Centennial Coal

Annual Environmental Management Report 2014

Charbon Colliery

March 2015

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Name of Mine:	Charbon Colliery		
Titles/Mining Leases:	CCL726, CCL732, ML1318, ML1384, ML1501, ML1524, ML1545		
MOP Commencement Date:	September 2010	MOP Completion Date:	May 2015
AEMR Commencement Date:	1 January 2014	AEMR End Date:	31 December 2014
Name of Leaseholder:	Charbon Coal Pty Ltd		
Reporting Officer:	Sam Price		
Title:	Environment and Community Officer		
Signature:			
Date:	31 March 2015		

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1. INTRODUCTION

Charbon Colliery is an underground (bord and pillar) and open-cut coal mine owned and operated by Charbon Coal Pty Limited (Charbon Coal), a joint venture between Centennial Coal Company Limited (Centennial) (95 percent) and SK Networks Resources Australia Pty Ltd (5 percent). The Charbon Colliery is located in the Western Coalfields of NSW, approximately 87 kilometres north-west of Lithgow and 3 kilometres south of Kandos (see **Figure 1**). The Colliery has been in operation since the 1920's and initially supplied coal for the former Charbon Cement Works until its closure in 1977. The mine continued to produce coal for local consumption until the Colliery was upgraded in 1985.

The Project Site in its current state covers an area of approximately 2,692ha and consists of: six open cut mining areas; two underground mining areas; rail loop & loading facilities; and a coal handling and processing plant (**CHPP**) (see **Figure 2**). Charbon Coal directly employs approximately 155 people including apprentices, contractors, full time and part time.

The Charbon Colliery has approval to produce up to 1.5Mt of run of mine (**ROM**) coal per year. Coal from the Colliery is transported to Port Kembla by rail for shipping. The surface facilities are located approximately 4km south of Kandos along Charbon Road. The Mine Entry, Primary Surface Facilities and Mining Leases are predominantly located in the Cudgegong River Catchment.

This Annual Environmental Management Report (**AEMR**) details the environmental and community performance of Charbon Colliery for the 12 month reporting period of 1 January 2014 to 31 December 2014. It has been prepared in accordance with the industry guideline prepared by the NSW Department of Trade and Investment – Resources and Energy (**DTI**) (formerly the Department of Primary Industries – Mineral Resources), entitled *Guidelines to the Mining, Rehabilitation and Environmental Management Process* (Version 3, 2006).

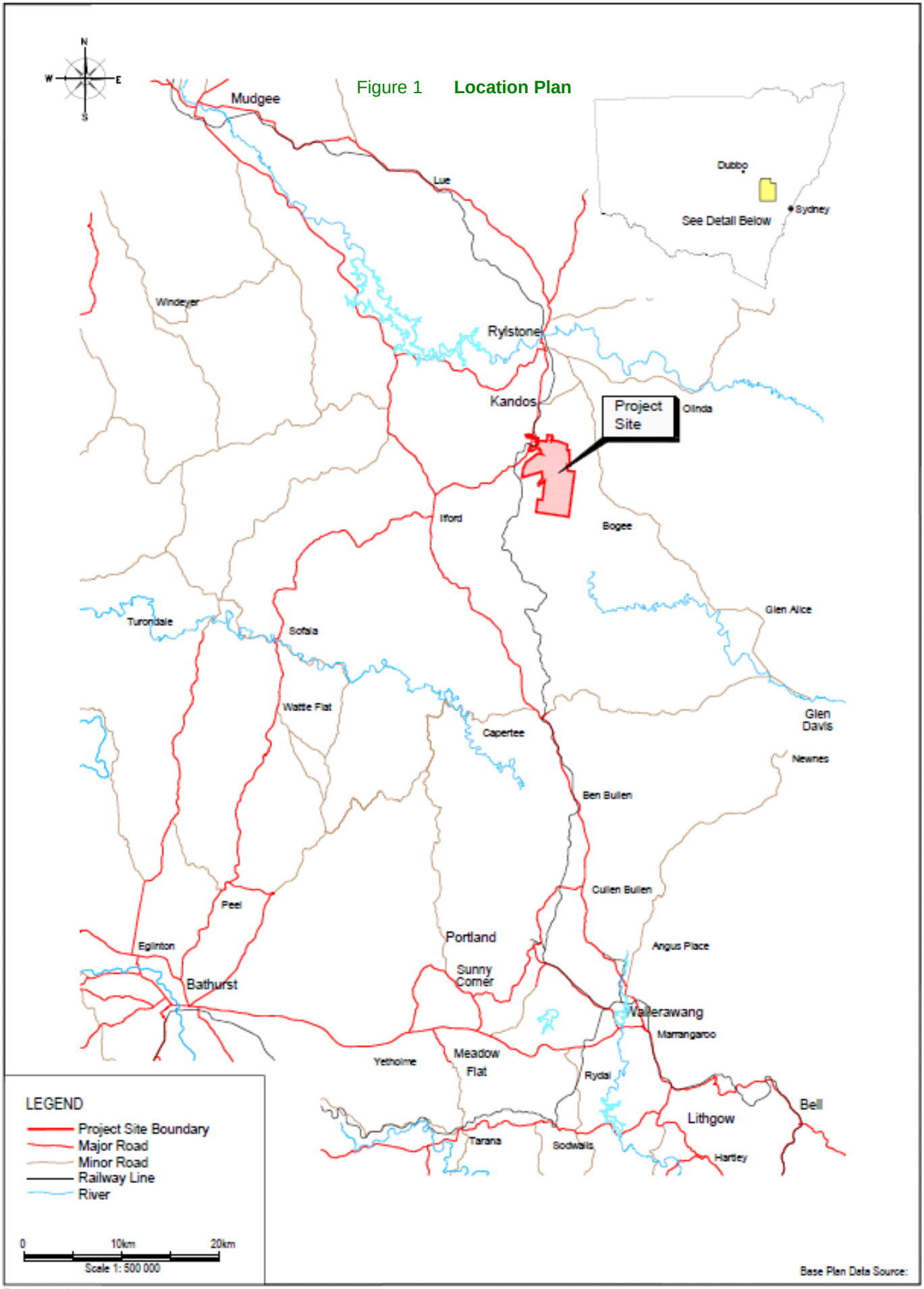
Within this AEMR the operational aspects of the Charbon Colliery are discussed in **Section 2.0**. The environmental performance and community relations of the Charbon Coal have been reported in **Sections 3.0** and **4.0**, respectively. **Section 5.0** details the rehabilitation activities undertaken on site during the reporting period, while **Section 6.0** describes activities as planned for 2015.

1.1. Consents, Leases and Licences

1.1.1. Project Approval

Charbon Coal received Project Approval (PA 08_0211) for the continuation of operations at Charbon Colliery on 7th September 2010 from the Department of Planning and Infrastructure (**DP&I)** now Department of Planning and Environment **(DPE)**. The Project Approval is supported by the Continued Operation of Charbon Colliery Environmental Assessment (**EA**) completed in November 2009 by R.W. Corkery & Co Pty Limited (Corkery, 2009). Schedule 5, Condition 3 of PA 08_0211 outlines the requirement for the submission of a report to the Director-General reviewing the annual environmental performance of the project. This AEMR has been prepared to satisfy the requirements of this condition as outlined in **Table 1**. A copy of PA 08_0211 has been included as **Appendix 1**.

Figure 1 **Location Plan**



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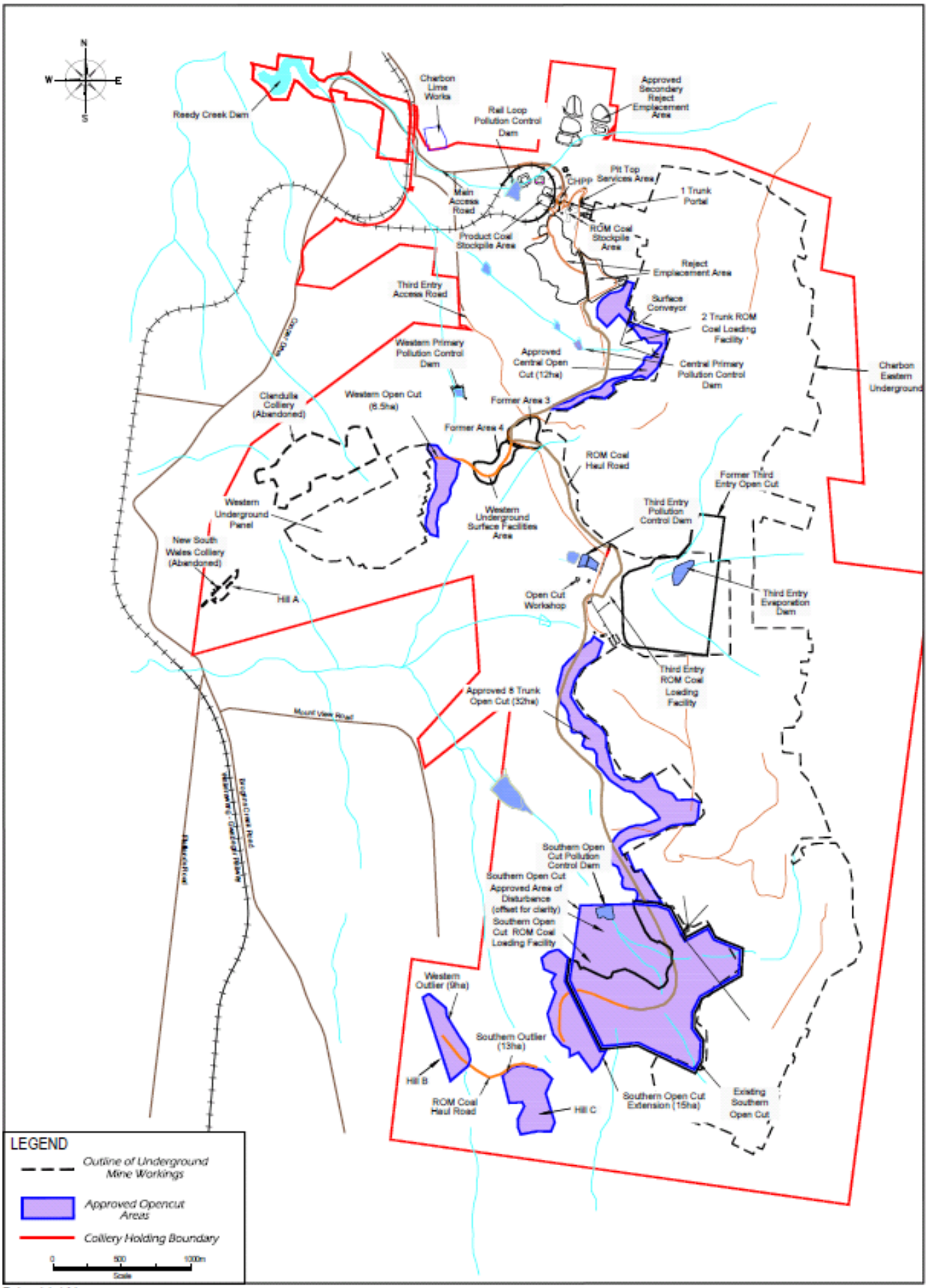
GSS ENVIRONMENTAL
Environmental, Land and Project Management Consultants

Charbon 2011 AEMR
Locality Plan

FIGURE 1



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Charbon 2014 AEMR
Colliery Site Layout
FIGURE 2

Figure 2 **Colliery Site Layout**

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Table 1. Relevant Project Approval Conditions

Condition	Condition Requirement	Section Addressed
Schedule 3, Condition 8	The proponent shall: a) implement all reasonable and feasible noise mitigation measures; b) investigate ways to reduce the noise generated by the project, including off-site road and rail noise and maximum noise levels which may result in sleep disturbance; and c) report on these investigations and the implementation and effectiveness of these measures in the Annual Review, to the satisfaction of the Director-General.	Section 3.11
Schedule 3, Condition 46	The Proponent shall: a) minimise 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 the applicable EPL; and d) report on waste management and minimisation in the Annual Review, to the satisfaction of the Director-General.	Section 2.6
Schedule 5, Condition 3	By 31 March 2011, and annually thereafter, the Proponent shall submit a report to the Director-General reviewing the annual environmental performance of the project to the satisfaction of the Director General. This review must:	This AEMR
	a. Describe the works that were carried out in the previous calendar year, and the works that are proposed to be carried out over current calendar year;	Section 3.0 Section 6.0
	b. Include a comprehensive review of the monitoring results and complaints records of the project over the previous calendar year, which includes a comparison of these results against: • The relevant statutory requirements, limits or performance measures/criteria; • The monitoring results of previous years; and • The relevant predictions in the EA;	Section 3.0
	c. Identify any non-compliance over the previous calendar year, and describe what actions were (or are being) taken to ensure compliance;	Section 1.4
	d. Identify any trends in the monitoring data over the life of the project	Section 3.0
	e. Identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and	Section 3.0
	f. Describe what measure will be implemented over the current calendar year to improve the environmental performance of the project.	Section 6.0
Schedule 5, Condition 7	From 31 August 2011, the Proponent shall make the following information publicly available on its website to the satisfaction of the Director-General: (f) Annual Reviews under this approval;	Section 4.2

1.1.2. Leases

Existing mineral authorities held by Charbon Coal for the Charbon Colliery have been presented in **Table 2**.

Table 2. Leases

Mineral Authority	Approval Date	Expiry Date
CCL726[1]	16 March 1989	18 November 2028
CCL732	13 December 1989	02 December 2025
ML1318	29 June 1993	29 June 2026
ML1384	19 January 1996	19 January 2017
ML1501	21 December 2001	21 December 2022
ML1524	28 October 2002	28 October 2023
ML1545	09 January 2004	9 January 2025
ML1647**	17 December 2010	17 December 2031
ML1663	9 January 2012	9 January 2033
MPL270	29 April 1991	29 April 2026
MPL499	28 May 1925	28 May 2026
MPL505	11 August 1925	11 August 2026
MPL526	14 December 1925	14 December 2024
MPL670	26 March 1930	26 March 2024
MPL964	20 November 1939	20 November 2023

[1] - CCL726 is subleased from Kandos Collieries Pty Limited

1.2. Licences

1.2.1. Environmental Protection Licence

The Charbon Colliery operates under Environmental Protection Licence (EPL) 528, which is renewed annually on 31 October. Monitoring undertaken in accordance with the EPL is reported to the Office of Environment and Heritage (OEH) as part of the Charbon Colliery EPL Annual Return.

During 2014 Charbon Colliery was issued with a licence variation on 30 October 2014 to include the following:

- Addition of three (3) new licence discharge points, with associated water quality and volume discharge limits and monitoring requirements;
- Alteration to the waste which may be accepted at the premises; and
- Alteration of the noise limits table.

The environmental reporting and monitoring activities undertaken at the Charbon Colliery, in accordance with EPL 528 are discussed in **Sections 3.3** (Air Quality), **3.5** (Surface Water Pollution) and **3.10** (Blasting). EPL 528 has been included as **Appendix 2.**

1.2.2. Groundwater Licences

Charbon Coal currently holds two (2) groundwater licences as outlined in **Table 3**.

Table 3. Groundwater Licences

Licence	Approval Date	Renewal Date	Details
80BL243771	22 March 2007	Perpetuity	Extraction of up to 5ML per year from the Charbon Underground
80AL706141*	23 August 2012	Perpetuity	Extraction of up to 30ML per year.

*Water Access Licence 80AL706141 replaces previous Bore Licences: 80PT971501, 80BL244068, 80BL244069, 80BL244070.

1.2.3. Surface Water Licences

Table 4 provides a summary of all current surface water licences held by Charbon Coal.

Table 4. Surface Water Licences

Licence	Approval Date	Renewal Date	Details
80AE308402	6 February 2001	NA	Amnesty registration for Reedy Creek Dam, Southern Open Cut Pollution Control Dam and farm dams
80AL717720* 80WA717721	4 October 2012	3 October 2015	Conservation of water and water supply for industrial purposes (Reedy Creek Dam)
80WA717722	4 October 2012	3 October 2015	Conservation of water and water supply for stock purposes (Southern Open Cut Pollution Control Dam and 50ML dam)

* Water Access Licence 80AL717720 replaces previous entitlement issued under the *Water Act* 1912: 80SL095832

1.3. Other Approvals

Table 5 provides details pertaining to additional approvals relevant to the operations undertaken at Charbon Colliery.

Table 5. Other Approvals

Approval Type	Regulatory Authority	Approval Number	Approval Date	Expiry Date
EPBC Act Approval	Australian Department of the Environment (previously Department of Sustainability, Environment, Water, Population and Communities)	2010/5498	19 November 2010	2025
Mining Operations Plan	NSW Department of Trade & Investment, Resources & Energy	N/A	September 2010	May 2015 (Ext)
Subsidence Management Plan (SMP)	NSW Department of Trade & Investment, Resources & Energy	07-0975	19 April 2007	1 May 2014*
SMP Eastern Underground	NSW Department of Trade & Investment, Resources & Energy	10/4157	21 June 2012	N/A

*1 May 2014 or the expiry/cancellation of CCL732 or ML1318, whichever occurs first

1.3.1. EPBC Act Approval

On 18 May 2010, Charbon Coal provided a referral under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) to the then Department of Sustainability, Environment, Water, Population and Communities (**SEWPaC**), now known as the Department of the Environment (**DoE**), to continue the operations of the existing open cut and underground mining operations at the Charbon Colliery. Approval was granted on 19 November 2010.

This EPBC Act Approval was subject to a number of conditions as attached to the approval (see **Appendix 3**). This AEMR has been prepared to address the requirement of Condition 10 of the EPBC Act Approval.

On 5 October 2012 the delegate of the Minister for Sustainability, Environment, Water, Population and Communities approved variations to Conditions 3, 5, 6 and 7 of EPBC Approval 2010/5498.

On 12 November 2013 Charbon Colliery submitted an application to vary Conditions 3, 7 and 10, of EPBC Approval 2010/5498 to the Australian DoE. Approval is pending.

Table 6 outlines conditions of the EPBC Act Approval and where relevant outlines that compliance with these conditions has been achieved by Charbon Coal.

Table 6. EPBC Act Approval Conditions

Condition	Condition Requirement	Comment
1	The person taking the action must carry out the action in accordance with the conditions of this approval and as described in the referral documentation dated 18 May 2010 and Preliminary Documentation dated 20 October 2010. Where the referral, the Preliminary Documentation and these conditions are contradictory, these conditions shall prevail to the extent of the contradiction.	Addressed by the Compensatory Habitat Management Plan
2	The person taking the action must not clear more than approximately 90ha in the project area (Annexure 1), consisting of no more than; a. Approximately 42ha of **native vegetation** including: i. 13.3ha of the listed White Box – Yellow Box – Blakely's Red Gum Grassy Woodlands and Derived native Grasslands ecological community; b. Approximately 47ha of cleared land; and c. The removal of no more than 40 individual Eucalyptus macrorhyncha subsp. Cannonii (Cannon's Stringybark or Capertee Stringybark).	Charbon Coal are compliant with this condition as they have not cleared more than 90ha, nor 42ha of native vegetation (as outlined by Condition 2).
3	To mitigate impacts on the listed White Box – Yellow Box – Blakely's Red Gum Grassy Woodlands and Derived native Grasslands ecological community, the listed Swift Parrot, Regent Honeyeater, Large-eared Pied Bat, Spotted-tail Quoll and Greater Long Eared Bat, the person taking the action must place a legally binding conservation covenant in perpetuity over no less than 253ha of land identified as 'Proposed Additional Compensatory Habitat' on the map dated 29/03/2012 at Annexure 2. a. The covenant must be approved in writing by the Minister and placed on the title of the land identified on the map at Annexure 2 as "Proposed Additional Compensatory Habitat" by 19 November 2013. b. Covenant conditions must not allow any development	Charbon Coal has identified approximately 265ha of land for conservation. As of 19 February 2014 a covenant has been placed over this land. Additional detail has been provided in **Section 3.8.2**.

Condition	Condition Requirement	Comment
	or native vegetation clearing within these areas.	
4	Within 12 months of the commencement of Stage One Works, the person taking the action must prepare and submit a Compensatory Habitat Management Plan, for the area identified in Condition 3, for the Minister's approval to provide protection for: i. White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grasslands; and ii. Habitat for the Spotted-tail Quoll, Swift Parrot, Regent Honeyeater, Large-eared Pied Bat, Greater Long Eared Bat and Capertee Stringybark; The Compensatory Habitat Management Plan must include, but not limited to: a. Desired outcomes/objective of the plan; b. Management actions including, but not limited to, land rehabilitation and restoration measures, pest management, fencing, weed control, fire management, erosion and sediment control, exclusion of livestock, and restrictions on access that are proposed to protect and enhance areas of: i. White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grasslands; and ii. Habitat for the Spotted-tail Quoll, Swift Parrot, Regent Honeyeater, Large-eared Pied Bat, Greater Long Eared Bat and Capertee Stringybark; c. Measures to monitor subsidence and thresholds of detected subsidence rates that will trigger remedial action and the remedial works in relation to subsidence; d. Measures for the protection of these areas in perpetuity; e. The development and implementation of a monitoring program, including, but not limited to, performance criteria and thresholds for review and amendment of management actions; f. A description of the potential risks to management and rehabilitation in the compensatory habitat areas, and a description of the contingency measures that would be implemented to mitigate these risks; g. The timing of and person(s) responsible for undertaking the actions identified in condition 4; and h. The approved Compensatory Habitat Management Plan must be implemented.	Charbon Colliery, Compensatory Habitat Management Plan approved by SEWPaC on 5 October 2012.
5	For the first five years after the approval of the Compensatory Habitat Management Plan by the Minister, the person taking the action must submit to the Department a report detailing the implementation of the approved Compensatory Habitat Management Plan, as component of Condition 10.	This condition has been addressed by this AEMR. Additional detail has been provided in **Section 3.8.2**.
6	For the period following the first five years after the approval of the Compensatory Habitat Management Plan by the Minister, the person taking the action must submit to the Department a report detailing the implementation of the approved	Not yet triggered.

Condition	Condition Requirement	Comment
	Compensatory Habitat Management Plan. Reports must be submitted every three years as a component of Condition 10, until the Minister notifies the person taking the action that he or she is satisfied that the Compensatory Habitat Management Plan has been fully implemented and reporting is no longer required.	
7	To offset impacts to the listed White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grasslands ecological community, the listed Swift Parrot, Regent Honeyeater, Large-eared Pied Bat and Greater Long Eared Bat, the person taking the action must provide protection, through gifting to NSW National Parks and Wildlife Service NPWS), for no less than 120ha of land, including at least 80ha of White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grasslands ecological community, located at Nullo Mountain, County of Phillip, NSW and described as Lot 3 DP1172889 and provided at Annexure 3. a. Evidence of gifting the Nullo Mountain offset site to the NSW NPWS must be provided to the department, including measures taken to assist NSW NPWS to manage the offset site in the long-term, provided to the NSW NPWS for the management of the offset site, by 19 November 2013.	Negotiations with NPWS on-going. NPWS verbally supportive of accepting area as a State Conservation Area (SCA) rather than as additional land incorporated into Wollemi NP due to Exploration Licence existing over area.
8	To offset impacts to the Regent Honeyeater, the person taking the action must donate $5000 to the Hawkesbury – Nepean Catchment Management Authority for Regent Honeyeater habitat restoration.	Charbon Coal presented a cheque for $5000 to the Hawkesbury – Nepean Catchment Management Authority in September 2011.
9	Within 10 business days of substantial commencement, the person taking the action must advise the Department in writing the actual date of commencement.	Substantial commencement of works was 24 November 2011. The Department were advised of commencement in writing within 10 business days.
10	Within four months of every 12 month anniversary of the substantial commencement of the action the person taking the action must submit to the Department a report addressing compliance with the conditions of this approval. Annual reports must be provided until the Minister is satisfied that the proponent has complied with all conditions of the approval.	This condition has been addressed by this AEMR.
11	Upon the direction of the Minister, the person taking the action must ensure that an independent audit of compliance with the conditions of this approval is conducted and a report submitted to the Minister. The independent auditor must be approved by the Minister prior to the commencement of the audit. Audit criteria must be agreed to by the Minister and the audit report must address the criteria to the satisfaction of the Minister.	Not yet triggered.
12	If the person taking the action wishes to carry out any activity otherwise than in accordance with the plans, reports or strategies referred to in the above conditions the person taking the action must submit for the Minister's approval a revised version of any such plan, report or strategy. The varied activity shall not commence until the Minister has approved the varied	Not yet triggered.

Condition	Condition Requirement	Comment
	plan, report or strategy in writing. If the Minister approves such a revised plan, report or strategy, that plan, report or strategy must be implemented in place of the plan, report or strategy originally approved.	
13	If the Minister believes that it is necessary or desirable for the better protection of listed threatened species and ecological communities and listed migratory species to do so, the Minister may request that the person taking the action make specified revisions to the plans, reports or strategies approved pursuant to the above conditions and submit the revised plan, report or strategy for the Minister's approval. The person taking the action must comply with any such request. The revised approved plan, report or strategy must be implemented. Unless the Minister has approved the revised plan, report or strategy, then the person taking the action must continue to implement the plan, report or strategy originally approved, referred to in the above conditions.	Not yet triggered
14	If, at any time after 3 years from the date of this approval, the Minister notifies the person taking the action in writing that the Minister is not satisfied that there has been substantial commencement of the action, the action must not thereafter be commenced without the written agreement of the Minister.	Not yet triggered
15	The person taking the action must maintain accurate records substantiating all activities associated with or relevant to the above conditions of approval, including measures taken to implement the management plans required by this approval, and make them available upon request to the Department. Such records may be subject to audit by the Department or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the Departments website. The results of audits may also be publicised through the general media.	In accordance with the requirement of this Condition, accurate records are maintained to substantiate activities relevant to this Approval by the Environment and Community Department.

1.4. Regulatory Compliance

In accordance with Schedule 5, Condition 3(c) of PA 08_0211 Charbon Coal is required to 'identify any non-compliance over the previous calendar year, and describe what actions were (or are being) taken to ensure compliance'. This AEMR has been prepared to satisfy this condition.

Legal compliance is monitored on a continual basis and includes analysis of monitoring results and the maintenance of a compliance checklist for internal auditing and inspections. This allows any areas of non-conformance to be identified and managed promptly.

During the 2014 reporting period six (6) non-compliances were recorded. Four non-compliances were related to air quality (dust) and two were related to noise. These specific exceedances are discussed in the relevant sections of this AEMR, as well as in Monthly Monitoring Reports located on the Centennial Coal website.

On 22 March 2013 the EPA issued, as a variation in EPL 528, a Particulate Matter Control Best Practice Pollution Reduction Program (PRP). Charbon Coal reported against the three (3) conditions added to EPL 528 Particulate Matter PRP in 2014, as follows:

1. U1: Particulate Matter Control Best Practice Implementation – Wheel Generated Dust

Charbon Coal submitted a report to the EPA titled "Pollution Studies and Reduction Program U1" prepared by SLR Consulting. A monitoring program was undertaken quantify the control of dust emissions through wheel generated sources on the on-site haul roads during summer and winter months. The report concluded during summer months the calculated control efficiency is estimated to be in excess of 87%. Due to limitations in data the estimated control efficiency was not included for winter.

2. U2: Particulate Matter Control Best Practice Implementation – Disturbing and Handling Overburden under Adverse Weather Conditions

   Charbon Coal submitted a report to the EPA titled "Pollution Studies and Reduction Program U2" prepared by SLR Consulting. A monitoring program was undertaken quantify the control of dust emissions through disturbing and handling overburden under adverse weather conditions during summer and winter months. The report concluded a Trigger, Actions, Response Plan was to be developed to reduce the absolute quantity of particulate matter emitted into the atmosphere from the handling process. Based on wind speed Charbon is to manage operations for identified wind speeds and soil moisture contents (<4 m/s wind speed and soil moisture content of any value, 4 m/s to 5m/s wind speed and soil moisture content >4%, >5 m/s wind speed and soil moisture content 2% to 6% and >6 m/s wind speed and soil moisture content <4%).

3. U3: Particulate Matter Control Best Practice Implementation – Trial of Best Practice Measures for Disturbing and Handling Overburden

   Charbon Coal submitted a report to the EPA titled "Coal Mine Pollution Program Condition U3 Assessment – Preliminary Report NSW Minerals Council/ACARP Project C22027" by Pacific Environment. The preliminary report identified the most effective methods for controlling dust from overburden handling activities was from altering operations/handling techniques. Further field investigations are to be undertaken for control measures.

1.5. Mine Contacts

Contact details for personnel responsible for environmental management and community relations of the Charbon Colliery have been provided in **Table 7**.

Table 7. Primary Contacts for Charbon Colliery

Contact	Position	Contact details
Neil Larcombe	Mine Manager	T: (02) 6357 9201
		M: 0438 478 868
		E: neil.larcombe@centennialcoal.com.au
Sam Price	Environment and Community Officer	T: (02) 6357 9206
		M: 0427 647 651
		E: sam.price@centennialcoal.com.au

1.6. Actions Required at Previous AEMR Review

The 2013 AEMR for Charbon Colliery was reviewed by DTI – Mineral Resources Senior Inspector for the Environment, Steve Clipperton, and DTI – Mineral Resources, Environment and Sustainability Unit Manager and Principal Inspector, Central, Michael Young, including a site inspection. Following this inspection Charbon Coal were informed that the 2013 AEMR was accepted by the Department.

Table 8 below outlines the status of activities as outlined in the 2013 AEMR that were proposed to be undertaken during the 2014 reporting period.

Table 8. Status of 2013 AEMR Actions

Activities Proposed for 2014	Status as of December 2014
Continue rehabilitation program within the former open cut mining areas	Approximately 50Ha in the Southern Open Cut was seeded with native vegetation during October 2014.
Engage a specialist consultant to complete Stage 2 of the Targeted Phase 2 ESA	Report completed June 2014 by AECOM.
Develop and submit for approval the Final Rehabilitation Plan, including preparation of the 2014 MOP, which will be developed in the now current MREMP format as required by DPE	MOP extension granted in 2014 until February 2015, further extension provided until May 2015. Discussions continuing with Department.
Implement actions as identified by the Independent Environmental Audit completed in 2012	All actions from 2012 Audit have been noted and addressed. Charbon underwent another Independent Environmental Audit in March 2015; new actions from this audit are yet to be received by site.

1.7. Plans Required Under the AEMR Guidelines

In accordance with the *Guidelines to the Mining, Rehabilitation and Environmental Management Process*, a plan is to be incorporated in the AEMR that is of the same scale and with equivalent information to Mining Operations Plan (MOP) Plan 3 (Land Preparation), Plan 4 (Proposed Mining Activities) and Plan 5 (Proposed Rehabilitation).

In August 2011 an airborne geophysical survey was undertaken at Charbon Colliery. This survey provided Charbon Coal with high resolution survey data. During 2011 an aerial photograph of the Charbon Colliery was also taken. In accordance with the *Guidelines to the Mining, Rehabilitation and Environmental Management Process*, a copy of this recent aerial photograph has been provided as **Appendix 5**.

The aerial has been updated in 2014 with the aerial photograph completed in 2014.

2. OPERATIONS DURING THE REPORTING PERIOD

2.1. Exploration

No exploration activities were undertaken during the 2014 reporting period.

2.2. Land Preparation

Land preparation ahead of open cut extraction involves clearing of vegetation (where necessary), and stripping of topsoil and overburden. The area of pre-strip is kept to a minimum to reduce the dirty water catchment and potential for dust generation at any one time.

Vegetation Clearing

The following procedures are implemented to minimise the impacts of clearing vegetation on fauna within the Colliery:

- A pre-clearing survey is undertaken, preferably on the day that they are to be felled, to detect any individual animals present at the time;
- Where arboreal species are detected in a tree, the tree is generally left undisturbed and the animal allowed to vacate the area of its own accord, generally overnight;
- Trees are generally felled using a bulldozer or excavator;
- Each tree is initially nudged to induce any fauna to vacate the tree. The operator then waits and watches for fauna. Each tree is then pushed over, with the roots acting as a break to limit damage to hollows and injury to any remaining fauna, and
- Felled trees are then checked for fauna. If located and uninjured, fauna that can safely be moved are relocated to adjacent bushland and released.

Prior to the commencement of mining operations logs and branches with hollows are cut or broken into manageable lengths and placed on areas of progressive rehabilitation or stockpiled.

Fallen trees and hollow logs already in place within areas to be cleared will be removed and utilised in rehabilitation or habitat enhancement programs to create fauna habitat by placing the log on the ground, or with one end leaning against a created rock pile or solid tree branch.

Trees with a diameter of greater than 250mm will be conserved and utilised in rehabilitation and habitat enhancement works. Tree trunks can be used as ground structure to create habitat and/or can create vertical habitat by erecting the trees in the ground.

Topsoil Stripping

Careful planning and supervision of topsoil stripping activities is critical for ensuring all suitable material is recovered, while avoiding unsuitable (e.g. dispersive) subsoil materials. Careful topsoil stripping will also capture and preserve the collective native seed bank. Where practicable, topsoil from the woodland and pasture areas will be preferentially stripped and stockpiled separately so that it can be placed in designated areas in accordance with the revegetation types on the site. The woodland topsoil will be placed in the tree lot and corridor areas, while the topsoil from the pasture areas will be placed in those areas identified for grassland.

Topsoil stripping will be undertaken when the soil is in a slightly moist condition thus reducing damage to soil structure, achieving a higher standard of revegetation and reducing maintenance requirements. Soil materials will not be stripped in either a dry or wet condition.

Topsoil Management

Topsoil will be managed separately from overburden. Prior to any excavation work topsoil will be pre-stripped and directly placed on re-shaped rehabilitation areas (if available). To minimise compaction and loss of structure, topsoil stripping will be undertaken at times of optimum moisture content.

Topsoil management will include:

- Minimising stockpiling requirements by favouring direct placement;

- Minimising stockpile size;
- Establishing a vegetative cover over topsoil stockpiles and re-spread topsoils as soon as practical;
- Diverting surface water flows away from exposed topsoil;
- Avoiding excessive handling of soils or handling wet topsoils;
- The use of mulch (or previously cleared vegetation) to improve soil organic content, enhance moisture conservation and provide habitat; and
- Weed management and control to minimise weed seed content in topsoil.

Topsoil will generally be re-spread to a depth of no less than 10cm over re-shaped open cut areas. In the event that insufficient topsoil is available for rehabilitation, an alternative topdressing cover (e.g. suitable subsoil) will be sourced. The Colliery has enjoyed success in the past with the use of biosolids, which may be utilised again where required.

2.3. Construction

No construction was undertaken at the Charbon Colliery during the 2014 reporting period.

2.4. Mining

Table 9 presents the production and waste summary at Charbon for the 2014 reporting period.

Table 9. Production and Waste Summary

	Production		
	2014 Reporting Period	**2015 Reporting Period Estimated**	**2016 Reporting Period (Estimated)**
Waste Rock (Overburden) (t)	3,158,990	1,198,096	Nil
Ore (ROM coal) (t)	799,671	657,742	Nil
Processing Waste (t)	Nil	Nil	Nil
Product (t)	657,260	556,594	Nil

2.4.1. Underground Mining

During the 2015 reporting period in the Eastern Underground mining area Charbon Coal completed Extraction (2nd workings) within the 5 and 4 trunk panels and 1st workings in Haystack. See **Figure 3 and 4,** below. Extraction was completed on the 18th Feb and development was completed on the 7th Mar. Over the next month the majority of men were transferred to Airly Colliery while underground equipment was salvaged and sent to Airly.

On the 10th November 2011, Charbon Coal submitted a Subsidence Management Plan (SMP) Application seeking approval from NSW Department of Trade and Investment, Regional Infrastructure and Services – Resources and Energy (DTIRIS) for the extraction and development of pillars in and adjacent to the 4, 5, 6 and 7 Trunk Panels of CCL 732, ML 1318, ML 1384 and ML 1501 (the Eastern SMP Area). The Charbon SMP – Eastern Underground, was approved on the 12th March 2012.

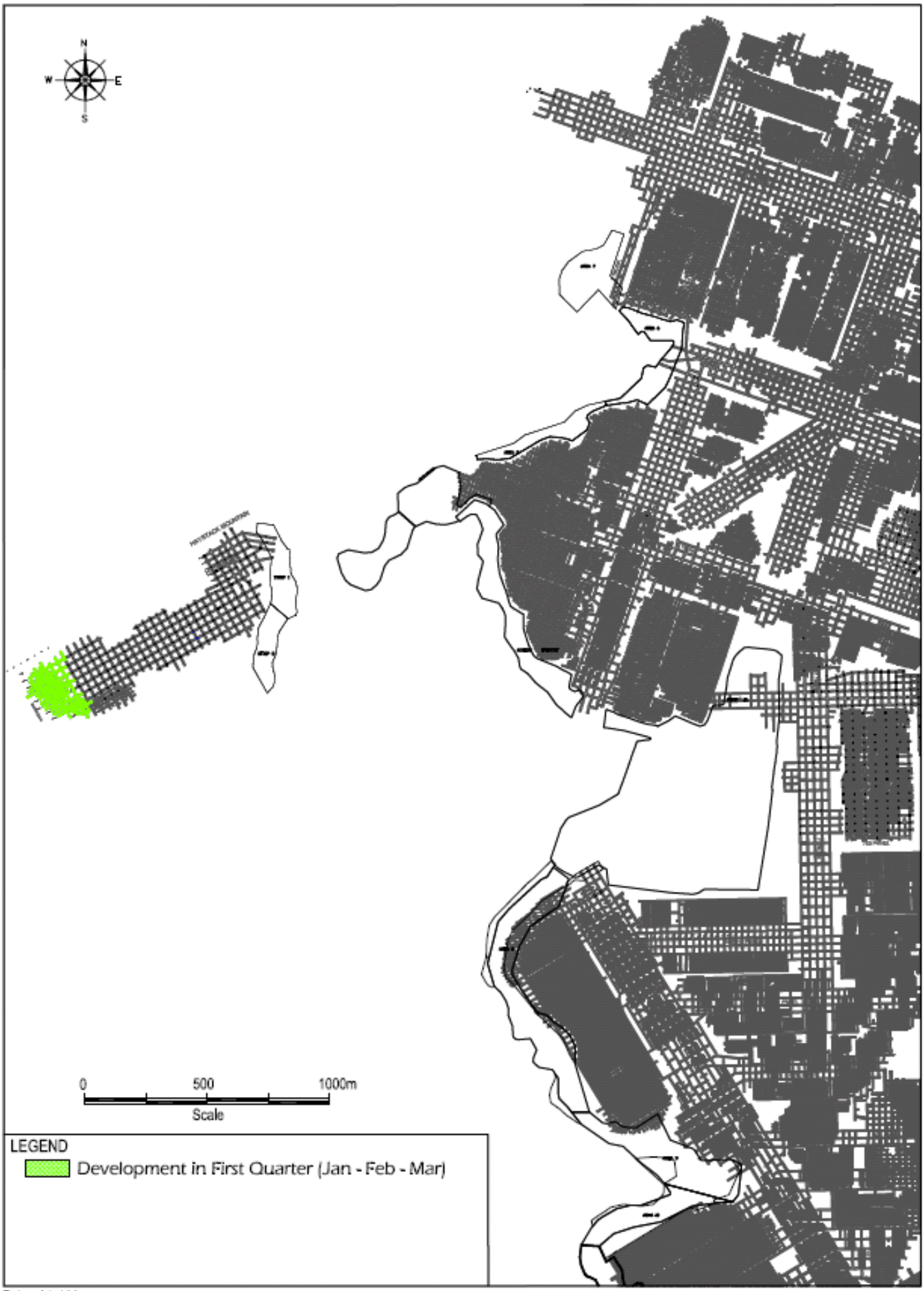
Within the Eastern SMP Area, Charbon Coal mined the Lithgow Coal seam using a combination of the full extraction, partial extraction and development (first workings) mining methods. These mining methods have been practiced and developed at Charbon Colliery since the commencement of operations in the 1920's. The extraction mining method allows for effective resource recovery whilst minimising subsidence impacts upon significant surface features.

Natural surface features within the SMP Area are not unlike those previously mined under at Charbon Colliery and include native bushland and rock features. There is currently no built infrastructure above the Eastern SMP Area, although there are unsealed forest access roads, some of which are maintained. During the 2014 reporting period in the Eastern Underground mining area Charbon Coal completed a combination of full extraction and partial extraction mining methods in 5 Trunk and 4 Trunk which can be seen in **Figure 4**.

2.4.2. Open Cut Mining

Throughout the 2015 reporting period, open cut mining at the Charbon Colliery was undertaken within the Western Outlier, the Southern Outlier and the Central Open Cut areas. See **Figure 5**, below.

Overburden is removed by dozer ripping, with ripped material being then pushed into piles for loading into dump trucks by a front end loader. In some cases, material can be dozed directly into its final position but the majority is transported by dump truck into previously mined strips for placement. Blasting for overburden removal commenced in 2006 finishing in 2010. No blasting was completed in 2015.



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Charbon 2014 AEMR
Quarterly Underground Development

FIGURE 3

Figure 3 **Quarterly Underground Development**

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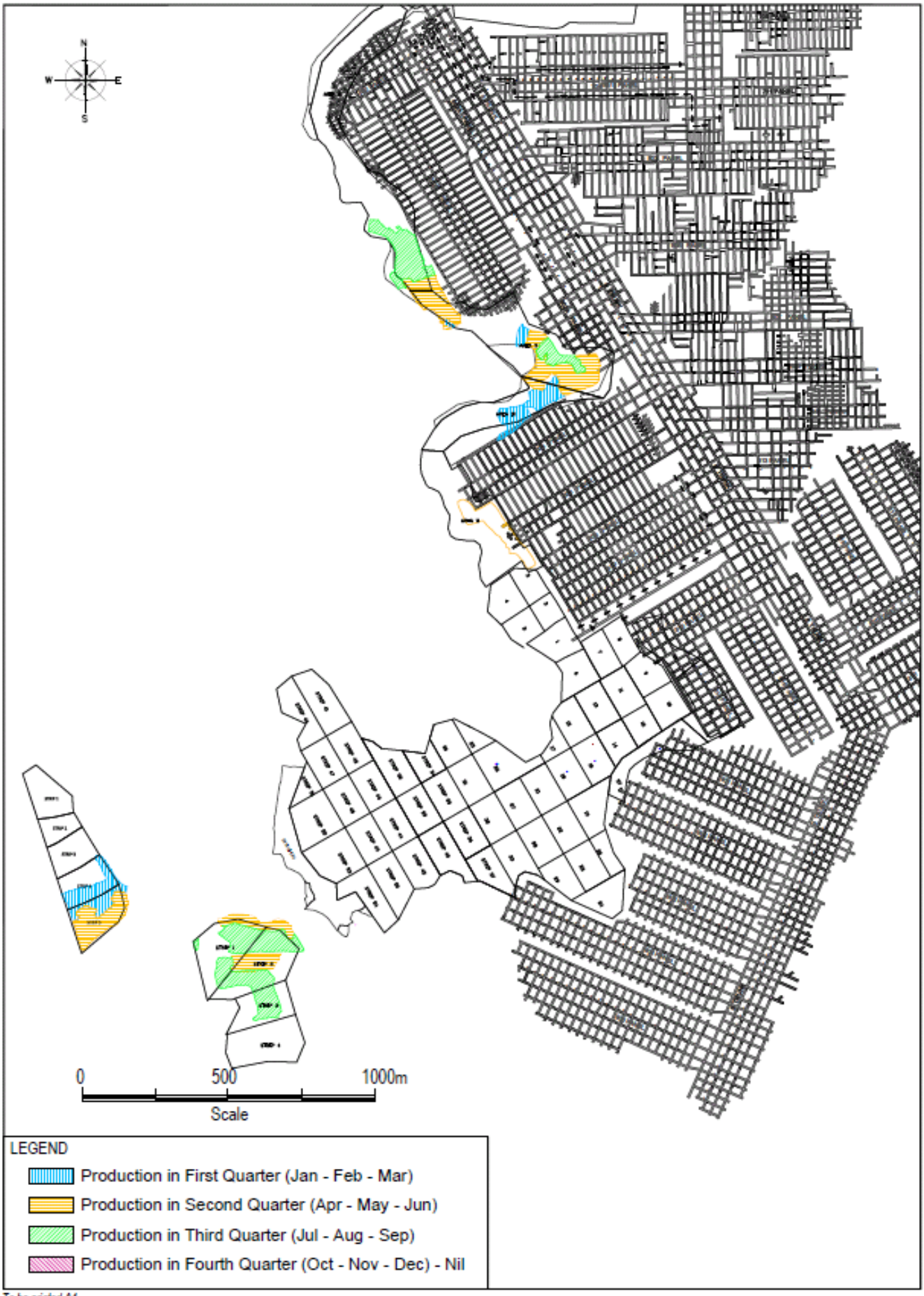
Charbon 2014 AEMR
Quarterly Underground Extraction

FIGURE 4

Figure 4 **Quarterly Underground Extraction**



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Charbon 2014 AEMR
Quarterly Production Opencut

FIGURE 5

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Once exposed, the seam surfaces are cleaned down to the desired seam section. This process improves the quality of the raw coal by removing any high ash or diluted coal material. Any waste material containing coal fractions is dumped in pit at least 5m below the final surface level. Exposed raw coal is then ripped, loaded and transported.

2.5. Mineral Processing

With the exception of ROM coal that is direct shipped, ROM coal is processed within the CHPP to produce a thermal coal with an ash content of approximately 14% - 18%. ROM coal is passed initially through a crusher, with crushed material passed over a screen to separate the coarse material which is returned to the crusher. The remaining material is passed through a series of dense-medium cyclones and fine spirals to produce a washed product coal and a coarse and fine reject material. The washed product coal is transferred to the Product Coal Stockpile Area and the fine reject material to a thickener after which it is pumped to the reject emplacement area.

Coarse reject material is transported to the reject emplacement area (**REA**) by truck and is used to construct the cell walls within the REA. Fine reject material is pumped from the thickener to the active cell within the REA and water is recovered from the reject toe dam for re-use within the CHPP.

The CHPP has a nominal throughput of approximately 250t to 300t per hour. The CHPP operates 24 hours per day, seven days per week.

2.6. Waste Management

2.6.1. Reject Emplacement

There are two streams of waste material directed into the REA. Tailings are pumped and coarse rejects are trucked from the washery. Coarse reject is used to construct the dam walls (and cells) and the tailings are emplaced within the cells.

Water recycled from the REA is collected in a catchment dam (the “Toe Dam”) and pumped back to the washery for reuse. Inspections are conducted each shift on the tailings pipeline and discharge areas when they are in use.

2.6.2. Sewage

Sewage and other waste water from the bathhouse and site office within the surface facilities area is treated using an approved biocycle treatment facility. Treated water is used to irrigate landscaped areas and areas undergoing rehabilitation within the Colliery via LDP001 (which allows for the discharge of effluent from the onsite sewage treatment system via irrigation) and is covered under EPL 528. The treatment facilities are serviced by a licensed contractor, as required.

Additionally, sewage and other waste water within other sections of the Colliery Holding, namely within the Western Underground Surface Facilities and Third Entry Areas, is managed through pump-out septic systems or chemical toilets. These systems are emptied as required by a suitably licenced contractor and the material transported to a suitable disposal facility.

In August 2011 a Use of Effluent by Irrigation Assessment was completed in accordance with Statement of Commitment (SOC) 9.6, as appended to PA 08_0211. The report assessed the irrigation area that is currently under effluent spray irrigation activities at Charbon Colliery, and determined that the current wastewater treatment system is largely operating in accordance with the Effluent Guidelines. The assessment included a physical and chemical analysis of the effluent, landform and soil suitability analysis of the irrigation area, and water and nutrient fate modelling within the irrigation area.

The effluent was found to be highly unlikely to contain potentially harmful contaminants, being low in nutrient strength, resulting in a low runoff and percolation risk. Subsequently the irrigation area was deemed to be a suitable receiving environment for spray irrigation activities with regards to landform, soil characteristics, and the quality and quantity of effluent being applied.

The effluent pathogen levels were found to exceed the guideline limits, and the implementation of a further pathogen reduction component was recommended to ensure that the system operates in complete accordance with the Effluent Guidelines. A chlorine dosing system was installed in 2012.

2.6.3. Oil and Grease Containment and Disposal

Diesel storage facilities have been established within the surface facilities area of the Third Entry Underground, the Western Underground Pit Top area, the Pit Top Services Area and Open Cut Contractors area. In late 2013 the diesel storage facility at the Third Entry Underground was relocated to the 3 Trunk Underground area, as the access area to underground workings changed.

Each of these facilities comprise of one or more above ground tanks and each is compliant with *Australian Standard AS1940-2004 – The Storage and Handling of Flammable and Combustible Liquids*. Bulk diesel is delivered by a suitably licenced fuel delivery contractor as required.

Unused oil and grease is stored in containers varying from 20L to 1000L within storage areas associated with each of the workshops. Additionally, a waste oil tank is located adjacent to each of the workshops and is used to store used oils generated during servicing of equipment. All hydrocarbon containers are stored within fully bunded areas designed to contain 110% of the maximum storage volume.

2.6.4. General Waste Disposal

General waste is collected into industrial waste containers that are serviced by a licensed contractor. Scrap metal is collected in a separate bin and recycled. Paper and cardboard are segregated on site and recycled by a waste contractor.

It can be seen from **Table 10** below that nearly 90% of waste in 2014 was recycled.

Table 10. 2013 and 2014 Waste Summary

	2013	2014
Hazardous Recycled (Waste Oil, Waste Grease, Oily Water) / kL	19.279	7.012
Non-Hazardous Recycled (Paper & Cardboard, Scrap Steel) / tonnes	232.654	217.310
Hazardous Disposal (Oily Rags / Absorbants) / tonnes	0.076	0.400
Non-Hazardous Disposal (Mixed Solid Waste) / tonnes	34.170	18.795
TOTAL OFFSITE WASTE	**286.179**	**243.697**
TOTAL RECYCLED WASTE	**251.933**	**224.332**
PERCENTAGE WASTE RECYCLED	**88.03%**	**92.05%**

2.7. Ore and Product Stockpiles

ROM coal from the open cut areas at the southern area of site is transported by haul truck to the 2-Trunk ROM Coal Loading Facility. From there coal is transported via a conveyor system to the CHPP ROM coal stockpile.

Previously ROM coal from the open cut areas at the southern area of site could also be transported to the Third Entry ROM Coal Loading Facility, where it could be loaded onto a conveyor system and transported to the CHPP ROM coal stockpile via the 2-Trunk ROM Coal Loading Facility. However, following extraction mining in the 4 Trunk underground in 2013 coal can no longer be transported from the Third Entry ROM Coal Loading Facility via a conveyor system. The Third Entry ROM Coal Loading Facility is now used as an emergency overflow stockpile when the 2-Trunk ROM Coal Loading Facility has insufficient space or is inaccessible.

ROM coal from the Western Underground is transported to the Western Underground ROM coal stockpile via conveyor before being transported to the 2-Trunk ROM Coal Loading Facility by haul truck. From there coal is transported by underground conveyor to the CHPP ROM coal stockpile.

The CHPP ROM coal stockpile covers an area of approximately 0.2ha and has a capacity of approximately 15,000 tonnes of coal. Coal is stockpiled to a maximum height of approximately 12m. A bulldozer is used to manage the ROM coal stockpile. ROM coal from the stockpile is transferred to the CHPP via a conveyor located in a sub-stockpile reclaim tunnel.

Product coal is transferred from the CHPP to the product coal stockpiling area by one of two conveyors. The product stockpile area is approximately 1.5ha in size and has a capacity of approximately 80,000 tonnes. Coal is stockpiled to a maximum height of approximately 18m to 20m. A bulldozer is used to manage the stockpile.

2.8. Water Management

A Water Management Plan (**WMP**) was developed and submitted to DPE for approval in September 2011 in accordance with PA 08_0211. This also included a Surface Water Monitoring Program, Groundwater Monitoring Program, Site Water Balance and Erosion and Sediment Control Plan. The Erosion and Sediment Control Plan was approved by DPE on 22 November 2012.

Following feedback received from both the NSW Office of Water (**NoW**) and DPE the remainder of the WMP was revised in October 2012 and re-submitted to both NoW and DPE in 2013.

The overall objectives of the WMP are to effectively manage water at Charbon Colliery and satisfy statutory requirements, particularly with respect to safety and the environment. The WMP aims to manage water at Charbon Colliery in such a manner so as to comply with project approval conditions, the *Water Management Act 2000* (NSW), the *Water Act 1912* (NSW), the *Dams Safety Act 1978* (NSW), the *Protection of the Environment Operations Act 1997* (NSW), EPL 528 and more specifically to:

- Maximise the separation of clean and dirty water systems;
- Manage water discharge from site, in terms of volume and quality, to a level that is acceptable for environmental management and community expectations;
- Minimise water discharges from the premises by maximising, where practicable, opportunities for the reuse and recycling of water on site;
- Minimise discharges of dirty water from the premises; and
- Manage discharge to natural waterways in accordance with the conditions of EPL 528 or as agreed with the OEH.

The primary objective of surface water management at Charbon Colliery is the separation of clean and dirty water. This involves clean water diversion channels, where possible, to divert clean water away from areas of disturbance and directing dirty water into sediment dams or pollution control dams for suitable treatment and discharge through LDPs, or for re-use for dust suppression. A copy of the detailed water cycle at Charbon Colliery has been provided in **Figure 6**.

A number of mitigation measures are implemented to ensure the effective management of surface water on site, minimising the risk of any offsite impacts on surface water resources. These have been designed in accordance with the conditions of the Development Consent, the *Managing Urban Stormwater: Soils and Construction (the Blue Book), Volume 1 and Volume 2E – Mines and Quarries* and industry best practice.

2.9. Hazardous Material Management

During the 2014 reporting period no blasting was undertaken and there were no explosives stored onsite at the Charbon Colliery.

No chemicals stored at Charbon Colliery are classed as hazardous materials. Charbon Colliery does not hold a Dangerous Goods Licence.

2.10. Other Infrastructure Management

During the reporting period there were no alterations to existing facilities at the Charbon Colliery. All construction undertaken during 2014 was consistent with the MOP.

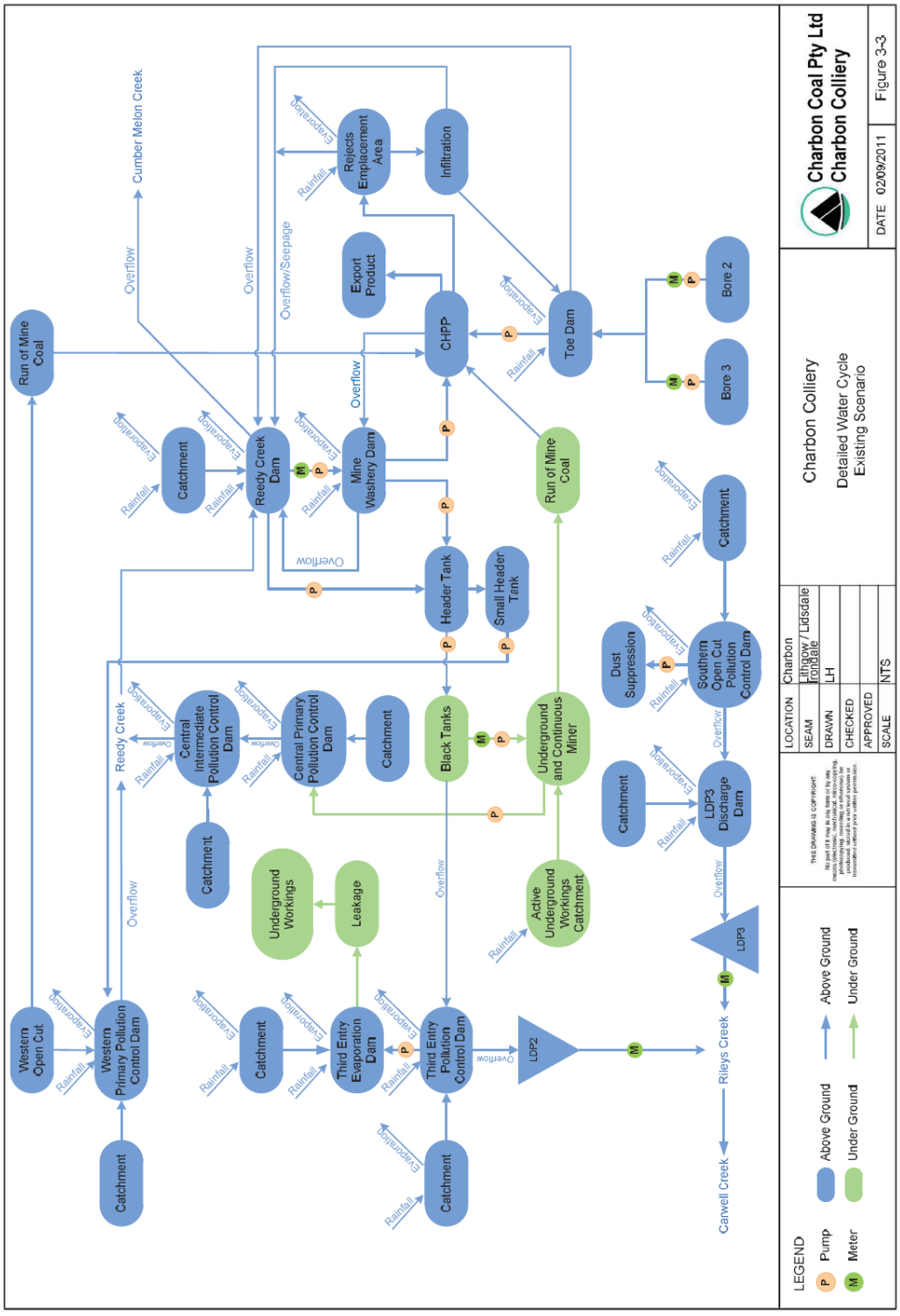


Figure 6 **Detailed Water Cycle**

3. ENVIRONMENTAL MANAGEMENT AND PERFORMANCE

From April 2012, all monitoring data required by the site EPL and Planning Approval is available on the Centennial Coal Charbon Environment Website.

3.1. Environmental Risks

Environmental management at Charbon Colliery is undertaken through a risk driven methodology. Assessing risks against predetermined consequence and probability criteria allows for site resources to be deployed towards high risk or high consequence issues.

3.2. Meteorology

Charbon Colliery undertakes meteorological monitoring in accordance with Schedule 3, Condition 23 of PA 08_0211. The meteorological station is required to comply with the requirements in the *Approved Methods for the Sampling and Analysis of Air Pollutants in NSW* guideline.

A summary of meteorological data collected from Charbon Colliery during 2014 is included in **Table 11**. This is shown graphically in **Figure 7**.

Table 11. 2014 Meteorological Data

Month	Total Rainfall (mm)	Maximum Air Temp. (°C)	Minimum Air Temp. (°C)	Maximum Humidity (%)	Minimum Humidity (%)	Mean Wind Direction (°)	Mean Wind Velocity (m/s)
January	12.0	40.1	12.1	95.60	32.40	137.39	2.14
February	97.0	37.3	8.8	95.20	32.90	116.89	2.23
March	115.5	27.9	6.3	97.80	65.40	135.55	1.60
April	77.0	27.5	2.5	97.80	51.70	132.30	1.51
May	17.0	22.4	2.7	96.80	74.30	146.35	1.74
June	41.5	17.0	0.1	97.40	61.30	191.93	2.10
July	38.0	18.3	-1.2	95.30	50.60	193.65	2.53
August	35.5	18.9	-2.1	95.50	39.70	138.13	2.07
September	33.0	27.7	0.4	96.30	51.30	150.63	1.56
October	31.0	32.4	1.3	95.10	27.90	142.45	1.47
November	33.5	28.8	11.6	94.90	40.50	132.47	1.63
December	140.5	33.0	9.1	96.30	38.30	138.32	1.61

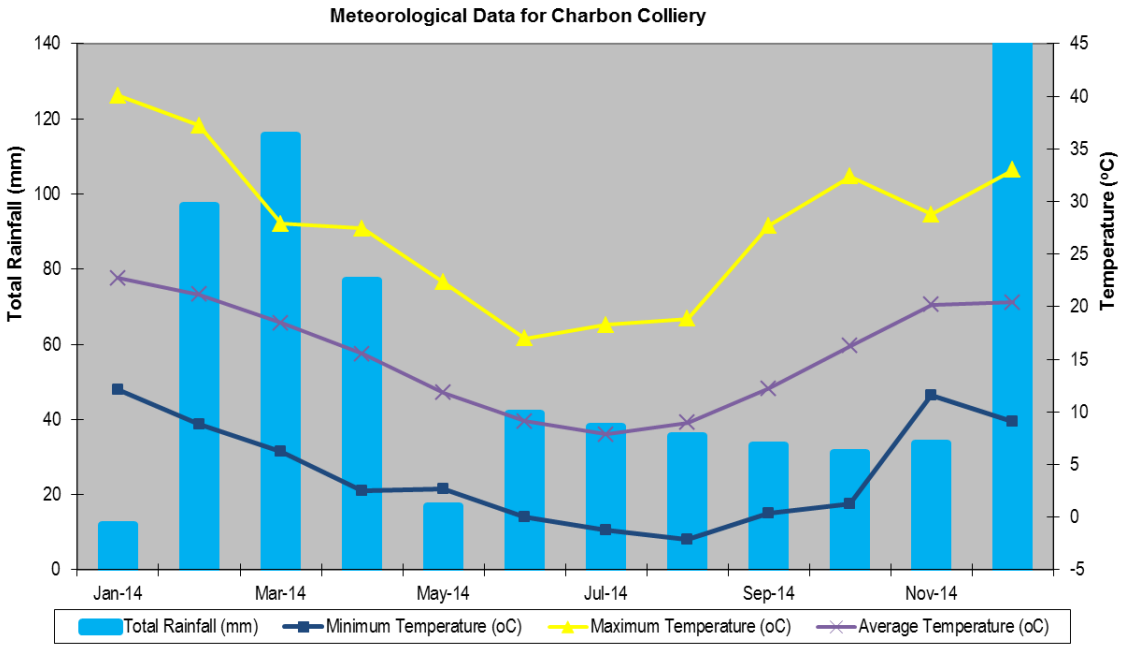


Figure 7 **2014 Meteorological Summary**

3.2.1. Rainfall

The total annual rainfall at Charbon Colliery in 2014 was 671.5 mm. This was less than the 761.7 mm that fell in 2012 and 609.1 mm that fell in 2013, although greater than the 459 mm that fell in 2011, and almost half the 1140.5 mm that fell in 2010.

There were 37 rain days (rainfall greater than 0.5 mm) in 2014. This is significantly less than 90 rain days in 2013, 105 rain days in 2012, 73 rain days in 2011 and the 94 rain days in 2010.

3.2.2. Temperature

The maximum temperature experienced at Charbon in 2014 was 40.1°C in January and a minimum temperature of -2.1°C in August. This was slightly warmer than the maximum and minimum temperatures experienced in 2012 which had a maximum of 35.3°C in November and minimum -3.7°C in August and 2013 which had a maximum of 39.0°C in January and minimum -2.1°C in July

3.2.3. Wind

The average wind speed during the 2014 reporting period was 1.85 m/sec predominantly from the south-east, with the exception of June and July where wind direction was predominantly from the south-south-west. During the 2013 reporting period the average wind speed was 2.489 m/sec, predominantly coming from the south-east, similar to the wind speed and direction recorded for 2012 which was 2.3 m/sec, also predominantly from the southeast.

3.3. Air Quality

Operations at Charbon Colliery are conducted to minimise the generation of airborne dust. Water trucks continually operate during dry conditions to ensure that dust from workings and

haul roads is controlled. Topsoil stripping is undertaken, whenever possible, during times when there is little or no wind.

There are no current limits under EPL 528 for dust levels produced by Charbon. However, Schedule 3, Condition 19 of PA 08_0211 requires that the air pollution generated by the development does not exceed the criteria listed in **Table 13**. Schedule 3, Condition 22 of PA 08_0211 requires High Volume Air Sampler (HVAS) and depositional dust monitoring.

PA 08_0211 limits are adopted as the impact assessment criteria in the Air Quality Management Plan (**AQMP**) and are the same as the impact assessment criteria in the EPA's *Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW*.

The Air Quality Monitoring Program at Charbon Colliery consists of the following:

- Six dust deposition gauges;
- One on-site Automatic Weather Station (AWS);
- One HVAS (measuring Total Suspended Particulate [TSP] matter and Particulate Matter <10µm [PM_{10}]).

All monitoring locations conform to the requirements of *AS 3580.1.1:2007 Methods for Sampling and Analysis of Ambient Air – Guide to siting air monitoring equipment*, subject to local site constraints. Air quality monitoring locations are illustrated in **Figure 8.**

3.3.1. Environmental Management

Control Strategy

Air quality associated with operations at the Charbon Colliery is managed in accordance with the AQMP. This management plan was submitted to the DPE for approval on the 7th March 2011 in accordance with Schedule 3, Condition 22 of PA 08_0211.

In 2013, following review of the AQMP (2011) by DPE, the AQMP was requested to be revised and re-submitted for approval. The Charbon AQMP has since been revised and submitted to DPE.

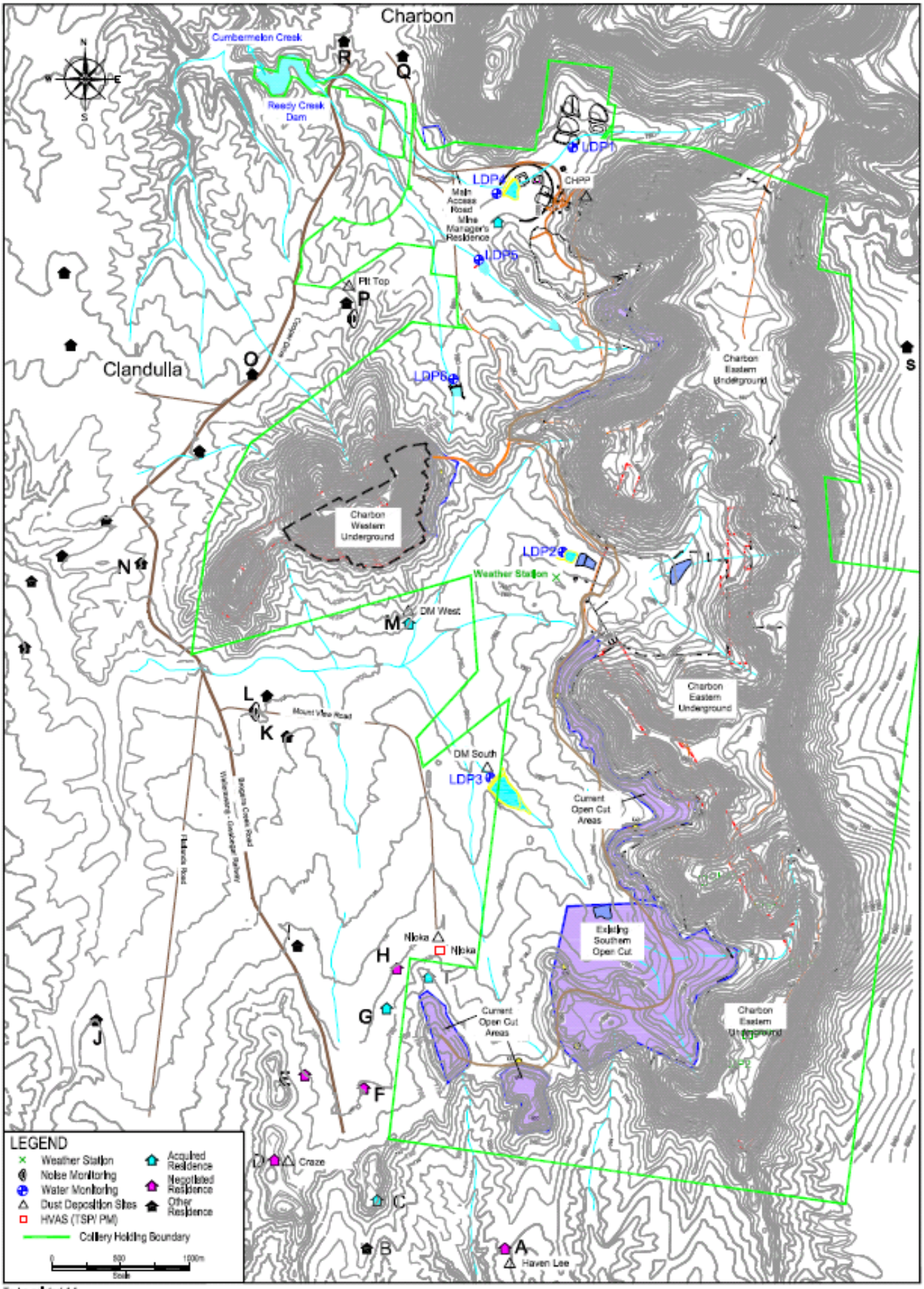
As mentioned in **Section 1.4** above, on 22 March 2013 the EPA issued as a variation in EPL 528 a Particulate Matter Control Best Practice Pollution Reduction Program (PRP). The Particulate Matter PRP included three (3) conditions added to EPL 528, as follows:

- U1: Particulate Matter Control Best Practice Implementation – Wheel Generated Dust;
- U2: Particulate Matter Control Best Practice Implementation – Disturbing and Handling Overburden under Adverse Weather Conditions; and
- U3: Particulate Matter Control Best Practice Implementation – Trial of Best Practice Measures for Disturbing and Handling Overburden.

Reports as required were submitted in 2014 to the EPA as described in Section 1.4 above.

Variations from the Control Strategy

As mentioned above, during the reporting period the Charbon AQMP was updated to reflect the requested changes made by DPE. In addition, the AQMP was updated to include details regarding the additional monitoring and reporting requirements as per EPL 528 Particulate Matter PRP.



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Charbon 2014 AEMR
Sensitive Receiver and Monitoring Locations
FIGURE 8

Figure 8 **Sensitive Receiver and Monitoring Locations**

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3.3.2. Environmental Performance

PA 08_0211 stipulates dust emission criteria for Charbon Coal. These criteria have been presented in **Table 12**.

Table 12. Air Quality Impact Assessment Criteria

Pollutant	Period	Criterion
Total Suspended Particulate (TSP) matter	Annual mean	90µg/m^3
Particulate Matter <10µm (PM_{10})	Annual mean	30µg/m^3
	24 hour max.	50µg/m^3
Deposited Dust	Monthly max.	4g/m^2/month
	Maximum increase on previous month	2g/m^2/month

Depositional Dust

During 2014, Charbon Colliery monitored dust at six monthly depositional dust monitors (**DM**); DM South, DM West, Nioka, Pit Top, DM-C and DM Haven Lee.

During November 2012 an additional dust monitor was installed, DM Haven Lee, to the south of the open cut workings. 2013 was therefore the first complete year where monitoring occurred at DM Haven Lee. DM-C was added during October 2011. DM-Haven-Lee stopped monitoring in mid-2014 due to inability to access the DM.

Depositional dust results (insoluble solids) during the reporting period are shown in **Table 13** and shown graphically in **Figure 9.** The long-term depositional dust annual averages from 2008 to 2014 are shown in **Table 14** and graphically in **Figure 10**.

Table 13. 2014 Monthly Depositional Dust

	Jan -14	Feb - 14	Mar - 14	Apr -14	May- 14	Jun- 14	Jul- 14	Aug -14	Sep -14	Oct -14	Nov- 14	Dec- 14
DM - South	1.5	0.7	0.8	0.4	0.3	1.9	0.3	1.3	0.2	0.6	1.1	0.9
DM - West	2.4	0.6	0.7	0.3	0.4	1	2.6	1.2	4.9	4.4	1.4	1
Nioka	1.5	3.8	0.8	0.7	0.4	0.5	0.3	0.5	0.3	0.8	1.4	1.2
Pit Top	1	1.2	1.2	10.4	1.1	0.7	0.4	0.4	0.3	1.5	1.5	1.6
DM - C	0.4	0.6	0.4	0.4	122	3.4	3.9	0.2	<0.1	0.5	4.1	0.9
DM – Haven Lee	2	1.7	0.7	1.8	0.4	0.5						
Annual Average Limit (4g/m2/mth)	4	4	4	4	4	4	4	4	4	4	4	4

Charbon Colliery depositional dust monitoring was within the PA 08_0211 consent criteria throughout the entire reporting period at all monitors. The highest depositional dust reading for 2014 was 122 g/m^2/mth which occurred at DM – C in May. This high reading has been attributed to human interference. The lowest reading was 0.1 g/m^2/mth, which is the limit of detection, occurred at all dust gauges apart from DM – C in September.

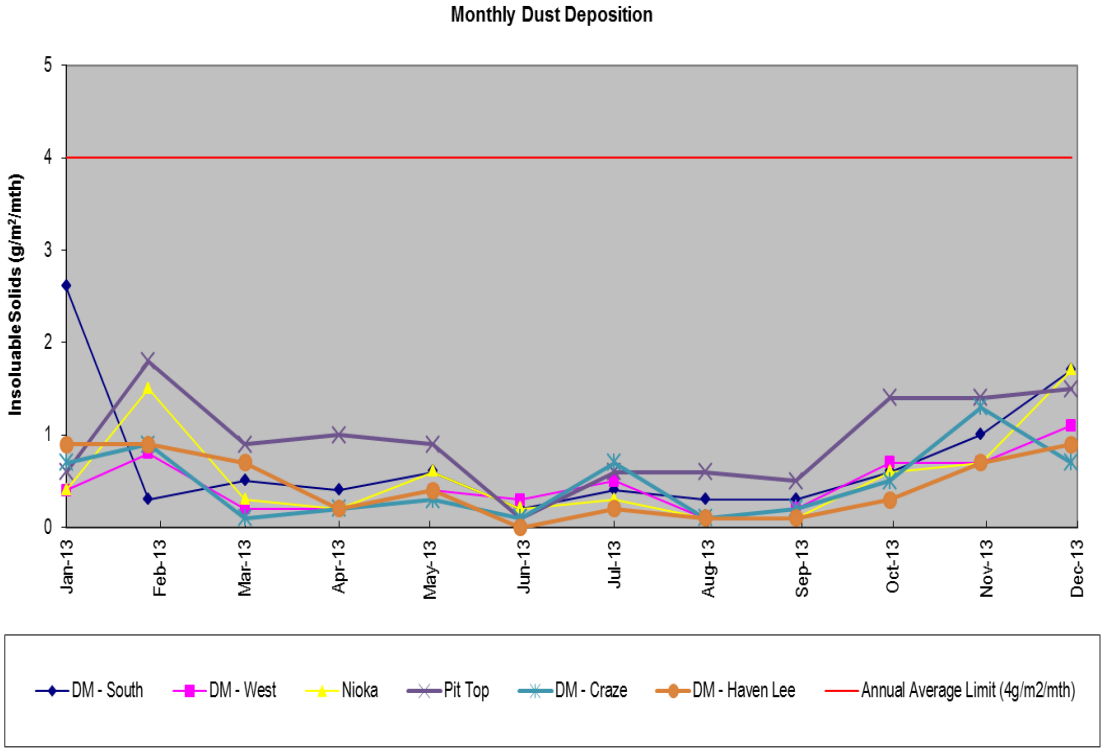

Figure 9 **2014 Monthly Depositional Dust**

Table 14. Long-term Annual Average Depositional Dust Data

Site	2010	2011	2012	2013	2014	Average
DM - South	0.7	1.2	0.4	0.7	0.8	**0.8**
DM - West	0.6	0.3	0.4	0.5	1.7	**0.7**
Nioka	0.5	0.6	0.7	0.6	1.0	**0.7**
Pit Top	0.9	0.7	0.9	0.9	1.8	**1.0**
DM - C	-	0.4	0.5	0.5	12.4	**3.5**
DM - Haven Lee	-	-	0.2	0.5	1.2	**0.6**
Annual Average Limit (4g/m^2/mth)	4	4	4	4	4	4

Annual average depositional dust results have remained generally stable over the last 6 years, with a slight increase at all gauges in 2014.

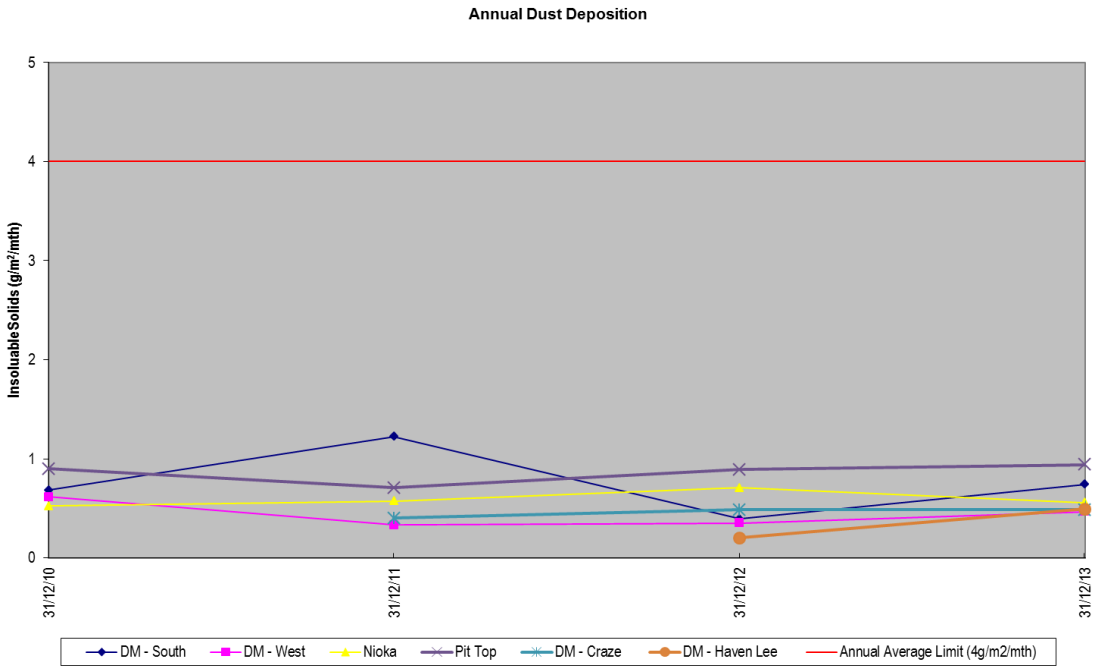

Figure 10 **2010 – 2014 Depositional Dust Annual Average**

High Volume Air Sampling (HVAS)

High volume air samplers monitored particulate concentrations (less than 10 micrometres in size [PM_{10}] and Total Suspended Particulates [TSP]) during the reporting period. TSP and PM_{10} results for 2014 are shown in **Figure 11** and **Figure 12**, respectively, below.

Annual average HVAS data for 2011 – 2014 can be seen below in **Table 15**.

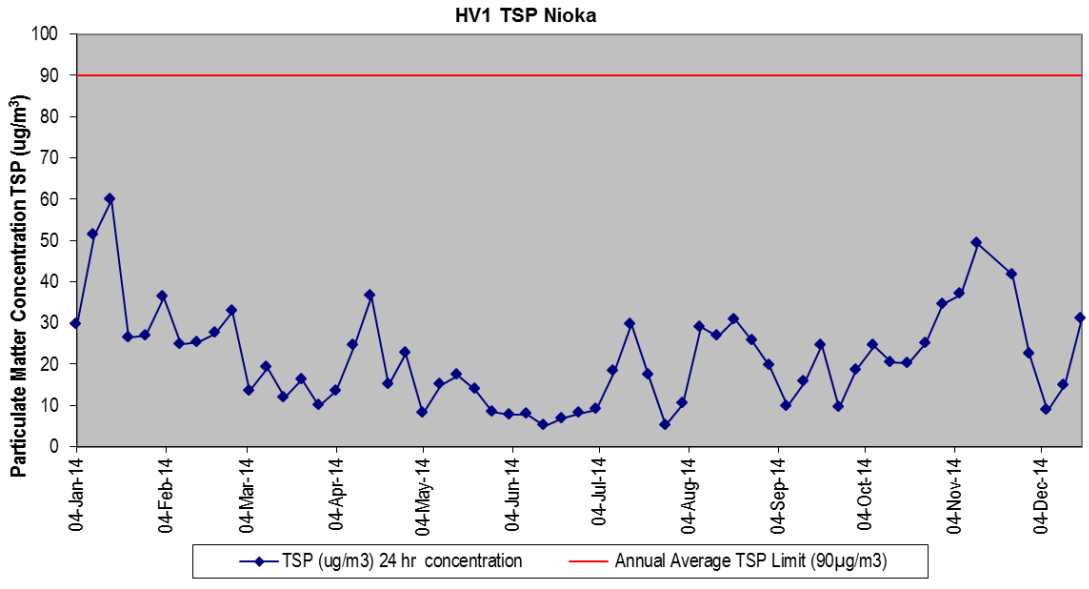

Figure 11 **2014 TSP Monitoring at Nioka**

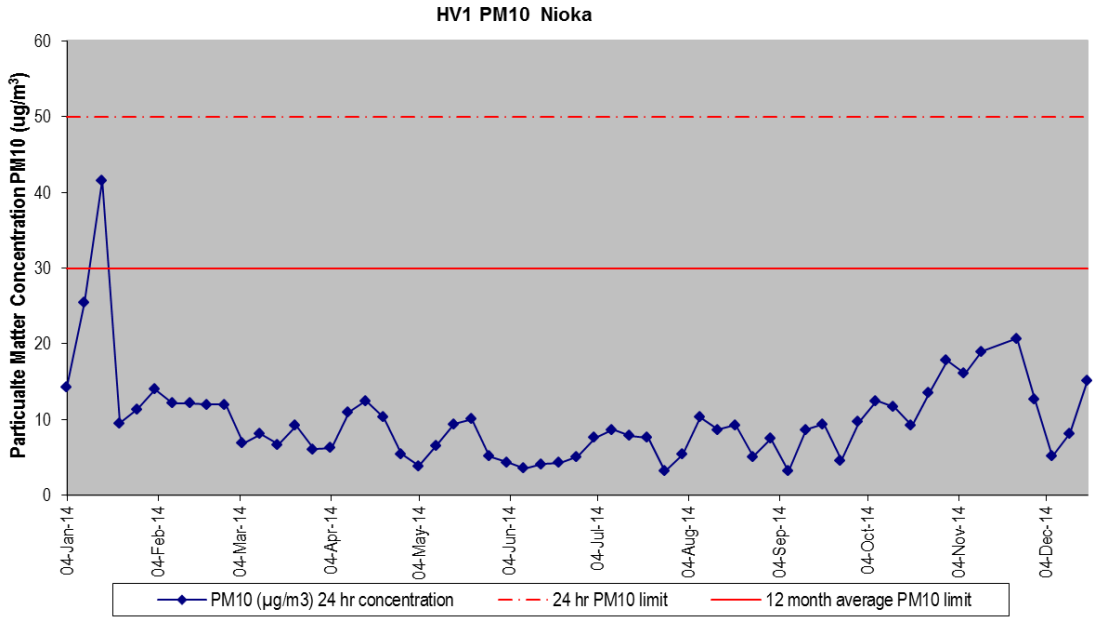

Figure 12 **2014 PM10 Monitoring at Nioka**

Table 15. HVAS Data 2010 – 2014

Year	Gauge	Annual Average TSP (µg/m^3)	Annual Average PM_{10} (µg/m^3)
2012	Nioka	18.8	8.6
2013	Nioka	20.3	11.2
2014	Nioka	21.5	10.04
Three Year Average		**17.9**	**9.0**

* 44.8 is the maximum 24 hour PM10 reading when the two high values due to smoke from bushfires are removed.

It can be seen from **Figure 12** above, that the maximum measurements for PM_{10} in both January 2014 has exceeded the 24 hour limit of 50 µg/m^3. This was due to smoke contribution from several large bushfires burning in the region. In accordance with Schedule 3, Condition 20 of PA 08_0211 measurements for PM_{10} which occurred in January 2014 do not constitute exceedances of PA 08_0211 as they were caused by "…*extraordinary events such as bushfires*…".

The average 24 hour TSP and 24 hour PM10 concentrations for the 2014 reporting period are 21.5µg/m^3 and 10.04 µg/m^3, respectively. These results are well below the annual average limits for TSP and PM_{10} of 90 µg/m^3 and 30 µg/m^3, respectively. As such, all HVAS results complied with the relevant consent criteria during 2013.

The 2014 results for annual average 24 hour TSP is lower than the 11.2.

The annual average for TSP has increased slightly when compared to the average of the previous year's data. The annual 24 hour average for PM_{10} has decreased slightly from the previous 2013 data. All data is well under approved limits.

The PM_{10} readings have shown a similar slight increase over the four year period. This can be seen in **Figure 13** and **Figure 14** below, showing historic TSP and PM10 results, respectively. It can be seen from these figures that both TSP and PM10 levels follow a seasonal pattern of higher levels in the warmer summer months with lower levels in the winter months.

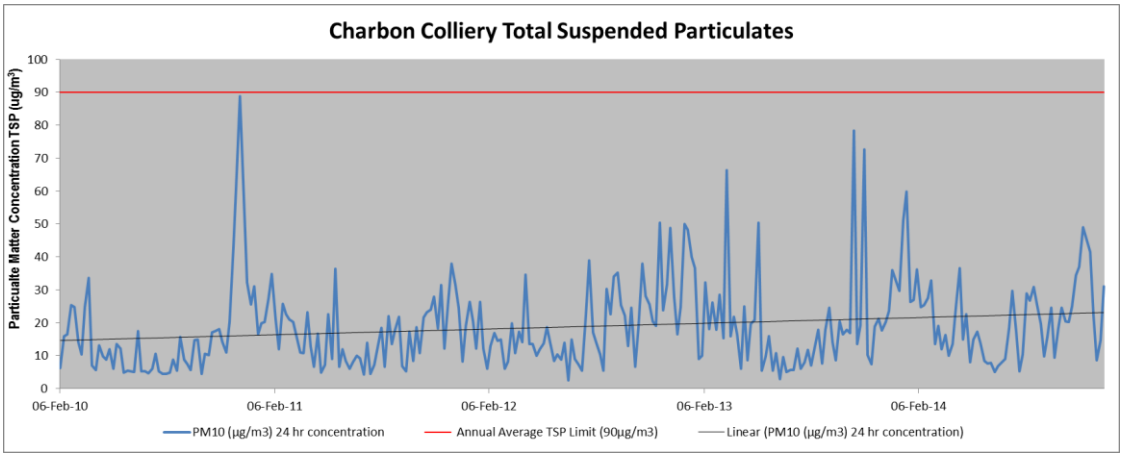

Figure 13 **2010 – 2014 TSP Monitoring at Nioka**

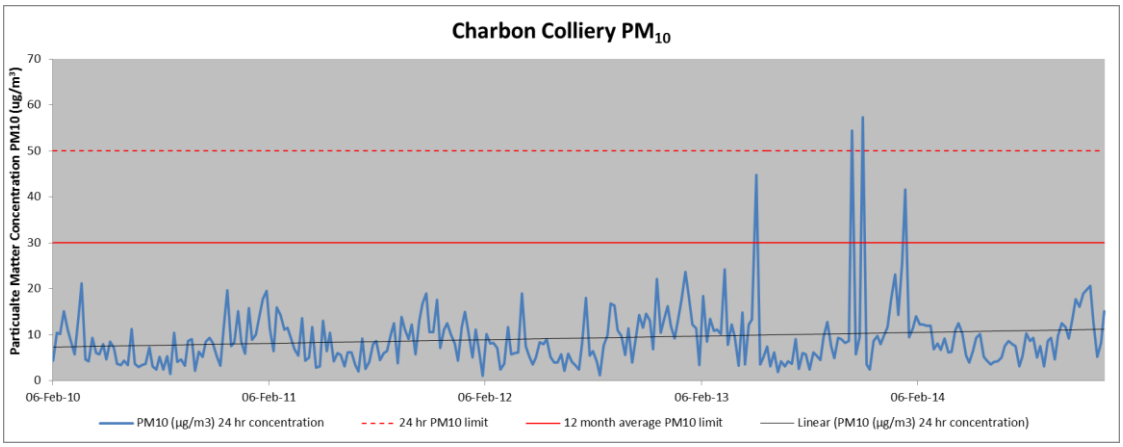

Figure 14 **2010 – 2014 PM10 Monitoring at Nioka**

In accordance with the requirement of Schedule 5, Condition 3(b) of PA 08_0211, Charbon Coal are required to compare monitoring results obtained during the reporting period to the relevant predictions from the EA. Operations at Charbon Colliery have generally been in accordance with the predictions outlined in the EA.

3.4. Erosion and Sediment

Monitoring and inspections at Charbon Colliery are completed in accordance with the site Erosion and Sediment Control Plan, which is a component of the Site Water Management Plan (**WMP**). This management system has been designed to comply with EPL 528 and relevant conditions as stipulated within PA 08_0211.

The primary objective of the erosion and sediment control system is to safeguard against soil loss and in turn, minimise the risk of water quality impacts. Surface runoff occurs during heavy rainfall events and particular attention is paid to site drainage and erosion control.

Monitoring and inspections associated with erosion and sediment control include the following:

- Regular surface water monitoring in accordance with Charbon WMP;
- Weekly and Monthly Environmental Inspections;
- Subsidence monitoring in accordance with the approved Eastern Underground SMP and Subsidence Monitoring and Contingency Plan (Western Underground);
- Event based inspections following significant rainfall events (i.e. >20mm within 24hrs), and
- Additional inspections of temporary erosion and sediment controls where required.

3.4.1. Environmental Management

Control Strategy

In accordance with Schedule 3, Condition 31 of PA 08_0211 an Erosion and Sediment Control Plan was prepared and submitted to the DPE for approval on the 7th September 2011 as a component of the site WMP. The Erosion and Sediment Control Plan was approved on 22 November 2012. The general objectives of the Erosion and Sediment Control Plan include the following:

- To meet the requirements of PA 08_0211 relevant to the operations at Charbon Colliery;
- To meet the requirements of *Managing Urban Stormwater: Soils and Construction (the Blue Book), Volume 1 and Volume 2E – Mines and Quarries* (Landcom, 2004 and Department of Environment and Climate Change (DECC), 2008);
- To identify activities that could cause soil erosion and could generate sediment;
- To describe the location, function and capacity of erosion and sediment control structures;
- To describe the measures to minimise soil erosion and the potential for the mitigation of sediment to downstream waters; and
- To describe the generic soil stripping and stockpiling procedures in order to effectively manage these activities onsite.

The following control structures are used at Charbon Colliery to minimise sedimentation and erosion where necessary and appropriate:

- Clean and dirty water drains in the open cut mining areas are built to reduce runoff water velocity and are rock lined where necessary to promote stability;
- Silt fences are erected downstream of all exposed haul road batters, topsoil and excavation material stockpiles;
- Table drains are installed along internal roads to collect and divert runoff away from the road surface;
- Headwalls, scour protection and sedimentation traps to minimise erosion of the table drains;
- Sedimentation dams; and
- Appropriately constructed drainage channels.

Structures (as presented above) are regularly inspected, repaired and cleaned of sediment when appropriate.

Temporary erosion and sedimentation control structures are put in place prior to any clearing of vegetation, soil stripping or haul road construction activities. Any exposed areas where erosion hazards exist are controlled to avoid sedimentation impacts on downstream waterways. Erosion control structures are installed around the site with the principle aim of containing sediment at its source. All runoff is generally contained in the main pollution control ponds. The aim of the erosion control measures is to increase batter and bench stability prior to establishment of permanent rehabilitation measures. Erosion control structures are inspected regularly, particularly after heavy rainfall and repaired where necessary.

Variations from Control Strategy

There have been no variations from the control strategies outlined in the Erosion and Sediment Control Plan during the reporting period.

3.4.2. Environmental Performance

The implementation of the monitoring system and associated management measures outlined within the Erosion and Sediment Control Plan have effectively prevented any erosion and/or sediment control related incidents at Charbon Colliery during the reporting period.

3.5. Surface Water Pollution

Water quality parameters including pH, electrical conductivity (**EC**), total suspended solids (**TSS**), turbidity and oil and grease are monitored daily during discharge from Charbon's Licensed Discharge Points (LDP's). The water samples are then analysed by an independent National Association of Testing Authorities (**NATA**) accredited laboratory.

Charbon Colliery has six LDPs, as specified in the revised (November 2014) EPL 528. These LDPs are shown in **Figure 8**. Additional detail pertaining to the water management system at Charbon Colliery has been included in **Section 1.2**.

3.5.1. Environmental Management

Control Strategy

In accordance with Schedule 3, Condition 29 of Project Approval 08_0211 a site WMP was prepared and submitted to the DPE on the 7th September 2011. Following feedback received from both the NoW and DPE the remainder of the WMP was revised in October 2012 and re-submitted to both NoW and DPE in June 2013.

This WMP included the following components as required by PA 08_0211:

- Site Water Balance;
- Erosion and Sediment Control Plan;
- Surface Water Monitoring Program; and
- Groundwater Monitoring Program.

This WMP primarily aims to:

- Maximise the separation of clean and dirty water systems;
- Manage water discharge from site, in terms of volume and quality, to a level that is acceptable for environmental management and community expectations;
- Minimise water discharges from the premises by maximising, where practicable, opportunities for the reuse and recycling of water on site;
- Minimise discharges of dirty water from the premises; and
- Manage discharge to natural waterways in accordance with EPL 528 or as agreed with OEH.

The Surface Water Monitoring Program includes the following:

- Baseline data of surface water flows and quality in creeks and other water bodies that could potentially be affected by the project;
- Surface water and stream health impact assessment criteria;

- A program to monitor and assess:
    - Impacts on surface water flows and quality;
    - Impacts on the surface water supply of potentially affected landowners, bank stability, riparian vegetation and macro-invertebrate populations along creek lines and ephemeral drainage lines downstream of all LDPs;
    - Potential acid mine drainage; and
    - Potential leakage or spillage from rejects emplacement area and effluent irrigation.
- A program for the on-going verification and refinement of the surface water model; and
- Reporting procedures for the results of the monitoring program and model verification.

In November 2014 the EPA approved a variation to EPL 528 to include three (3) additional LDPs, with associated water quality and volume discharge limits and monitoring requirements; and alteration to the waste which may be accepted at the premises. Proposed LDP004 is located downstream of the Pit Top and Infrastructure Area within the rail loop, proposed LDP005 is located downstream of the Central Open Cut and 2-Trunk ROM Coal Loading Facility, and proposed LDP006 is located downstream of the Western Open Cut.

Variations from Control Strategy

Monitoring of surface water at Charbon Colliery was undertaken generally in accordance with the methodology outlined in the Surface Water Monitoring Program during the reporting period.

3.5.2. Environmental Performance

A summary of results of water quality sampled daily during discharge events from LDP002 and LDP003 during the 2014 reporting period are shown in **Table 17** and graphically in **Figures 16 – 19**, below.

Table 18 and **Table 19** show results of water quality sampled daily during discharge events from LDP002 and LDP003 during the 2011 and 2012 reporting periods for comparison.

Table 16. Water Quality Discharged from LDP002 & LDP003 in 2014

Monitoring Location	Parameter Measured	Minimum	Average	Maximum	100 percentile limit	Number of Days Discharging
LDP002	EC (µS/cm)	475	520	565	N/A	2
	Oil & Grease (mg/L)	<1	<3	<5	10	
	TSS (mg/L)	2	2.5	3	50	
	pH	7.4	7.7	8.0	6.5 - 8.5	
LDP003	EC (µS/cm)	644	680	716	N/A	2
	Oil & Grease (mg/L)	<1	<3	<5		
	TSS (mg/L)	2	9	16	50	
	pH	6.9	7.1	7.4	6.5 - 8.5	
LDP004	EC (µS/cm)				N/A	0
	Oil & Grease (mg/L)				10	
	TSS (mg/L)				50	
	pH				6.5 - 8.5	
LDP005	EC (µS/cm)	2070	759	2180	N/A	4
	Oil & Grease (mg/L)	<1	<1	<1	10	
	TSS (mg/L)	<2	<2	2	50	
	pH	7.1	7.2	7.2	6.5 - 8.5	
LDP006	EC (µS/cm)				N/A	0
	Oil & Grease (mg/L)				10	
	TSS (mg/L)				50	
	pH				6.5 - 8.5	

Table 17. Water Quality Discharged from LDP002 & LDP003 in 2013

Monitoring Location	Parameter Measured	Minimum	Average	Maximum	100 percentile limit	Number of Days Discharging
LDP002	EC (µS/cm)	5	498	820	N/A	14
	Oil & Grease (mg/L)	<5	<5	<5	10	
	TSS (mg/L)	2	9	29	50	
	pH	7.2	7.9	8.3	6.5 - 8.5	
LDP003	EC (µS/cm)	450	517	745	N/A	5
	Oil & Grease (mg/L)	<5	<5	6	10	
	TSS (mg/L)	6	17	43	50	
	pH	6.6	7.3	7.8	6.5 - 8.5	

Table 18. Water Quality of Water Discharged from LDP002 & LDP003 in 2012

Monitoring Location	Parameter Measured	Minimum	Average	Maximum	100 percentile limit	Number of Days Discharging
LDP002	EC (µS/cm)	195	509	835	N/A	14
	Oil & Grease (mg/L)	<2	N/A*	<5	10	
	TSS (mg/L)	<2	90	676	50	
	pH	6.9	7.8	8.3	6.5 - 8.5	
LDP003	EC (µS/cm)	65	452	610	N/A	10
	Oil & Grease (mg/L)	<2	N/A*	<5	10	
	TSS (mg/L)	8	125	824	50	
	pH	6.6	7.3	7.9	6.5 - 8.5	

* - Not Applicable due to all results for Oil & Grease being below detection limits, given at different times of the year to be either "<2" or "<5".

Table 19. Water Quality of Water Discharged from LDP002 & LDP003 in 2011

Monitoring Location	Parameter Measured	Minimum	Average	Maximum	100 percentile limit	Number of Days Discharging
LDP002	EC (µS/cm)	360	820	1460	N/A	14
	Oil & Grease (mg/L)	<2	<2	<2	10	
	TSS (mg/L)	3	21	49	50	
	pH	7.5	7.8	8.3	6.5 - 8.5	
LDP003	EC (µS/cm)	445	620	975	N/A	5
	Oil & Grease (mg/L)	<2	<2	<2	10	
	TSS (mg/L)	24	54	81	50	
	pH	6.3	6.5	6.7	6.5 - 8.5	

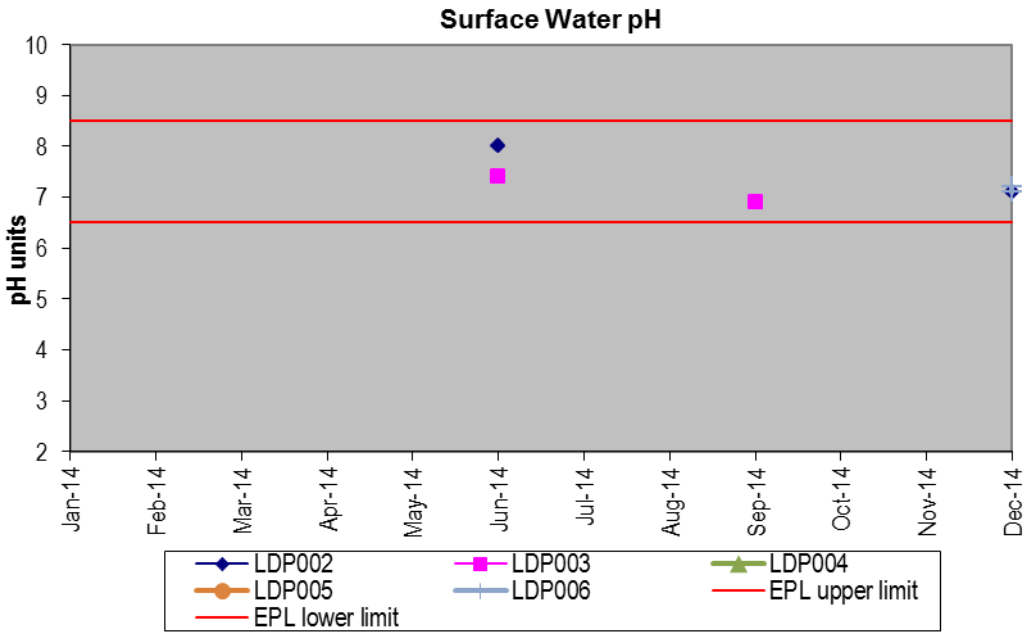

Figure 15 **pH of Water Discharged from LDP002, LDP003, LDP004, LDP005 and LDP006 in 2014**

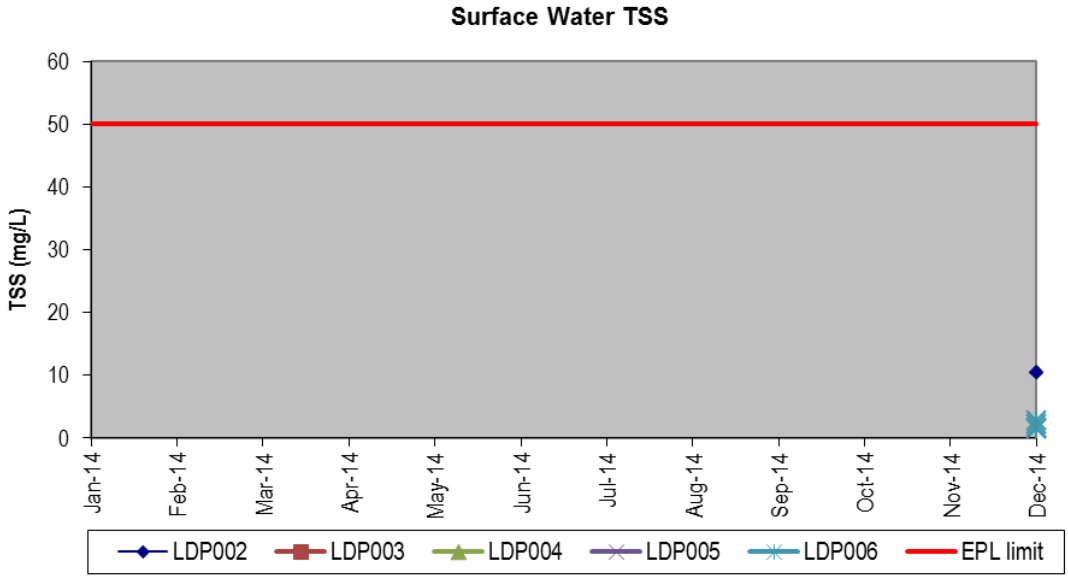

Figure 16 **TSS of Water Discharged LDP002, LDP003, LDP004, LDP005 and LDP006 in 2014**

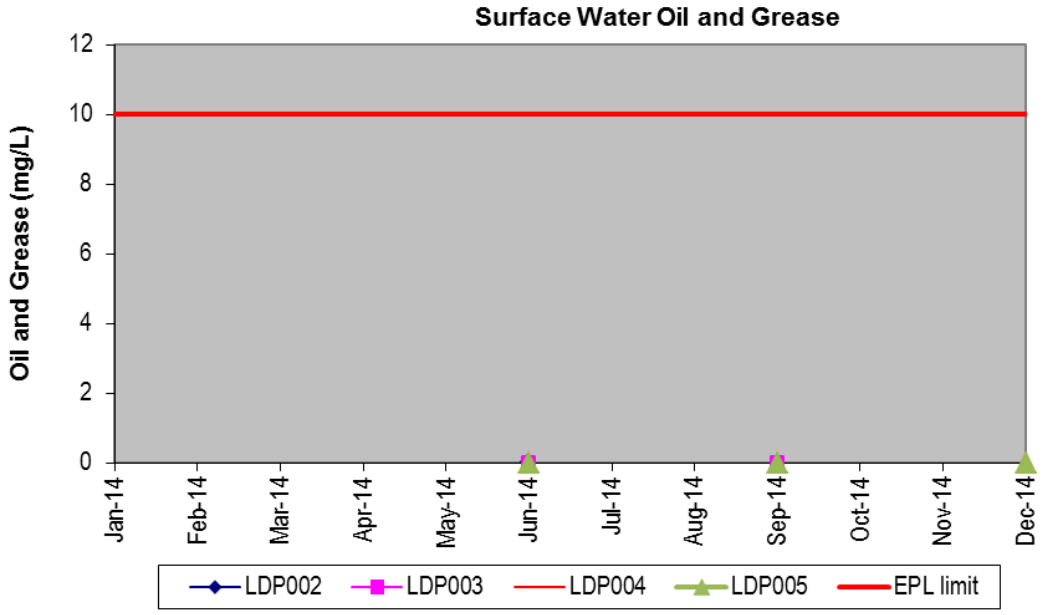

Figure 17 **Oil & Grease of Water Discharged from LDP002, LDP003, LDP004, LDP005 and LDP006 in 2014**

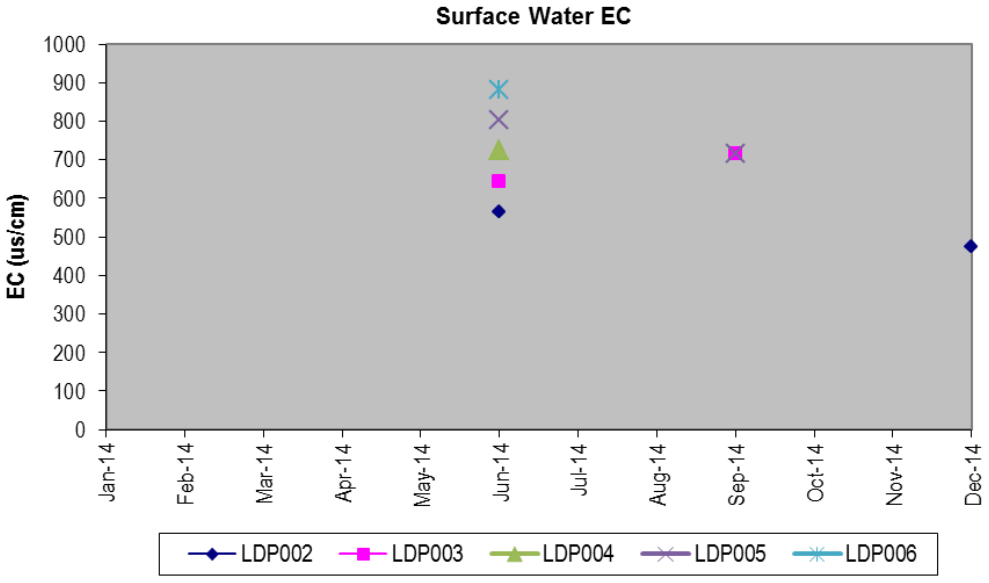

Figure 18 **Figure 18 EC of Water Discharge from LDP002, LDP003, LDP004, LDP005 and LD006 in 2014**

It can be seen from the above **Figures 16 - 19** that the water discharged from LDP002, LDP003, LDP004, LDP005 and LDP006 was in compliance with EPL 528 licence conditions at all times, during the 2014 reporting period.

In accordance with the requirement of Schedule 5, Condition 3(b) of PA 08_0211, Charbon Coal are required to compare monitoring results obtained during the reporting period to the

relevant predictions from the EA. Operations at Charbon Colliery have generally been in accordance with the predictions outlined in the EA.

3.6. Ground Water Pollution

Charbon Colliery mines coal from within the Lithgow Seam which is located above the regional aquifer and therefore does not result in any significant impacts to the aquifer or groundwater dependent ecosystems (GeoTerra, 2009). Subsequently, no groundwater monitoring is currently required to be undertaken.

3.6.1. Environmental Management

Control Strategy

Water for the underground mine workings is pumped to tanks which then feed the water to the coalface for use in dust suppression.

In accordance with Schedule 3, Condition 29 of PA 08_0211 a Groundwater Monitoring Program was prepared and submitted to the DPE on the 7th September 2011 as a component of the site WMP. Following feedback received from both the NoW and DPE components of the WMP which had not been approved were revised in October 2012 and re-submitted to both NoW and DPE in June 2013.

The Groundwater Monitoring Program includes the following:

- Baseline data of the natural variation in groundwater levels, yield and quality;
- Groundwater impact assessment criteria (including for monitoring bores and privately-owned bores); and
- A program to monitor the impacts of underground or open cut mining on groundwater resources.

Variations from Control Strategy

No monitoring of groundwater was undertaken at the site and consequently there has been no variation from the monitoring program.

3.6.2. Environmental Performance

No groundwater monitoring was undertaken at the Charbon Colliery during the 2014 reporting period.

3.7. Contaminated Polluted Land

3.7.1. Environmental Management

Control Strategy

In August 2010 AECOM was engaged to complete a Phase 1 Environmental Site Assessment (ESA) at Charbon Colliery. The work undertaken for the Phase 1 ESA comprised a desktop review of available information to assess the environmental setting and identify potential sources of contamination resulting from current and historical land use. A site inspection was also conducted. Additionally a qualitative risk assessment was undertaken based on the findings of the desktop review and site inspection, ranking the potential risks that the site poses to human health and the environment.

In October 2012 AECOM was engaged to commence a Targeted Phase 2 Environmental Site Assessment (ESA) at Charbon Colliery. The Targeted Phase 2 ESA was broken up into a series of stages to be completed over the next year, with reports to be provided after each stage.

Initial work involved a complete walkover of site to assess any changes since the previous site inspection in 2010 and to select suitable soil sampling, sediment sampling, ground water monitoring well(s) and surface water locations. Following the site inspection it was determined that Stage 1 works of the Targeted Phase 2 ESA would focus on investigative works at the 3rd Entry Boxcut Workshop area, the Artificial Wetlands and the Southern Open-cut.

Stage 1 works involved:

- Underground Service Clearance in the 3rd Entry Boxcut Workshop area;
- Drilling of 27 boreholes in the 3rd Entry Boxcut Workshop area and the conversion of two boreholes to groundwater monitoring wells in the 3rd Entry Boxcut Workshop area (to be sampled during Stage 2);
- Drilling of two boreholes at the Southern Open-cut area;
- Soil sampling from each borehole across the 3rd Entry Boxcut Workshop area and Southern Open-cut area;
- Sediment sampling from the artificial wetlands (adjacent to the 3rd Entry Boxcut Workshop area), drainage lines and the most down-gradient pollution control dams adjacent to LDP002 and LDP003;
- Surface water sampling from LDP002 and LDP003 dams and from the drainage line associated with 3rd Entry Boxcut Workshop area;
- Analysis of soil, sediment and surface water samples in NATA accredited laboratories for the contaminants of potential concern (CoPC); and
- Data analysis, interpretation and preparation of Draft Stage 1 Phase 2 ESA Report.

Hydrocarbon management at Charbon Colliery is also undertaken in accordance with the principles outlined in the Hydrocarbon Action Plan. This plan outlines the following practices for managing contaminated sites at Charbon Colliery:

- Ongoing training for all staff to ensure they are educated on spill kit usage, reducing spills on site, correct storage and handling techniques, correct dispensing techniques and general usage of hydrocarbons;
- All sites considered being at risk from spillages and potential contamination will have spill kits located at them. The spill kits will be subject to regular inspections and will be replenished as required; and
- All sites will be inspected during weekly and monthly inspections regime to ensure appropriate management and maintenance is occurring.

Variations from Control Strategy

Stage 2 of the Targeted Phase 2 ESA was completed in 2014. Stage 2 works involved:

- Completion of 29 soil boreholes (BH01 to BH29) at the Third Entry Box Cut Workshop Area and the Southern Open Cut Area;

- Installation of two groundwater monitoring wells in the Third Entry Box Cut area, which will be sampled during subsequent assessment works;
- Collection of soil samples from each borehole;
- Collection of sediment samples from the artificial wetlands and associated drainage lines, and from the PCDs at LDP 2 and 3;
- Collection of surface water samples from the PCDs at LDP2 and LDP 3 and from a drainage line at the Third Entry Box Cut Workshop; and
- Analysis of soil, sediment and surface water samples by NATA accredited laboratories to evaluate concentrations of Contaminates of Pollution Concern.

3.7.2. Environmental Performance

The Phase 1 ESA identified areas of environmental concern predominantly relating to past storage/handling of fuel and oil, and equipment storage and maintenance. The Phase 1 ESA recommended that an additional Phase 2 ESA be undertaken to investigate areas not previously assessed that have been identified in this Phase 1 ESA as being potentially contaminated. The additional Phase 2 ESA also includes a groundwater investigation in previously identified and potentially contaminated areas. Following a Phase 2 ESA, the current Remedial Action Plan for the Third Entry Workshop, artificial wetland and Main Pit Top Area Fuel Storage and Handling Area would be revised as appropriate and implemented.

In accordance with the recommendations of the Phase 1 ESA, Charbon Coal engaged AECOM to commence a Stage 1 of Targeted Phase 2 ESA in October 2012.

Stage 2 of Targeted Phase 2 ESA was initially proposed to be undertaken in 2013. This work is now proposed to occur in 2014. Works proposed for stage 2 involve:

- Pit Top Services Area: Collection of two surface soil samples, drilling of five boreholes and the installation of two groundwater monitoring wells. A reduced number of boreholes are proposed for this area due to the presence of overhead power lines in the area;

- Pit Top Coal Handling Preparation Plant (CHPP) Area: Drilling of 12 boreholes and the installation of three groundwater monitoring wells to assess the extent of the previously identified petroleum hydrocarbon (TPH C_{10}-C_{36}) contaminated soils associated with the aboveground fuel storage tank located adjacent to the CHPP, and to assess for contamination in areas of potential concern identified in the Phase 1 ESA;

- Third Box Cut Big Rim Workshop area: Drilling of three boreholes and the installation of three groundwater monitoring wells to assess for contamination in areas of potential concern identified in the Phase 1 ESA; and

- Third Box Cut Workshop area: Drilling of three boreholes and the installation of three additional groundwater monitoring wells to assess for groundwater contamination in this area.

3.8. Flora and Fauna

Flora and fauna of conservation significance includes all vegetation communities, as well as individual species and isolated populations whose short or long-term survival is threatened due to restricted distributions or habitat requirements, significant population or distributional range declines, and where threats to their survival still prevail.

Nine vegetation communities were identified during an ecological assessment for the Charbon Colliery EA in the area immediately adjacent to, or within the boundary of the mining leases. A total of 267 plant species have been identified including 48 exotic species and 219 locally indigenous species. One threatened species, the Capertee Stringybark (*Eucalyptus*

cannonii), was identified within Colliery Holding. This species' conservation status is listed as vulnerable under the *NSW Threatened Species Conservation Act 1995* (**TSC Act**) but was delisted from the *Environment Protection Biodiversity Conservation Act 1999* (**EPBC Act**) on 14 December 2013.

To date, a total of 140 fauna species have been detected in the Charbon disturbance area, consisting of ten reptile species, three amphibians, 94 bird species and 33 mammal species. There are 25 threatened fauna species that are known to occur within a 10km radius of the Charbon Colliery.

3.8.1. Environmental Management

Control Strategy

The following management and mitigation measures are implemented at Charbon Colliery to minimise impacts on flora within and surrounding the colliery:

- Preparation of a number of management plans to document the mitigation measures to be implemented on site;
- Removing only areas of native vegetation, including areas of regenerating vegetation, required for operational purposes during the subsequent 12 months;
- Relocate, where practicable, vegetation to areas undergoing progressive rehabilitation or other areas within the site which will not be disturbed;
- Mulch remaining vegetation for use during rehabilitation operations or stockpile for later use;
- Collect seed of species to be used during rehabilitation operations, including seed of the Capertee Stringybark, from within and adjacent to the site;
- Manage grazing pressure in areas undergoing rehabilitation;
- Fence areas of completed rehabilitation to prevent access by stock and control vehicular access;
- Inform all employees, contractors and others of the importance of appropriate management of the ecological resources, including the requirements to avoid damage to areas of native vegetation, rock outcrops, woody debris, tree hollows and areas undergoing rehabilitation; and
- Manage bushfire risks to minimise the potential for bushfires to adversely impact on areas of native vegetation or areas undergoing rehabilitation.

The following mitigation measures are implemented at Charbon Colliery to minimise impacts and compensate for the loss of potential habitat areas for a range of native fauna species:

- Management Plans which include procedures such as inspection of tree hollows prior to clearing, care of any injured fauna, relocation strategy and reuse of tree trunks for fauna habitat;
- Remove large, mature trees during late spring to early autumn to avoid impacting on spring nesting birds and over-wintering bats;
- Excise felled tree hollows or retain the tree in total and stockpile or use immediately in areas undergoing progressive rehabilitation; and

- Inform all employees, contractors and others of the importance of appropriate management of ecological resources and need to avoid injury to native fauna, including reptiles and snakes.

Inspections of trees to be cleared are carried out prior to felling to ensure there are no resident fauna. Regular inspections of the mining operations are also carried out to ensure that activities do not encroach on any additional areas of fauna habitat.

Management Plans

Landscape Management Plan:

A Landscape Management Plan (**LMP**) was submitted in 2011 in accordance with Schedule 4, Condition 6 of the PA 08_0211. This document was completed in order to fulfil the requirements of the Project Approval and to provide employees and contractors of Charbon Coal with a clear understanding of the requirements relating to rehabilitation, biodiversity offsets and mine closure planning at Charbon Colliery. The LMP was approved by the Director-General's nominee on 22 November 2012.

This management plan includes three key aspects, including the Rehabilitation Management Plan, Biodiversity Offsets (Compensatory Habitat) Management Plan and Mine Closure Plan.

Compensatory Habitat Management Plan:

A revised Charbon Colliery Compensatory Habitat Management Plan (**CHMP**) was submitted during September 2012 to the Australian DoE (previously SEWPaC). This CHMP aims to meet Conditions 3 & 4 of the approval provided by the Australian DoE, EPBC 2010/5498 (see **Appendix 3**). The CHMP outlines the management requirements necessary to maintain and improve medium to long-term habitat quality and ecosystem function within the approved compensatory habitat lands at Charbon Colliery. The CHMP was approved by the Australian DoE in October 2012.

Primary management concerns for the compensatory habitat areas include those relating to threatened species or ecological communities, in particular the Endangered Ecological Community (**EEC**) White Box - Yellow Box – Blakely's Red Gum Woodland and Derived Native Grasslands which is commensurate with Yellow Box – Blakely's Red Gum Woodland. Managing habitat for locally occurring threatened species is also a priority.

Variations from Control Strategy

There were no variations from control strategies during the reporting period.

3.8.2. Environmental Performance

Compensatory Habitat Area

The biodiversity offset areas required under Schedule 4, Condition 1 of PA 08_0211 are shown in **Table 20**. Additionally Condition 3 of the EPBC Act Approval outlined the requirement to mitigate impacts on the listed White Box – Yellow Box – Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands ecological community, the listed Swift Parrot, Regent Honeyeater, Large-eared Pied Bat and Greater Long Eared Bat. To achieve this Charbon Coal must place a legally binding conservation covenant in perpetuity over no less than 253ha of land identified as 'Proposed Additional Compensatory Habitat'. As of January 2012, Charbon Coal has identified approximately 265ha of land for conservation which complies with the requirement of the relevant EPBC Act Approval condition.

As per Condition 3(a) of EPBC Approval 2010/5498, the covenant must be approved in writing by the Minister and placed on the title of the land identified on the map at Annexure 2 as "Proposed Additional Compensatory Habitat" by 19 November 2013.

An application to vary Conditions 3, 7 and 10 of EPBC Approval 2010/5498 was submitted to the DoE in early November 2013. The variation was seeking an extension of time for Conditions 3 and 7, as well as changing the annual reporting period specified in Condition 10 to align with those required by State regulatory authorities. This application is currently pending.

As of 19 February 2014 a covenant has been placed on the title of the land identified on the map at Annexure 2 as "Proposed Additional Compensatory Habitat". This has been included as **Appendix 4**.

Table 20. Biodiversity Offset Strategy Areas

Vegetation Community	Required Area PA 08_0211 (ha)	Actual Area (ha)
Grey Gum Stringybark Forest	41	144
Mountain Grey Gum-Grey Gum-Mountain Hickory Sheltered Forest	13	24
Narrow Leaf Stringybark-Peppermint-Grey Gum	0	23
Stringybark-Blakely's Red Gum-Yellowbox Woodland	13	13
Yellow Box-Blakely's Red Gum Woodland (EEC)	57	14
Cleared Land (to be revegetated)	47	47
Total	**171**	**265**

Compensatory Habitat Management Plan

Condition 5 of EPBC 2010/5498 Approval requires submission to the Department a report detailing the implementation of the approved CHMP, as a component of Condition 10. The below is to satisfy this condition. In addition, Condition 10 requires a report submitted to the Department addressing compliance with the conditions of this approval. Condition 10 is satisfied through both the explanations below, as well as being summarised in **Table 7** in **Section 1.3.1** of this report.

The Charbon Colliery, CHMP was approved by SEWPaC (now DoE) on 5 October 2012. The CHMP was implemented during the 2013 reporting period, including the first round of annual flora and fauna monitoring within the onsite Compensatory Habitat areas. In addition weed spraying for noxious weeds, including Blackberry and St Johns Wort was undertaken in the compensatory habitat areas in 2013.

Flora Monitoring:

Flora and fauna monitoring was undertaken by Eco-logical Australia during December 2013.

Floristic monitoring occurred at 11 sites, including both northern and southern compensatory areas onsite. The majority of taxa were identified onsite, with samples collected from those unable to be identified in the field, to be later identified.

Since 2013 was the first year that floristic monitoring has occurred in the compensatory habitat areas, the results will provide baseline data for comparison to annual sampling from

future years. Floristic surveys identified a total of 132 species, with 116 native species and 16 introduced species. No threatened species listed under the *NSW TSC Act* or the *Commonwealth EPBC* Act were recorded during the 2013 surveys. Further monitoring is planned for spring 2015.

Fauna Monitoring:

Fauna monitoring occurred across 11 transect based monitoring sites in the northern and southern compensatory areas onsite. The 11 sites were surveyed and data recorded where the presence of birds, mammals and/or reptiles was detected. All fauna species observed were identified (where possible), recorded and compiled into a species list.

Bird surveys were carried out for a standardised period of 20 minutes over a 3 day period. During this time mammals and herpetofauna were opportunistically sighted and recorded. No targeted mammal surveys such as trapping and spotlighting were carried out as part of the 2013 monitoring program in accordance with the CHMP.

Similarly to the floristic monitoring, 2013 was the first year that fauna monitoring has occurred in the compensatory habitat areas. The results from 2013 will provide baseline data for comparison to annual sampling from future years. Bird monitoring during the 2013 monitoring identified 54 native bird and one introduced bird species. Five threatened species listed under the *NSW TSC Act* were recorded, including the Little Lorikeet, Speckled Warbler, Varied Sittella, Little Eagle and Gang-gang Cockatoo. No threatened or migratory species listed under the *Commonwealth EPBC Act* were recorded during the 2013 monitoring. Further monitoring is planned for spring 2015.

3.9. Weeds

3.9.1. Environmental Management

Control Strategy

Weed management is generally undertaken at Charbon Colliery in accordance with the LMP approved by the DPE on 22 November 2012. Charbon undertakes an annual weed spraying program that typically targets the following weeds:

- St Johns Wort;
- Blackberry;
- Sweet Briar;
- Star Thistle;
- Paterson's Curse;
- Saffron Thistle; and
- Johnson Grass.

Weed management in soil stockpiles is undertaken to control and minimise weed seed content in topsoil. This involves seeding the stockpiles with an appropriate grass/legume mixture to suppress weed growth. If stockpiles become weed infested, the top 150mm will be scalped off and discarded prior to the remaining material being utilised in rehabilitation of the site. Herbicide application to the remnant weed populations may also be conducted to halt the spread of weeds.

Where monitoring indicates the presence of excessive weeds, or the potential for noxious weeds or weeds of national significance, necessary management and control measures such as chemical treatment, mulching, weed blankets or slashing to manage or prevent the development of weeds within the rehabilitated areas will be undertaken.

The CHMP also details a biannual weed spraying program for the compensatory habitat areas. Blackberry comprises the largest area of weed infestation at the site. An integrated approach using a combination of physical and chemical removal control methods is used to manage this infestation as described in the CHMP. In other sections of the compensatory habitat areas selective weeding is undertaken on an opportunistic basis during monitoring periods as weed prevalence is not considered high.

Variations from Control Strategy

There were no variations to weed management activities as outlined in the LMP or CHMP during the 2013 reporting period.

3.9.2. Environmental Performance

During 2014, weed management at Charbon Colliery involved spraying of approximately 90ha for Blackberry and St Johns Wort. The program was deemed to be effective for managing weeds on site.

A similar weed management program is planned for 2015.

3.10. Blasting

3.10.1. Environmental Management

Control Strategy

In accordance with Schedule 3, Condition 18 of PA 08_0211 Charbon Coal prepared and submitted a Blast Monitoring Program to the DPE for approval on the 7th December 2010. The primary objectives of this Blast Monitoring Program are to outline a protocol for evaluating blast-related impacts and to demonstrate compliance with the blasting criteria for:

- Privately-owned residences and structures;
- Items of Aboriginal and non-indigenous cultural heritage significance; and
- Publicly owned infrastructure.

Charbon is required under PA 08_0211 to ensure that all blasts are below 10mm/s and 120dB. Only 5% of blasts can be above 5mm/s and 115dB.

Whilst Charbon Coal has approval to undertake blasting for overburden removal, the activity is no longer undertaken at the Charbon Colliery. Removal of overburden is now undertaken by dozer ripping.

Variations from Control Strategy

No blasting was undertaken at Charbon during 2014, therefore no control strategies were required to be implemented during the reporting period.

3.10.2. Environmental Performance

No blasting was undertaken at Charbon during the 2014 reporting period.

3.11. Operational Noise

3.11.1. Environmental Management

Control Strategy

Operational noise at the Charbon Colliery is managed in accordance with the Noise Management Plan (**NMP**). This plan was submitted to the DPE on the 7th March 2011 in accordance with Schedule 3, Condition 9 of PA 08_0211. Following feedback received from DPE in July 2013, the Charbon Coal NMP was updated and resubmitted in November 2013 for approval.

The objectives of this plan are as follows:

- Ensure all relevant statutory requirements and standards are met;
- Identify potential noise sources and their relative contribution to noise impacts from the development;
- Outline the methodologies to be used, including justification for monitoring intervals, weather conditions, seasonal variations, monitoring locations, periods and times of measurements, the design of any noise modelling or other studies, including the means for determining the noise levels emitted by the development;
- Manage and minimise the impact of noise from mining operations at nearby residences;
- Maintain reasonable levels of amenity for surrounding residents;
- Maintain an effective response mechanism to deal with issues and complaints; and
- Ensure the results of noise monitoring comply with applicable criteria.

Noise monitoring at Charbon Colliery is designed to ensure that noise is measured at representative locations in the vicinity of the Project Site. Data from the monitoring is used to determine the compliance status of the mining operations in relation to the relevant Project Approval conditions and to establish Charbon Colliery's noise impact at the surrounding receivers. Noise monitoring involves quarterly operator attended monitoring consisting of up to six receiver locations over a 15 minute measurement period per location.

Schedule 3, Condition 4 of PA 08_0211, limits the hours of open cut mining operations are to 7:00am – 8:00pm to avoid noise impacts on surrounding residences during the night and thereby minimise sleep disturbance and intrusion during the quietest part of the day. During the autumn months, the hours of open cut mining are limited to 7:00am – 6:00pm.

To further minimise possible impacts on surrounding residences, Charbon Coal only conducts open cut mining operations between the hours of 7:00am – 4:15pm throughout the year.

The noise measurement procedures employed throughout the monitoring program are guided by the requirements of *AS 1055-1997 Acoustics - Description and Measurement of Environmental Noise* and the *NSW Industrial Noise Policy*. Noise impact assessment criteria for Charbon Colliery have been included in **Table 21**.

Table 21. Noise Impact Assessment Criteria dB(A)$L_{Aeq(15min)}$

Location	Day	Evening	Night	Night ($L_{A1(1min)}$)
Residence P	35	39	39	45
All residences within 150m of, and including, Residence Q	38	38	38	45
Residence M	36	37	35	45
All remaining locations	35	35	35	45

A Noise Impact Assessment was also prepared in September 2011 in accordance with the Statement of Commitments, as appended to PA 08_0211. It provides the required update and revision of the previous noise model, completed as a component of the EA.

Charbon has notified all surrounding residents and the broader community that the environmental complaints line (02 6357 9200) is available for any issues relating to noise at the site. The results of noise monitoring at Charbon are reviewed regularly and operational procedures are updated or modified, where appropriate, to ensure that noise-related impacts are, to the greatest extent practicable, minimised.

Variations from Control Strategy

No variations to the control strategy were implemented during the reporting period.

3.11.2. Environmental Performance

Quarterly monitoring was undertaken in 2014. The results are summarised in **Table 22**, below.

Table 22. 2014 Compliance Noise Assessment Results

Location	Estimated Charbon LAeq(15min) Contribution (Q1)			Estimated Charbon LA_{eq}(15min) Contribution (Q2)			Estimated Charbon LA_{eq}(15min) Contribution (Q3)			Estimated Charbon LA_{eq}(15min) Contribution (Q4)		
	Day	Eve	Night	Day	Eve	Night	Day	Eve	Night	Day	Eve	Night
I										<27		
L	**36**	30	<30	**37**	<30	<30	35	30	30	<30	<30	<30
P	**36**	32	36	**38**	34	36	35	36	33	<30	<30	<30

It can be seen from **Table 22,** above, that attended noise monitoring completed in 2014 has indicated that generally compliance has been achieved at all monitoring locations in all instances, apart from two (2) daytime exceedances from location L and P.

A minor exceedance of the Consent Criteria occurred during the Q1 daytime attended noise monitoring at Location L (1 dBA) and Location P (1 dBA); during the Q2 daytime attended noise monitoring at Location L (2 dBA) and P (3dBA). However, in all these instances, apart from P (Q2), noise levels were within the 2 dBA tolerance as per Chapter 11 of the *NSW Industrial Noise Policy* (**INP**) and are therefore deemed to be compliant.

Location P has an agreement in place that permits noise levels of up to 39dBA during evening and night periods.

Location I was included in the revised EPL528 issued in November 2014. A negotiated agreement is in place with location I, however daytime monitoring was conducted to show compliance. No evening or night operations were occurring within proximity of Location I during the Q3 monitoring.

The noise monitoring results of the 2014 noise assessments were much milder than that of the 2013 noise results (shown in **Table 23**, below). This is largely due to negotiated agreements being reached with affected land holders; a summary is provided below.

Table 23. 2013 Compliance Noise Assessment Results

Location	Estimated Charbon LAeq(15min) Contribution (Q1)			Estimated Charbon LA_{eq}(15min) Contribution (Q2)			Estimated Charbon LA_{eq}(15min) Contribution (Q3)			Estimated Charbon LA_{eq}(15min) Contribution (Q4)		
	Day	Eve	Night	Day	Eve	Night	Day	Eve	Night	Day	Eve	Night
A	28	-	-	32	-	-	33	-	-	-	-	-
F	28	<30	25	35	<30	<30	-	-	-	-	-	-
G	-	-	-	**43**	<30	<30	-	-	-	-	-	-
H	**36**	<30	24	**40**	<30	<30	-	-	-	-	-	-
L	28	27	<30	**37**	30	<30	**37**	<30	<30	**36**	<30	<30
P	**36**	36	34	35	36	37	**37**	<30	36	34	<30	32

It can be seen from **Table 23**, above, that attended noise monitoring completed in 2013 has indicated that generally compliance has been achieved at all monitoring locations in all instances, apart from two (2) daytime exceedances, one (1) at each of Location G (8 dBA) and Location H (5 dBA) during Q2.

A minor exceedance of the Consent Criteria occurred during the Q1 daytime attended noise monitoring at Location H (1 dBA) and Location P (1 dBA); during the Q2 daytime attended noise monitoring at Location L (2 dBA); during the Q3 daytime attended noise monitoring at Location L (2 dBA) and Location P (2 dBA); and during the Q4 daytime attended noise monitoring at Location L (1 dBA).

Location A was only monitored during the daytime monitoring period in Q1 to Q3 in 2013, to determine the potential impact of open cut mining. A negotiated agreement was reached between Charbon Coal Pty Limited and the residents at Location A on 5 December 2013 permitting generation of higher noise levels. As a result, DPE and EPA were notified and Location A was removed from the noise monitoring schedule.

Location F was monitored in Q1 and Q2 in 2013, as it provided a suitable monitoring location for each of Locations D, E and F. An agreement was reached between Charbon Coal Pty Limited and the residents of Locations D and E respectively, on 3 September 2013 permitting generation of higher noise levels. DPE and EPA were notified of these agreements, in addition to an agreement reached between Charbon Coal Pty Limited and the residents of Locations F on 5 April 2012. As a result, these locations were removed from the noise monitoring schedule.

The landowner at Location G was notified on 21 June 2012 that measured noise levels had exceeded the acquisition criteria, and the acquisition process was commenced. The contract to purchase the property was executed 7 June 2013. DPE and EPA were notified and Location G was removed from the noise monitoring schedule.

The landowner at Location H was notified on 1 June 2012 that measured noise levels had exceeded the acquisition criteria, and the acquisition process was commenced but was abandoned in favour of a negotiated agreement. Agreement was reached on 8 May 2013 permitting generation of higher noise levels. DPE and EPA were notified and Location H was removed from the noise monitoring schedule.

The majority of results of the 2013 noise assessments were similar with the 2012 noise results (shown in **Table 23**, below), which found that noise levels were generally below the required levels.

In accordance with the requirement of Schedule 5, Condition 3(b) of PA 08_0211, Charbon Coal are required to compare monitoring results obtained during the reporting period to the relevant predictions from the EA.

The operational configurations modelled in the EA predictions are different to those which currently exist at Charbon Coal due to past constraints on operations. However, for each quarterly noise monitoring report, noise modelling is refined to include current operational configurations under the same prevailing weather conditions modelled in the 2009 EA.

From these revised models, using the same conditions modelled in the 2009 EA, operations at Charbon Colliery have generally been in accordance with these predictions.

3.12. Visual, Stray Light

The landscape surrounding the future surface mining operations is characterised by rural holdings consisting largely of cleared grazing land. This is accompanied by vast tracts of State Forest containing natural woodland vegetation along the Great Dividing Range. It is important to Charbon Colliery that potential impacts to visual amenity associated with open cut mining areas are mitigated as far as is practicable, to prevent interrupting the existing rural landscape.

3.12.1. Environmental Management

Control Strategy

The LMP outlines a number of controls to minimise visual impacts upon surrounding residents. These include the following:

- Maintain existing vegetation and vegetation corridors in areas that would not be disturbed, to assist screening of the proposed operations;
- Ensure that the western section of Hill B, located to the west of the Western Outlier, remains undisturbed;
- Construction of earth mounds that will be planted with fast growing, endemic native species;
- Early establishment of vegetation will occur in areas where mining-related operations have been completed, i.e. on the lower slopes of overburden emplacements while the upper sections of the emplacements are still being constructed;
- Ensure, where practicable, that mining and overburden placement operations are undertaken behind a 4m and 5m high barrier respectively, particularly during the evening, to limit visual impacts associated with moving mining equipment and lights;
- Construct and progressively shape and rehabilitate the outer sections of the proposed overburden emplacements early during construction of the emplacement;
- Emplacement of painted infrastructure that will have a screening effect such as fences, netting or shipping containers, etc. that can blend in with the surrounds;
- Utilisation of water spraying, encrusting emulsions, sterile grass planting, etc. to reduce visible dust;
- Utilisation of specific light covers to reduce light pollution at night;
- Emplacement of lights at a height no greater than the horizontal landscape wherever practical;

- Preferentially undertake mining and overburden placement operations during the evening in the deepest section of the open cut or behind the visual amenity bund, to minimise adverse impacts associated with vehicle and other lights;

- Preferentially orientate temporary lighting plants in such a manner that the light is directed downwards or away from residences;

- Ensure that all open cut mining-related lights are extinguished at the completion of each day's mining operations, with the exception of those required for activities that may be undertaken between 10:00pm and 7:00am, or those that are required for safety or security-related purposes; and

- Charbon Coal will also consider any reasonable request by a potentially affected resident for assistance to create a visual screen adjacent to their residence through planting of fast growing vegetation and/or landscaping, where such a screen would effectively reduce the visual impact of the proposed activities during the life of the Project.

Variations from Control Strategy

There were no variations to the control of visual and lighting impacts during the reporting period.

3.12.2. Environmental Performance

As documented in the LMP, Charbon Colliery has planted the entire eastern side of Mount View Road with local provenance native tree and shrub species and has planted additional areas between existing vegetation in the area between Mount View Road and the existing Southern Open Cut to assist with reducing visual impacts.

The lighting and visual mitigation measures implemented at Charbon have resulted in no visual or lighting related complaints during the 2014 reporting period.

3.13. Aboriginal Heritage

3.13.1. Environmental Management

Control Strategy

In accordance with Schedule 3, Condition 34 of PA 08_0211, an Aboriginal Cultural Heritage Management Plan (ACHMP) was prepared and submitted to the DPE for approval on the 7th September 2011. This management plan was approved by the Director-General's nominee on 22 November 2012.

The ACHMP was prepared as a guide for the management of Aboriginal heritage at Charbon Colliery, to ensure areas are monitored prior to the transportation of heavy machinery, pre-clearing, clearing or initial excavation activities. The ACHMP involves the following:

- Provides a guide for land managers and relevant on-site personnel to ensure areas are monitored prior to the transportation of heavy machinery, pre-clearing, clearing or initial excavation activities;

- Includes a summary of all known sites recorded within the Charbon Colliery, a summary of currently existing sites and those which are no longer present;

- A description of the Sensitive Archaeological Landforms (SAL) located within the project area;

- Outlines the methodology to undertake a detailed assessment of CH-SAL 4 (within the 8 Trunk Open Cut pit area);
- A comprehensive management plan for existing sites within impacts zones;
- A salvage program for artefacts and recommendation of storage places for salvaged artefacts;
- A monitoring program to protect sites outside the area of impact and a methodology for implementation should new Aboriginal objects/skeletal remains be discovered; and
- The roles and responsibilities of personnel and organisations relevant to the implementation of the ACHMP as well as a contact list of relevant organisations.

A survey of the Eastern SMP Area was completed between 6th and 8th of April 2011 by RPS, and Aboriginal community representatives from Bathurst Local Aboriginal Land Council, Warrabinga Native Title Claimant Aboriginal Corporation, the North East Wiradjuri People and the Wellington Valley Wiradjuri People.

Based on the area surveyed during the field trip, a total of three Aboriginal heritage sites were identified, which included two rock shelters and a scarred tree (RPS ST 1 [scarred tree], RPS RS 1 [rock shelter 1] and RPS RS 2 [rock shelter 2]). These sites have been avoided in the mine design plan and will not be impacted by first workings proposed within the 601 Panel. RPS RS2 will not be mined under by the mine plan and has been protected by leaving a distance of 70m between the site and proposed extraction within 4 Trunk Panel.

Variations from Control Strategy

Management of Aboriginal cultural heritage at Charbon Colliery is undertaken in accordance with the ACHMP. There were no variations to the control strategies outlined in the ACHMP during the reporting period.

3.13.2. Environmental Performance

No additional Aboriginal heritage sites were identified during the reporting period.

During the reporting period one (1) previously identified Potential Archaeological Deposit (36-6-0727) located near an existing haul road and proposed future open cut area, was fenced and sign posted in accordance with the ACHMP to ensure its conservation.

3.14. Natural Heritage

A small number of historic European heritage sites have been identified within the Charbon Colliery holding, however these sites were assessed to have only low local significance. No sites of European heritage are within the MOP disturbance area.

3.14.1. Environmental Management

Control Strategy

The Continued Operation of Charbon Colliery EA identified two non-indigenous heritage sites in the vicinity of the project area:

- Site CH-HS1 comprises the foundations of a hut. The remains comprise a squared area where a small hut appears to have been located. The site is will not be disturbed by operations at Charbon Colliery and is considered to have low local significance; and

- Site CH-HS2 comprises concrete foundations and blocks with some plumbing infrastructure consisting of poly pipes still in place. OzArk (2009) states that the site is likely to be younger than 50 years based on the materials present and is likely to have low local significance.

It was concluded that operations at Charbon would cause no impacts to items of non-indigenous heritage.

3.14.2. Environmental Performance

No additional non-indigenous heritage sites have been identified during the reporting period. Neither of the previously identified heritage sites have been impacted, or are expected to be impacted by mining operations at Charbon Colliery.

3.15. Spontaneous Combustion

3.15.1. Environmental Management

Control Strategy

The risk of spontaneous combustion at Charbon Colliery is relatively low as coal from the Lithgow Seam has a low propensity to spontaneous combustion. This low risk has been verified by testing of the coal which has shown the incidence of spontaneous combustion to be a very low risk. Charbon undertake stockpile management and temperature monitoring procedures to minimise the risk of spontaneous combustion and excessive stockpile heating. In the event that spontaneous combustion does take place in the underground mining area, it will be managed in accordance with the measures and procedures outlined in the Spontaneous Combustion Management Plan.

Variations from Control Strategy

There were no variations to the spontaneous combustion control strategy during the reporting period.

3.15.2. Environmental Performance

No incidents of spontaneous combustion occurred during the reporting period and there have been none over the history of the site.

3.16. Bushfire

Although Charbon Colliery is situated predominantly within a cleared valley, the site is surrounded on its eastern and southern perimeters by heavily vegetated woodland. The dominant vegetation structure is generally in excess of 12m high with medium to low density shrub and grass layers. Given the predominant westerly winds and the generally dry conditions, the area is considered to have a high bushfire hazard.

3.16.1. Environmental Management

Control Strategy

Bushfires are managed at Charbon Colliery in accordance with the Bushfire Risk Management Plan. The plan aims to minimise the risk of bushfires on the site and to reduce the risk of fire originating from the Charbon Colliery. In addition, the plan also ensures that Charbon Colliery is suitably equipped to respond to any fires on-site and is able to assist the Rural Fire Service and emergency services as much as possible in the event that a fire does occur. Fire management techniques documented in this plan include:

- Hazard reduction burning;
- Removing excess materials on-site;
- Regularly monitoring to detect potential fire hazards;
- Maintenance of fire breaks and access trails; and
- Ensuring adequate water supplies.

The perimeter clean water drainage line provides an effective fire break around the southern section of the site and it is intended to maintain sufficient on site water storage to assist in firefighting purposes. All mobile plant and equipment are fitted with fire extinguishers and no open fires are permitted within operational areas. Unless otherwise advised, it is not proposed to carry out controlled burns within any surrounding forested areas, however Centennial closely liaises with the Forestry Corporation of NSW and the local Rural Fire Service to ensure that fire control procedures are maintained.

The CHMP that was issued to DPE as a component of the LMP also describes fire management practises to be undertaken on the compensatory habitat areas covered by the plan. This plan recommends annual monitoring of the compensatory habitat zones to maintain suitable low levels of fire hazards and prevent the occurrence of a fire. Fire hazards in the offset areas have been determined to be reasonably low as excessive build-up of materials that could be potential fire hazards were not present within any compensatory habitat areas.

Variations from Control Strategy

There were no variations to the control strategy during the reporting period.

3.16.2. Environmental Performance

There were no bushfires during 2014 on the Charbon Colliery site. Management measures and control strategies implemented at the site have been effective in the prevention of incidents regarding bushfires during the reporting period.

3.17. Mine Subsidence

3.17.1. Environmental Management

Control Strategy

Management of subsidence impacts within the previously approved 500, 600 and 700 series panels SMP Area are undertaken in accordance with the SMP Application, Eastern Underground SMP and Public Safety Management Plan. Management and monitoring of subsidence within the SMP Area is outlined in the SMP and consists of:

- Cliff line monitoring;
- Subsidence monitoring by survey;
- Flora and fauna monitoring;
- Visual surface inspections;
- Visual underground inspections;
- Identification and monitoring of significant environmental features; and
- Identification and monitoring of potential public safety risks.

In accordance with the requirement of Schedule 3, Condition 25 of Project Approval 08_0211 a Subsidence Monitoring and Contingency Plan was prepared and submitted to the DoPI on the 26th July 2011.

This Plan outlined the following for the approved Western Underground:

- A program for monitoring pillar stability. This program includes:
    a) Pillar size auditing by survey method;
    b) Visual inspections by visual and photographic evidence (to be reported on shift reports);
    c) Pillar performance by rib tell-tale method;
- A program for the baseline recording and later inspection of cliff faces and steep slopes. This program includes:
    a) Subsidence surveying – Including the placement of reflectors on accessible surface rocks above Western Underground Panels. Reflectors are used as survey marks and will be placed on various surface features including cliff faces and steep slopes;

b) Subsidence inspections – Visual field inspections will take place prior to undertaking development works to establish baseline condition and at the completion of mining in the Western Underground. The inspections will be carried out by trained persons and will identify surface cracking, surface humps and step change in land surface;

- A protocol for the investigation of any occurrences of mass rock movements. In the event that Charbon Coal are informed of an occurrence of mass rock movement in the proximity of operations in the Western Underground, an investigation is to be undertaken; and

- Contingency measures to address any significant subsidence related impacts in the event that predicted subsidence levels are exceeded within the Western Underground. Potentially affected features that have been addressed within this contingency plan include cliff lines, steep slopes and surface cracking.

Mining has been completed in the Western Underground and only consisted of pillar development (first workings). Final surveys are expected to show subsidence of less than 20mm.

Within the Eastern SMP Area, Charbon mines the Lithgow Coal seam using a combination of the full extraction, partial extraction and development (first workings) mining methods. The extraction mining method allows for effective resource recovery whilst minimising subsidence impacts upon significant surface features.

All underground mining was completed at Charbon during March 2014. Final subsidence surveys will be published in 2015 AEMR.

Variations from Control Strategy

There were no variations from the control strategy during the 2014 reporting period. All underground mining was completed at Charbon during March 2014.

3.17.2. Environmental Performance

Subsidence monitoring during 2014 was undertaken in accordance with the following:

- Eastern Underground SMP; and

- Subsidence Monitoring and Contingency Plan.

All underground mining was completed at Charbon during March 2014. Final subsidence surveys will be published in 2015 AEMR.

3.18. Hydrocarbon Contamination

3.18.1. Environmental Management

Control Strategy

Diesel storage facilities have been established within the surface facilities area of the Third Entry Underground, the Pit Top Services Area, Open Cut Contractors area, Open Cut Workshop area and the Western Underground Surface Facilities Area. Each of these facilities comprise of one or more above ground tanks and each is compliant with Australian Standard *AS1940-2004 – The Storage and Handling of Flammable and Combustible Liquids*. Bulk diesel is delivered by a suitably licenced fuel delivery contractor as required.

Unused oil and grease is stored in containers varying from 20L to 205L within storage areas associated with each of the workshops. Additionally, a waste oil tank is located adjacent to each of the workshops and is used to store used oils generated during servicing of equipment. All hydrocarbon containers are stored within fully bunded areas designed to contain 110% of the maximum storage volume.

Variations from Control Strategy

During the reporting period there were no variations to the control strategy implemented at Charbon Colliery.

3.18.2. Environmental Performance

There have been no incidents relating to hydrocarbons during the 2013 reporting period.

3.19. Methane Drainage/Ventilation

3.19.1. Environmental Management

Control Strategy

Methane Drainage is not a significant issue at Charbon as the coal seam contains no methane gas due to the outcropping nature of the coal seams. No pre or post-mining methane drainage is necessary at Charbon Colliery.

A ventilation fan is situated on site, however this is designed to stimulate the movement of fresh air to underground mining areas and remove emissions associated with the mining activities (diesel combustion, coal seam gas extractive operations).

Variations from Control Strategy

As all underground mining was completed at Charbon (March 2014), all ventilation apart from 3 Trunk (U/G coal transport) has been turned off. All unoccupied underground portals have been appropriately sealed to eliminate potential unauthorised access. All underground portals will be fully sealed as part of Charbon's rehabilitation and closure plan.

3.19.2. Environmental Performance

There have been no incidents relating to mine ventilation during the 2014 reporting period.

3.20. Public Safety

Charbon Coal recognises the need to implement procedures and controls to protect the safety of its own or contracted employees, visitors, the public, local landowners and land users. Examples of controls have been provided below. Public safety within the previously approved 500, 600 and 700 series panels SMP Area is managed in accordance with the Public Safety Management Plan. Public safety associated with the Western Underground is managed in accordance with the Subsidence Monitoring and Contingency Plan.

3.20.1. Environmental Management

Control Strategy

Charbon Coal implements a variety of control strategies to minimise the potential for public safety incidents at the site. These include the implementation of the following:

- Use of an electronic log-in book;

- Fencing and gates surrounding the complex;
- Locking of gates on weekends and at other times when the mine is not operational;
- Signage warning of subsidence areas; and
- Employee and contractor inductions regarding mine safety and environmental management issues.

The open cut operation is fenced and inaccessible to the general public. The land which Charbon Coal mines under is held in Charbon Coal's ownership and by the Forestry Corporation of NSW. No public roads traverse the mining area and there is no public infrastructure such as telecommunications and power transmission lines. Potential subsidence related public safety risks are managed in accordance with the Public Safety Management Plan (previously approved 500, 600 and 700 series panels SMP Area) and the Subsidence Monitoring and Contingency Plan (Western Underground). Specific controls include:

- Regular subsidence monitoring;
- Regular inspections of properties and public infrastructure;
- Notifying local landholders of subsidence prior to mining, and
- Development of Trigger Action Response Plans (TARPs) for subsidence impacts.

Variations from Control Strategy

There were no variations to control strategies at Charbon Colliery during the reporting period.

3.20.2. Environmental Performance

There were no incidents concerning public safety in 2014. Management measures and control strategies implemented at the site have been effective in the prevention of incidents regarding public safety during the reporting period.

3.21. Other Issues and Risks

No other issues or risks have been identified by Charbon Coal in relation to environmental management on site. Regular review of monitoring and management plans ensures that any issues are effectively managed should they arise.

4. COMMUNITY RELATIONS

4.1. Environmental Complaints

Charbon Coal received one (1) community complaints during the 2014 reporting period. **Table 24** provides a summary of complaints received in relation to Charbon Colliery since 2004.

Table 24. Summary of Environmental Complaints

Year	Number of Complaints	Date	Complainant	Issue
2014	1	05/07/14	Neighbouring Residents	Noise
2013	22	07/01/2013	Neighbouring Residents	Noise & dust
		22/01/2013		Noise & dust
		06/03/2013		Noise
		07/03/2013		Dust
		08/03/2013		Noise
		11/03/2013		Noise
		13/03/2013		Noise
		15/03/2013		Noise
		18/03/2013		Noise
		18/03/2013		Dust
		25/03/2013		Dust
		25/03/2013		Dust
		22/04/2013		Noise
		27/04/2013		Noise & dust
		11/05/2013		Noise
		11/05/2013		Noise
		24/05/2013		Noise
		27/05/2013		Noise
		12/06/2013		Noise
		21/06/2013		Noise
		26/06/2013		Noise
		25/07/2013		Feral Pigs
2012	1	18/10/2012	Neighbouring Residents	Noise
2011	0	-	-	-
2010	0	-	-	-
2009	2	20/02/2009 20/03/2009	Neighbouring Residents	Noise
2008	5	15/02/2008 08/04/2008 12/06/2008	Neighbouring Residents	Noise Blasting Blasting

Year	Number of Complaints	Date	Complainant	Issue
		01/08/2008 26/11/2008		Dust Noise
2007	6	07/08/2007 08/08/2007 28/08/2007 03/11/2007 07/11/2007 15/12/2007	Neighbouring Residents	Dust Dust Dust Noise No Issue Noise
2006	1	27/10/2006	Neighbouring Resident	Stray Light/Hours of Operation
2005	2	22/01/2005 01/04/2005	Neighbouring Residents	Dust Stray Light/Hours of Operation
2004	1	31/08/2004	Neighbouring Resident	Hours of Operation

As shown in **Table 24** above, the number of community complaints had generally been declining since 2007, with only one (1) complaint received since 2009, until 2013.

Following twenty-two (22) complaints received in 2014, one (1) complaint was received in 2014. During 2014 Charbon Coal entered into negotiated agreements with a number of neighbouring residents. In summary, a negotiated agreement between Charbon Coal and the resident was reached on: 8 May 2013 (Location H); 3 September (Locations D and E); and 5 December (Location A). In addition, the property at Location G was purchased on 7 June 2013 and an agreement was reached with the resident at Location F on 5 April 2012.

Contributing factors to the 2014 complaints for noise was the proximity of open cut operations to neighbouring residents. However, apart from the two (2) exceedances, one at each of Location G and H, respectively, in the June Quarterly Monitoring, all quarterly noise monitoring at all locations at all times in the 2013 reporting period were compliant. Whilst there were also six (6) minor exceedances, these were within the 2 dBA tolerance as per Chapter 11 of the NSW INP and are therefore deemed to be compliant.

4.2. Community Liaison

Charbon Colliery maintains a web page within the Centennial Coal Website (http://www.centennialcoal.com.au/) to provide information to the general public. In accordance with Schedule 5, Condition 7 of PA 08_0211, the website includes information on statutory approvals, environmental management plans, monthly environmental reports, minutes of CCC meetings, and previous AEMRs. This AEMR will also be made available on the website.

4.3. Community Consultative Committee

The Charbon Colliery Community Consultative Committee (**CCC**) has been formed in accordance with Schedule 5, Condition 5 of PA 08_0211. The CCC consists of Charbon employees, local neighbours, local Council members and members of the Rylstone District Environmental Society.

CCC meetings were held at Charbon on 12 May and 22 September 2015. Topics discussed included:

- An update of operations at Charbon since the previous CCC meeting(s), including environmental monitoring;
- Sponsorship activities by Centennial Coal;
- Feral animals; and
- Request for tour of offset area.

4.4. Donations

Whilst Charbon Coal does not have a fixed budget for community sponsorship, varying annual monetary donations are made to local community, education and sporting bodies to assist in worthwhile community projects. During the 2014 reporting period Charbon Coal contributed donations to the following:

- Gulgong Pensioners & Superannuants Association
- Henbury Sport and Recreation Club Inc;
- Ilford Primary School
- Kandos Centenary Celebration 2014;
- Kandos High School;
- Kandos Primary School;
- Kandos Street Machine;
- Kandos/Rylstone Men's Shed;
- Rylstone Primary School;
- Rylstone Streetfeast; and
- Rylstone/Kandos Show Society.

5. REHABILITATION

5.1. Buildings

No buildings were renovated or removed at Charbon Colliery during the reporting period.

5.2. Rehabilitation of Disturbed Land

In accordance with the requirements of PA 08_0211, a LMP was submitted to the DPE for approval on 7th September 2011 and was approved by the Director-General's nominee on 22 November 2012. The LMP includes a Rehabilitation Management Plan, CHMP and Mine Closure Plan. Rehabilitation objectives for all areas of mine related disturbance across the site as outlined within the LMP have been provided in **Table 25**. Charbon is currently in the process of developing a comprehensive Rehabilitation and Closure Plan, this plan is expected to be finalised in 2015.

Table 25. Rehabilitation Objectives

Domain	Rehabilitation Objective
Surface facilities and infrastructure areas	Progressively rehabilitate disturbed areas to: • Remove all mine related infrastructure and make safe any portals, adits and mine entries in accordance with the DITRIS requirements; and • Revegetate cleared areas with forest woodland and grassland communities similar to those in surrounding areas and consistent with the final landform.
Other land affected by the project, including open cut areas	Progressively rehabilitate disturbed areas to: • Create stable post-mining landform that is consistent with the final landform in the EA and surrounding areas; • Restore ecosystem function, including maintaining or establishing self-sustaining native ecosystems**;** • Maintain the diversity of local flora; • Maintain and enhance habitat of native fauna; • Minimise the risk of erosion; and • Ensure that there is no safety hazard beyond that existing prior to mining.
Built features	Restore or repair public infrastructure and other built features to pre-mining condition or equivalent, except with: • The written agreement of the owner; or • Where 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 including the reduction in local and regional employment; ensure public safety.

5.2.1. Reporting Year

Table 26. Rehabilitation Summary Table

		Area Affected/Rehabilitated (ha)		
A:	**MINE LEASE AREA**	**To date**	**Last report[1]**	**Next report (estimated)**
A1	**Mine Lease(s)**	2198.26	2198.26	2198.26
B:	**DISTURBED AREAS**			
B1	**Infrastructure area** (other disturbed areas to be rehabilitated at closure including facilities, roads)	58.30	25	59.30
B2	**Active Mining Area** (excluding items B3 - B5 below)	50.51	34.11	0
B3	**Waste emplacement,** (active/unshaped/uncapped)	85.78	21.1	50.78
B4	**Tailings emplacements** (active/unshaped/uncapped)	26.56	14	26.56
B5	**Shaped waste emplacement**	0	34	0
ALL DISTURBED AREAS		**204.75**	**115.1**	**124.5**
C:	**REHABILITATION PROGRESS**			
C1	**Total Rehabilitation area** (except for maintenance)	120.17	120.17	155.17
D:	**REHABILITATION ON SLOPES**			
D1	**10 to 18 degrees**	0	0	0
D2	**Greater than 18 degrees**	0	0	0
E:	**SURFACE OF REHABILIATED LAND**			
E1	**Pasture and grasses**	84.80	48.9	80
E2	**Native forest/ecosystems**	35.37	14	75.37
E3	**Plantations and crops**	0	0	0
E4	**Other** (includes non-vegetative outcomes)	0	0	0

[1] – Areas were re-calculated during the construction of the 2014 AEMR by the site surveyor and Environmental Officer.

The footprint (in ha) of tailings emplacement areas has not changed in the past 2 years, nor has the waste emplacement area.

Table 27. Maintenance Activities on Rehabilitated Land

Nature Of Treatment	Area Treated (ha)		Comment/control strategies/ treatment detail
	Report Period	Next Period	
Additional Erosion Control (Drains re-contouring, rock protection)	10	35	Re-shaping contour banks, road maintenance and extra sediment fencing
Re-covering (Detail-further topsoil, subsoil sealing etc.)	0	0	
Soil Treatment (Detail-fertiliser, lime, gypsum etc.)	0	0	
Treatment/Management (Detail-grazing, cropping, slashing etc.)	0	0	
Re-seeding/Replanting (Detail-species density, season etc.)	0	0	
Adversely Affected by Weeds (Detail-type and treatment)	120	80	Weed control
Feral Animal Control (Detail – additional fencing, trapping, baiting etc.)	50	50	Fencing, shooting

5.2.2. Proposed 2015 Rehabilitation

The rehabilitation project will be undertaken by Charbon Coal in collaboration with Global Soils Systems. Additional detail of the proposed 2015 rehabilitation program has been provided below.

Area (ha)

The 2015 rehabilitation program is proposed to be undertaken within approximately 50ha of former open cut mining areas at Charbon Colliery. The major component of this rehabilitation program will be undertaken within the former Southern Open Cut mining area, as shown on **Figure 20**. Additionally it is proposed that approximately 9ha of rehabilitation will be undertaken within the Western Outlier Open Cut mining area. Areas 10 and 11 (8 Trunk Open Cut area) will continue to be progressively rehabilitated as mining operations move north.

In the event that weather conditions are favourable, the area available for rehabilitation in 2015 may potentially be increased.

Mine Closure Domains

The Mine Closure Plan submitted as a component of the LMP identified a series of management domains that enabled land use options to be assigned to appropriate areas throughout the site and for greater focus on management of similar areas. This systematic approach has the added benefit as it enables Charbon Coal to identify and implement effective mine closure on a progressive basis.

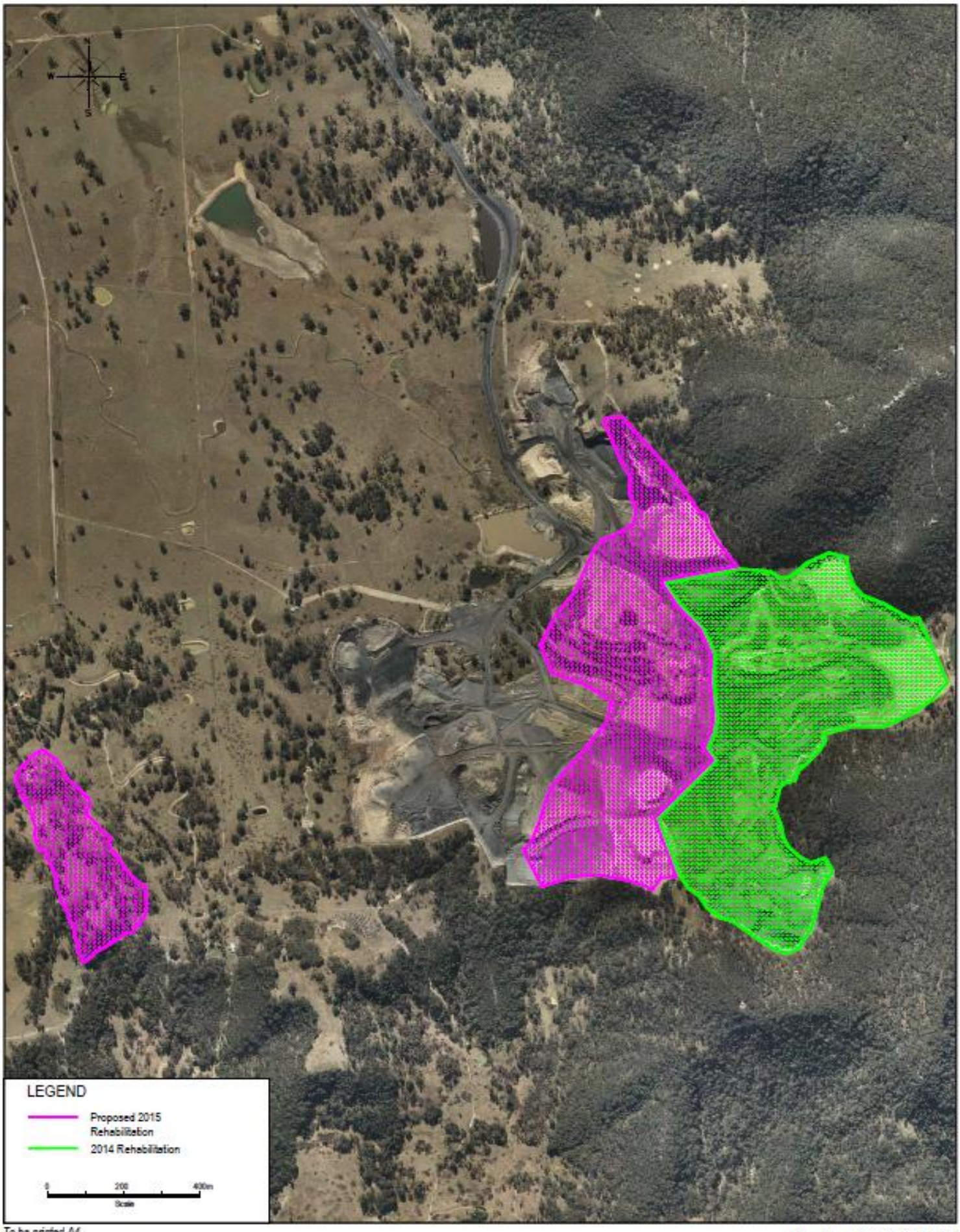

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Figure 19 **Proposed 2015 Rehabilitation**

Charbon 2014 AEMR
Proposed 2015 Rehabilitation

The mine domains identified in the Mine Closure Plan are mapped on a domain plan (see **Figure 21**) and include the areas shown in **Table 28**. The proposed 2014 rehabilitation area has been identified as Domain 4 – Bushland. Additional detail pertaining to mine closure domains can be found in the LMP (GSSE, 2011). A more detailed Mine Closure Plan is due to be submitted in the first half of 2014 to the NSW Department of Trade and Investment, Mineral Resources for approval.

Table 28. Mine Closure Domains

Domain Number	Domain Area
Domain 1	Offset Areas
Domain 2	State Forest
Domain 3	Disturbed Areas, including: • CHPP • Coal Stockpiles • Water Treatment Plant • Rail Loop • Switchyard • Mine Entrance(s) • Pit Top Area
Domain 4	Bushland
Domain 5	Coal Rejects and Tailings Emplacement Areas, including: • Reject Emplacement Area 1 • Reject Emplacement Area 2 • Reject Emplacement 3 • Leachate Dams • Existing Rehabilitation Area
Domain 6	Agricultural Land
Domain 7	Private Property
Domain 8	Residential
Domain 9	Reedy Creek Dam

Final Land Use

The Soils Assessment (GSSE, 2009) completed for the Continued Operation of Charbon Colliery EA identified existing land capability for proposed areas of disturbance including the Southern Open Cut Extension. This land is Class VI and is typically steep sloped. The Soils Assessment also identified that there is adequate topsoil to make the area stable enough for some grazing (GSSE, 2009).

Landform and Drainage Design

Landform and drainage design within the Southern Open Cut rehabilitation area will be completed in accordance with the LMP and MOP. The final landform will generally mimic the existing surrounding landscape and be suitable for the identified post-mining land use. Elements such as drainage paths, contour drains, ridgelines and emplacements will be shaped in an undulating informal profile, keeping with the natural landforms of the surrounding environment.

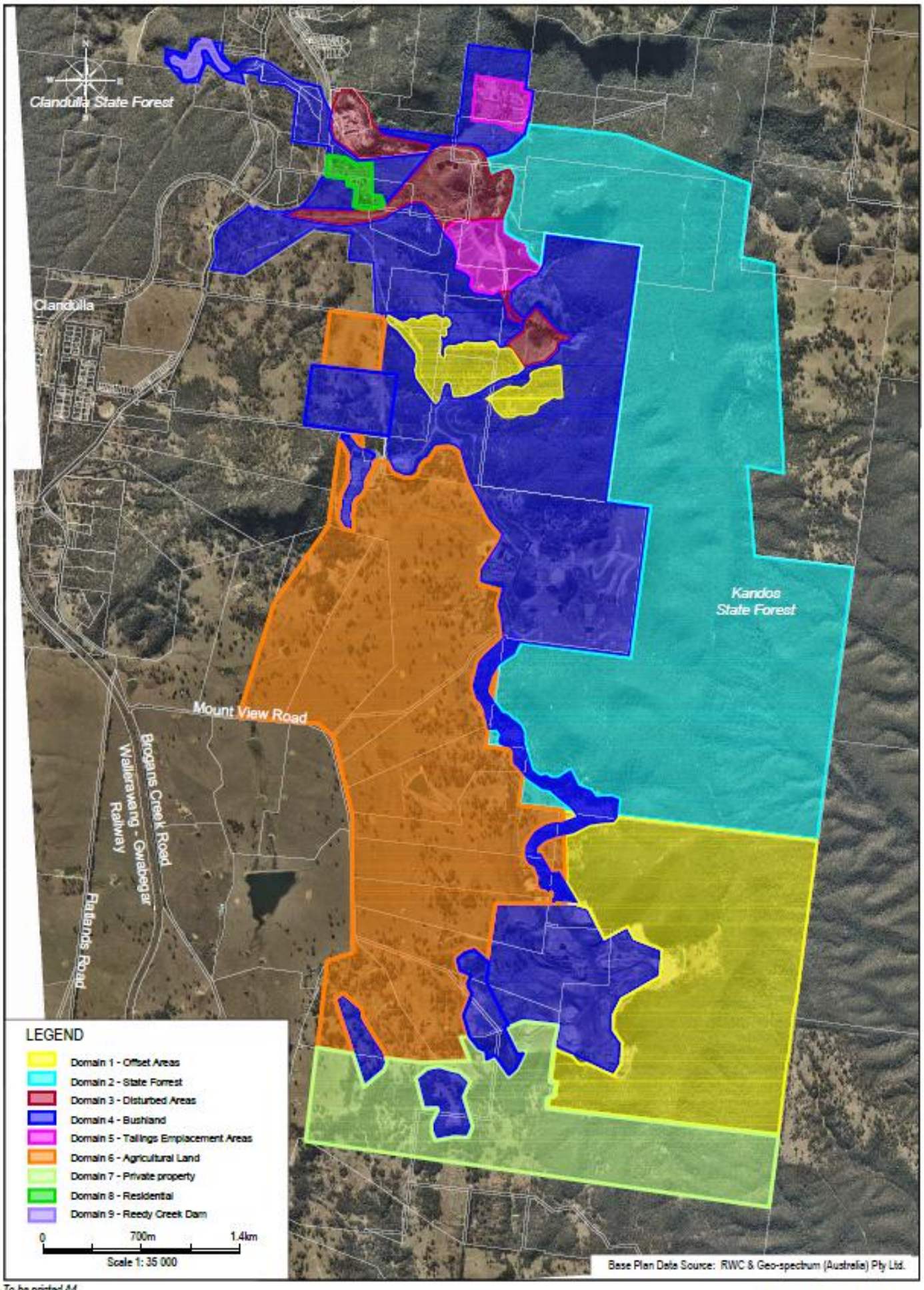

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Figure 20 **Mine Closure Domain Plan**

Charbon 2014 AEMR
Mine Closure Domain Plan

5.2.3. Previous Years

Approximately 120ha of disturbed areas at Charbon Colliery have been rehabilitated in previous years. Areas that have been rehabilitated at Charbon Colliery include the following:

- Former Third Entry Open Cut (2005 – 2008);
- Former Area 3 Open Cut (2007); and
- Areas within and adjacent to the ROM and product coal stockpiles and rail loop.

The former Area 3 Open Cut and former Third Entry Open Cut prior to rehabilitation activities are shown in **Figure 22**. The current condition of rehabilitation within these areas are shown in **Figure 23**. This area is currently grassland and is to be forested.

Rehabilitation Monitoring

Rehabilitation monitoring at Charbon Colliery is conducted in accordance with the LMP. The rehabilitation monitoring program includes details of an Australian Coal Association Research Program (**ACARP**) funded research project entitled *Managing Microorganisms to Improve Mine Site Rehabilitation Success* that has been completed in recent years at Charbon Colliery. Microorganisms in future rehabilitation areas will be monitored as the presence of microorganisms is considered a key indicator of rehabilitation success. Additionally, an invertebrate monitoring program has been established at the Colliery to assist in the assessment of the health of ecosystems. RPS Australia (2011) outlines the methodology and results of the program in the report 'Invertebrate and Bird Monitoring for Mine Site Rehabilitation'. Implementation of this monitoring program will provide meaningful biodiversity results (from the high abundance and diversity of invertebrates) and indicate the robustness and sustainability of rehabilitation at Charbon Colliery.

Figure 21 **Aerial Pre Rehabilitation**

Figure 22 **Aerial Post Rehabilitation**

Rehabilitation methods will be improved as additional knowledge develops from monitoring data collected through these programs. More specifically, monitoring of elements identified in **Table 29** will be undertaken to determine the degree to which the success criteria have been met.

Table 29. Rehabilitation Monitoring Program

Elements to be Monitored	Requirements	Monitoring Frequency
Ecosystem Establishment		
General Description (flora)	Describe the vegetation in general terms, e.g. mixed eucalypt woodland with grass understorey and scattered shrubs, dense Acacia scrub, etc.	12 months after establishment and then every 2 years.
2m x 2m quadrats (flora)	Count the number of plants of all species, excluding grass.	12 months after establishment and then every 2 years.
	Measure live vegetation cover for understorey and grasses (separately) using a line intercept method.	
	Record details of ground cover (litter, logs, rocks etc.).	
20m x 10m plots (flora)	Count, by species, all trees >1.6m tall.	12 months after establishment and then every 2 years.
	Tag and measure diameter at breast height (DBH) of trees >1.6m tall, to a maximum of 10 for any one species.	
	Record canopy cover over the whole 20m centreline when trees are tall enough.	
	Subjectively describe tree health, by species if relevant, noting signs of drought stress, nutrient deficiencies, disease and severe insect attack. Where health problems	

Elements to be Monitored	Requirements	Monitoring Frequency
	are noted, record the percentage of unhealthy trees.	
	Record any new plant species not present in the smaller plots, including any problem and declared noxious weeds.	
	Take five surface soil samples (e.g. at approx. 5m intervals along the centreline) and bulk these for analyses of: pH, EC, chloride and sulphate; exchangeable Ca/Mg/K/Na; cation exchange capacity; particle size analysis and R1 dispersion index; 15 bar and field capacity moisture content; organic carbon; total nitrate and nitrogen; total and extractable phosphorus; Cu, Mn and Zn.	
50m transect	Along the 50m erosion monitoring transect, record the location, number and dimension of all gullies >30cm wide and/or 30cm deep.	12 months after establishment and then every 2 years.
	Erosion pins should be established in plots located in newer rehabilitation to record sheet erosion if present.	
Rehabilitation in general	When traversing between monitoring plots, note the presence of species of interest not previously recorded (e.g. key functional or structural species, protected species, noxious weeds), as well as obvious problems including any extensive bare areas (e.g. those greater than 0.1ha).	12 months after establishment and then every 2 years.
	Observations such as this can provide useful, broad scale information on rehabilitation success and problems.	
Photographic record	For each 20m x 10m plot, a photograph should be taken at each end of the plot, along the centreline looking in.	12 months after establishment and then every 2 years.
Habitat	General observations relating to the availability and variety of food sources (e.g. flowering/fruiting trees, presence of invertebrates etc).	12 months after establishment and then every 2 years.
	Availability and variety of shelter (e.g. depth of leaf litter, presence of logs, hollows etc).	
	Presence/absence of free water in the rehabilitated areas.	
Fauna	General observations of vertebrate species (including species of conservation significance).	After rehabilitation is three years old undertake monitoring biennially in both Autumn and Spring.
	Detailed fauna surveys including presence and approximate abundance and distribution of vertebrate species (focusing on species of conservation significance).	
Invertebrate	Diversity and abundance of present species.	Bi-Annually, during Autumn and Spring.
Weeds and pests	Species identity.	Quarterly and opportunistic after significant rainfall events.
	Approximate numbers/level of infestation.	
	Observations of impact on rehabilitation (if any).	
Microbial function	Microbial biomass.	Annually.
	Microbial function.	
Geotechnical Stability		

Elements to be Monitored	Requirements	Monitoring Frequency
	Assessment of the stability of batters and also looking at surface settlements (sink holes). In particular where these features could impact on the performance of any surface water management system.	Annually.
	Surface integrity of landform cover/capping (measurement of extent of integrity failure).	
	Presence/absence of landform slumping.	
Surface and Groundwater		
	Groundwater quality and depth.	Quarterly or following rainfall events.
	Efficiency of landform surface water drainage systems (integrity of banks and drains).	
	Water quality including pH, EC and total suspended solids of water in water storages, and pits, sedimentation dams.	Monitoring of receiving waters.

Rehabilitation Monitoring

The rehabilitation strategy for Charbon includes a monitoring program that assesses the progress of rehabilitated areas towards achieving the 'success criteria' and overall objectives of the strategy. A number of elements are required to be monitored as part of the program including both vertebrate and invertebrate fauna species.

In November 2013 floristic surveys were carried out in one area (former Open cut Area 3) based on monitoring methods established in 2009 to assess rehabilitation. A combination of ground surveys and an Unmanned Aerial Systems (**UAS**) were deployed to provide an overview of Charbon Colliery and an assessment of rehabilitation to provide context for environmental goals appropriate to mine closure.

The aims of the flora survey in November 2013 were to;

i. Identify changes in native and exotic flora species present in the rehabilitation area since 2009;
ii. Assess floristic structure and rehabilitation works since 2009, including eucalyptus species and threatened species; and
iii. Evaluate the spatial context of rehabilitation and propose further work (as required).

Ground surveys were carried out following the survey protocols established in 2009 by Gingra Ecological Surveys. Four transects located in an area known as roadside open cut rehabilitation (former Open cut Area 3 – see **Figure 24**, below), adjacent to a primary haul road were evaluated on the 25th of November 2013. Each start point (marked by a star picket and flagging tape) was located and recorded using a GPS with an accuracy of approximately 5-10m. All plant species were recorded within one metre either side of the transect line (Total area = $40m^2$). Transects were dense in places to ensure observer error was minimised (e.g. double counting or missing species), each transect was traversed four times recording different strata, including:

a) Ground layer consisting on graminoids;
b) Shrubs up to 2m tall;
c) Tree species; and
d) Final walk that assessed the total number of Eucalyptus species.

Opportunistic observations of plant species occurring outside of the primary transect line were not recorded, which may make it difficult to identify changes in species richness unrelated to

observer bias during future surveys. However, few additional records were obtained using this method (n=2 species) and the data can provide an indication of rehabilitation progress. Also, the Eucalyptus species growing within or overhanging each transect were without fruit which limited identification. Reliable estimation of Eucalyptus abundance across all rehabilitated works was not possible to determine from four transects and was therefore omitted from the report.

Results

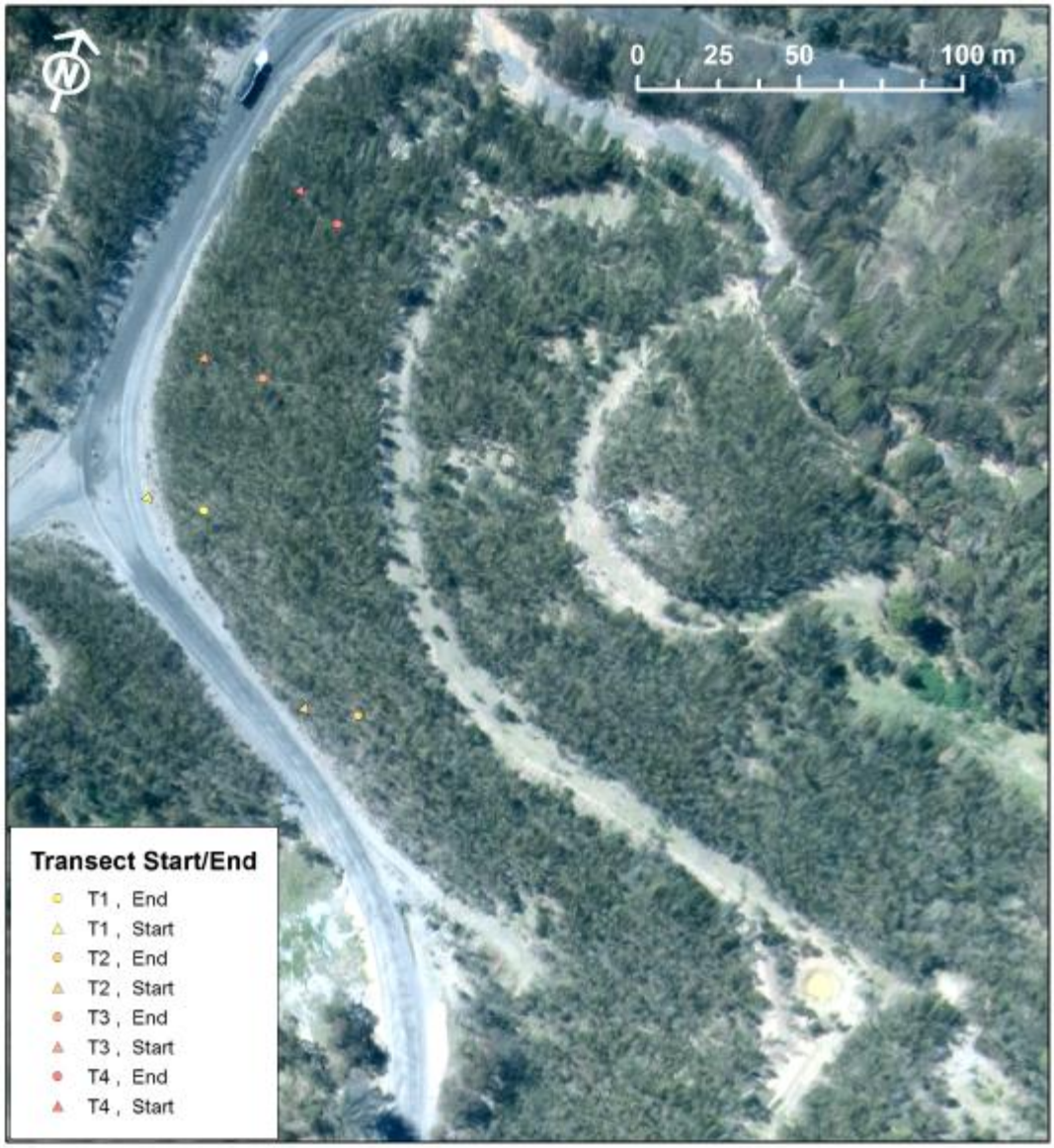


Figure 23 **Floristic monitoring transects in rehabilitated former Open cut Area 3**

The number of plant species found growing in four transects decreased from 2009 (n=66 species) to 2013 (n=46 species). Of the total species recorded, 40 were persistent, including Eucalyptus and Acacia species. The average number of species along each transect decreased from 37 to 23 (rounded down). The number of species recorded in both years ranged between 15 and 22 species, while the number of species that have either disappeared or established since 2009 ranged between 18 and 32 species.

The most prominent difference between floristic surveys is the reduction in the number of exotic plant species which has decreased from 18 recorded in 2009 to 6 in 2013, and the proportion of exotic plants, which decreased from 26% recorded in 2009 to 13% in 2013.

Two noxious species, Blackberry (*Rubus ulmifolius*) and St Johns Wort (*Hypericum perforatum*) were recorded. However, this was not surprising given their prevalence in the region. Site observations in the immediate area indicate that the contour benches harbor several exotic species. This absence of established woody vegetation is consistent across the contour benches in this area of rehabilitation.

The density of eucalypts (recorded as trees in 2009) decreased from 27 to 21. Additional genera are becoming dominant in sub-canopy and canopy layers, including Silver Wattle (*Acacia dealbata*) and Mountain Hickory (*Acacia falciformis*). An increase in canopy/sub-canopy density is a plausible explanation for a reduction in exotic plants along transect three. However, transect four showed a similar decline in exotic plant species (n=9 species).

Several rare species were also recorded in the 2013 survey, including the Capertee Stringybark (*Eucalyptus cannonii*) and *Bursaria spinosa* subsp. *Lasiophylla* (requires further determination).

The LMP which details the rehabilitation monitoring program (see **Table 29**) was submitted to DPE on 7th September 2011 and approved on 22 November 2012. This has been implemented and continued throughout 2014. Additional monitoring results will subsequently be reported in the 2015 AEMR.

5.3. Other Infrastructure

No rehabilitation of infrastructure areas took place during the reporting period.

5.4. Rehabilitation Trials and Research

Some soil microbial function research was undertaken during the reporting period. Further development of the Final Rehabilitation Plan will be undertaken in 2015, including preparation of the 2015 MOP, which will be developed in the now current *Guidelines to the Mining, Rehabilitation and Environmental Management Process* (**MREMP**) format as required by the DPE.

During 2012 the LMP was approved, which included a Mine Closure Plan, in accordance with Schedule 4, Condition 8 of PA 08_0211. The principal objectives of mine closure planning incorporated into this mine closure plan include:

- To provide an overall framework for mine closure including rehabilitation and decommissioning strategies. In this regard a mine closure plan should be considered a template on which future activities should be based;
- To ensure that adequate financial provision is made available to cover the cost of decommissioning, final rehabilitation and any other post closure costs related to the closure of the Charbon site;
- To establish clear and agreed criteria with all relevant stakeholders, which can be used to provide the standard to which the final mine rehabilitation and post mining land use can be assessed against;
- To reduce or eliminate adverse environmental effects once the mine ceases operation;
- To ensure closure is completed in accordance with good industry practice as well as meeting the statutory requirements that may be applicable; and

- To ensure the closed mine does not pose an unacceptable risk to public health and safety.

Specifically, the Mine Closure Plan has been assigned the following key objectives:

- Achievement of acceptable post-disturbance land use suitability – Mining and rehabilitation will aim to create a stable landform with land use capability and/or suitability similar to that prior to disturbance, unless other beneficial land uses are pre-determined and agreed. This will be achieved by setting clear rehabilitation success criteria and outlining the monitoring requirements that assess whether or not these criteria are being accomplished;

- Creation of stable post-disturbance landform - Disturbed land will be rehabilitated to a condition that is self-sustaining or one where maintenance requirements are consistent with the agreed post mining land use(s), and

- Preservation of downstream water quality – Surface and groundwater that leave the mining leases are not degraded to a significant extent. Current and future water quality will be maintained at levels that are acceptable for users downstream of the site.

6. ACTIVITIES PROPOSED IN THE NEXT AEMR PERIOD

During the 2015 AEMR reporting period, Charbon Colliery plans to carry out the following activities:

- Continue rehabilitation program within the former open cut mining areas;
- Engage a specialist consultant to complete Stage 2 of the Targeted Phase 2 ESA in 2015;
- Develop and submit for approval the Final Rehabilitation Plan, including preparation of the 2015 MOP, which will be developed in the now current MREMP format as required by the DPE.

In accordance with Schedule 5, Condition 2(f) of PA 08_0211, Charbon Coal will investigate and implement ways to improve the environmental performance of the project over time. This will be achieved through the:

- Effective application of best practice principles to mining operations;
- Ongoing environmental monitoring;
- Internal and external communication with stakeholders;
- Implementation of corrective and preventative actions; and
- Through progress against objectives and targets, and the environment and community programs.

Charbon Coal will continue to improve on the mine's environmental performance with progress to be monitored against relevant performance indicators.

7. REFERENCES

AECOM (2011) Phase 1 Environmental Site Assessment, Charbon Colliery, Charbon NSW

AECOM (2012) Targeted Phase 2 Environmental Site Assessment, Charbon Colliery, Charbon NSW

Department of Environment and Climate Change (2008) Managing Urban Stormwater: Soils and Construction Volume 2E- Mines and Quarries

DTIRIS (2006) Guidelines to the Mining, Rehabilitation and Environmental Management Process, Version 3

Ecobiological (2011) Subsidence Impact Assessment: Flora and Fauna

GeoTerra (2009) Groundwater Assessment

GSSE (2009) Charbon Colliery Soils Assessment

GSSE (2011) Charbon Colliery Landscape Management Plan

Landcom (2004) Managing Urban Stormwater: Soils and Construction Volume 1

NSW Department of Primary Industry Minerals Resources (1997) MDG1014: Guide to Reviewing a Risk Assessment of Mine Equipment and Operations

NSW Department of Primary Industry Minerals Resources (2003) EDG317: Guidelines for Applications for Subsidence Management Approvals

NSW Environment Protection Authority (2000) NSW Industrial Noise Policy

OzArk (2009) Indigenous Heritage Assessment

RPS (2011) Invertebrate & Bird Monitoring for Mine Site Rehabilitation, Charbon Colliery

RW Corkery (2009) Charbon Colliery Environmental Assessment

SLR (2013) Charbon Colliery Noise Management Plan

SLR (2014) Charbon Colliery Air Quality Management Plan

Standards Australia (2004) Australian Standard AS/NZS 4360:2004 – Risk Management

University of Queensland (2013) Floristic Monitoring of Rehabilitation at Charbon Colliery

APPENDIX 1:
Project Approval

APPENDIX 2:
EPL 528

APPENDIX 3:
EPBC Approval

APPENDIX 4:

Plans of Positive Covenant over Proposed Additional Compensatory Habitat

APPENDIX 5:
Aerial Photograph

Centennial Coal

Charbon Coal Pty Limited

PO Box 84

Kandos NSW 2848

Project Approval

Section 75J of the *Environmental Planning & Assessment Act 1979*

The Planning Assessment Commission of New South Wales (the Commission) approves the project referred to in schedule 1, subject to the conditions in schedules 2 to 6.

These conditions are required to:

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

Member of the Commission **Member of the Commission** **Member of the Commission**

Sydney 7 September 2010

SCHEDULE 1

Application No.:	08_0211
Proponent:	Charbon Coal Pty Limited
Approval Authority:	The Planning Assessment Commission of New South Wales
Land:	See Appendix 1
Project:	Charbon Coal Project

TABLE OF CONTENTS

DEFINITIONS

Annual Review	The review required by condition 3 of schedule 5
CCC	Community Consultative Committee
Council	Mid-Western Regional Council
Day	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
DECCW	Department of Environment, Climate Change and Water
Department	Department of Planning
Director-General	Director-General of the Department, or delegate
EA	Environmental Assessment titled *Environmental Assessment Continued Operations of the Charbon Colliery* (3 volumes), dated November 2009, including the Response to Submissions
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000*
EPL	Environment Protection Licence issued by DECCW under the *Protection of the Environment Operations Act 1997*
Evening	The period from 6pm to 10pm
Feasible	Feasible relates to engineering considerations and what is practical to build
Incident	A set of circumstances that causes or threatens to cause material harm to the environment, and/or breaches or exceeds the limits or performance measures/criteria in this approval
I&I NSW	Department of Industry and Investment, trading as Industry & Investment NSW
Land	Land means the whole of a lot, or contiguous lots owned by the same landowner, in a current plan registered at the Land Titles Office at the date of this approval
Mining operations	Includes all coal extraction, coal processing and coal transportation activities carried out on-site
Minister	Minister for Planning, or delegate
Night	The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
NOW	NSW Office of Water, within DECCW
Privately-owned land	Land that is not owned by a public agency or a mining company (or its subsidiary)
Project	The development as described in the EA
Proponent	Charbon Coal Pty Limited, or its successors in title
Public infrastructure	Linear and related infrastructure that provides services to the general public, such as roads, railways, water supply, gas supply, drainage, sewerage, telephony, telecommunications etc
Reasonable	Reasonable relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements
Rehabilitation	The treatment or management of land disturbed by the project for the purpose of establishing a safe, stable and non-polluting environment
Response to Submissions	The Proponent's responses to issues raised in submissions, titled *Environmental Assessment Continued Operations of the Charbon Colliery – Response to Submissions,* dated 15 February 2010 and as updated 30 March 2010
RTA	Roads and Traffic Authority
Site	The land listed in Appendix 1
Statement of Commitments	The Proponent's Statement of Commitments listed in Appendix 3.

SCHEDULE 2
ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

1. 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.

TERMS OF APPROVAL

2. The Proponent shall carry out the project generally in accordance with the:
   (a) EA;
   (b) Statement of Commitments; and
   (c) conditions of this approval.

   Note: The general layout of the project is shown in Appendix 2.

3. If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this approval shall prevail to the extent of any inconsistency.

4. The Proponent shall comply with any reasonable requirement/s of the Director-General arising from the Department's assessment of:
   (a) any reports, strategies, plans, programs, reviews, audits or correspondence that are submitted in accordance with this approval; and
   (b) the implementation of any actions or measures contained in these documents.

LIMITS ON APPROVAL

5. Mining operations may take place until 31 August 2025.

   Note: Under this approval, the Proponent is required to rehabilitate the site and perform additional undertakings to the satisfaction of the Director-General and I&I NSW. Consequently this approval will continue to apply in all other respects other than the right to conduct mining operations until the site has been properly rehabilitated.

6. The Proponent shall not extract or process more than 1.5 million tonnes of run-of-mine coal in a calendar year.

7. The Proponent shall not transport more than 250,000 tonnes of product coal from the site by public roads in a calendar year.

SURRENDER OF CONSENTS

8. Within 12 months of the date of this approval, or as otherwise agreed by the Director-General, the Proponent shall surrender all existing development consents for the project in accordance with sections 75YA and 104A of the EP&A Act and clause 97 of the EP&A Regulation, to the satisfaction of the Director-General.

KANDOS STATE FOREST

9. The Proponent shall notify State Forests NSW at least six months prior to clearing trees within each area of Kandos State Forest proposed to be mined by open cut methods or otherwise disturbed, to enable forestry operations to take place.

STRUCTURAL ADEQUACY

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

    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.*

DEMOLITION

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

PROTECTION OF PUBLIC INFRASTRUCTURE

12. The Proponent shall:
    (a) repair, or pay the full costs associated with repairing, any publicly-owned infrastructure that is damaged by the project; and
    (b) relocate, or pay the full costs associated with relocating, any publicly-owned infrastructure that needs to be relocated as a result of the project.

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.

PLANNING AGREEMENT

14. Within 12 months of the date of this approval, unless otherwise agreed by the Director-General, the Proponent shall enter into a planning agreement with the Council in accordance with Division 6 of Part 4 of the EP&A Act, that provides for contributions to the Council for general community enhancement to address social amenity and community infrastructure requirements arising from the project.

    The agreement must provide for (at a minimum) those matters set out in general terms in Appendix 6.

    If there is any dispute between the Proponent and Council relating to the preparation or implementation of the planning agreement, then either party may refer the matter to the Director-General for resolution.

STAGED SUBMISSION OF STRATEGIES, PLANS OR PROGRAMS

15. With the approval of the Director-General, the Proponent may submit any management plan, strategy or monitoring program required by this approval on a progressive basis, or for a discrete component of the project.

    Note: The conditions of this approval require certain strategies, plans, and programs to be prepared for the project. They also require these documents to be reviewed and audited on a regular basis to ensure they remain effective. However, in some instances, it will not be necessary or practicable to prepare these documents for the whole project at any one time, particularly as these documents are intended to be dynamic and improved over time. Consequently, the documents may be prepared and implemented on a progressive basis, subject to the conditions of this approval. In so doing, the Proponent will need to demonstrate that it has suitable documents in place to manage the existing operations of the project.

16. All approved management and monitoring strategies, plans and programs required under previous development consents continue to have effect until replaced by an equivalent approved strategy, plan or program prepared and approved under this approval.

REVISION OF STRATEGIES, PLANS OR PROGRAMS

17. Within 3 months of any modification to this approval, the Proponent shall review and if necessary revise all management and monitoring strategies, plans and programs required under the approval which are relevant to the modification to the satisfaction of the Director-General.

SCHEDULE 3
ENVIRONMENTAL PERFORMANCE CONDITIONS

NOISE

Impact Assessment Criteria

1. The Proponent shall ensure that the noise generated by the project does not exceed the noise impact assessment criteria in Table 1 at any residence on privately-owned land or on more than 25 per cent of any privately-owned land.

Table 1: Noise Impact Assessment Criteria dB(A) $L_{Aeq\ (15min)}$

Location	Day	Evening	Night	Night ($L_{A1\ (1\ min)}$)
Residence P	35	39	39	45
All residences within 150 m of, and including, Residence Q	38	38	38	45
Residence M	36	37	35	45
All remaining locations	35	35	35	45

Notes:

- *To determine compliance with the $L_{Aeq(period)}$ noise limits, noise from the project is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the project is impractical, alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy) may be accepted. The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.*
- *To determine compliance with the $L_{A1(1\ minute)}$ noise limits, noise from the project is to be measured at 1 metre from the dwelling façade. Where it can be demonstrated that direct measurement of noise from the project is impractical, alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy) may be accepted.*
- *The noise emission limits identified in the above table apply under meteorological conditions of:*
  - *wind speeds of up to 3 m/s at 10 metres above ground level; or*
  - *temperature inversion conditions of up to 3°C/100m, and wind speeds of up to 2 m/s at 10 metres above ground level,*

  determined in accordance with the NSW Industrial Noise Policy, including that exceedances of the criteria must be "systemic".
- *For the locations of residences/properties named in this approval, see Appendices 1 and 4.*
- *These limits do not apply if the Proponent has an agreement with the relevant owner/s of these residences to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.*

Land Acquisition Criteria

2. If the noise generated by the project exceeds the criteria in Table 2 at any residence on privately-owned land or on more than 25 per cent of any privately-owned land, the Proponent shall, upon receiving a written request for acquisition from the landowner, acquire the land in accordance with the procedures in conditions 4-6 of schedule 6.

Table 2: Land Acquisition Criteria dB(A) $L_{Aeq\ (15min)}$

Location	Day	Evening	Night
All residences within 150 m of, and including, Residence Q	43	43	43
All other locations	40	40	40

Note: Noise generated by the project is to be measured in accordance with the notes below Table 1. For this condition to apply, the exceedances of the criteria must be systemic.

Operating Hours

3. The Proponent shall comply with the operating hours in Table 3.

Table 3: Operating Hours

Activity	*Day*	*Time*
Open cut mining	Monday – Friday	7.00 am to 8.00 pm[1]
	Saturday	7.00 am to 6.00 pm
	Sunday and Public Holidays	None
Underground mining, coal processing, run-of-mine coal management and maintenance	Any day	Any time
Blasting	Monday – Friday	9.00 am to 5.00 pm
Vegetation clearing and soil handling	Monday – Saturday	7.00 am to 5.00 pm
Truck dispatch	Any day	7:00 am to 6:00 pm
Train loading and dispatch	Any day	Any time

Note: Open cut mining operations on Monday – Friday must cease at 6:00 pm during Autumn months.

Noise Mitigation Measures

4. The Proponent must achieve the modelled sound power levels for the equipment listed (or equivalent) in Table 4 below, within 6 months of the date of approval, or as otherwise agreed by the Director-General.

Table 4: Modelled Plant Noise Sound Power Levels

Plant and Equipment	**Make and Model**	**Modelled LA_{max} sound power level (SWL)**
Coal Processing Plant	N/A	107 dB(A)
Haul Truck	CAT 775	116 dB(A)
Dozer	CAT D11	122 dB(A)
Front-end Loader	CAT 992	121 dB(A)
Drill 10	N/A	116 dB(A)

5. The Proponent shall provide a verification report to ensure that the sound power levels in condition 4 are achieved to the satisfaction of the Director-General. This report must be:
   - submitted to DECCW and the Department within 8 months of this approval or as otherwise agreed by the Director-General; and
   - prepared by a suitably qualified expert, whose appointment is approved by the Director-General.

6. Upon receiving a written request from:
   - the landowner of property P; or
   - the landowner of privately-owned land where noise monitoring shows the noise generated by the project exceeds the criteria in Table 5,

   then the Proponent shall implement additional noise mitigation measures such as double glazing, insulation, and/or air conditioning at any residence on the property in consultation with the landowner.

   These additional mitigation measures must be reasonable and feasible.

   If within 3 months of receiving this request from the landowner, the Proponent and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution.

Table 5: Noise Mitigation Measures Criteria dB(A) $L_{Aeq\ (15min)}$

Location	*Day*	*Evening*	*Night*
All residences within 150 m of, and including, Residence Q	40	40	40
All other locations, excluding Residence P	37	37	37

Note: Noise generated by the project is to be measured in accordance with the notes below Table 1. For this condition to apply at locations other than property P, the monitored exceedances of the criteria must be systemic.

7. Within 3 months of the date of this approval the Proponent shall notify the landowner of Property P that they are entitled to receive additional noise mitigation measures, to the satisfaction of the Director-General.

Continuous Improvement

8. The Proponent shall:
   (a) implement all reasonable and feasible noise mitigation measures;
   (b) investigate ways to reduce the noise generated by the project, including off-site road and rail noise and maximum noise levels which may result in sleep disturbance; and
   (c) report on these investigations and the implementation and effectiveness of these measures in the Annual Review,
   to the satisfaction of the Director-General.

Noise Management

9. The Proponent shall prepare and implement a detailed Noise Management Plan for the project to the satisfaction of the Director-General. This Plan must:
   (a) be prepared in consultation with DECCW by a suitably qualified expert whose appointment has been approved by the Director-General;
   (b) be submitted to the Director-General for approval within 6 months of this approval;
   (c) include a Noise Monitoring Program;
   (d) include detailed procedures for identifying noise-enhancing meteorological conditions using real-time meteorological data; and
   (e) include reactive noise control measures to manage noise impacts for sensitive receivers.

BLASTING AND VIBRATION

Blasting Impact Assessment Criteria

Airblast Overpressure Limits

10. The Proponent shall ensure that the airblast overpressure level from blasting at the project does not exceed the criteria in Table 6 at any residence on privately-owned land.

Table 6: Airblast Overpressure Impact Assessment Criteria

Airblast overpressure level (dB(Lin Peak))	Allowable exceedance
115	5% of the total number of blasts in a 12 month period
120	0%

Notes:

- *The overpressure values in Table 6 apply when the measurements are performed with equipment having a lower cut-off frequency of 2 Hz or less. If the instrumentation has a higher cut-off frequency a correction of 5 dB should be added to the measured value. Equipment with a lower cut-off frequency exceeding 10 Hz should not be used.*
- *The airblast overpressure noise limits do not apply if the Proponent has an agreement with the relevant owner/s of these residences/land to generate higher airblast overpressure noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.*

Ground Vibration Impact Assessment Criteria

11. The Proponent shall ensure that the ground vibration level from blasting, or any other activity at the project, does not exceed the levels in Table 7 at any residence on privately-owned land.

Table 7: Ground Vibration Impact Assessment Criteria

Peak particle velocity (mm/s)	Allowable exceedance
5	5% of the total number of blasts in a 12 month period
10	0%

Note: The ground vibration limits do not apply if the Proponent has an agreement with the relevant owner/s of these residences/land to generate higher ground vibration levels, and the Proponent has advised the Department in writing of the terms of this agreement.

Surface Blasting Location and Frequency

12. The Proponent may conduct surface blasting of coal or overburden only within the Southern Open Cut Pit and Southern Open Cut Extension Pit, and shall not carry out more than 1 surface blast in a day or 2 surface blasts per week, unless otherwise directed by I&I NSW to ensure the safety of the mine and its workers.

Property Inspections

13. Unless previously notified under conditions of an existing consent, within 3 months of the date of this approval, the Proponent shall advise all landowners within 2 km of proposed blasting activities, and any other landowner nominated by the Director-General, that they are entitled to a property inspection to establish the baseline condition of the property.

14. If the Proponent receives a written request for a property inspection from a landowner within 2 km of proposed blasting activities, who has not previously been provided with an inspection under conditions of an existing consent, the Proponent shall:
    (a) commission a suitably qualified person within 21 days of the request, whose appointment has been approved by the Director-General, to inspect and report on the condition of any building or structure on the land, and recommend measures to mitigate any potential blasting impacts; and
    (b) give the landowner a copy of this property inspection report.

Property Investigations

15. If any landowner within 2 km of proposed blasting activities, or any other landowner nominated by the Director-General, claims that his/her property, including vibration-sensitive infrastructure such as water supply or underground irrigation mains, has been damaged as a result of blasting at the project, the Proponent shall:
    (a) commission a suitably qualified person whose appointment has been approved by the Director-General to investigate the claim and prepare a property investigation report; and
    (b) give the landowner a copy of the report within 6 weeks of initiating the investigation.

    If the investigation confirms the landowner's claim, and both parties accept the findings, then the Proponent shall repair the damage to the satisfaction of the Director-General.

    If the Proponent or landowner disagrees with the findings of the investigation, then either party may refer the matter to the Director-General for resolution.

Operating Conditions

16. During mining operations on-site, the Proponent shall implement best blasting practice to:
    (a) protect the safety of people, property, public infrastructure, and livestock;
    (b) protect items of Aboriginal and non-indigenous cultural heritage significance; and
    (c) minimise the dust and fume emissions from blasting at the project,
    to the satisfaction of the Director-General.

Public Notice

17. Within 3 months of the date of this approval, the Proponent shall:
    (a) notify the landowner/occupier of any residence within 2 kilometres of blasting operations who registers an interest in being notified about the blasting schedule at the mine, or any other landowner nominated by the Director-General; and
    (b) publish an up-to-date blasting schedule on its website,
    to the satisfaction of the Director-General.

Blast Monitoring Program

18. The Proponent shall prepare and implement a Blast Monitoring Program for the project to the satisfaction of the Director-General. This program must:
    (a) be prepared in consultation with DECCW, and be submitted to the Director-General for approval within 3 months of the date of this approval; and
    (b) include a protocol for evaluating blast-related impacts on, and demonstrating compliance with the blasting criteria in this approval for:
        - privately-owned residences and structures;
        - items of Aboriginal and non-indigenous cultural heritage significance; and
        - publicly-owned infrastructure.

AIR QUALITY

Impact Assessment Criteria

19. The Proponent shall ensure that the dust emissions generated by the project do not cause additional exceedances of the air quality impact assessment criteria listed in Tables 8, 9, and 10 at any residence on privately owned land, or on more than 25 percent of any privately owned land.

Table 8: Long-term Impact Assessment Criteria for Particulate Matter

Pollutant	Averaging period	Criterion
Total suspended particulate (TSP) matter	Annual	90 $\mu g/m^3$
Particulate matter < 10 µm (PM_{10})	Annual	30 $\mu g/m^3$

Table 9: Short-term Impact Assessment Criterion for Particulate Matter

Pollutant	Averaging period	Criterion
Particulate matter < 10 µm (PM_{10})	24 hour	50 $\mu g/m^3$

Table 10: Long-term Impact Assessment Criteria for Deposited Dust

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

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

Land Acquisition Criteria

20. If the dust emissions generated by the project exceed the criteria in Tables 11, 12, and 13 at any residence on privately owned land, or on more than 25 percent of any privately owned land, the Proponent shall, upon receiving a written request for acquisition from the landowner, acquire the land in accordance with the procedures in conditions 4-6 of schedule 6.

Table 11: Long-term Land Acquisition Criteria for Particulate Matter

Pollutant	Averaging period	Criterion
Total suspended particulate (TSP) matter	Annual	90 $\mu g/m^3$
Particulate matter < 10 µm (PM_{10})	Annual	30 $\mu g/m^3$

Table 12: Short-term Land Acquisition Criteria for Particulate Matter

Pollutant	Averaging period	Criterion	Percentile[1]	Basis
Particulate matter < 10 µm (PM_{10})	24 hour	150 $\mu g/m^3$	99[2]	Total[3]
Particulate matter < 10 µm (PM_{10})	24 hour	50 $\mu g/m^3$	98.6	Increment[4]

[1] *Based on the number of block 24 hour averages in an annual period.*
[2] *Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed by the Director-General in consultation with DECCW.*
[3] *Background PM_{10} concentrations due to all other sources plus the incremental increase in PM_{10} concentrations due to the mine alone.*
[4] *Incremental increase in PM_{10} concentrations due to the mine alone.*

Table 13: Long-term Land Acquisition Criteria for Deposited Dust

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

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

Air Quality Mitigation Measures

21. Twelve months prior to the commencement of mining activities associated with the Western Outlier, and provided that a written request is received from the landowner of property G (refer Appendix 1), or any other affected residence approved by the Director-General, unless the landowner has requested acquisition under the terms of this approval, the Proponent shall implement air quality mitigation measures, such as air conditioning, at any residence on the property, in consultation with the landowner. These additional mitigation measures must be reasonable and feasible.

Air Quality Management

22. The Proponent shall prepare and implement a detailed Air Quality Management Plan for the project to the satisfaction of the Director-General. This Plan must:
    (a) be prepared in consultation with DECCW by a suitably qualified expert whose appointment has been approved by the Director-General;
    (b) be submitted to the Director-General for approval within 6 months of this approval and prior any mining activities in either the Southern or Western Outlier Pits;
    (c) include an Air Quality Monitoring Program that includes:
        - a combination of real-time monitors (to monitor the impacts during mining operations for the Western Outlier), high volume samplers and dust deposition gauges to monitor the dust emissions of the project; and
        - an air quality monitoring protocol for evaluating compliance with the relevant air quality impact assessment and land acquisition criteria in this approval;
    (d) include protocols to ensure that the real-time air quality monitoring and meteorological monitoring data are assessed regularly, and that operations are relocated, modified and/or stopped as required to ensure compliance with the relevant air quality criteria; and
    (e) all reasonable and feasible measures are implemented to minimise off-site dust, odour or fume emissions generated by the project.

METEOROLOGICAL MONITORING

23. During the life of the project, the Proponent shall ensure that there is a suitable meteorological station on the site that complies with the requirements in the *Approved Methods for Sampling of Air Pollutants in New South Wales* guideline.

SUBSIDENCE

24. The Proponent shall ensure that surface subsidence resulting from underground mining at the Western Underground is less than 20 mm.

25. The Proponent shall prepare and implement a Subsidence Monitoring and Contingency Plan for the Western Underground to the satisfaction of the Director-General. This plan must:
    (a) be prepared in consultation with I&I NSW and submitted to the Director-General for approval 3 months prior to the commencement of mining operations at the Western underground;
    (b) include a program for monitoring pillar stability in the Western Underground;
    (c) include a program for baseline recording and later inspection of cliff faces and steep slopes and investigation of any occurrences or evidence of mass rock movements on the surface of the land which may be affected by mining the Western Underground;
    (d) provide for regular reporting to I&I NSW and the Department; and
    (e) include contingency measures to address any significant subsidence-related impacts.

26. The Proponent shall ensure that underground mining operations within the "Existing / Approved Underground Mine Area" as shown in Figure 2 of Appendix 2 are only conducted in accordance with a Subsidence Management Plan approved by I&I NSW.

SOIL AND WATER

Water Supply

27. The Proponent shall ensure that it has sufficient water for all stages of the project, and if necessary, adjust the scale of mining operations to match its licensed water entitlements, to the satisfaction of the Director-General.

Discharge Limits

28. The Proponent shall not discharge any water from the site or irrigate any waste water except as may be expressly provided by an EPL, or in accordance with section 120 of the *Protection of the Environment Operations Act 1997*.

Site Water Management Plan

29. The Proponent shall prepare and implement a Water Management Plan for the project to the satisfaction of the Director-General. This plan must:
    (a) be prepared in consultation with NOW and DECCW, and be submitted to the Director-General for approval within 12 months of the date of this approval; and
    (b) include a:
        - Site Water Balance;
        - Erosion and Sediment Control Plan; and
        - Surface Water and Groundwater Monitoring Programs.

30. The Site Water Balance must:
    (a) include details of:
        - sources and security of water supply;
        - water use on-site;
        - water management on-site;
        - any off-site water transfers;
        - a program for the ongoing verification and refinement of the site water balance model;
        - reporting procedures; and
    (b) undertake the first model verification within 12 months of the granting of project approval; and
    (c) investigate and implement all reasonable and feasible measures to minimise water use by the project.

31. The Erosion and Sediment Control Plan must:
    (a) be consistent with the requirements of *Managing Urban Stormwater: Soils and Construction, Volume 1 and 2E, 4th Edition, 2004* (Landcom);
    (b) identify activities that could cause soil erosion and generate sediment;
    (c) describe measures to minimise soil erosion and the potential for the transport of sediment to downstream waters;
    (d) describe the location, function, and capacity of erosion and sediment control structures; and
    (e) describe what measures would be implemented to maintain the structures over time.

32. The Surface Water Monitoring Program must include:
    (a) baseline data of surface water flows and quality in creeks and other waterbodies that could potentially be affected by the project;
    (b) surface water and stream health impact assessment criteria;
    (c) a program to monitor and assess:
        - impacts on surface water flows and quality;
        - impacts on the surface water supply of potentially affected landowners;
        - bank stability, riparian vegetation and macro-invertebrate populations along creek lines and ephemeral drainage lines downstream of all license discharge points;
        - potential acid mine drainage;
        - potential leakage or spillage from reject emplacement area and effluent irrigation;
    (d) a program for the ongoing verification and refinement of the surface water model; and
    (e) reporting procedures for the results of the monitoring program and model verification.

33. The Groundwater Monitoring Program must include:
    (a) baseline data of the natural variation in groundwater levels, yield and quality;
    (b) groundwater impact assessment criteria (including for monitoring bores and privately-owned bores);
    (c) a program to monitor the impacts of underground or open cut mining on groundwater resources.

ABORIGINAL HERITAGE

Aboriginal Cultural Heritage Management Plan

34. The Proponent shall prepare and implement an Aboriginal Cultural Heritage Management Plan for the project to the satisfaction of the Director-General. This plan must:
    (a) be prepared in consultation with DECCW and the Aboriginal community, and be submitted to the Director-General for approval within 12 months of the date of this approval and prior to any activities that would disturb either known Aboriginal sites or Sensitive Archaeological Landforms within the 8 Trunk Open Cut Pit area;
    (b) include a:
        - detailed assessment of the Sensitive Archaeological Landform located within the 8 Trunk Open Cut pit area;
        - detailed salvage program and management plan for Aboriginal sites and potential archaeological deposits within the project disturbance area and measures to provide a keeping place for any salvaged objects;
        - detailed description of the measures that would be implemented to protect and monitor Aboriginal sites outside the project disturbance area;

- description of the measures that would be implemented if any new Aboriginal objects or skeletal remains are discovered during the project; and
- protocol for the ongoing consultation and involvement of the Aboriginal communities in the conservation and management of Aboriginal cultural heritage on the site.

TRANSPORT

Road Construction

35. Prior to 31 August 2011, the Proponent shall seal Charbon Road:
    (a) to the north of its intersection with Standard Avenue for a distance 50 m; and
    (b) for a distance of 100 m either side of any other residential driveways north of Standard Avenue,

    to the satisfaction of the Director-General.

Contributions for Road Infrastructure

36. The Proponent shall pay Council:
    (a) an annual road maintenance contribution of $0.05 per tonne per kilometre for coal hauled on public roads to Cement Australia's Kandos facility, to be paid by 31 July each year for coal hauled in the previous financial year;
    (b) a road maintenance contribution fee at a rate of $0.77 per tonne of coal transported from the mine to the Castlereagh Highway en route to Mount Piper or Wallerawang Power Stations; and
    (c) a contribution of $210,000 to the Carwell Creek Bridge upgrade, to be paid within 30 days of any commencement of upgrade works by Council,

    to the satisfaction of the Director-General.

    Note: The contributions referenced in paragraphs (a) and (b) of this condition shall be indexed in accordance with the Consumer Price Index.

37. Within 30 days of this approval, the Proponent shall pre-pay Council a road maintenance contribution bond of $75,000. Once the progressive fee calculated on the basis of actual coal road haulage to the Castlereagh Highway reaches $75,000, the Proponent shall again pre-pay Council $75,000, and so on, until the mine ceases production. Once mining ceases, the road contribution maintenance fee total, at that time, shall be deducted from the bond and the outstanding amount shall be refunded by Council to the Proponent.

Road Haulage

38. From 1 September 2011, or as otherwise agreed by the Director-General, the Proponent shall ensure that mine-related coal haulage traffic accessing Cement Australia's Kandos facility, does so via Charbon Road only.

39. Except with the prior approval of the Director-General, the Proponent shall not dispatch more than 20 laden coal trucks per day from the site to Cement Australia's Kandos facility.

40. The Proponent shall not dispatch more than 100 laden coal trucks per day from the site to either or both Wallerawang or Mount Piper power stations.

41. The Proponent shall not haul coal by public roads to destinations other than Cement Australia's Kandos facility and Mount Piper and Wallerawang Power Stations.

42. Prior to 1 March 2011, the Proponent shall:
    (a) undertake a road safety audit of the public roads forming the coal haulage route from Charbon mine to the Castlereagh Highway, and provide a copy of this audit report to both Council and the Department; and
    (b) provide an action plan for the implementation of reasonable and feasible recommendations of the study (if any),

    to the satisfaction of the Director-General.

    Note: The timing of the commencement of individual actions in the action plan may be influenced by the timing and extent of road haulage to power stations.

VISUAL AMENITY AND LIGHTING

43. The Proponent shall:
    (a) implement all reasonable and feasible measures to mitigate visual and off-site lighting impacts of the project;
    (b) ensure no outdoor lights shine above the horizontal; and
    (c) ensure that all external lighting associated with the project complies with *Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting*,

    to the satisfaction of the Director-General.

GREENHOUSE GAS AND ENERGY EFFICIENCY

44. The Proponent shall implement all reasonable and feasible measures to minimise:
    (a) energy use on site; and
    (b) scope 1 and 2 greenhouse gas emissions produced by the project,
    to the satisfaction of the Director-General.

45. The Proponent shall prepare and implement a Greenhouse Gas and Energy Management Plan for the project, to the satisfaction of the Director-General. This plan must be submitted to the Director-General for approval within 12 months of the date of this approval.

WASTE AND HAZARDS

Waste Minimisation

46. The Proponent shall:
    (a) minimise 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 the applicable EPL; and
    (d) report on waste management and minimisation in the Annual Review,
    to the satisfaction of the Director-General.

Bushfire Management

47. 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 on-site during the project.

SCHEDULE 4
LANDSCAPE MANAGEMENT

OFFSETS

Biodiversity Offsets

1. Prior to 31 December 2012, or clearing of any EEC vegetation in the 8 Trunk Open Cut Pit area, or as otherwise approved by the Director-General, the Proponent shall implement a Biodiversity Offset Strategy, as summarised in Table 1, to the satisfaction of the Director-General.

Table 1: Biodiversity Offset Strategy areas

Vegetation Community	***(ha)***
Grey Gum–Stringybark Forest	41
Mountain Grey Gum–Grey Gum–Mountain Hickory Sheltered Forest	13
Stringybark–Blakely's Red Gum–Yellow Box Woodland	13
Yellow Box – Blakely's Red Gum Woodland (EEC)	57
Cleared Land (to be revegetated)	47
Total	**171 ha**

Notes: The quality of the areas selected to be offset is a key consideration in the Director-General's consideration.

2. Prior to 31 December 2012, the Proponent shall make suitable arrangements to provide appropriate long-term security for the offset areas to the satisfaction of the Director-General.

3. Within 6 months of the approval of the Landscape Management Plan (see condition 6. below), the Proponent shall lodge a conservation and biodiversity bond with the Department to ensure that the Biodiversity Offset Strategy is implemented in accordance with the performance and completion criteria of the Landscape Management Plan. The sum of the bond shall be determined by:
   (a) calculating the full cost of implementing the offset strategy; and
   (b) employing a suitably qualified quantity surveyor to verify the calculated costs,
   to the satisfaction of the Director-General.

Notes:
- *If the offset strategy is completed to the satisfaction of the Director-General, the Director-General will release the conservation bond.*
- *If the offset strategy is not completed to the satisfaction of the Director-General, the Director-General will call in all or part of the conservation bond, and arrange for the satisfactory completion of the relevant works.*
- *If amendments to the Mining Act 1992 allow the Minister for Mineral Resources to require rehabilitation securities under a mining lease which apply to the implementation of rehabilitation works outside the boundary of a mining lease, then the Proponent may transfer the conservation bond required under this approval to the Minister of Mineral Resources, provided the Director-General and I&I NSW agree.*

REHABILITATION

Rehabilitation Objectives

4. The Proponent shall rehabilitate the site to the satisfaction of the Director-General and I&I NSW in accordance with the rehabilitation objectives in Table 2.

Table 2: Rehabilitation Objectives

Domain	***Rehabilitation objective***
Surface facilities and infrastructure areas	Revegetate cleared areas with forest woodland and grassland communities similar to those in surrounding areas and consistent with the final landform (as reproduced in Appendix 5).
Other land affected by the project, including open cut areas	Progressively rehabilitate disturbed areas to: • create a stable post-mining landform that is consistent with the final landform in the EA (as reproduced in Appendix 5) and surrounding areas; • restore ecosystem function, including maintaining or establishing self-sustaining native ecosystems; • maintain the diversity of local flora; • maintain and enhance habitat of native fauna; • minimise the risk of erosion; and • ensure that there is no safety hazard beyond that existing prior to mining.

Built features	Restore or repair public infrastructure and other built features to pre-mining condition or equivalent, except with: • the written agreement of the owner; or • where the damage is fully restored, repaired or compensated under the *Mine Subsidence Compensation Act 1961*.
Community	Minimise the adverse socio-economic effects associated with mine closure including the reduction in local and regional employment. Ensure public safety.

Note: The Proponent may be required to define other rehabilitation objectives in management plans or strategy required under this schedule.

Progressive Rehabilitation

5. To the extent that mining operations permit, the Proponent shall carry out rehabilitation progressively, that is, as soon as reasonably practicable following the disturbance.

Landscape Management Plan

6. The Proponent shall prepare a Landscape Management Plan for the project to encompass all proposed mine activities and potential impacts associated with landscape management for the site and subsequently implement this Plan to the satisfaction of the Director-General. This plan must:
   (a) be submitted to the Director-General for approval within 12 months of the date of this approval;
   (b) be prepared by suitably qualified expert/s whose appointment/s have been endorsed by the Director-General;
   (c) be prepared in consultation with I&I, NOW, DECCW and Council; and
   (d) include a:
      - Rehabilitation and Offsets Management Plan; and
      - Mine Closure Plan.

Rehabilitation and Offsets Management Plan

7. The Rehabilitation and Offsets Management Plan must include:
   (a) the rehabilitation objectives for the site, including those listed in Table 2 above, and as otherwise proposed for offset areas;
   (b) a strategic description of how the rehabilitation of the site would be integrated with surrounding land use;
   (c) detailed performance and completion criteria for site rehabilitation and the implementation of the offset strategy;
   (d) a detailed description of the short and long-term measures that would be implemented to:
      - rehabilitate the site in accordance with the rehabilitation objectives;
      - implement the offset strategy (see condition 1 above); and
      - manage the remnant vegetation and habitat on the site and in the offset areas, including the existing Compensatory Habitat Area (see Appendix 2);
   (e) a detailed description of the measures that would be implemented over the next 3 years, including the procedures to be implemented for:
      - progressively rehabilitating disturbed areas;
      - implementing revegetation and regeneration within the disturbance areas and offset areas;
      - protecting vegetation and soils outside the disturbance areas;
      - undertaking pre-clearance surveys;
      - managing remnant vegetation and habitat on site;
      - minimising impacts on fauna;
      - minimising visual impacts;
      - conserving and reusing topsoil, timber, seed and habitat resources (rocks and logs);
      - controlling weeds, feral pests, and access;
      - rehabilitating creeks and drainage lines, both within and outside of disturbance areas on the site;
      - managing potentially acid-forming materials (including effective isolation of these materials in reject emplacement areas);
      - managing bushfires; and
      - managing any potential conflicts between the rehabilitation works and Aboriginal cultural heritage;
   (f) a detailed description of how the performance of the rehabilitation works and offsets would be monitored over time to achieve the stated objectives and against the relevant performance and completion criteria;
   (g) a program to review this plan at least every 3 years; and
   (h) details of who is responsible for monitoring, reviewing and implementing the plan;

Mine Closure Plan

8. The Mine Closure Plan must:
   (a) define the objectives and criteria for mine closure;
   (b) investigate options for the future use of the site;
   (c) investigate ways to minimise the adverse socio-economic effects associated with mine closure, including reduction in local and regional employment levels;
   (d) describe the measures that would be implemented to minimise or manage the on-going environmental effects of the project; and
   (e) describe how the performance of these measures would be monitored over time.

   Note: The plan should reflect the indicative Final Landform shown in Appendix 5.

SCHEDULE 5
ENVIRONMENTAL MANAGEMENT, REPORTING AND 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. The strategy must:
   (a) be submitted to the Director-General for approval within 6 months of the date of this approval;
   (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;
   (e) describe the procedures that would be implemented to:
      - keep the local community and relevant agencies informed about the operation and environmental performance of the project;
      - receive, handle, respond to, and record complaints;
      - resolve any disputes that may arise during the course of the project;
      - respond to any non-compliance; and
      - respond to emergencies; and
   (f) include:
      - copies of the various strategies, plans and programs that are required under the conditions of this approval once they have been approved; and
      - a clear plan depicting all the monitoring currently being carried out within the project area.

Management Plan Requirements

2. The Proponent shall ensure that the Management Plans required under this approval are prepared in accordance with any relevant guidelines by a suitably qualified expert/s whose appointment has been endorsed by the Director-General. The Plans must include:
   (a) detailed baseline data;
   (b) a description of:
      - the relevant statutory requirements (including any relevant approval, licence or lease conditions);
      - any relevant limits or performance measures/criteria; and
      - 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;
   (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 of the project; and
      - effectiveness of any management measures (see (c) above);
   (e) a contingency plan to manage any unpredicted impacts and their consequences;
   (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:
      - incidents;
      - complaints;
      - non-compliances with statutory requirements; and
      - exceedances of the impact assessment criteria and/or performance criteria; and
   (h) a protocol for periodic review of the plan.

   Note: At the discretion of the Director-General, some of these requirements may be waived where they are either not relevant or necessary.

Annual Review

3. By 31 March 2011, and annually thereafter, the Proponent shall submit a report to the Director-General reviewing the annual environmental performance of the project to the satisfaction of the Director-General. This review must:
   (a) describe the works that were carried out in the previous calendar year, and the works that are proposed to be carried out over current calendar year;
   (b) include a comprehensive review of the monitoring results and complaints records of the project over the previous calendar year, which includes a comparison of these results against:
      - the relevant statutory requirements, limits or performance measures/criteria;
      - the monitoring results of previous years; and
      - the relevant predictions in the EA;

(c) identify any non-compliance over the previous 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 measure will be implemented over the current calendar year to improve the environmental performance of the project.

Revision of Strategies, Plans & Programs

4. Within 3 months of the submission of an:
(a) audit report under condition 8 of schedule 5;
(b) incident report under condition 6 of schedule 5; and
(c) annual review under condition 3 of schedule 5,
the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Director-General.

Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the project.

Community Consultative Committee

5. The Proponent shall establish a Community Consultative Committee (CCC) for the Charbon Coal 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) to the satisfaction of the Director-General.

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 comprise an independent chair and appropriate representation from the Proponent, affected councils, recognised environmental groups and the general community in the area of the project.*
- *In establishing the CCC, the Department will accept the continued representation from existing CCC members, however the Proponent should ensure that adequate representation is achieved for landowners within the area surrounding the Project.*

REPORTING

Incident Reporting

6. The Proponent shall notify the Director-General and any other relevant agencies of any incident associated with the project 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.

Access to Information

7. From 31 August 2011, the Proponent shall make the following information publicly available on its website to the satisfaction of the Director-General:
(a) all current statutory approvals;
(b) all approved strategies, plans and programs required under this approval;
(c) quarterly environmental reports, which include a comprehensive summary of all monitoring results required under any strategy, plan or program approved under this approval;
(d) a complaints register, updated on a quarterly basis;
(e) minutes of CCC meetings;
(f) Annual Reviews under this approval;
(g) any Independent Environmental Audit, and the Proponent's response to the recommendations in any audit; and
(h) any other matter required by the Director-General.

The information on the website shall be kept up to date to the satisfaction of the Director-General. Information required to be placed on the website under (c)-(h) above must remain on the website for a period of not less than five years.

INDEPENDENT ENVIRONMENTAL AUDIT

8. By 31 December 2011, and every 3 years thereafter, unless the Director-General directs otherwise, the Proponent shall commission at its own cost an Independent Environmental Audit of the project. This audit must:
(a) be conducted by 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 relevant requirements in this approval and any 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 these approvals; and, if appropriate;
(e) recommend measures or actions to improve the environmental performance of the project, and/or any assessment, plan or program required under these approvals; and
(f) be completed within 2 months of the approval of the audit team.

Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Director-General.

9. Within 6 weeks of the completing 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.

SCHEDULE 6
ADDITIONAL PROCEDURES FOR AIR QUALITY AND NOISE MANAGEMENT

NOTIFICATION OF LANDOWNERS

1. If the results of monitoring required in schedule 3 identify that impacts generated by the project are greater than the relevant impact assessment criteria, except where a negotiated agreement has been entered into in relation to that impact, then the Proponent shall, within 2 weeks of obtaining the monitoring results, notify the Director-General, the affected landowners and tenants (including tenants of mine-owned properties) accordingly, and provide quarterly monitoring results to each of these parties until the results show that the project is complying with the criteria in schedule 3.

INDEPENDENT REVIEW

2. If a landowner of privately-owned land considers the project to be exceeding the impact assessment criteria in schedule 3, 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, the Proponent shall within 3 months of the Director-General's decision:
   (a) consult with the landowner to determine his/her concerns;
   (b) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to conduct monitoring on the land, to:
      - determine whether the project is complying with the relevant impact assessment criteria in schedule 3; and
      - identify the source(s) and scale of any impact on the land, and the project's contribution to this impact; and
   (c) give the Director-General and landowner a copy of the independent review.

3. If the independent review determines that the project is complying with the relevant impact assessment criteria in schedule 3, then the Proponent may discontinue the independent review with the approval of the Director-General.

   If the independent review determines that the project is not complying with the relevant impact assessment criteria in schedule 3, then the Proponent shall:
   (a) implement all reasonable and feasible measures, in consultation with the landowner, to ensure that the project complies with the relevant criteria, and conduct further monitoring to determine whether these measures ensure compliance; or
   (b) secure a written agreement with the landowner to allow exceedances of the relevant impact assessment criteria,

   to the satisfaction of the Director-General.

   If the further monitoring referred to under paragraph (a) above determines that the project is complying with the relevant impact assessment criteria, then the Proponent may discontinue the independent review with the approval of the Director-General.

LAND ACQUISITION

4. Within 3 months of receiving a written request from a landowner with acquisition rights, the Proponent shall make a binding written offer to the landowner based on:
   (a) the current market value of the landowner's interest in the property at the date of this written request, as if the property was unaffected by the project, having regard to the:
      - existing and permissible use of the land, in accordance with the applicable planning instruments at the date of the written request; and
      - presence of improvements on the property and/or any approved building or structure which has been physically commenced at the date of the landowner's written request, and is due to be completed subsequent to that date, but excluding any improvements that have resulted from the implementation of the 'additional noise mitigation measures' in condition 6 of schedule 3 or additional 'air quality mitigation measures' in condition 21 of schedule 3;
   (b) the reasonable costs associated with:
      - relocating within the same local government area, or to any other local government area determined by the Director-General; and
      - obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is to be acquired; and
   (c) reasonable compensation for any disturbance caused by the land acquisition process.

   However, if at the end of this period, the Proponent and landowner cannot agree on the acquisition price of the land and/or the terms upon which the land is to be acquired, then either party may refer the matter to the Director-General for resolution.

Upon receiving such a request, the Director-General shall request the President of the NSW Division of the Australian Property Institute to appoint a qualified independent valuer to:

- consider submissions from both parties;
- determine a fair and reasonable acquisition price for the land and/or the terms upon which the land is to be acquired, having regard to the matters referred to in paragraphs (a)-(c) above;
- prepare a detailed report setting out the reasons for any determination; and
- provide a copy of the report to both parties.

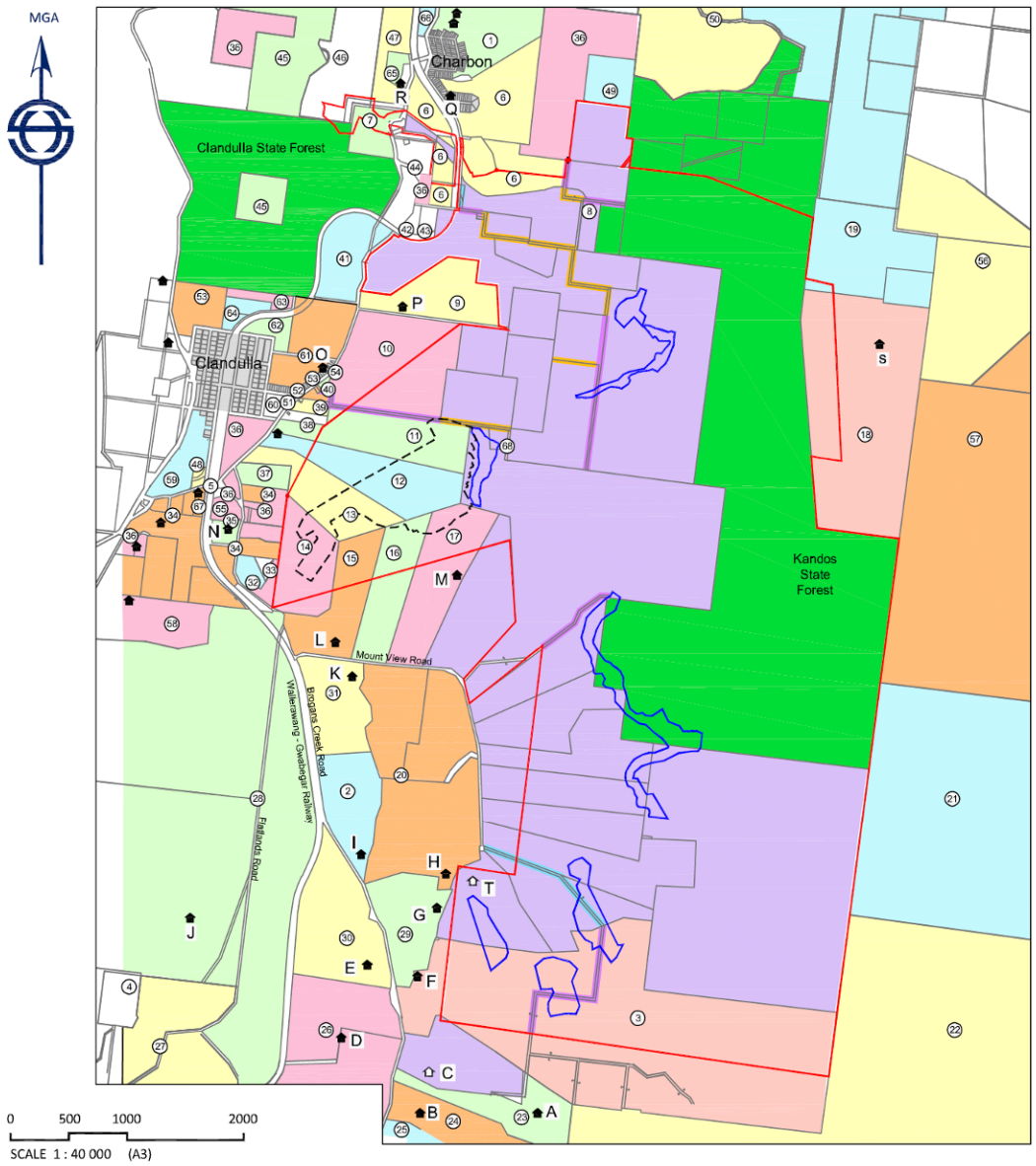
Within 14 days of receiving the independent valuer's report, the Proponent shall make a binding written offer to the landowner to purchase the land at a price not less than the independent valuer's determination.

However, if either party disputes the independent valuer's determination, then within 14 days of receiving the independent valuer's report, they may refer the matter to the Director-General for review. Any request for a review must be accompanied by a detailed report setting out the reasons why the party disputes the independent valuer's determination. Following consultation with the independent valuer and both parties, the Director-General shall determine a fair and reasonable acquisition price for the land, having regard to the matters referred to in paragraphs (a)-(c) above and the independent valuer's report. Within 14 days of this determination, the Proponent shall make a binding written offer to the landowner to purchase the land at a price not less than the Director-General's determination.

If the landowner refuses to accept the Proponent's binding written offer under this condition within 6 months of the offer being made, then the Proponent's obligations to acquire the land shall cease, unless the Director-General determines otherwise.

5. The Proponent shall pay all reasonable costs associated with the land acquisition process described in condition 4 above.

6. If the Proponent and landowner agree that only part of the land shall be acquired, then the Proponent shall also pay all reasonable costs associated with obtaining Council approval for any plan of subdivision (where permissible), and registration of the plan at the Office of the Registrar-General.



No	Lot / DP Number	Hse	No	Lot / DP Number	Hse
1	11/1056328, 12/1056328		35	103/755765	
2	17/259893	I	36	7002/1032333, 7001/1087028, 7313/1128639, 7300/1130812, 172/755765, 175/755765, 188/755765, 73/755783, 38/755802	
3	8/593262	F	37	184/755765	
4	B/373056		38	2/748897	
5	171/755765		39	Part of 52	
6	3/603460, 101/879293, 2/734546, 1/856977, 1/609409	Q	40	Part of 53	
7	20/755765		41	14/755765, 5/132069	
8	160/755765		42	182/755765	
9	12/731484	P	43	181/755765	
10	133/755765		44	179/755765, 180/755765	
11	1/593264		45	11/755765, 104/813230	
12	2/593264		46	129/755802	
13	3/593264		47	12/1000558	
14	4/593264	N	48	1/42886, 118/755765	
15	1/259893	L	49	49/755789	
16	2/259893		50	164/755789	
17	3/259893	M	51	1/748897	
18	156/755765, 156/755765	S	52	1/332150, 1/127384	
19	155/755765, 97/755789, 121/755789, 132/755789, 157/755789, 165/755789, 16/755765		53	1/505405, 1/652260, 2/505405, 192/755765	
20	16/259893, 19/259893, 20/259893	H	54	168/755765	
21	1/871703		55	185/755765	
22	137/755765		56	2/353049, 1/399033	
23	10/802177	A	57	1/353049, 135/755765	
24	11/802177	B	58	10/773904	
25	12/593263		59	190/755765	
26	1/558476, 2/558476	D	60	170/1130812	
27	30/755765		61	106/658662, 19/755765	O
28	1/249903, 1/48713, 167/755765, 11/773904, 1/882651	J	62	187/755765	
29	15/259893, 21/259893	G	63	108/755765	
30	1/554963	E	64	110/755765, 189/755765	
31	18/259893	K	65	11/1000558	R
32	202/705315		66	269/755789	
33	201/705315		67	124/755765	
34	18/755765, 43/755765, 125/755765, 127/755765, 176/755765, 177/755765, 7/755783, 74/755783, 162/755765, 126/755765		68	23/259893	

REFERENCE
- Project Site Boundary
- Cadastral Boundary
- A Non Project-related Residence and Reference
- T Project-related Residence and Reference
- Project-related Land
- Property Ownership
- Crown Road Reserve
- Enclosure Permit 50277
- Council Road
- Proposed Open Cut Mining Area
- Proposed Western Underground Operations

Figure 5.6
SURROUNDING LAND OWNERSHIP AND RESIDENCES

TITLE: FIGURE 5.6 SURROUNDING LAND OWNERSHIP & RESIDENCES | LOCATION: CHARBON | DATUM: PROJECTION: MGA | DATE: 5 MAY 2010 PURPOSE: | AUTOCAD REF: 753Base VERSION (PLAN BY): E.C

Figure 1: Land Ownership

APPENDIX 1
SCHEDULE OF LAND

APPENDIX 2
PROJECT LAYOUT PLAN

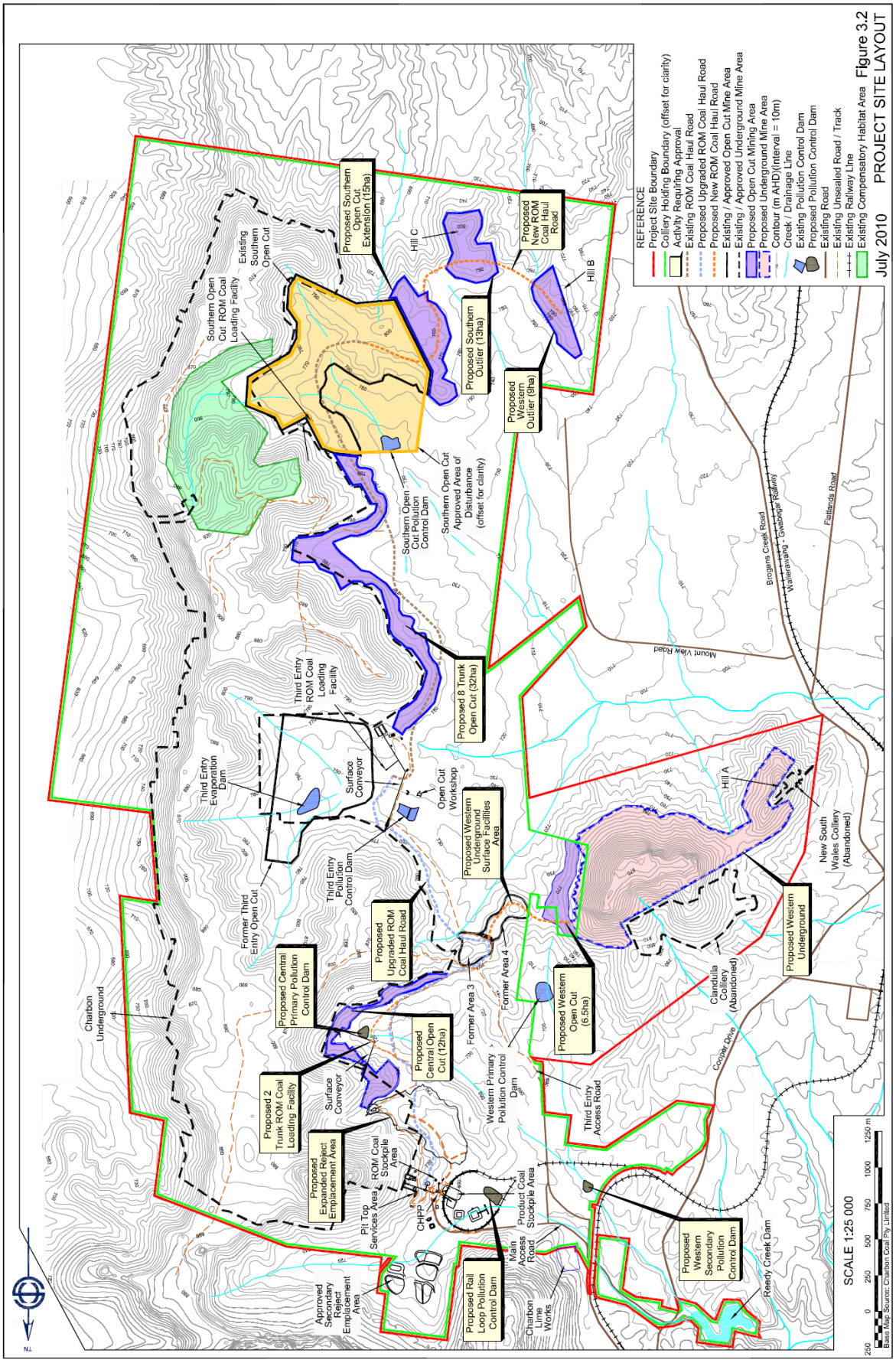


Figure 2: Project Layout

APPENDIX 3
STATEMENT OF COMMITMENTS

Continued Operations of Charbon Colliery February 2010

Desired Outcome	Action	Timing
1. General		
All operations are undertaken in a manner that will minimise the environmental impacts associated with the Project.	1.1 Operate generally in accordance with the Environmental Assessment and conditions of approvals, licences or consents.	Continuous.
	1.2 Develop management plans to manage and mitigation impacts of the Project.	
2. Hours of Operation		
All operations are undertaken within the approved operating hours.	2.1 Land Preparation – Daylight hours, Monday to Saturday.	On campaign basis.
	2.2 Underground Mining – 24 hours, 7 days per week.	Continuous.
	2.3 Open Cut Mining – Monday to Friday 7.00am to 10.00pm, Saturday 7.00am to 6.00pm.	Continuous – winter, spring, summer.
	2.4 Open Cut Mining – Monday to Saturday 7.00am to 6.00pm.	Continuous – autumn.
	2.5 ROM Coal Loading Operations – 24 hours, 7 days per week.	Continuous.
	2.6 Blasting Operations – 9.00am to 5.00pm, Monday to Saturday.	Continuous.
	2.7 Maintenance Operations – 24 hours, 7 days per week.	Continuous.
	2.8 CHPP – 24 hours, 7 days per week.	Continuous.
	2.9 Product Coal Loading Despatch (rail) – 24 hours, 7 days per week.	Continuous.
	2.10 Product Coal Loading and Dispatch (road) – 6.00am to 10.00pm, 7 days per week.	Continuous.
	2.11 Rehabilitation – Daylight hours, Monday to Saturday.	On campaign basis.

Desired Outcome	Action	Timing
3. Noise Management		
Project-related noise impacts on surrounding residences minimised.	3.1 Prepare and implement a **Noise Monitoring and Management Plan**, including a noise monitoring protocol.	Within 6 months of receipt of Project approval.
	3.2 Prepare an updated noise model.	Within 12 months of receipt of Project approval.
	3.3 Limit the hours of open cut mining operations to 7:00am to 10:00pm to avoid noise impacts on surrounding residents during the night and thereby minimise sleep disturbance and intrusion during the quietest part of the day.	Continuous.
	3.4 Limit the hours of open cut mining operations during autumn to 7:00am to 6:00pm unless a real time noise monitoring program is developed as part of the Noise Monitoring and Management Plan.	Continuous.
4. Ecology Management		
Minimise Project-related impacts on flora and fauna within and surrounding the Project Site.	4.1 Prepare a **Fauna Handling and Management Plan** identifying procedures for inspection of vegetation prior to removal and management of any fauna identified during the inspection or clearing operations.	Prior to commencement of land preparation operations.
Implementation of an appropriate ecology monitoring program to monitor undisturbed sections of the Project Site and areas undergoing rehabilitation.	4.2 Modify and implement the existing **Ecology Monitoring Program** within the Compensatory Habitat Area to include other areas that would not be disturbed within the Project Site as well as areas of progressive rehabilitation.	Within 6 months of receipt of Project approval
	4.3 Prepare a detailed **Rehabilitation and Vegetation Management Plan**, including a detailed description of rehabilitation procedures to be implemented and tree, shrub and grass species to be used during rehabilitation.	Prior to the commencement of land preparation operations.
	4.4 Develop and implement an appropriate **Biodiversity Land Management Strategy** in consultation with the consent authority and other relevant Government agencies.	Within 12 months of receipt of Project approval.

Desired Outcome	Action	Timing
5. Air Quality Management		
Site activities are undertaken, as far as practicable, without exceeding DECCW air quality criteria or goals.	5.1 Complete and implement an **Air Quality Management Plan** which identifies dust management practices that effectively minimise dust emissions including when water is not available for dust suppression.	Within 6 months of receipt of Project approval.
	5.2 Prepare and implement an **Air Quality Monitoring Protocol,** including continued monitoring of deposited dust, PM_{10} and TSP.	Within 6 months of receipt of Project approval.
	5.3 Prepare an updated air quality model.	Within 12 months of receipt of Project approval.
	5.4 Continue onsite existing meteorological monitoring.	Continuous.
Appropriate arrangement with impacted residents negotiated.	5.5 Negotiate an appropriate arrangement with the owner of Residence G to ensure that there is no potential for adverse health-related impacts associated with dust emissions.	Prior to commencing mining operations within the Western Outlier.
6. Greenhouse Gas Management		
Appropriately manage and minimise greenhouse gas emissions.	6.1 Prepare an **Energy Savings Action Plan** in accordance with the requirements of the DECCW.	Within 6 months of receipt of Project approval.
7. Indigenous Heritage Management		
Identified and unidentified Aboriginal sites are appropriately managed.	7.1 Prepare an **Indigenous Heritage Management Plan** in consultation with the registered Indigenous groups and individuals, including a procedure for managing identified sites of heritage significance or sensitivity and for limiting the potential for damage to unidentified sites.	Prior to commencing land preparation operations in the vicinity of identified sites of Indigenous heritage significance.

Desired Outcome	Action	Timing
	7.2 Complete further investigations in the vicinity of possible scar tree CH-ST5 and SAL 4.	Prior to commencing land preparation operations in the vicinity of CH-ST5 and SAL 4.
8. Blasting Management		
Project-related blasting impacts within relevant Guidelines.	8.1 Undertake blasting within the Southern Open Cut Extension only.	Continuous during blasting operations.
	8.2 Do not initiate blasting outside the hours of 9:00am and 5:00pm, Monday to Saturday, except for safety or emergency reasons.	Continuous during blasting operations.
	8.3 Prepare a **Blast Management and Monitoring Plan** that includes contingencies to address any community concerns about blasting impacts to residences.	Within 6 months of receipt of Project approval.
9. Surface Water and Groundwater		
All surface water and groundwater managed such that water-related impacts are minimised to the greatest extent practicable.	9.1 Prepare a **Sediment and Erosion Control Plan**.	Prior to land preparation operations in each area of proposed disturbance.
	9.2 Prepare updated site water balance.	Within 12 months of receipt of Project approval.
	9.3 Prepare a salinity balance.	
	9.4 Prepare a **Surface and Groundwater Water Management Plan** which will include detailed water monitoring and response protocols in consultation with the NSW Office of Water.	Within 12 months of receipt of Project approval.
	9.5 Complete an assessment of downstream impacts to drainage lines and creeks.	Within 6 months of the receipt of Project approval.
	9.6 Complete an assessment of onsite irrigation of effluent.	Within 6 months of the receipt of Project approval.

Desired Outcome	Action	Timing
10. Traffic and Transportation Management		
Project-related impacts on transportation and the road network surrounding the Project Site are limited.	10.1 Prepare a **Transportation Management Plan** including a Driver's Code of Conduct and fatigue management procedures.	Within 6 months of the receipt of Project approval.
	10.2 Ensure that all heavy vehicles transporting coal from the Project Site via public roads do so between the hours of 7:00am and 10:00pm.	Continuous.
	10.3 Develop a Voluntary Planning Agreement with Council in lieu of existing and future Section 94 contributions or revert to the Section 94 contributions process.	Within 12 months of the receipt of Project approval.
11. Subsidence Management		
No significant surface subsidence associated with the Western Underground.	11.1 Undertake first workings only.	Continuous during mining of the Western Underground.
	11.2 Restrict subsidence levels to < 20mm of subsidence.	Continuous during mining of the Western Underground.
	11.3 Prepare a Western Underground **Subsidence Monitoring Plan** as part of the Strata Control Management Plan in consultation with DII.	Prior to mining of the Western Underground.
12. Visual Amenity Management		
Day-time visibility of site activities limited.	12.1 Complete the proposed visual amenity plantings in the vicinity of Mount View Road.	As soon as practicable.
	12.2 Ensure that the western section of Hill B, located to the west of the Western Outlier, remains undisturbed.	During mining operations within the Western Outlier.
	12.3 Ensure, where practicable, that mining and waste rock placement operations are undertaken behind a 4m and 5m high barrier respectively, particularly during the evening, to limit visual impacts associated with moving mining equipment and lights.	Continuous during mining operations.

Desired Outcome	Action		Timing
	12.4	Ensure that all open cut mining-related lights are extinguished at the completion of each day's mining operations, with the exception of those required for activities that may be undertaken between 10:00pm and 7:00am or those that are required for safety or security-related purposes.	Continuous during evening mining operations.
13. Soil Management			
The Proponent's activities do not result in soil degradation or loss.	13.1	Prepare and implement a **Soil Management Plan**. This plan may be prepared as a component of the **Surface and Groundwater Management Plan**, or the **Sediment and Erosion Control Plan** or the **Rehabilitation and Vegetation Management Plan.**	Within 6 months of the receipt of Project approval.
14. Environmental Monitoring			
Implementation of an appropriate water monitoring program to ensure continuing compliance with relevant water quality criteria.	14.1	Expand the licensed discharge point water quality monitoring program to include the monitoring locations identified in Section 5.8.6	During discharge events.
	14.2	Monitor all accessible registered bores in the vicinity of the Project Site, subject to landholder approval, for standing water level, pH and electrical conductivity.	Monthly.
	14.3	Monitor all accessible registered bores in the vicinity of the Project Site, subject to landholder approval, for laboratory-based water quality analysis.	Annual.
	14.4	Monitor the volume and quality of water used or transferred around the Project Site.	Continuous.

APPENDIX 4
RECEIVER LOCATION PLANS

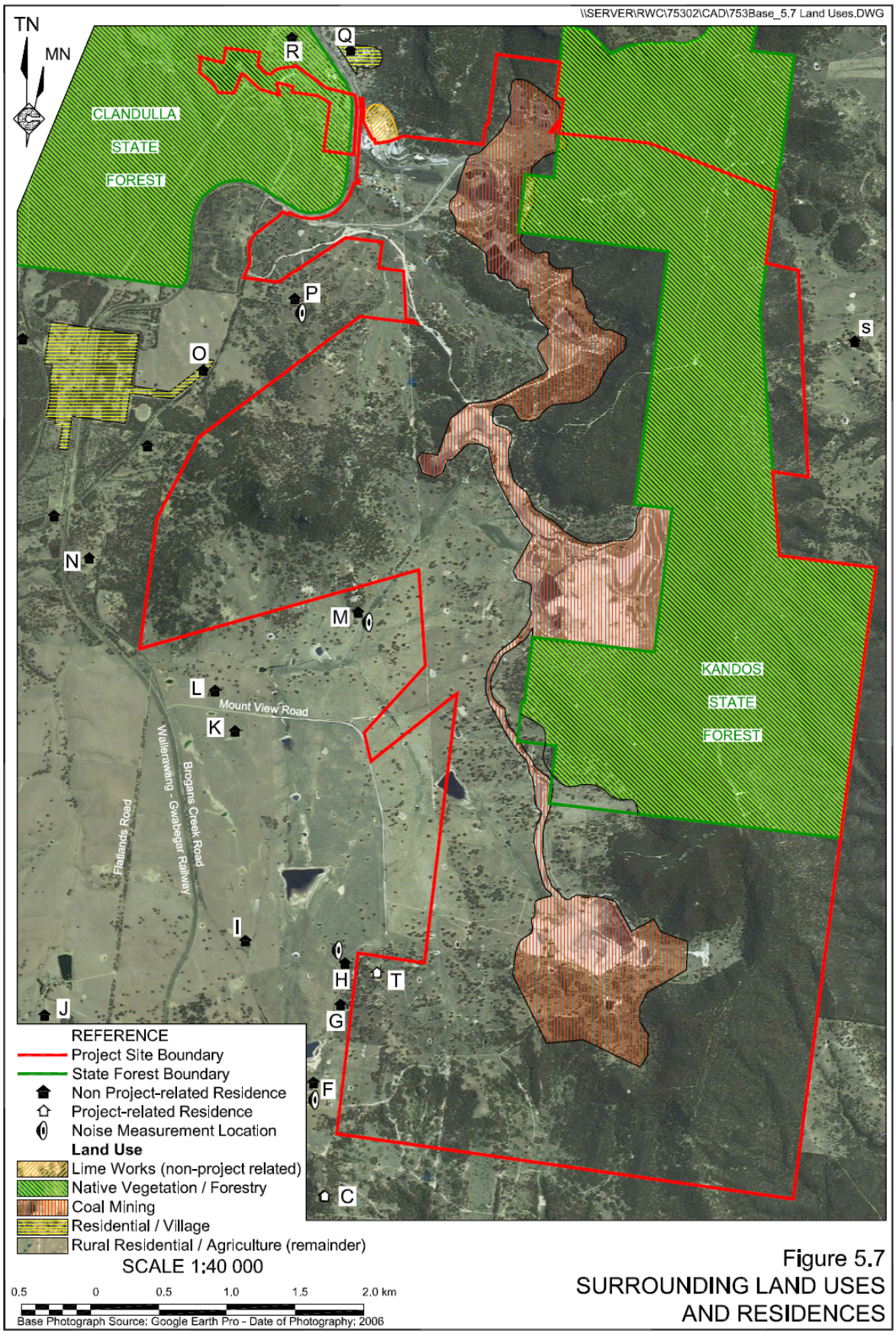


Figure 3: Receiver Locations

APPENDIX 5
FINAL LANDFORM

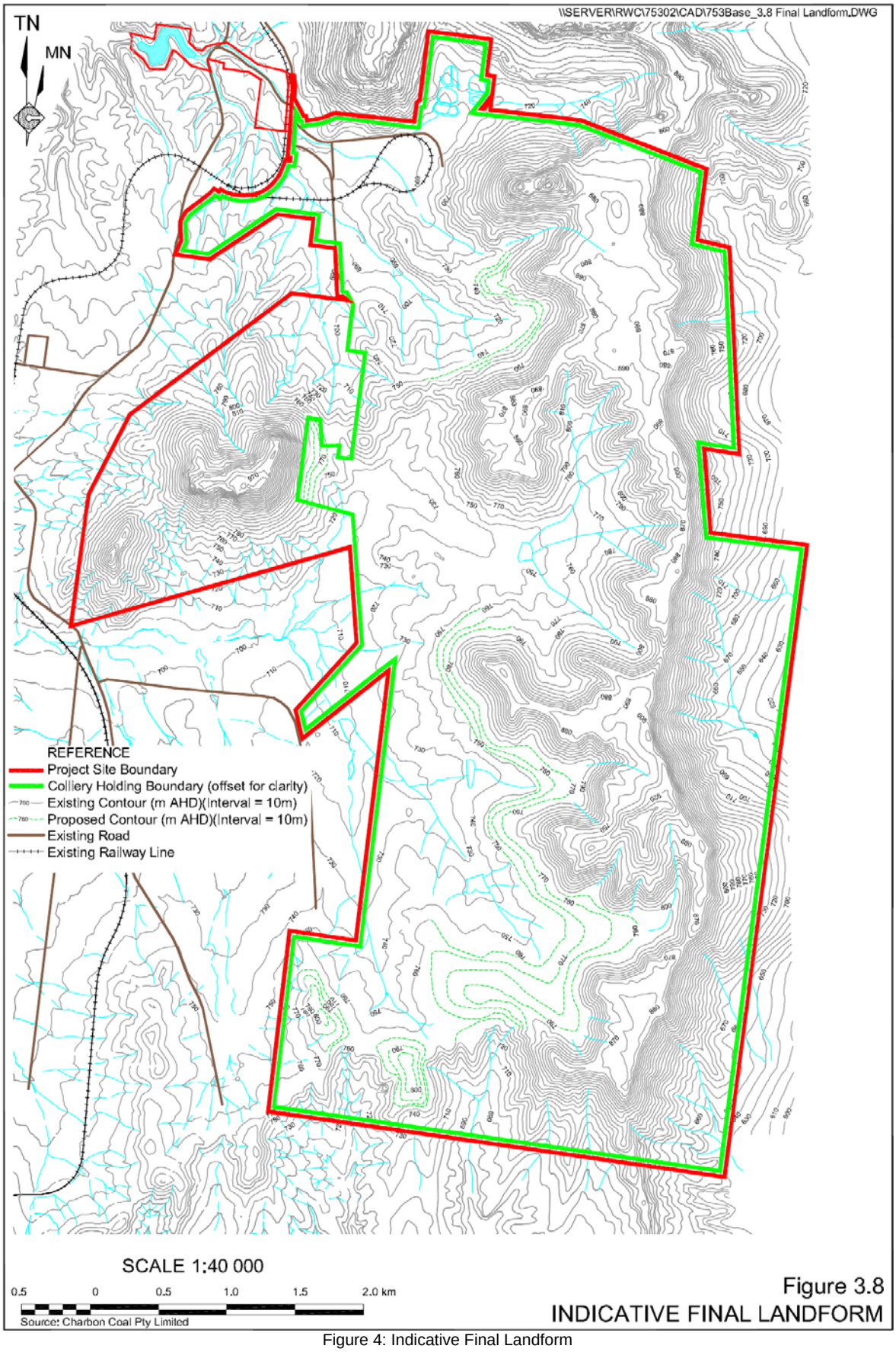


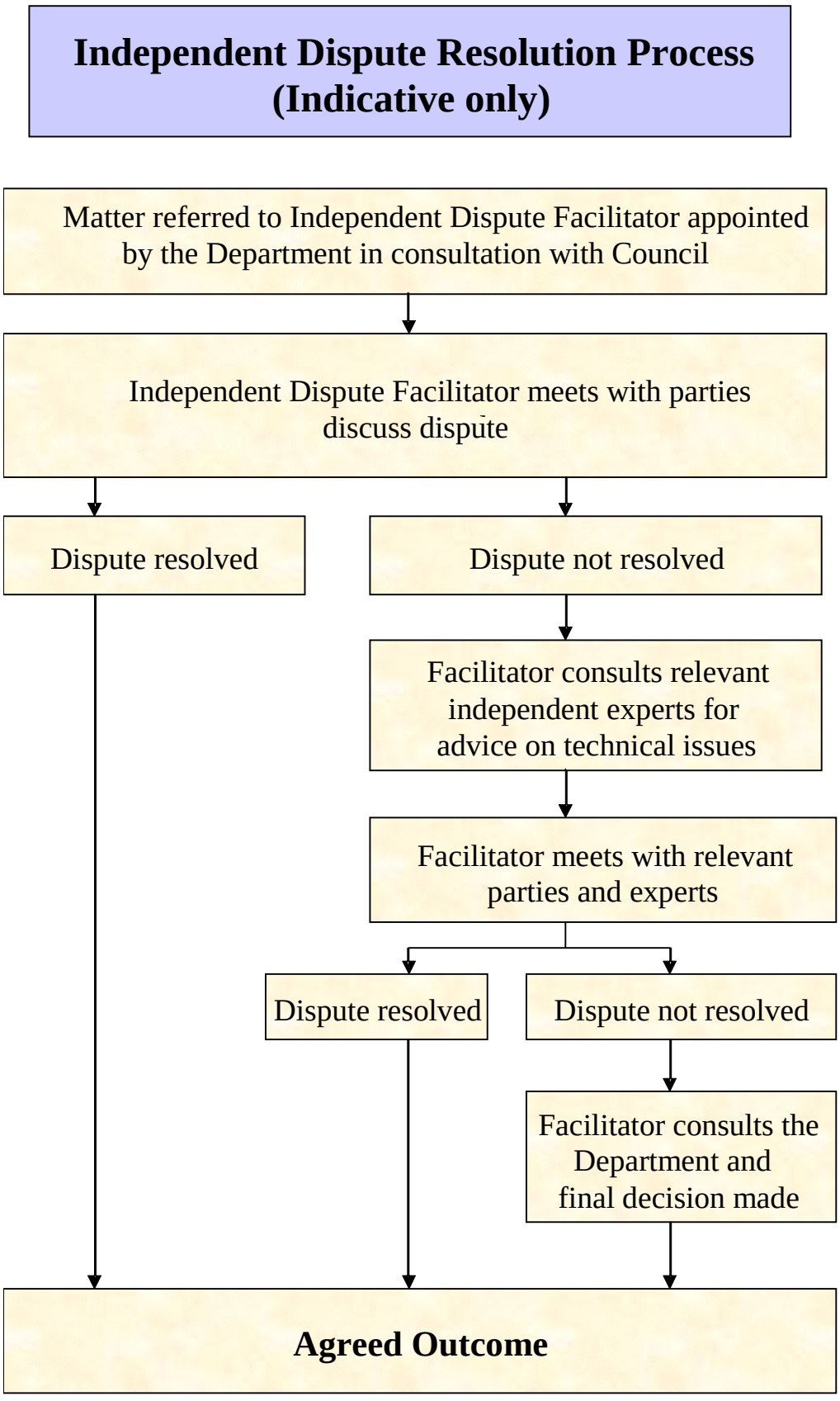
Figure 4: Indicative Final Landform

APPENDIX 6
GENERAL TERMS FOR THE PLANNING AGREEMENT

The Proponent shall pay the following contributions to Council:

- Annual community facilities contribution of $0.01 per Run of Mine (ROM) tonnes per annum for community projects in the local area (Rylstone, Kandos, Charbon and/or Clandulla) to be paid by 31 July each year for coal hauled in the previous financial year.
- Contribution to community facilities of a one off payment of $50,000 within one month of receipt of project approval for a community project in the local area (Rylstone, Kandos, Charbon and/or Clandulla).

APPENDIX 7
INDEPENDENT DISPUTE RESOLUTION PROCESS



Your reference :
Our reference : EF13/2766 & DOC14/255559
Contact : Ms Sheridan Ledger; (02) 6332 7608

General Manager
Charbon Coal Mine
PO Box 84
KANDOS NSW 2848

3 October 2014

Dear Mr Larcombe

I refer to ongoing discussions between the Environment Protection Authority (EPA) and Centennial Coal's Charbon Coal Mine (the Mine) regarding a proposed turbidity limit of 50 Nephelometric Turbidity Units (NTU) for licence points 2, 3, 4, 5 and 6 during rainfall events. The proposed changes to environment protection licence 528 (the licence) were included in the draft Notice 1517263 which was provided to you on 22 August 2014.

The EPA notes from your correspondence of 22nd October 2014, that the Mine is accepting of the proposed changes to the licence, which includes a turbidity limit of 50 NTU for licence points 2, 3, 4, 5 and 6. As such, Notice 1525523 has now been issued and the changes contained there-in take effect immediately. A revised copy of the licence is appended to the Notice and is enclosed with this letter. This copy of the licence should replace the previous version in the licence information holder for this premise.

While the changes take effect immediately, please note that under the *Protection of the Environment Operation Act 1997*, there is a twenty one (21) day appeal period should you wish to appeal the Notice from the issue date of the Notice.

Should you have any further enquiries in relation to this matter please contact Ms Sheridan Ledger at the EPA's Central West Office (Bathurst) by telephoning (02) 6332 7608.

Yours sincerely

DARRYL CLIFT
Head Central West Unit
Environment Protection Authority

Enclosed: Issued Notice 1517263

PO Box 1388 Bathurst NSW 2795
Level 2, 203 – 209 Russell Street Bathurst NSW 2795
Tel: (02) 6332 7600 Fax: (02) 6332 7630
ABN 43 692 285 758
www.epa.nsw.gov.au

Section 58(5) Protection of the Environment Operations Act 1997

Licence Variation

Licence - 528

CHARBON COAL PTY LIMITED

ABN 71 064 237 118

LEVEL 18, BT TOWER, 1 MARKET STREET

SYDNEY NSW 2000

Attention: Andrew Hendy

Notice Number	1517263
File Number	EF13/2766
Date	30-Oct-2014

NOTICE OF VARIATION OF LICENCE NO. 528

BACKGROUND

A. CHARBON COAL PTY LIMITED ("the licensee") is the holder of Environment Protection Licence No. 528 ("the licence") issued under the *Protection of the Environment Operations Act 1997* ("the Act"). The licence authorises the carrying out of activities at CHARBON ROAD, CHARBON, NSW, 2848 ("the premises").

B. On 03-Sep-2013 the Environment Protection Authority (EPA) received an application for the variation of the licence.

C. The licensee has requested alterations to the water discharge points and water quality monitoring locations which are consistent with the development approval. Further, the licensee has requested that drilling mud, associated with exploration activities currently being undertaken by the licensee be disposed of at the premises.

D. The draft licence variation was provided to the licensee for comment on 24 September 2013. A meeting was held between the EPA and the licensee on 1 October 2013 to discuss the proposed alterations to the licence. It was agreed at the meeting that further assessment of the water discharge quality was required. Further, that alterations were also required to the noise limits to ensure consistency with Project Approval 08_0211 and following either acquisition or the establishment of negotiated agreements with neighbouring landowners.

E. On 8 July 2014, the EPA received the results of the water quality data from the licensee. Following the receipt of the water quality results, the EPA revised the turbidity water quality limit applicable to discharges from the premises. Subsequently, further discussion regarding the turbidity limit applicable at licence points 2, 3, 4, 5 and 6 occurred, with agreement being reached on 28 October 2014.

F. The EPA has also made a number of further changes to the licence which are indicated in Section 2 below.

Section 58(5) Protection of the Environment Operations Act 1997

Licence Variation

VARIATION OF LICENCE NO. 528

1. By this notice the EPA varies licence No. 528. The attached licence document contains all variations that are made to the licence by this notice.
2. The following variations have been made to the licence:
   - addition of three (3) new licence discharge points, with associated water quality and volume discharge limits and monitoring requirements;
   - alteration to the waste which may be accepted at the premises; and
   - alteration of the noise limits table.

.....

Darryl Clift

Head Regional Operations Unit

South - Bathurst

(by Delegation)

INFORMATION ABOUT THIS NOTICE

- This notice is issued under section 58(5) of the Act.
- Details provided in this notice, along with an updated version of the licence, will be available on the EPA's Public Register (http://www.environment.nsw.gov.au/prpoeo/index.htm) in accordance with section 308 of the Act.

Appeals against this decision

- You can appeal to the Land and Environment Court against this decision. The deadline for lodging the appeal is 21 days after you were given notice of this decision.

When this notice begins to operate

- The variations to the licence specified in this notice begin to operate immediately from the date of this notice, unless another date is specified in this notice.
- If an appeal is made against this decision to vary the licence and the Land and Environment Court directs that the decision is stayed the decision does not operate until the stay ceases to have effect or the Land and Environment Court confirms the decision or the appeal is withdrawn (whichever occurs first).

Environment Protection Licence

Licence - 528

Licence Details	
Number:	528
Anniversary Date:	31-October

Licensee

CHARBON COAL PTY LIMITED

LEVEL 18, BT TOWER, 1 MARKET STREET

SYDNEY NSW 2000

Premises

CHARBON COAL PTY LIMITED

CHARBON ROAD

CHARBON NSW 2848

Scheduled Activity

Coal Works

Mining for Coal

Fee Based Activity	Scale
Coal works	0-2000000 T handled
Mining for coal	> 500000-2000000 T produced

Region

South - Bathurst

Lvl 2, 203-209 Russell Street

BATHURST NSW 2795

Phone: (02) 6332 7600

Fax: (02) 6332 7630

PO Box 1388 BATHURST

NSW 2795

Environment Protection Licence

Licence - 528

Environment Protection Licence

Licence - 528

Environment Protection Licence

Licence - 528

Information about this licence

Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act);
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).

Environment Protection Licence

The EPA publication "A Guide to Licensing" contains information about how to calculate your licence fees. The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

This licence is issued to:

CHARBON COAL PTY LIMITED
LEVEL 18, BT TOWER, 1 MARKET STREET
SYDNEY NSW 2000

subject to the conditions which follow.

Environment Protection Licence

Licence - 528

1 Administrative Conditions

A1 What the licence authorises and regulates

A1.1 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.

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	Fee Based Activity	Scale
Coal Works	Coal works	0 - 2000000 T handled
Mining for Coal	Mining for coal	> 500000 - 2000000 T produced

A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
CHARBON COAL PTY LIMITED
CHARBON ROAD
CHARBON
NSW 2848
THE PREMISES IS DEFINED AS THE PROJECT SITE BOUNDARY AS INDICATED IN APPENDIX 1 SCHEDULE 1 OF LAND, PAGE 23, OF THE PROJECT APPROVAL OF 7 SEPTEMBER 2010 (DA 08_0211) AND LOT 8 DP259893.

A3 Information supplied to the EPA

A3.1 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
b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

Environment Protection Licence

Licence - 528

2 Discharges to Air and Water and Applications to Land

P1 Location of monitoring/discharge points and areas

P1.1 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.

P1.2 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.

Water and land

EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
1	Discharge to utilisation area	Discharge to utilisation area	Licence discharge point 1 - shown as LDP1 Figure 4-3 of the Charbon Coal Pty Ltd Charbon Colliery Charbon Water Management Plan October 2012
2	Discharge to waters; Discharge quality monitoring; Volume monitoring	Discharge to waters; Discharge quality monitoring; Volume monitoring	Licence discharge point 2 - shown as LDP2 on Figure 4-3 of the Charbon Coal Pty Ltd Charbon Colliery Charbon Water Management Plan October 2012
3	Discharge to waters; Discharge quality monitoring; Volume monitoring.	Discharge to waters; Discharge quality monitoring; Volume monitoring.	Licence discharge point 3 - shown as LDP3 on Figure 4-3 of the Charbon Coal Pty Ltd Charbon Colliery Charbon Water Management Plan October 2012
4	Discharge to waters; discharge quality monitoring; volume monitoring	Discharge to waters; discharge quality monitoring; volume monitoring	Licence discharge point 4 - shown as LDP4 on Figure 4-3 of the Charbon Coal Pty Ltd Charbon Colliery Charbon Water Management Plan October 2012
5	Discharge to waters; discharge quality monitoring; volume monitoring	Discharge to waters; discharge quality monitoring; volume monitoring	Licence discharge point 5 - shown as LDP5 on Figure 4-3 of the Charbon Coal Pty Ltd Charbon Colliery Charbon Water Management Plan October 2012
6	Discharge to waters; discharge quality monitoring; volume monitoring	Discharge to waters; discharge quality monitoring; volume monitoring	Licencedischarge point 6 - shown as LDP6 in Figire 4-3 of the Charbon Coal Pty Ltd Charbon Colliery Charbon Water Management Plan

3 Limit Conditions

L1 Pollution of waters

L1.1 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.

L2 Concentration limits

L2.1 For each monitoring/discharge point or utilisation area specified in the table\s below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.

L2.2 Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.

L2.3 To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table\s.

L2.4 Water and/or Land Concentration Limits

POINT 2,3,4,5,6

Pollutant	Units of Measure -	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit
Oil and Grease	milligrams per litre			10
pH	pH			6.5-8.5
Total suspended solids	milligrams per litre			50
Turbidity	nephelometric turbidity units			50

L2.5 The limits specified under Condition L2.4 for the sediment basins identified as EPA licence discharge points 2, 3, 4, 5 and 6 do not apply when the discharge occurs soley as a result of rainfall measured at the premises which exceeds;

- a total of 56 millimetres of rainfall over any consecutive 5 day period.

Note: A 56mm rainfall depth is defined by the publication Managing urban stormwater: soils and construction (Landcom 2004) as the rainfall depth in millimetres for a 95th percentile 5 day rainfall event for Lithgow consistent with the storage capacity (recommended minimum design criteria) for Type D sediment basins for mines and quarries (Vol 2E of the Landcom 2004).

L2.6 The concentration limit for Total Suspended Solids (TSS) under Condition L2.4 is deemed not to have been breached where:

(a) the sample complies with the turbidity limit at the time of discharge; and
(b) the EPA is advised within 3 working days of completion of the TSS testing, of any TSS results above the licence limit.

Note: The purpose of this condition is to expediate the assessment and subsequent discharge of the clarified water from the sediment basins.

L3 Volume and mass limits

L3.1 For each discharge point or utilisation area specified below (by a point number), the volume/mass of:
a) liquids discharged to water; or;
b) solids or liquids applied to the area;
must not exceed the volume/mass limit specified for that discharge point or area.

Point	Unit of Measure	Volume/Mass Limit
2,3	megalitres per day	5
4,5,6	megalitres per day	10

L4 Waste

L4.1 The licensee must not cause, permit or allow any waste to be received at the premises, except the wastes expressly referred to in the column titled "Waste" and meeting the definition, if any, in the column titled "Description" in the table below.
Any waste received at the premises must only be used for the activities referred to in relation to that waste in the column titled "Activity" in the table below.
Any waste received at the premises is subject to those limits or conditions, if any, referred to in relation to that waste contained in the column titled "Other Limits" in the table below.
This condition does not limit any other conditions in this licence.

Code	Waste	Description	Activity	Other Limits
NA	Drilling mud and/or muddy waters from drilling operations	The characterisation of the waste must be consistant with that as provided in the licence variation application received by the EPA on 3 September 2013	Waste disposal (application to land)	Volume accepted must not exceed 6000 L/week

Note: A single delivery of drilling waste to the premises, which exceeds the volume limit in the table above, is permitted to occur in the period 23 September - 4 October 2013.

L5 Noise limits

L5.1 Noise from the premises must not exceed the limits specified in the following table:

Day (dBA LAeq(15 minute))	Evening (dBA LAeq (15 minute))	Night (dBA LAeq (15 minute))	Land Number
36	39	39	R1 - North West of Areas 3 & 4
36	35	35	R3 - South West of Areas 3 & 4
35	35	35	R6 - West of Southern Open Cut - Brogans Creek Road
35	35	35	All other land

Note: The land references (R1, R2, etc) used in the above table correspond to those used in map labelled as 'Figure 2' in the 'Charbon Coal Annual Environmental Management Report' dated November 2006.

L5.2 For the purpose of the table above:

a) Day is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sundays and Public Holidays;
b) Evening is defined as the period from 6pm to 10pm;
c) Night is defined as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sundays and Public Holidays.

L5.3 To determine compliance with condition(s) L4.1 noise must be measured at, or computed for, the locations listed in the above table. A modifying factor correction must be applied for tonal, impulsive or intermittent noise in accordance with the "Environmental Noise Management - NSW Industrial Noise Policy (January 2000)".

L5.4 The noise emission limits identified in this licence apply under all meteorological conditions except:
a) during rain and wind speeds (at 10m height) greater than 3m/s; and
b) under "non-significant weather conditions".

Note: Field meteorological indicators for non-significant weather conditions are described in the NSW Industrial Noise Policy, Chapter 5 and Appendix E in relation to wind and temperature inversions.

L6 Blasting

L6.1 The airblast overpressure level from blasting operations at the premises must not exceed 115dB (Lin Peak) at any noise sensitive locations for more than five per cent of the total number of blasts over each reporting period. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

L6.2 The airblast overpressure level from blasting operations at the premises must not exceed 120dB (Lin Peak) at any time at any noise sensitive locations. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

L6.3 Ground vibration peak particle velocity from the blasting operations at the premises must not exceed

5mm/sec at any noise sensitive locations for more than five per cent of the total number of blasts over each reporting period. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

L6.4 Ground vibration peak particle velocity from the blasting operations at the premises must not exceed 10mm/sec at any time at any noise sensitive location. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

Note: "Noise sensitive locations" includes buildings used as a residence, hospital, school, child care centre, places of worship and nursing homes. A noise sensitive location includes the land within 30 metres of the building.

L7 Hours of operation

L7.1 Activities at the premises may only be undertaken within the times as specified in the table below:

Activity	Day	Time
Open Cut Mining	Monday - Friday	7 am - 8 pm
	Saturday	7 am - 8 pm
	Sunday and Public Holidays	None
Underground mining, coal processing, run-of-mine coal management and maintenance	Any day	Any time
Blasting	Monday - Friday	9 am - 5 pm
Vegetation clearing	Monday - Saturday	7 am - 5 pm

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.

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.

O3 Dust

O3.1 The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.

O3.2 Haulage rucks entering and leaving the premises that are carrying loads must be covered at all times, except during loading and unloading. The tailgates of all haulage trucks leaving the premises must be securely fixed prior to loading or immediately after unloading to prevent loss of material.

O4 Effluent application to land

O4.1 Effluent application must not occur in a manner that causes surface runoff.

O4.2 Spray from effluent application must not drift beyond the boundary of the premises.

O4.3 The quantity of effluent/solids applied to the utilisation area must not exceed the capacity of the area to effectively utilise the effluent/solids.

For the purpose of this condition, 'effectively utilise' includes the use of the effluent/solids for pasture or crop production, as well as the ability of the soil to absorb the nutrient, salt, hydraulic load and organic material.

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.

M1.2 All records required to be kept by this licence must be:
a) in a legible form, or in a form that can readily be reduced to a legible form;
b) kept for at least 4 years after the monitoring or event to which they relate took place; and
c) produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 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.

M2 Requirement to monitor concentration of pollutants discharged

M2.1 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:

M2.2 Water and/ or Land Monitoring Requirements

POINT 2,3,4,5,6

Pollutant	Units of measure	Frequency	Sampling Method
Conductivity	microsiemens per centimetre	Daily during any discharge	Grab sample
Oil and Grease	milligrams per litre	Daily during any discharge	Grab sample
pH	pH	Daily during any discharge	Grab sample
Total suspended solids	milligrams per litre	Daily during any discharge	Grab sample
Turbidity	nephelometric turbidity units	Daily during any discharge	Grab sample

M3 Testing methods - concentration limits

M3.1 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.

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.

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.

M4.3 The record of a complaint must be kept for at least 4 years after the complaint was made.

M4.4 The record must be produced to any authorised officer of the EPA who asks to see them.

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.

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.

M5.3 The preceding two conditions 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.

M6 Requirement to monitor volume or mass

M6.1 For each discharge point or utilisation area specified below, the licensee must monitor:
a) the volume of liquids discharged to water or applied to the area;
b) the mass of solids applied to the area;
c) the mass of pollutants emitted to the air;
at the frequency and using the method and units of measure, specified below.

POINT 2,3

Frequency	Unit of Measure	Sampling Method
Daily during any discharge	megalitres per day	In line instrumentation

POINT 4,5,6

Frequency	Unit of Measure	Sampling Method
Daily during any discharge	megalitres per day	In line instrumentation

M7 Blasting

M7.1 To determine compliance with condition(s) L5.1 to L5.4

a) Airblast overpressure and ground vibration levels experienced at the following noise sensitive locations must be measured and electronically for all blasts carried out in or on the premises;

i) Lot 16 DP259893 - "Mount View" Mount View Road Clandulla

b) Instrumentation used to measure the airblast overpressure and ground vibration levelsmust meet the requirements of Australian Standard AS 2187.2-2006.

Note: A breach of the licence will still occur when airblast overpressure or ground vibration levels from the blasting operations at the premises exceeds the limit specified in conditions L5.1 to L5.4 at any "noise sensitive locations" other than the locations identified in the above condition.

The airblast overpressure and ground vibration levels in conditions L5.1 to L5.4 do not apply at noise sensitive locations that are owned by the licensee of subject to a private agreement, relating to airblast overpressure and ground vibration levels, between the licensee and land owner.

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.
At 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.

R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.

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.

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.

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').

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.

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.

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.

Note: An application to transfer a licence must be made in the approved form for this purpose.

R2 Notification of environmental harm

R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.

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.

Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

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,
and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.

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.

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 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.

7 General Conditions

G1 Copy of licence kept at the premises or plant

G1.1 A copy of this licence must be kept at the premises to which the licence applies.

G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.

G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

8 Pollution Studies and Reduction Programs

U1 Particulate Matter Control Best Practice Implementation – Wheel Generated Dust

U1.1 The Licensee must achieve and maintain a dust control efficiency of 80% or more on all active haul roads by 30 August 2013.

Control efficiency is calculated as:

$$CE = \frac{E\ (\text{uncontrolled}) - E\ (\text{controlled})}{E\ (\text{uncontrolled})} \times 100$$

Where E = the emission rate of the activity

U1.2 To assess compliance with condition U1.1, the licensee must:

- measure uncontrolled and controlled emissions on at least 2 occassions using EBam units;
-continuously measure and record 'additional site' data including, but not necessarily limited to:

- haul truck paramters,
- meteorological conditions,
- water and suppressant application, time, duration, rate and volume

- undertake silt content and soil moisture sampling prior to and after each sampling occassion; and
- determine of a site specific relationship can be derived between the control efficiency, additional site data and the soil moisture and cilt content levels.

The measurement of uncontrolled and controlled PM10 emissions must be undertaken at times when analysis of meteorological data indicates that elevated levels of dust are mosy likely at the premises.
Note: The EPA acknowledges rhat in order to determine uncontrolled PM10 emissions, the section of haul road to be sampled will need to be left untreated for a period of up to 12 hours prior to the sampling taking place.

U1.3 The Licensee must submit a written report to the EPA which documents the results of the assessment undertaken in accordance with condition U1.1. The report must include an assessment of:
- the dust control effectiveness,
- the dust levels recorded;
- any relationship established between control effectiveness and the additional site data; and

- the licensee's compliance with Condition U1.1.
The report must be submitted by the Licensee to the Environment Protection Authority Regional Manager Central West, at PO Box 1388 BATHURST NSW 2795 by 15 August 2014.

U1.4 The report required by condition U1.3 must be made publicly available by the licensee on the licensee's website (by two weeks from the submission date nominated in condition U1.3).

U2 Particulate Matter Control Best Practice Implementation – Disturbing and Handling Overburden under Adverse Weather Conditions

U2.1 The licensee must alter or cease the use of equipment on overburden and the loading and dumping of overburden during adverse weather conditions to minimise the generation of particulate matter from 22 March 2013.

U2.2 To assess compliance with condition U2.1, the licensee must:

- determine the adverse weather (meteorological) conditions which lead to elevated and visual dust emissions;
- undertake daily visual dust level assessments and continuoulsy measure and record real-time meteorological conditions; and
-record changes to mining activities due to adverse weather conditions.

U2.3 The Licensee must submit a written report to the EPA which documents the results of the actions taken in accordance with condition U2.1. The report must detail the following:

- weather conditions during which activities were ceased or altered;
- changes made to operational activities as a result of adverse weather; and
- resultant dust levels when activities were altered or ceased.

The report must be submitted by the Licensee to the Environment Protection Authority Regional Manager Central West, at PO Box 1388 BATHURST NSW 2795 by 15 August 2014.

U2.4 The report required by condition U2.3 must be made publicly available by the licensee on the licensee's website by (two weeks from the submission date of condition U2.3 above).

U3 Particulate Matter Control Best Practice Implementation - Trial of Best Practice Measures for Disturbing and Handling Overburden

U3.1 The Licensee must submit a report documenting an investigation and trial of best practice measures for the control of particulate matter from the use of eqipment on overburden and the loading and dumping of overburden. Best practice measures may include, but should not be limited to, the following:

- the use of foggers;
- the use of water sprays; and
- reduction of drop heights.

The report must document the investigation and trial of each best practice measure. It must quantify the particulate matter control effectiveness and discuss the practicability of each best practice measure.

Environment Protection Licence

The report must be submitted by the Licensee to the Environment Protection Authority Regional Manager Central West, at PO Box 1388 BATHURST NSW 2795 by 14 April 2014.

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Dictionary

General Dictionary

3DGM [in relation to a concentration limit]	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
Act	Means the Protection of the Environment Operations Act 1997
activity	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
actual load	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
AM	Together with a number, means an ambient air monitoring method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.
AMG	Australian Map Grid
anniversary date	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
annual return	Is defined in R1.1
Approved Methods Publication	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
assessable pollutants	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
BOD	Means biochemical oxygen demand
CEM	Together with a number, means a continuous emission monitoring method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.
COD	Means chemical oxygen demand
composite sample	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
cond.	Means conductivity
environment	Has the same meaning as in the Protection of the Environment Operations Act 1997
environment protection legislation	Has the same meaning as in the Protection of the Environment Administration Act 1991
EPA	Means Environment Protection Authority of New South Wales.
fee-based activity classification	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009.
general solid waste (non-putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997

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flow weighted composite sample	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
general solid waste (putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environmen t Operations Act 1997
grab sample	Means a single sample taken at a point at a single time
hazardous waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
licensee	Means the licence holder described at the front of this licence
load calculation protocol	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
local authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
material harm	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
MBAS	Means methylene blue active substances
Minister	Means the Minister administering the Protection of the Environment Operations Act 1997
mobile plant	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
motor vehicle	Has the same meaning as in the Protection of the Environment Operations Act 1997
O&G	Means oil and grease
percentile [in relation to a concentration limit of a sample]	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
plant	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
pollution of waters [or water pollution]	Has the same meaning as in the Protection of the Environment Operations Act 1997
premises	Means the premises described in condition A2.1
public authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
regional office	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
reporting period	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 mo nths. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
restricted solid waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
scheduled activity	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
special waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
TM	Together with a number, means a test method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.

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TSP	Means total suspended particles
TSS	Means total suspended solids
Type 1 substance	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
Type 2 substance	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
utilisation area	Means any area shown as a utilisation area on a map submitted with the application for this licence
waste	Has the same meaning as in the Protection of the Environment Operations Act 1997
waste type	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non-putrescible), special waste or hazardous waste

Mr Grahame Clarke

Environment Protection Authority

(By Delegation)

Date of this edition: 26-June-2000

Environment Protection Licence

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End Notes

1	Licence varied by notice V/M upgrade, issued on 08-Jul-2000, which came into effect on 08-Jul-2000.
2	Licence varied by notice 1009727, issued on 30-Aug-2001, which came into effect on 30-Aug-2001.
3	Licence varied by notice 1021727, issued on 05-Nov-2002, which came into effect on 30-Nov-2002.
4	Licence varied by notice 1026418, issued on 16-May-2003, which came into effect on 10-Jun-2003.
5	Licence varied by notice 1037993, issued on 01-Jul-2004, which came into effect on 01-Jul-2004.
6	Licence varied by change to record due to LGA amalgamation, issued on 26-Nov-2004, which came into effect on 26-Nov-2004.
7	Licence varied by notice 1063300, issued on 24-Jul-2006, which came into effect on 24-Jul-2006.
8	Licence varied by notice 1070461, issued on 02-Mar-2007, which came into effect on 02-Mar-2007.
9	Licence varied by notice 1070973, issued on 15-Mar-2007, which came into effect on 15-Mar-2007.
10	Licence varied by notice 1074668, issued on 20-Jun-2007, which came into effect on 20-Jun-2007.
11	Condition A1.3 Not applicable varied by notice issued on <issue date> which came into effect on <effective date>
12	Licence varied by notice 1103020, issued on 09-Sep-2009, which came into effect on 09-Sep-2009.
13	Licence varied by notice 1124911, issued on 03-Mar-2011, which came into effect on 03-Mar-2011.
14	Licence varied by notice 1127005, issued on 10-Jun-2011, which came into effect on 10-Jun-2011.
15	Licence varied by notice 1500634 issued on 08-Aug-2011
16	Licence varied by notice 1511181 issued on 22-Mar-2013

Australian Government
Department of Sustainability, Environment, Water, Population and Communities

Mr Richard Tacon
General Manager Operations - West
Charbon Coal Pty Ltd
PO Box 84
KANDOS NEW SOUTH WALES 2848

Date: 19 November 2010
EPBC Ref: 2010/5498
EPBC contact: Craig Paterson
02 6274 2912
craig.paterson@environment.gov.au

Dear Mr Tacon

Decision on approval
Expansion of Charbon Colliery, Charbon, NSW. EPBC 2010/5498

I refer to your proposal to expand the existing open cut and underground mining operations at the Charbon Coal Mine in the central tablelands region of New South Wales, as described in the referral received under the EPBC Act on 18 May 2010 and the Preliminary Documentation advertised on 21 October 2010.

I have considered the proposal in accordance with Part 9 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and have decided to grant an approval to Charbon Coal Pty Ltd. The details of my decision are attached. The proposal must be undertaken in accordance with the conditions specified in the approval.

I would appreciate your assistance by informing me when you provide the information specified in the conditions and who will be the contact person responsible for the administration of the approval decision.

Please note, any plans required as conditions of approval will be regarded as public documents unless you provide sufficient justification to warrant commercial-in-confidence status.

You should also note that this EPBC Act approval does not affect obligations to comply with any other laws of the Commonwealth, state or territory that are applicable to the action. Neither does this approval confer any right, title or interest that may be required to access land or waters to take the action.

The Department has an active audit program for proposals that have been referred or approved under the EPBC Act. The audit program aims to ensure that proposals are implemented as planned and that there is a high degree of compliance with any associated conditions. You should be aware that your project may be selected for audit by the Department at any time and all related records and documents may be subject to scrutiny. Information about the Department's audit strategy is enclosed.

I have also written to the following parties to advise them of this decision:

Consultant	Mr Toby Lambert – RPS Group
State/territory authority/authorities	The Hon Tony Kelly MLC - NSW Minister for Planning
Other relevant authority/authorities	The Hon Martin Ferguson AM MP – Minister for Resources and Energy The Hon Greg Combet AM MP – Minister for Climate Change and Energy Efficiency

If you have any questions about this decision, please contact the project manager and quote the EPBC reference number shown at the beginning of this letter.

Yours sincerely

Michelle Wicks
Assistant Secretary
Environment Assessment Branch

Australian Government

Department of Sustainability, Environment, Water, Population and Communities

Approval

Expansion of Charbon Colliery, Charbon, NSW. EPBC 2010/5498

This decision is made under sections 130(1) and 133 of the *Environment Protection and Biodiversity Conservation Act 1999*.

Proposed action

person to whom the approval is granted	Charbon Coal Pty Ltd
proponent's ACN	064 237 118
proposed action	To expand the existing open cut and underground mining operations at the Charbon Coal Mine in the central tablelands region of New South Wales, as described in the referral received under the EPBC Act on 18 May 2010 and the Preliminary Documentation advertised on 21 October 2010.

Approval Decision

Controlling Provision	Decision
Listed threatened species and communities (sections 18 & 18A)	Approved
Listed migratory species (sections 20 & 20A)	Approved

conditions of approval

This approval is subject to the conditions specified below.

expiry date of approval

This approval has effect until 2025.

Decision-maker

name and position	Michelle Wicks Assistant Secretary Environment Assessment Branch
signature	mwicks
date of decision	19 November 2010

Conditions attached to the approval:

1. The person taking the action must carry out the action in accordance with the conditions of this approval and as described in the referral documentation dated 18 May 2010 and Preliminary Documentation dated 20 October 2010. Where the referral, the Preliminary Documentation and these conditions are contradictory, these conditions shall prevail to the extent of the contradiction.

2. The person taking the action must not clear more than approximately 90ha in the project area (Annexure 1), consisting of no more than;
    a. Approximately 42ha of **native vegetation** including:
        i 13.3ha of the listed White Box – Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived native Grasslands ecological community;
    b. Approximately 47ha of cleared land: and
    c. The removal of no more than 40 individual *Eucalyptus macrorhyncha subsp. cannonii* (Cannon's Stringybark or Capertee Stringybark).

3. To mitigate impacts on the listed White Box – Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived native Grasslands ecological community, the listed Swift Parrot, Regent Honeyeater, Large-eared Pied Bat and Greater Long Eared Bat, the person taking the action must place a legally binding conservation covenant in perpetuity over no less than 253ha of land identified as 'Proposed Additional Compensatory Habitat' on the map dated 12/10/2010 at Annexure 2.
    a. The covenant must be approved in writing by the **Minister** and placed on the title of the land identified on the Map at Annexure 2 as "Proposed Additional Compensatory Habitat' within 2 years of the date of this approval.
    b. Covenant conditions must not allow any development or native vegetation clearing within these areas.

4. Within 12 months of the commencement of Stage One Works, the person taking the action must prepare and submit a Compensatory Habitat Management Plan, for the area identified in Condition 3, for the Minister's approval to provide protection for:
        i White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grasslands; and
        ii habitat for the Spotted-tail Quoll, Swift Parrot, Regent Honeyeater, Large-eared Pied Bat, Greater Long Eared Bat and Capertee Stringybark;

    The Compensatory Habitat Management Plan must include, but not limited to:
    a. desired outcomes/objectives of the plan;
    b. management actions including, but not limited to, land rehabilitation and restoration measures, pest management, fencing, weed control, fire management, erosion and sediment control, exclusion of livestock, and restrictions on access that are proposed to protect and enhance areas of:
        i White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grasslands; and
        ii habitat for the Spotted-tail Quoll, Swift Parrot, Regent Honeyeater, Large-eared Pied Bat, Greater Long Eared Bat and Capertee Stringybark;

c. measures to monitor subsidence and thresholds of detected subsidence rates that will trigger remedial action and the remedial works in relation to subsidence;

d. measures for the protection of these areas in perpetuity;

e. the development and implementation of a monitoring program, including, but not limited to, performance criteria and thresholds for review and amendment of management actions;

f. a description of the potential risks to management and rehabilitation in the compensatory habitat areas, and a description of the contingency measures that would be implemented to mitigate these risks;

g. the timing of and person(s) responsible for undertaking the actions identified in condition 4; and

h. The approved Compensatory Habitat Management Plan must be implemented.

5. For the first five years after **substantial commencement**: the person taking the action must submit to the **Department** a report detailing the implementation of the approved Compensatory Habitat Management Plan, as a component of Condition 10.

6. For the period following the first five years after **substantial commencement**: the person taking the action must submit to the **Department** a report detailing the implementation of the approved Compensatory Habitat Management Plan. Reports must be submitted every five years, as a component of Condition 10, until the Minister notifies, the person taking the action that he or she is satisfied that the Compensatory Habitat Management Plan has been fully implemented and reporting is no longer required, or is required at intervals other than every five years.

7. To **offset** impacts to the listed White Box – Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grasslands ecological community, the listed Swift Parrot, Regent Honeyeater, Large-eared Pied Bat and Greater Long Eared Bat, the person taking the action must provide protection for no less than 120ha of land including at least 80ha of White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grasslands Ecological Community; and prepare and submit for the Ministers approval an **Offset** Management Plan.

   The approved **Offset** Management Plan must:

   a. be implemented within 2 years of the date of this approval or before the commencement of **Stage Two Works**; and

   b. Provide details of measures to ensure the in perpetuity protection and management of offset areas, including how in perpetuity protection and management will be funded.

8. To **offset** impacts to the Regent Honeyeater, the person taking the action must donate $5000 to the Hawkesbury – Nepean Catchment Management Authority for Regent Honeyeater habitat restoration.

9. Within 10 business days of **substantial commencement**, the person taking the action must advise the **Department** in writing the actual date of commencement.

10. Within four months of every 12 month anniversary of the **substantial commencement** of the action the person taking the action must submit to the **Department** a report addressing compliance with the conditions of this approval. Annual reports must be provided until the **Minister** is satisfied that the proponent has complied with all conditions of the approval.

11. Upon the direction of the **Minister**, the person taking the action must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the **Minister**. The independent auditor must be approved by the **Minister** prior to the commencement of the audit. Audit criteria must be agreed to by the **Minister** and the audit report must address the criteria to the satisfaction of the **Minister**.

12. If the person taking the action wishes to carry out any activity otherwise than in accordance with the plans, reports or strategies referred to in the above conditions the person taking the action must submit for the **Minister**'s approval a revised version of any such plan, report or strategy. The varied activity shall not commence until the **Minister** has approved the varied plan, report or strategy in writing. If the **Minister** approves such a revised plan, report or strategy, that plan, report or strategy must be implemented in place of the plan, report or strategy originally approved.

13. If the **Minister** believes that it is necessary or desirable for the better protection of listed threatened species and ecological communities and listed migratory species to do so, the **Minister** may request that the person taking the action make specified revisions to the plans, reports or strategies approved pursuant to the above conditions and submit the revised plan, report or strategy for the **Minister**'s approval. The person taking the action must comply with any such request. The revised approved plan, report or strategy must be implemented. Unless the **Minister** has approved the revised plan, report or strategy, then the person taking the action must continue to implement the plan, report or strategy originally approved, referred to in the above conditions.

14. If, at any time after 3 years from the date of this approval, the **Minister** notifies the person taking the action in writing that the **Minister** is not satisfied that there has been **substantial commencement** of the action, the action must not thereafter be commenced without the written agreement of the **Minister**.

15. The person taking the action must maintain accurate records substantiating all activities associated with or relevant to the above conditions of approval, including measures taken to implement the management plans required by this approval, and make them available upon request to the **Department**. Such records may be subject to audit by the Department or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the **Department**s website. The results of audits may also be publicised through the general media.

Definitions:

Native Vegetation: Those communities mapped and described in the reference at Annexure 1.

Minister: The minister responsible for the *Environment Protection and Biodiversity Conservation Act 1999*.

Stage One Works: Includes preparatory works required to be undertaken including vegetation clearance, the erection of any onsite temporary structures and the use of heavy equipment for the purpose of breaking ground for buildings, infrastructure, or mining operations for the following areas (Annexure 1):

- Proposed Western Open Cut Stage 1
- Proposed Western Underground Stage 1
- Proposed 8 Trunk Open Cut Stage 1
- Proposed Southern Open Cut Extension Stage 1
- Proposed Western Outlier Stage 1

- Proposed Southern Outlier Stage 1

Stage Two Works: Includes preparatory works required to be undertaken including vegetation clearance, the erection of any onsite temporary structures and the use of heavy equipment for the purpose of breaking ground for buildings, infrastructure, or mining operations for the following areas (Annexure 2):

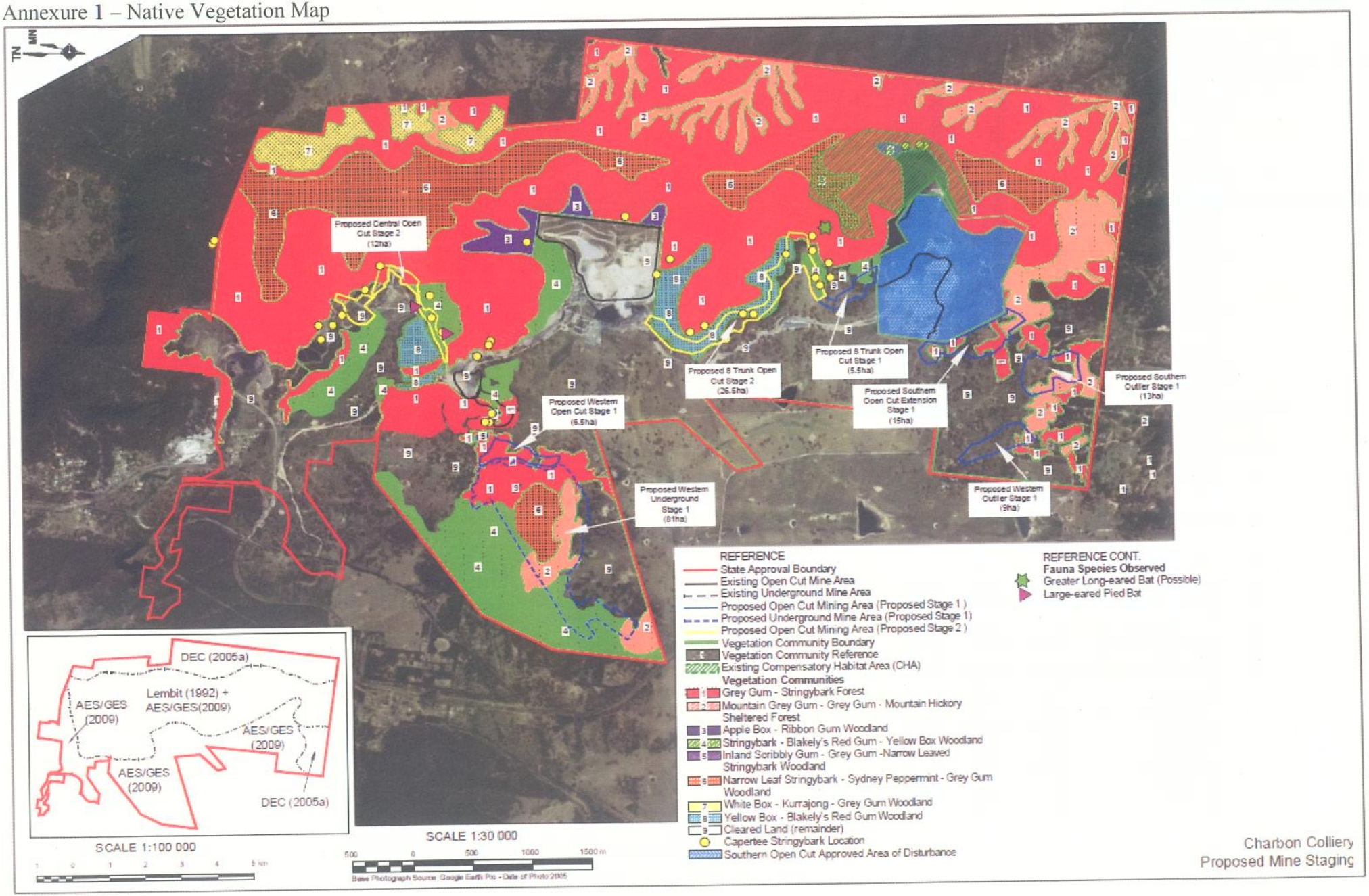
- Proposed Central Open Cut Stage 2
- Proposed 8 Trunk Open Cut Stage 2

Department: The Australian Government Department responsible for the *Environment Protection and Biodiversity Conservation Act 1999*.

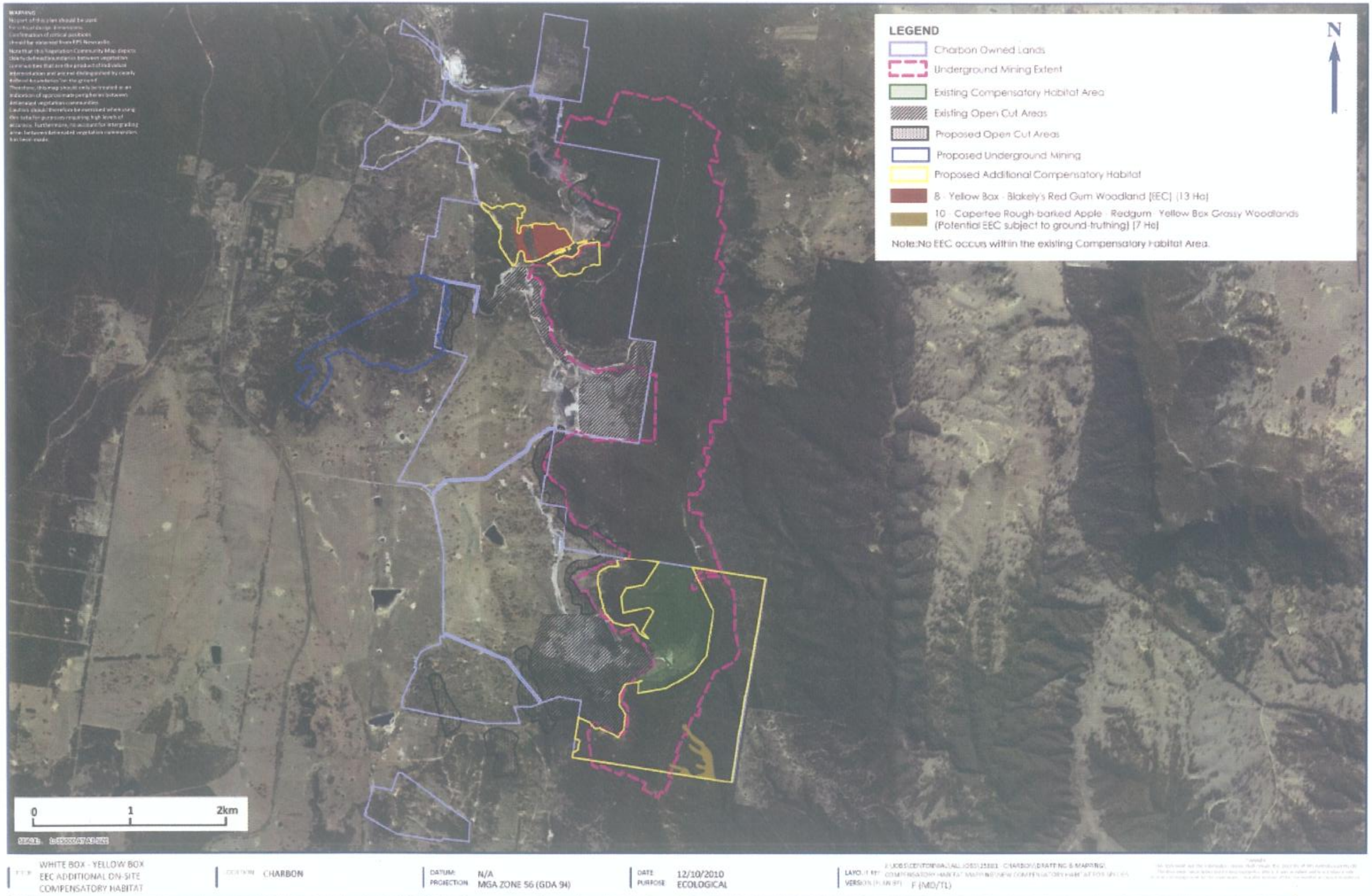
Substantial Commencement: The commencement of **Stage One Works**, triggered by breaking ground as defined in the **Stage One Works** definition above.

Offset: actions taken outside a development site that compensate for the impacts of that development - including direct, indirect or consequential impacts.

Annexure 1 – Native Vegetation Map



Annexure 2 – Compensatory Habitat Area



LEGEND
Charbon Owned Lands
Underground Mining Extent
Existing Compensatory Habitat Area
Existing Open Cut Areas
Proposed Open Cut Areas
Proposed Underground Mining
Proposed Additional Compensatory Habitat
8 - Yellow Box - Blakely's Red Gum Woodland (EEC) (13 Ha)
10 - Capertee Rough-barked Apple - Redgum - Yellow Box Grassy Woodlands (Potential EEC subject to ground-truthing) (7 Ha)
Note: No EEC occurs within the existing Compensatory Habitat Area.
N
0
1
2km
WHITE BOX - YELLOW BOX
EEC ADDITIONAL ON-SITE
COMPENSATORY HABITAT
CHARBON
DATUM: N/A
PROJECTION: MGA ZONE 56 (GDA 94)
DATE: 12/10/2010
PURPOSE: ECOLOGICAL
F (MD/TL)

VARIATION TO CONDITIONS ATTACHED TO APPROVAL

Expansion of Charbon Colliery, Charbon, NSW– EPBC 2010/5498

This decision to vary conditions of approval is made under section 143 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Approved action

Person to whom the approval is granted	Charbon Coal Pty Ltd ACN 064 237 118
Approved action	To expand the existing open cut and underground mining operations at the Charbon Coal Mine in the central tablelands region of New South Wales, as described in the referral received under the EPBC Act on 18 May 2010 and the Preliminary Documentation advertised on 21 October 2010. (see EPBC referral 2010/5498).

Variation

Variation of conditions of approval	The variation is: Delete conditions 3, 5, 6 and 7 to the approval dated 19 November 2010 and substitute the conditions specified below. Replace Annexure 2 Figure dated 12/10/2010 with new Annexure 2 Figure dated 29/3/12 titled Figure 1-1 Offset Location taken from the Compensatory Habitat Management Plan, August 2012. Include Annexure 3 showing the location of the offsite offset site at Nullo Mountain.
Date of effect	This variation has effect on the date the instrument is signed

Person authorised to make decision

name and position	Shane Gaddes A/g Assistant Secretary Compliance & Enforcement Branch
Signature	S. Gaddes
Date of decision	5 October 2012

Condition attached to the approval

3. To mitigate impacts on the listed White Box – yellow Box – Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands ecological community, the listed Swift parrot, Regent Honeyeater, Large-eared Pied Bat, Spotted-tail Quoll and Greater Long Eared Bat, the person taking the action must place a legally binding conservation covenant in perpetuity over no less than 253ha of land identified as 'Proposed Additional Compensatory Habitat' on the map dated 29/3/2012 taken from the Compensatory Habitat Management Plan, August 2012 at Annexure 2.

    a. The covenant must be approved in writing by the Minister and placed on the title of the land identified on the map at Annexure 2 as 'Proposed Additional Compensatory Habitat' by 19 November 2013.

    b. Covenant conditions must not allow any development or native vegetation clearing within these areas.

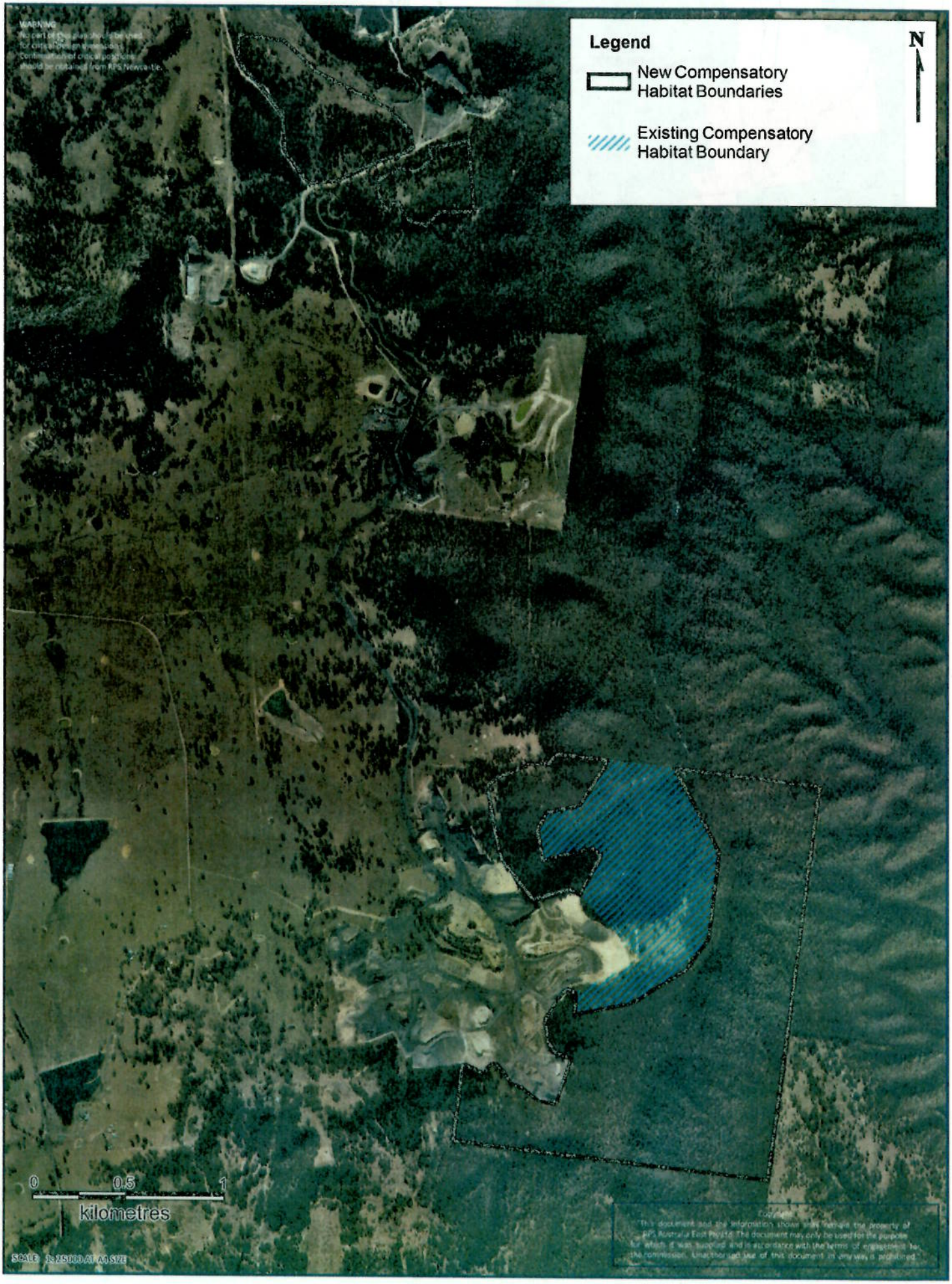
5. For the first five years after the approval of the Compensatory Habitat Management Plan by the Minister, the person taking the action must submit to the Department a report detailing the implementation of the approved Compensatory Habitat Management Plan, as component of condition 10.

6. For the period following the first five years after the approval of the Compensatory Habitat Management Plan by the Minister, the person taking the action must submit to the Department a report detailing the implementation of the approved Compensatory Habitat Management Plan. Reports must be submitted every three years as a component of condition 10, until the Minister notifies the person taking the action that he or she is satisfied that the Compensatory Habitat Management Plan has been fully implemented and reporting is not longer required.

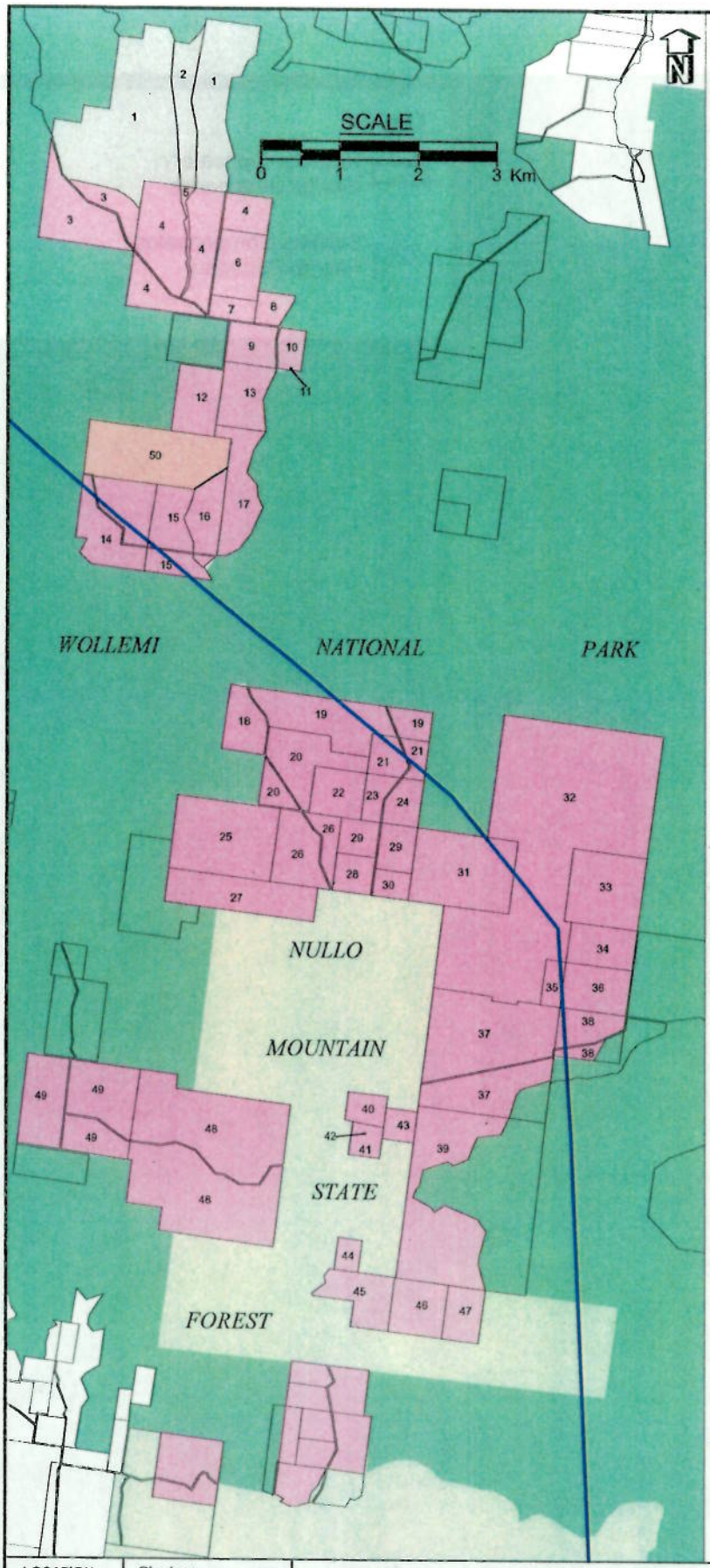
7. To offset impacts to the listed White Box-Yellow Box- Blakely's Red Gum Grassy Woodland and Derived Native Grasslands ecological community, the listed Swift parrot, Regent Honeyeater, Large-eared Pied Bat, and Greater Long Eared Bat, the person taking the action must provide protection, through gifting to NSW National Parks and Wildlife Service (NPWS), for no less than 120ha of land, including at least 80ha of White Box-Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grasslands ecological community, located at Nullo Mountain, County of Phillip, NSW and described as Lot 3 DP1172889 and provided at Annexure 3.

    a. Evidence of gifting the Nullo Mountain offset site to the NSW NPWS must be provided to the department, including measures taken to assist NSW NPWS to manage the offset site in the long-term, provided to the NSW NPWS for the management of the offset site, by 19 November 2013.

Annexure 2 - Compensatory Habitat Areas



ANNEURE 3



LAND OWNERSHIP TABLE

Ref.	Lot	DP	Owner	Type
1	2	1099568	Minister NPW Act 1974	CROWN
2	49	44097	Minister NPW Act 1974	CROWN
3	1	1099568	RJ Cooper	PRIVATE
4	1	627456	RJ Cooper	PRIVATE
5	2	627456	RJ Cooper	PRIVATE
6	7	755445	RJ Cooper	PRIVATE
7	8	755445	RJ Cooper	PRIVATE
8	24	755445	RJ Cooper	PRIVATE
9	1	1035214	RJ Cooper	PRIVATE
10	2	1035214	MB Bernoth	PRIVATE
11	101	831243	Telstra	PRIVATE
12	5	755445	M Morozov	PRIVATE
13	9	755445	RJ Cooper	PRIVATE
14	2	1172889	Nunkeri Angoras Pty Ltd	PRIVATE
15	21	1060761	Nunkeri Angoras Pty Ltd	PRIVATE
16	1	1172889	Nunkeri Angoras Pty Ltd	PRIVATE
17	23	755445	ET Portelli	PRIVATE
18	35	755445	HG Washington	PRIVATE
19	43	755449	Masolo Pty Ltd	PRIVATE
20	9	755449	Masolo Pty Ltd	PRIVATE
21	44	755449	Masolo Pty Ltd	PRIVATE
22	3	755449	Masolo Pty Ltd	PRIVATE
23	8	755449	Masolo Pty Ltd	PRIVATE
24	1	1000108	Masolo Pty Ltd	PRIVATE
25	11	755445	Maxwell J Maxwell Pty Ltd	PRIVATE
26	11	755449	Masolo Pty Ltd	PRIVATE
27	26	755445	Maxwell J Maxwell Pty Ltd	PRIVATE
28	4	755449	Masolo Pty Ltd	PRIVATE
29	6	755449	Masolo Pty Ltd	PRIVATE
30	5	755449	Masolo Pty Ltd	PRIVATE
31	33	755449	Masolo Pty Ltd	PRIVATE
32	84	755449	Masolo Pty Ltd	PRIVATE
33	37	755449	Masolo Pty Ltd	PRIVATE
34	45	755449	TA Ashcroft	PRIVATE
35	67	755449	TA Ashcroft	PRIVATE
36	48	755449	TA Ashcroft	PRIVATE
37	88	41161	TA Ashcroft	PRIVATE
38	26	41161	TA Ashcroft	PRIVATE
39	28	41161	TA Ashcroft	PRIVATE
40	1	755445	CA McNally / JB Morrison	PRIVATE
41	2	1049687	CA McNally / JB Morrison	PRIVATE
42	1	1049687	CA McNally / JB Morrison	PRIVATE
43	3	755445	CA McNally / JB Morrison	PRIVATE
44	11	755444	JB Morrison	PRIVATE
45	1	1124251	DC Baguley	PRIVATE
46	36	755446	AM Coles / CB Martin	PRIVATE
47	38	755446	AM Coles / CB Martin	PRIVATE
48	45	755445	RV Stuckey	PRIVATE
49	46	755445	RV Stuckey	PRIVATE
50	3	1172889	Charbon Coal Pty Limited	PRIVATE

LEGEND

- Nullo Mountain State Forest
- Wollemi National Park
- Centennial Land
- Freehold Land
- Crown Land
- Cadastral Boundary
- Native Title Boundary
  Wellington Valley Wiradjuri

LOCATION	Charbon
SEAM	N/A
DRAWN	P.J.M.
CHECKED	
APPROVED	
SCALE	Refer to Scale Bar

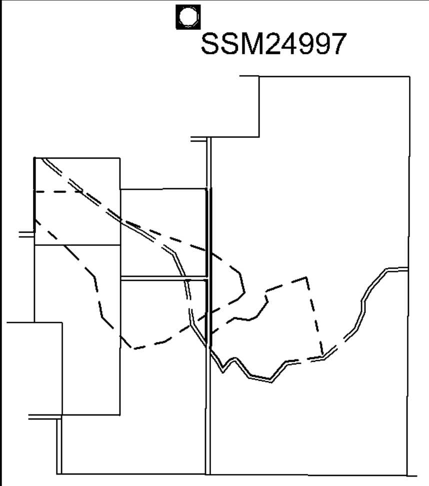
CHARBON EXTENSION PROJECT
IDENTIFIED OFFSITE OFFSET LAND AT NULLO MOUNTAIN
130 HECTARES

Centennial Coal

DATE: 4-Oct-2012

PC 4289

PLAN FORM 2 (A2) WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION ePlan Sheet 1 of 2 sheets



SCHEDULE OF REFERENCE MARKS

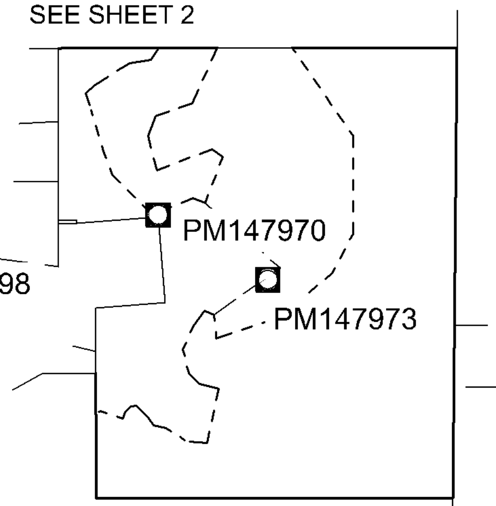
A	216° 45' 10"	0.255	GIP FD	DP709449
B	9° 10'	1.09	GIP	
C	346° 39' 40"	0.63	GIP FD	DP709449
D	133° 29' 30"	1.26	GIP FD	DP561740
E	313° 29' 30"	1.71	GIP FD	DP561740
F	276° 25' 50"	1.0	GIP FD	DP709449
G	349° 21'	2.49	GIP	
H	253° 39'	16.765	REF GUM FD	DP561740
I	142° 47'	13.38	TREE STUMP FD	C2926 1496
J	198° 10'	6.27	GIP	
K	50° 46'	22.68	GIP	
L	307° 36' 40"	25.11	REF GREY GUM FD	DP561740
M	253° 44' 40"	7.785	STY BARK FD FALLEN	DP561740
	247° 06'	7.53	GIP	
N	102° 20'	10.56	DHW IN ROCK	
O	61° 06'	2.19	STY BARK FD	DP561740
P	227° 15'	0.5	GIP	

[X] - CONSERVATION AREA

[N1], [N2] DENOTE AREAS DEFINED IN THE CHARBON COLLIERY COMPENSATORY HABITAT MANAGEMENT PLAN AS REFERRED TO BY THE TERMS OF THE POSITIVE COVENANT

SCIMS CONNECTIONS

PM140799 - SSM24997	11° 40' 45"	5244.894	MGA GRD SCIMS
	11° 40' 45"	5244.883	BY SURVEY
SSM24997 - PM147970	171° 42' 28"	5360.131	BY SURVEY
PM147970 - PM147973	127° 34' 05"	594.845	BY SURVEY
PM147973 - PM140798	282° 26' 27"	1745.333	BY SURVEY
PM140798 - PM140799	284° 23' 33"	621.401	MGA GRD SCIMS
	284° 23' 39"	621.394	BY SURVEY



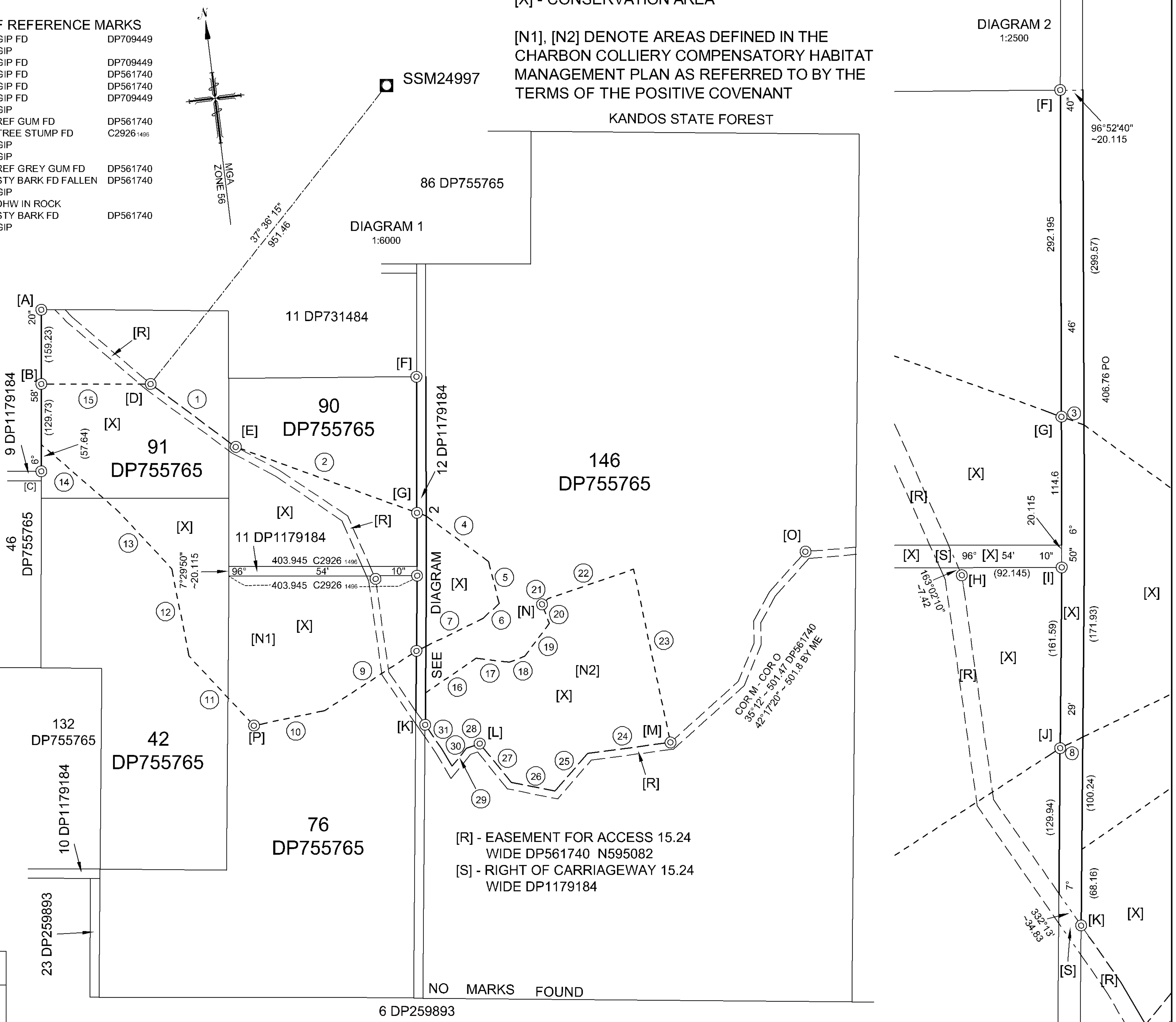


TABLE OF SHORT LINES

LINE	BEARING	DIST	LINE	BEARING	DIST
1	133° 29' 30"	227.255	17	104°	72
2	117°	413.79	18	75°	35
3	117°	21.44	19	44°	88
4	133°	165	20	346°	44
5	173°	93	21	53°	17
6	234°	47	22	78°	195
7	251°	136.5	23	175°	380
8	251°	22.48	24	269° 24'	179.075
9	244°	235	25	227° 56' 35"	107.065
10	265°	155	26	288° 17' 40"	95.355
11	324°	205	27	327° 44' 20"	107.625
12	356°	190	28	256° 40' 15"	30.58
13	324°	170	29	226° 09' 30"	48.74
14	318°	217.51	30	336° 43' 55"	43.315
15	97°	234.52	31	332° 13'	62.425
16	62° 30'	132.11			

SCHEDULE OF PERMANENT MARKS

MARK	EASTING	NORTHING	CLASS	ORDER	SOURCE
PM140798	217284.535	6351133.344	B	2	SCIMS
PM140799	216682.356	6351287.874	B	2	SCIMS
PM147970	218518	6351120	U	U	SCIMS
	218517.969	6351120.018	C		SURVEY
PM147973	218990	6350757	U	U	SCIMS
	218989.680	6350757.169	C		SURVEY
SSM24997	217744.589	6356426.572	B	2	SCIMS

MGA ZONE 56 SOURCE SCIMS 01/02/2012 - CSF 1.000466

Surveyor: PETRAS GORDON SILINIS Date of Survey: 06/02/2012 Surveyor's Ref: 3/1676PS	PLAN OF POSITIVE COVENANT OVER LOTS 42, 63, 76, 90, 91 AND 146 DP 755765 AND LOTS 11 AND 12 DP 1179184	LGA: MID-WESTERN REGIONAL Locality: CLANDULLA Subdivision No: ——— Lengths are in metres. Reduction ratio 1:25000	Registered 19.2.2014	DP1189047

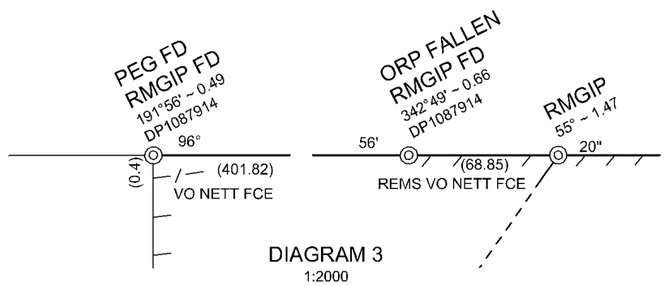


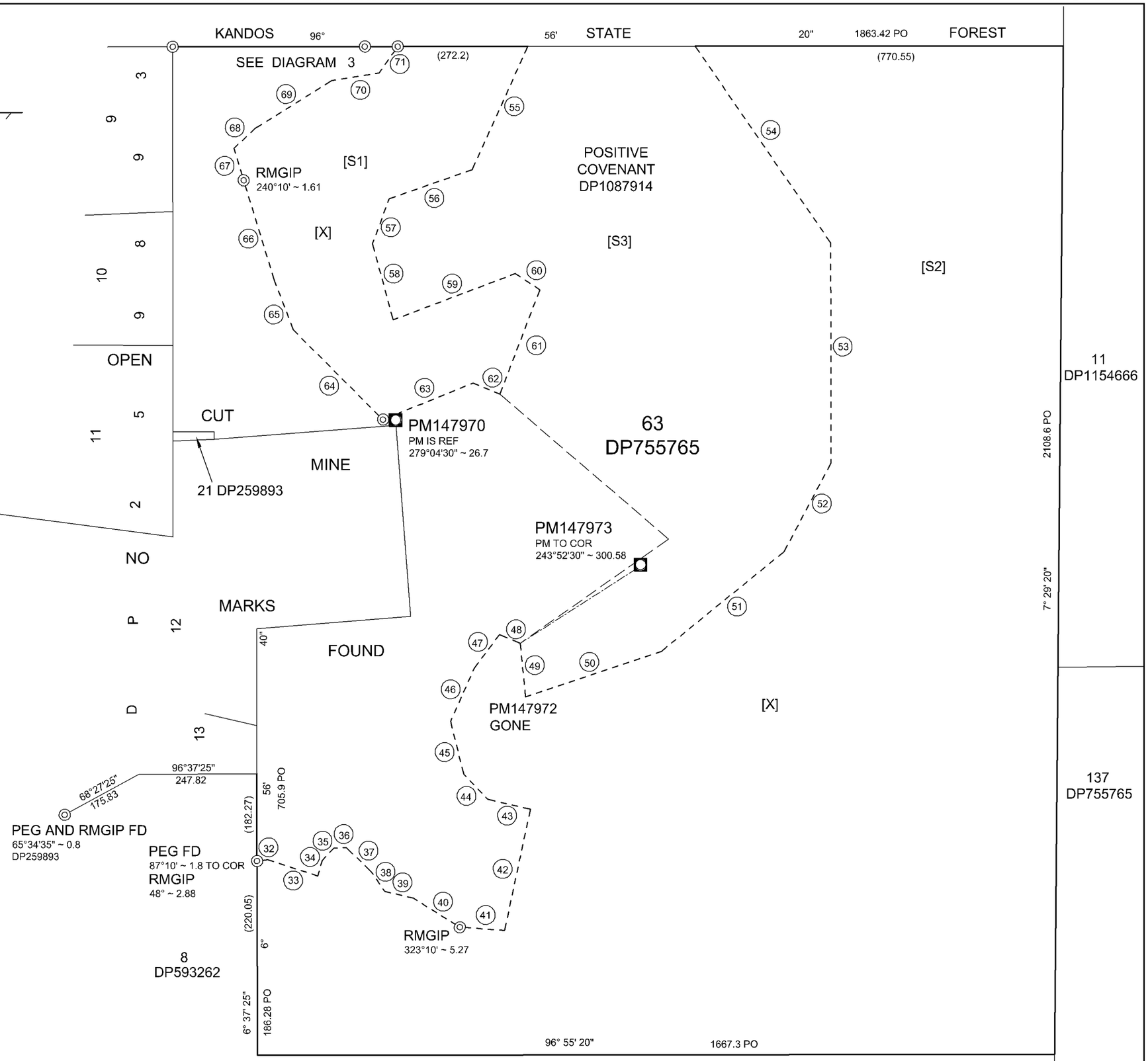
DIAGRAM 3
1:2000

TABLE OF SHORT LINES

LINE	BEARING	DIST	LINE	BEARING	DIST
32	90° 07'	22.385	52	34° 56' 10"	210
33	115°	110	53	6° 56' 10"	460
34	23°	33	54	332° 26' 10"	500
35	50°	36	55	211° 17' 10"	282.87
36	95°	27	56	257° 41' 15"	184.1
37	141°	72	57	207° 18' 15"	100
38	153°	50	58	171° 56' 15"	165.3
39	110°	61	59	76° 11' 10"	273.57
40	129°	115	60	130° 43'	61.45
41	101°	94	61	207° 56' 10"	233.77
42	19°	259	62	300°	60
43	290°	91	63	255°	204
44	323°	73	64	322°	265
45	353°	114	65	346°	115
46	31°	122	66	350°	215
47	44°	88	67	350°	70
48	120°	47	68	54°	60
49	181° 26' 15"	112.8	69	65°	190
50	78° 26' 10"	300	70	88°	100
51	57° 56' 10"	330	71	42°	67.8

[X] - CONSERVATION AREA

[S1], [S2], [S3] DENOTE AREAS DEFINED IN THE CHARBON COLLIERY COMPENSATORY HABITAT MANAGEMENT PLAN AS REFERRED TO BY THE TERMS OF THE POSITIVE COVENANT



Surveyor: PETRAS GORDON SILINIS Date of Survey: 06/02/2012 Surveyor's Ref: 3/1676PS	PLAN OF POSITIVE COVENANT OVER LOTS 42, 63, 76, 90, 91 AND 146 DP 755765 AND LOTS 11 AND 12 DP 1179184	LGA : MID-WESTERN REGIONAL Locality : CLANDULLA Subdivision No : —— Lengths are in metres. Reduction ratio 1:6000	Registered 19.2.2014	DP1189047

10 20 30 40 50 60 Table of mm 90 100 110 120 130 140

PLAN FORM 6 (2012) WARNING: Creasing or folding will lead to rejection

DEPOSITED PLAN ADMINISTRATION SHEET

Sheet 1 of 2 sheet(s)

Office Use Only

Registered: 19.2.2014

Title System: TORRENS

Purpose: EASEMENT

Office Use Only

DP1189047

PLAN OF POSITIVE COVENANT OVER LOTS 42, 63, 76, 90, 91 AND 146 DP 755765 AND LOTS 11 AND 12 DP 1179184

LGA: MID-WESTERN REGIONAL

Locality: CLANDULLA

Parish: CLANDULLA

County: ROXBURGH

Crown Lands NSW/Western Lands Office Approval

I, ... (Authorised Officer) in approving this plan certify that all necessary approvals in regard to the allocation of the land shown herein have been given.

Signature: ....

Date: ....

File Number: ....

Office: ....

Subdivision Certificate

I, ...

*Authorised Person/*General Manager/*Accredited Certifier, certify that the provisions of s.109J of the *Environmental Planning and Assessment Act 1979* have been satisfied in relation to the proposed subdivision, new road or reserve set out herein.

Signature: ....

Accreditation number: ....

Consent Authority: ....

Date of endorsement: ....

Subdivision Certificate number: ....

File number: ....

*Strike through if inapplicable.

Survey Certificate

I, PETRAS GORDON SILINIS of Craven, Elliston & Hayes (Lithgow), a surveyor registered under the *Surveying and Spatial Information Act 2002*, certify that:

*(a) The land shown in the plan was surveyed in accordance with the *Surveying and Spatial Information Regulation 2012*, is accurate and the survey was completed on 06/02/2012.

~~*(b) The part of the land shown in the plan (*being/*excluding .....) was surveyed in accordance with the *Surveying and Spatial Information Regulation 2012*, is accurate and the survey was completed on ...., the part not surveyed was compiled in accordance with that Regulation.~~

~~*(c) The land shown in this plan was compiled in accordance with the *Surveying and Spatial Information Regulation 2012*.~~

Signature: .... Dated: 22-7-2013

Surveyor ID: 8557

Datum Line: PM140799 – SSM24997

Type: ~~*Urban~~/*Rural

The terrain is ~~*Level-Undulating~~ / *Steep-Mountainous.

*Strike through if inapplicable.

^Specify the land actually surveyed or specify any land shown in the plan that is not the subject of the survey.

Statements of intention to dedicate public roads, public reserves and drainage reserves.

Plans used in the preparation of survey/~~compilation.~~

DP259893
DP561740
DP709449
DP1087914
R1095-1496 R2626-1496
R2927-1496 R3129-1496
R3854-1496

If space is insufficient continue on PLAN FORM 6A

Signatures, Seals and Section 88B Statements should appear on PLAN FORM 6A

Surveyor's Reference:3/1676ps

PLAN FORM 6A (2012) WARNING: Creasing or folding will lead to rejection

DEPOSITED PLAN ADMINISTRATION SHEET

Sheet 2 of 2 sheet(s)

Office Use Only

Registered: 19.2.2014

Office Use Only

DP1189047

PLAN OF POSITIVE COVENANT OVER LOTS 42, 63, 76, 90, 91 AND 146 DP 755765 AND LOTS 11 AND 12 DP 1179184

This sheet is for the provision of the following information as required:

- A schedule of lots and addresses - See 60(c) *SSI Regulation 2012*
- Statements of intention to create and release affecting interests in accordance with section 88B *Conveyancing Act 1919*
- Signatures and seals- see 195D *Conveyancing Act 1919*
- Any information which cannot fit in the appropriate panel of sheet

Subdivision Certificate number: ——

Date of Endorsement: ——

PURSUANT TO S88B OF THE CONVEYANCING ACT 1919 AS AMENDED, IT IS INTENDED TO CREATE:

1) POSITIVE COVENANT

Executed by Charbon Coal Pty Limited
ABN 71 064 237 118 by

Signature of Director

Signature of Secretary

STEVE BRACKEN

Tony Macko

Name of Director Name of Secretary

Executed by SK Australia Pty Limited
ABN 76 003 964 225 by

Signature of Director

Signature of Secretary

Hyeondong Cho

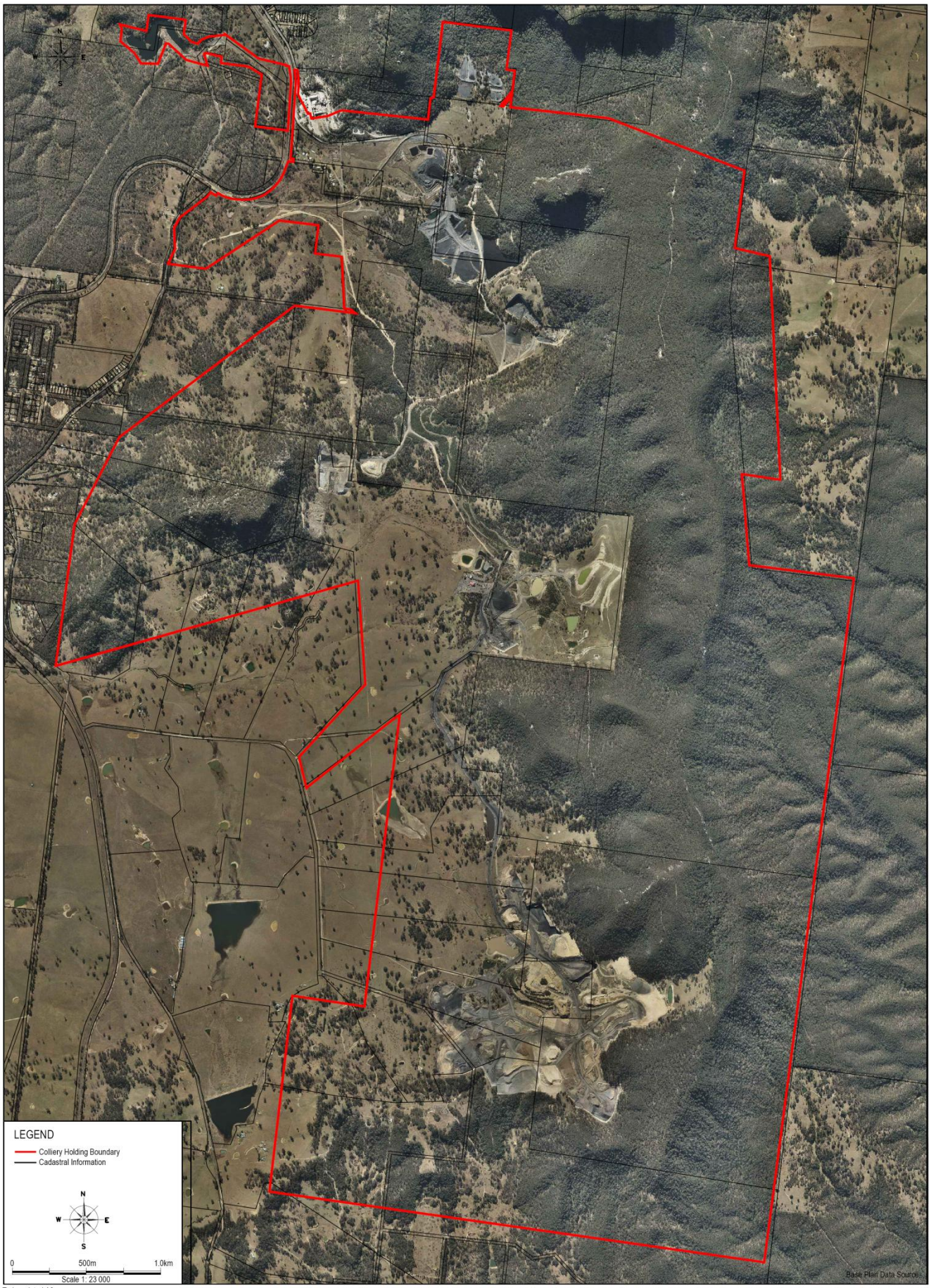
Name of Director ~~Name of Secretary~~

Dae Han Kim

Name of Secretary

If space is insufficient use additional annexure sheet

Surveyor's Reference: 3/1676PS



To be printed A3

GSS ENVIRONMENTAL
Environmental, Land and Project Management Consultants

Aerial Photograph