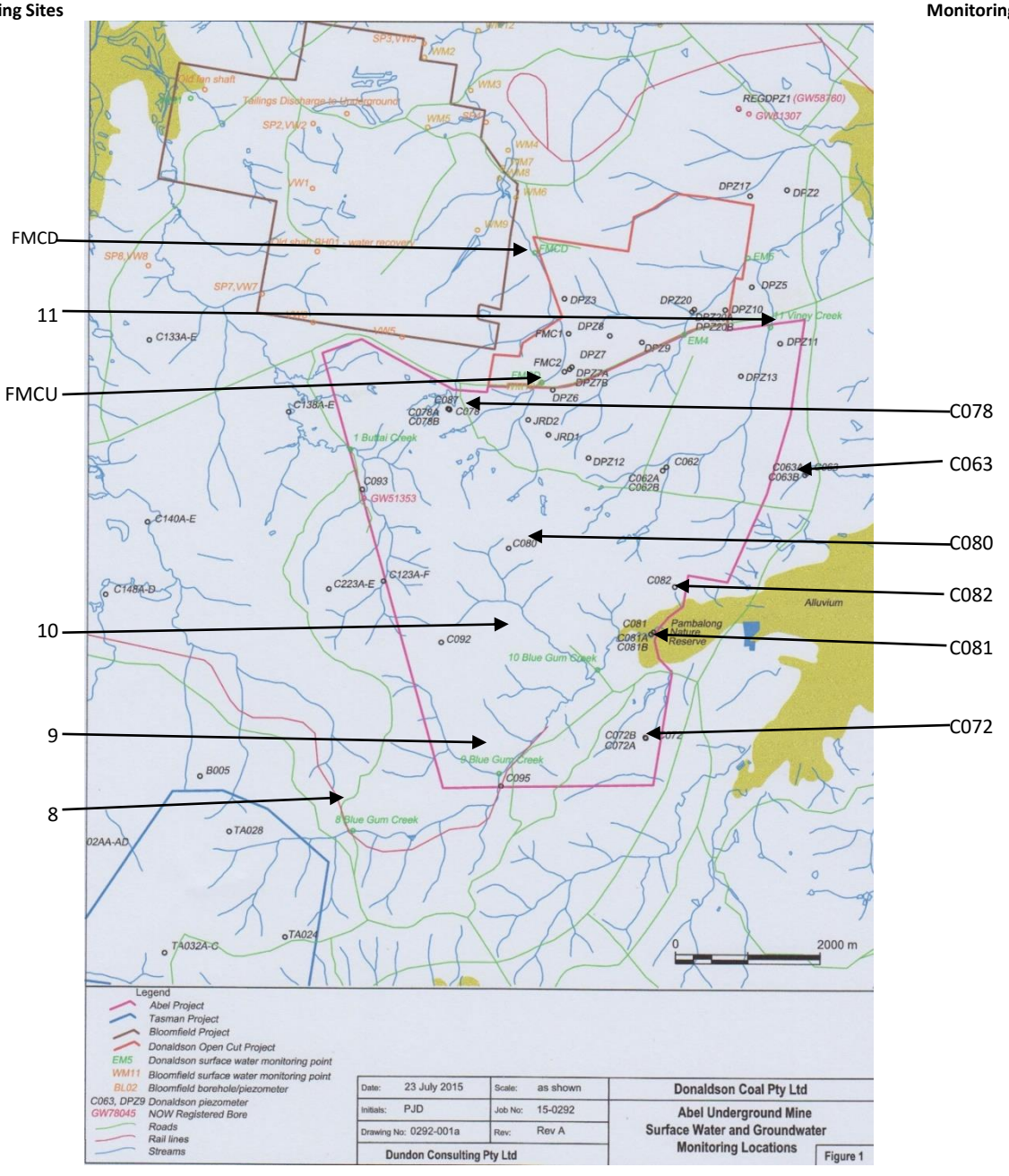


Figure 4.7.4: Abel Underground Mine Surface Water and Groundwater Monitoring Sites

Overall site water management involves optimum use of water collected on site, from mine inflows and collected runoff from mine disturbance areas, and ultimate transfer to a 400 ML storage dam known as the Big Kahuna, which is located on the former Donaldson Open Cut. Surplus water from the Big Kahuna is transferred to the Bloomfield Wash Plant as part of an integrated water management system across the Bloomfield and Abel-Donaldson sites.

Excess water generated underground is transferred to a sump storage adjacent to the Abel mine portal in the West Pit box-cut area, along with runoff captured within the box-cut, for ongoing water use underground. Periodically, as required, surplus water is transferred from there to the Big Kahuna, and thence to the Bloomfield CHPP.

Surface water quality monitoring is conducted at two sites on Four Mile Creek located upstream and downstream of the Abel portal boxcut (i.e. FMCU and FMCD) and five other sites around the Abel Underground Mine (Site 1 on Buttai Creek to the west, Sites 8, 9 and 10 on Blue Gum Creek to the south, and Site 11 on Viney Creek to the northwest of the mine area) – see Figure 4.7.4. Surface water monitoring sites are also established around the Bloomfield Coal Handling and Preparation Plant (CHPP) on Four Mile Creek, Ewell's Creek and White Creek, as part of the integrated water management system (Evans and Peck, 2012).

Surface water monitoring results collected for the Abel Project area have exhibited pH values within 6.5 to 8.5, and electrical conductivity (EC) in the range of 125 to 2,200µS/cm (both of which are within the *Guidelines for Fresh and Marine Water Quality,* ANZECC 2000 water quality trigger values for Lowland Rivers in NSW). Turbidity and Total Suspended Solids (TSS) have been variable due variable rainfall patterns and flow rates at the time of sample collection.

Water quality varies widely over time at most sites, and between sites. Salinity (as EC) varies in response to rainfall, with low salinity generally following runoff generating rainfall, and higher salinities during periods of low rainfall when streamflow may be sustained by groundwater base-flow. Some sites report intermittent streamflow.

No pH or EC values exceeded trigger levels, but there were occasional short-term exceedances of turbidity and TSS trigger levels. Most of the exceedances were at sites upstream of Abel mining activities, and are therefore affected by natural events and not attributable to the Abel Project operations. Overall, the surface water monitoring has shown the project is compliant with the Environmental Assessment predictions.

4.7.5 Conclusion

Surface Water Management Status Compliant Ongoing

The surface water monitoring results have not indicated that the Abel Underground Mine Project has had any adverse impacts on the surface water flows or quality within or surrounding the project area. EC and pH trigger levels have not been exceeded at any location. There have been occasional exceedances of turbidity and TSS criteria, but all have been either upstream of the Abel Project operations or in catchments not affected by operations. The current surface water monitoring program is considered adequate for ongoing monitoring.

4.7.6 Groundwater Monitoring

[Project Approval 05_0136 MOD 3, Schedule 3 condition 4(i)]

[Statement of Commitment 8]

4.7.6.1 Groundwater System

The Abel Underground Mine is located within the Newcastle Coalfield of the Sydney Basin. The Permian aged coal reserves within the area are mostly within the Shortland Formation of the Hexham Sub-Group within the Newcastle Coal Measures.

The topography of the Abel Underground Mine area is dominated by Black Hill, an east-west trending ridge located near the centre of the Abel Underground Mine area. Black Hill is the highest topographic point at 210 m

AHD. The Abel Underground Mine area is characterised by undulating ridge-affected terrain and shallow, slope-wash filled gullies and foot slopes.

The majority of the Abel Coal Project area either drains towards Hexham Swamp to the east, via Long Gully and Blue Gum Creek, or Woodberry Swamp to the north-east via Weakleys Flat Creek and Viney Creek. Other portions of the Abel Coal Project underground mining area are located in the ephemeral headwaters of Four Mile Creek and Buttai Creek.

Two distinct aquifer systems are known to occur within the Abel Underground Mine area:

- A fractured rock aquifer system in the coal measures, with groundwater flow occurring mainly in the coal seams; and
- A surficial granular aquifer system in the alluvium associated with swamp, floodplain and estuarine sediments along the Wallis Creek and Hunter River systems and their tributaries.

Groundwater levels in the alluvium are closely related to topography, with flow patterns broadly similar to the surface flow patterns. Recharge occurs by rainfall infiltration, and flow down gradient towards the local surface drainages. In the most elevated areas, alluvium is absent, and the regolith is unsaturated. Occasional localised perched groundwater is found in the colluvium and weathered bedrock zone in lower-lying areas along creek lines.

Groundwater levels in the strata of the deeper Permian coal measures have a more regional pattern, and are controlled by the topographic elevations in areas where specific coal seams outcrop or sub-crop and receive recharge, and discharge zones to the east beneath the Hunter River estuary.

4.7.6.2 Mine Inflows

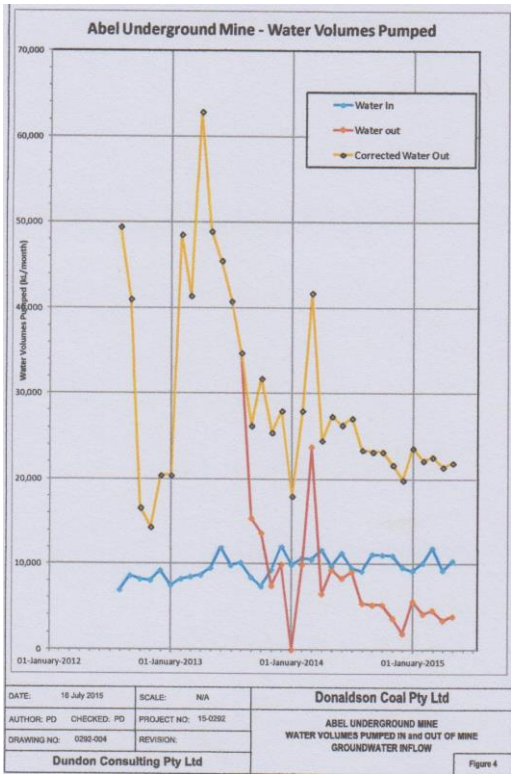
Groundwater inflows were first encountered in the Abel Underground Mine during the initial development of the South Mains not far down dip from the portal. They have continued at a relatively modest rate since that time, with occasional short-term higher inflow from specific zones, related either to intersection of fractures/faults, or areas of limited cover depth. Inflow rates overall are reported to be generally less than predicted by the groundwater modelling.

Groundwater inflow rates to the underground workings are difficult to measure, due to the importation of water for mining equipment operation, and the periodic fluctuations in the amount of water that remains stored within the mine. (Water storage in the mine is particularly important, especially since around August 2013, when a large area of former workings down-dip of the active areas became inaccessible for observation. There are several locations where water is able to accumulate without being observed, and under these circumstances it is not possible to accurately determine the water balance underground).

Prior to August 2013, a crude estimate of groundwater inflow could be determined by subtracting water pumped into the mine ('Water In') from water pumped out ('Water Out'). However, since that time, Water Out has consistently been lower than Water In, suggesting that some water is building up in the abandoned workings.

It has been calculated that approximately 74 ML had accumulated underground in abandoned workings in Panels 19 and 19A, and the southern parts of Panels 3-8. Approximately 10ML per week (1.4 ML/d) was reported to be pumped consistently from the overflow point from this area until 13 August 2013, when pumping stopped. Since that time, water has continued to accumulate into a region that has a calculated storage volume of 390 ML, at elevations below the overflow point at the western end of Panel 20.

The amount of water accumulated to date within the 390 ML storage area will not be known until water starts to flow from the overflow point. However, the rate of accumulation within this storage is less than 4.2 ML/week on average (i.e. less than 0.6 ML/d on average).



Until water starts overflowing from this underground storage area, it will be difficult to determine the rate of groundwater inflow to the mine as a whole. However, if an additional 0.6 ML/d is added to the reported 'Water Out' figure, then it can be seen that the rate of groundwater inflow cannot be more than around 15 ML/month (about 0.5 ML/d) over the period since access to the overflow point at the western end of Panel 19 was lost.

Figure 4.7.6.2 shows 'Water In', 'Water Out', and 'Maximum Corrected Water Out', the latter being the reported Water Out figure plus 0.6 ML/d as the maximum possible rate of accumulation of water in storage underground.
The model-predicted rate of groundwater inflow by the first half of 2015 was around 1000 ML/y, but from the above calculation cannot be more than about 180 ML/y (ie 15 ML/month). Even allowing for potential errors in these calculations, it is clear that groundwater inflow rates are well below those expected.

Figure 4.7.6.2: Water Volumes Pumped 'In' and 'Out' of Mine Groundwater Flow

4.7.6.3 Groundwater Monitoring Program

[Statement of Commitment 8]

The Abel Project baseline groundwater monitoring commenced during the investigation programs in 2005. The network includes multi-level piezometers. Available groundwater baseline data for the general area of the Abel Mine includes monitoring records from Abel, as well as from Bloomfield, Donaldson and Tasman Mines. All piezometers currently located around Pambalong Nature Reserve (C072, C072A and C072B, C081, C081A, and C081B, and C082) continue to be monitored.

The bores for which water quality data is reported, are all part of the original monitoring network for the former Donaldson Open Cut mine since June 2000 north of the Abel underground workings and bores associated with the Abel Project since September 2005. The representativeness of the piezometers is reviewed annually, and an appropriate suite of piezometers is selected for ongoing monitoring on the basis of this review.

The vibrating wire piezometers are not able to be sampled for water quality, as they have been fully grouted, and can only be used to monitor water levels/pressures. However, standpipe piezometers are able to be sampled as well as measured for water level.

The groundwater quality monitoring program includes:

- Monthly measurement of water levels in a representative network of piezometers;
- Quarterly sampling of all standpipe piezometers, for laboratory analysis of pH, EC, and TDS;
- Annual collection of water samples from all standpipe piezometers occurs for laboratory analysis of a broader suite of parameters: - Physical properties (pH, EC, and TDS); major cations and anions (Ca, Mg, Na, K, Cl, SO_4, HCO_3 and CO_3), nutrients and dissolved metals;
- Weekly measurement of the volume of mine water pumped from the underground workings. (Separate inflow rates are monitored if two or more separate mining areas are active at any time).
- Weekly measurement on site of the pH, EC, and TDS of the mine water pumped from the underground workings; and

- Periodic / opportunistic measurement underground of the pH, EC, and TDS of the mine water during any short-term elevated inflow events encountered.

The Groundwater Monitoring Program prepared as part of the Water Management Plan by Peter Dundon & Associates in consultation with the DECC and DWE, was approved by DoP on 5 May 2008.

4.7.6.4 Groundwater Levels Monitoring Results

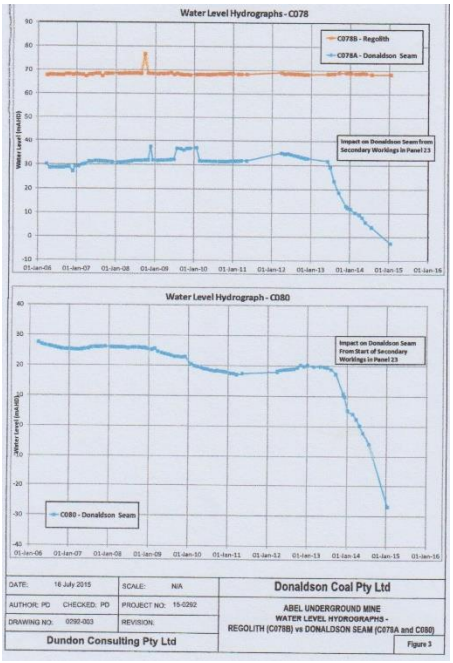
The water level data reported in the Abel Mine AEMR's is for 10 piezometers at 6 sites (C063A and C063B, C072, C072B, C078A and C078B, C080, C081A and C081B, and C082).

The data are reported in the AEMR's as a single average water level value and a single range value for each piezometer for each year. The range is shown as a single value and does not indicate what the high and low values may have been.

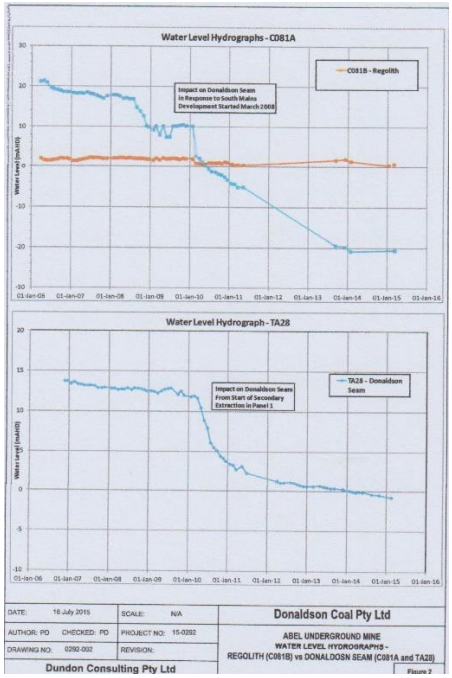
A single average value for water level is not meaningful in terms of impact assessment, as the water levels are dynamically responding to both climatic and mining induced effects. It is trend changes relative to natural fluctuations that indicate whether the water level has been affected by mining. This can only be established from graphically presented data, i.e. hydrographs of water level vs time.

Table 4.8.5.2: Abel Coal Project - Standing Water Levels (m AHD) between 2011 and 2014

Piezometers	Abel Coal Project - Standing Water Level (m AHD)			
		2011/2012	2012/2013	2013/2014
63A	Average	-0.98	0.07	-0.02
	Range	0.95	0.23	0.17
63B	Average	-10.04	-10.09	-10.7
	Range	0.39	0.24	0.70
72	Average	26.68	NA	31.52
	Range	1.26	NA	1.66
72B	Average	50.06	NA	50.43
	Range	-	NA	0.14
78A	Average	31.69	33.70	15.72
	Range	-	2.03	25.54
78B	Average	68.23	68.46	68.76
	Range	-	0.38	0.51
80	Average	17.14	19.48	9.60
	Range	0.74	1.56	21.88
81A	Average	-5.12	NA	-20.04
	Range	-	NA	1.42
81B	Average	0.38	NA	1.69
	Range	0	NA	0.54
82	Average	NA	NA	24.68



Figures 4.7.6.4a: Hydrographs for C078 and C080



Figures 4.7.6.4b: Hydrographs for C081 and TA028

Review of the water level database provided by Donaldson Coal Pty Ltd has shown that many of the piezometers located within the Upper Donaldson and/or Lower Donaldson Seams coal measures are responding to mining effects, not just natural fluctuations due to rainfall recharge.

There is no evidence of any drawdown response in the alluvium or regolith groundwater. This is illustrated by the following hydrographs for regolith and/or Donaldson Seam piezometers:

- C078A (Donaldson Seam) and C078B (Regolith)
- C080 (Donaldson Seam)
- C081A (Donaldson Seam) and C081B (Regolith)
- TA028 (Donaldson Seam)

These hydrographs are shown on the Figures 4.7.6.4a and 4.7.6.4b.

At the C078 and C081 sites in particular, where two piezometers are present (a shallow piezometer in the regolith (orange line) and a deep piezometer in the Donaldson Seam (blue line)), the lack of drawdown response in the regolith is clearly apparent.

There are no drawdowns apparent in the water level monitoring data that would indicate any unanticipated impact on groundwater levels within the alluvium/regolith, or in the coal measures.

The shallow monitoring piezometer C063B, which is located to the east of the Abel Mine, and close to Hexham Swamp, shows no sign of mining related impact on groundwater levels.

It is concluded that there has been no noticeable impact on Hexham Swamp or the groundwater underlying the Swamp.

Recommendation Groundwater 1:
It is recommended that annual reporting of groundwater monitoring in the AEMR's include graphical presentation of water level data to indicate any trends groundwater standing water levels.

4.7.6.4 Groundwater Quality Monitoring Results

Salinity varies over a wide range from bore to bore, but within each bore, salinity is quite stable over time. Some of the monitored bores have reported occasional outliers of significantly lower salinity (EC and TDS) which are likely due to ingress of rainwater temporarily lowering the salinity in the bore. However, the monitoring has not indicated any rising trend or even occasional outliers of significantly increased salinity in any bore. Also, although

there are some pH variations from bore to bore, the monitoring has generally reported consistent pH values at individual bores over time.

Table 4.7.6.4: Groundwater Quality Average Values 2011 to 2014

Annual Period	DPZ-6	DPZ-7	DPZ-12	DPZ-13	JRD1	JRD2
2011-2012						
pH	7.04 to 7.29	7.04 to 7.55	6.12 to 7.42	7.03 to 7.48	8.05 to 8.63	6.57 to 8.06
EC	662 to 3320	1190 to 2,820	452 to 9,120	3,710 to 12,400	4,120 to 4,730	256 to 506
TSS	35 to 64	40 to 240	22 to 161	14 to 108	8 to 57	18 to 118
2012-2013						
pH	6.69 to 7.29	6.31 to 7.55	6.01 to 7.33	6.88 to 7.37	8.05 to 8.26	6.21 8.06
EC	2,370 to 4,120	1,540 to 2,740	517 to 9,120	3,710 to 11,600	4,120 to 4,750	313 to 2,280
TSS	35 to 542	15 to 258	18 to 210	14 to 108	14 to 57	18 to 94
2013-2014						
pH	6.45-7.21	6.98-7.26	6.07-7.12	7.20-7.82	8.04-8.46	6.24-7.55
EC	807 - 2,590	2,530 - 2,910	1,940 - 11,100	5,260 - 10,200	4,200 - 4,560	282 - 2,530
TSS	44 - 11,600	<5 - 1,620	14 - 3,530	22 - 1,520	9 - 150	<5 - 932

4.7.6.4 Conclusion

Groundwater **Status** **Compliant Ongoing**

The Groundwater Monitoring Program prepared to satisfy Project Approval MOD 3, Schedule 3 condition 4(i) provides a comprehensive data set for the Abel Project to report groundwater inflows to underground workings and a program to predict, manage and monitor impacts to groundwater bores on privately-owned land. Groundwater monitoring has not shown any adverse impact of any surficial groundwater, either alluvium or regolith groundwater, within or surrounding the Abel Underground Mine. Groundwater levels and quality in the surficial aquifer system remain within trigger levels. At sites where both the regolith and the underlying coal measures are monitored, no mining induced drawdown impacts have been observed in the surficial groundwater, while significant drawdowns have occurred in the Donaldson Seam and overburden. It is concluded that base-flow impacts from the project are negligible. Mine inflows from the Permian coal measures and other water takes are within the licensed amounts.

4.8 Erosion and Sediment Control

[Project Approval 05_0136 MOD 2, Schedule 4 condition 13]
[Project Approval 05_0136 MOD 3, Schedule 4 condition 17(b)]
[Statement of Commitment 6.3]

4.8.1 Erosion and Sediment Control Plan

Erosion and Sediment Control Plans (as part of the Water Management Plan) for the Abel Coal Project have been prepared in accordance with the Guidelines in the "*Managing Urban Stormwater: Soils and Construction – Volume 2E Mines and Quarries"* DECC 2008, for the Abel Project surface works area in the West Pit box cut and for the Bloomfield CPP and stockpile areas. Erosion and sediment control measures implemented for the Abel Project include:

- diversion of 'dirty' surface water flows within the Abel Project surface facilities in the box cut area to the water storage sump in the open cut.

- diversion of 'clean' water from areas surrounding the box cut to existing natural drainage lines.

Runoff from the internal access roads is directed from the northern section of the portal access road to the water storage sump.

Erosion and sediment controls for the Abel Project have been implemented for the Surface Facilities Area with all stormwater runoff from the operational surface facilities draining to the sump in the West Pit, from where it is transferred via pipeline to the Big Kahuna dam.

No major erosion or sediment loss was observed during the site audit inspection. The erosion and sediment control measures implemented are considered adequate for the disturbed areas of the Abel Project surface areas. Silt fencing and sediment traps where installed, appeared to be regularly inspected and maintained.

4.8.2 Conclusion

The erosion and sediment controls installed at the Abel Project surface facilities area are considered adequate to manage the surface runoff from the disturbed areas and as all the facilities are all contained within the West Pit box-cut there is no loss to the environment of any collected 'dirty' water.

4.9 Heritage

[Project Approval 05_0136 MOD 3, Schedule 4 conditions 22]
[Statement of Commitment 11]

4.9.1 Aboriginal Heritage Management Plan

[Project Approval 05_0136 MOD 3, Schedule 4 conditions 22]
[Statement of Commitment 11.2]

The Aboriginal Heritage Management Plan was prepared to satisfy Project Approval 05_0136 MOD 3, Schedule 4 conditions 22 and Statement of Commitment 11.2 in August 2014.

Sixty-three (63) Aboriginal heritage sites and Potential Archaeological Deposits (PADs) are present within the Abel Project area, including 18 within the surface area north of John Renshaw Drive and 45 within the underground area south of John Renshaw Drive. The underground area has eight open grinding groove sites, three scarred trees, one rock shelter with PAD, one PAD and 32 open artefact sites.

4.9.2 Aboriginal Heritage Sites

Within SMP Area 3 six sites (artefact scatters — AMA2/A, AMA2/B, AMA2/C, CA6, F 1/B and FMC6) are located above or in close proximity to Panels 24 and 25. Two cultural places (Black Hill Locality and Black Hill Pathway) are also partly located within SMP Area 3 above the southern end of Panel 25. The Aboriginal heritage assessment undertaken as part of the SMP application concludes that the predicted impacts would probably result in no loss of value upon these sites.

There are five (5) Aboriginal heritage site and places identified within Extraction Plan Area 4:

- Black Hill Open Site #38-4-0106, directly above Panel 32 that could be potentially affected by surface soil cracking as a result of subsidence.
- Open Artefact Site #338-4-0669 and CA-7 directly above West Mains and are unlikely to be affected by surface cracking.
- A Scarred Tree #38-4-0670 directly above Panel 29 that is unlikely to be impacted by the underground mining as the depth of cover is approximately 60m and natural surface slopes less than 1 in 3; and
- Black Hill pathway cultural place directly above Panel 32 where potential impacts could include surface cracking and deformations, and changes in surface drainage.

4.9.3 Heritage Site Monitoring

Monitoring is conducted of all Aboriginal sites within the Abel Underground Area for which subsidence related impacts may occur, in order to ensure the adequacy of conservation measures (i.e. mining exclusion zones) around specific sites, to identify if any subsidence related impacts have occurred within the locality. Monitoring will occur within the Abel Underground Area prior to any undermining, three months and six months after undermining, and thereafter on an annual basis for five years. The inspections are undertaken by a qualified archaeologist and a representative of the relevant LALC and reported in the AEMR's.

No known items of Aboriginal heritage were disturbed as part of the operations undertaken during the 2011 to 2015 period. No Aboriginal artefacts were affected by subsidence within SMP Area 2 and SMP Area 3.

No items or areas of natural heritage significance are considered to occur within the surface infrastructure area.

4.9.4 Conclusions

Aboriginal Heritage Management Status: **Compliant**

The Aboriginal Heritage Management Plan dated August 2014, was prepared to satisfy Project Approval 05_0136 MOD 3, Schedule 4 conditions 22 and Statement of Commitment 11.2. The Plan provides satisfactory management procedures for the protection of heritage items in the Abel Project area. No known items of Aboriginal heritage were disturbed as part of the operations undertaken during the 2011 to 2015 period.

4.10 Biodiversity

[Project Approval 05_0136 MOD 3, Schedule 4 conditions 18 to 21]

4.10.1 Biodiversity Management Plan

[Project Approval 05_0136 MOD 3, Schedule 4 condition 20]

The Biodiversity Management Plan under Project Approval 05_0136 MOD 3 Schedule 4 condition 20, is required prior to the commencement of construction of the coal conveyor, for areas of the Abel Coal Project that are not, or will not be subject to Project Approval 05_0136 MOD 3, Schedule 3 condition 4(k). The construction of coal conveyor had not commenced at the date of this audit (March 2015).

4.10.2 Biodiversity Management Plan – SMP and Extraction Plan

[Project Approval 05_0136 MOD 2, Schedule 4 condition 7]
[Project Approval 05_0136 MOD 3, Schedule 3 condition 4(k)]

Biodiversity Management Plans required under Project Approval 05_0136 MOD 2 Schedule 4 condition 7 - Subsidence Management Plans for Area 1, 2 and 3, and Project Approval 05_0136 MOD 3, Schedule 3 condition 4(k) Extraction Plan, have been prepared to satisfy the approval conditions and in accordance with the *New Approval Process for Management of Coal Mining Subsidence – Policy & Guideline for Applications for Subsidence Management Approvals,* DRE.

The Biodiversity Management Plans, were prepared in consultation with OEH, and provide for the management of the potential impacts and/or environmental consequences of the Abel Underground Mine second workings on aquatic and terrestrial flora and fauna, with a specific focus on threatened species, populations and their habitats, endangered ecological communities and water dependent ecosystems.

4.10.3 Biodiversity Offset Strategy

[Project Approval 05_0136 MOD 3, Schedule 4 conditions 18, 19 and 21]

The Biodiversity Offset Strategy is required to be prepared in consultation with OEH and to the satisfaction of the Director-General, prior to the commencement of construction of the coal conveyor or the vegetation clearing described in the Environmental Assessment (2013).

The construction of the coal conveyor had not commenced at the date of this audit (March 2015).

4.10.4 Conclusion

Biodiversity Management Status: **Compliant**

The Biodiversity Management Plan under Project Approval 05_0136 MOD 3, Schedule 4 condition 20, is required prior to the commencement of construction of the coal conveyor. The construction of coal conveyor had not commenced at the date of this audit (March 2015).

Biodiversity Management Plans required under Project Approval 05_0136 MOD 2, Schedule 4 condition 7 - Subsidence Management Plans for Area 1, 2 and 3, and Project Approval 05_0136 MOD 3, Schedule 3 condition 4(k) Extraction Plan, have been prepared to satisfy the approval conditions. The Biodiversity Management Plans, that were prepared in consultation with OEH, provide for the management of the potential impacts and/or environmental consequences of the Abel Underground Mine second workings on aquatic and terrestrial flora and fauna.

5. Conclusions

The Independent Environmental Audit of the Project Approval for the Abel Project confirmed a high degree of compliance and did not identify any high risk non-compliance with the Project Approval or the Statement of Commitments for the activities undertaken between 2011 and 2015.

The documentation held for the Abel Underground Mine and interview/discussions with the site personnel provided the auditor with the required information and documentation for the verification of compliance of the development with the Project Approval and Statements of Commitments.

All the management plans and monitoring programs required by the Project Approval were approved by DP&I/DP&E, prior to the commencement of mining operations under Project Approval 05_0136 MOD 3. Subsidence Management Plans for Areas 1, 2 and 3, and Extraction Plan Area 4 were approved prior to the commencement of mining operations in each area.

The Abel Coal Project documentation is considered satisfactory for the management of environmental aspects of the development of the underground coal mine. The environmental management plans have been prepared and/or reviewed for each Modification to the Project Approval or when changes to the Abel Coal Project have occurred. The data collected from the monitoring programs is reviewed as part of the annual reporting and the adequacy of the monitoring regime assessed if changes to the data indicates effects attributable to the Abel Coal Project activities.

The audit has recommended that annual groundwater reporting in the Abel Mine AEMR/Annual Review should include graphical presentations of water level data to indicate trends.

ATTACHMENTS

Attachment A – Consolidated Project Approval 05_0136

Attachment B – Statement of Commitments

Attachment C – Environment Protection Licence 12856

Attachment D – Mining Lease 1618 and 1653

Compliance Tables

The compliance of the Abel Coal Project activities with the intent of the Project Approval conditions and relevant verification documentation related to each conditions are expressed as:

Status	Description
Compliant	Adequacy and appropriateness of implementation against the DA and Project Approval Conditions, or compliance with commitment made.
Compliant Ongoing	The intent and specific requirements of the condition have been met and the requirements are ongoing for the operation of Austar Coal Mine.
Non-Compliant	The intent or one or more specific requirements of the condition have not been met and is environmentally significant.
Administrative Non-compliance	A technical non-conformance with a condition of the consent that would not result in material harm to the environment
Not active / Not applicable	Condition or requirement has an activation or requirement that had not been triggered at the time of the review, therefore a determination of compliance could not be made.
Noted	Conditions that are statements of requirement but not auditable.
Observation	A finding that is not likely to significantly affect the operations, that does not strictly relate to the scope of the audit of compliance, or an improvement opportunity has been identified

Attachment A
Project Approval 05_0136

Consolidated Project Approval – Abel Coal Project

December 2013 Modification (MOD 3)

Condition No.	Abel Coal Project Approval 05_0136 MOD 3 Condition	Verification	Compliance	Comments
	Obligation to Minimise Harm to the Environment			
1.	In addition to meeting the specific performance criteria established under this approval, the Proponent shall implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the project.		Measures to prevent and/or minimise harm to the environment are outlined in the specific Management Plans and Mining Operations Plan.	**Noted**
	Terms of Approval			
2.	The Proponent shall carry out the project generally in accordance with the: (a) EA; (b) EA (MOD 1); (c) EA (MOD 2); (d) EA (MOD 3); (e) statement of commitments; and (f) conditions of this approval. *Notes: • The general layout of the project is shown on the figures in Appendix 2. • The statement of commitments is reproduced in Appendix 4.*	• Abel Underground Mine Part 3A Environmental Assessment, Donaldson Coal, 26 Sept 2006 • Statement of Commitments • Project Approval 05-0136, 7 Jun 2007 • Modification (MOD 1) Environmental Assessment Abel Underground Mine (Downcast Ventilation Shaft), Donaldson Coal, May 2010; • Modification (MOD 2) Environmental Assessment Abel Underground Mine, Donaldson Coal, March 2011; • Modification (MOD 3) Environmental Assessment Abel Upgrade Modification, Donaldson Coal,	The project is being developed generally in accordance with the environmental assessment documents and the requirements in the conditions of the Project Approval.	**Compliant**
3.	If there is any inconsistency between the above documents, the later document shall prevail to the extent of the inconsistency. However, the		No inconsistencies between the Environmental Assessment and the general development of the	**Compliant**

Condition No.	Abel Coal Project Approval 05_0136 MOD 3 Condition	Verification	Compliance	Comments
	conditions of this approval shall prevail to the extent of any inconsistency.		Abel Underground Coal Project have been identified.	
4.	The Proponent shall comply with any reasonable requirement/s of the Director-General arising from the Department's assessment of: (a) any strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with this approval; and (b) the implementation of any actions or measures contained in these documents	• AEMR 2010-2011 • AEMR 2011-2012 • AEMR 2012-2013 • AEMR 2013-2014	DP&I requested additional information be included in the 2010-2011 AEMR on volumes of ground water removed from the underground mine area. The AEMR was also requested to be submitted to DP&I within 2 months from the end of the reporting period. Groundwater inflow rates have been reported and to date have been relatively stable with average inflows of less than 500m^3 per day, slightly less than the predicted inflows during years 5 and 6.	**Compliant**
	Limits on Approval			
5.	Mining operations may take place until the end of December 2030. *Note: Under this approval, the Proponent is required to rehabilitate the site and perform additional undertakings to the satisfaction of either the Director-General or the Executive Director, Mineral Resources. Consequently this approval will continue to apply in all other respects other than the right to conduct mining operations until the rehabilitation of the site and these additional undertakings have been carried out satisfactorily.*	• Mining Lease 1618 • Mining Operations Plan	Mining operations can continue under this Project Approval until 2028.	**Noted**
	Coal Extraction			
6.	The Proponent shall not extract more than 6.1 million tonnes of ROM coal from the site per calendar year	• AEMR, 2011-2012 • AEMR, 2012-2013 • AEMR, 2013-2014	Production from the Abel Mine commenced in 2008. Extraction of ROM coal has been less than the maximum approved rate of <6.1 Mtpa between 2011 and 2015. **Period** / **ROM coal** 1 June 2013 to 30 May 2014 — 2,439,935 1 June 2012 to 30 May 2013 — 1,581,385 1 June 2011 to 30 May 2012 — 1,110,641	**Compliant**

<table>
<tr><th>Condition No.</th><th>Abel Coal Project Approval 05_0136 MOD 3 Condition</th><th>Verification</th><th>Compliance</th><th>Comments</th></tr>
<tr><td></td><td>Coal Processing</td><td></td><td></td><td></td></tr>
<tr><td>7.</td><td>The Proponent shall not process more than 8.5 million tonnes of ROM coal at the Bloomfield site per calendar year</td><td>• AEMR, 2011-2012
• AEMR, 2012-2013
• AEMR, 2013-2014</td><td>Coal processed at the Bloomfield CPP during the 2011 to 2014 period was less than the approved 6.5Mt:
<table><tr><th>Period</th><th>Abel ROM Coal processed by Bloomfield CHPP</th></tr><tr><td>1 June 2013 to 30 May 2014</td><td>2,430,178</td></tr><tr><td>1 June 2012 to 30 May 2013</td><td>1,581,385</td></tr><tr><td>1 June 2011 to 30 May 2012</td><td>1,111,034</td></tr></table></td><td>Compliant</td></tr>
<tr><td></td><td>Coal Transport</td><td></td><td></td><td></td></tr>
<tr><td>8.</td><td>The Proponent shall transport all ROM coal from the Abel pit-top area to the Bloomfield site via the private haul road, or by coal conveyor, or by a combination of both methods.</td><td>http://www.doncoal.com.au/environment/abel/
• Coal Transported from Site 2014</td><td>All product coal is transported to the Bloomfield CPP by trucks on a private haul road.</td><td>Compliant</td></tr>
<tr><td>9.</td><td>The Proponent shall transport all product coal produced on the Bloomfield site via the Bloomfield Rail Loop, and Rail Spur and the Main Northern Railway, except in an emergency. In an emergency, product coal may be transported from the Bloomfield site by road, with the prior written approval of the Director-General, and subject to any restrictions that the Director-General may impose.</td><td></td><td>All product coal produced from the Abel Project mine was transported by train from the Bloomfield rail loop between 2011 and 2015.</td><td>Compliant</td></tr>
<tr><td></td><td>Hours of Operation</td><td></td><td></td><td></td></tr>
<tr><td>10</td><td>The Proponent shall comply with the operating hours in Table 1.
Table 1: Operating hours
<table><tr><th>Activity</th><th>Operating Hours</th></tr><tr><td>Mining Operations</td><td>24 hours a day, 7 days per week</td></tr><tr><td>Construction activities</td><td>7.00 am to 6.00 pm, Monday to Friday; and 8.00 am to 1.00 pm, Saturdays, unless noise from these activities does not exceed 35dB(A)$LA_{eq(15\ min)}$ at any privately-owned residence.</td></tr></table></td><td></td><td>The Abel Coal Project mining operations are conducted 24 hours a day, 7 days per week.
Any construction would be undertaken (if required) between7.00 am to 6.00 pm, Monday to Friday and 8.00 am to 1.00 pm, Saturdays.</td><td>Compliant</td></tr>
</table>

Condition No.	Abel Coal Project Approval 05_0136 MOD 3 Condition	Verification	Compliance	Comments
	Maintenance activities: 24 hours a day, 7 days per week, providing maintenance activities are inaudible at any privately-owned residence			
	Structural Adequacy			
11	The Proponent shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures that are part of the project are constructed in accordance with: (a) the relevant requirements of the BCA; and (b) any additional requirements of the MSB where the building or structure is located on land within declared Mine Subsidence Districts. *Notes: • Under Part 4A of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works. • Part 8 of the EP&A Regulation sets out the requirements for the certification of the project. • Under Section 15 of the Mine Subsidence Compensation Act 1961, the Proponent is required to obtain the MSB's approval before constructing any improvements within a Mine Subsidence District.*		Construction Certificates were obtained for all new buildings and structures erected for the development of the Abel Project between 2008 and 2011, including the administration Offices, Bath house and change rooms, and workshops. No new buildings have been constructed between 2011 and 2015.	**Compliant**
	Demolition			
12	The Proponent shall ensure that all demolition work is carried out in accordance with Australian Standard AS 2601-2001: The Demolition of Structures, or its latest version.	• AS 2601-2001: The Demolition of Structures	No demolition of buildings or other structures had occurred for the development of the Abel Project between 2011 and 2015.	**Noted**
	Operation of Plant and Equipment			
13	The Proponent shall ensure that all plant and equipment used at the site is: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner.		All plant and equipment used at the Abel Coal Project site is maintained in the project workshops and operated in a proper and efficient manner.	**Compliant**
	STAGED SUBMISSION OF STRATEGIES, PLANS OR PROGRAMS			
14	With the approval of the Director-General, the Proponent may submit any strategies, plans or programs required by this approval on a progressive basis. Strategies, plans or programs approved before 31 October 2013 continue to apply to the project, until revised strategies, plans or programs required under the terms of this modified approval are approved by the Director-General.		The strategies, plans or programs required by this approval had all been prepared and submitted to DP&I. TheAbel Coal Project was operated in accordance with the approved documents.	**Compliant**

<table>
<tr><th>Condition No.</th><th>Abel Coal Project Approval 05_0136 MOD 3 Condition</th><th>Verification</th><th>Compliance</th><th>Comments</th></tr>
<tr><td></td><td>Notes: • While any strategy, plan or program may be submitted on a progressive basis, the Proponent will need to ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times.
• If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.</td><td></td><td></td><td></td></tr>
<tr><td></td><td colspan="2">SCHEDULE 3 SPECIFIC ENVIRONMENTAL CONDITIONS UNDERGROUND MINING</td><td></td><td></td></tr>
<tr><td></td><td colspan="2">SUBSIDENCE</td><td></td><td></td></tr>
<tr><td></td><td colspan="2">Performance Measures – Natural and Heritage Features etc</td><td></td><td></td></tr>
<tr><td>1.</td><td>The Proponent shall ensure that the project does not cause any exceedances of the performance measures in Table 2, to the satisfaction of the Director-General.
Table 2: Subsidence Impact Performance Measures
<table>
<tr><td>Water Resources</td><td></td></tr>
<tr><td>• Hexham Swamp;
• Blue Gum Creek and Alluvium; and
• Long Gully.</td><td>• Negligible environmental consequences, including negligible:
- reduction in the quantity of water entering the swamp or the creeks (i.e. base flow or environmental flows);
- reduction in the quality of water entering the swamp or the creeks; and
- reduction in creek bed or bank stability.
• No connective cracking between the surface and the mine.</td></tr>
<tr><td>• All other water courses in the mining area.</td><td>• No greater environmental consequences than predicted in the EA and EA (MOD 3).</td></tr>
<tr><td>Land</td><td></td></tr>
<tr><td>• Cliffs</td><td>. • Minor environmental consequences (that is, occasional</td></tr>
</table></td><td></td><td>The Abel Project is operated and the activities monitored to assess conformance with the performance measures outlined in Table 2.</td><td>Noted Ongoing</td></tr>
</table>

Condition No.	Abel Coal Project Approval 05_0136 MOD 3 Condition		Verification	Compliance	Comments
		rock-falls, displacement of or dislodgement of boulders or slabs, or fracturing that in total do not impact more than 3% of the total face area of cliffs within the mining area).			
	• Minor cliffs • Rock face features; and • Steep slopes.	• Minor environmental consequences (that is, occasional rock-falls, displacement or dislodgement of boulders or slabs, or fracturing that in total do not impact more than 5% of the total face area of each such type of feature within the mining area).			
	• Pambalong Nature Reserve	• Negligible environmental consequences.			
	Biodiversity				
	• Threatened species; • Endangered ecological communities (including unspecified Lowland Rainforest EEC).	• Negligible environmental consequences			
	Heritage Sites				
	• Aboriginal heritage sites	• No greater subsidence impacts or environmental consequences than predicted in the EA and EA (MOD 3).			
	• Historic heritage				
	Mine Workings				
	• First workings under an approved Extraction Plan beneath any feature where performance measures in this table require negligible subsidence impacts, negligible environmental consequences.	• To remain long-term stable and non-subsiding.			
	• Second workings	• To be carried out only in accordance with an approved Extraction Plan			
	Notes: • The Proponent will be required to define more detailed performance indicators (including impact assessment criteria) for each of these performance measures in the various management plans that are				

Condition No.	Abel Coal Project Approval 05_0136 MOD 3 Condition	Verification	Compliance	Comments
	required under this approval. • Measurement and/or monitoring of compliance with performance measures and performance indicators is to be undertaken using generally accepted methods that are appropriate to the environment and circumstances in which the feature or characteristic is located. These methods are to be fully described in the relevant management plans. In the event of a dispute over the appropriateness of proposed methods, the Director-General will be the final arbiter. *The requirements of this condition only apply to the impacts and consequences of mining operations, construction or demolition undertaken following the date of approval of MOD 3.*			
	Offsets			
2.	If the Proponent exceeds the performance measures in Table 2 and the Director-General determines that: (a) it is not reasonable or feasible to remediate the impact or environmental consequence; or (b) remediation measures implemented by the Proponent have failed to satisfactorily remediate the impact or environmental consequence; the Proponent shall provide a suitable offset to compensate for the impact or environmental consequence, to the satisfaction of the Director-General. *Note: Any offset required under this condition must be proportionate with the significance of the impact or environmental consequence.*			**Not triggered**
	Performance Measures – Built Features			
3.	The Proponent shall ensure that the project does not cause any exceedances of the performance measures in Table 3, to the satisfaction of the Director-General. Any dispute between the Proponent and the owner of any built feature over the interpretation, application or implementation of the performance measures in Table 3 is to be settled by the Director-General, following consultation with the MSB and the Executive Director Mineral Resources. Any decision by the Director-General shall be final and not subject to further dispute resolution under this approval.		No disputes have occurred between the Abel Coal Project and the owner(s) of any built feature between 2011 and 2015, over the interpretation, application or implementation of the performance measures in Table 3.	**Not triggered**
	Table 3: Subsidence Impact Performance Measures **Built Features**		There were no observed or reported subsidence impacts, incidents, service difficulties, or community complaints between 2011 and 2015 that required notification under the SMP	**Compliant**

Condition No.	Abel Coal Project Approval 05_0136 MOD 3 Condition		Verification	Compliance	Comments
	Key Public Infrastructure: • F3 Freeway; • Hunter Expressway; • 330kV transmission line and transmission towers; and • 132kV and 66kV power lines	• Always safe and serviceable. • Damage that does not affect safety or serviceability must be fully repairable, and must be fully repaired.		approvals. No exceedances of cracking predicted in the SMP's occurred between 2011 and 2015. Minor cracking was remediated in consultation with landholders and infrastructure owners. **Key Public Infrastructure:** No exceedances of the performance measures associated outlined in Table 3, were recorded between 2011 and 2015. **Other Public Infrastructure:** No exceedances of the performance measures associated with Other Public Infrastructure (i.e. Timber power poles, Fibre-optic cables or Telecommunication cables) as outlined in Table 3, were recorded between 2011 and 2015. In 2013-2014 minor impacts occurred on Blackhill Road due to mining within Panels 23 and 24. These minor impacts were within predictions (cracking typically 50mm to 80mm). A 24hr monitoring and repair program for the road was implemented and the road remained in a safe and serviceable condition. **Key Privately-Owned Built Features:** No exceedances of the performance measures outlined in Table 3, were recorded between 2011 and 2015. The Black Hill Public School, Black Hill Church and Cemetery, are outside Areas 1 and 2 subsidence management areas. In 2011-2012 surface cracking occurred generally as predicted above Panels 4 to 8 and 15 within vegetated areas, grazing areas and access roads and tracks. Remedial works were carried out in consultation and agreement with the landowner. **Other Privately-Owned Built Features:** No exceedances of the performance measures associated with rural buildings, Black Hill Quarry, or Stockrington Quarry, were recorded between 2011 and 2015.	
	Other Public Infrastructure: • Timber power poles; • Roads; • Fibre-optic cables; and • Telecommunication cables	• Always safe and serviceable. • No greater subsidence impact or environmental consequences than predicted in the EA and EA (MOD 3). • Damage that does not affect safety or serviceability must be fully repairable, and must be fully repaired.			
	Key Privately-Owned Built Features				
	• Principal residences; • All buildings and structures on, or built in the future on: - the Black Hill Public School; - Catholic High School site (Lot 131 DP1057179); - Black Hill Church and Cemetery; - Coal & Allied Operations Pty Limited site (Lot 30 DP870411); and • The 4 largest dams at the commercial orchard on Lots 11 and 12 DP877937 and Lots 610 and 611 DP1035588, while this land is used for this purpose.	• First workings only within a 26.5^{o} angle of draw of the structure, except with the prior written agreement of the relevant landowner. • Always safe. • Serviceability should be maintained wherever practicable. • Damage must be fully repairable, and must be fully repaired, or else replaced or fully compensated.			
	Other Privately-Owned Built Features • Rural buildings; • Farm dams; • Tracks and fences; • Black Hill Quarry; and • Stockrington Quarry.	• Always safe. • Serviceability should be maintained wherever practicable. Loss of serviceability must be fully compensated. • Damage must be fully repairable, and must be fully			

Condition No.	Abel Coal Project Approval 05_0136 MOD 3 Condition	Verification	Compliance	Comments
	<table><tr><td></td><td>repaired or else replaced or fully compensated.</td></tr><tr><td>Public Safety</td><td>Negligible additional risk</td></tr></table> *Notes: • The Proponent will be required to define more detailed performance indicators for each of these performance measures in Built Features Management Plans or a Public Safety Management Plan (see condition 4 below).* • *Measurement and/or monitoring of compliance with performance measures and performance indicators is to be undertaken using generally accepted methods that are appropriate to the environment and circumstances in which the feature or characteristic is located. These methods are to be fully described in the relevant management plans. In the event of a dispute over the appropriateness of proposed methods, the Director-General will be the final arbiter. • The requirements of this condition only apply to the impacts and consequences of mining operations undertaken following the date of this approval. • Requirements under this condition may be met by measures undertaken in accordance with the Mine Subsidence Compensation Act 1961. • Requirements regarding safety or serviceability do not prevent preventative or mitigatory actions being taken prior to or during mining in order to achieve or maintain these outcomes.*		In 2014, response to subsidence impacts on the large dam overlying Panels 33 and 35, involved implementation of management measures recommended in the Area 4 Subsidence Impact Assessment, to manage impacts to the dam.	
4	The Proponent shall prepare and implement an Extraction Plan for all second workings on site to the satisfaction of the Director-General. Each extraction plan must: (a) be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Director-General; (b) be approved by the Director-General before the Proponent carries out any of the second workings covered by the plan; (c) include detailed plans of existing and proposed first and second workings and any associated surface development; (d) include detailed performance indicators for each of the performance measures in Tables 2 and 3; (e) give particular consideration to any proposed multi-seam mining; (f) include a detailed investigation of any overlying or adjacent West Borehole Seam workings, in consultation with DRE, which:	• Letter from DP&E re Endorsement of Team to Prepare the Extraction Plan, 13 Mar 2014 • Extraction Plan Area 4, May 2014 • Letter from DTIRIS re Approval of Extraction Plan for Area 4, 19 Sep 2014 • Letter from DP&E re Approval of Extraction Plan Area 4, 19 Sep 2014	The Extraction Plan for Area 4 was prepared to satisfy Project Approval MOD 3 Schedule 3 condition 4 and was approved by DP&E on 19 September 2014: (a) The team that prepared the Extraction Plan was endorsed by the Director General of DP&E on 13 March 2014; (b) The Extraction Plan for Area 4 was approved by DP&E on 19 September 2014 prior to second workings commencing in Area 4; (c) SMP Plans numbered 0 to 7 were attached to the end of the Extraction Plan Main Text; (d) Section 3.5 identifies performance indicators for each of the performance measures in Tables 2 and 3 Section 3.1.8 addresses	**Compliant**

Condition No.	Abel Coal Project Approval 05_0136 MOD 3 Condition	Verification	Compliance	Comments
	• assesses the stability of remnant coal pillars in the former West Borehole Seam workings; • includes revised multi-seam subsidence predictions for the second workings areas; • gives particular consideration to the risks of irregular subsidence and for pillar run leading to subsidence outside of the predicted angle of draw; and • recommends final design of the second workings panels and any necessary adaptive management measures;		Proposed Mining Method for the Upper Donaldson Seam; (e) Section 3.1.5 addresses Geological Details and identifies a north-south oriented dyke crosses the southern part of the proposed Panel 34, immediately to the west of the Panel 32. A second dyke also crosses the southern end of the proposed Panel 32 and immediately to the west of the historic workings in the overlying Borehole Seam. The geological features are shown in SMP Plans 3a and 3b.	
	(g) provide revised predictions of the potential subsidence effects, subsidence impacts and environmental consequences of the proposed second workings, incorporating any relevant information obtained since this approval; (h) describe the measures that would be implemented to ensure compliance with the performance measures in Tables 2 and 3, and manage or remediate any impacts and/or environmental consequences; (i) include a Built Features Management Plan, which has been prepared in consultation with DRE and the owners of affected built features, to manage the potential subsidence impacts and/or environmental consequences of the proposed second workings, and which: • addresses in appropriate detail all items of key public infrastructure (with particular consideration of angle towers on transmission lines and power lines), other public infrastructure and all other built features; • has been prepared following appropriate consultation with the owner/s of potentially affected feature/s; • recommends appropriate remedial measures and includes commitments to mitigate, repair, replace or compensate all predicted impacts on potentially affected built features in a timely manner; and • in the case of all key public infrastructure, and other public infrastructure except roads, trails and associated structures, reports external auditing for compliance with ISO 31000 (or alternative standard agreed with the infrastructure owner), and provides for annual auditing of compliance and effectiveness during extraction which may impact the infrastructure;	• Extraction Plan Area 4, May 2014 • Letter from DP&E re Approval of Extraction Plan Area 4, 19 Sep 2014 • Built Features Management Plans: ○ Transgrid Towers Area 1. 22 Mar 2012 ○ Ausgrid Power-lines – Tailgate Headings, 21 Jun 2012 ○ Hunter Water Area 2, 21 Jun 2012 ○ Ausgrid Power-line East Mains, 23 Oct 2012 ○ Ausgrid Power-lines Panels 20-22, 2 Nov 2012 ○ Cessnock City Council Blackhill Road and Taylors Road, 7 Dec 2012 ○ Hunter Water Area1 East Mains, 12 Dec 2012 ○ Telstra Area 2, 21 Dec 2012 ○ Transgrid Towers Area 2, 16 Jan 2013	(f) Section 3.2 addresses Subsidence Predictions and section 3.4 describes Predicted Subsidence Parameters; (g) Section 3.5 identifies performance objectives in relation to subsidence impacts. These objectives have been used when developing management strategies for this Extraction Plan. (h) Built Features Management Plans were developed in consultation with infrastructure owners to manage potential subsidence effects. Built Features Management Plans were prepared for Public Roads – Blackhill Road and Taylors Road (Cessnock City Council), Fibre-optic cables and Telecommunication (Telstra); Power-line assets (Ausgrid), Electricity Towers (Transgrid), and Water Pipeline (Hunter Water).	**Compliant**
	(j) include a Water Management Plan, which has been prepared in consultation with EPA and NOW, which provides for the management of	• Water Management Plan, May 2014	(i) Water Management Plan dated May 2014 was prepared by Evans and Peck and	**Compliant**

Condition No.	Abel Coal Project Approval 05_0136 MOD 3 Condition	Verification	Compliance	Comments
	the potential impacts and/or environmental consequences of the proposed second workings on watercourses and aquifers, including: • surface and groundwater impact assessment criteria, including trigger levels for investigating any potentially adverse impacts on water resources or water quality; • a program to monitor and report stream flows, assess any changes resulting from subsidence impacts and remediate and improve stream stability; • a program to monitor and report groundwater inflows to underground workings; • a program to predict, manage and monitor impacts to groundwater bores on privately-owned land; and (k) include a Biodiversity Management Plan, which has been prepared in consultation with OEH, which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings on aquatic and terrestrial flora and fauna, with a specific focus on threatened species, populations and their habitats; endangered ecological communities; and water dependent ecosystems; (l) include a Land Management Plan, which has been prepared in consultation with any affected public authorities, to manage the potential impacts and/or environmental consequences of the proposed second workings on land in general, with a specific focus on cliffs, rock face features and steep slopes;	• Biodiversity Management Plan, May 2014 • Land Management Plan, May 2014 • Letter from DP&E re Approval of Extraction Plan Area 4, 19 Sep 2014: ○ Water Management Plan ○ Biodiversity Management Plan ○ Land Management Plan	approved by DP&E on 19 September 2014. The Water Management Plan includes surface and groundwater impact assessment criteria, including trigger levels (section 3.2); a program to monitor and report stream flows (section 5.1); a program to monitor and report groundwater inflows to underground workings (section 4.7) and a program to predict, manage and monitor impacts to groundwater bores on privately-owned land (sections 4 and 5). (k) Biodiversity Management Plan dated May 2014 was prepared by Hunter Eco and approved by DP&E on 19 September 2014. The Biodiversity Management Plan includes management of the potential impacts and/or environmental consequences of the second workings on aquatic and terrestrial flora and fauna with a specific focus on threatened species populations and their habitats (section 3); endangered ecological communities (section 6.1); and water dependent ecosystems (section 3.2). (l) Land Management Plan dated May 2014 was approved on 19 September 2014 and included management of potential impacts and/or environmental consequences of the second workings on land in general, with a specific focus on cliffs, rock face features and steep slopes (sections 3 to 6).	
	(m) include a Heritage Management Plan, which has been prepared in consultation with OEH and relevant stakeholders for both Aboriginal and historic heritage, to manage the potential environmental consequences of the proposed second workings on both Aboriginal and non-Aboriginal heritage items, and reflects the requirements of condition 21 of schedule 4; (n) include a Public Safety Management Plan, which has been prepared in consultation with DRE, to ensure public safety in the mining area;	• Public Safety Management Plan, May 2014 • Heritage Management Plan, May 2014 • Subsidence Monitoring Program, May 2014 • Rehabilitation Management Plan, Aug 2014	(m) Heritage Management Plan dated May 2014 was approved by DP&E on 19 September 2014 and included management of potential environmental consequences of the second workings on both Aboriginal and non-Aboriginal heritage items (sections 5 to 8). (n) Public Safety Management Plan May 2014 approved by DP&E on 19 September 2014.	**Compliant**

Condition No.	Abel Coal Project Approval 05_0136 MOD 3 Condition	Verification	Compliance	Comments
	(o) include a Subsidence Monitoring Program, which has been prepared in consultation with DRE; to: • provide data to assist with the management of the risks associated with subsidence; • validate the subsidence predictions; • analyse the relationship between the predicted and resulting subsidence effects and predicted and resulting impacts under the plan and any ensuing environmental consequences; and • inform the contingency plan and adaptive management process; (p) include a contingency plan that expressly provides for adaptive management where monitoring indicates that there has been an exceedance of any performance measure in Tables 1 and 2, or where any such exceedance appears likely; (q) proposes appropriate revisions to the Rehabilitation Management Plan required under condition 28 of Schedule 4; and (r) include a program to collect sufficient baseline data for future Extraction Plans.	• Letter from DP&E re Approval of Extraction Plan Area 4, 19 Sep 2014: • Public Safety Management Plan • Heritage Management Plan • Subsidence Monitoring Program	(o) Subsidence Monitoring Program dated May 2014 approved by DP&E on 19 September 2014 provides data to assist with the management of the risks associated with subsidence (section 6); validate the subsidence predictions (section 5 and 6.1 / 6.3); analyse the relationship between the predicted and resulting subsidence effects and predicted and resulting impacts under the plan and any ensuing environmental consequences (section 6.4); (p) The Extraction Plan TARP also specifically includes both adaptive and contingency management; (q) Rehabilitation Management Plan dated August 2014 prepared by GSS Environmental; (r) Collection of baseline data for future Extraction Plans included in Extraction Plan section 5.	
5.	The Proponent shall ensure that the management plans required under conditions 4(h)-(m) above include: (a) an assessment of the potential environmental consequences of the Extraction Plan, incorporating any relevant information that has been obtained since this approval; and (b) a detailed description of the measures that would be implemented to remediate predicted impacts		The management plans include an assessment of the potential environmental consequences of the Extraction Plan, and a description of the measures that would be implemented to remediate predicted impacts.	**Compliant**
	First Workings			
6.	The Proponent may carry out first workings on site, other than in accordance with an approved Extraction Plan, provided that DRE is satisfied that the first workings are designed to remain long-term stable and non-subsiding, except insofar as they may be impacted by approved second workings. *Note: The intent of this condition is not to require an additional approval for first workings, but to ensure that first workings are built to geotechnical and engineering standards sufficient to ensure long term stability, with zero resulting subsidence impacts.*	• Extraction Plan, May 2014 • Subsidence Management Plan Approval, DTIRIS, 19 Sep 2014		**Noted**

Condition No.	Abel Coal Project Approval 05_0136 MOD 3 Condition	Verification	Compliance	Comments
	Alternative Mining Methods			
7.	The Proponent may carry out bord and pillar mining and pillar extraction in the long-wall mining and short-wall mining areas shown in Figure 2 of Appendix 2, subject to any necessary Extraction Plan.	• Extraction Plan, May 2014		**Compliant Ongoing**
	Payment of Reasonable Costs			
8.	The Proponent shall pay all reasonable costs incurred by the Department to engage suitably qualified, experienced and independent experts to review the adequacy of any aspect of an Extraction Plan			**Noted**
	SURFACE INFRASTRUCTURE MANAGEMENT			
	Gas Drainage			
9.	The Proponent shall ensure that all gas drainage pipelines (other than connection points, monitoring points, dewatering facilities, regulations or isolation points) between gas drainage plants are buried, unless otherwise agreed with the relevant landowner or unless burial is inappropriate for safety or other reasons, to the satisfaction of the Director-General.		No gas drainage pipelines had been required to be constructed for the Abel Coal Project at the date of this audit (March 2015).	**Not triggered**
10.	The Proponent shall prepare and implement a Gas Drainage Management Plan in respect of construction and use of future gas drainage infrastructure (ie for any gas drainage not subject to approval at the date of approval of MOD 3), to the satisfaction of the Director-General. This plan must be submitted to the Director-General for approval prior to the construction of any future gas drainage infrastructure and must include details of the Proponent's commitments regarding: (a) community consultation; (b) landholder agreements; (c) assessment of noise, air quality, traffic, biodiversity, heritage, public safety and other impacts in accordance with approved methods; (d) avoidance of significant impacts and minimisation of impacts generally; (e) beneficial re-use or flaring of drained hydrocarbon gases, wherever practicable; (f) achievement of applicable standards and goals;			**Not triggered**

Condition No.	Abel Coal Project Approval 05_0136 MOD 3 Condition	Verification	Compliance	Comments
	(g) mitigation and/or compensation for significant noise, air quality and visual impacts; and (h) rehabilitation of disturbed sites			
	Service Boreholes			
11.	The Proponent shall prepare and implement a Service Boreholes Management Plan in respect of construction and use of future service boreholes (ie any service boreholes not subject to approval at the date of approval of MOD 3) to the satisfaction of the Director-General. This plan must be submitted to the Director-General for approval prior to the construction of any future service borehole and must include details of the Proponent's commitments regarding: (a) community consultation; (b) landholder agreements; (c) assessment of noise, air quality, traffic, biodiversity, heritage, public safety and other impacts in accordance with approved methods; (d) avoidance of significant impacts and minimisation of impacts generally; (e) achievement of applicable standards and goals; (f) mitigation and/or compensation for significant noise, air quality and visual impacts; and (g) rehabilitation of disturbed sites.	• Service Boreholes Management Plan, Jun 2014	A Services Borehole Management Plan dated June 2014 was prepared to satisfy condition 11 and included: (a) Section 6 addresses community consultation; (b) section 6.1 addresses landholder agreements; (c) section 5.2 and 7 present assessment of noise, air quality, traffic, biodiversity, heritage, public safety and other impacts in accordance with approved methods; (d) section 7.1 addresses general management measures to avoid significant impacts and minimisation of impacts generally; (e) Section 5.2 addresses environmental performance standards and achievement of applicable standards and goals; (f) mitigation and/or compensation for significant noise, air quality and visual impacts; and (g) Section 8 addresses rehabilitation, monitoring and reporting on disturbed sites.	**Compliant**
	Personal Emergency Device (PED) Communications			
12.	The Proponent shall prepare and implement a PED Communications Management Plan in respect of construction and use of future PED communications infrastructure (ie for any PED communications infrastructure not subject to approval at the date of approval of MOD 3) to the satisfaction of the D-G. This plan must be submitted to the D-G for approval prior to the construction of any future PED communications infrastructure and must include details of the Proponent's commitments regarding: (a) community consultation; (b) landholder agreements;		No PED communications infrastructure had been constructed at the date of this audit (March 2015).	**Not triggered**

<table>
<tr><th>Condition No.</th><th>Abel Coal Project Approval 05_0136 MOD 3 Condition</th><th>Verification</th><th>Compliance</th><th>Comments</th></tr>
<tr><td></td><td>(c) assessment of noise, air quality, traffic, biodiversity, heritage, public safety and other impacts in accordance with approved methods;
(d) avoidance of significant impacts and minimisation of impacts generally;
(e) achievement of applicable standards and goals;
(f) mitigation and/or compensation for significant noise, air quality and visual impacts; and
(g) rehabilitation of disturbed sites.</td><td></td><td></td><td></td></tr>
<tr><td></td><td colspan="3">SCHEDULE 4 SPECIFIC ENVIRONMENTAL CONDITIONS – GENERAL</td><td></td></tr>
<tr><td></td><td>Noise</td><td></td><td></td><td></td></tr>
<tr><td></td><td>Operational Noise Criteria</td><td></td><td></td><td></td></tr>
<tr><td>1.</td><td>The Proponent shall ensure that the noise generated by the project does not exceed the criteria in Table 4 at any residence on privately-owned land.
Table 4: Operational noise criteria dB(A)
<table>
<tr><th>Location</th><th>Receiver Area</th><th>Day</th><th>Evening</th><th colspan="2">Night</th></tr>
<tr><td></td><td></td><td colspan="2">LAeq (15 min)</td><td colspan="2">LA1 (1 min)</td></tr>
<tr><td>I</td><td>Lord Howe Drive, Ashtonfield</td><td>36</td><td>36</td><td>36</td><td>45</td></tr>
<tr><td>K</td><td>Catholic Diocese Land</td><td>37</td><td>37</td><td>37</td><td>45</td></tr>
<tr><td>L</td><td>Kilshanny Avenue, Ashtonfield</td><td>40</td><td>40</td><td>40</td><td>47</td></tr>
<tr><td>All other locations</td><td>All other privately owned residences</td><td>35</td><td>35</td><td>35</td><td>45</td></tr>
</table>
Notes: • Noise generated by the project is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy. Appendix 4 sets out the meteorological conditions under which these criteria apply, and the requirements for evaluating compliance with these criteria.</td><td></td><td>Refer to SoC 3.2 for noise reduction works conducted on the Bloomfield CPP to screen residences to the north of the CPP site.
Quarterly Attended Noise Monitoring has been conducted at the nearest potentially affected receivers between 2011 and 2015, during March, June, September and December each year.
Abel Coal Project mine operations were inaudible at all surrounding locations where monitoring was conducted.
SoC 3.3 includes an outline of the proposed noise monitoring program and integration of the noise monitoring programs conducted for the Donaldson Mine, Tasman Mine and Bloomfield facilities.</td><td>Compliant</td></tr>
</table>

<table>
<tr><th>Condition No.</th><th>Abel Coal Project Approval 05_0136 MOD 3 Condition</th><th>Verification</th><th>Compliance</th><th>Comments</th></tr>
<tr><td></td><td>However, these noise criteria do not apply if the Proponent has an agreement with the relevant landowner to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.</td><td></td><td></td><td></td></tr>
<tr><td></td><td>Construction Noise Criteria</td><td></td><td></td><td></td></tr>
<tr><td>2.</td><td>The Proponent shall ensure that the noise generated during the construction of the downcast ventilation shaft as described in EA (MOD 3) does not exceed the criteria in Table 5.
Table 5: Construction noise criteria dB(A)
<table>
<tr><th>Location</th><th>Receiver</th><th>Day
LAeq (15 min)</th></tr>
<tr><td>R</td><td>281 Lings Road, Buttai</td><td>50</td></tr>
<tr><td>S</td><td>189 Lings Road Buttai</td><td>43</td></tr>
</table>
Notes: • The criteria in Table 5 apply only whilst the downcast ventilation shaft is being constructed, and for a maximum of 12 weeks from the commencement of construction. • To interpret the locations referred to Table 5, see the plan in Appendix 3. • Noise generated by the project is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy.
However, these noise criteria do not apply if the Proponent has an agreement with the relevant landowner to generate higher construction noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.</td><td></td><td>The construction of an additional downcast ventilation shaft and ancillary infrastructure is planned to occur in 2016 / 2017.
The additional downcast ventilation shaft is required to support the long-wall mining in the Lower Donaldson Seam.
The construction noise criteria will apply when the downcast ventilation shaft works commence.</td><td>Not triggered</td></tr>
<tr><td></td><td>Rail Noise Criteria</td><td></td><td></td><td></td></tr>
<tr><td>3.</td><td>The Proponent shall ensure that the noise from rail movements on the Bloomfield Rail Spur does not exceed the limits in Table 6 at any residence on privately-owned land.
Table 6: Rail Spur noise criteria dB(A)
<table>
<tr><th>Location</th><th>Day</th><th>Evening</th><th>Night</th></tr>
<tr><td></td><td colspan="3">LAeq (period)</td></tr>
<tr><td>All privately-owned land</td><td>55</td><td>45</td><td>40</td></tr>
</table></td><td></td><td></td><td>Noted</td></tr>
</table>

<table>
<tr><th>Condition No.</th><th>Abel Coal Project Approval 05_0136 MOD 3 Condition</th><th>Verification</th><th>Compliance</th><th>Comments</th></tr>
<tr><td></td><td>Cumulative Noise Criteria</td><td></td><td></td><td></td></tr>
<tr><td>4.</td><td>The Proponent shall implement all reasonable and feasible measures to ensure that the noise generated by the project combined with the noise generated by other mines in the area does not exceed the criteria in Table 7 at any residence on privately-owned land.
Table 7: Cumulative noise criteria dB(A)
<table>
<tr><th>Location</th><th>Day</th><th>Evening</th><th>Night</th></tr>
<tr><td></td><td colspan="3">LAeq (period)</td></tr>
<tr><td>All privately-owned land</td><td>55</td><td>45</td><td>40</td></tr>
</table>
Note: Cumulative noise is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy. Appendix 4 sets out the meteorological conditions under which these criteria apply, and the requirements for evaluating compliance with these criteria.</td><td></td><td>Noise monitoring surveys have demonstrated that the Abel Coal Project is generally not audible at the monitoring sites at residences on privately-owned land.

It is considered that the Abel Coal Project noise emissions do not add to the cumulative noise when combined with the noise generated by other mines in the area.</td><td>Compliant</td></tr>
<tr><td></td><td>Operating Conditions</td><td></td><td></td><td></td></tr>
<tr><td>5.</td><td>The Proponent shall:
(a) implement best management practice to minimise the construction, operational, road and rail noise of the project;
(b) operate an on-site noise management system to ensure compliance with the relevant conditions of this approval;
(c) minimise the noise impacts of the project during meteorological conditions under which the noise limits in this consent do not apply (see Appendix 4);
(d) only receive and/or dispatch locomotives and rolling stock either on or from the site that are approved to operate on the NSW rail network in accordance with the noise limits in ARTC's EPL (No. 3142);
(e) carry out regular monitoring to determine whether the project is complying with the noise criteria and other relevant conditions of approval,
to the satisfaction of the Director-General.</td><td>• Noise Management Plan, 12 Aug 2014</td><td>The Noise Management Plan implemented for the Abel Coal Project:
(a) uses best management practice to minimise the construction, operational, road and rail noise from the project;
(b) an on-site noise management system to ensure compliance with the relevant conditions of this approval has been implemented for the Abel Project;
(c) Noise Management Plan Section 9.2 addresses minimising the noise impacts of the project during adverse meteorological conditions when the noise limits in this consent do not apply;
(d) locomotives and rolling stock from the Bloomfield CPP operate in accordance with the noise limits in ARTC's EPL (No. 3142);
(e) Noise Management Plan Section 8 provides the regular monitoring to determine whether the</td><td>Compliant</td></tr>
</table>

Condition No.	Abel Coal Project Approval 05_0136 MOD 3 Condition	Verification	Compliance	Comments
			project is complying with the noise criteria and other relevant conditions of approval.	
	Noise Management Plan			
6.	The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Director-General. This plan must: (a) be prepared in consultation with EPA, and submitted to the Director-General for approval within 6 months of the date of approval of MOD 3; (b) describe the measures that would be implemented to ensure compliance with the noise criteria and operating conditions in this approval; (c) describe the proposed noise management system in detail; and (d) include a monitoring program that: • uses attended monitoring to evaluate the compliance of the project against the noise criteria in this approval; • evaluates and reports on: - the effectiveness of the on-site noise management system; and - compliance against the noise operating conditions; and • defines what constitutes a noise incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any noise incidents.	• Letter from DP&E re Extension of Time for Submission of Management Plans, 2 Jun 2014 • Noise Management Plan, 12 Aug 2014	(a)The Noise Management Plan was prepared by SLR for the Abel Project in consultation with EPA. The Noise Management Plan was submitted to the DP&E for approval in August 2014, in accordance with the extension of time granted by the DP&E on 2 June 2014; (b) Section 7 – Noise Mitigation Measures describes measures implemented to ensure compliance with the noise criteria and operating conditions in this approval; (c) The Noise Management Plan describes the noise management system; (d) section 8 describes the noise monitoring: • section 8.3 addresses attended monitoring to evaluate the compliance of the project against the noise criteria; • Sections 10 to 12 evaluates and reports on: - the effectiveness of the on-site noise management system; and - Section 10 – Determining Compliance addresses noise operating conditions; and • Section 12 –Protocol for Managing Complaints and/or Exceedances defines a noise incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any noise incidents.	**Compliant**
	AIR QUALITY & GREENHOUSE GAS			
	Odour			
7.	The Proponent shall ensure that no offensive odours are emitted from the site, as defined under the POEO Act.		No offensive odours were reported to have been emitted from the site, and no community complaints related to odour have been recorded.	**Compliant**
	Greenhouse Gas Emissions			

<table>
<tr><th>Condition No.</th><th>Abel Coal Project Approval 05_0136 MOD 3 Condition</th><th>Verification</th><th>Compliance</th><th>Comments</th></tr>
<tr><td>8.</td><td>The Proponent shall implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the site to the satisfaction of the Director-General.</td><td></td><td>Annual reporting occurs under the National Greenhouse and Energy Report System, with estimates of greenhouse gas emissions and energy consumption for the Abel Project. An Energy Savings Action Plan is in place for the Abel Project to improve energy efficiency on site.</td><td>Compliant</td></tr>
<tr><td></td><td>Air Quality Criteria</td><td></td><td></td><td></td></tr>
<tr><td>9.</td><td>The Proponent shall implement all reasonable and feasible mitigation measures to ensure that the particulate emissions generated by the project do not exceed the criteria listed in Tables 8, 9 and 10 at any residence on privately-owned land.
Table 8: Long term criteria for particulate matter
<table>
<tr><th>Pollutant</th><th>Averaging Period</th><th>Criterion</th></tr>
<tr><td>Total suspended particulate (TSP) matter</td><td>Annual</td><td>90µg/m^3</td></tr>
<tr><td>Particulate matter <10µm (PM_{10})</td><td>Annual</td><td>30µg/m^3</td></tr>
</table>
Table 9: Short term criterion for particulate matter
<table>
<tr><th>Pollutant</th><th>Averaging Period</th><th>Criterion</th></tr>
<tr><td>Particulate matter <10µm (PM_{10})</td><td>24 hour</td><td>50µg/m^3</td></tr>
</table>
Table 10: Long term criteria for deposited dust
<table>
<tr><th>Pollutant</th><th>Averaging Period</th><th>Max increase in deposited dust level</th><th>Maximum total deposited dust level</th></tr>
<tr><td>Deposited Dust</td><td>Annual</td><td>2g/m^2/mth</td><td>4g/m^2/mth</td></tr>
</table></td><td>• Air Quality & Greenhouse Gas Management Plan, 4 Aug 2014
• 2012-2013- AEMR
• 2013-2014 AEMR</td><td>All Abel Coal Mine dust monitoring results have demonstrated compliance with the criteria in condition 9, with no exceedances for deposited dust or total suspended particulate matter during the 2011 to 2015 period.</td><td>Compliant</td></tr>
<tr><td></td><td>Operating Conditions</td><td></td><td></td><td></td></tr>
<tr><td>10.</td><td>The Proponent shall:
(a) implement best practice air quality management at the site, including all reasonable and feasible measures to minimise off-site odour and dust emissions generated by the project, including from any spontaneous combustion on site;
(b) operate an air quality management system on site to ensure compliance with the relevant conditions of this approval;</td><td>• Air Quality & Greenhouse Gas Management Plan, 4 Aug 2014</td><td>Air quality management for the Abel Coal Project has been implemented in accordance with the approved Air Quality & Greenhouse Gas Management Plan dated August 2014:
(a) section 5 Table 5.1 provides management and control measures for air quality;</td><td>Compliant</td></tr>
</table>

Condition No.	Abel Coal Project Approval 05_0136 MOD 3 Condition	Verification	Compliance	Comments
	(c) minimise the air quality impacts of the project during adverse meteorological conditions and extraordinary events (see note d to Tables 8-10 above); and (d) co-ordinate the air quality management on site with the air quality management of the Bloomfield Colliery, to minimise cumulative air quality impacts, to the satisfaction of the Director-General.		(b) Section 6 addresses air quality monitoring for assessment of compliance with the conditions of this approval; (c) A range of air quality management control measures and actions to minimise the air quality impacts are presented in Table 5-1; (d) Temporary cessation of work may occur if Bloomfield operations are likely to emit high dust levels, to prevent non-compliance of cumulative dust criteria.	
	Air Quality & Greenhouse Gas Management Plan			
11.	The Proponent shall prepare and implement a detailed Air Quality & Greenhouse Gas Management Plan for the project to the satisfaction of the Director-General. This plan must: (a) be prepared in consultation with EPA, and submitted to the Director-General for approval within 6 months of the date of approval of MOD 3; (b) describe the measures that would be implemented to ensure compliance with the relevant air quality criteria and operating conditions of this approval; (c) describe the measures that would be implemented to minimise the greenhouse gas emissions from the site; (d) describe the proposed on-site air quality management system; and (e) include an air quality monitoring program that: • is capable of evaluating the operating conditions of this approval; • evaluates and reports on: - the effectiveness of the air quality management system; and - compliance against the air quality operating conditions; and • defines what constitutes an air quality incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any air quality incidents.	• Letter from DP&E re Extension of Time for Submission of Management Plans, 2 Jun 2014 • Air Quality & Greenhouse Gas Management Plan, 4 Aug 2014 • Energy Saving Action Plan (ESAP) Dec 2007	(a) The Air Quality & Greenhouse Gas Management Plan prepared by Todoroski Air Sciences to satisfy condition 11 in consultation with the EPA was submitted to the DP&E on the 4 August 2014 for approval in accordance with the extension of time granted on 2 June 2014; (b) section 5 Table 5.1 provides management and control measures for air quality; (c) An Energy Saving Action Plan (ESAP) (December 2007) was submitted to DoP and approved on 13 February 2008. (d) section 5 addresses Air Emissions Control; (e) section 7 provides an air quality monitoring program.	**Compliant**
	METEOROLOGICAL MONITORING			
12.	During the life of the project, the Proponent shall ensure that there is a suitable meteorological station operating in the vicinity of the site that: (a) complies with the requirements in the Approved Methods for Sampling of Air Pollutants in New South Wales guideline; and	• AS 2923-1987 *"Ambient Air Guide for Measurements of Horizontal Wind for Air Quality Applications"*	The automatic weather station located on the Donaldson mine site (adjacent to the Abel Project) continuously records the meteorological	**Compliant**

Condition No.	Abel Coal Project Approval 05_0136 MOD 3 Condition	Verification	Compliance	Comments
	(b) is capable of continuous real-time measurement of temperature lapse rate in accordance with the NSW Industrial Noise Policy, unless a suitable alternative is approved by the Director-General following consultation with the EPA.	• *Approved Methods for Sampling of Air Pollutants in New South Wales* Guideline, DEC • NSW Industrial Noise Policy	parameters required under EPL 12856 condition L6.4.	
	SOIL & WATER *Note: Under the Water Act 1912 and/or the Water Management Act 2000, the Proponent is required to obtain the necessary water licences for the project*			
	Water Supply			
13.	The Proponent shall ensure that it has sufficient water for all stages of the development, and if necessary, adjust the scale of mining operations to match its available water supply, to the satisfaction of the Director-General.		The Site Water Balance and availability of water for the Abel Project has been conducted and verified that water availability is adequate for the scale of mining operations proposed.	**Compliant**
	Compensatory Water Supply			
14	The Proponent shall provide a compensatory water supply to any landowner of privately-owned land whose water entitlements are adversely impacted (other than an impact that is negligible) as a result of the project, in consultation with NOW, and to the satisfaction of the D-G. The compensatory water supply measures must provide an alternative long-term supply of water that is equivalent to the loss attributed to the project. Equivalent water supply must be provided (at least on an interim basis) within 24 hours of the loss being identified. If the Proponent and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the D-G for resolution. If the Proponent is unable to provide an alternative long-term supply of water, then the Proponent shall provide alternative compensation to the satisfaction of the Director-General.		The requirement for compensatory water supply to any landowner of privately-owned land whose water entitlements are adversely impacted has not been triggered.	**Not triggered**
	Surface Water Discharges			
15.	The Proponent shall not discharge any water from the site or cause any pollution of waters except as expressly provided for in an EPL.		No water was discharged from the Abel Project site between 2011 and 2015. All water generated by the mining activities is transferred to the Big Kahuna storage pond for reuse and dust suppression, or pumped to Bloomfield CPP and pondage.	**Compliant**

Condition No.	Abel Coal Project Approval 05_0136 MOD 3 Condition	Verification	Compliance	Comments
	Surface Water Transfer			
16.	The Proponent may transfer water between the site, the Donaldson Open-Cut Coal Mine and the Bloomfield Colliery, in accordance with the Water Management Plans for these operations.	• Water Management Plan – Appendix B and Appendix C, March 2008	The Integrated Water Management Plan March 2008 Part B addresses off-site water transfers to Bloomfield Colliery, in section B.3.6 and C3.8.	**Compliant**
	Water Management Plan			
17.	The Proponent shall prepare and implement a Water Management Plan for the project, for all areas that are not, or will not, be subject to condition 4 of schedule 3, to the satisfaction of the Director-General. This plan must be prepared in consultation with NOW and EPA, by suitably qualified and experienced persons whose appointment has been endorsed by the Director-General, and submitted to the Director-General for approval within 6 months of the date of approval of MOD 3. This plan must include: (a) a comprehensive water balance for the project that includes details of: • sources and security of water supply; • water make in the underground workings; • water use; and • any water discharges; and (b) management plans for the Surface facilities sites, that include: • a detailed description of water management systems for each site, including: - clean water diversion systems; - erosion and sediment controls; and - any water storages • measures to minimise potable water use and to reuse and recycle water; and • monitoring and reporting procedures. *Note: This plan can be integrated with the Water Management Plans prepared for the Donaldson Open-Cut Mine and the Bloomfield Colliery*.	• Letter from DoP re Endorsement of Suitably Qualified Persons to prepare the Water Management Plan, 2008 • Letter from DECC re Water Management Plan, 9 Apr 2008 • Letter from DoP re Water Management Plan Approval, 5 May 2008 • Extraction Plan, May 2014 • Water Management Plan, 28 May 2014	The Water Management Plan (WMP) for the Abel Project was prepared by suitably qualified and experienced persons endorsed by the Director-General (Dr Steve Perrens - Evans & Peck; Peter Dundon – Peter Dundon & Associates) in consultation with the DECC and DWE. The Water Management Plan was approved by DoP on 5 May 2008. The Abel Project water management was integrated with the water management plans for the Donaldson Coal and Bloomfield Collieries. Review of this Water Management Plan was conducted in May 2014 and the Plan was considered to address the requirements of the MOD 3 conditions. a) The Site Water Balance is presented in the Water Management Plan 2008 Part B section B.3: • section B.3.4 and C3.4 identifies sources of water; • section B.3.4 and C3.10 address reliability of water supply; • section A9.4.1 and B3.9 address water make in the underground workings; • section B.3.5 and C3.5 water use on site • section B.3.5 water management on site; • section B.3.5 any water discharges. (b) section B1 and B2 provide description of water management systems for each of the Abel facilities and work areas, including:	**Compliant**

<table>
<tr><th>Condition No.</th><th>Abel Coal Project Approval 05_0136 MOD 3 Condition</th><th>Verification</th><th>Compliance</th><th>Comments</th></tr>
<tr><td></td><td></td><td></td><td>- Part C4.2 discusses clean water diversion systems;
- Part B, section B.3 -erosion and sediment controls; and
- Part C3.10 identifies water storages;
• Part B3.10 discusses potable water use; and
• Part A8 and 9 discusses monitoring and reporting procedures.
The Water Management Plan includes:
○ Surface Water Monitoring Plan - Part A Section A.8;
○ Groundwater Monitoring Program Part A, section A.9; and
○ Surface and Groundwater Response Plan - Part A section A8.5
○ Site Water Balance - Part B, section B.3;
○ Erosion and Sediment Control - Plan Part B, section B.4;</td><td></td></tr>
<tr><td></td><td>BIODIVERSITY</td><td></td><td></td><td></td></tr>
<tr><td></td><td>Biodiversity Offset Strategy</td><td></td><td></td><td></td></tr>
<tr><td>18.</td><td>The Proponent shall develop and implement a Biodiversity Offset Strategy as summarised in Table 11, prior to the commencement of construction of the coal conveyor or the vegetation clearing described in the EA, whichever is sooner, in consultation with OEH, and to the satisfaction of the Director-General.
Table 11: Biodiversity Offset Strategy
<table>
<tr><th>Area</th><th>Offset Type</th><th>Minimum Size/Amount</th></tr>
<tr><td rowspan="2">Biodiversity Offset Area</td><td>Lower Hunter Spotted Gum-Ironbark Forest EEC</td><td>10ha</td></tr>
<tr><td>Remnant native woodland vegetation</td><td>10ha</td></tr>
</table></td><td></td><td>The construction of the coal conveyor had not commenced at the date of this audit (March 2015).</td><td>Not triggered</td></tr>
</table>

Condition No.	Abel Coal Project Approval 05_0136 MOD 3 Condition	Verification	Compliance	Comments
	Long Term Security of Offset			
19.	Within 12 months of the commencement of construction of the coal conveyor, or the vegetation clearing described in the EA, whichever is sooner, unless the Director-General agrees otherwise, the Proponent shall make suitable arrangements to provide appropriate long term security for the biodiversity offset area identified in Table 11, to the satisfaction of the Director-General.		The requirement for vegetation offset is related to the proposed conveyor route and will be enacted prior to the clearing being undertaken if the construction of the conveyor occurs. The identification of a suitable vegetation offset area of 20ha is being investigated by Donaldson Coal Pty Ltd to provide a suitable offset to meet the requirements of this condition if the conveyor is constructed.	**Not triggered**
	Biodiversity Management Plan			
20.	The Proponent shall prepare and implement a Biodiversity Management Plan for the project, for all areas that are not, or will not, be subject to condition 4 of schedule 3, to the satisfaction of the Director-General. This plan must: (a) be prepared in consultation with OEH, and be approved by the Director-General prior to the commencement of construction of the coal conveyor; (b) establish baseline data for the existing habitat in the biodiversity offset area and on the site; (c) describe the short, medium, and long term measures that would be implemented to: • manage vegetation clearing; • manage the remnant vegetation and habitat in the biodiversity offset area and on the site; and • implement the biodiversity offset strategy, including detailed performance and completion criteria; (d) include a program to monitor and report on the effectiveness of these measures, and progress against detailed performance and completion criteria; (e) identify the potential risks to the successful implementation of the Biodiversity Offset Strategy, and the contingency measures that would be implemented to mitigate these risks; and (f) include details of who would be responsible for monitoring, reviewing, and implementing the plan.		Construction of the proposed coal conveyor had not commenced at the date of this audit (April 2015).	**Not triggered**
	Conservation Bond			

Condition No.	Abel Coal Project Approval 05_0136 MOD 3 Condition	Verification	Compliance	Comments
21.	Within 6 months of the commencement of construction of the coal conveyor, or the vegetation clearing described in the EA, whichever is sooner, the Proponent shall lodge a conservation bond with the Department to ensure that the Biodiversity Offset Strategy is implemented in accordance with the performance and completion criteria described in the Biodiversity Management Plan. The sum of the bond shall be determined by: (a) calculating the full cost of implementing the offset strategy (other than land acquisition costs); and (b) employing a suitably qualified quantity surveyor to verify the calculated costs. If the offset strategy is completed generally in accordance with the completion criteria in the Biodiversity Management Plan to the satisfaction of the Director-General, the Director-General will release the bond. If the offset strategy is not completed generally in accordance with the completion criteria in the Biodiversity Management Plan, the Director-General will call in all or part of the conservation bond, and arrange for the satisfactory completion of the relevant works.		Construction of the proposed coal conveyor had not commenced at the date of this audit (April 2015).	**Not triggered**
	HERITAGE			
	Aboriginal Cultural Heritage Management Plan			
22.	The Proponent shall prepare and implement an Aboriginal Cultural Heritage Management Plan for the project, for all areas that are not, or will not, be subject to condition 4 of Schedule 3, to the satisfaction of the Director-General. This plan must: (a) be prepared in consultation with OEH and the Aboriginal community; (b) be submitted to the Director-General for approval within 6 months of the date of approval of MOD 3; (c) identify any actions required to ensure that the performance measures in Table 1 are met; (d) include the following program/procedures for Aboriginal cultural heritage management: • managing Aboriginal cultural heritage sites, and the discovery of any new Aboriginal cultural heritage sites, objects or skeletal remains; • maintaining consultation with, and the involvement of, the Aboriginal community in the conservation and management of Aboriginal heritage	• Aboriginal Heritage Management Plan, Aug 2014	The Aboriginal Heritage Management Plan was prepared to address the requirements of the *National Parks and Wildlife Act 1974* and the *Environmental Planning and Assessment Act 1979*, specifically the Part 3A Major Project Approval 05_0136 and Statement of Commitments for the Abel Underground Mine: (a) The Aboriginal Heritage Management Plan was prepared in consultation with the Mindaribba LALC and Awabakal LALC; (b) The Aboriginal Heritage Management Plan was submitted to the DP&E in August 2014; (c) Section 4.4. addresses matters related to management of recorded Aboriginal sites in surface impact areas; (d) include the following program/procedures for Aboriginal cultural heritage management:	**Compliant**

Condition No.	Abel Coal Project Approval 05_0136 MOD 3 Condition	Verification	Compliance	Comments
	sites, and managing access for the Aboriginal community to Aboriginal heritage sites and culturally significant areas; and • a trigger action response plan to manage unexpected subsidence impacts		• Section 4.4. addresses management of Aboriginal cultural heritage sites, and section 4.7 and 4.8 discus the discovery of any new Aboriginal cultural heritage sites, objects or skeletal remains; • Section 4.2 describes maintaining consultation with, and the involvement of, the Aboriginal community in the conservation and management of Aboriginal heritage sites, and managing access for the Aboriginal community to Aboriginal heritage sites and culturally significant areas; and • Section 4.5 provides a trigger action response plan to manage unexpected subsidence impacts.	
	TRANSPORT			
	Monitoring of Coal Transport			
23.	The Proponent shall: (a) keep accurate records of the amount of coal transported from the site (on a monthly basis); and (b) make these records publicly available on its website at the end of each calendar year	http://www.doncoal.com.au/environment/abel/ • Coal Transported from the Site 2014	The amount/weight of ROM coal transported from the Abel Project site to the Bloomfield CPP is recorded for each load and coal transported from the site is recorded and monthly tonnages available on the Company website.	**Compliant**
	VISUAL			
	Visual Amenity and Lighting			
24.	The Proponent shall: (a) implement all reasonable and feasible measures to minimise the visual and off-site lighting impacts of the project; (b) ensure no unshielded outdoor lights shine above the horizontal; and (c) ensure that all external lighting associated with the project complies with Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting or its latest version, to the satisfaction of the Director-General	• AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting	(a) Actions to reduce visual impact of the Abel Project mine and facilities include shrub and tree plantings along the bund walls of the mine facilities towards John Renshaw Drive to lessen the visual impact of the project area. (b) Unshielded outdoor lights do not shine above the horizontal and are not visible outside of the West Open Cut Pit; (c) external lighting complies with Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting.	**Compliant**

Condition No.	Abel Coal Project Approval 05_0136 MOD 3 Condition	Verification	Compliance	Comments
	WASTE			
25	The Proponent shall: (a) minimise and monitor the waste generated by the project; (b) ensure that the waste generated by the project is appropriately stored, handled and disposed of; (c) manage on-site sewage treatment and disposal in accordance with the requirements of Council; and (d) report on waste management and minimisation in the Annual Review, to the satisfaction of the Director-General		(a) Waste management for the project has been implemented in accordance with the waste hierarchy adopted by Donaldson Coal (i.e. avoidance, reuse, recycle / reprocess, and disposal). (b) Waste generated by the project is stored, handled and disposed of in accordance with the Integrated Environmental Management Strategy; (c) The effluent treatment system (for sewage, bath house wastewater) treats waste water to a tertiary standard and the treated water is transferred to the Big Kahuna water storage dam. Waste water has not been irrigated on the Abel Mine site. (d) Waste management and minimisation is reported in the Abel Project AEMR.	**Compliant**
	BUSHFIRE			
26	The Proponent shall: (a) ensure that the project is suitably equipped to respond to fires on site; and (b) assist the Rural Fire Service and emergency services as much as possible if there is a fire in the vicinity of the site.	• Rehabilitation Management Plan, Aug 2014	Management measures to mitigate the risks of bushfire are documented in the MOP.	**Compliant**
	REHABILITATION			
	Rehabilitation Objectives			

<table>
<tr><th>Condition No.</th><th>Abel Coal Project Approval 05_0136 MOD 3 Condition</th><th>Verification</th><th>Compliance</th><th>Comments</th></tr>
<tr><td>27</td><td>The Proponent shall rehabilitate the site to the satisfaction of the Executive Director Mineral Resources. This rehabilitation must be generally consistent with the proposed rehabilitation strategy described in the EA, and comply with the objectives in Table 12.
Table 12: Rehabilitation Objectives
<table>
<tr><th>Feature</th><th>Objective</th></tr>
<tr><td>Mine site (as a whole).</td><td>• Safe, stable & non-polluting; and
• Final land use compatible with surrounding land uses.</td></tr>
<tr><td>• Surface infrastructure</td><td>• To be decommissioned and removed, unless the Executive Director Mineral Resources agrees otherwise</td></tr>
<tr><td>Portals and ventilation shafts</td><td>• To be decommissioned and made safe and stable; and • Retain habitat for threatened species (eg bats), where practicable</td></tr>
<tr><td>Watercourses within project area</td><td>• Hydraulically and geomorphologically stable.</td></tr>
<tr><td>Cliffs</td><td>• No additional risk to public safety compared to prior to mining.</td></tr>
<tr><td>Other land affected by the project</td><td>• Restore ecosystem function, including maintaining or establishing self-sustaining ecosystems comprised of: - local native plant species (unless the Executive Director Mineral Resources agrees otherwise); and - a landform consistent with the surrounding environment.</td></tr>
<tr><td>Built features damaged by mining operations</td><td>• Repair to pre-mining condition or equivalent unless: - the owner agrees otherwise; or - the damage is fully restored, repaired or compensated under the Mine Subsidence Compensation Act 1961</td></tr>
<tr><td>Community</td><td>• Ensure public safety; and
• Minimise the adverse socio-economic effects associated with mine closure</td></tr>
</table></td><td>• Rehabilitation Management Plan, May 2014</td><td>The site will be rehabilitated to the satisfaction of the Director-General and DII / DRE at completion of mining.</td><td>Noted</td></tr>
<tr><td></td><td>Progressive Rehabilitation</td><td></td><td></td><td></td></tr>
<tr><td>28.</td><td>The Proponent shall carry out the rehabilitation of the site progressively, that is, as soon as reasonably practicable following disturbance.</td><td>• Rehabilitation Management Plan, Aug 2014</td><td>Rehabilitation of the surface areas where disturbance has occurred and no further disturbance will occur, has been undertaken progressively.</td><td>Compliant Ongoing</td></tr>
</table>

Condition No.	Abel Coal Project Approval 05_0136 MOD 3 Condition	Verification	Compliance	Comments
	Rehabilitation Management Plan			
29.	The Proponent shall prepare and implement a Rehabilitation Management Plan for the project, in consultation with OEH, NOW, Cessnock City Council, Maitland City Council and Newcastle City Council, and the CCC, and to the satisfaction of the Director-General and the Executive Director Mineral Resources. This plan must: (a) be submitted to the Director-General and the Executive Director Mineral Resources for approval within 9 months of the date of approval of MOD 3; (b) be prepared in accordance with any relevant DRE guideline and be consistent with the rehabilitation objectives in the EA, EA (MOD 3) and in Table 11; (c) describe how the performance of the rehabilitation would be monitored and assessed against the objectives in Table 11; (d) describe the process whereby additional measures would be identified and implemented to ensure the rehabilitation objectives are achieved; (e) provide for detailed mine closure planning, including measures to minimise socio-economic effects due to mine closure, to be conducted prior to the site being placed on care and maintenance; and (f) be integrated with the other management plans required under this approval. *Note: The Rehabilitation Management Plan should address all land impacted by the project, and should be suitably integrated with the approved Rehabilitation Management Plans for the Donaldson Open-Cut Mine and the Bloomfield Colliery.*	• ESG3 Mining Operations Plan (MOP) Guidelines, DRE, September 2013 • Rehabilitation Management Plan Aug 2014	The Rehabilitation Management Plan for the Abel Coal Mine prepared by GSS Environmental: (a) the Rehabilitation Management Plan was submitted to the Director-General and the Executive Director Mineral Resources for approval within 9 months of the date of approval of MOD 3; (b) The Rehabilitation Management Plan was prepared in accordance with ESG3 *Mining Operations Plan (MOP) Guidelines*, DRE, September 2013, and is consistent with the rehabilitation objectives Environmental Assessment MOD 3; (c) Section 7 Rehabilitation Monitoring describes how the performance of the rehabilitation would be monitored; (d) describe the process whereby additional measures would be identified and implemented to ensure the rehabilitation objectives are achieved; (e) Section 4.4. Planning for Mine Closure provides mine closure planning, including measures to minimise socio-economic effects due to mine closure; and (f) Section 4.2 addresses Integration with Other Management Plans.	**Compliant**
	SCHEDULE 5 ADDITIONAL PROCEDURES			
	NOTIFICATION OF LANDOWNERS			
1.	As soon as practicable after obtaining monitoring results which show: (a) an exceedance of any relevant criteria in Schedule 4, the Proponent shall notify affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the Proponent is again complying with the relevant criteria; and (b) an exceedance of any relevant air quality criteria in Schedule 4, the			**Not triggered**

Condition No.	Abel Coal Project Approval 05_0136 MOD 3 Condition	Verification	Compliance	Comments
	Proponent shall send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the affected landowners and/or existing tenants of the land (including the tenants of any mine owned land).			
	INDEPENDENT REVIEW			
2.	If an owner of privately-owned land considers that the Proponent is exceeding the relevant criteria in Schedule 4, then he/she may ask the Director-General in writing for an independent review of the impacts of the project on his/her land. If the Director-General is satisfied that an independent review is warranted, then within 2 months of the Director-General's decision the Proponent shall: (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the D-G to: (i) consult with the landowner to determine his/her concerns; (ii) conduct monitoring to determine whether the Proponent is complying with the relevant criteria in Schedule 4; and (iii) if the Proponent is not complying with these criteria then identify the measures that could be implemented to ensure compliance with the relevant criteria; and (b) give the D-G and landowner a copy of the independent review.			**Not triggered**
	SCHEDULE 6 ENVIRONMENTAL MANAGEMENT, REPORTING & AUDITING			
	ENVIRONMENTAL MANAGEMENT			
	Environmental Management Strategy			
1.	The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Director-General. This strategy must: (a) be submitted to the Director-General for approval within 6 months of the date of approval of MOD 3; (b) provide the strategic framework for environmental management of the project; (c) identify the statutory approvals that apply to the project; (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;	• Environmental Management Strategy, EMS Operating Manual (EOM-1) Jul 2014	The Environmental Management Strategy was prepared to satisfy the requirements of Schedule 6 condition 1: a) The Environmental Management Strategy was submitted to the Director-General for approval within 6 months of the date of approval of MOD 3; (b) Section 2 outlines the strategic framework for environmental management of the project;	**Compliant**

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	(e) describe the procedures that would be implemented to: (i) keep the local community and relevant agencies informed about the operation and environmental performance of the project; (ii) receive, handle, respond to, and record complaints; (iii) resolve any disputes that may arise during the course of the project; (iv) respond to any non-compliance; (v) respond to emergencies; and (f) include: (i) copies of any strategies, plans and programs approved under the conditions of this approval; and (ii) a clear plan depicting all the monitoring required to be carried out under the conditions of this approval		(c) Section 1.2 describes the statutory approvals that apply to the project; (d) Section 12.5 describes the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project; (e) Section 14 describes the procedures that would be implemented to keep the local community and relevant agencies informed about the operation and environmental performance of the project; receive, handle, respond to, and record complaints; resolve any disputes; respond to any non-compliance; and respond to emergencies; (f) Section 10 includes reference to strategies, plans and programs under the conditions of this approval; and Section 13.2 describes the monitoring required to be carried out under the conditions of this approval The Integrated Environmental Management Strategy addresses the components to satisfy the requirements of Project Approval MOD 2, Schedule 5 Condition 1 generally addresses the elements of ISO14001, for the Donaldson Coal operations (i.e. Donaldson Mine, Tasman Mine, and Abel Underground Mine and the associated Bloomfield CPP and rail loading facility).	
	Management Plan Requirements			
2.	The Proponent shall ensure that the management plans required under this approval are prepared in accordance with any relevant guidelines, and include: (a) detailed baseline data; (b) a description of: (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions); (ii) any relevant limits or performance measures/criteria; (iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the project or any management measures;	• Aboriginal Heritage Management Plan • Air Quality and Greenhouse Gas Management Plan • Biodiversity Management Plan • Heritage Management Plan • Land Management Plan • Noise Management Plan • Rehabilitation Management Plan	The management plans have been prepared for the Abel Coal Project in accordance with relevant guidelines, and generally include: (a) baseline data and/or reference to the Environmental Assessment; (b) reference to relevant statutory requirements, relevant limits or performance measures/criteria; specific performance indicators any management measures;	**Compliant**

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	(c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria; (d) a program to monitor and report on the: (i) impacts and environmental performance of the project; (ii) effectiveness of any management measures (see c above); (e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible; (f) a program to investigate and implement ways to improve the environmental performance of the project over time; (g) a protocol for managing and reporting any: (i) incidents; (ii) complaints; (iii) non-compliances with statutory requirements; and (iv) exceedances of the impact assessment criteria and/or performance criteria; and (h) a protocol for periodic review of the plan.	• Water Management Plan	(c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria; (d) a program to monitor and report on the impacts and environmental performance and effectiveness of any management measures; (e) a contingency plan if relevant to manage unpredicted impacts; (f) a program to investigate and implement ways to improve the environmental performance of the project; (g) a protocol for managing and reporting incidents; complaints; non-compliances with statutory requirements; and exceedances of the impact assessment criteria and/or performance criteria; and (h) periodic review for each plan plan.	
	Adaptive Management			
3.	The Proponent must assess and manage project-related risks to ensure that there are no exceedances of the criteria and/or performance measures in Schedules 3 and 4. Any exceedance of these criteria and/or performance measures constitutes a breach of this approval and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation. Where any exceedance of these criteria and/or performance measures has occurred, the Proponent must, at the earliest opportunity: (a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur; (b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and (c) implement remediation measures as directed by the Director-General, to the satisfaction of the Director-General.		A positive feedback loop has been established between monitoring and adaptive management. The management of the ecological components of the Project will be responsive to any new ecological data or any other studies completed as part of the Abel Project. This provides a flexible approach to the management requirements of the Project, allowing ongoing feedback and refinement of the rehabilitation management strategy.	**Compliant Ongoing**

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	Annual Review			
4.	By the end of March each year, or other timing as may be agreed by the Director-General, the Proponent shall review the environmental performance of the project to the satisfaction of the Director-General. This review must: (a) describe the development (including any rehabilitation) that was carried out in the past calendar year, and the development that is proposed to be carried out over the current calendar year; (b) include a comprehensive review of the monitoring results and complaints records of the project over the past calendar year, which includes a comparison of these results against the: (i) relevant statutory requirements, limits or performance measures/criteria; (ii) requirements of any plan or program required under this approval; (iii) monitoring results of previous years; and (iv) relevant predictions in the EA and EA (MOD 3); (c) identify any non-compliance over the past calendar year, and describe what actions were (or are being) taken to ensure compliance; (d) identify any trends in the monitoring data over the life of the project; (e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and (f) describe what measures will be implemented over the current calendar year to improve the environmental performance of the project.	• AEMR 2013-2014 • AEMR 2012-2013 • AEMR 2011-2012	The AEMR's prepared for the Abel Project for the period 1 June to 31 May each year, have addressed each of the condition requirements and were submitted to DP&I/DP&E, relevant agencies and the CCC each year. The AEMR's: (a) describe the development (including any rehabilitation) and proposed activities to be carried out over the following 12 months; (b) a review of the monitoring results and complaints records with a comparison of the results against the relevant statutory requirements and performance measures/ criteria; (c) report on any non-compliance with a summary of actions taken; (d) identification of trends in the monitoring data; (e) identification of any discrepancies between the predicted and actual impacts of the project, and analysis of the potential cause of any significant discrepancies; and (f) a description of measures to be implemented over the next 12 months in relation to environmental performance of the project.	**Compliant**
	Revision of Strategies, Plans and Programs			
5.	Within 3 months of: (a) the submission of an annual review under Condition 4 above; (b) the submission of an incident report under Condition 7 below; (c) the submission of an audit report under Condition 9 below; or (d) any modification to the conditions of this approval, (unless the conditions require otherwise), the Proponent shall review the strategies, plans, and programs required under this approval, to the satisfaction of the Director-General. Where this review leads to revisions in any such document, then within 4 weeks			**Noted**

Condition No.	Abel Coal Project Approval 05_0136 MOD 3 Condition	Verification	Compliance	Comments
	of the review the revised document must be submitted for the approval of the Director-General. *Note: The purpose of this condition is to ensure that strategies, plans and programs are regularly updated to incorporate any measures recommended to improve environmental performance of the project*			
	Community Consultative Committee			
6.	The Proponent shall continue to operate a Community Consultative Committee (CCC) for the project to the satisfaction of the Director-General. This CCC must be operated in general accordance with the Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects (Department of Planning, 2007, or its latest version). Notes: • The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Proponent complies with this approval. • In accordance with the guideline, the Committee should be comprised of an independent chair and appropriate representation from the Proponent, Council/s, recognised environmental groups and the local community. • In operating the CCC, the Department will accept the continued representation from existing CCC members	• Quarterly CCC Meeting Minutes 2012 to 2015	The Abel Project Community Consultative Committee (CCC) was formed within 3 months of the Abel Project approval and the first meeting was held on 5 December 2007. The representatives of CCC are: ***Community Members***: • Mr Alan Brown, Mr Allan Jennings, Mr Terry Lewin, Mr Andrew Pace, Mr Brad Ure, Mr Greg Lamb, Mr Adam Heeney, ***Maitland City Council/Cessnock City Council Abel Coal Mine*** • Mr Tony Sutherland, Mr Phillip Brown, Mr Adam Heeney, Ms Karen Halliday - Bloomfield Colliery (b) The Chairperson approved by the Director-General was Hon Mr Milton Morris between 2011 and 2015 (c)The CCC meets four (4) times per year (d) the project performance is discussed and recorded in the Minutes of the CCC (e) inspection of the surface mine operations area by the CCC Members has occurred (f) a summary of community complaints are provided to the CCC members and discussed as relevant. (g) matters discussed are recorded in the CCC Minutes (h) the CCC meetings are operated generally in accordance with the DoP Guidelines under the guidance of the Chairman.	**Compliant**

Condition No.	Abel Coal Project Approval 05_0136 MOD 3 Condition	Verification	Compliance	Comments
	REPORTING			
	Incident Reporting			
7.	The Proponent shall notify, at the earliest opportunity, the Director-General and any other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment. For any other incident associated with the project, the Proponent shall notify the Director-General and any other relevant agencies as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of the incident, the Proponent shall provide the Director-General and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.	• EMS section 12.3 – Emergency Response and Preparedness Plan (EME-3) • Emergency Incidents Reporting Form (EME-2)	A site specific Emergency Response Plan was developed for the Abel Project to provide procedures and processes for response to any incident related to the underground and surface facilities associated with the project. Donaldson Coal Pty Ltd also have Emergency Response and Preparedness Plans as part of the IEMS to address any significant environmental emergency and ensure that effective response is initiated to minimise potential environmental impact, should an incident occur.	**Compliant**
	Regular Reporting			
8.	The Proponent shall provide regular reporting on the environmental performance of the project on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this approval.	http://www.doncoal.com.au/environment/abel/	Documents providing regular reporting on the environmental performance of the project are placed on the Abel Project website and updated when revisions are made and approved, and/or new documentation is prepared.	**Compliant**
	INDEPENDENT ENVIRONMENTAL AUDIT			
9.	By the end of March 2015 (or other such timing as agreed by the Director-General), and every 3 years thereafter, unless the Director-General directs otherwise), the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must: (a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Director-General; (b) include consultation with the relevant agencies; (c) assess the environmental performance of the project and assess whether it is complying with the requirements in this approval and any	• Letter from DP&I re Endorsement of re Independent Environmental Auditors, 11 Nov 2011 • Independent Environmental Audit Report, 2011 • Letter from DP&E re Endorsement of the Independent Environmental Auditor, 11 Mar 2015	(a) The Director-General endorsed Trevor Brown of Trevor Brown & Associates to conduct the Independent Environmental Audit of the Abel Coal Project on 11 November 2011. (b) No requests from agencies were received in response to emails, in relation any specific matters required to be addressed in the audit. (c) Assessment of environmental performance of the Abel Mine operations were addressed in the audit report.	**Compliant**

Condition No.	Abel Coal Project Approval 05_0136 MOD 3 Condition	Verification	Compliance	Comments
	relevant EPL or Mining Lease (including any assessment, plan or program required under these approvals); (d) review the adequacy of strategies, plans or programs required under the abovementioned approvals; and (e) recommend appropriate measures or actions to improve the environmental performance of the project, and/or any assessment, plan or program required under the abovementioned approvals. *Note: This audit team must be led by a suitably qualified auditor and include experts in any field specified by the Director-General.*		(d) Compliance of the Abel Mine Operations is addressed in Attachments A to C of the audit report. (e) The strategy/plans/programs required under the Project Approval were considered adequate for the management of the Abel Project operations. This current Independent Environmental Audit to satisfy requirements of Project Approval Schedule 5 Condition 5 was conducted in March 2015 for the 3 year period January 2012 to March 2015. Trevor Brown of Trevor Brown & Associates and Peter Dundon of Dundon Consulting were endorsed on 11 March 2015 to conduct the Independent Environmental Audit. No specific requests from DP&E, OEH / EPA, or DRE were received in relation to any matters particularly required to be addressed in the 2015 audit.	
10.	Within 6 weeks of the completion of this audit, or as otherwise agreed by the Director-General, the Proponent shall submit a copy of the audit report to the Director-General, together with its response to any recommendations contained in the audit report	• Letter to DoP re Independent Environmental Audit, 4 July 2008 • Letter from DoP re Independent Environmental Audit, 4 August 2008 • Letter to DP&I re Independent Environmental Audit, July 2012	The Independent Environmental Audit Report and responses to recommendations of the 2008 audit were submitted to DoP on 4 July 2008. A letter from DoP dated 4 August 2008 accepted the audit and noted that the weather station at Donaldson Mine needed approval. Approval of the Donaldson weather station was given in September 2008. The 2011 Independent Environmental Audit Report and responses from Abel Coal were submitted to DoP in July 2012.	**Compliant**
	ACCESS TO INFORMATION			

Condition No.	Abel Coal Project Approval 05_0136 MOD 3 Condition	Verification	Compliance	Comments
11.	From the end of December 2013, the Proponent shall: (a) make copies of the following publicly available on its website: • EA, EA (MOD 1), EA (MOD 2) and EA (MOD 3); • all current relevant statutory approvals for the project; • approved strategies, plans and programs required under the conditions of this approval; • a comprehensive summary of the monitoring results of the project, which have been reported in accordance with the various plans and programs approved under the conditions of this approval; • a complaints register (updated monthly); • minutes of CCC meetings; • the Annual Reviews of the project; • any Independent Environmental Audit, and the Proponent's response to the recommendations in any audit; • any other matter required by the Director-General; and (b) keep this information up-to-date, to the satisfaction of the Director-General.	http://www.doncoal.com.au/environment/abel/ • *Guideline for Establishing and Maintaining Websites for Mining Projects*, NSW Government Planning, April 2011.	The Abel Project documents placed on the website and are updated when revisions are made, and/or when new documentation is prepared: • Project Approvals • Environmental Assessments • Environmental Management Plans • Subsidence Management Plans Area 1 to 3 • Subsidence Reports • Extraction Plan Area 4 • A summary of the monitoring data required under this approval is available on the website • Complaints Register • Annual Environmental Management Reports • Community Consultative Committee	**Compliant**
	APPENDIX 4 NOISE COMPLIANCE ASSESSMENT			
	Applicable Meteorological Conditions			
1.	The noise criteria in Tables 4 and 7 are to apply under all meteorological conditions except the following: (a) during periods of rain or hail; (b) average wind speed at microphone height exceeds 5 m/s; (c) wind speeds greater than 3 m/s measured at 10 m above ground level; or (d) temperature inversion conditions greater than 3°C/100 m.		Meteorological conditions are reported in each noise monitoring report with comment on the conditions at the time of monitoring.	**Noted**
	Determination of Meteorological Conditions			
2.	Except for wind speed at microphone height, the data to be used for determining meteorological conditions shall be that recorded by the meteorological station located on the site.		Meteorological data/conditions are available from the on –site weather station.	**Compliant**
	Compliance Monitoring			

Condition No.	Abel Coal Project Approval 05_0136 MOD 3 Condition	Verification	Compliance	Comments
3.	Attended monitoring is to be used to evaluate compliance with the relevant conditions of this approval.		Quarterly attended noise monitoring is conducted to evaluate compliance with the relevant conditions of this Project Approval.	**Compliant**
4.	Unless otherwise agreed with the Director-General, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the NSW Industrial Noise Policy (as amended from time to time), in particular the requirements relating to: (a) monitoring locations for the collection of representative noise data; (b) meteorological conditions during which collection of noise data is not appropriate; (c) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment; and (d) modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration.	• NSW Industrial Noise Policy • Noise Management Plan, Aug 2014	Noise monitoring is conducted in accordance with the relevant requirements in the NSW Industrial Noise Policy: (a) Noise Management Plan section 8 Noise Monitoring Program -monitoring locations for the collection of representative noise data; (b) Noise Management Plan section 9.2 Meteorological Parameters - meteorological conditions during which collection of noise data is not appropriate; (c) Noise Management Plan section 9 Instrumentation and Measurements Parameters - equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment; and (d) Noise Management Plan section 10 Determining Compliance - modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration	**Compliant**

Project Approval – Appendix 5 Statement of Commitments

SoC No.	Statement of Commitment	Verification Documents	Comments	Compliance
0	**General**			
	The Company shall carry out the development generally in accordance with the: (a) Abel Underground Mine Part 3A Environmental Assessment. (b) modification application 05_0136 – MOD 1 and the accompanying Environmental Assessment prepared by the Company and dated May 2010; (c) modification application 05_0136 – MOD 2 and the accompanying Environmental Assessment prepared by the Company and dated March 2011; (d) modification application 05_0136 – MOD 3 and the accompanying Environmental Assessment prepared by the Company and dated February 2013 and Response to Submissions dated July 2013. If there is any inconsistency between the conditions of this Statement of Commitments and a document listed above the conditions of this Statement of Commitments shall prevail to the extent of the inconsistency.	• Abel Underground Mine Part 3A Environmental Assessment, Donaldson Coal, 26 Sept 2006 • Statement of Commitments • Project Approval 05-0136, 7 Jun 2007 • Modification (MOD 1) Environmental Assessment Abel Underground Mine (Downcast Ventilation Shaft), Donaldson Coal, May 2010; • Modification (MOD 2) Environmental Assessment Abel Underground Mine, Donaldson Coal, March 2011; and • Modification (MOD 3) Environmental Assessment Abel Upgrade Modification, Donaldson Coal,	*Refer to Project Approval 05_0136 Schedule 2 condition 2* The Abel Project is being developed generally in accordance with the environmental assessment documents and the requirements in the conditions of the Project Approval. *Refer to Project Approval 05_0136 Schedule 2 condition 3* No inconsistencies between the Environmental Assessment and the general development of the Abel Underground Coal Project have been identified.	**Compliant**
1	**Production**			
1.1 to 1.3	No more than 6.1 million tonnes of ROM coal a year will be mined from the Abel Underground Mine. No more than 8.5 million tonnes of ROM coal a year will be processed at the Bloomfield CHPP. No more than 6.5 million tonnes per annum of product coal will be transported on the Bloomfield Rail Loop.	• AEMR, 2011-2012 • AEMR, 2012-2013 • AEMR, 2013-2014	*Refer to Project Approval 05_0136 Schedule 2 condition 6 and 7* Production from the Abel Mine commenced in 2008. Extraction of ROM coal has been less than the maximum approved rate of <6.1 Mtpa between 2011 and 2015 Coal processed at the Bloomfield CPP during the 2011 to 2015 period was less than the approved 8.5Mt. Coal transported from the Bloomfield CPP during the 2013 to 2015 period was less than the approved 6.5Mt.	**Compliant**

2	**Hours of Operation**			
2.1 to 2.3	The Abel Underground Mine will operate 24 hours per day, seven days per week. The Bloomfield CHPP will operate 24 hours per day, seven days per week. The Bloomfield Rail Loop will operate 24 hours per day, seven days per week.		*Refer to Project Approval 05_0136 Schedule 2 condition 10* The Abel Coal Project mining operations are conducted 24 hours a day, 7 days per week. Bloomfield CHPP and rail loop operate 24 hours per day, seven days per week.	**Compliant**
3	**Noise**			
3.1	**Construction Activities** The following noise control measures will be implemented prior to commencement of construction of the Abel Underground Mine or the upgrade of the Bloomfield CHPP: (a) Maintain all machinery and equipment in working order; (b) No construction activities at the Abel pit top will take place on Sundays or Public Holidays; (c) Where possible locate noisy site equipment behind structures that act as barriers or at the greatest distance from noise sensitive areas; (d) Orientate equipment so that noise emissions are directed away from noise sensitive areas	• Noise Management Plan, 12 Aug 2014	*Refer to Project Approval 05_0136 Schedule 2 condition 10* Any construction activities for the Abel Project would only be undertaken between 7.00 am to 6.00 pm, Monday to Friday and 8.00 am to 1.00 pm, Saturdays, unless noise from these activities would not exceed 35dB(A)$LA_{eq(15\ min)}$ at any privately-owned residence.	**Compliant**
3.2	**Noise Control Measures** (a) The following noise control measures will be implemented prior to the mining of coal from the Abel Underground Mine: • Orientation of the ventilation fans away from residential receivers and angle the output parallel to the ground. • The sound power level of the front end loader to be used near the portal should not exceed 113 dBA and will be fitted with a noise sensitive reversing alarm. (b) The following noise control measures will be implemented prior to the Bloomfield CHPP receiving any ROM coal from the Abel Underground Mine: • Noise mitigation works including partial enclosure and noise screening of drives and conveyor	• Noise Management Plan, 12 Aug 2014	*Refer to Project Approval 05_0136 Schedule 2 condition 2* Noise Management Plan Section 7 addresses Noise Mitigation Measures and describes measures implemented to ensure compliance with the noise criteria and operating conditions in this approval. The Noise Management Plan describes the proposed noise management system; and Noise mitigation works at the Bloomfield CPP has included partial enclosure and noise screening of drives and conveyor.	**Compliant**
3.3	**Monitoring** The Company will implement a Noise Monitoring Program for the Abel Underground Mine and the Bloomfield CHPP, to the satisfaction of the Director-General. The Noise Monitoring Program shall include a	• Noise Management Plan, 12 Aug 2014	*Refer to Project Approval 05_0136 Schedule 4 condition 6(d)* The Noise Management Plan section 8 describes the noise monitoring program that	**Compliant**

	combination of real-time and supplementary attended monitoring measures, and a noise monitoring protocol for evaluating compliance with the noise environmental assessment. This plan will be integrated with the monitoring plans for the Tasman, Donaldson and Bloomfield Mines to provide a single integrated Noise Monitoring Program for all 4 mines.		addresses attended monitoring to evaluate the compliance of the project against the noise criteria; and sections 10 to 12 addresses noise monitoring data evaluation and reporting on the effectiveness of the on-site noise management system and determination of compliance with noise operating conditions.	
3.4	**Continuous Improvement** The Company shall: (a) report on these investigations and the implementation of any new noise mitigation measures on site in the AEMR, to the satisfaction of the Director-General. The operator of the Bloomfield CHPP shall: (b) investigate ways to reduce the noise generated by the Bloomfield CHPP, including maximum noise levels which may result in sleep disturbance; (c) implement all reasonable and feasible best practice noise mitigation measures on the site; and (d) report on these investigations and the implementation of any new noise mitigation measures on site in the AEMR, to the satisfaction of the Director-General.		(a) The investigations and implementation of any new noise mitigation measures on site, are reported in the AEMR's. (b) Reasonable and feasible best practice noise mitigation measures for the Bloomfield CPP have been implemented and reported in the AEMR's.	**Compliant**
4	**Air Quality**			
4.1	**Construction** The following actions shall be adopted in relation to dust control on the site during construction of the proposed Abel Underground Mine and the modifications to the Bloomfield CHPP: • Minimise the area to be disturbed; • Progressively rehabilitate disturbed areas as soon as practicable; • Restrict vehicle movements to specified routes; • Provide speed limited signage around the mine site; • Dust suppression using water sprays; • Commence landscaping as soon as practicable; • Install dust gauges to monitor dust deposition levels at sensitive receptors. A minimum of 11 locations are proposed.	• Air Quality & Greenhouse Gas Management Plan, 4 Aug 2014	Dust control on the site during construction activities associated with the Abel Project or modifications to the Bloomfield CPP have been undertaken by minimising the area to be disturbed, progressively rehabilitating any disturbed areas as soon as practicable, restricting vehicle movements to specified routes and limiting speed around the sites, and using water sprays for dust suppression and control. Installation of eleven (11) dust deposition gauges to monitor dust deposition levels at sensitive receptors has occurred in accordance with Air Quality & Greenhouse Gas Management Plan section 6.	**Compliant**

4.2	**Air Quality Control Measures** (a) The following actions would be adopted in relation to dust control on the site during operation of the proposed Abel Underground Mine and the operation of the Bloomfield CHPP: • All mobile equipment will be maintained in good working order to limit exhaust fumes. • Regular watering of all roads. • Use water sprays periodically on open stockpile areas and regular visual inspection will be undertaken and water sprays activated as required. (b) Dust emissions generated by the Abel Underground Mine and the Bloomfield CHPP will not exceed any statutory limits. (c) Dust control on site is to be aimed at prevention of air pollution and prevention of the degradation of local amenity. (d) Dust controls on the site will comply with all relevant NSW EPA guidelines and any applicable Environment Protection Licence issued under the POEO Act 1997. (e) Regular inspections for excessive visible dust generation will be undertaken and appropriate controls will be implemented when such events occur. This will include ceasing operations during high wind conditions if necessary to ensure effective dust control.	• Air Quality & Greenhouse Gas Management Plan, 4 Aug 2014 • EPL 12856 conditions P1.1, O3 and M2.1	*Refer to Project Approval 05_0136 Schedule 4 condition 10* Air quality management for the Abel Project has been implemented in accordance with the Air Quality & Greenhouse Gas Management Plan August 2014: Air Quality & Greenhouse Gas Management Plan section 5 Table 5.1 provides management and control measures and actions to minimise the air quality impacts; Air Quality & Greenhouse Gas Management Plan Section 6 addresses air quality monitoring to assess compliance with the relevant conditions of this approval; Temporary cessation of work may occur if Bloomfield operations are likely to emit high dust levels, to prevent non-compliance of cumulative dust criteria.	**Compliant**
4.4	**Monitoring** (a) The Company will implement an Air Quality Monitoring Program for the Abel Underground Mine and the Bloomfield CHPP, to the satisfaction of the Director-General. The Air Quality Monitoring Program shall include a combination of real-time and supplementary attended monitoring measures (including real-time air quality monitoring for 24-hour average PM10 and the recording of required meteorological monitoring data) and an air quality monitoring protocol for evaluating compliance with the air quality environmental assessment. This plan will be integrated with the existing monitoring plans for the Tasman, Donaldson and Bloomfield Mines to provide a single integrated Air Monitoring Program for all 4 mines. (b) The Company shall ensure that there is a suitable meteorological station operating in the vicinity of the development in accordance with the requirements in Approved Methods for Sampling of Air Pollutants in New South Wales.	• Air Quality & Greenhouse Gas Management Plan, 4 Aug 2014	*Refer to Project Approval 05_0136 Schedule 4 condition 11(e)* (a) An air quality monitoring program is described in Air Quality & Greenhouse Gas Management Plan section 6, and section 10 addresses Evaluating and Reporting processes. The air quality monitoring network includes the following: • 11 dust deposition gauges to measure monthly average dust deposition levels in accordance with AS/NZS 3580.10.1:2003. • One high volume air sampler fitted with a PM_{10} size selective inlet and operated on a one-day in-six cycle in accordance with AS/NZS 3580.9.6:2003.	**Compliant**

			• One high volume air sampler fitted with TSP inlet and operated on a one-day-in-six cycle in accordance with AS/NZS 3580.9.3:2003. (b) One meteorological station to record information on wind speed, wind direction, sigma-theta and temperature at 10-minute intervals, equipped and operated in accordance with AS 29221987.	
5	**Surface Water Management – Abel Underground Mine**			
5.1	Schedule 1 Streams (a) Schedule 1 streams (as defined in the DIPNR 2005 guideline, "Management of stream/aquifer systems in coal mining developments") will be managed via the implementation of mitigation and remediation works where needed to ensure that: • stream stability is maintained where subsidence occurs; • stream fractures are minimised; • stream channels are maintained with minimal incision from bed grade change; and • stream bed grade change is minimised to provide stable stream length. (b) Where any stream stability controls are required they will be designed in accordance with the Rehabilitation Manual for Australian Streams (Land and Water Resources Research and Development Corporation, 2000) and will be provided primarily by vegetation	• Water Management Plan, 28 May 2014 • Rehabilitation Manual for Australian Streams (Land and Water Resources Research and Development Corporation, 2000)	*Refer to Project Approval 05_0136 Schedule 4 condition 6(d)* Mining is limited to first workings beneath, and designed to ensure that mining causes no subsidence impacts requiring mitigation works on: - Scheduled streams (i.e. 3rd order and above streams); - rainforest areas; and - Blue Gum Creek alluvium. A minimum barrier of 40m between the 20 millimetre line of subsidence and the bank of any Schedule 2 streams	**Noted Ongoing**
5.2	Schedule 2 Streams (a) Schedule 2 streams (as defined by DIPNR, 2005) will be managed so as to ensure that: • they maintain pre-mining course, and maintain bed channel gradients which do not initiate erosion; • they maintain pool riffle sequences where they pre-existed, or have pool riffle sequences installed where appropriate; • they maintain connectivity to underground workings, and flow loss to fracture zones in similar levels to pre-mining; • they maintain geomorphic integrity of the stream; • the ecosystem habitat values of the stream are protected;	• Water Management Plan, 28 May 2014	*Refer to Project Approval 05_0136 Schedule 4 condition 6(d)* Mining is limited to first workings beneath, and designed to ensure that mining causes no subsidence impacts requiring mitigation works on: - Schedule 2 streams (i.e. 3rd order and above streams); - rainforest areas; and - Blue Gum Creek alluvium.	**Noted Ongoing**

	• no significant alteration of the water quality occurs in the stream. (b) The above commitments for Schedule 2 streams will be achieved by: • the provision of a minimum barrier of 40m between the 20 millimetre line of subsidence and the bank of any Schedule 2 streams; or • the carrying out of further detailed studies and the development of a Surface Water Management Plan for the Abel Underground Mine which clearly demonstrates that the above commitments can be met prior to any mining occurring which will impact on any Schedule 2 streams		A minimum barrier of 40m between the 20 millimetre line of subsidence and the bank of any Schedule 2 streams.	
5.3	**Pambalong Alluvium** For the lower reach of Blue Gum Creek (from the confluence of Long Gully and Blue Gum Creek downstream), a buffer will be provided which provides for no more than 20mm of subsidence at 40m from the edge of the alluvium will be adopted, and within the buffer zone no significant subsidence will occur	• Water Management Plan, 28 May 2014 • Extraction Plan May 2014 • Subsidence Monitoring Program, May 2014	*Refer to Project Approval 05_0136 Schedule 4 condition 6(d)* The impacts of underground mining in the Blue Gum Creek catchment on the Pambalong Nature Reserve will be assessed against the relevant desired outcomes of the Pambalong Reserve Plan of Management (NPWS, 2006).	**Noted Ongoing**
5.4	**Rainforest Communities** Subsidence in the rain forest protection zones identified on Figure 2.2 of the EA will be limited to 20mm of subsidence at the edge of the zone identified unless further studies can demonstrate that there will be no significant impact on the rainforest communities within the buffer zone with greater subsidence impacts.	• Water Management Plan, 28 May 2014	*Refer to Project Approval 05_0136 Schedule 4 condition 6(d)* Mining is limited to first workings beneath, and designed to ensure that mining causes no subsidence impacts requiring mitigation works on rainforest areas. No subsidence in the rain forest protection zones had occurred at the date of this audit.	**Noted Ongoing**
5.5	**Surface Water Management Plan** Prior to mining occurring that will impact on any Schedule 1 streams the Surface Water Management Plan for the Abel Underground Mine will be developed so as to address the following in relation to schedule 1 streams: • detailed identification of risk factors on a case-by-case basis; • setting up of permanent monitoring locations along watercourses as well as regular inspection regimes; • continuation of baseline data collection on water flow conditions and health indicators (such as macro- invertebrates);	• Water Management Plan, 28 May 2014	*Refer to Project Approval 05_0136 Schedule 4 condition 17* Mining is limited to first workings beneath, and designed to ensure that mining causes no subsidence impacts requiring mitigation works on: - Schedule 2 streams (i.e. 3rd order and above streams); - rainforest areas; and - Blue Gum Creek alluvium. The Abel Project is located within the catchment of the Hunter River. There are	**Compliant**

	• establishment of trigger levels that will be used to assess whether any changes observed through monitoring warrant responsive action; and • details of responsive and remedial action to be undertaken if required. • require the identification of any existing degradation in the streams prior to mining to allow differentiation of that degradation induced by the mining. • provide for a post-mining assessment of any streams within the area of mine subsidence within six (6) months of the initial subsidence. • provide for a subsequent assessment within eighteen (18) months of the initial subsidence to confirm that post-mining degradation resulting from the mining is successfully remediated. • require any remediation works to be implemented to a standard approved by NOW, where the assessment has indicated degradation of the streams in the area of mining induced subsidence, and thereafter on an annual basis until any mining induced stream instability is addressed to the standard approved. • require a photographic record of stream stability for areas where either fracturing is detected (at maximum strain points), or at maximum tilts within the subsidence envelope. Where it is proposed not to leave a barrier around a Schedule 2 stream a detailed assessment will be undertaken for the stream and provided to NOW addressing the proposed impacts on it. The detailed assessment will include as a minimum: • assessment of the geomorphic and vegetation condition and aquatic habitat for the stream; • selective measurements of channel boundary sediment size; • predications of subsidence and cracks/fractures throughout the stream; • a detailed photographic record of the existing stream condition; • a map of the spatial distribution of alluvium and colluvial aprons throughout the stream; • collection of background data for the main areas of alluvium for the shallow alluvial aquifer by the installation and regular monitoring of a network of piezometers and/or wells in the main areas of alluvium for the shallow alluvial aquifer; • assessment of the location and activity of springs, pipes/tunnels and/or salt seepages/efflorescences;		five distinct sub-catchments across the Abel Project Mining Lease area (Four Mile Creek; Weakleys Flat Creek; Viney Creek; Buttai Creek; and Blue Gum Creek). These main watercourses are classed as Schedule 1 Streams (as defined in *Management of stream/aquifer systems in coal mining developments*, DIPNR 2005). Monitoring currently being undertaken for the Abel Project includes five sites specified in the Statement of Commitments:

Site	Location	Commencement	
		Monitoring	Mining in Catchment
EM1	Four Mile Creek	July 2000	July 2013
EM3	Weakleys Flat Creek	July 2000	July 2010
Site 1	Buttai Creek	June 2007	N/A
Site 9	Blue Gum Creek	June 2007	N/A
Site 10	Blue Gum Creek	June 2007	N/a
Site 11	Viney Creek	June 2007	July 2010

	• measurement of current bed slope and any pool-riffle sequences on each channel and periodic assessments of changes over time; • an assessment of likely erosion points, fracturing or seepage zones from the mining area to the stream, along the stream channel occurring as a result of mining activities.			
6	**Surface Water Management – Bloomfield CPP and the Abel Underground Pit Top Facilities**			
6.1	Separate surface water management systems will be designed for the Bloomfield CPP and the Abel Underground Pit Top Facilities which provide for: • Separation of clean and dirty water; • Management and control of stormwater flows; • Minimisation of sediment generation, soil erosion and transport off site; • Recycling of water where to minimise demand for potable water; and • Provision of water for fire fighting. • Maintain water supply for the coal handling and preparation plant and for dust suppression at all times; • Minimise discharge to the environment from Big Kahuna; • Minimise discharge from the Stockpile Dam; • Minimise discharge from Lake Foster and Lake Kennerson; and • Where controlled discharge is necessary, preference is given to Lake Kennerson.	• Water Management Plan, 28 May 2014	The Water Management Plan section 3.1 outlines the integrated water management system water management system for the Abel Project and the adjacent Bloomfield Colliery that serves the mine itself and the Coal Preparation Plant (CPP). ROM coal is transferred from the Abel Mine to Bloomfield for processing. Water from Abel Project is also transferred to Bloomfield for use as part of the coal processing operations. Formal agreements are in place between Donaldson Coal Pty Ltd and Bloomfield including protocols relating to the transfer of water from Abel to Bloomfield. No discharge to the environment occurs from the Big Kahuna.	**Compliant**
6.2	The surface water management systems shall be based on the following principles: • Minimise demand for fresh water supply by recycling water collected on the site; • Store recycled water on site to reduce water consumption during operation of the proposed development; • Design drainage and sediment control for the operation in accordance with the Landcom (2004) guidelines; • Provide a water supply for fire-fighting and provision for containment of firewater; • Use of a first flush system to ensure “dirty” water is captured in accordance with EPA guidelines	• Water Management Plan, 28 May 2014	The surface water management principles for the Abel Project described in the Water Management Plan section 3.2 are: • separation of clean and dirty water; • minimise demand for fresh water supply by recycling water collected on the site; • storage of recycled water on-site to reduce water consumption during operation; • management / control of stormwater flows; • minimisation of sediment generation, soil erosion and transport off-site; • minimise discharge from water storages on the site; and	**Compliant**

			• only discharge from licensed discharged points in accordance with EPL conditions.	
6.3	The surface water management systems will include an Erosion and Sediment Control Plan (ESCP). The ESCP will outline the measures that will be implemented to ensure that no undue pollution of receiving waters occurs during any earthworks construction or during the operation of the facilities.	• Water Management Plan, 28 May 2014	*Refer to Project Approval 05_0136 Schedule 4 condition 17(b)* Erosion and sediment controls for the surface infrastructure area associated with the Abel Project have been implemented.	**Compliant**
6.4	The following erosion and sediment control works will be implemented as part of the project: • All works for the Abel box cut and subsequent construction of surface facilities will be undertaken within the boundaries of the existing Donaldson Mine lease area. These activities will be undertaken in accordance with the approved procedures for erosion protection and sediment control for the Donaldson Mine. • The majority of works in the vicinity of the stockpile area for the Bloomfield CHPP will be undertaken within an area that reports to the existing Stockpile Dam and Dam F. These facilities provide adequate erosion and sediment control for those areas. For minor bunding works to be undertaken on the southern boundary of the enlarged stockpile area, standard erosion control practices such as silt fences will be used. • For any earthworks associated with increasing the capacity of the bypass channel around Lake Foster, standard erosion control practices such as silt fences will be used. • If a conveyor is eventually constructed between the Abel box cut and the Bloomfield CHPP, a separate Erosion and Sediment Control Plan will be prepared that takes account of the details of the conveyor, particularly the crossing of Four Mile Creek.	• Water Management Plan, 28 May 2014	*Refer to Project Approval 05_0136 Schedule 4 condition 17(b)* Erosion and sediment controls for the Abel Project have been implemented for the Surface Facilities. All stormwater runoff from the operational surface facilities drains to sumps in the West Pit from where it is transferred via pipeline to the Big Kahuna dam. Erosion of the West Pit low wall is controlled by limiting the length of slope, minimising the degree of slope and by establishment of suitable vegetation. Reduction of site clearance for any surface works minimises loss of vegetation and prevents soil erosion.	**Compliant**
7	**Surface Water Monitoring Program**			
7.1	An integrated surface monitoring program will be undertaking for the Abel Mine, Donaldson Mine and the Bloomfield CHPP covering all potentially affected catchments including Four Mile Creek, Blue Gum Creek and other creeks on the land overlying the Abel underground lease area.	• Water Management Plan, 5 May 2008 • Water Management Plan, 28 May 2014	Water management for the Abel Project was integrated with the water management plans for the Donaldson Coal and Bloomfield Collieries in the Water Management Plan approved by DoP on 5 May 2008.	**Compliant**
7.2	Monitoring of surface water in the creeks that overlie the Abel Underground Mine will commence just prior to mining and continue until one year after mining has passed the contributing catchment and will be undertaken at the following locations:	• Water Management Plan, 28 May 2014 • Surface Water Monitoring Program, Aug 2014	The Abel Project is located within the catchment of the Hunter River. Surface water quality baselines were established for all catchments, with the exception of the	**Compliant**

	• Four Mile Creek at John Renshaw Drive (same as existing Donaldson site); • Weakleys Flat Ck at John Renshaw Drive (same as existing Donaldson site); • Buttai Creek at Lings Road; • Blue Gum Creek at Stockrington Road; and • Long Gully (downstream).		metals analysis for Buttai Creek, Viney Creek and Blue Gum Creek sites. There are five distinct sub-catchments across the Abel Project Mining Lease area: • Four Mile Creek; • Weakleys Flat Creek; • Viney Creek; • Buttai Creek; and • Blue Gum Creek. These watercourses are classed as Schedule 1 Streams (as defined in *Management of stream/aquifer systems in coal mining developments*, DIPNR 2005).	
7.3	The following monitoring regime is proposed: • Routine monthly baseline sampling; • Daily water samples collected from the discharge point on any occasion when there is controlled discharge from Lake Kennerson. Water samples will also be collected at the flow gauging station behind the Four Mile Workshops. These samples will be analysed for: total suspended solids, conductivity, pH and filterable Iron; • Daily water samples will be collected from any overflow from the Stockpile Dam. Water samples will also be collected at the flow gauging station behind the Four Mile Workshops. These samples will be analysed for: total suspended solids, conductivity, pH and filterable Iron. • Collection of extensive baseline data prior to mining, including the ability to collect at least 15 years of baseline data for Blue Gum Creek and Pambalong Nature Reserve; • Monthly monitoring during any substantial subsidence period for each monitoring site, and annual monitoring for all sites; • Water quality sampling from each of the sampling locations shown in Figure 8.2 in the EA with analytes measured including pH, Electrical Conductivity, Total Dissolved Solids, Total Suspended Solids, Chloride, Sulfates, Alkalinity (Bicarbonate), Alkalinity (Carbonate), Calcium, Magnesium, Sodium and Potassium;	• Water Management Plan, 28 May 2014 • Surface Water Monitoring Program, Evans and Peck, Aug 2014	The Surface Water Monitoring Program, August 2014 prepared by Evans and Peck outlined the following program: • Routine monthly baseline sampling; • Daily water samples collected from the discharge point on any occasion when there is controlled discharge from Lake Kennerson, and analysed for total suspended solids, conductivity, pH and filterable iron; • Daily water samples collected from any overflow from the Stockpile Dam analysed for total suspended solids, conductivity, pH and filterable iron; • Surface water quality baselines were established for all catchments, with the exception of the metals analysis for Buttai Creek, Viney Creek and Blue Gum Creek sites. • Water quality sampling from each of the sampling locations shown in the EA for pH, Electrical Conductivity, Total Dissolved Solids, Total Suspended Solids, Chloride, Sulphates, Alkalinity (Bicarbonate), Alkalinity (Carbonate), Calcium, Magnesium, Sodium and Potassium.	**Compliant**

	• Flow gauging stations established on Blue Gum Creek to monitor water flow and level; and • Macro-invertebrate monitoring within Blue Gum Creek and Pambalong Nature Reserve, including the use of AUSRIVAS (Australian River Assessment System) to assess biological health.	• Water Management Plan, 28 May 2014	• Donaldson Coal committed to undertaking flow monitoring in Blue Gum Creek, and water level monitoring in Pambalong Reserve, as described in the EA (2006) and in response to the *Pambalong Reserve Plan of Management* (NPWS, 2006). • A macro-invertebrate monitoring program has been established by Donaldson Coal, and this program includes an element of the Integrated Environmental Monitoring Program (2007) between Donaldson, Abel, Tasman and Bloomfield operations. Baseline data is collected biannually.	**Compliant**
8	**Groundwater Monitoring Program**			
8.1	The Company will implement a Groundwater Monitoring Program. The Program will comply with all relevant guidelines and will address: • Groundwater management within the Abel Underground Mine area, including protection, management, mitigation and remediation of groundwater as required; • Groundwater management within the area of proposed tailings disposal within Bloomfield Colliery; • Proposed groundwater monitoring program; • Proposed groundwater reporting schedule; and • Feedback mechanisms to alter mining methods if documented groundwater monitoring values are triggered	• Water Management Plan, 28 May 2014 • Groundwater Monitoring Performance Review, Groundwater Exploration Services, Aug 2014	The Abel Project Groundwater Monitoring Program addresses: • Groundwater management within the Abel Project area, including protection, management, mitigation and remediation of groundwater as required; • Groundwater management within the area of tailings disposal within Bloomfield Colliery; • Groundwater reporting schedule; and • Feedback mechanisms to alter mining methods if documented groundwater monitoring values are triggered.	**Compliant**
8.2	The following response plan will be implemented in the event of significant unforeseen variances from the predicted inflow rates and/or groundwater level impacts: • Additional sampling and/or water level measurements to confirm the variance from expected behaviour. • Immediate referral to a competent hydrogeologist for assessment of the significance of the variance from expected behaviour. The review hydrogeologist would be requested to recommend an appropriate remedial action plan or amendment to the mining or water	• Water Management Plan, 28 May 2014	In the event of any exceedance of the . groundwater quality trigger values, response actions would be initiated: • The nature of the suspected impact and all relevant monitoring data will be immediately referred to an independent hydrogeologist for assessment. • An assessment would be made to determine the reason for the exceedance.	**Compliant**

	management approach. If appropriate, this recommended action plan would be discussed with NOW and other agencies for endorsement.		• If assessed as being caused by the mining operation, a response/mitigation plan would be implemented to the satisfaction of NOW, EPA and/or DPI-Minerals.	
8.3	The groundwater monitoring program will be an integrated monitoring program for the Abel Mine, Tasman Mine, Donaldson Mine and the Bloomfield CHPP (including the tailings disposal area) and will include: • Monthly measurement of water levels in a representative network of piezometers. Initially, all piezometers currently available would be monitored, however it is recommended that the representativeness of the piezometers be reviewed after the first two years of the project, and an appropriate suite of piezometers be selected on the basis of this review for ongoing monitoring. All piezometers located around Pambalong Nature Reserve would continue to be monitored through the life of the project. • Quarterly sampling of all standpipe piezometers, for laboratory analysis of electrical conductivity (EC), total dissolved solids (TDS) and pH. • Annual collection of water samples from all standpipe piezometers for laboratory analysis of a broader suite of parameters - Physical properties (EC, TDS and pH) - Major cations and anions - Nutrients - Dissolved metals • Additional sampling and/or water level measurements to confirm any variance from expected behaviour. • Additional regional monitoring piezometers will be installed in the following areas: - Multi-level piezometers to the north and west of Pambalong Nature Reserve, to provide additional data on groundwater pressures in the intervening strata between the Donaldson seams and the alluvium (supplementing the existing data from piezometers C081A and B and C082.	• Water Management Plan, 28 May 2014	The groundwater monitoring program includes: • Monthly measurement of water levels in a representative network of piezometers. • Quarterly sampling of all standpipe piezometers, for laboratory analysis of pH, electrical conductivity (EC), and total dissolved solids (TDS). • Annual collection of water samples from standpipe piezometers occurs for laboratory analysis of: o Physical properties (EC, TDS and pH) o Major cations and anions (Ca, Mg, Na, K, Cl, SO_4, HCO_3 and CO_3); o Nutrients; and o Dissolved metals.	**Compliant**
	Multi-level piezometers along the eastern side of the Abel Underground Mine area, located at nominally 3 sites between the F3 Freeway and the lease boundary, to resolve the apparent anomalous water levels below sea level at C063A and B, and to provide additional	• Water Management Plan, 28 May 2014	Multi-level piezometers along the eastern side of the Abel Project area, located between the F3 Freeway and ML1618 lease boundary provide data on groundwater	**Compliant**

	data on groundwater pressures in the intervening strata between the Donaldson seams and the Hexham Swamp alluvium. - Multi-level piezometers near the western and southern boundaries of the Abel project area to provide information on groundwater pressures at various depths, as this area currently lacks monitoring points. These piezometers would also aim to provide information on the current status of groundwater in the West Borehole seam near the former workings, prior to mining of the Donaldson seams approaching that area. • The additional Pambalong and Hexham Swamp monitoring bores will be installed prior to commencement of coal extraction. The western piezometers will be installed at least five years prior to mining reaching that part of the lease.		pressures in intervening strata between the Donaldson seams and the Hexham Swamp alluvium. - Multi-level piezometers near the western and southern boundaries of the Abel Project area provide information on groundwater pressures at various depths. • Pambalong and Hexham Swamp monitoring bores installed prior to commencement of coal extraction. (The western piezometers will be installed at least five years prior to mining reaching that part of the lease).	
	• The subsidence/fracturing monitoring piezometer network should comprise the following: − Multi-level piezometers situated centrally within the extraction panels (at least 2 locations per panel) with vibrating wire piezometers set at nominally 30m intervals from the surface down to 30m above the Upper Donaldson roof level. − Shallow standpipe piezometers adjacent to each of the above multilevel piezometers, set to the base of the colluvium/weathered bedrock zone, to monitor any impact on the surficial unconfined aquifer. Standpipe piezometers will allow repeat hydraulic testing and water quality sampling, as well as water level monitoring. • The above monitoring network will be implemented prior to commencement of each extraction panel, and would be monitored closely before, during and after extraction. Based on the monitoring results during extraction of the first 4 or 5 panels, an appropriate ongoing monitoring program would be developed for the subsequent deeper panels as the mining progresses down dip	• Water Management Plan, 28 May 2014	*Refer to Project Approval 05_0136 Schedule 4 condition 6(d)* The piezometer monitoring network comprises: − Multi-level piezometers with vibrating wire piezometers. − Shallow standpipe piezometers adjacent to each of the multilevel piezometers, set to the base of the colluvium/weathered bedrock zone, to monitor any impact on the surficial unconfined aquifer. . • A monitoring network is implemented prior to commencement of each extraction panel, and would be monitored closely before, during and after extraction.	**Compliant**
8.4	At the end of the second year of underground mining, a comprehensive review will be undertaken of the performance of the groundwater system. This would include re-running the groundwater model in transient calibration mode, to verify that the actual inflow rates and groundwater level impacts are in accordance with the model predictions described in this report. If necessary, further adjustment would be made to the model at that time, and new forward predictions of mine inflows and water level impacts be undertaken.	• Water Management Plan, 28 May 2014	The initial groundwater model used for the simulation of impacts from the Abel Project for the project EA (2006) was limited to the Donaldson seams and the coal measures stratigraphically overlying them. The model did not extend north of the sub -crop line of the Lower Donaldson Seam, and did not include all of the Bloomfield mining	**Compliant**

8.5	The current groundwater model will be expanded to include deeper layers and a larger area that will incorporate the Bloomfield operations and areas of possible groundwater impact around Bloomfield. It is proposed to calibrate this expanded model with ongoing monitoring data from Bloomfield, and more detailed simulation of the Donaldson mining and backfilling. Details of this model and scheduling for completion will be included in the Groundwater Monitoring Program.		operation. An updated regional model was constructed to examine synergistic impacts from open cut and underground operations across the area. This model allows for transient calibration in relation to the impacts from the Donaldson open cut operation (now complete), the underground mining progress at Abel as well as the Bloomfield operation area.	
9.	**Visual Amenity**			
	Visual impacts of the Abel Underground Mine portal and the Bloomfield CHPP will be ameliorated by the following strategies: (a) The access portals for the Abel underground Mine will be located in the high wall of the existing Donaldson Open Cut Pit. (b) If the overland conveyor to the Bloomfield CHPP to the Abel Underground Mine portal is constructed its maximum height will not exceed 15 metres so to ensure that it is concealed from view by the surrounding tree cover. Where possible the route will follow the existing haul roads and tree clearing will be minimised where possible to reduce the visual impact of the conveyor. (c) New buildings and structures, as well as existing buildings and structures at the Bloomfield CHPP, visible from the surrounding areas will be painted a dark charcoal colour. (d) All reasonable measures will be taken to design the stockpiles at the Bloomfield CHPP so as to minimise their visual impact on the surrounding East Maitland and Ashtonfield Areas. (e) Existing lighting will be redesigned and new lighting be designed, so as to minimise, via the use of directional lighting, light spill affecting residents in the East Mainland, Ashtonfield Areas and Black Hill areas		*Refer to Project Approval 05_0136 Schedule 4 condition 24* Visual impacts of the Abel Underground Mine and Bloomfield CPP have been addressed with the following strategies: (a) Access portals for the Abel underground Mine are located in the high wall of the Donaldson West Open Cut Pit. (b) The overland conveyor to the Bloomfield CPP if constructed will follow the existing haul roads and tree clearing will be minimised. (c) New buildings and structures, as well as existing buildings and structures at the Bloomfield CPP, visible from the surrounding areas will be painted a dark colour. (d) design stockpiles at the Bloomfield CPP to minimise their visual impact on the surrounding East Maitland and Ashtonfield Areas. (e) Lighting designed, to minimise light spill affecting residents in the East Mainland, Ashtonfield Areas and Black Hill areas	**Compliant**
10.	**Flora and Fauna**			
	A Flora and Fauna Management Plan for the proposed conveyor corridor and stockpile expansion areas will be developed and implemented prior to any clearing occurring for the conveyor corridor and stockpile expansion: This plan will include:		Construction of the proposed coal conveyor had not commenced at the date of this audit (April 2015).	**Not triggered**

	• a vegetation clearance protocol that describes the measures to be taken in order to minimise and ameliorate any impact on flora and fauna in general, and threatened species in particular, during the clearing process. • a commitment to conduct pre-clearance surveys of areas to be cleared of vegetation by a suitably qualified biologist. Searches will be conducted for threatened species of flora or fauna, trees having potential habitat hollows and any habitat assets such as large hollow logs or rocks which could be used in later rehabilitation. If any threatened species of flora are found in the planned clearing areas the Flora and Fauna Management will provide for the consideration of the following options to minimise any impact to the threatened species of flora: - modification of the area to be cleared in order to leave the flora in place. - translocation of the flora to an area of similar habitat within the Donaldson or Bloomfield properties, applying the best available knowledge about the ecology and translocation of the species. • the pre-clearing survey will be conducted about 7 days prior to commencement and involve the following: - Trees having potential habitat hollows should be clearly marked with a band of survey paint around the stem; - Habitat trees watched at dusk to determine what if any fauna are using the hollows; - At a minimum all marked trees will be left standing for at least 2 nights following the clearing to allow any mammals to vacate the trees. However as most of the areas to be cleared are narrow or in close proximity to standing forest, it cannot be guaranteed that the mammals will leave and a person experienced in capturing and handling native fauna should be in attendance when these trees are pushed over; - Any trees found to contain bats should be left standing and soft-felled at dusk after the bats have left the hollows. This should be conducted under the supervision of a suitably experienced fauna ecologist. An Ecological Monitoring Plan will be drafted and implemented prior to any mining which will impact on the areas of sub-tropical rainforest above Abel Underground Mine, and for Pambalong Nature Reserve, outside of the mining area to the southeast. These two areas will be monitored as follows:			

	Sub-tropical Rainforest Monitoring plan The collection of the following data: • At suitable locations, record the outer boundary between the rainforest and the surrounding dry forest in order to monitor the stability of the community; • Establish groundwater piezometers at suitable locations and record water depth; • Establish permanent transects along which floristic content is recorded; and • Monitor the stability of selected major rock formations that occur in or near the rainforest. The data to be collected would be as follows: • Rainfall in the catchments supplying water to Pambalong Nature Reserve (PNR); • Water levels in PNR; • Annual fauna monitoring with emphasis on birds and amphibians; and • Broad vegetation communities and their boundaries			
11	**Aboriginal Heritage**			
11.1	During any construction phase if any Aboriginal sites or relics are uncovered the NSW OEH will be informed. In the event that a site or relic is found then work in the area of the find will cease until it is assessed for significance and an appropriate management strategy is devised if necessary, in accordance with the Aboriginal Heritage Management Plan.	• Aboriginal Heritage Management Plan, Aug 2014	*Refer to Project Approval 05_0136 Schedule 4 condition 22* Aboriginal Heritage Management Plan, August 2014 section 4.7 addresses Identification of Previously Unrecorded Aboriginal Sites.	**Noted**
11.2	An Aboriginal Heritage Management Plan will be implemented in consultation with the relevant Aboriginal stakeholders to specify the policies and actions required to mitigate and manage the potential impacts of the proposal on Aboriginal heritage	• Aboriginal Heritage Management Plan, Aug 2014	*Refer to Project Approval 05_0136 Schedule 4 condition 22* The Aboriginal Heritage Management Plan was prepared in consultation with the Aboriginal stakeholders and implemented for the Abel Project.	**Compliant**
11.3	The plan will provide procedures for: (a) ongoing Aboriginal consultation and involvement, (b) maintenance of an Aboriginal site database, (c) management of recorded sites within the investigation area, (d) further archaeological investigation prior to undermining,	• Aboriginal Heritage Management Plan, Aug 2014	*Refer to Project Approval 05_0136 Schedule 4 condition 22* The Aboriginal Heritage Management Plan section 4.2 states - Donaldson Coal Pty Ltd will provide the relevant LALC with details of the proposed methodology of any	**Compliant**

	The plan will be regularly verified to establish that it is functioning as designed (ie. policies adhered to and actions implemented) to the standard required.		archaeological survey (excluding monitoring) or excavation planned within the project area, including identification of issues or areas of cultural significance. Donaldson document and take into account all comment provided by the LALC. Donaldson Coal Pty Ltd will engage representatives of the relevant LALC to participate in any archaeological survey, excavation or monitoring required under the plan.	
11.4	Continued use of surface infrastructure and construction of new surface infrastructure will be assessed against the location of identified Aboriginal heritage evidence and where impacts may occur, mitigation measures will be implemented as specified in the Aboriginal Heritage Management Plan	• Aboriginal Heritage Management Plan, Aug 2014	*Refer to Project Approval 05_0136 Schedule 4 condition 22* The Aboriginal Heritage Management Plan section 4.4 states Donaldson will seek to minimise impacts to Aboriginal heritage evidence within the surface disturbance area and conserve identified evidence where impacts are not required to occur for operational reasons.	**Compliant**
11.5	The Company will seek to minimise impacts to identified and potential Aboriginal heritage evidence within the northern investigation area and to conserve identified evidence where impacts are not required to occur for operational reasons.	• Aboriginal Heritage Management Plan, Aug 2014	*Refer to Project Approval 05_0136 Schedule 4 condition 22* The Aboriginal Heritage Management Plan section 4.5.2 states Donaldson will seek to minimise impacts to Aboriginal heritage items within the long-wall and short-wall and bord and pillar underground area, including grinding grooves and rock shelters susceptible to impacts from subsidence.	**Compliant**
11.6	The Company will seek to mitigate impacts to identified and potential Aboriginal heritage evidence within the northern investigation area where impacts must occur for operational reasons.	• Aboriginal Heritage Management Plan, Aug 2014	*Refer to Project Approval 05_0136 Schedule 4 condition 22)* Donaldson will seek to mitigate impacts to any identified and potential Aboriginal heritage evidence within the underground areas where impacts must occur for operational reasons.	**Compliant**

11.7	Staged systematic archaeological survey of each section proposed to be undermined in the southern investigation area will occur with the participation of an appropriately qualified archaeologist and the Aboriginal stakeholders prior to any underground mining in that section. The survey will sample the geographic extent of each section. The nature, level of integrity, potential impacts and scientific and cultural significance of any evidence identified will be assessed in consultation with the Aboriginal stakeholders and mitigation measures implemented as per the Aboriginal Heritage Management Plan.	• Aboriginal Heritage Management Plan, Aug 2014 • Subsidence Management Plan Area 1 • Subsidence Management Plan Area 2 • Subsidence Management Plan Area 3 • Extraction Plan Area 4	*Refer to Project Approval 05_0136 Schedule 3 condition 4, and Schedule 4 condition 22* The Aboriginal Heritage Management Plan section 4.6 states prior to underground mining, Aboriginal heritage will be addressed in a Subsidence Management Plan (SMP). As part of the SMP process, staged systematic archaeological survey of each section proposed to be undermined will occur with the participation of the Aboriginal stakeholders prior to any underground mining in each section, to ensure that the nature and extent of Aboriginal heritage evidence is identified and managed according to this plan.	**Compliant Ongoing**
11.8	Where site types susceptible to subsidence impacts (grinding grooves and rock shelters) are identified within the southern investigation area, an assessment of the potential impacts of subsidence will be undertaken by an appropriately qualified expert. Where it is determined that subsidence may impact a grinding groove or rock shelter site (including shelters with 'Potential Archaeological Deposits'), mitigation measures will be implemented in accordance with the Aboriginal Heritage Management Plan.	• Aboriginal Heritage Management Plan, Aug 2014 • Subsidence Management Plan Area 1 • Subsidence Management Plan Area 2 • Subsidence Management Plan Area 3 • Extraction Plan Area 4	*Refer to Project Approval 05_0136 Schedule 3 condition 4, and Schedule 4 condition 22* The Aboriginal Heritage Management Plan section 4.5 states Donaldson will seek to minimise impacts to identified and Aboriginal heritage evidence within the underground mining area, including all evidence (grinding grooves and rock shelters) susceptible to impacts from subsidence. Donaldson will seek to mitigate impacts to any identified and potential Aboriginal heritage evidence within the underground mining area where impacts must occur for operational reasons.	**Compliant**
11.9	A regional monitoring network for Aboriginal heritage across the Abel, Tasman, Donaldson and Bloomfield sites will be established, including continuation of the existing programme of monitoring in the Donaldson Bushland Conservation Areas, monitoring before and after undermining for a sample of Aboriginal sites within the southern investigation area for which it is not anticipated that subsidence related impacts will occur, monitoring before and after undermining for all Aboriginal sites for which it is inferred that undermining may result in	• Aboriginal Heritage Management Plan, Aug 2014 • Subsidence Management Plan Area 1 • Subsidence Management Plan Area 2 • Subsidence Management Plan Area 3	The Aboriginal Heritage Management Plan section 4.2 states Donaldson will maintain an Aboriginal Site Database in both tabular and graphical form that presents the locations and names and other relevant details of all identified Aboriginal heritage evidence within the project area.	**Compliant**

	impacts in order to ensure the adequacy of conservation measures around those sites, and documentation of the results of all monitoring in an annual report	• Extraction Plan Area 4 Appendix I Heritage Management Plan, May 2014		
11.10	The Company will continue to consult with and involve the registered Aboriginal stakeholders, particularly the Local Aboriginal Land Councils, in the ongoing management of the heritage resources within the investigation area as per the Aboriginal Heritage Management Plan.	• Aboriginal Heritage Management Plan, Aug 2014 • Subsidence Management Plan Area 1 • Subsidence Management Plan Area 2 • Subsidence Management Plan Area 3 • Extraction Plan Area 4 Appendix I Heritage Management Plan, May 2014	*Refer to Project Approval 05_0136 Schedule 4 condition 22* The Aboriginal Heritage Management Plan section 4.2 states Donaldson will engage representatives of the relevant LALC to participate in any archaeological survey, excavation or monitoring required under this plan.	**Compliant**
11.11	Should any previously unrecorded Aboriginal heritage evidence be identified within the lease area during the course of operations, the Company will ensure that this evidence is subject to temporary conservation and is recorded and appropriate management strategies are implemented in consultation with the Aboriginal community as per the Aboriginal Heritage Management Plan. The Company will maintain a current database providing details of all identified Aboriginal heritage evidence within the lease area so that the Aboriginal Heritage Management Plan can be effectively implemented and records for any Aboriginal sites identified and copies of all reports prepared in relation to ongoing monitoring and archaeological studies associated with the project will be lodged in a timely manner with OEH.	• Aboriginal Heritage Management Plan, Aug 2014 • Subsidence Management Plan Area 1 • Subsidence Management Plan Area 2 • Subsidence Management Plan Area 3 • Extraction Plan Area 4 Appendix I Heritage Management Plan, May 2014	*Refer to Project Approval 05_0136 Schedule 4 condition 6(d)* The Aboriginal Heritage Management Plan section 4.7 states should any previously unrecorded Aboriginal heritage evidence be identified within the project area during the course of operations, Donaldson will ensure that this evidence is subject to temporary conservation and is recorded and appropriate management strategies consistent with this plan are implemented in consultation with the Aboriginal community.	**Compliant**
11.12	In order to form an integrated monitoring network for Aboriginal heritage across the Abel, Tasman, Donaldson and Bloomfield sites, it is proposed for the duration of the mining leases to: (a) Continue the existing programme of monitoring in the Donaldson Bushland Conservation Areas to ensure that the condition of a sample of Aboriginal heritage sites that occur within the northern investigation area is regularly assessed. This will involve monitoring on an annual basis the seven existing datum points within the Conservation Area by a qualified archaeologist and representatives of the Mindaribba LALC; (b) A sample of Aboriginal heritage sites within the southern investigation area, comprising site types for which it is not anticipated that subsidence related impacts will occur, will be monitored before and after undermining in their vicinity to confirm the accuracy of these predictions. This will involve inspections prior to undermining then at set periods after undermining by a qualified archaeologist and representatives of the relevant LALC;	• Aboriginal Heritage Management Plan, Aug 2014 • Subsidence Management Plan Area 1 • Subsidence Management Plan Area 2 • Subsidence Management Plan Area 3 • Extraction Plan Area 4 Appendix I Heritage Management Plan, May 2014	*Refer to Project Approval 05_0136 Schedule 4 condition 22* The Aboriginal Heritage Management Plan section 4.9 states the existing program of monitoring in the Donaldson Bushland Conservation Areas will be continued to ensure that the condition of a sample of Aboriginal heritage sites that occur within the surface area north of John Renshaw Drive is regularly assessed. Monitoring of the seven existing datum points within the Donaldson Conservation Area (refer to Table 2) will continue on an annual basis, involving inspection by a qualified archaeologist and a representative of the Mindaribba LALC.	**Compliant**

	(c) All Aboriginal heritage sites for which it is inferred that undermining may result in impacts (ie. rock shelter and grinding groove sites) will be monitored before and after undermining in their vicinity to ensure the adequacy of conservation measures around those sites. This will involve inspections prior to undermining then at set periods after undermining by a qualified archaeologist and representatives of the relevant LALC; (d) An annual report documenting the results of monitoring will be prepared and provided to the relevant LALC and OEH detailing the methodology of the inspections, conditions of the environment and Aboriginal heritage evidence at the relevant sites, comparisons with previously reported descriptions of each site, identification of any natural and/or human impacts during the intervening period, and identification of any implications for ongoing management and protection of the Aboriginal heritage evidence throughout the lease area		Aboriginal and Cultural Heritage monitoring is outlined in the Integrated Environmental Monitoring Program 2007 for the Abel, Donaldson, Tasman, and Bloomfield mines. The main area of Aboriginal significance within the four sites is the Donaldson Conservation area. The Integrated Monitoring program will involve monitoring on an annual basis the existing datum points within the Conservation Area by a qualified archaeologist and representatives of the LALC. Staged systematic archaeological survey of each section proposed to be undermined in the Abel southern investigation area occurs with the participation of the Aboriginal stakeholders prior to any underground mining in that section. The survey will sample the geographic extent of each section.	
12	**Environmental Management System**			
	The EMS will address, separately for the Abel Underground Mine and the Bloomfield CHPP (unless otherwise specified), the following specific issues for both construction and operation of the proposed mine: • Construction Management Plan; • Community Involvement Plan; • Noise Monitoring Program; • Water Management Plan; • Waste Management Plan; • Air Quality Monitoring Program; • Erosion and Sediment Control Plan; • Flora and Fauna Management Plan; • Aboriginal Heritage Management Plan; • Landscape Management Plan; • Rehabilitation Management Plan; • Tetratheca juncea Management Plan; • Groundwater Monitoring Program; • Subsidence Management Plan; • Surface Water Management Plan;	• Environmental Management Strategy, Feb 2008	*Refer to Project Approval 05_0136 Schedule 6 condition 1* The EMS for the Abel Project is integrated with the Donaldson Mine, Tasman Mine and Bloomfield CPP operations and includes the following Environmental Management Plans: • Construction Management Plan; • Community Involvement Plan; • Noise Management Plan • Water Management Plan; • Waste Management Plan; • Air Quality and Greenhouse Management Plan; • Flora and Fauna Management Plan; • Aboriginal Heritage Management Plan; • Landscape Management Plan; • Rehabilitation Management Plan; • *Tetratheca juncea* Management Plan;	**Compliant**

	• Dam Monitoring and Management Strategy; • Gas Management Plan; and • Bloomfield CHPP and RLF Environmental Management Plan Where appropriate the above plans will be integrated plans which will apply across the following mining operation areas: • Abel Underground Mine; • Tasman Underground Mine; • Donaldson Open Cut Mine; and • Bloomfield Coal Handling and Preparation Plant (CHPP) and Rail Loading Facility (RLF). The Environmental Management System will include: • The Company Environmental Policy that guides the direction of environmental management and provides Company commitment to environmental protection, mitigation and management. • Objectives, including legislative requirements to be met and relevant guidelines and Standards; • Work procedures, which detail in practical terms what will be undertaken, when and by whom; • Monitoring, including what will be monitored, when and where this will occur, and reporting of results; • Review procedures, being when the management plan and contents will be reviewed; • Feedback mechanisms, to ensure that any required changes to the Plan, due to a review or other mechanism such as other risk assessment, are made and the plan updated; • Training, describing how employees and contractors are trained in the documented procedures and updated on an ongoing basis when changes are made; and • Emergency response procedures. The Company will prepare and implement an Environmental Due Diligence Training Program which will focus on the following matters: • The EMS; • Environment Protection legislation; • Understanding Due Diligence; • Specific Environmental Impacts of construction and operation of the mine; • The Company Safety Health Environmental Policy; • Reporting and recording environmental incidents;		• Extraction Plan; and • Bloomfield CHPP and RLF Environmental Management Plan The Integrated Environmental Management Strategy includes: • Section 9 Company Environmental Policy. • Section 3 –Objectives • Section 1.2 and 7 Legislative requirements; • Work procedures, which detail in practical terms what will be undertaken, when and by whom; • Section 13.2 Monitoring and Measurement; • Section 13 Review and Feedback; • Section 12.1 Training and Awareness; and • Section 12.3 Emergency Response procedures and Preparedness Plans • Section 13.1 Environmental Audits and Inspections; • Section 12.5 Roles and Responsibilities.	

	• Site environmental management. The mine Site Manager or his/her nominee shall be responsible for implementing the EMS			
12	**Rehabilitation**			
	The Company commits to rehabilitating the Abel Underground Mine area and Abel pit top in accordance with DP&I and DRE guidelines. This includes ongoing rehabilitation in response to mine subsidence as well as rehabilitation of pit top areas after completion of mining. The Company will provide a Mine Closure Plan as part of the MOP required under the relevant condition of the mining lease for the Abel Underground Mine. This Mine Closure Plan will be produced in consultation with DP&I, DRE and other stakeholders as required.	• Rehabilitation Management Plan, Aug 2014 • Mining Operations Plan - 1 Jan 2010 to 31 Dec 2016, Dec 2010	*Refer to Project Approval 05_0136 Schedule 4 condition 29, and Mining Lease condition 3* The Abel Project Rehabilitation Management Plan was prepared in accordance with DP&I and DRE guidelines for the Abel Pit Top and Underground Mine Areas and is consistent with the Mining Operations Plan.	**Compliant**
13	**Site Security**			
	Unauthorised entry of people into the Abel Underground Mine Portal Surface works and the Bloomfield CHPP is to be prevented to ensure site security and to prevent damage to components of the mine particularly damage which may result in harm to the environment.			**Noted**
14	**Community Consultation Community Consultation**			
	A Community Consultative Committee will be created which will meet on a regular basis to review environmental performance of the Abel Underground Mine and the Bloomfield CHPP. Membership of the Committee is to be determined by the Company and the Committee is to be chaired by an Independent Facilitator and will include representatives of the local community and adjoining property holders, DP&I and local councils. The Environment Protection Licence for the mine will require the Company to keep a record of all complaints made in relation to pollution arising from any activity to which this Licence applies and will also specify the details to be provided in the record and a complaints handling procedure. The Environment Protection Licence for the mine will require that a telephone complaints line operates during the operating hours of the premises for the purpose of receiving any complaints from members of the public and that the telephone number of this line be notified to the community.	• Quarterly CCC Meeting Minutes 2012 to 2015 • EPL 12856 condition M4	*Refer to Project Approval 05_0136 Schedule 6 condition 6* The Abel Project Community Consultative Committee (CCC) was formed within 3 months of the Abel Coal Project approval and the first meeting was held on 5 December 2007. The CCC has met four (4) times per year. The members of CCC are: Community Members: • Mr Alan Brown, Mr Allan Jennings, Mr Terry Lewin, Mr Andrew Pace, Mr Brad Ure, Mr Greg Lamb, Mr Adam Heeney, Maitland City Council/Cessnock City Council Abel Coal Mine: • Mr Tony Sutherland, Mr Phillip Brown, Mr Adam Heeney, Ms Karen Halliday - Bloomfield Colliery	**Compliant**

	A 24 hour telephone complaints line will be maintained and the local community will be notified of the phone number. Complaints received would be recorded. All information from the complainant, including the nature of the complaint would also be recorded. The appropriate site manager or his/her nominee will undertake an immediate investigation into the cause of any complaint relating to operations of the site and in particular environmental issues and will ensure that corrective action is taken as required. The appropriate site manager or his/her nominee will provide the complainant with an explanation of the cause of any environmental incident and details of any actions taken to mitigate its effect. If necessary, the appropriate site manager would initiate further corrective action, such as introducing changes in operational procedures, work instructions or modifications to equipment etc as may be required to reduce the possibility of further environmental incidents. A record of all complaints received will be kept on site for 4 years		The Chairperson approved by the Director-General was Hon Mr Milton Morris between 2011 and 2015. The CCC meets four (4) times per year A 24 hour telephone complaints line will be maintained and the local community will be notified of the phone number and a summary of community complaints is provided to the CCC members and discussed at the CCC Meetings as relevant.	
15	**Environmental Incidents**			
15.1	A Pollution Incident Response Management Plan (PIRMP) would be implemented for the site which will describe the general policy and approach to be adopted by the Company when managing and responding to an emergency or incident at the site. The PIRMP will contain a specific definition of 'incident' and 'environmental incident' which is to be consistent with the definition of 'incident' in the POEO Act.	• EPL 12856 condition R3 • Pollution Incident Response Management Plan • EMS section 12.3 – Emergency Response and Preparedness Plan (EME-3) • Emergency Incidents Reporting Form (EME-2)	*Refer to EPL 12856 condition R3* *The* Pollution Incident Response Management Plan dated August 2012 has been implemented for the Abel Project with the approach to be adopted when managing and responding to an environmental emergency or incident at the site.	**Compliant**
15.2	In accordance with Part 5.7 of the POEO Act , the appropriate site manager must notify the NSW EPA of 'incidents' which occur in the course of operations of the Abel Underground Mine where material harm to the environment is caused or threatened, as soon as practicable after they become aware of the incident or threatened material harm.	• *Protection of the Environment Operations Act 1997* Part 5.7	*Refer to EPL 12856 condition R2.2 and R3* Pollution Incident Response Management Plan, Appendix C – Pollution Incident Response Flow Chart nominates the appropriate site manager to notify the NSW EPA of incidents and includes Incident contact names/numbers.	**Noted**
15.3	Initial notification of an 'incident' (as defined) is to be made by telephoning the NSW EPA's Pollution Line.		*Refer to EPL 12856 condition R2.1* The Pollution Incident Response Management Plan Appendix C identifies the EPA Pollution Line (131 555) for notification.	**Noted**

15.4	The following information will be required by the Company: • The time, date, nature, duration and location of the incident; • The location of the place where pollution is occurring or is likely to occur; • The nature, the estimated quantity or volume and the concentration of any pollutants involved; • The circumstances in which the incident occurred (including the cause of the incident, if known); • The action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution; and • Other relevant information.	• EPL 12856 condition R3 • Pollution Incident Response Management Plan • EMS section 12.3 – Emergency Response and Preparedness Plan (EME-3) • Emergency Incidents Reporting Form (EME-2)	Refer to EPL 12856 condition R3 *Refer to EPL 12856 condition R3.3* A site specific Emergency Response Plan was developed for the Abel Project to provide procedures and processes for response to any incident related to the underground and surface facilities associated with the project. Donaldson Coal Pty Ltd also have Emergency Response and Preparedness Plans as part of the IEMS to address any significant environmental emergency and ensure that effective response is initiated to minimise any potential environmental impact should an incident occur.	**Noted**
15.5	The appropriate site manager will assess specific incidents taking into consideration the impact(s) on the environment, to determine whether what resources are required to determine what response is required, or to assist in responding to the impacts. The appropriate site manager would contact an outside agency if required	• *Protection of the Environment Operations Act 1997* Part 5.7 • Pollution Incident Response Management Plan, Aug 2012 • Pollution Incident Notification form		**Noted**
15.6	All employees working on the site will be responsible for ensuring that the appropriate site manager is informed of any environmental incidents. All environmental incidents would be recorded on an Environmental Incident Report form. As required by Part 5.7 of the POEO Act and the EPL, the Site Manager must notify the NSW EPA of incidents, or the threat of material harm to the environment, as soon as practicable after they become aware of the incident or threat of material harm.	• *Protection of the Environment Operations Act 1997* Part 5.7 • EPL 12856 condition R33 and R3.4 • Pollution Incident Response Management Plan, Aug 2012 • Pollution Incident Notification form	*Refer to EPL 12856 condition R2* The site specific Emergency Response Plan developed for the Abel Project provides procedures and processes for response to any incident related to the underground and surface facilities associated with the project. The Pollution Incident Response Management Plan Appendix C provides the flowchart for response to incidents.	**Noted**
15.7	The management strategies for responding to and controlling incidents/emergencies will include the following: General Procedures • Provide adequate resources including staffing and fire-fighting equipment; • Training of staff so that a high level of preparedness is maintained by all people who could be involved in an emergency; • Provide a first aid station which would be fully equipped and maintained at the site; and	• EPL 12856 condition R33 and R3.4 • Pollution Incident Response Management Plan • EMS section 12.3 – Emergency Response and Preparedness Plan (EME-3) • Emergency Incidents Reporting Form (EME-2)	*Refer to EPL 12856 condition R2* The management strategies for responding to and controlling incidents/emergencies are also outlined in the EMS section 12.3 – Emergency Response and Preparedness Plan (EME-3), Emergency Incidents Reporting Form (EME-2), and Pollution Incident Response Management Plan, address the general procedures in SoC 15.7.	**Compliant**

	• Periodic review and update of emergency procedures for the site. Fire • Consultation has been initiated with the NSW Rural Fire Service and this would be ongoing; • Consult with adjoining landholders; • Undertake hazard reduction as required; • Provide fire fighting equipment at site buildings; • Provide clear signposting and access for all fire fighting equipment; • Make available water for fire fighting from water holding tanks or mains; and • Regularly inspect and maintain fire fighting equipment. Chemicals • Store all chemicals in appropriately bunded areas in accordance with their Material Safety Data Sheets (MSDS) and the relevant Australian Standards; and • Store all fuels or flammable solvents in adequately ventilated areas	• Pollution Incident Response Management Plan, Aug 2012		
15.8	All environmental incidents are to be recorded on a Pollution Incident Notification form.	• Pollution Incident Response Management Plan, Aug 2012	Pollution Incident Response Management Plan Appendix B - Pollution Incident Notification form is completed for any incidents.	**Noted**
15.9	An Environmental Incident Folder is to be maintained and shall contain the following: • Copies of work instructions on how to deal with particular situations; • Incident contact names/numbers; and • Pollution Incident Notification form containing all the details required in the PIRMP procedure.	• EPL 12856 • Pollution Incident Response Management Plan, Aug 2012	The Pollution Incident Response Management Plan contains: • Appendix C – Pollution Incident Response Flow Chart includes response actions • Appendix C – Pollution Incident Response Flow Chart includes Incident contact names/numbers • Appendix B - Pollution Incident Notification form	**Compliant**
	Subsidence Specific Commitments by the Company			
	A. Principal Residence			
	Residences The Company commits to producing and implementing a plan of management for each Principal Residence existing at the date of approval of this project. A Principal Residence is defined as an existing	• Abel Subsidence Management Plan Area 1 Dec 2009 • Abel Subsidence Management Plan Area 2 My 2011	A plan of management for each Principal Residence will be prepared in accordance with Figure 3 Property Subsidence Management Plan Flowchart in the Extraction Plan Appendix H Built Features	**Noted Ongoing**

	building capable of being occupied as a separate domicile and used for such purpose. The plan of management will be produced and implemented as follows: A1. Each Principal Residence will be individually assessed by the Mine Subsidence Board (MSB) /structural engineer who will determine tolerable levels for individual subsidence parameters. Tolerable limits are those limits which will result in no mitigation works being required to the Principal Residence due to subsidence impacts from the Abel Underground Mine. A2. Each Principal Residence will have a pre-mining survey to identify and record pre-existing imperfections that will not be covered by the MSB. A3. Such assessments will be done as and when the progression of the mining process dictates – i.e. mining may have commenced in other areas prior to the individual Principal Residence assessment being undertaken. A4. Tolerable levels will be set according to such factors as dwelling construction (e.g. brick veneer, clad), type (single, double storey), size (length and width), footings (slab, strip footings, piers), surface conditions (sand, rock, clay, steep slope) etc, with reference to the MSB Graduated Guidelines (compatible with AS 2870 and the Building Code of Australia). A5. The mine plan in proximity to each Principal Residence will be modified by the Company to maintain subsidence parameters within the tolerable levels determined above for each Principal Residence. A6. The mine plan will be reviewed by the MSB and the DRE prior to any Subsidence Management Plan being approved under the relevant lease. A7. Each Principal Residence will have a specific subsidence monitoring plan to monitor subsidence impacts before and after mining at the Principal Residence and to ensure that tolerable limits are achieved in practice. A8. The MSB has the responsibility to rectify any impacts to structures that may occur as a result of mining. In cases where the owner of the Principal Residence and the Company can agree to terms which permit second workings under the Principal Residence greater than those permitted above, the Company agrees to negotiate a plan of management similar to that proposed in the section of this Statement of Commitments titled "All Other Surface Structures".	• Abel Subsidence Management Plan Area 3 Mar 2013 • Extraction Plan Appendix H Built Features Management Plan, Area 4, May 2014	Management Plan - Area 4, dated May 2014.	

B	**Future Principal Residence**			
	If there is no existing residence on a landholding and a residence is planned to be built, the site for this Future Principal Residence will be protected in the same way as that proposed above for Principal Residences. This commitment applies to a maximum of one Future Principal Residence per landholding. *NOTE: Once the Mine Subsidence District is declared for the area all Future Principal Residences will require approval from the Mine Subsidence Board and must comply with the Mine Subsidence Compensation Act 1961.*	• Abel Subsidence Management Plan Area 1 Dec 2009 • Abel Subsidence Management Plan Area 2 My 2011 • Abel Subsidence Management Plan Area 3 Mar 2013 • Extraction Plan Appendix H Built Features Management Plan, Area 4, May 2014		**Noted**
	C. Black Hill School			
	All buildings and structures located at Black Hill School will be managed as if they were a Principal Residence.			**Noted**
	D. Black Hill Church and Cemetery			
	The Black Hill Church and cemetery will be managed as if they were a Principal Residence.			**Noted**
	E. All Other Surface Structures			
	"All Other Surface Structures" is defined as any building or structure impacted by mining-induced subsidence from the Abel Underground Mine Project which is not categorised as a Principal Residence, Future Principal Residence, Black Hill Church and Cemetery or Black Hill School. The Company shall prepare and implement plans of management for the mitigation and remediation of any damage to All Other Surface Structures prior to any mining occurring that would impact on them. The plan of management will include: (a) pre-mining audit of the structure (b) the provision of a plan of management as part of the SMP approval process which requires the Company to mitigate/remediate any damage to improvements associated with the structure in conjunction with the Mines Subsidence Board; (c) (c) post mining monitoring of the improvements associated with the Structure. (d) The mitigation/remediation measures to be undertaken will be related to the extent of damage experienced – see Schedule 1 for details	• Abel Subsidence Management Plan Area 1 Dec 2009 • Abel Subsidence Management Plan Area 2 My 2011 • Abel Subsidence Management Plan Area 3 Mar 2013 • Extraction Plan Appendix H Built Features Management Plan, Area 4, May 2014		**Noted Ongoing**

	F. Dams			
	A Dam Monitoring and Management Strategy (DMMS) will be formulated for all dams prior to any mining occurring which will impact on the dams. The DMMS will provide for: F1. The individual inspection of each dam by a qualified engineer for: • current water storage level; • current water quality (EC and pH); • wall orientation relative to the potential cracking; • wall size (length, width and thickness); • construction method and soil/fill materials; • wall status (presence of rilling/piping/erosion/vegetation cover); • potential for safety risk to people or animals; • downstream receptors, such as minor or major streams, roads, tracks or other farm infrastructure; and • potential outwash effects. F2. Photographs of each dam will be taken prior to and after undermining, when the majority of predicted subsidence has occurred. F3. Dam water levels, pH and EC will be monitored prior to and after undermining to assess the baseline and post mining dam water level and water quality in order to determine whether rehabilitation is required. F4. In the event that subsidence/crack development monitoring indicates a significant potential for dam wall failure, dam water will be managed in one of the following manners: • pumped to an adjacent dam to lower the water level to a manageable height that reduces the risk of dam wall failure, • discharged to a lower dam via existing channels if the water cannot be transferred, or • not transferred if the dam water level is sufficiently low to pose a minor risk. An alternate water supply will be provided to the dam owner until the dam can be reinstated. F5. In the event of subsidence damage to any dams the Company shall remediate the damage and reinstate the dam in conjunction with the mine Subsidence Board.	• Abel Subsidence Management Plan Area 1 Dec 2009 • Abel Subsidence Management Plan Area 2 My 2011 • Abel Subsidence Management Plan Area 3 Mar 2013 • Extraction Plan Appendix H Built Features Management Plan, Area 4, May 2014 • Dam Monitoring and Management Plan, 11 Nov 2014	The Extraction Plan Appendix H Built Features Management Plan for Area 4, May 2014 specifically addresses dam management on Lot 611 DP1035588, Lot 12 DP 877937, Lot 2 DP 449834, Lot 141 DP 1090136, Lot 218 DP 835874, Lots 22/23/24/ DP 1080823, Lots 223 /224 DP 841899, Lot 1 DP 1003988, Lot2 1 and 2 DP 1154611, Lot 52 DP 1195977.	**Compliant Ongoing**
G	**Public Roads**			

	The Company shall prepare and implement a plan of management as part of the SMP process implemented under the mining lease for the Abel Underground Mine. This plan of management will ensure the safety and serviceability of public roads and 4WD tracks and existing fire-fighting access tracks.	• Abel Subsidence Management Plan Area 1 Dec 2009 • Abel Subsidence Management Plan Area 2 My 2011 • Abel Subsidence Management Plan Area 3 Mar 2013 • Extraction Plan Appendix H Built Features Management Plan, Area 4, May 2014	Extraction Plan Appendix H - Built Features Management Plan Area 4, May 2014 addresses public roads (Blackhill Road, Meredith Road and Browns Road).	**Compliant**
H	**Power-lines**			
	The Company shall prepare and implement a plan of management as part of the SMP process which will ensure the safety and serviceability of power lines.	• Abel Subsidence Management Plan Area 1 Dec 2009 • Abel Subsidence Management Plan Area 2 My 2011 • Abel Subsidence Management Plan Area 3 Mar 2013 • Extraction Plan Appendix H Built Features Management Plan, Area 4, May 2014	The Extraction Plan Appendix H Built Features Management Plan for Area 4, May 2014 addresses Ausgrid 11kV power-line and local distribution lines.	**Compliant**
I	**Gas Pipeline**			
	The Company shall prepare and implement a plan of management as part of the SMP process which will ensure the safety and serviceability of the gas pipeline.	• Abel Subsidence Management Plan Area 1 Dec 2009 • Abel Subsidence Management Plan Area 2 My 2011 • Abel Subsidence Management Plan Area 3 Mar 2013 • Extraction Plan Appendix H Built Features Management Plan, Area 4, May 2014	Extraction Plan Appendix H -Built Features Management Plan Area 4, May 2014 addresses safety and serviceability of the gas pipelines.	**Compliant**
J	**Survey Marks**			
	At the completion of subsidence or otherwise as required by Government Authorities, the functionalities of any survey marks affected by subsidence will be fully restored to the satisfaction of the Government Authorities.	• Abel Subsidence Management Plan Area 1 Dec 2009 • Abel Subsidence Management Plan Area 2 My 2011 • Abel Subsidence Management Plan Area 3 Mar 2013		**Compliant Ongoing**

		• Extraction Plan Appendix H Built Features Management Plan, Area 4, May 2014		
K	**Cliffs**			
	Trigger-action response plans (TARPs) will be developed by the Company based on consultation with DRE and Local Councils to ensure the general public and employees working in the vicinity of the cliffs are not exposed to rock falls caused by mine subsidence damage. Appropriate rock fall hazard controls may include such items as rock fall catch ditches, barrier fencing, earth mounds and warning signs installed at appropriate locations to promote awareness that a rock fall hazard could exist along the top and bottom of cliff lines that will be undermined.	• Abel Subsidence Management Plan Area 1 Dec 2009 • Abel Subsidence Management Plan Area 2 My 2011 • Abel Subsidence Management Plan Area 3 Mar 2013 • Extraction Plan Appendix B - TARPs, Area 4, May 2014	Trigger-action response plans (TARPs) have been developed for the Abel Project to ensure the general public and employees working in the vicinity of the cliffs are not exposed to rock falls caused by mine subsidence damage in Subsidence Management Plans for Area 1, 2 and 3, and Extraction Plan Appendix B for Area 4.	**Compliant**
L	**Water Supply**			
	In the event of interruptions to water supplies due to subsidence impacts on farm dams, water tank pipelines, water mains and irrigation systems within the application area, the Company commits to providing water supplies of equivalent quality and quantity to locations convenient to those affected until such time that the affected farm dams, water tanks, pipelines, water mains and irrigation systems are restored	• Abel Subsidence Management Plan Area 1 Dec 2009 • Abel Subsidence Management Plan Area 2 My 2011 • Abel Subsidence Management Plan Area 3 Mar 2013 • Extraction Plan Appendix E Surface Water and Groundwater Management Plan, Area 4, May 2014	Subsidence impacts on farm dams, water tank pipelines, water mains and irrigation systems within an application area, are addressed in the Surface Water Management Plan under the Subsidence Management Plans for Area 1, 2 and 3, and Extraction Plan Appendix E for Area 4.	**Compliant**
M	**General Surface Water Flow**			
	The Company shall prepare and implement a plan of management to maintain the surface drainage of areas surrounding any dwellings and other structures or infrastructure, where required. This plan shall include but not be limited to monitoring, mitigation or remediation of mining-induced ponding, drainage pattern changes and any resulting serviceability difficulties and/or hazards to the public. NOTE: Also see Water Supply	• Abel Subsidence Management Plan Area 1 Dec 2009 • Abel Subsidence Management Plan Area 2 My 2011 • Abel Subsidence Management Plan Area 3 Mar 2013 • Extraction Plan Appendix E Surface Water and Groundwater Management Plan, Area 4, May 2014	Surface drainage of areas surrounding any dwellings and other structures or infrastructure, is covered in Subsidence Management Plans for Area 1, 2 and 3, and Extraction Plan Appendix E for Area 4, with monitoring, mitigation or remediation of mining-induced ponding, drainage pattern changes and any resulting serviceability difficulties.	**Compliant**
N	**Public Safety**			

	The Company shall prepare and implement a surface safety management program to ensure public safety in any surface areas that may be affected by subsidence arising from the proposed underground mining. This program shall include, but not be limited to, regular monitoring of areas posing safety risks, erection of warning signs, entry restrictions, backfilling of dangerous surface cracks and securing of unstable manmade structures or rockmass, where required and appropriate, and the provision of timely notification of mining progress to the community and any other relevant Stakeholders where management of public safety is required.	• Abel Subsidence Management Plan Area 1 Dec 2009 • Abel Subsidence Management Plan Area 2 My 2011 • Abel Subsidence Management Plan Area 3 Mar 2013 • Extraction Plan Appendix J Public Safety Management Plan, Area 4, May 2014	Surface management to ensure public safety in any surface areas that may be affected by subsidence arising from the underground mining includes regular monitoring of areas posing safety risks, erection of warning signs, entry restrictions, backfilling of dangerous surface cracks and securing of unstable manmade structures or rock-mass outlined in Subsidence Management Plans for Area 1, 2 and 3, and Extraction Plan Appendix J for Area 4.	**Compliant**
O	**Landowner Agreements**			
	The Company will enter into separate arrangements with Coal and Allied for its Black Hill land and with the Catholic Diocese of Maitland and Newcastle with regard to an agreed mining schedule underneath these respective lands. These arrangements will set timeframes for the completion of mining beneath these areas.	• Property Subsidence Management Plans		**Noted**

Attachment B
Environment Protection Licence No. 12856

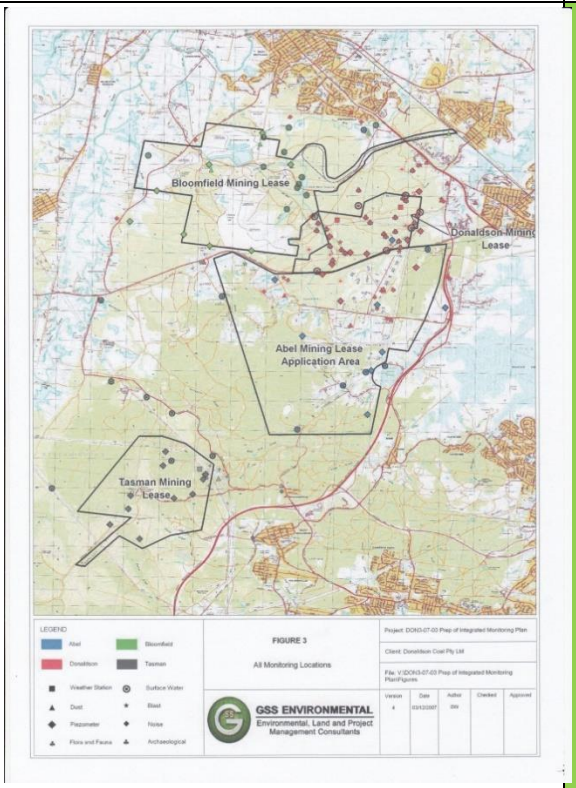
EPL No.	EPL 12856 Condition	Verification	Comment	Compliance
1	**Administrative conditions**			
A1	**What the licence authorises and regulates**			
A1.1	Not applicable.			
A1.2	This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.			**Noted**
	Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition. **Scheduled Activity** Mining for coal >500,000 to 2,000,000 tonnes produced Coal Works 0 to 2,000,000 tonnes handled		The mining of coal and coal works have not exceeded the maximum scale of activity specified in this condition.	**Compliant**
A2.1	The licence applies to the following premises: **Premises Details** Abel Underground Mine 1132 John Renshaw Drive Blackhill NSW 2322 *The premise is as described in Appendix 1 Abel Coal Project Approval approved 7 June 2007.*			**Noted**
A3.1	Not applicable.			
A4	**Information supplied to the EPA**			
A4.1	Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence. In this condition the reference to "the licence application" includes a reference to: (a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and			**Noted**

<table>
<tr><th>EPL No.</th><th>EPL 12856 Condition</th><th>Verification</th><th>Comment</th><th>Compliance</th></tr>
<tr><td></td><td>(b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence</td><td></td><td></td><td></td></tr>
<tr><td>2</td><td>Discharges to air and water and applications to land</td><td></td><td></td><td></td></tr>
<tr><td>P1</td><td>Location of monitoring/discharge points and areas</td><td></td><td></td><td></td></tr>
<tr><td>P1.1</td><td>The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.</td><td></td><td></td><td>Noted</td></tr>
<tr><td></td><td>Air
<table>
<tr><th>EPA No</th><th>Type of Monitoring</th><th>Description of Location</th></tr>
<tr><td>1</td><td>Particulates - deposited matter</td><td rowspan="3">At locations where dust deposition levels are representative of the levels experienced at residential properties, or other sensitive receivers, resulting from the operation of the mine.</td></tr>
<tr><td>2</td><td>Total suspended particles (TSP) matter</td></tr>
<tr><td>3</td><td>Particulate matter <10um (PM10)</td></tr>
</table></td><td></td><td>The air quality monitoring network includes the following:
11 dust deposition gauges to measure monthly average dust deposition levels in accordance with AS / NZS 3580.10.1:2003.
One high volume air sampler fitted with a PM10 size selective inlet and operated on a one-day in-six cycle in accordance with AS / NZS 3580.9.6:2003.
One high volume air sampler fitted with TSP inlet and operated on a one-day-in-six cycle in accordance with AS / NZS 3580.9.3:2003.</td><td>Compliant</td></tr>
<tr><td>P1.2</td><td>The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.</td><td></td><td></td><td>Noted</td></tr>
<tr><td>P1.3</td><td>The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.</td><td></td><td></td><td>Noted</td></tr>
<tr><td></td><td>Water
<table>
<tr><th>EPA No</th><th>Type of monitoring</th><th>Description of location</th></tr>
<tr><td>4</td><td>Surface water monitoring</td><td rowspan="2">Surface water and Groundwater quality must be measured at locations representative of impacts likely to be experienced outside the premises as a result of the operation of the mine.</td></tr>
<tr><td>5</td><td>Groundwater monitoring</td></tr>
</table></td><td></td><td><u>Refer to SoC 7 Surface Water Monitoring and SoC 8 Groundwater Monitoring</u>
The Surface Water Monitoring Program, August 2014 prepared by Evans and Peck outlined the program for surface water sampling of Buttai Creek, Viney Creek, Blue Gum Creek and Four Mile Creek sites).
The Groundwater Monitoring Program addresses management within the Abel Project area, including protection, management, mitigation and remediation of groundwater if required and groundwater management within the area of tailings disposal within Bloomfield Colliery.</td><td>Compliant</td></tr>
</table>

<table>
<tr><th>EPL No.</th><th>EPL 12856 Condition</th><th>Verification</th><th>Comment</th><th>Compliance</th></tr>
<tr><td>3</td><td>Limit conditions</td><td></td><td></td><td></td></tr>
<tr><td>L1</td><td>Pollution of waters</td><td></td><td></td><td></td></tr>
<tr><td>L1.1</td><td>Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.</td><td>• Protection of the Environment Operations Act 1997, section 120</td><td></td><td>Noted</td></tr>
<tr><td>L2</td><td>Noise Limits</td><td></td><td></td><td></td></tr>
<tr><td>L2.1</td><td>Noise generated at the premises must not exceed the noise limits presented in the table below. The noise limits in the table below represent the noise contribution from the premises.
Noise Limits (dB(A))
<table>
<tr><th>Locality</th><th>Day</th><th>Evening</th><th>Night</th><th>Night</th></tr>
<tr><td></td><td colspan="3">$LA_{eq(15\ minute)}$</td><td>$LA_{eq(1\ min)}$</td></tr>
<tr><td>A Weakleys Dr, Beresfield</td><td>50</td><td>48</td><td>41</td><td>51</td></tr>
<tr><td>B Yarrum Rd, Beresfield</td><td>50</td><td>48</td><td>41</td><td>51</td></tr>
<tr><td>C Phoenix Road Black Hill</td><td>43</td><td>44</td><td>38</td><td>50</td></tr>
<tr><td>D Black Hill School</td><td>41</td><td>40</td><td>37</td><td>46</td></tr>
<tr><td>E Brown Road Black Hill</td><td>41</td><td>40</td><td>36</td><td>46</td></tr>
<tr><td>F Black Hill Rd, Black Hill</td><td>41</td><td>40</td><td>36</td><td>46</td></tr>
<tr><td>G Buchanan Rd, Buchanan</td><td>43</td><td>41</td><td>36</td><td>46</td></tr>
<tr><td>H Mt Vincent Rd, Louth Park</td><td>43</td><td>41</td><td>36</td><td>46</td></tr>
<tr><td>I Lord Howe Dr, Ashtonfield</td><td>44</td><td>46</td><td>38</td><td>48</td></tr>
<tr><td>J Kilarney St, Avalon Estate</td><td>49</td><td>47</td><td>40</td><td>50</td></tr>
<tr><td>K Catholic Diocese</td><td>41</td><td>40</td><td>37</td><td>46</td></tr>
<tr><td>L Kilshanny Ave, Ashtonfield</td><td>46</td><td>46</td><td>40</td><td>53</td></tr>
</table></td><td>• Quarterly Noise Monitoring Reports, (Heggies/SLR) 2012 to 2015</td><td>Quarterly noise monitoring has been conducted at the nearest potentially affected receivers identified in the condition L2.1 Table.
The attended noise measurements concluded that Abel Coal Project mine operations were inaudible at all surrounding locations where monitoring was conducted.</td><td>Compliant</td></tr>
<tr><td>L2.2</td><td>To determine compliance with the $L_{Aeq(15\ minute)}$ condition(s) L6.1 noise from the premises must be measured at, or computed for, the most affected point on or within the residential boundary, or at the most affect point within 30m of the dwelling (rural situations) where the dwelling is more than 30m from the boundary to determine.</td><td>• NSW Industrial Noise Policy
• Quarterly Noise Monitoring Reports, 2012 to 2015</td><td>The Quarterly Noise Monitoring Reports describe the monitoring locations and report any results if modification factors presented in Section 4 of the NSW Industrial Noise Policy have been applied to the measured noise levels.</td><td>Compliant</td></tr>
</table>

EPL No.	EPL 12856 Condition	Verification	Comment	Compliance
	Where it can be demonstrated that direct measurement of noise from the premises is impractical, the DECC may accept alternative means of determining compliance. See Chapter 11 of the NSW Industrial Noise Policy. The modification factors presented in Section 4 of the NSW Industrial Noise Policy shall be applied to the measured noise levels where applicable.			
L2.3	To determine compliance with the $L_{A1(1\ minute)}$ condition(s) L6.1 noise from the premises is to be measured at 1m from the dwelling façade. Where it can be demonstrated that direct measurement of noise from the premises is impractical, the DECC may accept alternative means of determining compliance.	• NSW Industrial Noise Policy Chapter 11 • Quarterly Noise Monitoring Reports, 2012 to 2015	Detail of monitoring locations are included in the Noise Monitoring Reports.	**Noted**
L2.4	The noise emission limits identified in condition L6.1 apply under meteorological conditions of: • Wind speed up to 3m/s at 10 metres above ground level; or • Temperature inversion conditions of up to 3°C/100m and wind speed up to 2m/s at 10 metres above the ground.	• NSW Industrial Noise Policy • Quarterly Noise Monitoring Reports, 2012 to 2015	Detail of meteorological conditions are included in the Noise Monitoring Reports for each monitoring period.	**Noted**
4	**Operating conditions**			
O1	**Activities must be carried out in a competent manner**			
O1.1	Licensed activities must be carried out in a competent manner. This includes: (a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and (b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.		The handling, movement and storage of materials and substances used for the operation of the Abel Project are undertaken in accordance with relevant Australian Standards.	**Compliant**
O2	**Maintenance of plant and equipment**			
O2.1	All plant and equipment installed at the premises or used in connection with the licensed activity: (a) must be maintained in a proper and efficient condition; and (b) must be operated in a proper and efficient manner.		All plant and equipment installed for the Abel Project and used for the underground mining is maintained in the on-site workshops and operated in a proper and efficient manner.	**Compliant**
O3	**Dust**			
O3.1	All operations and activities occurring at the premises must be carried out in a manner that will minimise dust at the boundary of the premises.		Dust monitoring results have demonstrated that dust generation and emissions from the Abel Project activities do not result in impact beyond the boundary of the premises.	**Compliant**

EPL No.	EPL 12856 Condition	Verification	Comment	Compliance
O4	**Effluent application to land**			
O4.1	Effluent application must not occur in a manner which causes surface runoff.		No effluent is applied to land at the Abel Project. Treated effluent is directed to the Big Kahuna water storage pond. No runoff occurs.	**Compliant**
O4.2	Spray from effluent application must not drift beyond the boundary of the premises.		No spray irrigation of treated effluent occurs on the Abel Project site.	**Compliant**
O5	**Processes and management**			
O5.1	**Stormwater/sediment control – Construction Phase** Soil and water management controls must be employed to minimise soil erosion and the discharge of sediment and other pollutants to lands and/or waters during construction activities in accordance with the requirements outlined in *Managing Urban Stormwater: Soils and Construction* (available from the Department of Housing).		During any construction activities on the Abel Coal Mine surface area, activities are managed to control runoff and collect in settlement ponds prior to pumping to the Big Kahuna water storage ponds for reuse in dust control on the site.	**Compliant**
O5.2	**Stormwater/sediment control – Operation Phase** Following the construction phase, stormwater management measures must be implemented to mitigate the impacts of stormwater run-off and within the premises in a manner that is consistent with the Stormwater Management Plan for the catchment. Where a Stormwater Management Plan has not yet been prepared the measures should be consistent with the guidance contained in the *Managing Urban Stormwater: Council Handbook* (available from DECC).		All Abel Project surface activities are managed to control surface runoff which is collected in settlement ponds prior to pumping to the Big Kahuna water storage ponds for reuse in dust control on the site. Any runoff from a ROM stockpile area in the West Pit is contained within the West Pit with no release to the environment.	**Compliant**
O5.3	**Fuel and chemical storage** All liquid chemicals, fuels and oils must be stored in containers inside suitable bund(s). Bund(s) are to be designed, constructed and maintained in accordance with DECC Technical Guidelines "Bunding and Spill Management".	• Bunding and Spill Management, DECC • AS-1940	All liquid chemicals, fuels and oils are stored in bunded areas at the Abel maintenance workshops with any runoff/spillage collected and passed through an oil/water separator prior to any water being pumped to the Big Kahuna for storage and reuse on site.	**Compliant**
5	**Monitoring and recording conditions**			
M1	**Monitoring records**			
M1.1	The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.		Load calculation not applicable.	**Not applicable**
M1.2	All records required to be kept by this licence must be: (a) in a legible form; (b) kept for at least 4 years after the monitoring or event to which they relate took place; and		All monitoring records are retained by the Environment Manager for at least 4 years and can be produced on request.	**Compliant**

<table>
<tr><th>EPL No.</th><th>EPL 12856 Condition</th><th>Verification</th><th>Comment</th><th>Compliance</th></tr>
<tr><td></td><td>(c) produced in a legible form to any authorised officer of the EPA who asks to see them.</td><td></td><td></td><td></td></tr>
<tr><td>M1.3</td><td>The following records must be kept in respect of any samples required to be collected for the purposes of this licence:
(a) the date(s) on which the sample was taken;
(b) the time(s) at which the sample was collected;
(c) the point at which the sample was taken; and
(d) the name of the person who collected the sample.</td><td></td><td>All monitoring records are retained by the Environment Manager and include the date, time, location and information on collection of samples and analysis.</td><td>Compliant</td></tr>
<tr><td>M2</td><td>Requirement to monitor concentration of pollutants discharged</td><td></td><td></td><td></td></tr>
<tr><td>M2.1</td><td>For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:
<table>
<tr><td colspan="4">Point 1</td></tr>
<tr><td>Pollutant</td><td>Unit of Measure</td><td>Frequency</td><td>Sampling Method</td></tr>
<tr><td>Particulates – Deposited Matter</td><td>g/m^2/mth</td><td>Continuous</td><td>AM-19</td></tr>
<tr><td colspan="4">Point 2</td></tr>
<tr><td>Pollutant</td><td>Unit of Measure</td><td>Frequency</td><td>Sampling Method</td></tr>
<tr><td>TSP (PM_{10})</td><td>µg/m^3</td><td>Every 6 days</td><td>AM-15</td></tr>
<tr><td colspan="4">Point 3</td></tr>
<tr><td>Pollutant</td><td>Unit of Measure</td><td>Frequency</td><td>Sampling Method</td></tr>
<tr><td>Particulate Matter</td><td>µg/m^3</td><td>Continuous</td><td>AM-21</td></tr>
<tr><td colspan="4">Points 4 and 5</td></tr>
<tr><td>Pollutant</td><td>Unit of Measure</td><td>Frequency</td><td>Sampling Method</td></tr>
<tr><td>Total Suspended Solids (TSS)</td><td>mg/L</td><td rowspan="2">Once a month (min of 4 weeks)</td><td rowspan="2">Grab sample</td></tr>
<tr><td>pH</td><td>pH</td></tr>
</table></td><td></td><td> 

Integrated Environmental Monitoring Program</td><td>Compliant</td></tr>
</table>

EPL No.	EPL 12856 Condition	Verification	Comment	Compliance
M3	**Testing methods - concentration limits**			
M3.1	Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with: (a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or (b) if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or (c) if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place. *Note: The Protection of the Environment Operations (Clean Air) Regulation 2002 requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".*	*"Approved Methods for the Sampling and Analysis of Air Pollutants in NSW*	All air quality samples collected are analysed by NATA registered laboratories in accordance with approved standard methods.	**Compliant**
M3.2	Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.	*Approved Methods for the Sampling and Analysis of Waters in NSW*	All water samples collected are analysed by NATA registered laboratories in accordance with approved standard methods.	**Compliant**
M4	**Recording of pollution complaints**			
M4.1	The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.	http://www.doncoal.com.au/environment/abel/	A register of complaints is maintained by the Environment Manager. The Complaints Register is available on the Company website.	**Compliant**
M4.2	The record must include details of the following: (a) the date and time of the complaint; (b) the method by which the complaint was made; (c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect; (d) the nature of the complaint; (e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and (f) if no action was taken by the licensee, the reasons why no action was taken.	• Complaints Register 2012-2015	The complaints records include the date and time, complainant details and location, nature of the complaint, action taken and follow-up contact.	**Compliant**

EPL No.	EPL 12856 Condition	Verification	Comment	Compliance
M4.3	The record of a complaint must be kept for at least 4 years after the complaint was made.		The Complaints Register is retained by the Environment Manager for at least 4 years.	**Compliant**
M4.4	The record must be produced to any authorised officer of the EPA who asks to see them.		Complaints records can be produced on request.	**Compliant**
M5	**Telephone complaints line**			
M5.1	The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence	http://www.doncoal.com.au/environment/ abel/	Donaldson Coal have a 24 hour complaints line (1800 111 271) for the purpose of receiving any complaints from members of the public. The complaints line has been operational between 2008 and 2015.	**Compliant**
M5.2	The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.		The complaints line number is available on the project website.	**Compliant**
M5.3	Conditions M5.1 and M5.2 do not apply until 3 months after: (a) the date of the issue of this licence or (b) if this licence is a replacement licence within the meaning of the Protection of the Environment Operations (Savings and Transitional) Regulation 1998, the date on which a copy of the licence was served on the licensee under clause 10 of that regulation.			**Noted**
6	**Reporting conditions**			
R1	**Annual return documents**			
R1.1	The licensee must complete and supply to the EPA an Annual Return in the approved form comprising: (a) a Statement of Compliance; and (b) a Monitoring and Complaints Summary. A copy of the form in which the Annual Return must be supplied to the EPA accompanies this licence. Before the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA		The Annual Returns to the EPA have been prepared on the approved forms.	**Compliant**
R1.2	An Annual Return must be prepared in respect of each reporting period, except as provided below. *Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period*.		The period of the Annual Return for the Abel Coal Project is 9 July to 8 July annually.	**Compliant**

EPL No.	EPL 12856 Condition	Verification	Comment	Compliance
R1.3	Where this licence is transferred from the licensee to a new licensee: (a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and (b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period. *Note: An application to transfer a licence must be made in the approved form for this purpose.*			**Noted**
R1.4	Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on: (a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or (b) in relation to the revocation of the licence - the date from which notice revoking the licence operates			**Noted**
R1.5	The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').	• Annual Return 2011-2012 • Annual Return 2012-2013 • Annual Return 2013-2014 • Letter to DECC re Annual Return, Aug 2014	The Annual Returns for the Abel Coal Project has been submitted by Donaldson Coal Pty Ltd within 60 days of the end of the reporting period.	**Compliant**
R1.6	The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.	• Annual Return 2011-2012 • Annual Return 2012-2013 • Annual Return 2013-2014	The Annual Returns are retained by the Environment Manager for at least 4 years.	**Compliant**
R1.7	Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by: (a) the licence holder; or (b) by a person approved in writing by the EPA to sign on behalf of the licence holder.	• Annual Return 2011-2012 • Annual Return 2012-2013 • Annual Return 2013-2014	The Statement of Compliance within the Annual Return has been signed by the Directors of the Company.	**Compliant**
R1.8	A person who has been given written approval to certify a certificate of compliance under a licence issued under the Pollution Control Act 1970 is taken to be approved for the purpose of this condition until the date of first review of this licence.	• Annual Return 2011-2012 • Annual Return 2012-2013 • Annual Return 2013-2014		**Noted**

EPL No.	EPL 12856 Condition	Verification	Comment	Compliance
		• Letter to DECC re Annual Return, Aug 2014		
R2	**Notification of environmental harm** *Note: The licensee or its employees must notify the EPA of incidents causing or threatening material harm to the environment as soon as practicable after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.*			
R2.1	Notifications must be made by telephoning the Environment Line service on 131 555.			**Noted**
R2.2	The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.			**Noted**
R3	**Written report**			
R3.1	Where an authorised officer of the EPA suspects on reasonable grounds that: (a) where this licence applies to premises, an event has occurred at the premises; or (b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence, (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.			**Noted**
R3.2	The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.			**Noted**
R3.3	The request may require a report which includes any or all of the following information: (a) the cause, time and duration of the event; (b) the type, volume and concentration of every pollutant discharged as a result of the event; (c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event; (d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the			**Noted**

EPL No.	EPL 12856 Condition	Verification	Comment	Compliance
	event, unless the licensee has been unable to obtain that information after making reasonable effort; (e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants; (f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and (g) any other relevant matters			
R3.4	The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.			**Noted**
7	**General conditions**			
G1	**Copy of licence kept at the premises**			
G1.1	A copy of this licence must be kept at the premises to which the licence applies.		A copy of the EPL is retained on the premises and is available from the Environment Manager.	**Compliant**
G1.2	The licence must be produced to any authorised officer of the EPA who asks to see it.		A copy of the EPL is retained on the premises and is available from the Environment Manager on request.	**Compliant**
G1.3	The licence must be available for inspection by any employee or agent of the licensee working at the premises			**Noted**
	Pollution studies and reduction programs			
U1	**Coal Mine Particulate Matter Control Best Practice**			
U1.1	The Licensee must conduct a site specific Best Management Practice (BMP) determination to identify the most practicable means to reduce particle emissions.	• Particulate Matter Best Management Practice Pollution Reduction Program, Todoroski Air Services, 28 Sep 2012		**Compliant**
U1.2	The Licensee must prepare a report which includes, but is not necessarily limited to, the following: - identification, quantification and justification of existing measures that are being used to minimise particle emissions; - identification, quantification and justification of best practice measures that could be used to minimise particle emissions; - evaluation of the practicability of implementing these best practice measures; and	• Best Management Practice Pollution Reduction Program, Todoroski Air Services, 28 Sep 2012	The Best Management Practice Pollution Reduction Program report prepared by Todoroski Air Services addressed: Section 3.3 Ranking of Mining Activities Section 3.4 Measures to Minimise Particulate Emissions; Section 3.3.2 Potential Impacts - Whilst the emission factors, when applied in this case show theoretical scope for emissions reductions, the actual case appears to be that dust levels are controlled to a level commensurate	**Compliant**

EPL No.	EPL 12856 Condition	Verification	Comment	Compliance
	- a proposed timeframe for implementing these best practice measures. In preparing the report, the Licensee must utilise the document entitled Coal Mine Particulate Matter Control Best Practice – Site Specific Determination Guideline – November 2011.		with best practice, largely as the material is sufficiently moist to preclude dust emissions. Section 4.0 Conclusion - The review finds that by ensuring the coal moisture levels are maintained at levels sufficient to prevent any significant visible dust emissions, dust emissions can be controlled to levels commensurate with best practice. Application of any additional control measures are unlikely to reduce dust impacts at any surrounding receptor to any detectable degree, and are therefore impractical.	
U1.3	All cost related information is to be included as Appendix 1 of the Report required by condition U1.2 above.			**Noted**
U1.4	The Report required by condition U1.2 must be submitted by the Licensee to the Office of Environment and Heritage's Regional Manager Hunter, at PO Box 488G, NEWCASTLE WEST 2302 by 28 September 2012.	• Best Management Practice Pollution Reduction Program, Todoroski Air Services, 28 Sep 2012	The Particulate Matter Best Management Practice Pollution Reduction Program was developed for submission on 28 September 2012	**Compliant**
U1.5	The report required by condition U1.2 above, except for cost related information contained in Appendix 1 of the Report, must be made publicly available by the Licensee on the Licensee's website by 5 October 2012.	• Best Management Practice Pollution Reduction Program, Todoroski Air Services, 28 Sep 2012	The Particulate Matter Best Management Practice Pollution Reduction Program was developed on 3 February 2012 and available to be made available on the website prior to 5 October 2012.	**Compliant**

Attachment C
Mining Leases No. 1618 and 1653

ML Condition	Mining Lease Condition	Verification	Comments	Compliance
ML 1618 c.2 **ML 1653 c.2**	**Environmental Harm** (a) The proponent shall implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation or rehabilitation of the development.			**Noted**
ML 1618 c.3 **ML 1653 c.3**	**Mining Operations Plan** (a) Mining operations must not be carried out otherwise than in accordance with a Mining Operations Plan (MOP) which has been approved by the Director-General. (b) The MOP must: (i) identify areas that will be disturbed by mining operations; (ii) detail the staging of specific mining operations; (iii) identify how the mine will be managed to allow mine closure; (iv) identify how mining operations will be carried out in order to prevent and or minimise harm to the environment; (v) reflect the conditions of approval under: • the *Environmental Planning and Assessment Act 1979* • the *Protection of the Environment Operations Act 1997* • and any other approvals relevant to the development including the conditions of this lease; and (vi) have regard to any relevant guidelines adopted by the Director-General. (c) The title holder may apply to the Director-General to amend an approved MOP at any time. (d) It is not a breach of this condition if: (i) the operations constituting the breach were necessary to comply with a lawful order or direction given under the *Mining Act 1992*, the *Environmental*	• Format and Guideline for Preparation of a Mining Operations Plan, Environmental Management Guidelines for Industry, Mineral Resources NSW • Mining Operations Plan 1 January 2010 to 31 December 2016 • Rehabilitation and Environmental Management Plan (REMP), draft	The Mining Operations Plans (MOP's) prepared for the Abel Coal Mine addressed the requirements of the "*Guideline for Preparation of a Mining Operations Plan*". An initial MOP was prepared for the Abel Coal Mine for the period December 2008 to December 2009. This MOP was approved by DPI-Minerals on the 2 December 2008. A further MOP was prepared for the period 1 January 2010 to 31 December 2016 and submitted to the DII for approval in December 2010.	**Compliant**

	Planning and Assessment Act 1979, *Protection of the Environment Operations Act 1997*, *Mine Health and Safety Act 2004 / Coal Mine Health and Safety Act 2002* and *Mine Health and Safety Regulation 2007 / Coal Mine Health and Safety Regulation 2006* or the *Occupational Health and Safety Act 2000*; and (ii) the Director-General had been notified in writing of the terms of the order or direction prior to the operations constituting the breach being carried out. (e) A MOP ceases to have effect 7 years after date of approval or other such period as identified by the D-G. An approved amendment to the MOP under condition 5 does not constitute an approval for the purposes of this paragraph unless otherwise identified by the D-G.			
ML 1618 c.4 **ML 1653 c.4**	**Environment Management Report** (a) The lease holder must lodge Environmental Management Reports (EMR) with the Director-General annually or at dates otherwise directed by the D-G.	• AEMR 2013-2014 • AEMR 2012-2013 • AEMR 2011-2012	An Annual Environmental Management Report (AEMR) has been prepared each year to address the rehabilitation and regulatory requirements.	**Compliant**
ML 1618 c.5 **ML1653 c.4**	The EMR must: • report against compliance with the MOP; • report on progress in respect of rehabilitation completion criteria; • report on the extent of compliance with regulatory requirements; and • have regard to any relevant guidelines adopted by the Director-General.	• AEMR 2013-2014 • AEMR 2012-2013 • AEMR 2011-2012	An Annual Environmental Management Report (AEMR) has been prepared each year to address the rehabilitation and regulatory requirements. Reporting on compliance against the MOP has been submitted separately to the DPI/DII as part of the ML reporting.	**Compliant**
ML 1653 c.5	**Environmental Incident Report** (a) The lease holder must report any environmental incidents. The report must: be prepared according to any relevant Departmental guidelines; be submitted within 24 hours of the environmental incident occurring: (b) For the purposes of this condition, environmental incident includes: • any incident causing or threatening material harm to the environment • any breach of Conditions 1 to 9 and 11 to 24;			**Noted**

	• any breach of environment protection legislation; or, • a serious complaint from landholders or the public. (c) For the purposes of this condition, harm to the environment is material if: (i) it involves actual or potential harm to the health or safety of human beings, or to ecosystems that is not trivial, or (ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000, where loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.			
ML 1653 c.6	**Additional Environmental Reports** Additional environmental reports may be required from time to time as directed in writing by the D-G and must be lodged as instructed.			**Noted**
ML 1618 c.7 **ML 1653 c.7**	**Rehabilitation** Any disturbance as a result of activities under this lease must be rehabilitated to the satisfaction of the D-G			**Noted**
ML 1618 c.8	**Subsidence Management** (a) The lease holder shall prepare a Subsidence Management Plan prior to commencing any underground mining operations which will potentially lead to subsidence of the land surface. (b) Underground mining operations which will potentially lead to subsidence include secondary extraction panels such as longwalls or miniwalls, associated first workings (gateroads, installation roads and associated main headings, etc), and pillar extractions, and are otherwise defined by the *Applications for Subsidence Management Approvals guidelines* (EDG17). (c) The lease holder must not commence or undertake underground mining operations that will potentially lead to subsidence other than in accordance with a Subsidence Management Plan approved by the Director-General, an approval under the Coal Mine Health & Safety Act 2002, or the document *New*	• *New Approval Process for Management of Coal Mining Subsidence – Policy and Guideline for Applications for Subsidence Management Approvals,* dated 2003 • Subsidence Management Plan - Area 1, 27 May 2010 • Letter from DPI re Approval of SMP Area 1, 27 May 2010 • Subsidence Management Plan - Area 2, May 2011 • Letter from DPI re Approval of SMP Area 2, 7 Dec 2011 • Subsidence Management Plan - Area 3, Mar 2013 • Extraction Plan, May 2014	Subsidence Management Plans for Areas 1 and 2 were prepared in accordance with the *New Approval Process for Management of Coal Mining Subsidence – Policy & Guideline for Applications for Subsidence Management Approvals*. The Subsidence Management Plans were submitted to the Director-General of DPI/DII for approval, prior to the commencement of any underground mining operations in these areas. The Subsidence Management Plan for Area 1 was approved by DPI-Minerals on 27 May 2010. Subsidence Management Plan for Area 2 was submitted to DII on 06 June 2011 and approved on 7 December 2011. Subsidence Management Plan for Area 3 was submitted on 12 March 2013 and approved on 16 July 2013. Extraction Plan for Area 4 was prepared in May 2014 and approved on 11 November 2014.	**Compliant Ongoing**

	Subsidence Management Plan Approval Process — Transitional Provisions (EDP09). (d) Subsidence Management Plans are to be prepared in accordance with the *Guideline for Applications for Subsidence Management Approvals*. (e) Subsidence Management Plans as approved shall form part of the Mining Operations Plan required under Condition 3 and will be subject to the Environmental Management Report process as set out under Condition The SMP is also subject to the requirements for subsidence monitoring and reporting set out in the document New Approval Process for Management of Coal Mining Subsidence - Policy			
ML 1618 c.15 **ML 1653 c.10**	**Blasting** **(a) Ground Vibration** The lease holder must ensure that the ground vibration peak particle velocity generated by any blasting within the lease area does not exceed 10 mm/second and does not exceed 5 mm/second in more than 5% of the total number of blasts over a period of 12 months at any dwelling or occupied premises as the case may be, unless determined otherwise by the Department of Environment, Climate Change and Water. **(b) Blast Overpressure** The lease holder must ensure that the blast overpressure noise level generated by any blasting within the lease area does not exceed 120 dB (linear) and does not exceed 115 dB (linear) in more than 5% of the total number of blasts over a period of 12 months, at any dwelling or occupied premises, as the case may be, unless determined otherwise by the Department of Environment, Climate Change and Water.		Blasting has been undertaken at the underground Abel Coal Mine to fragment hard rock encountered during the development of the long wall and roads. Monitoring of underground blasts recorded vibrations levels at the closest surrounding sensitive receivers of less than 0.038mm/s, (i.e. less than the amenity criteria of 5mm/s ppv). Twenty-five (25) blasts were undertaken between 22 August 2011 and 20 September 2012 to fragment hard rock encountered (as opposed to production blasts for coal recovery), and three (3) blasts were undertaken in November 2013. No exceedance of 120 dB (linear) blasts overpressure or 115 dB (linear) blasts overpressure occurred in more than 5% of the total number of blasts in a 12 month period.	**Compliant Ongoing**
ML 1618 c.18 **ML 1653 c.12**	**Prevention of soil erosion and pollution** Operations must be carried out in a manner that does not cause or aggravate air pollution, water (including groundwater) pollution, soil contamination or erosion, unless otherwise authorised by a relevant approval, and in accordance with an accepted Mining Operations Plan. For the purpose of this condition, water shall be taken to include any watercourse, water body, or ground waters. The lease	• Erosion and Sediment Control Plan, Mar 2008 • Water Management Plan, Mar 2008	An Erosion and Sediment Control Plan (ESCP) for the Abel Project was developed within the Water Management Plan (WMP) Part B section B.3. The ESCP is generally consistent with the requirements of the *Managing Urban Stormwater: Soils and Construction* manual Volume 2E Mines and Quarries, DECC 2008. Activities that could cause soil erosion and generate sediment were identified in Part B section B.4 and Part C	**Compliant**

	holder must observe and perform any instructions given by the Director-General.	• 2011-2016 Mining Operations Plan, Dec 2010	sections C.4 and C.5 of the WMP. Measures to minimise soil erosion and the potential for transport of sediment to downstream waters are described in Part B section B.4, and Part C sections C.4 and C.5. The location, function, and capacity of erosion and sediment control structures are described in Part B section B.4 and Part C sections C.4 and C.5.	
ML 1618 c.19 **ML 1653 c.13**	**Transmission, Communication and Pipe lines** Operations must not interfere with or impair the stability or efficiency of any transmission line, communication line, pipeline or any other utility on the lease area without the prior written approval of the Director-General and subject to any conditions he may stipulate.		Apparent sag of power lines occurred between Energy Australia Power Poles 17 and 18 on the Abel Project site. Energy Australia was notified and the conductors lifted to reinstate clearance.	**Compliant Ongoing**
ML 1618 c.21 **ML 1653 c.14**	**Roads and Tracks** (a) Operations must not affect any road unless in accordance with an accepted Mining Operations Plan or with the written approval of the Director-General and subject to any conditions he may stipulate. (b) The lease holder must pay to the relevant roads authority in control of the road or track the reasonable costs incurred by the roads authority in making good any damage to roads or tracks caused by operations carried out under this lease less any amount paid from the Mine Subsidence Compensation Fund.		There were no observed or reported subsidence impacts, incidents, service difficulties, or community complaints between 2011 and 2015 related to roads and tracks that required notification under the SMP approvals. No exceedances of cracking predicted in the SMP's occurred between 2011 and 2015. Minor cracking was remediated in consultation with landholders and infrastructure owners. .	**Compliant Ongoing**
ML 1653 c.14	(a) During wet weather the use of any road or track must be restricted so as to prevent damage to the road or track. **(b)** Existing access tracks should be used for all operations where reasonably practicable. New access tracks must be kept to a minimum and be positioned in order to minimise damage to the land, watercourses or vegetation. **(c)** Temporary access tracks must be rehabilitated and revegetated to the satisfaction of the Director-General as soon as reasonably practicable after they are no longer required under this lease		Use of access tracks by Abel Coal personnel only occurs during monitoring programs or exploration. The use of the tracks by drillers or other personnel is controlled by the Technical Manager and Environment Manager and access is restricted during wet weather to control erosion and damage to land and vegetation. Crossing of creeks or watercourses requires approval from the relevant Abel Project Manager(s).	**Compliant Ongoing**
ML 1618 c.23	**Trees and Vegetation** (a) The lease holder must not fell trees, strip bark or cut timber on any land subject of this lease without the	• Landscape Management Plan, 2008	As the Abel Coal Mine operations and activities are underground there is limited potential to damage trees and vegetation. Clearance of any vegetation requires approval	**Noted**

ML 1653 c.15	consent of the landholder who is entitled to the use of the timber. (b) The lease holder must contact Forests NSW and obtain any required permit, licence or approval before taking timber from any Crown land within the lease area. *Note: Any clearing not authorised under the Act must comply with the requirements of the Native Vegetation Act 2003. Any clearing or taking of timber on Crown land is subject to the requirements of the Forestry Act 1916.*		from the Environment Manager following the Vegetation Clearance Protocol in the Flora and Fauna Management Plan.	