Centennial Coal

Lidsdale Siding

2013 ANNUAL REVIEW

January 2013 – December 2013

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Name of Operation		Lidsdale Siding
Annual Review Period		1 January 2013 to 31 December 2013
Name of Leaseholder		Ivanhoe Coal Pty Ltd
Name of Mine Operator		Ivanhoe Coal Pty Ltd
Reporting Officer		Rob Hunt
	Title	Environment Coordinator
	Signature	R. J. Hunt.
	Date	6/3/2014

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1. INTRODUCTION

Ivanhoe Coal Pty Ltd (Centennial Ivanhoe) operates the Lidsdale Siding Rail Loading Facility, located approximately 12 kilometres northwest from the city of Lithgow, NSW. Lidsdale Siding is situated approximately 150 kilometres west of Sydney adjacent to the township of Wallerawang.

The Lidsdale Siding Upgrade Project Environmental Assessment (EA) was submitted to the Department of Planning and Infrastructure (DP&I) in August 2012. The Lidsdale Siding Upgrade Project was approved on 3 May 2013 by the Minister for Planning and Infrastructure, via the Planning Assessment Commission.

The upgrade project at the Lidsdale Siding ensures the improvement of operational efficiency and increases its throughput capacity to approximately 6.3 million tonnes per annum. The train loading process would be automated by establishing a coal stockpile with underground reclaimers feeding a conveyor leading to a train loading bin. The total stockpile capacity would be approximately 50,000 tonnes.

This Annual Review relates solely to the reporting period 1 January 2013 to 31 December 2013. This is the first Annual Review prepared for the Lidsdale Siding operation.

1.1 Consents, Leases and Licences

1.1.1 Consents

The Project Approval (PA08_0223) for the Lidsdale Siding Upgrade was approved on 3 May 2013 by the Minister for Planning and Infrastructure, via the Planning Assessment Commission. Schedule 5 Condition 4 of PA08_0223 outlines the requirements for the Annual Review (see **Table 1.1**).

Table 1.1: Annual Review Conditions

Condition Number	Condition	Section
4 a)	Describe the development (including any rehabilitation) that was carried out in the past calendar year, and the development that is proposed to be carried out over the next year;	Section 2, 3, 5 and 6
4 b)	Include a comprehensive review of the monitoring results and complaints records of the project over the past calendar year, which includes a comparison of these results against the: o the relevant statutory requirements, limits or performance measures/criteria; o requirements of any plan or program required under this approval; o the monitoring results of previous years; and o the relevant predictions in the EA.	Section 3
4 c)	Identify any non-compliance over the past year, and describe what actions were (or are being) taken to ensure compliance;	Section 3.15
4 d)	Identify any trends in the monitoring data over the life of the project;	Section 3
4 e)	Identify any discrepancies between the predicted and actual impacts of the	Section 3

Condition Number	Condition	Section
	project, and analyse the potential cause of any significant discrepancies; and	
4 f)	Describe what measures will be implemented over the next year to improve the environmental performance of the project.	Section 6

1.1.2 Other Approvals

Table 1.2 below outlines the other leases and licenses that apply to the Lidsdale Siding operation.

Table 1.2: Status of Upgrades Associated with Lidsdale Siding

Approval/ Title/ Licence/ Permit	Description	Details/Status
Environmental Protection Licence	EPL 5129	EPL's are under the *Protection of the Environment Operations Act (1997)*. EPL's are designed to control and limit pollution levels and are issued and regulated by the NSW Environment Protection Authority (EPA). At Lidsdale Siding EPL No. 5129 covers the Lidsdale Coal Loading Facility. One discharge point is authorised under the licence and the annual renewal date of the licence is 16th July.
Lease	Site lease	Memorandum of Lease (4/11/1978). Signed between Public Transport Commission of NSW and Austen and Butta Limited. Lease in place between the managers of the site (John Holland Rail) and Centennial Ivanhoe. The original lease was signed by the owners of the site (former Department of Public Transport Commission of NSW) and Austen and Butta Limited.
Bore Licence	10BL603501	In April 2010, the NSW Office of Water (NOW) issued Licence No. 10BL603501 under Section 12 of the *Water Act, 1912*, for Lidsdale (Lot 1 DP252472).
Water Licence	10SL038318	In March 2011, NOW issued License No. 10SL038318 for renewal for 5 years, to use Pipers Flat Creek water.

1.1.3 Management Plans

Table 1.3 outlines the management plans in place for Lidsdale Siding. These management plans have been prepared as a requirement of the Project Approval or EPA.

Table 1.3: Management Plans for Lidsdale Siding

Management Plan	Consent Condition	Description
Environmental Management Strategy	Schedule 5 Condition 1	Submitted to the DP&I for approval.
Construction Environmental Management Plans: o Construction Noise Management Plan o Construction Traffic Management Plan o Construction Erosion and Sediment Control Plan	(Noise - Schedule 3 Condition 6); (Traffic Schedule 3 Condition 13); and (ESC - Schedule 3 Condition 13).	Completed. Approved 28 May 2013.
Noise Management Plan	Schedule 3 Condition 7	Approved 15 November 2013.
Air Quality and Greenhouse Gas Management Plan	Schedule 3 Condition 10	Approved 15 November 2013.
Water Management Plan	Schedule 3 Condition 21	Approved 15 November 2013.
Biodiversity Management Plan	Schedule 3 Condition 22	Approved 15 November 2013.
Heritage Management Plan	Schedule 3 Condition 23	Approved 15 November 2013.
Conceptual Rehabilitation Closure Plan	Schedule 3 Condition 29	To be completed prior to 3 May 2014.
Pollution Incident Response Management Plan	Requirement of OEH	Completed.

1.2 Site Contacts

The Lidsdale Siding site contacts are:

Coal Distribution Manager - West: Mr Graeme Glazebrook, (02) 6355 9508, mob: 0438 501 611, or email Graeme.Glazebrook@centennialcoal.com.au.

Environment and Community Coordinator: Mr Rob Hunt, (02) 6355 9509, mob 0428 602 069, or email Rob.Hunt@centennialcoal.com.au.

Environment and Community Officer: Martin Howe, (02) 6355 9509, or email Martin.Howe@centennialcoal.com.au.

1.3 Actions Required from previous Annual Review

This is the first Annual Review required for Lidsdale Siding, therefore there are no actions.

1.4 Plans

Table 1.4 details the plans completed for this Lidsdale Siding.

Table 1.4: Plans Completed for the Lidsdale Siding

Plans Required	Reference Number
Land preparation	Plan 3
Proposed Mining Activities	Plan 4
Proposed Rehabilitation	Plan 5

2. OPERATIONS DURING THE REPORTING PERIOD

2.1 Report on Proposed Activities from Previous Annual Review

This is the first Annual Review for Lidsdale Siding and therefore no reporting on proposed activities for the 2013 period.

2.2 Construction

A number of construction activities was completed in 2013 for the Lidsdale Siding Upgrade Project (**Table 2.1**).

Construction activities will continue in 2014 with upgrades projected to be completed by May 2014. Key construction activities to be completed in 2014 include the reclaim tunnel and conveyor (**Figure 1** and **Figure 2**).

Table 2.1 – Status of Upgrades Associated with Lidsdale Siding

Upgrade Component	Comment
A new diversion chute at the end of the existing overland conveyor to load coal onto the stockpile conveyor. This chute can also divert coal to an auxiliary stockpile under unplanned stop conditions for the stockpile conveyor so that the overland system does not need to be shutdown.	Chute has been constructed.
An elongated conical stockpile and associated push out area.	Construction of tripper, gantry and reclaim tunnel not yet completed.
An auxiliary stockpile for the diversion of coal from the conveyor system.	Not yet complete.
An elevating stockpile conveyor and gantry to feed the existing coal stream to the elongated conical stockpile.	Not yet completed.
Underground tunnel with reclaimers beneath the elongated conical stockpile.	Final stages of construction.
A train loading bin incorporating coal weighing.	Final stages of construction.
A conveyor from the reclaim tunnel to the train loading bin.	Final stages of construction.
A spillage reclaim pit beneath the train loading bin.	Final stages of construction.
A control room adjacent to the train loading bin.	Not yet constructed.
A track extension to the existing rail siding with additional parallel siding.	Not yet constructed.
Water supply, dust suppression, reticulation upgrade and water management structures as required.	Water management upgrades completed in 2013.
Landscaping and bunding as required.	To be undertaken in 2014/15.
A new transformer to upgrade power.	Not yet complete.
Lighting for night operation and security.	Not yet complete.

Upgrade Component	Comment
Erection of perimeter fencing and signage.	Not yet complete.
Mobile refuelling facility and the provision of a self bunded transportable fuel storage tank.	Not yet constructed.

The key operational components of the fully upgraded Lidsdale Siding site include:

- Handling an increased quantity of coal from 2 million tonnes per annum to up to approximately 6.3 million tonnes per annum (Mtpa);
- All coal would be delivered by the existing overland conveyor system;
- Increased train movements from two to an average of five per day and a peak of seven trains per day;
- Increased rate of operation of the existing conveyor from the Centennial Coal Western Coal Services Site and operation of this conveyor, the feeder and the proposed reclaimer;
- Blending of coal on site;
- Railyard activities, being storage, provisioning and minor maintenance of locomotives and wagons normally accessing the site for loading;
- Maintenance of onsite infrastructure and site amenities;
- Maintenance and inspection of on-site machinery including locomotives and rolling stock;
- Fuelling of on-site machinery (including locomotives) from mobile tankers and a self bunded transportable fuel tank;
- Environmental management measures including sprinkler use for dust suppression, truck wash, monitoring activities, waste removal and noise attenuation; and
- Use of the existing weighbridge and weighing of wagons. The existing weighbridge is used for non – commercial purposes.

Figure 1: Construction of Reclaim Tunnel at Lidsdale Siding (August 2013)

Figure 2: Construction of the Conveyor (December 2013)

2.3 Waste Management

The *Construction Waste Management Plan* (CWMP) outlines construction waste produced at Lidsdale Siding and a series of waste reduction and control measures. Where appropriate, the CWMP aims to meet the principles of the waste management hierarchy by promoting waste as a resource through the following in order of preference:

Avoidance: Waste avoidance through prevention or reduction of waste generation. Waste avoidance is best achieved through better design and purchasing choices.

Reuse: Waste reuse, without substantially changing the form of waste.

Recycle: Waste recycling through the treatment of waste that is no longer usable in its current form to produce new products.

Disposal: Waste disposal, in a manner that causes the least harm to the natural environment.

Waste compositions for the operation include:

- Putrescible waste;
- Wood;
- Steel;
- Paper & Cardboard;
- Hazardous waste, oils, oil filters;
- Plastic bottles;
- Aluminium cans;
- Trade waste from crib room sinks;
- Vegetation;
- Unsuitable fill; and
- Concrete.

Lidsdale Siding uses JR Richards as its waste contractor who manage all waste services at the site. JR Richards specialise in reprocessing and recovery of construction waste.

There was a noticeable increase in waste generation during the reporting period compared to previous years, which was to be expected with construction commencing in July 2013 (**Table 2.2**). Once the upgrade is complete it is predicted that waste volumes will decrease, producing quantities similar to those recorded prior to construction.

Table 2.2: Waste Management Summary at Lidsdale Siding

Year	Solid Waste Disposal (t)	Liquid Waste Recycled (kL)	Recycled Paper and Cardboard (t)	Recycled (Other) (t)
2012	11.8	5.3	0.9	0.48
2013	171.6	138.5	0.56	0.3

2.4 Coal Stockpiles and Stockpiles

ROM coal from Springvale Colliery travels by overland conveyor to the Centennial Coal Western Coal Services (Coal Services) site and Wallerawang and Mount Piper Power Stations. Both ROM coal and product coal are transported via an overland conveyor from Coal Services to Lidsdale Siding. Once at Lidsdale Siding the coal is stockpiled separately and dispatched offsite by train. **Table 2.3** summarises the coal transportation at Lidsdale siding in 2013.

Table 2.3: Coal Transportation Summary at Lidsdale Siding in 2013

Train Summary	2013
Amount of coal transported to Lidsdale Siding (T)	1,715,052
Amount of coal transported from Lidsdale Siding via train (T)	1,744,869
Number of train movements during 2013	NA#
Maximum number of trains leaving Lidsdale Siding in one day	NA#
Average number of trains leaving Lidsdale Siding per day	NA#

Data collection will start in 2014

3. ENVIRONMENTAL MANAGEMENT AND PERFORMANCE

3.1 Risk Management

Environmental management at Lidsdale Siding is undertaken via a risk-based approach. Assessing risk against pre-determined consequence and probability criteria allows for site resources to be efficiently involved in high risk or high consequence issues. Key risks are summarised in **Table 3.1**.

Table 3.1: Environmental Risk Identification for Lidsdale Siding

	All construction activities including earth moving	Use/maintenance of roads, tracks and equipment	Mineral processing facilities and infrastructure	Ore/product stockpiling and handling	Water management including storm event contingencies	Hazardous materials and fuel, handling/spills management	Sewerage	Rubbish disposal	Rehabilitation activities
Air pollution, dust/other	M	L	L	L	L	L	L	L	L
Erosion/sediment minimisation	M	L	L	L	M	L	L	L	L
Surface water pollution	M	L	L	L	M	L	L	L	L
Ground water pollution	L	L	L	L	L	L	L	L	L
Contaminate or polluted land	M	L	L	L	L	L	L	L	L
Threatened flora protection and fauna	L	L	L	L	L	L	L	L	L
Weed control and management	M	L	L	L	L	L	N/A	L	L
Operational noise	M	M	M	M	L	L	L	L	L
Visual amenity, stray light	M	M	L	L	L	L	L	L	L
Aboriginal	L	L	L	L	L	L	L	L	L

	All construction activities including earth moving	Use/maintenance of roads, tracks and equipment	Mineral processing facilities and infrastructure	Ore/product stockpiling and handling	Water management including storm event contingencies	Hazardous materials and fuel, handling/spills management	Sewerage	Rubbish disposal	Rehabilitation activities
heritage									
European heritage conservation	L	L	L	L	L	L	L	L	L
Bushfire	L	L	L	L	L	L	L	L	L
Hydrocarbon contamination	L	L	L	L	L	L	L	L	L
Public safety	L	L	L	L	L	L	L	L	L

L - Low Risk

M - Medium Risk

H – High Risk

The identification and assessment of environmental risks at the site has allowed management plans and procedures to be developed to minimise the potential risk on the environment and community. Management controls are required for all items which have been assessed as either high or medium risk. The site broad brush risk assessment for Lidsdale Siding is updated and reviewed annually. Risk management is outlined in **Section 4** of the Environmental Management Strategy.

3.2 Meteorological Monitoring

Meteorological data is sourced from a weather station located at the Pinedale Mine. Lidsdale Siding has a weather station but this was not used for reporting in 2013 due to the station intermittently working. The monitoring of meteorological data at Lidsdale Siding is a requirement of Schedule 3 Condition 11 of the Project Approval. The Lidsdale Siding Weather Station measures wind speed, wind direction, air temperature, temperature lapse rate, solar radiation, relative humidity and rainfall. An audit was conducted on the Lidsdale Siding Weather Station, and having successfully implemented the findings, it is expected to be fully operational in 2014.

3.2.1 Rainfall

The monthly rainfall fluctuates throughout the year with the highest rainfall occurring in February 2013 and the minimum occurring in October 2013. Monthly rainfall and number of wet days for the reporting period are reported in **Table 3.2**. Overall, the year was drier (586 mm) than the long term Lithgow average (859mm).

There was a reduction in the total rainfall and number of wet days than the previous year for the Pinedale Weather Station.

Table 3.2: 2013 Rainfall and Wet Day Data (mm)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
94.4	131.2	41.0	27.0	22.6	79.2	18.2	18.2	44.4	15.0	59.2	35.4	585.8
Number of Rain Days >1mm												
7	7	4	3	4	9	3	3	4	2	9	3	58

Data Source: Metford Laboratories-Pinedale Weather Station

3.2.2 Wind Speed and Direction

Wind direction and wind speed data is sourced from the weather station located at Pinedale Mine. The dominant wind direction during the reporting period was from a West-North-West direction (see **Table 3.3**). In comparison to 2012, the most dominant wind was South – Southwest.

Table 3.3: 2013 Wind Data Summary

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average Wind Speed (m/s)	3.1	2.5	3.3	2.2	2.5	2.8	3.3	5.6	4.4	5.0	3.9	4.2
Average Wind Direction	SE	SE	SE	NW	WNW	SSE	NW	WNW	WNW	WNW	SE	ESE

3.2.3 Temperature Summary

The lowest temperature during 2013 occurred on 27 July with a temperature of -5.4 degrees Celsius (˚C) recorded. The maximum temperature recorded in 2013 was 36.9 ˚C which was recorded on two occasions (12 January and 18 January 2013) (see **Table 3.4**). In comparison to 2012, the lowest temperature was -5.9 ˚C and the highest temperature was 32.9 ˚C.

Table 3.4: 2013 Temperature Summary at 10m

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Min temp (˚C)	7.6	7.3	5.2	-1.1	-3.2	-2.9	-5.4	-3.2	-1.0	-2.3	0.0	1.0
Max temp (˚C)	36.9	29.8	26.0	24.1	23.1	15.5	16.5	19.3	25.5	29.6	30.2	33.9

3.3 Air Quality

Potential windblown dust sources from Lidsdale Siding include unsealed traffic areas, the coal stockpiles and transportation by vehicles. There are other sources of potential dust that are located outside of the Lidsdale Siding site including the Wallerawang Power Station, a concrete batching plant and quarry products business.

3.3.1 Statutory Requirements

Schedule 3, Condition 10 of PA08_0223 outlines the requirement to prepare an *Air Quality and Greenhouse Gas Management Plan*. This *Air Quality and Greenhouse Gas Management Plan* was approved by the DP&I on 3 May 2013.

Schedule 3 Condition 8 of PA08_0223 (**Table 3.5 – 3.7**) outlines the air quality assessment criteria for Lidsdale Siding.

Table 3.5: Long-term Criteria for Particulate Matter

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

Table 3.6: Short-term Criteria for Particulate Matter

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

Table 3.7: Long-term Criteria for Deposited Dust

Pollutant	Averaging Period	Maximum increase in deposited dust level	Maximum total deposited dust level
Deposited dust	Annual	[b] 2 g/m^2/month	[a] 4 g/m^2/month

3.3.2 Air Quality Controls

Air quality controls include:

- The upgrade project will result in coal being transferred to a coal loading bin rather than the use of front end loaders and truck transfers. This will result in reduced dust emissions;
- Visual inspections;
- Monthly dust monitoring and data review;
- Minimum areas disturbed as necessary during construction activities;
- Disturbed areas rehabilitated as soon as practicable with inert material and vegetation;
- Vegetative buffer retained around site;
- Regularly assess meteorological conditions; and
- Roads and trafficked areas are to be watered down using a water cart to minimise the generation of dust.

3.3.3 Monitoring Program

Table 3.8 below outlines the depositional dust gauge results for the period of 2010 to 2013 at Lidsdale Siding. **Figure 1** summarises annual depositional dust gauge levels during 2013. **Appendix 3** provides detailed depositional dust results during 2013. Despite construction commencing in July 2013, there was a decrease in the combined depositional dust levels at Lidsdale Siding in 2013 compared to 2012 and 2011. With the majority of the Lidsdale Siding site consisting of a coal stockpile areas, there are minimal sources of mineral dust, however laboratory analysis indicated that many samples contain significant amounts of mineral dust and plant/insect debris.

Table 3.8: Dust Deposition Gauge Results – Summary

Dust Depositional Gauge	2011 (g/m2/month)	2012 (g/m2/month)	2013 (g/m2/month)
DDG1	3.3	0.4	1.1
DDG6	2.3	4.6	2.9
DDG7	10.2	6.6	4.9
DDG8	4.0	3.8	2.4
Combined Annual DDG Average	**4.95**	**3.85**	**2.8**

High Volume Air Sampler (HVAS) Total Suspended Particulates (TSP) and PM_{10} monitoring were not undertaken at Lidsdale Siding during the reporting period.

3.3.4 Predictions Against the EA

Section 8.4.2 of the August 2012 EA outlines the predictions of air quality during the construction and fully operational phases at Lidsdale Siding. The modelling from the August 2012 EA suggests that incremental and cumulative annual average dust deposition rates at all nominated residences/properties surrounding the site are predicted to be well below 2 g/m^2/month (incremental increase in dust deposition) and below 4 g/m^2/month (cumulative dust deposition) during the construction period.

Construction and Operation

The depositional dust gauge results indicate that incremental and cumulative annual average depositional dust rates at depositional dust gauges (DDG1, DDG6, and DDG8) were below 4 g/m^2/month in 2013. DDG7 however had an annual average of 4.9 g/m^2/month which is above the criterion of 4 g/m^2/month. It should be noted that DDG 7 was above 4 g/m^2/month during 2011 and 2012 with no construction completed during these periods. DDG 7 does not reflect the depositional dust readings at nearby residences. DDG 6 is more reflective of dust results at properties in the Main Street area with the annual depositional dust levels below 4 g/m^2/month at this location.

In the August 2012 EA it was predicted that residences/properties surrounding the Lidsdale Siding site to be well below 2 g/m^2/month (incremental increase in dust deposition) and below 4 g/m^2/month (cumulative dust deposition) during the construction phase. The combined depositional dust results during the construction phase (July to December 2013) were higher compared to the non - construction phase (January to June 2013). DDG 7 was the only gauge above 4 g/m^2/month during the period of construction (see **Table 3.9**).

Table 3.9: Dust Deposition Gauge Results (Construction vs Non Construction) Summary

Dust Depositional Gauge	Jan - June 2013 (g/m^2/month)	Jul - Dec 2013 (g/m^2/month)
DDG1	0.5	1.7
DDG6	3.5	2.2
DDG7	2.7	7.1#
DDG8	1.75	3.4
Combined Annual DDG Average	2.1	3.6

Jul/Aug result was 26.1 g/m2/mth due to 80% insect debris, 30% fungi and 10% mineral dust.

With the upgrade not yet complete, there is no comparison of the operating scenario predictions in this Annual Review.

3.4 Greenhouse Gas Emissions

3.4.1 Statutory Requirements

Centennial reports greenhouse gas emissions in accordance with the reporting requirements in the *National Greenhouse and Energy Reporting (NGER) Act.*

3.4.2 Greenhouse Gas Controls

Lidsdale Siding has developed and implemented an Energy and Greenhouse Management System and monitors and reports energy usage at the site.

Additional measures that Lidsdale Siding aims to achieve include:

- Identification and implementation of cost effective measures to improve energy efficiency;
- Regular maintenance of plant and equipment to minimise fuel consumption;
- Consideration of energy efficiency in plant and equipment selection/phase; and
- Investigation of measures to offset Scope 1 emissions at a corporate level including alignment with biological offsets and purchasing of green power.

3.4.3 Monitoring Program

Greenhouse gas (GHG) emissions are monitored on an absolute basis and on a per tonne of coal produced basis. The main source of GHG emissions is the burning of diesel fuel on the site. The operations constantly seek ways of reducing fuel consumption through efficient mine planning and machinery maintenance.

Centennial Coal has statutory reporting obligations for data collected under the *NGER Act*. The data measured under this Act is independently verified by an external auditor prior to submission to Government. This data is collected, audited and reported on a financial year basis and as such is reported externally to any agency on a financial year basis using the most up to date recently audited data.

3.5 Erosion and Sediment Control

3.5.1 Statutory Requirements

Schedule 3 Condition 19 of PA08_0223 outlines the requirement to prepare a *Construction Erosion and Sediment Control Plan*. Schedule 3 Condition 21 of PA08_0223 outlines the requirement to prepare a *Water Management Plan*, with this having components of erosion and sediment control.

3.5.2 Erosion and Sediment Controls

All erosion and sediment controls on site are based on the principals of the *Landcom Guidelines (2004)* for erosion and sediment control (*Blue Book*). This includes the following:

- Minimise surface disturbance and restrict access to undisturbed areas as much as practically possible;
- Where possible progressive rehabilitation/stabilisation of disturbed areas;
- Control of water from the top of and through the project area, including the separation of runoff from disturbed (dirty water) and undisturbed (clean water) areas where practicable;
- The construction of surface drains and other measures to control and manage surface runoff;
- All erosion and control measures are maintained; and
- Should the discharge of water prove necessary, ensure sufficient settlement time is provided prior to discharge, or flocculating agent is added to the water, such that suspended sediment within the water meets the water quality objectives.

3.5.3 Monitoring Program

An inspection program at Lidsdale Siding monitors all erosion and sediment control structures. All erosion and sediment control structures are reviewed following greater than 20 mm of rain. Erosion and sediment controls are reviewed as part of the monthly environmental inspections.

3.5.4 Predictions Against the EA

Section 8.4 of the August 2012 EA stated that potential impacts which may arise from construction include:

- Contamination and sedimentation of onsite containment ponds, culverts, drainage structures and water resources in the immediate vicinity; and
- Potential decrease in water quality as a result of surface water runoff.

Effective erosion and sediment controls for Lidsdale Siding will require appropriate activities to be carried out over the life of the Project. Erosion and sediment controls are implemented as per **Section 3.5.2**. There have been no incidents relating to erosion and sediment control during 2013.

3.6 Surface Water Management

3.6.1 Site Water Management System

Section 5.2 of the *Water Management Plan* outlines the following water sources are available to the Lidsdale Siding site:

- Licenced groundwater extraction from Production Bore;
- Rain interception – direct incident rainfall on water control ponds;
- Surface runoff from site – directed to Dirty Water Dam and Triangle Dam;
- Springvale Coal Services – currently trucked to site as required, a pipeline will be constructed in the near future;
- Licenced surface water extraction (Pipers Flat Creek) – not currently in use – contingency supply;
- Town municipal water supply – domestic and emergency use (firefighting) only; and
- Potable water sourced by LCC.

The main use of water on site is for dust suppression. Overflow water is discharged through the Licensed Discharge Point 4 (LDP004) (see **Appendix 6 – Figure 3**). Water monitoring results are assessed and analysed to determine if the discharge quality meets EPL conditions.

The main water storage capacities are reported in **Table 3.10**. There are several small silt traps and sumps on site, but these have not been included in the table as water storages.

Table 3.10: Stored Water at Lidsdale Siding at the end of 2013

Water Storage	Volume Held (KL)		
	Start of Reporting Period	End of Reporting Period	Storage Capacity
Dirty Water Dam	4000	2000	4173
Triangle Dam	-	0	1132

Water level gauges have been established at the Dirty Water Dam and Triangle Dam to monitor water storage volumes. Lidsdale Siding is completing a sediment dam survey to ensure the site achieves the EPA request to meet the 95 percentile storage limit (*Requirement of the Blue Book*). Dams will be desilted to ensure capacity meets *Blue Book* requirements.

Site water management structures are shown in **Figures 3, 4 and 5** Surface water management structures are used for controlling the runoff water quality, the primary management system being the separation of clean and dirty water flow paths. Excess surface water is discharged through LDP 004 **(see Figure 4)**.

Figure 3: Triangle Dam

Figure 4: Licensed Discharge Point 4 at Lidsdale Siding

Figure 5: Dirty Water Dam

Table 3.11 below provides details of the storage dams at Lidsdale Siding.

Table 3.11: Storage dams at Lidsdale Siding

Dam Name	Stage Summary	Main Functions
Dirty Water Dam	Consists of two ponds arranged side by side, which becomes a single pond as it fills to a capacity of 4,173 kL. The Dirty Water Dam has a weir structure leading to a culvert underneath the railway line that consists of 5x900mm diameter pipes draining to Stage 2 (Triangle Dam). The weir is equipped with an oil/water separator with an inverted outlet to remove flows from approximately half way through the water column for discharge.	Receives all site run-off and recycled water from the truck wash. The Dirty Water Dam operates as a wet type basin for primary sediment settling and treatment, and provides capture and retention of hydrocarbon spills.
Triangle Dam	The Triangle Dam has a 1,132kL capacity and a spillway structure consisting of 5 x 900mm diameter culverts that provide the discharge point to Pipers Flat Creek.	Provides a final sediment settling area. When filled by stormwater to above capacity, water will naturally discharge. The water discharge volume and quality is monitored. Spillage is rare and generally satisfies approved water quality criteria for discharge. Water can be used directly for dust suppression or wash-down, or can be used to top up the Dirty Water Dam or transfer tank as required.

Flood Modelling

Partial flood modelling has been undertaken by Aurecon (2013) for the Lidsdale Siding upgrade works with this producing flood maps for the existing 1, 2, 5, 10, 20 and 100 year peak average recurrence interval (ARI) events for the site. The purpose of the modelling was to establish flood levels and protection requirements for the proposed infrastructure and operation of the site. Flood maps have been created to indicate the extent of flooding. Additional surveys and flood modelling will take place in 2014 to increase resolution of flooding predictions.

The outcomes of the flood modelling have indicated that the Lidsdale site has minor to medium flooding issues up to the 2 year ARI peak event. Pipers Flat Creek overtops its banks during a 2 year ARI peak event and more extensive flooding of the site occurs with increasing ARI. During a 100 year ARI peak event the rail triangle is inundated and flooding then occurs across most of the site. Flood mitigation activities to be implemented in 2015 include:

- *Removal of Willows* - under the current scenario, congested creek vegetation may have a material impact on the flood immunity of the site;
- *Culvert Design Considerations* - flooding of the neighbouring sites to the west is likely to occur in part due to backwater effects from Pipers Flat Creek. Lidsdale Siding is investigating the design of culverts to minimise the risk of flooding. These would allow flow to occur in the northerly direction only;

- *Minor Creek Earthworks* - there is potential in conjunction with the proposed tree clearing works that the bend after the re-aligned section of Pipers Flat Creek could be regraded and made wider and deeper to reduce the existing constriction at the culvert location; and
- *Local Bunding* – some bunding is already in place at Lidsdale Siding (**see Figure 6**) with final shaping to be completed in 2015. Once shaped, the bunding will assist in minimising flooding of the Pipers Flat Creek into the operational section of the Lidsdale Siding.

Figure 6: Bunding is to be shaped in 2014

3.6.2 Statutory Requirements

Condition L2 of the EPL permits the discharge of water at LDP004 from the Triangle Dam into a stormwater discharge channel which flows into the Pipers Flat Creek. Water discharged from this site is required to be monitored for surface water quality daily. The limits for pollutant discharge as specified in condition L2.4 of the EPL are summarised in **Table 3.12**.

Table 3.12: LDP004 Discharge Water Quality Limits

Pollutant	Unit of measure	100 percentile concentration limit
Oil and Grease	mg/L	10
pH	-	6.5-8.5
TSS	mg/L	30

3.6.3 Monitoring Program

Discharge Volume

LDP004 discharged during the reporting period on 10 occasions, with these results recorded in **Table 3.13**. There are no volume limits in the EPL for any discharge from LDP004.

Table 3.13: LDP004 Discharge Volume

Month	Number of Discharge Events	Date (Volume kL)
January	0	-
February	0	-
March	2*	1-Mar (1360) 2-Mar (181)*
April	0	-
May	0	-
June	0	-
July	0	-
August	6	1-Aug (329), 5-Aug (378), 6-Aug (385), 7-Aug (275), 8-Aug (281), 9-Aug (262)
September	2	23-Sep (905), 24-Sep (841)
October	0	-
November	0	-
December	0	-

*Flow ceased on 2nd before sample could be taken.

Surface Water Results

Only LDP004 is required to be monitored by the EPL at Lidsdale Siding. All LDP004 results for 2013 comply with the EPL conditions (**Table 3.14**). **Table 3.15** compares the average LDP004 discharge water quality results from 2011 to 2013. A comparison between 2011 to 2013 results for the four sites is outlined in **Appendix 2.**

Table 3.14: Average Water Quality at Lidsdale Siding Surface Water Monitoring Locations

Dam	pH	TSS (mg/L)	EC (uS/cm)	Oil and Grease (mg/L)	Manganese (mg/L)	Iron (filt) (mg/L)
Dirty Water Dam	7.8	8.5	743	<5	0.36	0.054
LDP004	7.6	6.3	764	<5	0.75	0.05
Wallerawang Sewage Treatment Plan (STP)	7.6	4.1	572	<5	0.244	0.18
Pipers Flat Upstream	7.4	4	613	<5	0.20	0.12

Table 3.15: Average LDP004 Discharge Water Quality Results

Parameter	2011	2012	2013
pH	7.62	6.8	7.6
EC (uS/cm)	416	313	764
TSS (mg/L)	57.5	167	6.3
Filterable Manganese (mg/L)	0.151	0.095	0.075 (one sample)
Filterable Iron (mg/L)	0.15	0.15	<0.05 (one sample)
Oil & Grease (mg/L)	<5	<5	<5

3.6.4 Predictions Against the EA

The August 2012 EA predicts that there may be a potential decrease in water quality as a result of surface water runoff during the construction phase. The August 2012 EA does not provide any details regarding what constitutes a decrease in water quality. No operational predictions have been included in this section as the site has not yet been fully upgraded.
A table has been prepared comparing surface water quality during the period of pre - construction (January – June 2013) and during construction (July – December 2013) (**Appendix 2**). There were minimal changes between pH and TSS when comparing the pre - construction and construction period. There were however increases to EC levels.

3.7 Groundwater

The main hydrogeological units identified in the Lidsdale Siding area by the RPS Aquaterra specialists report (2012) include:

- Quaternary alluvium associated with Coxs River and minor creeks (Pipers Flat Creek);
- Coal seams within the Permian Illawarra Coal Measures – Katoomba Seam, Middle River Seam, Irondale Seam, Lidsdale Seam and Lithgow Seam; and
- Basal unit comprising the Shoalhaven Group (siltstone, shale).

The primary water bearing zones on site are associated with the weathered shale and shallow alluvium. Groundwater is also known to occur within the weathered sandstone, siltstone and shale of the basement Shoalhaven Group although low yields have been recorded (RPS Aquaterra 2012).

No groundwater dependant ecosystems were identified in the proposed Lidsdale Siding area (RPS Aquaterra 2012). Groundwater recharge occurs by direct infiltration of rainfall and local runoff into the unconsolidated surficial material (RPS Aquaterra 2012). Natural discharge occurs through evapotranspiration and through base flow contributions to creeks and rivers, including discharge to the alluvium in some locations (RPS Aquaterra 2012).

3.7.1 Statutory Requirements

Schedule 3 Condition 21 (c) and (d) of PA08_0223 outlines the requirement to prepare a *Groundwater Monitoring Program* and *Surface and Groundwater Response Plan*.

3.7.2 Groundwater Management Controls

Construction and Operations

The *Construction Groundwater Management Plan* outlines construction controls to minimise potential contamination of groundwater via the excavation of the coal reclaim trench including:

- Oils, fuels and lubricants are stored in accordance with the Construction Environmental Management Plan (CEMP);
- Correct storage of spoil or hazardous materials;
- Inspection and maintenance of plant;
- Maintenance of plant completed in designated maintenance area; and
- Robust spill prevention and response systems, outlined in the CEMP.

3.7.3 Monitoring Program

Six monitoring bores were drilled and installed to depths between 2.9 and 5.7m below ground level by AECOM in 2008 as part of a contamination assessment (RPS Aquaterra 2012). All bores were installed in the shallow alluvium. The locations of these bores were selected to provide spatial coverage in the aquifer and identification of potential contamination from a disused above ground diesel storage tank

Two test bores were drilled in March 2008 into the deeper aquifer. One of these bores was later converted into a production bore (GW110520; license No. 10WA116403) referred to as PB1. The other was abandoned due to insufficient yield.

Groundwater Quality

Groundwater locations are outlined in **Appendix 6 – Figure 3**. There was no sampling at MW2 during the reporting period as it was dry. **Table 3.16** below outlines the current groundwater monitoring program for Lidsdale Siding.

Table 3.16: Lidsdale Siding Groundwater Monitoring Program

Bore ID	Monitoring Frequency	Purpose	Recommended Monitoring Parameters
PB1	Continuous	Water extraction licence compliance	• Abstraction volume
PB1, MW1, MW2, MW3, MW4, MW5, MW6	Quarterly	Water level	• SWL
	Quarterly[1]	Field water quality indicators	• pH, EC, DO
	PB1-Quarterly MW bores Biannually[2]	Comprehensive water quality	• pH, EC, DO, NO3 • Na, K, Ca. Mg, Cl, SO4, HCO3, CO3 • As, B, Cr, Cd, Cu, Fe, Mn, Ni, Pb, Zn

RPS Aquaterra summarised the longterm groundwater quality results at Lidsdale Siding in the *Water Management Plan*.

Table 3.17 summarises the average groundwater quality results in 2013 for the Lidsdale Siding groundwater monitoring locations. Monitoring was completed in accordance with the Groundwater Monitoring Program.

Table 3.17: Average Lidsdale Siding Groundwater Quality Results - 2013

Monitoring Wells	EC (µs/cm)	pH	TSS (mg/L)
PB1	678	6.2	80
MW1	549	6.8	1094
MW2	Not sampled		
MW3	240	5.5	5265
MW4	478	4.7	1642
MW5	141	5.8	3267
MW6	594	6.5	1292

The average pH results during the reporting period ranged from 4.7 to 6.8 across the monitoring wells and PB1. The minimum pH recorded during the reporting period was 4.4 with this being within the longterm range outlined in the *Water Management Plan.* The maximum pH recorded during the reporting period was 7 which is within the longterm range outlined in the *Water Management Plan.*

The average EC results during the reporting period ranged from 141 µS/cm to 678 µS/cm across the monitoring wells and PB1. The minimum EC recorded during the reporting period was 136 µS/cm which is within the longterm range outlined in the *Water Management Plan.* The maximum EC recorded during the reporting period was 1040 µS/cm which is within the longterm range outlined in the *Water Management Plan.*

3.7.4 Predictions Against the EA

RPS Aquaterra predicted that during the initial 3 months of excavation there would be an increase in the water inflow into the trench as it progressed deeper and intercepted groundwater. Once the construction of the tunnel commenced the hydraulic conductivity would decrease due to concrete blocks and backfill, and the inflow would subsequently cease.

RPS Aquaterra in the August 2012 EA predicted there would be no impact of dewatering on the other aquifers on water quantity and quality of the Cox's River downstream. There has been no evidence to indicate any impact to the water quality or quantity of Cox's River downstream.

3.8 Contaminated Land

3.8.1 Statutory Requirements

Schedule 3 Condition 18 of the PA08_0223 refers to the requirement to prepare a Phase 2 Contamination Assessment at Lidsdale Siding, being:

> *Within 6 months of the date of this approval, unless otherwise agreed by the Director-General, the Proponent shall undertake a Phase 2 Contamination Assessment for the site and implement any necessary remediation within 18 months of this approval in accordance with the requirements of the Contaminated Land Management Act 1997, to the satisfaction of the EPA.*

3.8.2 Contamination at Site and Controls

The Lidsdale Siding Phase 2 Contamination Assessment was completed by AECOM in October 2013. Based on the findings of this assessment the site was considered suitable for the proposed industrial/commercial development. The report identified the possibility for off-site migration of hydrocarbon impacted groundwater, with this likely to be attributed to an ongoing source of hydrocarbon contamination.

AECOM (2013) stated that the soils in the vicinity of the former above ground storage tank were considered likely to be acting as a source of contamination to groundwater. Lidsdale Siding are liaising with the EPA regarding the management measures regarding contamination on site.

Key controls to manage any additional potential contamination include:

- Conducting contamination assessments;
- Completing groundwater monitoring;
- Routine plant maintenance;
- Providing emergency spill kits;
- Designating fuelling and storage areas; and
- Providing training and awareness.

3.9 Biodiversity

3.9.1 Statutory Requirements

Schedule 3 Condition 22 of PA08_0223 outlines the requirement to prepare a *Biodiversity Management Plan* for Lidsdale Siding. The aim of the *Biodiversity Management Plan* is to ensure that important ecological attributes of the site are properly protected, managed, maintained and enhanced.

22. The Proponent shall prepare and implement a Biodiversity Management Plan for the project to the satisfaction of the Director-General. This plan must:

(a) be submitted to the Director-General for approval within 6 months of the date of this approval;

(b) be prepared by a suitably qualified ecologist;

(c) include a detailed description of measures that would be implemented over the life of the project to protect and conserve biodiversity, including:

- *management and enhancement of retained native vegetation, (particularly Eucalyptus aggregata) and habitat on site;*
- *a detailed program (both proposed works and timetable) for the removal of Willow trees from Pipers Flat Creek; and*
- *measures to manage and control weeds, feral animals and fire (including asset protection and management zones).*

3.9.2 Controls

Biodiversity controls implemented for the construction phase to manage potential impacts on terrestrial or aquatic ecology include:

- Minimisation of tree felling to remove the Radiata Pine;
- Inspections completed during the clearance process;
- All machinery brought to site will be inspected and washed down if required to minimise weed infestations;
- Removal of noxious weeds in the work area;
- Implementation of a pest fauna management program;
- Removal of willow trees;
- Where practical undertaking rehabilitation activities (temporary and permanent); and
- Erosion and sediment controls.

These controls will also be implemented during the operation phase of the site.

3.9.3 Monitoring Program

The *Biodiversity Management Plan* outlines the ecological monitoring program at Lidsdale Siding, including:

- Annual Flora surveys and photo monitoring; and
- Fauna surveys every two years.

The flora survey will include aspects such as species diversity, species composition, species density, vegetation cover and weed species. The fauna survey will cover such aspects such as species diversity, species composition and species density.

Once rehabilitation is established, monitoring will be completed in accordance with the Ecosystem Function Analysis (EFA) monitoring methodology.

3.9.4 Predictions Against the EA

RPS (2012) states that the upgrades associated with Lidsdale Siding are unlikely to reduce the viability of any threatened species, population or ecological community, given the low level of impact and the extensive expanse of similar habitat in the broader locality.

The removal of the relatively small area of habitat (0.2 ha) for the upgrade project is considered unlikely to accelerate the extinction or place at risk of extinction any species, population or ecological community, given the extensive expanse of similar habitat in the broader locality. There have been no incidents related to biodiversity management at the site.

Lidsdale Siding will report against the ecological monitoring results in future Annual Reviews.

3.10 Noise

3.10.1 Statutory Requirements

Schedule 3 Condition 2 of PA08_0223 outlines the noise impact assessment criteria for the Lidsdale Siding operation. The noise criteria are outlined in **Table 3.18** below:

Table 3.18: Lidsdale Siding –Noise Criteria

Location	Day	Evening	Night	
	$L_{Aeq(15\ min)}$	$L_{Aeq(15\ min)}$	$L_{Aeq(15\ min)}$	$L_{A1(1\ min)}$
1- Lot 2 Main St, Wallerawang	50	50	50	55
2 – Black Gold Cabins, Main St, Wallerawang	46	46	46	49
3 – "Killarney", Brays Lane, Wallerawang	47	47	47	56
4 – "Fairview", Brays Lane, Wallerawang	43	43	43	54
5 – Duncan Street, Lidsdale	46	46	46	57
6 – Old Castlereagh Highway, Lidsdale	43	43	43	56
7 – Royal Hotel, Main St, Wallerawang	41	41	41	49
8 – Cnr Heel St & Cripps Ave, Wallerawang	40	40	40	45
9 – Cnr Cripps Ave & Pindari Pl, Wallerawang	39	39	39	45
10 – Brays Lane South, Wallerawang	45	45	45	50
11 – "Tara" Brays Lane, Wallerawang	45	45	45	51
12 – Brays Lane Corner, Wallerawang	43	43	43	51

PA08_0223 also required the completion of a *Construction Noise Management Plan* (Schedule 3 Condition 6) and a *Noise Management Plan* (Schedule 3 Condition 7).

The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Director-General. This plan must:

- *(a) be prepared in consultation with the EPA, and submitted to the Director-General for approval within 6 months of the date of this approval, unless otherwise agreed by the Director-General;*
- *(b) describe the noise mitigation measures that would be implemented to ensure compliance with the noise criteria in Table 1, including the specific measures that would be implemented to minimise train loading and rail noise generated by the project, including noise associated with:*
    - *loading coal onto trains;*
    - *braking and accelerating of trains;*
    - *train warning horns; and*
    - *idling locomotives, particularly during the night.*
- *(c) outline procedures to manage responses to any complaints or issues raised by the owners of affected residences; and*
- *(d) include a noise monitoring program that:*
    - *incorporates monthly attended noise monitoring to evaluate the performance of the project*
    - *against the noise criteria in Table 1 (unless otherwise agreed with the Director-General);*
    - *includes a protocol for determining exceedences of the relevant conditions of this approval; and*
    - *includes a program to monitor the actual sound power levels of the equipment on site, compare*
    - *it with the benchmark levels used in the EA, and evaluate the effectiveness of any attenuation.*

Notes:

- *It is expected that monthly attended noise monitoring will be required for at least 12 months following the completion of the construction of the upgraded coal loader. After 12 months, the Director-General may agree to reduce the frequency of attended noise monitoring provided the operational noise performance of the project is acceptable.*
- *The effectiveness of the Noise*

Schedule 3 Condition 7 of the Project Approval outlines the requirement to undertake operational noise monitoring.

> *"Monthly attended noise monitoring will be required for at least 12 months following the completion of the construction of the upgraded coal loader. After 12 months, the Director- General may agree to reduce the frequency of attended noise monitoring provided the operational noise performance of the project is acceptable."*

3.10.2 Monitoring Program

Construction

Construction noise monitoring involved Elton Conveyors conducting operating attended monitoring, at 'R1' to R12' at the commencement of any activity that has the potential to generate noise levels above the construction noise criteria outlined in the *Construction Noise Management Plan*. A noisy activity is an activity that has a combined sound power level greater than or equal to 102 dBA.

With construction not yet finalised there has been no operational monitoring.

3.10.3 Noise Controls

Noise controls for construction and operation are outlined in the approved *Construction Noise Management Plan* including:

- Designated construction and operating hours;
- Noise monitoring program to identify noise issues;
- Locating noisy equipment behind structures that act as barriers, or at the greatest distance from the noise sensitive area; or orienting the equipment so that noise emissions are directed away from any sensitive areas to achieve the maximum attenuation of noise;
- Transfer chutes on conveyor systems provided with curved deflector plates made of dampened steel to reduce noise from impact of coal;
- Conveyors fitted with low noise idlers;
- Covered conveyors;
- Steel cladding will be installed around the loading bin to reduce noise associated with the impact of coal when loading the bin;
- Equipment maintenance;
- Restricting truck speed to 20 km/h on the site to reduce noise from the transport operation;
- Employing “quiet” practices when operating equipment (eg. positioning and unloading of trucks in appropriate areas);
- Arrangement of work site to minimise the use of movement alarms on vehicles and mobile plant;
- Implementation of staff education programmes on the effects of noise and the use of quiet work practices;
- Using pieces of equipment with efficient muffler design; and
- Using vehicles with quieter engines.

3.10.4 Predictions Against the EA

Construction

The August 2012 EA predicted that noise received at residential locations from proposed construction activities on site are expected to be in the same sound level range, character and type as those currently existing, for most of the time. There will be periods of different noise sources occurring, such as hydraulic hammers during excavation or construction generators during later fabrication and erection, but these are not expected to be significant.

Elton conveyors completed sound level monitoring at the Lidsdale Siding site during the construction period. The monitoring was completed using a sound level meter tester (AR-824) at several of the receiver locations outlined in the *Construction Noise Management Plan*.

Operation

The August 2012 EA predicts that the upgrades will provide a significant reduction in noise emissions compared to the current operation. This is largely a result of the replacement of a large number of mobile plant engaged in transfer of coal from the current overland conveyor discharge point to the loading area and the front-end loader loading of trains with a new automated stockpiling and loading system.

The results of noise monitoring during full operation of Lidsdale Siding (once construction is complete) will be detailed in future Annual Reviews.

3.11 Visual, stray light

3.11.1 Statutory Requirements

Schedule 3 Condition 25 of PA08_0223 outlines conditions for visual amenity and lighting. This conditions states:

The Proponent shall:

a) minimise visual impacts, and particularly the off-site lighting impacts;

b) take all practicable measures to further mitigate off-site lighting impacts from the project; and

c) ensure that all external lighting associated on site complies with Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting, to the satisfaction of the Director-General.

3.11.2 Monitoring Program

Environmental inspections include a review of visual amenity associated with the Lidsdale Siding. The effectiveness and condition of the new visual screens which are yet to be installed will be monitored as required.

3.11.3 Visual Controls

Visual and lighting controls outlined in the August 2012 EA include:

- Existing visual screening;
- Additional visual screening to be planted along Brays Lane and the boundary of Wallerawang Showground and then extend along the middle ground between Blackberry Lane and the track extension;
- Additional visual screen to be planted along the existing rail siding along the boundary with the industrial area. This screen will be an extension to the existing tree screen which runs around the main facility and loading area;
- Inspection and maintenance of the visual screens;
- Directional lighting; and
- The main conveyor and bin structures will be coloured to reduce reflection and contrast against the existing backdrop.

3.11.4 Predictions Against the EA

The August 2012 EA predicted that construction impacts will be temporary and in general no greater than the existing or ongoing operation of the facility. Since construction commenced there have been no complaints regarding visual or lighting impacts from the construction.

Visual and lighting impacts associated with the fully upgraded Lidsdale Siding operation are likely to be more prominent once all components of the upgrade are completed. The two main elements that are likely to be visible from some locations are the main elongated conical stockpile with additional conveyor section, and the rail bin and associated elevated conveyor. Lidsdale Siding will report on visual impacts and management associated with the fully upgraded operation in subsequent Annual Reviews.

3.12 Heritage

3.12.1 Statutory Requirements

A *Construction Heritage Management Plan* was prepared for the Lidsdale Siding Construction Phase by Kayandel Archaeological Services (April 2013). An *Operations - Heritage Management Plan was prepared* in November 2013 (Kayandel Archaeological Services) for the operating phase. The requirement to prepare the Heritage Management Plan is outlined in Schedule 3 Condition 23 of the Project Approval.

The Proponent shall prepare and implement a Heritage Management Plan for the project to the satisfaction of the Director-General. This Plan must:

- *(a) be prepared in consultation with any relevant Aboriginal stakeholders;*
- *(b) be submitted to the Director-General for approval within 6 months of the date of this approval;*
- *(c) include consideration of the Aboriginal and non-Aboriginal cultural context and significance of the site;*
- *(d) detail the responsibilities of all stakeholders; and*
- *(e) include programs/procedures and management measures for appropriate identification, management, conservation and protection of both Aboriginal and non-Aboriginal heritage items identified on the site.*

Schedule 3 Condition 24 of the Project Approval outlines the requirement to investigate and report on the likely visual and vibration impacts of the project on the Church building and its setting.

Within 12 months of the date of this approval, the Proponent shall, in consultation with the owners of the St John Evangelist Church, Main Street, Wallerawang, investigate and report on the likely visual and vibration impacts of the project on the Church building and its setting. These investigations must:

- *(a) be prepared by suitably qualified and experienced persons approved by the Director-General;*
- *(b) provide recommendations to mitigate any impacts, other than those considered to be negligible;*
- *(c) summarise in a report provided to the Director-General along with the Proponent's response to the recommendations in (b) above, including a commitment and a timetable for their implementation.*

Three dimensional laser scanning was completed during January with the results of these scans and surveys providing baseline data for further monitoring.

3.12.2 Monitoring Program

A heritage study was completed by RPS as part of the August 2012 EA. There are no plans to complete a further Aboriginal heritage survey at the Lidsdale Siding in 2014. If further heritage monitoring is required at Lidsdale Siding, the site will liaise with the OEH and local Aboriginal community.

3.12.3 Heritage Controls

The 2013 *Operations - Heritage Management Plan* (Kayandel Archaeological Services) outlines controls to protect Aboriginal Heritage including:

- An obligation to erect visible protection fencing for artefact scatters (45-1-2716, 45-1-2539 and 45-1-02112) and isolated finds (45-1-0237, 45-1-2715, 45-1-2717, 45-2-2518, 45-2-2519). These Aboriginal sites are outside of the area affected by normal operations. Lidsdale Siding will continue liaising with the local Aboriginal community and the OEH regarding this commitment to fence artefact sites. There are land access issues where these sites are located and it preferable that no fencing is completed.
- If works are to occur in areas designated as SU1a and SU1b appropriate approvals will be sought to salvage the artefacts. All Aboriginal sites within SU1a and SU1b and are outside of the area affected by normal operations of the rail siding and coal loader; and
- Inductions and training implementation to outline the process of staff and contractors regarding the uncovering of indigenous or non-indigenous heritage items.

3.12.4 Predictions Against the EA

There are no European or Aboriginal heritage items identified within the Project Site. It is proposed that the construction and operation will not impact on any identified heritage items within the local area that are outside the Project Site.

Since construction commenced there have been no incidents relating to European or Aboriginal heritage.

3.13 Bushfire

3.13.1 Statutory Requirements

Schedule 3 Condition 27 of PA08_0223 outlined the following condition in regards to bushfire management:

> *The Proponent shall:*
>
> *a) ensure that the project is suitably equipped to respond to any fires on site; and*
>
> *b) assist the Rural Fire Service and emergency services as much as possible if there is a fire in the surrounding area.*

3.13.2 Monitoring Program

There is no monitoring program requirement for bushfire management.

3.13.3 Bushfire Controls

Controls to manage bushfire risks at Lidsdale Siding include:

- Liaison with the Rural Fire Service;
- Area is managed under the *Lithgow Bush Fire Management Committee Bush Fire Risk Management Plan (2012)*;
- Correct storage of flammable materials in accordance with the *Dangerous Goods (Storage and Handling) Regulation 2012*;
- Buffer zones around infrastructure areas; and
- Adequate firefighting measures at site.

3.13.4 Predictions Against the EA

The August 2012 EA proposed that bushfire is a moderate risk. There were no bushfires in the Project Area or the surrounds during the Annual Review period.

3.14 Public Safety

The site is fenced with a security gate installed at the front gate. Centennial Coal employs security patrols across its Western Operations.

3.15 Summary of Compliance

There were no non compliances with the EPL during 2013.

4. COMMUNITY RELATIONS

Community relations and complaint management are outlined in the Lidsdale Siding *Environmental Management Strategy*.

4.1 Complaints

There were three community complaints at Lidsdale Siding regarding noise during the Annual Review reporting period. Only one complaint was received during the construction period, but unrelated to construction. These are summarised below:

28 February 2013 – Complaint regarding high noise level when loading trains early in the morning.

22 March 2013 – Complaint regarding noise from loading trains early in the morning and all day previous.

16 October 2013 – Noise complaint regarding 'large booms' at night.

A community information line currently exists for Lidsdale Siding to receive calls from the local community. Lidsdale Siding's community information line (1800 460 922) operates 24 hours a day, 7 days a week. The phone number is listed in the White Pages for easy access and all residents are encouraged to contact the site regarding any issue of concern. Centennial Coal advertises the community information line in the local paper annually.

Complaints are logged on a complaints form, which forms part of the Incident Register that is maintained in accordance with the requirements of PA08_0223, EPL 5129 and the Environmental Management Strategy. The complaints form includes the following details:

- Date and time of the complaint;
- The method by which the complaint was made;
- Any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
- The nature of the complaint;
- Actions taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
- If no action was taken by the licensee, the reasons why no action was taken.

If a complaint escalates into a dispute, associated issues will be handled by site management. If a dispute cannot be resolved through typical processes, an independent dispute resolution process will be initiated.

4.2 Community Liaison

There is currently no Community Consultative Committee (CCC) for Lidsdale Siding.

There is a requirement in Schedule 5 Condition 6 of PA08_0223 to operate a CCC within 12 months of the approval, being:

> *Within 12 months of the date of this approval, the Proponent shall establish and operate a regional Community Consultative Committee (CCC) in general accordance with the Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects (Department of Planning, 2007, or its latest version), and to the satisfaction of the Director-General. This CCC is to service this project and any other approved project and/or development operated by the company in the Western Coalfield.*

Centennial Coal are in the process of establishing a Centennial Western Operations CCC. Centennial Coal are planning on having one person from the Wallerawang Community on the CCC.

The Centennial Western CCC will be established in 2014.

5. REHABILITATION

A *Rehabilitation and Closure Plan* will be completed in 2014 for the Lidsdale Siding operation to meet Schedule 3 Condition 29 of PA08_0223, being:

> *29. The Proponent shall prepare and implement a Rehabilitation Management Plan for the project to the satisfaction of the Director-General. This plan must:*
>
> *a) be prepared in consultation with the SCA, LCC and the CCC;*
>
> *b) be submitted to the Director-General for approval within 12 months of the date of this approval;*
>
> *c) describe how the performance of the rehabilitation would be assessed against the rehabilitation objectives in Table 6; and*
>
> *d) provide for detailed closure planning, including measures to minimise socio-economic effects due to facility closure, to be conducted at least 3 years prior to the site being closed or placed on care and maintenance, unless otherwise approved by the Director-General in the circumstances of unexpected closure.*

The *Rehabilitation and Closure Plan* will be submitted to the DP&I prior to 3 May 2014. The *Rehabilitation and Closure Plan* will provide details on the following key features of rehabilitation and closure:

- Rehabilitation and closure objectives;
- Decommissioning and closure methodology;
- Rehabilitation management strategy; and
- Rehabilitation and closure timeline.

5.1 Buildings

With construction having commenced in 2013 for the upgrades to the Lidsdale Siding site, there are no future plans to remove any buildings associated with the site. During the reporting period there were no permanent buildings renovated or removed.

5.2 Rehabilitation of Disturbed Land

The majority of land at the Lidsdale Siding site was previously cleared and classified as severely disturbed prior to the commencement of construction in 2013. The majority of the disturbance occurred in the 1950s and 1970s.

No progressive rehabilitation was undertaken in 2013 or will be in 2014 at Lidsdale Siding until the proposed final land use for the site has been determined. This decision will be made in conjunction with the key stakeholders for the site (including land owners NSW Rail) which will be identified in the *Rehabilitation and Closure Plan.* Temporary rehabilitation will be used at site for erosion and sediment control prior to a decision being made regarding final land use.

5.3 Other Infrastructure

No other infrastructure was removed during the reporting period. There are no plans to remove any other infrastructure in 2014.

5.4 Rehabilitation Trials and Research

With no final rehabilitation planned at Lidsdale Siding in 2014, there are no plans to complete any rehabilitation trials. Centennial Coal will assess the possibility of rehabilitation trials and report the outcomes in future Annual Reviews.

5.5 Rehabilitation Summary

Tables 5.1 and **5.2** summarise rehabilitation and maintenance areas at Lidsdale Siding. The example Rehabilitation Summary Table which is outlined in the AEMR guidelines has been updated to be more reflective of the Lidsdale Siding operation. Lidsdale Siding will continue liaising with the DP&I regarding the rehabilitation domains and rehabilitation bond. The Annual Review Plans (**Appendix 5**) illustrates the current Lidsdale Siding site and the proposed Lidsdale Siding site when construction is complete.

Table 5.1: Rehabilitation Summary

	Area Affected/Rehabilitated (hectares)		
	To date	**Last report**	**Next Report (estimated)**
A: PROJECT AREA			
A1 Lidsdale Siding Upgrade Project Area	51.25		
B: DISTURBED AREAS/SITE MANAGEMENT DOMAINS			
B1: Stockpile Area	1.8	N/A	1.11
B2: Infrastructure Area	1.98	N/A	1.98
B3: Water Management Area	0.65	N/A	0.88
B4: Bunding and Landscaping	2.23	N/A	2.23
ALL DISTURBED AREAS	6.66	N/A	6.2
C: REHABILITATION PROGRESS			
C1 Total Rehabilitated area (except for maintenance)	0	0	0
D: REHABILITATION ON SLOPES			
D1 10 to 18 degrees	0	0	0
D2 Greater than 18 degrees	0	0	0
D3 Less than 10 degrees	0	0	0
E: SURFACE OF REHABILITATED LAND			
E1 Pasture and grasses	0	0	0
E2 Native forest/ecosystems	0	0	0
E3 Plantations and crops	0	0	0
E4 Other (include non - vegetative outcomes)	0	0	0

Table 5.2: 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)	0	0	
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)	0	0	
Feral animal control (detail – additional fencing, trapping, baiting etc)	0	0	

6. ACTIVITIES PROPOSED IN THE NEXT ANNUAL REVIEW PERIOD

The activities proposed for the next reporting period include:

- Completion of upgrades to the Lidsdale Siding facility;
- Continuation of weed spraying and pest management;
- Implementation of the Centennial Western CCC;
- Investigation of noise mitigation opportunities;
- Completion of the flood study;
- Further develop visual amenity controls; and
- Finalise Conceptual Rehabilitation Closure Plan.

Appendix 1

Project Approval

Project Approval

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

As delegate for the Minister for Planning and Infrastructure, the Planning and Assessment Commission of New South Wales (the Commission) approves the project application referred to in Schedule 1, subject to the Conditions in Schedules 2 to 5.

These conditions are required to:

- prevent or minimise 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.

Garry West
A/Chair of the Commission

Sydney 3 May 2013

SCHEDULE 1

Application Number:	08_0223
Proponent:	Ivanhoe Coal Pty Ltd
Approval Authority:	Minister for Planning and Infrastructure
Land:	See Appendix 1
Project:	Lidsdale Siding Upgrade Project

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DEFINITIONS

Annual Review	The review required by Condition 4 of Schedule 5
Approval	This Project Approval
BCA	Building Code of Australia
CCC	Community Consultative Committee
Conditions of this approval	Conditions contained in Schedules 2 to 5 inclusive
Day	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
Department	Department of Planning and Infrastructure
Director-General	Director-General of the Department, or nominee
DRE	Division of Resources and Energy in the Department of Trade and Investment, Regional Infrastructure and Services
EA	Environmental Assessment titled '*Lidsdale Siding Upgrade Project - Environmental Assessment'* dated August 2012, associated response to submissions titled *'Lidsdale Siding Upgrade Response to EA Submissions,* dated November 2012, and '*Lidsdale Siding Upgrade Project Supplementary Report'* dated March 2013
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000*
EPL	Environment Protection Licence issued under the POEO Act
Evening	The period from 6pm to 10pm
Feasible	Feasible relates to engineering considerations and what is practical to build or to implement
Heritage Item	An item as defined under the *Heritage Act 1977* and/or an Aboriginal object or Aboriginal place as defined under the *National Parks and Wildlife Act 1974*
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
Land	As defined in the EP&A Act, except for where the term is used in the noise and air quality Conditions in Schedules 3 and 4 of this approval where it is defined to mean 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
LCC	Lithgow City Council
Material harm to the environment	Actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial
Minister	Minister for Planning and Infrastructure, or nominee
Mitigation	Activities associated with reducing the impacts of the project prior to or during those impacts occurring
Negligible	Small and unimportant, such as to be not worth considering
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 the Department of Primary Industries
OEH	Office of Environment and Heritage, within the Department of Premier and Cabinet
POEO Act	*Protection of the Environment Operations Act 1997*
Privately-owned land	Land that is not owned by a public agency, Wallerawang Power Station or a mining company (or its subsidiary)
Project	The project described in the EA
Proponent	Ivanhoe Coal Pty Ltd, a subsidiary of Centennial Coal Company, or any other person or persons who rely on this approval to carry out the project that is subject to this approval
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
Reasonable costs	The costs agreed between the Department and the Proponent for obtaining independent experts to review the adequacy of any aspects of the determination of the Rehabilitation Bond (see Condition 31 of Schedule 3)
Rehabilitation	The treatment or management of land disturbed by the project for the purpose of establishing a safe, stable and non-polluting environment.
Remediation	Activities associated with partially or fully repairing or rehabilitating the impacts of the projects or controlling the environmental consequences of this impact
Residence	A residence and/or a commercial accommodation facility such as Black Gold Cabins and the Royal Hotel
RMS	Roads and Maritime Services
SCA	Sydney Catchment Authority

SCHEDULE 2
ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

1. In addition to meeting the specific performance criteria established under this approval, the Proponent shall implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the construction, operation or rehabilitation of the project.

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.

   Notes:
   - *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 strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with this approval; and
   (b) the implementation of any actions or measures contained in these documents.

LIMITS ON APPROVAL

Operations

5. The Proponent may carry out coal handling and train loading operations on the site until 31 December 2042.

   Note: Under this approval, the Proponent is required to rehabilitate the site and perform additional undertakings to the satisfaction of the Director-General. Consequently, this approval will continue to apply in all other respects other than the right to conduct operations until the rehabilitation of the site and these additional undertakings have been carried out satisfactorily.

Coal Transport

6. The Proponent shall not receive more than 6.3 million tonnes of coal at the site in any calendar year.

7. The Proponent shall ensure that:
   (a) all coal is transported to the site by conveyor;
   (b) all coal is transported from the site by rail;
   (c) no more than 7 laden trains leave the site each day; and
   (d) no more than 5 laden trains leave the site each day, when averaged over a calendar year.

Hours of Operation

8. The Proponent may undertake coal handling and train loading operations on site 24 hours a day, 7 days a week.

Surrender of Existing Development Consents

9. 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 site in accordance with Section 104A of the EP&A Act.

   Note: This requirement does not extend to the surrender of construction and occupation certificates for existing and proposed building works under Part 4A of the EP&A Act. Surrender of a consent or approval should not be understood as implying that works legally constructed under a valid consent or approval can no longer be legally maintained or used.

10. Prior to the surrender of these consents, the conditions of this approval shall prevail to the extent of any inconsistency with the conditions of these consents.

STRUCTURAL ADEQUACY

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

Notes:

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

DEMOLITION

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

OPERATION OF PLANT AND EQUIPMENT

13. The Proponent shall ensure that all the plant and equipment used at the site, or to transport coal from the site, is:
    (a) maintained in a proper and efficient condition; and
    (b) operated in a proper and efficient manner.

STAGED SUBMISSION OF ANY STRATEGY, PLAN OR PROGRAM

14. With the approval of the Director-General, the Proponent may submit any strategy, plan or program required by this approval on a progressive basis.

    Note: While any strategy, plan or program may be submitted on a progressive basis, the Proponent will need to ensure that the operations on site are covered by suitable strategies, plans or programs at all times.

15. The Proponent shall continue to implement existing strategies, plans or programs that apply to existing activities on the site until they are replaced by an equivalent strategy, plan or program approved under this approval.

SCHEDULE 3
ENVIRONMENTAL PERFORMANCE CONDITIONS

ACQUISITION ON REQUEST

1. Upon receiving a written request for acquisition from the owner of Lot 2, Main Street, Wallerawang, the Proponent shall acquire the land in accordance with the procedures in Conditions 5 - 6 of Schedule 4.

NOISE

Noise Impact Assessment Criteria

2. The Proponent shall ensure that the noise generated by the project does not exceed the criteria in Table 1.

Table 1: Noise criteria dB(A)

Location	Day	Evening	Night	
	$L_{Aeq(15\ min)}$	$L_{Aeq(15\ min)}$	$L_{Aeq(15\ min)}$	$L_{A1(1\ min)}$
1- Lot 2 Main St, Wallerawang	50	50	50	55
2 – Black Gold Cabins, Main St, Wallerawang	46	46	46	49
3 – "Killarney", Brays Lane, Wallerawang	47	47	47	56
4 – "Fairview", Brays Lane, Wallerawang	43	43	43	54
5 – Duncan Street, Lidsdale	46	46	46	57
6 – Old Castlereagh Highway, Lidsdale	43	43	43	56
7 – Royal Hotel, Main St, Wallerawang	41	41	41	49
8 – Cnr Heel St & Cripps Ave, Wallerawang	40	40	40	45
9 – Cnr Cripps Ave & Pindari Pl, Wallerawang	39	39	39	45
10 – Brays Lane South, Wallerawang	45	45	45	50
11 – "Tara" Brays Lane, Wallerawang	45	45	45	51
12 – Brays Lane Corner, Wallerawang	43	43	43	51

Notes:

- *To interpret the locations referred to in Table 1, see the figure in Appendix 3;*
- *Criteria applicable to a particular residence are those criteria for the nearest specified location in Table 1; and*
- *After the first review of any EPL granted for this project under Section 78 of the POEO Act, nothing in this approval prevents the EPA from imposing stricter noise limits on the operations on site under the EPL.*

Appendix 4 sets out the meteorological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.

However, these criteria do not apply if the Proponent has a written agreement with the relevant landowner to exceed the criteria, and the Proponent has advised the Department in writing of the terms of this agreement.

Additional Noise Mitigation On Request

3. Upon receiving a written request from the owner of any residence on land listed as Locations 1-4, 6-7, 10 or 11 in Table 1 (or at an existing residence within 200 m of Location 6 in Table 1) the Proponent shall implement additional noise mitigation measures (such as double glazing, insulation, and/or air conditioning) at the residence in consultation with the owner. These measures must be reasonable and feasible.

If within 3 months of receiving this request from the owner, the Proponent and the owner 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.

Operating Conditions

4. The Proponent shall:
   (a) implement best practice noise management, including all reasonable and feasible noise mitigation measures to minimise the operational and rail noise generated by the project;
   (b) regularly assess the results of noise monitoring to ensure compliance with the relevant conditions of this approval,

   to the satisfaction of the Director-General.

Independent Noise Audit

5. The Proponent shall prepare and implement an Independent Noise Audit for the project to the satisfaction of the Director-General. The audit must:
   (a) be prepared by a suitably qualified and experienced expert, whose appointment has been approved by the Director-General;
   (b) be prepared in consultation with the EPA, and be submitted to the Director-General for approval within 12 months of completion of the upgrade to the coal loader;
   (c) incorporate monthly attended noise monitoring results for the project (unless otherwise agreed with the Director-General);
   (d) investigate and evaluate all reasonable and feasible measures to mitigate operational noise (including on-site rail noise) to ensure compliance with the noise criteria in Table 1; and
   (e) review the feasibility of reducing the number of night-time train movements to/from the site; and
   (f) include an action plan to implement the audit recommendations and a protocol for monitoring the effectiveness of these measures over time.

Construction Noise

6. Prior to the commencement of construction activities on the site, the Proponent shall prepare (and during construction implement) a Construction Noise Management Plan prepared in accordance with EPA's *Interim Construction Noise Guideline 2009* (or any relevant updated version), to the satisfaction of the Director-General.

Noise Management Plan

7. The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Director-General. This plan must:
   (a) be prepared in consultation with the EPA, and submitted to the Director-General for approval within 6 months of the date of this approval, unless otherwise agreed by the Director-General;
   (b) describe the noise mitigation measures that would be implemented to ensure compliance with the noise criteria in Table 1, including the specific measures that would be implemented to minimise train loading and rail noise generated by the project, including noise associated with:
      - loading coal onto trains;
      - braking and accelerating of trains;
      - train warning horns; and
      - idling locomotives, particularly during the night;
   (c) outline procedures to manage responses to any complaints or issues raised by the owners of affected residences; and
   (d) include a noise monitoring program that:
      - incorporates monthly attended noise monitoring to evaluate the performance of the project against the noise criteria in Table 1 (unless otherwise agreed with the Director-General);
      - includes a protocol for determining exceedences of the relevant conditions of this approval; and
      - includes a program to monitor the actual sound power levels of the equipment on site, compare it with the benchmark levels used in the EA, and evaluate the effectiveness of any attenuation.

Notes:

- *It is expected that monthly attended noise monitoring will be required for at least 12 months following the completion of the construction of the upgraded coal loader. After 12 months, the Director-General may agree to reduce the frequency of attended noise monitoring provided the operational noise performance of the project is acceptable.*
- *The effectiveness of the Noise Management Plan is to be reviewed and audited in accordance with the requirements in Schedule 5.*

AIR QUALITY & GREENHOUSE GAS

Air Quality Assessment Criteria

8. The Proponent shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the project do not exceed the criteria listed in Tables 3, 4 or 5 at any residence on privately-owned land.

Table 3: Long-term criteria for particulate matter

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

Table 4: Short-term criterion for particulate matter

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

Table 5: Long-term criteria for deposited dust

Pollutant	***Averaging Period***	***Maximum increase in deposited dust level***	***Maximum total deposited dust level***
[c] Deposited dust	Annual	[b] 2 g/m^2/month	[a] 4 g/m^2/month

Notes to Tables 3 to 5:

- *[a] Total impact (ie incremental increase in concentrations due to the project plus background concentrations due to all other sources);*
- *[b] Incremental impact (ie incremental increase in concentrations due to the project on its own);*
- *[c] Deposited dust is to be 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.*
- *[d] 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 EPA.*

Operating Conditions

9. The Proponent shall:
   (a) implement best practice air quality management on site, including all reasonable and feasible measures to minimise the off-site odour and dust emissions generated by the project;
   (b) minimise any visible air pollution generated by the project;
   (c) install and operate equipment capable of applying water to the surface of coal loaded onto trains prior to leaving the site;
   (d) regularly assess the air quality monitoring results to ensure compliance with the relevant conditions of this approval,

   to the satisfaction of the Director-General.

Air Quality & Greenhouse Gas Management Plan

10. The Proponent shall prepare and implement an Air Quality & Greenhouse Gas Management Plan for the project to the satisfaction of the Director-General. This plan must:
   (a) be prepared in consultation with EPA, and submitted to the Director-General for approval within 6 months of the date of this approval;
   (b) describe the measures that would be implemented to ensure compliance with the relevant conditions of this approval;
   (c) include an air quality monitoring program, that:
      - uses a combination of volumetric sampling and dust deposition gauges to evaluate the performance of the project;
      - monitors greenhouse gas emissions, and
      - includes a protocol for determining exceedances with the relevant conditions of this approval;
   (d) describe the measures that would be implemented to minimise the release of greenhouse gas emissions from the site.

METEOROLOGICAL MONITORING

11. During the life of the project, the Proponent shall ensure that there is a suitable meteorological station operating in the vicinity of the site that:
    (a) complies with the requirements in the *Approved Methods for Sampling of Air Pollutants in New South Wales* guideline; and
    (b) is capable of continuous real-time measurement of temperature lapse rate in accordance with the *INP*.

TRANSPORT

Monitoring of Coal Transport

12. The Proponent shall:
    (a) keep accurate records of the amount of coal transported from the site (on a monthly basis);
    (b) make these records publicly available in the annual review and on its website at the end of each calendar year.

Construction Traffic Management Plan

13. The Proponent shall prepare and implement a Construction Traffic Management Plan for the project, to the satisfaction of the Director-General. This plan shall be prepared in consultation with LCC and RMS, and must be submitted to the Director-General for approval prior to the commencement of construction activities on the site. The plan must address:
    (a) interactions of construction traffic with rail level crossings;
    (b) management of wide loads;
    (c) minimising inconvenience to the public, particularly due to traffic noise and volumes; and
    (d) maintaining public safety.

Level Crossings, Main Street and Brays Lane, Wallerawang

14. Within 6 months of the date of this approval, the Proponent shall upgrade the rail level crossings of Main Street and Brays Lane, Wallerawang, unless the Director-General directs otherwise, by:
    (a) installing additional signage and line marking on Main Street Wallerawang;
    (b) installing upgraded safety measures at the Brays Lane level crossing in accordance with the relevant Australian standard.

    The design and construction of these works must be undertaken in consultation with, and to the satisfaction of LCC and the relevant rail authority and/or its agent.

SOIL AND WATER

Note: Under the Water Act 1912 and/or the Water Management Act 2000, the Proponent is required to obtain all necessary water licences for the project.

Water Supply

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

16. The Proponent shall preferentially use excess mine water from the Springvale Coal Mine for dust suppression at the site rather than potable town water supply.

Surface Water Discharges

17. The Proponent shall ensure that all surface water discharges from the site comply with the discharge limits (both volume and quality) set for the project in any EPL.

Remediation of Soil Contamination

18. Within 6 months of the date of this approval, unless otherwise agreed by the Director-General, the Proponent shall undertake a Phase 2 Contamination Assessment for the site and implement any necessary remediation within 18 months of this approval in accordance with the requirements of the *Contaminated Land Management Act 1997,* to the satisfaction of the EPA.

Construction Erosion and Sediment Control Plan

19. The Proponent shall prepare and implement an Erosion and Sediment Control Plan for construction on the site to the satisfaction of the Director-General. This plan must:
    (a) be prepared by suitably qualified and experienced person(s) whose appointment has been approved by the Director-General;
    (b) be submitted to the Director-General for approval prior to the commencement of construction activities on the site;
    (c) be consistent with the requirements of the *Managing Urban Stormwater – Soils and Construction, Volume 2E: Mines and Quarries* (DECC 2008), or its latest version;
    (d) identify activities that could cause soil erosion and generate sediment, particularly in relation to activities near waterways;
    (e) describe the location, function, and capacity of erosion and sediment control structures;
    (f) describe what measures would be implemented to maintain the structures over time; and
    (g) describe the sediment and erosion control measures to be implemented for all activities undertaken at the site, particularly during the construction phase of the project.

Flooding

20. The Proponent shall undertake a flood study for the site to the satisfaction of the Director-General. This study must:
    (a) be prepared in consultation with EPA and SCA by suitably qualified and experienced persons whose appointment has been approved by the Director-General;
    (b) be submitted to the Director-General for approval within 12 months of the date of this approval; and
    (c) include:
        - an assessment of the risk of flooding at the site;
        - an assessment of the implications of flooding on operations at the site (including the functioning of the surface water management system) and the risks associated with off-site contamination;
        - modelling of the effects of proposed flood mitigation and control measures, (such as Willow removal from the channel of Pipers Flat Creek), by the use of a calibrated hydrological model;
        - investigation of any other measures to reduce the impacts of flooding at the site;
        - identify any additional reasonable and feasible flood mitigation and control measures; and
        - a commitment and timetable for the implementation of these measures.

Water Management Plan

21. The Proponent shall prepare and implement a Water Management Plan for the project to the satisfaction of the Director-General. This plan must be prepared in consultation with the EPA, NOW and SCA by suitably qualified and experienced persons, and be submitted to the Director-General for approval within 6 months of the date of this approval. The plan must include
    (a) a Site Water Balance that includes details of:
        - sources and security of water supply;
        - water use on site;
        - water management on site; and
        - any water transfers to/from the site;
    (b) a Surface Water Management Plan that includes:
        - a description of the surface water management system for the project including clean water diversions, erosion and sediment controls, and water storages;
        - baseline data on surface water flows and quality of Pipers Flat Creek which receives the water from the licensed discharge point identified in the site's EPL;
        - surface water quality and stream health assessment criteria, including trigger levels for investigating any potentially adverse surface water impacts;
        - a surface water monitoring program for surface water discharges, surface water flows and quality, and stream health and channel stability of Pipers Flat Creek; and
        - measures to reuse and recycle water, and to minimise potable water use from the town water supply;
    (c) a Groundwater Monitoring Program that includes:
        - detailed baseline data of all groundwater levels, yield and quality in the area, and any privately-owned groundwater bores that may be affected by the project;
        - groundwater assessment criteria based upon analysis of baseline data for groundwater, including trigger levels for investigating any potentially adverse groundwater impacts; and
        - a program to monitor and/or validate the impacts of the project on any privately-owned groundwater bores that may be affected by the project;
    (d) a Surface and Ground Water Response Plan that describes the measures and/or procedures that would be implemented to:
        - respond to any exceedances of the surface water, stream health, and groundwater assessment criteria; and
        - mitigate and/or offset any adverse impacts on surface water and groundwater resources located within and adjacent to the site.

BIODIVERSITY

Biodiversity Management Plan

22. The Proponent shall prepare and implement a Biodiversity Management Plan for the project to the satisfaction of the Director-General. This plan must:
    (a) be submitted to the Director-General for approval within 6 months of the date of this approval;
    (b) be prepared by a suitably qualified ecologist;
    (c) include a detailed description of measures that would be implemented over the life of the project to protect and conserve biodiversity, including:
        - management and enhancement of retained native vegetation, (particularly *Eucalyptus aggregata*) and habitat on site;
        - a detailed program (both proposed works and timetable) for the removal of Willow trees from Pipers Flat Creek; and
        - measures to manage and control weeds, feral animals and fire (including asset protection and management zones).

HERITAGE

Heritage Management Plan

23. The Proponent shall prepare and implement a Heritage Management Plan for the project to the satisfaction of the Director-General. This Plan must:
    (a) be prepared in consultation with any relevant Aboriginal stakeholders;
    (b) be submitted to the Director-General for approval within 6 months of the date of this approval;
    (c) include consideration of the Aboriginal and non-Aboriginal cultural context and significance of the site;
    (d) detail the responsibilities of all stakeholders; and
    (e) include programs/procedures and management measures for appropriate identification, management, conservation and protection of both Aboriginal and non-Aboriginal heritage items identified on the site.

St John Evangelist Church

24. Within 12 months of the date of this approval, the Proponent shall, in consultation with the owners of the St John Evangelist Church, Main Street, Wallerawang, investigate and report on the likely visual and vibration impacts of the project on the Church building and its setting. These investigations must:
    (a) be prepared by suitably qualified and experienced persons approved by the Director-General;
    (b) provide recommendations to mitigate any impacts, other than those considered to be negligible;
    (c) summarise in a report provided to the Director-General along with the Proponent's response to the recommendations in (b) above, including a commitment and a timetable for their implementation.

VISUAL

Visual Amenity and Lighting

25. The Proponent shall:
    (a) minimise visual impacts, and particularly the off-site lighting impacts;
    (b) take all practicable measures to further mitigate off-site lighting impacts from the project; and
    (c) ensure that all external lighting associated on site complies with *Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting,*

    to the satisfaction of the Director-General.

WASTE

26. The Proponent shall:
    (a) minimise the waste generated by the project; and
    (b) ensure that the waste generated by the project is appropriately stored, handled and disposed of,

    to the satisfaction of the Director-General.

BUSHFIRE MANAGEMENT

27. The Proponent shall:
    (a) ensure that the project is suitably equipped to respond to any fires on site; and
    (b) assist the Rural Fire Service and emergency services as much as possible if there is a fire in the surrounding area.

REHABILITATION

Rehabilitation Objectives

28. The Proponent shall rehabilitate the site to the satisfaction of the Director-General. This rehabilitation must be generally consistent with the proposed rehabilitation strategy described in the EA, and comply with the objectives in Table 6.

Table 6: Rehabilitation Objectives

Feature	***Objective***
Project Area	Safe, stable & non-polluting Final land use compatible with surrounding land uses
Surface Infrastructure	To be decommissioned and removed, unless the Director-General agrees otherwise
Community	Ensure public safety Minimise the adverse socio-economic effects associated with the closure of the project

Note: These rehabilitation objectives apply to all impacts and environmental consequences caused by coal handling and train loading operations taking place after the date of this approval; and to all project infrastructure, whether constructed prior to or following the date of this approval.

Rehabilitation Management Plan

29. The Proponent shall prepare and implement a Rehabilitation Management Plan for the project to the satisfaction of the Director-General. This plan must:
    (a) be prepared in consultation with the SCA, LCC and the CCC;
    (b) be submitted to the Director-General for approval within 12 months of the date of this approval;
    (c) describe how the performance of the rehabilitation would be assessed against the rehabilitation objectives in Table 6; and
    (d) provide for detailed closure planning, including measures to minimise socio-economic effects due to facility closure, to be conducted at least 3 years prior to the site being closed or placed on care and maintenance, unless otherwise approved by the Director-General in the circumstances of unexpected closure.

Rehabilitation Bond

30. Within 12 months of the date of this approval, the Proponent shall lodge a rehabilitation bond for the project with the Director-General. The sum of the bond shall be calculated in accordance with the current publicly-available version of methodology and calculation spreadsheets utilised by DRE for the purpose of determining rehabilitation liabilities for mine sites, to the satisfaction of the Director-General. The Proponent shall pay the Department's reasonable costs in engaging experts to review the adequacy of the calculated sum of the bond.

    If the rehabilitation and revegetation works are completed to the satisfaction of the Director-General, the Director-General will release the rehabilitation bond.

    If the rehabilitation and revegetation works are not completed to the satisfaction of the Director-General, the Director-General will call in all or part of the rehabilitation bond, and arrange for the satisfactory completion of the relevant works.

31. Within 3 months of each Independent Environmental Audit (see Condition 9 of Schedule 5), the Proponent shall review, and if necessary revise, the sum of the rehabilitation bond to the satisfaction of the Director-General. This review must consider:
    (a) the effects of inflation; and
    (b) the performance of the rehabilitation to date.

SCHEDULE 4
ADDITIONAL PROCEDURES

NOTIFICATION OF LANDOWNERS

1. By the end of September 2013, the Proponent shall notify in writing the owners of:
   (a) the land listed in Condition 1 of Schedule 3 that they have the right to require the Proponent to acquire their land at any stage during the project; and
   (b) any residence on the land listed in Condition 3 of Schedule 3 that they are entitled to ask for additional noise mitigation measures to be implemented at their residence at any stage during the project.

2. As soon as practicable after obtaining monitoring results showing an exceedance of any relevant criteria in Schedule 3, the Proponent shall:
   (a) quantify the nature and extent of the exceedances of the criteria in Schedule 3;
   (b) notify all affected landowners in writing of the exceedance;
   (c) provide regular monitoring results to each affected landowner until the project is again complying with the relevant criteria; and
   (d) provide a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the affected landowners and/or existing tenants of residences where there is an exceedance of any relevant air quality criteria in Schedule 3.

INDEPENDENT REVIEW

3. If an owner of privately-owned land considers the project to be exceeding the relevant 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, then within 2 months of the Director-General's decision the Proponent shall:
   (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to:
      - consult with the landowner to determine his/her concerns;
      - conduct monitoring to determine whether the project is complying with the relevant criteria in Schedule 3; and
      - if the project is not complying with these criteria, then identify the measures that could be implemented to ensure compliance with the relevant criteria; and
   (b) give the Director-General and landowner a copy of the independent review.

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 land at the date of this written request, as if the land 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 land and/or any approved building or structure which has been physically commenced on the land 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 any additional mitigation measures under Schedule 3;
   (b) the reasonable costs associated with:
      - relocating within the Lithgow 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 will 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 will determine a fair and reasonable acquisition price for the land, having regard to the matters referred to in paragraphs (a)-(c) above, the independent valuer's report, the detailed report disputing the independent valuer's determination, and any other relevant submissions.

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 5 above, including the costs associated with obtaining Council approval for any plan of subdivision (where permissible), and registration of this plan at the Office of the Registrar-General.

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. This strategy must:
   (a) be submitted for approval to the Director-General within 9 months of the date of this approval;
   (b) provide the strategic framework for the 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;
      - respond to emergencies; and
   (f) include:
      - copies of any strategies, plans and programs approved under the conditions of this approval; and
      - a clear plan depicting all the monitoring required to be carried out under the conditions of this approval.

Management Plan Requirements

2. The Proponent shall ensure that the management plans required under this approval are prepared in accordance with any relevant guidelines, and include:
   (a) detailed baseline data;
   (b) a description of:
      - the relevant statutory requirements (including any relevant approval, licence or lease conditions);
      - any relevant limits or performance measures/criteria;
      - 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;
      - effectiveness of any management measures in (c) above;
   (e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;
   (f) a 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
   (g) a protocol for periodic review of the plan.

   Note: The Director-General may waive some of these requirements if they are unnecessary for particular management plans.

Adaptive Management

3. The Proponent must assess and manage project-related risks to ensure that there are no exceedances of the criteria and/or performance measures in Schedule 3. Any exceedance of these criteria and/or performance measures constitutes a breach of this approval and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation.

   Where any exceedance of these criteria and/or performance measures has occurred, the Proponent must, at the earliest opportunity:
   (a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur;
   (b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and

(c) implement remediation measures as directed by the Director-General,

to the satisfaction of the Director-General.

Annual Review

4. By the end of February 2014, and annually thereafter, the Proponent shall review the environmental performance of the project to the satisfaction of the Director-General. This review must:
   (a) describe the development (including any rehabilitation) that was carried out in the past calendar year, and the development that is proposed to be carried out over the next year;
   (b) include a comprehensive review of the monitoring results and complaints records of the project over the past calendar year, which includes a comparison of these results against the:
      - the relevant statutory requirements, limits or performance measures/criteria;
      - requirements of any plan or program required under this approval;
      - the monitoring results of previous years; and
      - the relevant predictions in the EA;
   (c) identify any non-compliance over the past year, and describe what actions were (or are being) taken to ensure compliance;
   (d) identify any trends in the monitoring data over the life of the project;
   (e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and
   (f) describe what measures will be implemented over the next year to improve the environmental performance of the project.

Revision of Strategies, Plans and Programs

5. Within 3 months of:
   (a) the submission of an annual review under Condition 4 above;
   (b) the submission of an incident report under Condition 7 below;
   (c) the submission of an audit under Condition 9 below; and
   (d) any modification to the conditions of this approval (unless the conditions require otherwise),

   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

6. Within 12 months of the date of this approval, the Proponent shall establish and operate a regional Community Consultative Committee (CCC) in general accordance with the *Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects* (Department of Planning, 2007, or its latest version), and to the satisfaction of the Director-General. This CCC is to service this project and any other approved project and/or development operated by the company in the Western Coalfield.

   Notes:
   - *The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Proponent complies with this approval; and*
   - *In accordance with the guideline, the Committee should be comprised of an independent chair and appropriate representation from the Proponent, LCC, recognised environmental groups and the local community.*

REPORTING

Incident Reporting

7. The Proponent shall notify the Director-General and any other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment. For any other incidents associated with the project, the Proponent shall notify the Director-General and any other relevant agencies as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of the incident, the Proponent shall provide the Director-General and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.

Regular Reporting

8. The Proponent shall provide regular reporting on the environmental performance of the project on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this approval.

INDEPENDENT ENVIRONMENTAL AUDIT

9. Within 12 months of completion of the upgrade to the coal loader, and every 3 years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:
   (a) be conducted by a suitably qualified, experienced and independent team of experts (including a noise and air quality expert) whose appointment has been endorsed by the Director-General;
   (b) include consultation with the relevant agencies;
   (c) assess the environmental performance of the project and assess whether it is complying with the requirements in this approval and any relevant EPL (including any assessment, plan or program required under these approvals);
   (d) review the rail haulage and coal loading operations and determine whether all reasonable and feasible measures are being implemented to minimise the noise and dust impacts of the project; and
   (e) recommend appropriate measures or actions to improve the environmental performance and rehabilitation of the project while on care and maintenance or following mine closure.

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

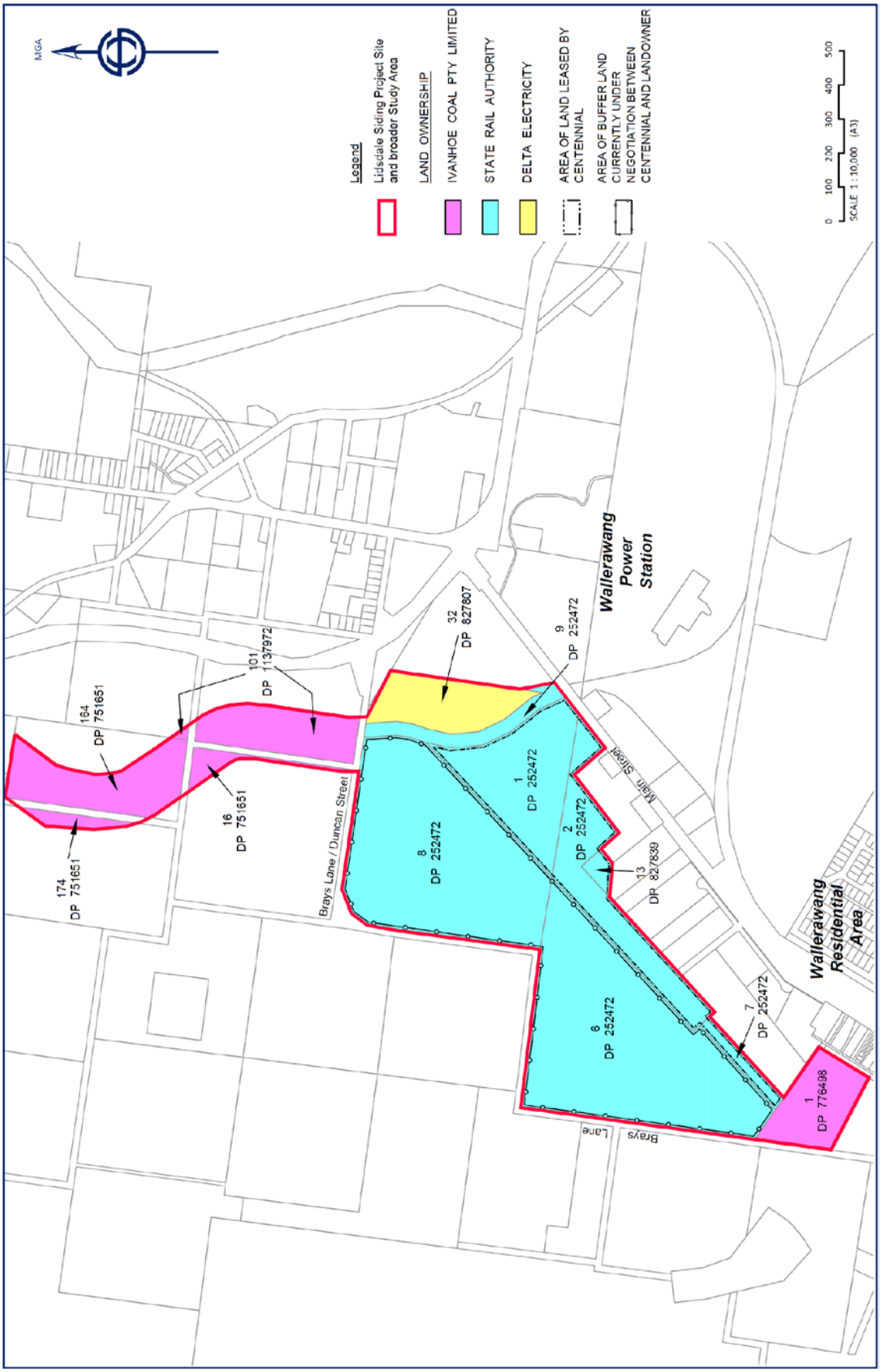
10. Within 6 weeks of the completion of this audit, or as otherwise agreed by the Director-General, the Proponent shall submit a copy of the audit report to the Director-General, together with its response to any recommendations contained in the audit report.

ACCESS TO INFORMATION

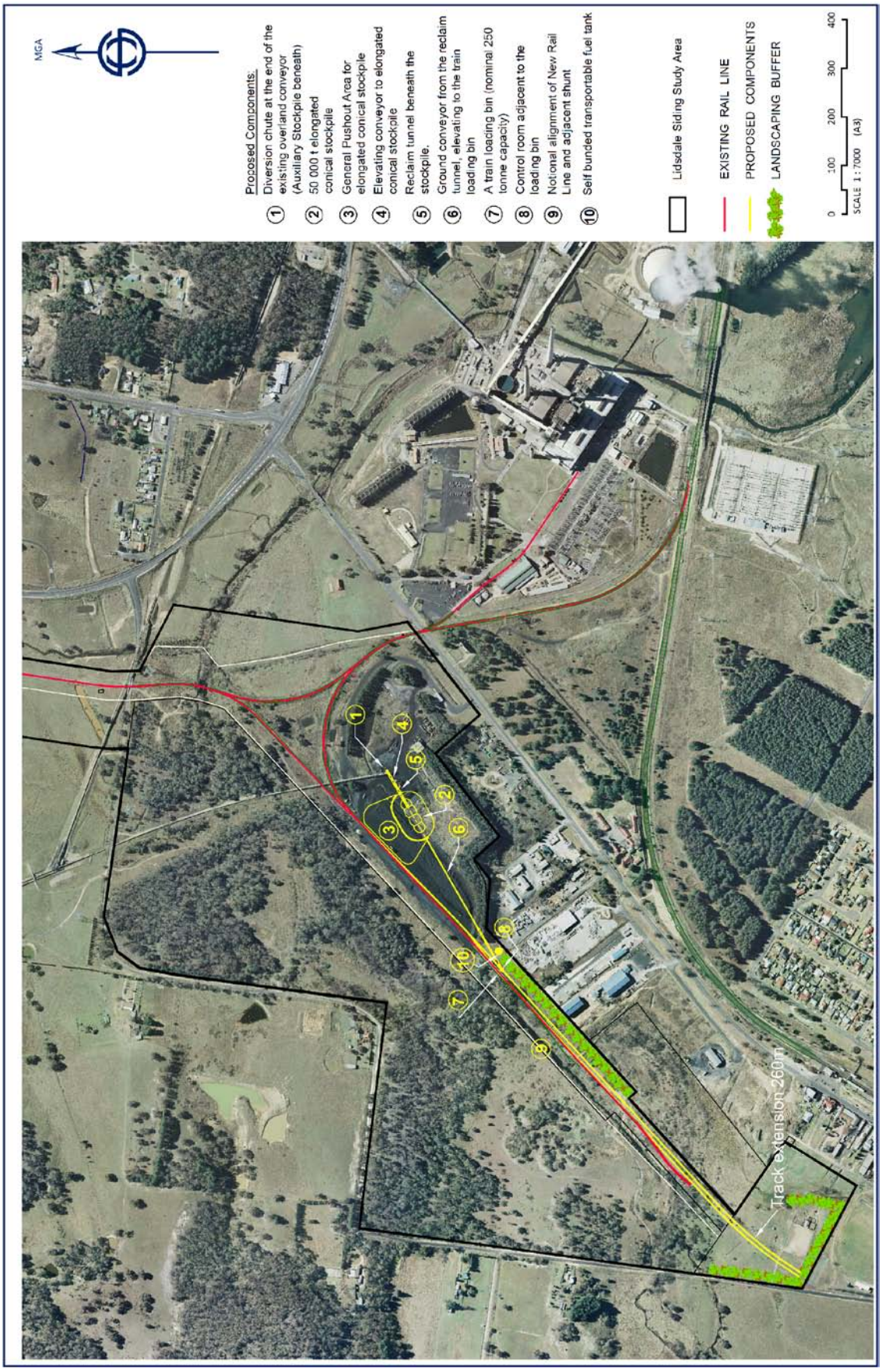
11. From the end of October 2013, the Proponent shall:
   (a) make copies of the following publicly available on its website:
      - the documents referred to in Condition 2 of Schedule 2;
      - all relevant statutory approvals for the project;
      - all approved strategies, plans and programs required under the conditions of this approval;
      - a comprehensive summary of the monitoring results of the project, reported in accordance with the specifications in any approved plans or programs required under the conditions of this or any other approval;
      - a complaints register, which is to be updated on a monthly basis;
      - minutes of CCC meetings;
      - the annual reviews required under this approval;
      - any independent environmental audit of the project, and the Proponent's response to the recommendations in any audit;
      - any other matter required by the Director-General; and
   (b) keep this information up-to-date,

   to the satisfaction of the Director-General.

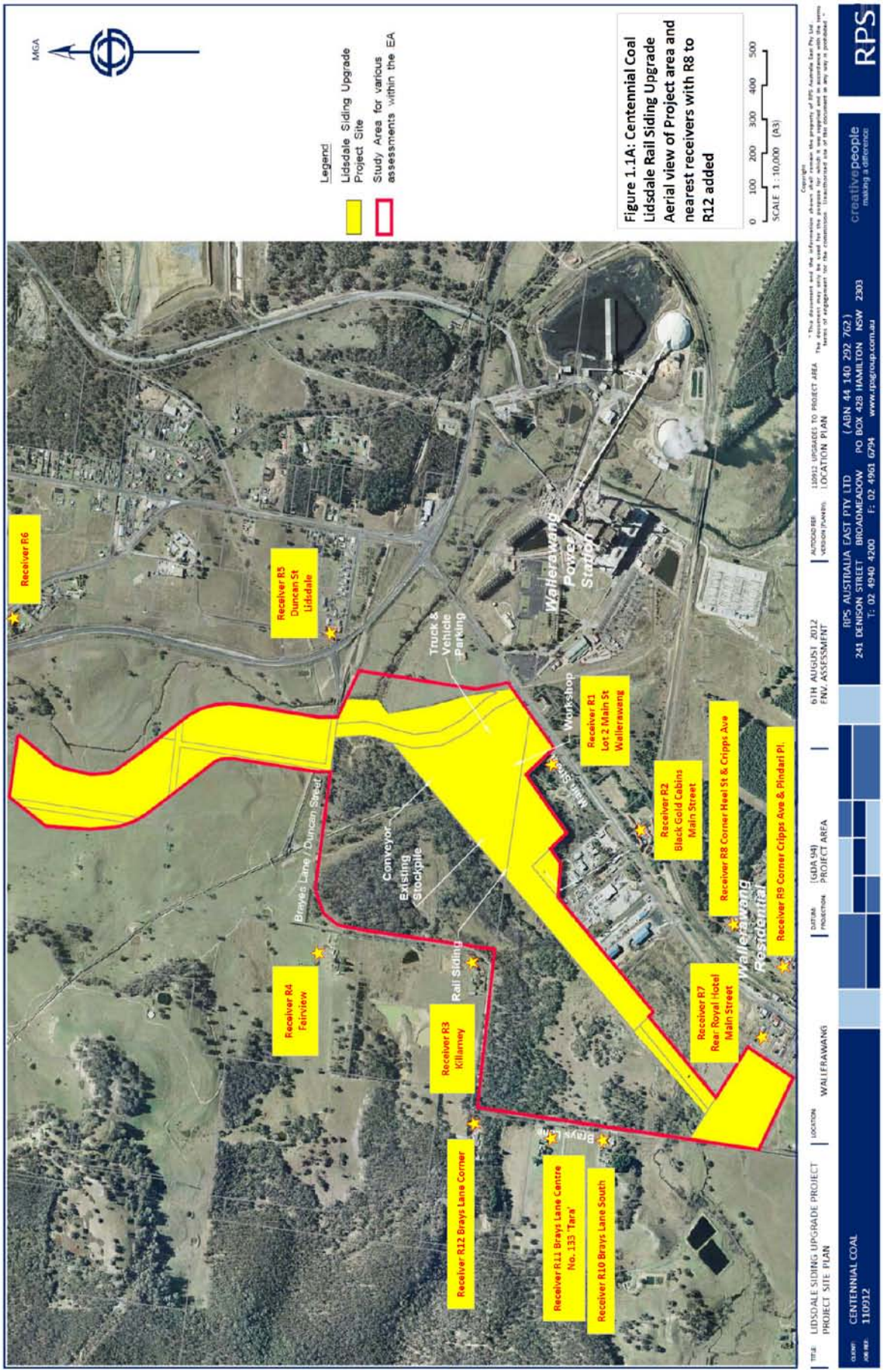
APPENDIX 1
LIDSDALE SIDING PROJECT LANDS



APPENDIX 2
PROJECT LAYOUT PLAN



APPENDIX 3
NOISE RECEIVER LOCATIONS



APPENDIX 4
NOISE COMPLIANCE ASSESSMENT

Applicable Meteorological Conditions

1. The noise criteria in Table 1 of the conditions are to apply under all meteorological conditions except the following:
   (a) during periods of rain or hail;
   (b) average wind speed at microphone height exceeds 5 m/s;
   (c) wind speeds greater than 3 m/s measured at 10 m above ground level; or
   (d) temperature inversion conditions greater than 3°C/100 m.

Determination of Meteorological Conditions

2. Except for wind speed at microphone height, the data to be used for determining meteorological conditions shall be that recorded by the meteorological station located on the site.

Compliance Monitoring

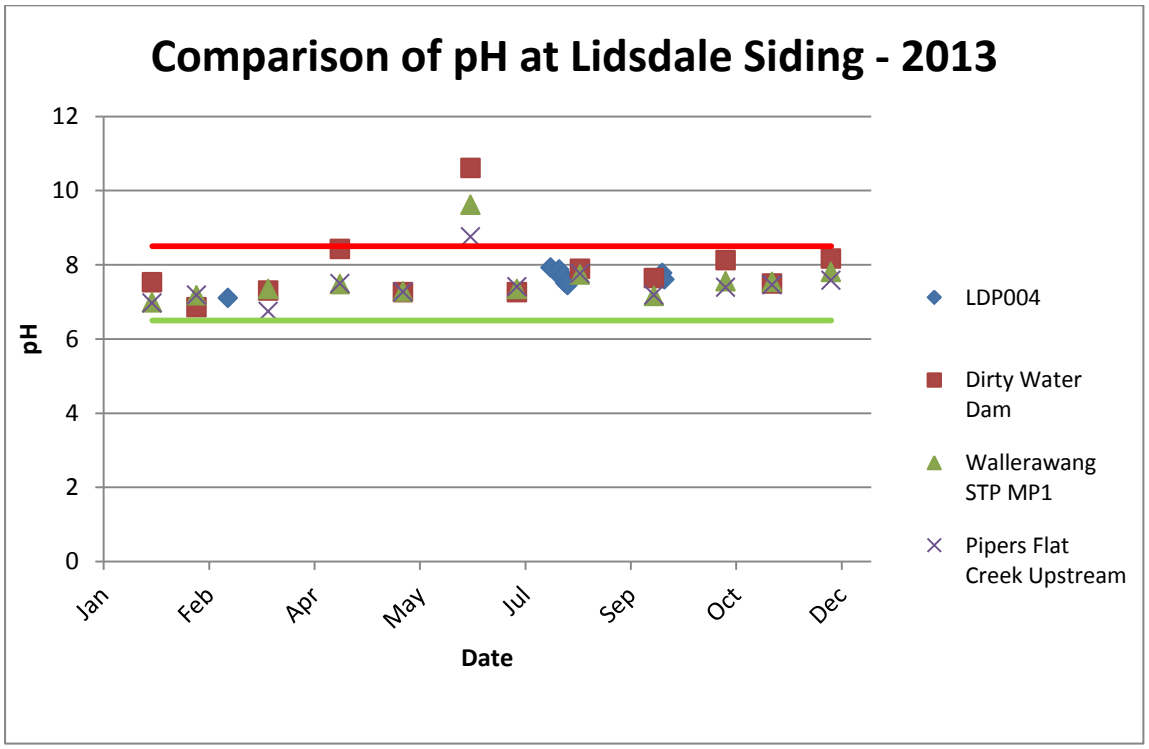
3. Unless otherwise agreed with the Director-General, monthly attended monitoring is to be used to evaluate compliance with the relevant conditions of this approval.
4. Unless otherwise agreed with the Director-General, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the *NSW Industrial Noise Policy* (as amended from time to time), in particular the requirements relating to:
   (a) monitoring locations for the collection of representative noise data;
   (b) meteorological conditions during which collection of noise data is not appropriate;
   (c) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment; and
   (d) modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration.

Appendix 2

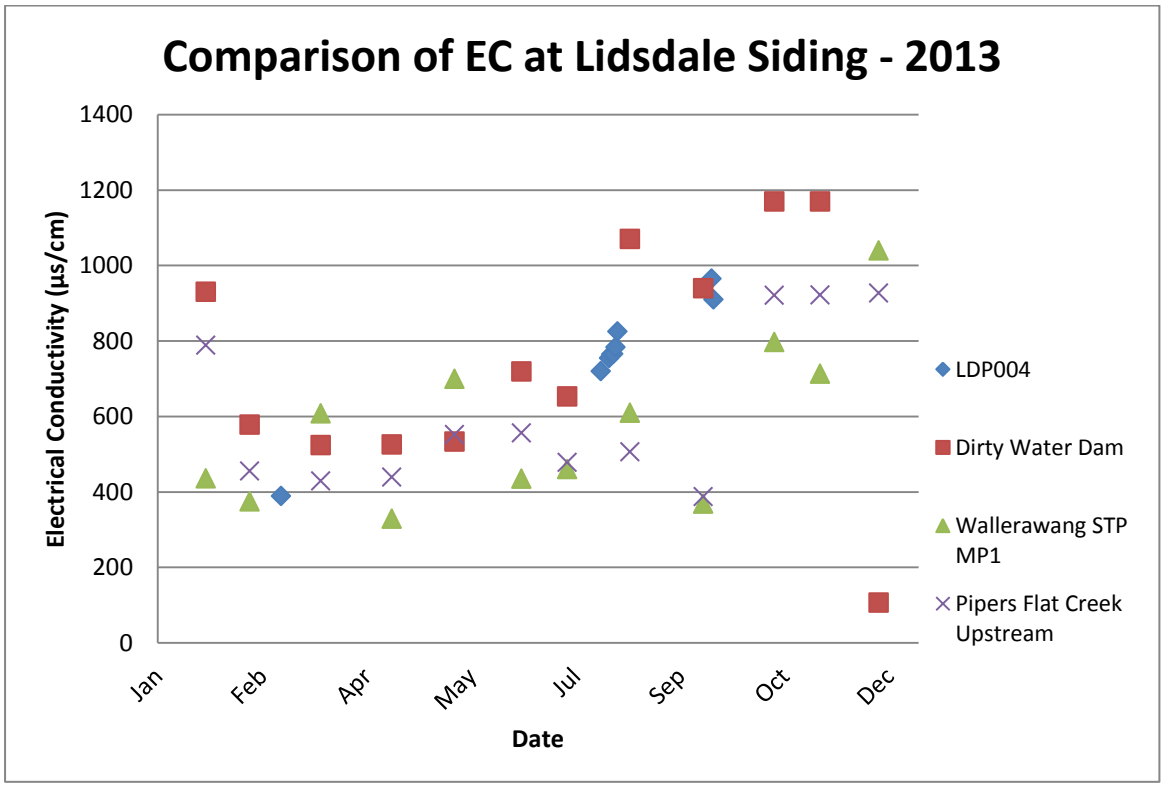
Water Results

Appendix 2 – Water Quality

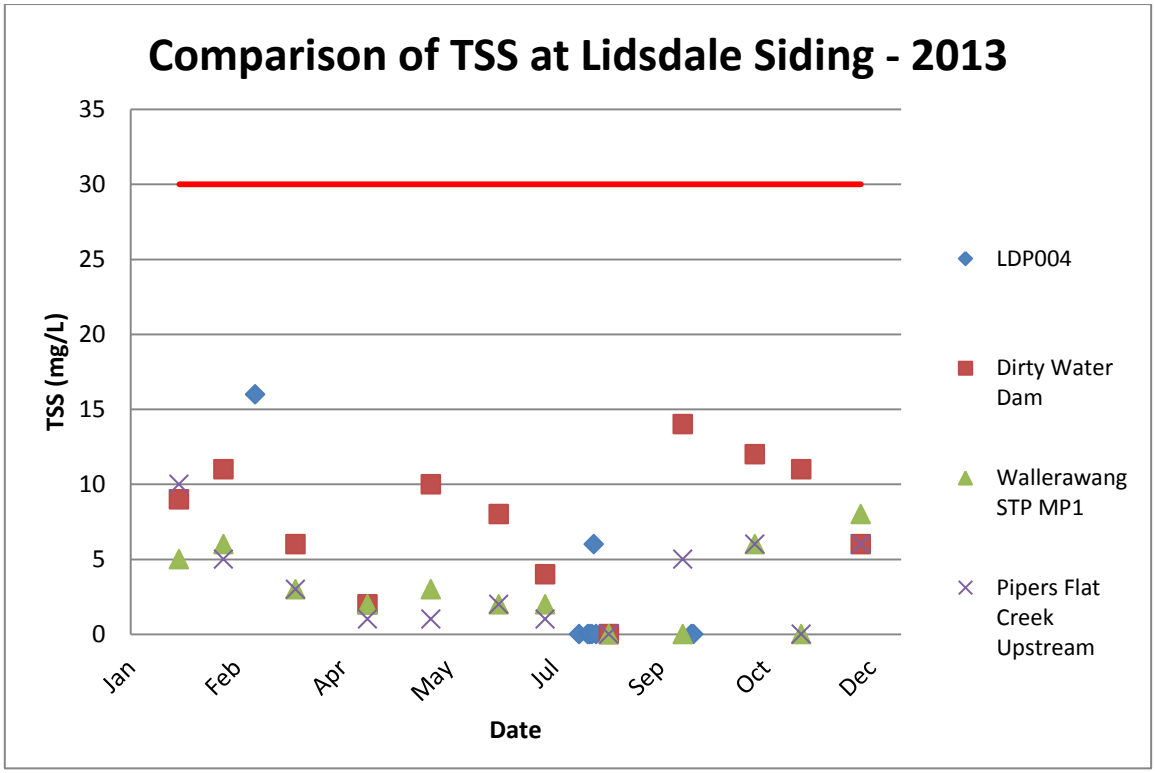
Surface Water



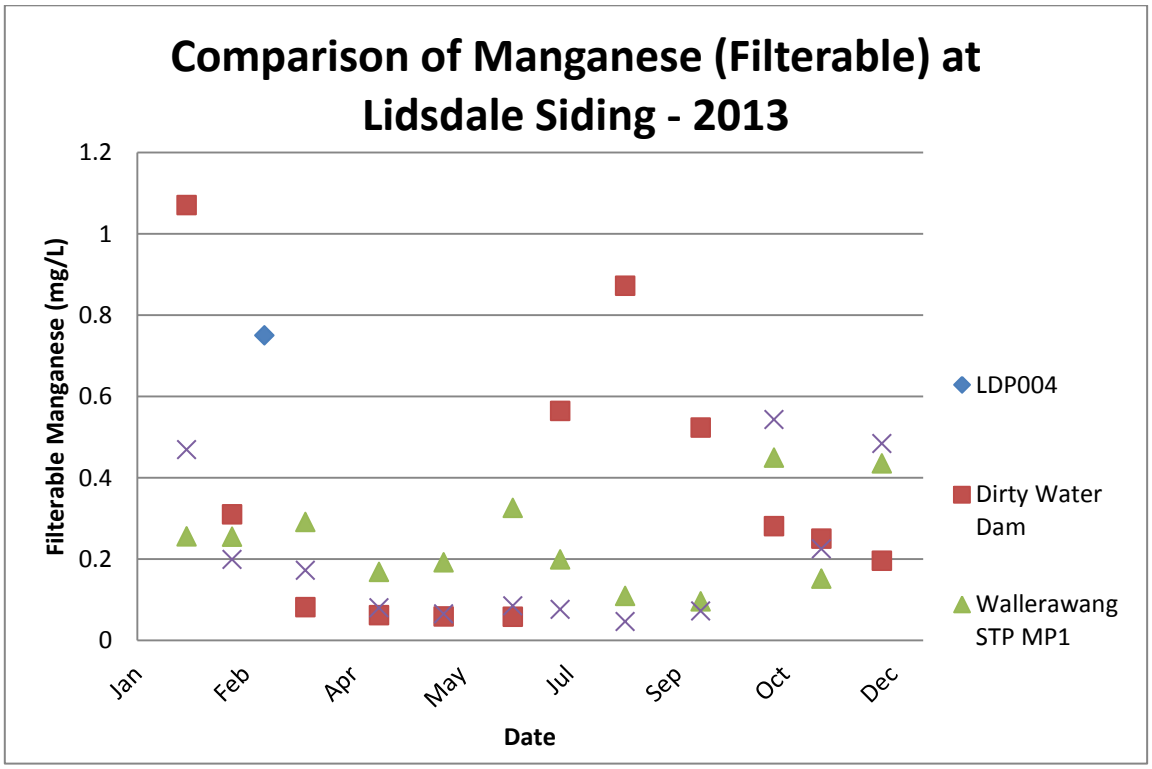
Graph 1: Comparison of pH data at Lidsdale Siding monitoring locations



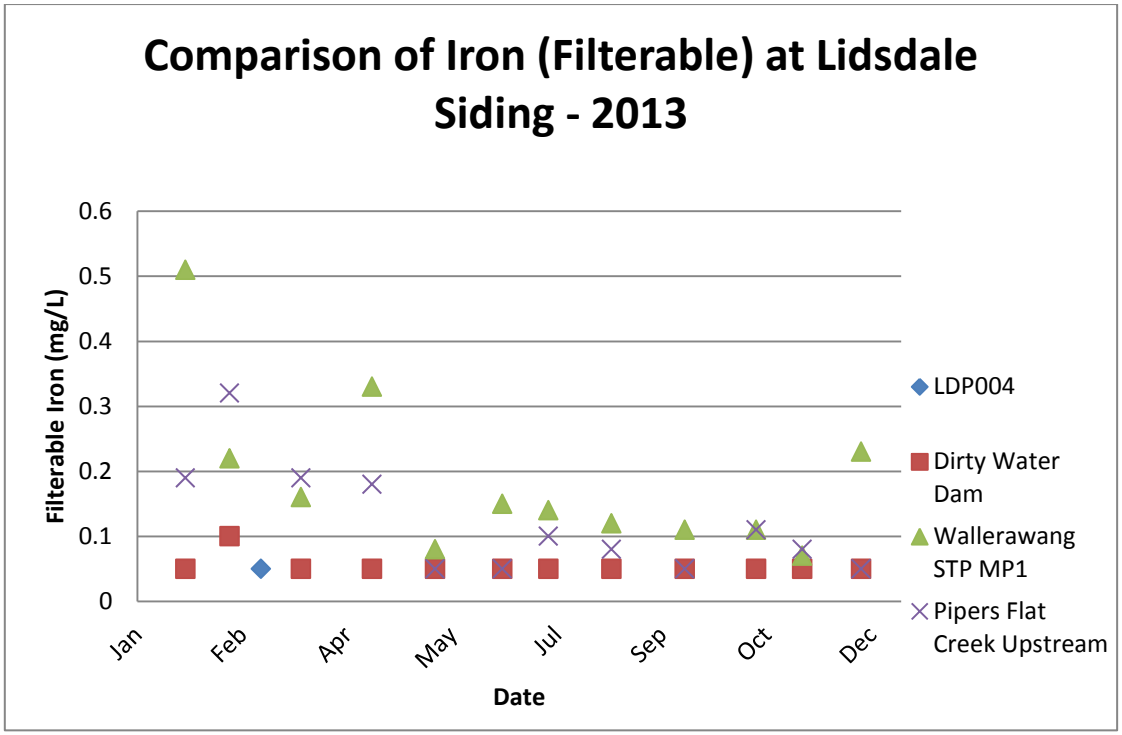
Graph 2: Comparison of EC data at Lidsdale Siding monitoring locations



Graph 3: Comparison of TSS data at Lidsdale Siding monitoring locations



Graph 4: Comparison of Manganese (Filterable) data at Lidsdale Siding monitoring locations



Graph 5: Comparison of Iron (Filterable) data at Lidsdale Siding monitoring locations

Table 1: Construction vs non-construction surface water results for Lidsdale Siding

Dam	pH (Jan – June 2013)	pH (July - Dec 2013)	TSS (mg/L) (Jan – June 2013)	TSS (mg/L) (July - Dec 2013)	EC (uS/cm) (Jan – June 2013)	EC (uS/cm) (July - Dec 2013)	Oil & Grease (mg/L) (Jan – June 2013)	Oil & Grease (mg/L) (July - Dec 2013)	Manganese (mg/L) (Jan – June 2013)	Manganese (mg/L) (July - Dec 2013)	Iron (filt) (mg/L) (Jan – June 2013)	Iron (filt) (mg/L) (July - Dec 2013)
LDP004	7.1	7.7	16.0	6.0	389	811	<5	<5	0.1	*	<0.05	*
Dirty Water Dam	8.0	7.8	7.7	9.4	635	852	<5	<5	0.3	0.4	0.1	<0.05
Wallerawang STP	7.7	7.5	3.5	5.3	481	665	<5	<5	0.2	0.2	0.2	0.1
Pipers Flat Upstream	7.4	7.5	3.7	4.5	537	690	<5	<5	0.2	0.1	0.2	0.1

** No results*

Groundwater

Table 2: Lidsdale Siding Annual Average Groundwater Results

Bore	EC (µs/cm)	pH	TSS (mg/L)	Water Height (m)
PB1	678	6.2	80	*
MW1	549	6.8	1094	4.30
MW2	*	*	*	1.39
MW3	240	5.5	5265	3.03
MW4	478	4.7	1642	1.81
MW5	141	5.8	3267	2.69
MW6	594	6.5	1292	1.88
Min	**141**	**5**	**1094**	**1.8**
Max	**594**	**7**	**5265**	**4.3**
Average	**400**	**6**	**2512**	**2.7**

** No results*

Table 3: Construction vs non-construction groundwater results for Lidsdale Siding

Bore	pH (Jan – June 2013)	pH (July - Dec 2013)	TSS (mg/L) (Jan – June 2013)	TSS (mg/L) (July - Dec 2013)	EC (uS/cm) (Jan – June 2013)	EC (uS/cm) (July - Dec 2013)	Oil & Grease (mg/L) (Jan – June 2013)	Oil & Grease (mg/L) (July - Dec 2013)	Manganese (mg/L) (Jan – June 2013)	Manganese (mg/L) (July - Dec 2013)	Iron (filt) (mg/L) (Jan – June 2013)	Iron (filt) (mg/L) (July - Dec 2013)	Water Height (m) (Jan – June 2013)	Water Height (m) (July - Dec 2013)
PB1	6.0	6.6	8	221	607	822	<5	<5	1.3	0.9	3.4	34.0	*	*
MW1	6.8	6.8	1467	721	568	541	<5	<15	1.1	0.6	9.7	6.8	4.3	4.3
MW2	*	*	*	*	*	*	*	*	*	*	*	*	1.5	1.4
MW3	5.5	5.5	6899	3631	269	228	<5	<20	0.0	0.0	<0.05	0.4	3.7	3.0
MW4	4.8	4.7	1835	1577	414	500	<5	<5	0.4	0.4	0.7	0.3	2.0	1.8
MW5	5.9	5.7	3267	*	143	138	<5	*	0.0	*	0.1	*	2.6	2.7
MW6	6.4	6.5	972	1399	616	587	<5	<5	0.0	0.0	0.1	<0.05	1.6	1.9
Average	5.9	6.0	2408	1510	436	469	**	**	0.5	0.4	2.8	10.4	2.6	2.5

** No results*

*** Average incalculable*

Appendix 3

Air Quality Results

Appendix 3

Depositional Dust Results

Table 1: Depositional Dust Annual Averages for Lidsdale Siding

Date of sample	DDG1 (g/m2/month)	DDG6 (g/m2/month)	DDG7 (g/m2/month)	DDG8 (g/m2/month)
11-01-2013	0.4	1.2	1.3	1.4
08-02-2013	0.3	12.2	4.9	2.4
08-03-2013	0.1	1.6	1.6	1.2
08-04-2013	0.6	2.7	1.4	1.1
07-05-2013	0.8	1.6	2.4	2.2
07-06-2013	0.8	1.8	4.5	2.2
09-07-2013	3.1	*	11.7	1.8
08-08-2013	2.6	2.5	26.1	2.0
06-09-2013	3.0	1.3	1.4	7.1
08-10-2013	0.8	3.7	0.6	3.1
05-11-2013	0.7	2.7	2.3	2.9
04-12-2013	0.4	1.0	1.0	1.9
Annual Average	**1.1**	**2.9**	**4.9**	**2.4**

** No results*

Appendix 4

Rehabilitation and Closure Costs

Rehabilitation Worksheet

Area	Rehabilitation Activity	Generic Description / Notes	Specific description Name areas /	Map Ref	Final Agreed Values December 2012 Quantity	Unit	Unit Price		Total Cost $
INFRASTRUCTURE AREAS									
Coal Handling and Preparation Plant (CHPP)	Disconnect and terminate services	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost	Covers Train and Conveyor Coal Stockpile areas only.	Insert map ref here	-	@	$37,614.86	$	-
	Disconnect and terminate powerlines	This item includes the cost to terminate and remove powerlines, and is based on the average cost to construct.	Powerlines around the site		1.00	km	$16,151.98	$	16,152
	Demolish and remove small buildings	Enter the total area of small buildings and offices in the CHPP area. It should not include demountables which can be removed from site. It does not include workshops.			-	m2	$83.36	$	-
	Demolish and remove industrial buildings	Enter the total area of workshop facilities in the CHPP area.			-	m2	$120.14	$	-
	Demolish and remove CHPP	Enter the total surface area of the CHPP. If the CHPP is multi-story the entry should be the sum of the surface area for all floors.			-	m2	$265.14	$	-
	Demolish and remove conveyors & gantries (includes overland conveyors)	Enter the sum of the total length of conveyor and gantries. This includes conveyor to rail load out areas of conveyor from hoppers feeding back to the CHPP.			-	m	$305.95	$	-
	Remove Concrete pads and Footings	Enter the total area the CHPP, workshops and buildings.			-	m2	$17.05	$	-
	Deconstruct Large Tanks (e.g. Thickener)	Enter the number of tanks to be removed from the site.			-	@	$151,689.21	$	-
	Deconstruct Small Tanks (e.g.Thickener)	Enter the number of tanks to be removed from the site.	Main concrete water tank	E:228086 N"6300548	1.00	@	$60,768.29	$	60,768
	Remove carbonaceous material (spillage or otherwise) from footprint of the CHPP, ROM & Product stockpiles, conveyors and workshops	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.	Train and Conveyor Stockpiles and around Henrys Workshop (4.5 ha) by 0.2m deep		9,000.00	m3	$4.03	$	36,270
	Final trim, rock rake & deep rip	This item includes the areas requiring minor reshaping, rock raking and deep ripping to enhance revegetation program. This would include the entire CHPP area.			4.50	Ha	$754.15	$	3,394
	Source, cart and spread topsoil.	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the CHPP area	Topsoil over 4.5 ha at 0.15m deep		6,750.00	m3	$15.00	$	101,250
	Spoil amelioration and supply and spread pasture seed and fertiliser.	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser			4.50	Ha	$4,975.00	$	22,388
Rail Line and Loop	Remove Rail Loop and spur	This item includes the pulling up and removal from site of railway line and sleepers. Calculated as a lineal metre	Rail line excluding ARTC sections		2,400.00	m	$54.37	$	130,488
	Reshape rail spur and load out area	This item includes the areas requiring reshaping once the rail line, sleepers and ballast has been removed.	Length of rail by 20m wide, rounded off to nearest hectare.		5.00	Ha	$4,322.97	$	21,615
	Final trim, rock rake & deep rip	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program			5.00	Ha	$754.15	$	3,771
	Spoil amelioration and supply and spread pasture seed and fertiliser.	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser			5.00	Ha	$4,975.00	$	24,875
Main Workshop Area	Disconnect and terminate services	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost	Henrys Workshop only - power & water	E:228013 N:6300552	1.00	@	$6,722.97	$	6,723
	Demolish and remove small buildings	Enter the total area of small buildings and offices in the workshop area. It should not include demountables which can be removed from site. It does not include workshops.	Henrys Workshop (18x18m)	E:228013 N:6300552	324.00	m2	$83.36	$	27,009
	Demolish and remove industrial buildings	Enter the total area of workshop facilities in the area. Include all remote or field based workshop areas.			-	m2	$120.14	$	-
	Remove Concrete pads, Footings and bitumen (car park) for dumping in a void on the site	Enter the total area the workshops and buildings. Include the area of any bitumen car parks (or similar). It would also include vehicle washdown pads, bulk fuel bunding area and refuelling areas (i.e. all concrete areas in the workshop precinct)	Henrys Workshop (18x18m) concrete floor. Also washdown pad (200m2)	E:228013 N:6300552	524.00	m2	$17.05	$	8,934
	Remove contaminated material from workshop and hardstand areas for disposal in the decline void AND/OR	i) Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.	Front of Henrys workshop 18x4x0.5m deep 500m3 for around diesel tank site (estimate)		536.00	m3	$3.50	$	1,876
	Reshaping, capping, sealing of material presenting environmental difficulties (AMD, Hydrocarbon material, etc)	Enter the total area of material requiring capping or sealing. Where assessments have already been made and the presence/absence of contaminated material is know (and quantified) an alternative rate can be used. If this work has not been undertaken, use default price.			-	Ha	$60,506.76	$	-
	Removal of UG tank (including pipes, bunds, etc) (include all facilities on site)	A default rate per UGT is to be utilised.			-	@	$50,384.02	$	-
	On site remediation of contaminated soil (<1000m3)	where an assessment of the volume of contaminated soil has been made this volume is to be included. Where the volume in not known or has not been quantified a default volume of 3000m3 per fuel storage facility is to be used in cell C:37.	From around diesel tank site (from Line 32) and from front of workshop		536.00	m3	$120.00	$	64,320
	On site remediation of contaminated soil (1000-10,000m3)	where an assessment of the volume of contaminated material has been made this volume is to be included. Where the volume in not know or has not been quantified a default volume of 3000m3 per fuel storage facility is to be used.			-	m3	$53.78	$	-
	On site remediation of contaminated soil (>10,000m3)	where an assessment of the volume of contaminated soil has been made this volume is to be included. Where the volume in not known or has not been quantified a default volume of 3000m3 per fuel storage facility is to be used in cell C:37.			-	m3	$40.33	$	-
	Final trim, rock rake & deep rip	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program			-	Ha	$754.15	$	-
	Source, cart and spread topsoil.	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the workshop area.			-	m3	$15.00	$	-
	Spoil amelioration and supply and spread seed and fertiliser.	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser			-	Ha	$4,975.00	$	-

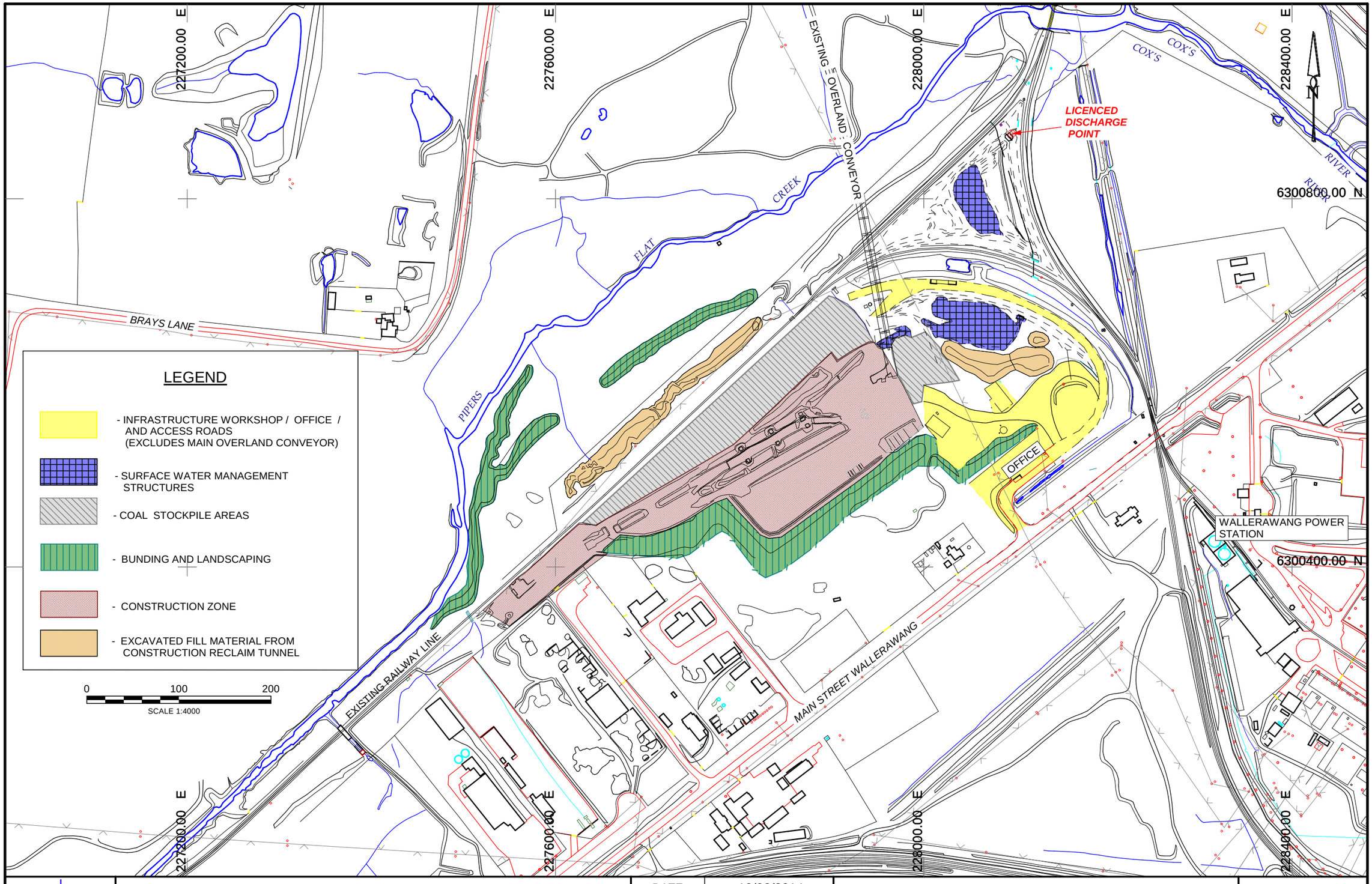
Area	Rehabilitation Activity	Generic Description / Notes	Specific description Name areas /	Map Ref	December 2012 Quantity	Unit	Unit Price	Total Cost $
Admin Buildings	Disconnect and terminate services	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost	Office and weighbridge	E:228114 N:6300512	1.00	@	$6,722.97	$ 6,723
	Demolish and remove small buildings	Enter the total area of small buildings and offices in the admin area. It should not include demountables which can be removed from site. It does not include workshops.			-	m2	$83.36	$ -
	Demolish and remove industrial buildings	Enter the total area of workshop facilities in the admin area.			-	m2	$120.14	$ -
	Remove Concrete pads, Footings and bitumen (car park)	Enter the total area the workshops and buildings. Include the area of any bitumen car parks (or similar)	Covers office and weighbridge concrete plus bitumen entrance road around to conveyor.		3,680.00	m2	$17.05	$ 62,744
	Final trim, rock rake & deep rip	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program			2.00	Ha	$754.15	$ 1,508
	Source, cart and spread topsoil.	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the admin area.	2 ha by 0.15m deep		3,000.00	m3	$15.00	$ 45,000
	Spoil amelioration and supply and spread pasture seed and fertiliser.	Enter the total area of the admin, etc footprint requiring to be covered with fertiliser (and/or lime & gypsum) prior to seeding UNIT RATE: Depends the required rehabilitation commitment (ie. Trees will be more expensive than grass)			2.00	Ha	$4,975.00	$ 9,950
Access Roads & Haul Roads	Remove carbonaceous material from roadways (coal / rejects spillage)	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.	Minor material not covered under CHPP		200.00	m3	$4.03	$ 806
	Reshape deep rip and ameliorate sealed / unsealed roads	Enter the total area of the road footprint requiring to be covered with fertiliser (and/or lime & gypsum) prior to seeding UNIT RATE: Depends the required rehabilitation	Internal dirt roads and access tracks - excluded bitumen roads		3.00	Ha	$4,322.97	$ 12,969
	Source, cart and spread topsoil.	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the access roads & haul roads.	3ha x 0.15m		4,500.00	m3	$15.00	$ 67,500
	Spoil amelioration and supply and spread seed and fertiliser.	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser	Internal dirt roads and access tracks		3.00	Ha	$4,975.00	$ 14,925
Sewerage / Water Treatment Plant	Disconnect and terminate services	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost			-	@	$3,361.50	$ -
	Demolish and remove small buildings / tanks	Enter the total area of small buildings and tanks.	Pump house and tank (under Conveyor). Also small pump house next to concrete tank near Workshop	E:227940 N:6300685	50.00	m2	$83.36	$ 4,168
	Remove contaminated material from areas for disposal (ie. chemical spillage in / around storage sheds).	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.			-	m3	$3.50	$ -
	Final trim, rock rake & deep rip	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program			1.00	Ha	$754.15	$ 754
	Source, cart and spread topsoil.	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the sewerage / water treatment plant	1 ha x 0.15m deep		1,500.00	m3	$15.00	$ 22,500
	Spoil amelioration and supply and spread seed and fertiliser.	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser			1.00	Ha	$4,975.00	$ 4,975
Hardstand /Laydown Areas (across the entire site)	Remove contaminated material from areas for disposal (ie. chemical/hydrocarbon spillage in the hard stand area).	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.			-	m3	$3.50	$ -
	Deep rip hard stand / laydown areas	This item includes ripping hard stand and lay down areas to enhance the rehabilitation program.			-	Ha	$754.15	$ -
	Source, cart and spread topsoil.	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the hard stands and lay down areas			-	m3	$15.00	$ -
	Spoil amelioration and supply and spread seed and fertiliser.	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser			-	Ha	$4,975.00	$ -
Underground Infrastructure	Seal Portal / Decline Entry	This includes sealing the portal to make safe and ensure access can not be obtained. The number of portals for the whole mine is to be included			-	@	$72,100.00	$ -
	Seal & rehabilitate of ventilation fans.	This includes sealing & rehabilitation of the ventilation fans to make safe. The number of ventilation fans for the whole mine is to be included.			-	@	$33,614.86	$ -
	Shaft filling	This includes filling of shafts using onsite material.			-	m3	$24.44	$ -
	Shaft capping/sealing	Simple capping/sealing to DPI standards			-	@	$12,223.59	$ -
	De-watering Bores	This includes sealing & rehabilitation of the dewatering bores to make safe. The total number of dewatering bores for the whole mine is to be included.	Production bore	E:228100 N:6300640	1.00	@	$4,033.79	$ 4,034
	Cap exploration holes	This includes capping & rehabilitation of all old Cap exploration holes around the site	6 monitoring wells (MW1 - MW6) within site		6.00	@	$1,336.15	$ 8,017
	Minor earthworks and maintenance of mine subsidence areas	This includes undertaking surface drainage works, etc as required to remediate areas affected by Mine subsidence (outside the jurisdiction of the mine subsidence board)			-	Ha	$1,344.59	$ -
Other	Diesel Tanks	This item includes <<to be added by the operator>>			-	each	$12,404.23	$ -
	Dentonator Store /Magazine	This item includes <<to be added by the operator>>			-	each	$620.21	$ -
	General Rubbish Removal	This item includes <<to be added by the operator>>			200.00	Tonne	$122.24	$ 24,447
	Concrete Water Storage Tanks	This item includes <<to be added by the operator>>			-	m3	$30.56	$ -
	Methane Drainage Holes	This item includes <<to be added by the operator>>			-	0.5m	$24,808.47	$ -
	Power/Pumping/Services Holes	This item includes <<to be added by the operator>>			-	1	$24,808.47	$ -
	Other 1 <insert>	This item includes <<to be added by the operator>>	Use this section for DPI OC & underground selection only		-	@	$0.00	$ -
	Other 2 <insert>	This item includes <<to be added by the operator>>	Use this section for DPI OC & underground selection only		-	@	$0.00	$ -

Area	Rehabilitation Activity	Generic Description / Notes	Specific description Name areas /	Map Ref		December 2012 Quantity	Unit	Unit Price	Total Cost $	
	Other 3 <insert>	This item includes <<to be added by the operator>>	Use this section for DPI OC & underground selection only			-	@	$0.00	$	-
	Other 4 <insert>	This item includes <<to be added by the operator>>	Use this section for DPI OC & underground selection only			-	@	$0.00	$	-
	Other 5 <insert>	This item includes <<to be added by the operator>>	Use this section for DPI OC & underground selection only			-	@	$0.00	$	-
	Other 6 <insert>	This item includes <<to be added by the operator>>	Use this section for DPI OC & underground selection only			-	@	$0.00	$	-
ACTIVE MINE, VOIDS AND SURFACE DISTURBANCE										
Active Pit (including the voids and any internal benches or mine strips)	Major bulk pushing of the low wall to achieve grades nominated in the MOP (i.e. < 18o)	This item includes the volume requiring major reshaping, rock raking and deep ripping (only as required) to enhance revegetation program UNIT RATE: dozer push rate	Links to DPI open cut & underground version only			-	m3	$1.17	$	-
	Active pit area - benches blasted and doze to < 18o	This item includes the total area of rehabilitation that have been established and require subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment UNIT RATE: drill & blast + dozer push	Links to DPI open cut & underground version only			-	m3	$1.47	$	-
	Final trim, rock rake & deep rip	This item includes the area requiring minor reshaping, rock raking and deep ripping to enhance revegetation program.	Links to DPI open cut & underground version only			-	Ha	$754.15	$	-
	Structural works, banks waterways	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the reshaped areas	Links to DPI open cut & underground version only			-	Ha	$1,882.43	$	-
	Source, cart and spread topsoil.	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the tailings dam / emplacement.	Links to DPI open cut & underground version only			-	m3	$2.69	$	-
	Spoil amelioration and supply and spread / tree pasture seed and fertiliser.	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser	Links to DPI open cut & underground version only			-	Ha	$4,975.00	$	-
Ramps	Major bulk pushing of the low wall are to achieve grades nominated in the MOP (i.e. < 18o)	This item includes the volume requiring major reshaping.	Links to DPI open cut & underground version only			-	m3	$1.17	$	-
	Final trim, rock rake & deep rip	This item includes the area requiring minor reshaping, rock raking and deep ripping to enhance revegetation program.	Links to DPI open cut & underground version only			-	Ha	$754.15	$	-
	Structural works, banks waterways	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the reshaped areas	Links to DPI open cut & underground version only			-	Ha	$1,882.43	$	-
	Source, cart and spread topsoil.	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped ramps	Links to DPI open cut & underground version only			-	m3	$2.69	$	-
	Spoil amelioration and supply and spread pasture / tree seed and fertiliser.	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser	Links to DPI open cut & underground version only			-	Ha	$4,975.00	$	-
Highwall treatment, Initial Boxcuts & Other Voids	Drill & Blast Highwall OR	This item includes the total area of rehabilitation that have been established and require subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment UNIT RATE: drill & blast + dozer push				-	m3	$0.84	$	-
	Major bulk pushing of the high wall are to achieve grades nominated in the MOP (i.e. < 18o)	This item includes the volume requiring major reshaping, rock raking and deep ripping (only as required) to enhance revegetation program UNIT RATE: dozer push rate				-	m3	$1.17	$	-
	Final trim, rock rake & deep rip	This item includes the area requiring minor reshaping, rock raking and deep ripping to enhance revegetation program.				-	Ha	$754.15	$	-
	Source, cart and spread topsoil (at 20cm)	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped area.				-	m3	$15.00	$	-
	Spoil amelioration and supply and spread pasture seed and fertiliser.	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser				-	Ha	$4,975.00	$	-
	Security Fence around steep section highwall	This item includes the erection of a 2m security fence (lineal metre) around the void and other dangerous areas.				-	m	$67.24	$	-
	High wall treatment - (trench + safety berm)	This item includes the construction of a safety berm and rill (lineal metre) around the highwall to stop all vehicles, act accidentally driving over haul road (engineered control).				-	m	$77.32	$	-
Disturbance ahead of Mining + water management structures	Areas cleared ahead of mining - re-establish vegetation commensurate with surround vegetation	This includes the direct application of seed to restore the vegetation that was disturbed as part of clearing operations ahead of the mine.				-	Ha	$4,623.65	$	-
	Areas topsoil stripped ahead of mining - source cart and respread topsoil	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the that have been disturbed				-	m3	$2.69	$	-
	Reshape, deep rip, ameliorate and seed highwall / internal access roads and tracks	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass / tree seed and fertiliser				-	Ha	$4,322.97	$	-
	Reshape, deep rip, ameliorate and seed exploration lines / areas	This item includes the area requiring the addition of ameliorates such as lime of gypsum prior to the application of grass / tree seed and fertiliser				-	Ha	$4,975.00	$	-
	Clean water dams to be retained after mine closure - make safe and minor earthworks.	This item includes making the dam spillway, and walls stable and ensuring the integrity of the dam wall, etc.				-	@	$2,689.19	$	-
	Dirty Water Dams (Drain and remove sediments to make dam clean water)	This item includes draining the dam and removing 500mm of potentially contaminated (saline) sediments to be buried in the pit. UNIT RATE: must consider the distance from the dam to the disposal area.	Dirty Water Pond	E:228060 N:6300655		50.00	m3	$4.31	$	216
River & Creek Diversions	Creek diversion - Channel maintenance through spoil / backfill (20% of estimated diversion construction costs ($1500/m) due to unknown in landform stability)	This item includes the length (m) requiring ongoing maintenance of diversions constructed through unconsolidated overburden. This will include earthworks repairs and stabilisation following flow events. It assumes a suitably qualified engineer has designed and signed off on construction of the diversion				-	m	$403.38	$	-
	Creek diversion - Channel maintenance insitu (10% of estimated construction cost ($1500/m) for diversion)	This item includes the length (m) requiring ongoing maintenance of diversions constructed through unnatural ground. This will include earthworks repairs and stabilisation following flow events. It assumes a suitably qualified engineer has designed and signed off on construction of the diversion				-	m	$201.69	$	-
	Creek diversion - Vegetation maintenance	This item includes the ongoing maintenance of vegetation within the diversion channel & batters.				-	m2	$0.60	$	-

Area	Rehabilitation Activity	Generic Description / Notes	Specific description Name areas /	Map Ref	December 2012 Quantity	Unit	Unit Price	Total Cost $
Other	Other 1 <insert>	This item includes <<to be added by the operator>>			-	@	$0.00	$ -
	Other 2 <insert>	This item includes <<to be added by the operator>>			-	@	$0.00	$ -
	Other 3 <insert>	This item includes <<to be added by the operator>>			-	@	$0.00	$ -
	Other 4 <insert>	This item includes <<to be added by the operator>>			-	@	$0.00	$ -
	Other 5 <insert>	This item includes <<to be added by the operator>>			-	@	$0.00	$ -
	Other 6 <insert>	This item includes <<to be added by the operator>>			-	@	$0.00	$ -
OTHER								
Other (eg. site contamination, closure plan preparation, etc)	The restoration and care and maintenance of items that have historical significance and are to be retained after the cessation of mining	This item includes ensuring that sufficient resources are made available to restore items of heritage significance and also provide money to enable the ongoing care and maintenance of the structure (if not the responsibility of any another stakeholder i.e. council, historical society)			-	@	$26,891.90	$ -
	Cap exploration holes	This includes capping & rehabilitation of all old Cap exploration holes around the site			-	@	$1,336.15	$ -
	Construction / Deconstruction of Bridges and crossings	Value to be provided by company			-	@	$0.00	$ -
	Construction of Fencing - general	Includes general fencing around site or site works			-	@	$9.49	$ -
	Removal of subsidence monitoring pegs	Cooranbong and Mandalong total hrs based on - 1100 survey marks removal (Surveyor and offsider) at 30 per/hr = total hrs 40			-	@	$0.00	$ -
	Other 1 <insert>	This item includes <<to be added by the operator>>			-	@	$0.00	$ -
	Other 2 <insert>	This item includes <<to be added by the operator>>			-	@	$0.00	$ -
	Other 3 <insert>	This item includes <<to be added by the operator>>			-	@	$0.00	$ -
	Other 4 <insert>	This item includes <<to be added by the operator>>			-	@	$0.00	$ -
	Other 5 <insert>	This item includes <<to be added by the operator>>			-	@	$0.00	$ -
	Other 6 <insert>	This item includes <<to be added by the operator>>			-	@	$0.00	$ -
THIRD PARTY PROJECT MANAGEMENT & CONTINGENCIES								
	Mobilisation & Demobilisation (third party contractor rates apply).	Cost would have to be determined (justified) on the basis of the equipment required and the distance of the mine from the likely contractor to be used.			-	@	$21,854.54	$ -
	DPI Tender Preparation and Assessment	Values provided in this cell are provided as a minimum, and should be assessed based on the size of the site, and works required.			1.00	@	$10,536.07	$ 10,536
	Development of Unplanned Closure Plan	Values provided in this cell are provided as a minimum, and should be assessed based on the size of the site, and works required.			1.00	@	$21,536.35	$ 21,536
	Post closure environmental monitoring	% of the subtotal for all domains			5.0%	%	$821,067.56	$ 41,053
	Project Management & Surveying	% of the subtotal for all domains			10.0%	%	$821,067.56	$ 82,107
	Indexation				-	@	$0.00	$ -
	Other <insert>				-	@	$0.00	$ -
	Other <insert>				-	@	$0.00	$ -
	Contingency				10.0%	%	$976,300.12	$ 97,630
	TOTAL							**$1,073,930**

Appendix 5

Plans



CRAVEN, ELLISTON & HAYES (LITHGOW) PTY LIMITED
CONSULTING LAND, ENGINEERING & MINING SURVEYORS
"Astrolabe", Rutherford Lane, Lithgow, NSW, 2790
Phone: (02) 6351 2281 Fax: (02) 6352 1339 Email: survey@ceh.com.au

DATE	19/02/2014
AMENDED	25/02/2014
SURVEYOR	Gm/compiled Information
DRAWN	G MUIR
CHECKED	RH/MH

LIDSDALE SIDING COAL HANDLING FACILITY

(SITE DETAILS AS AT END 2013 SHOWING CONSTRUCTION ZONE AND WORKING STOCKPILE AREAS)

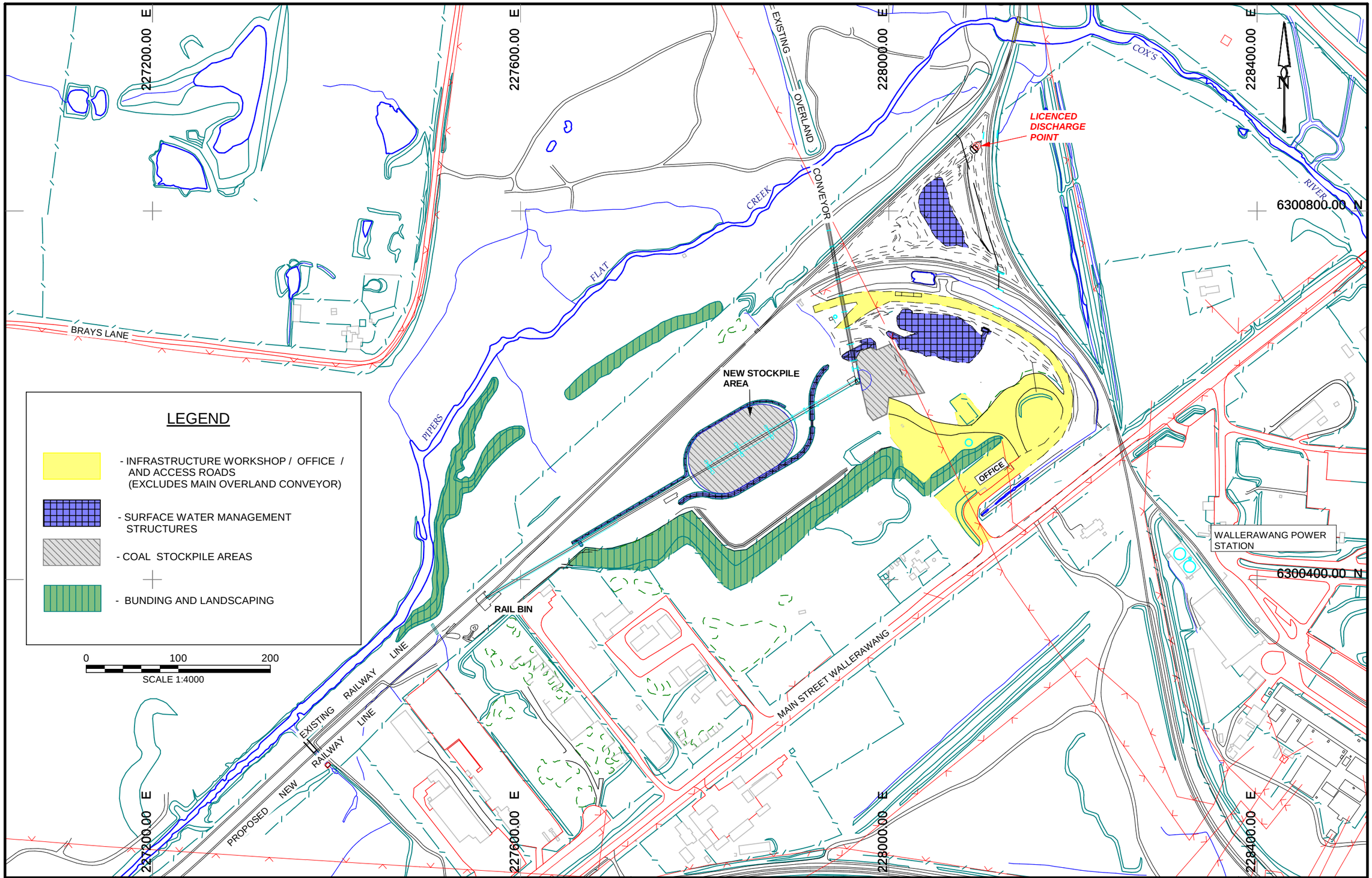
SCALE - 1:4000 DATUM: MGA (Zone 56)

DRAWING No:

LSID END 2013

CCAD6 JOB & DWG:
LSID COMPLETE SITE 0813 - LSID END 2013

Border size = 370mm x 267mm on A3 paper.



CRAVEN, ELLISTON & HAYES (LITHGOW) PTY LIMITED

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"Astrolabe", Rutherford Lane, Lithgow, NSW, 2790

Phone: (02) 6351 2281 Fax: (02) 6352 1339 Email: survey@ceh.com.au

DATE	19/02/2014
AMENDED	23/02/2014
SURVEYOR	Compiled information
DRAWN	G Muir
CHECKED	RH/MH

LIDSDALE SIDING COAL HANDLING AND RAIL LOADING FACILITY

(SITE DETAILS AS AT END CONSTRUCTION EXPECTED JUNE 2014)

SCALE - 1:4000 DATUM: MGA (Zone 56)

DRAWING No:

LSID COMPLETE

CCAD6 JOB & DWG:

LSID COMPLETED SITE 0614 - LSID COMP

Border size = 370mm x 267mm on A3 paper.

Appendix 6

Figures

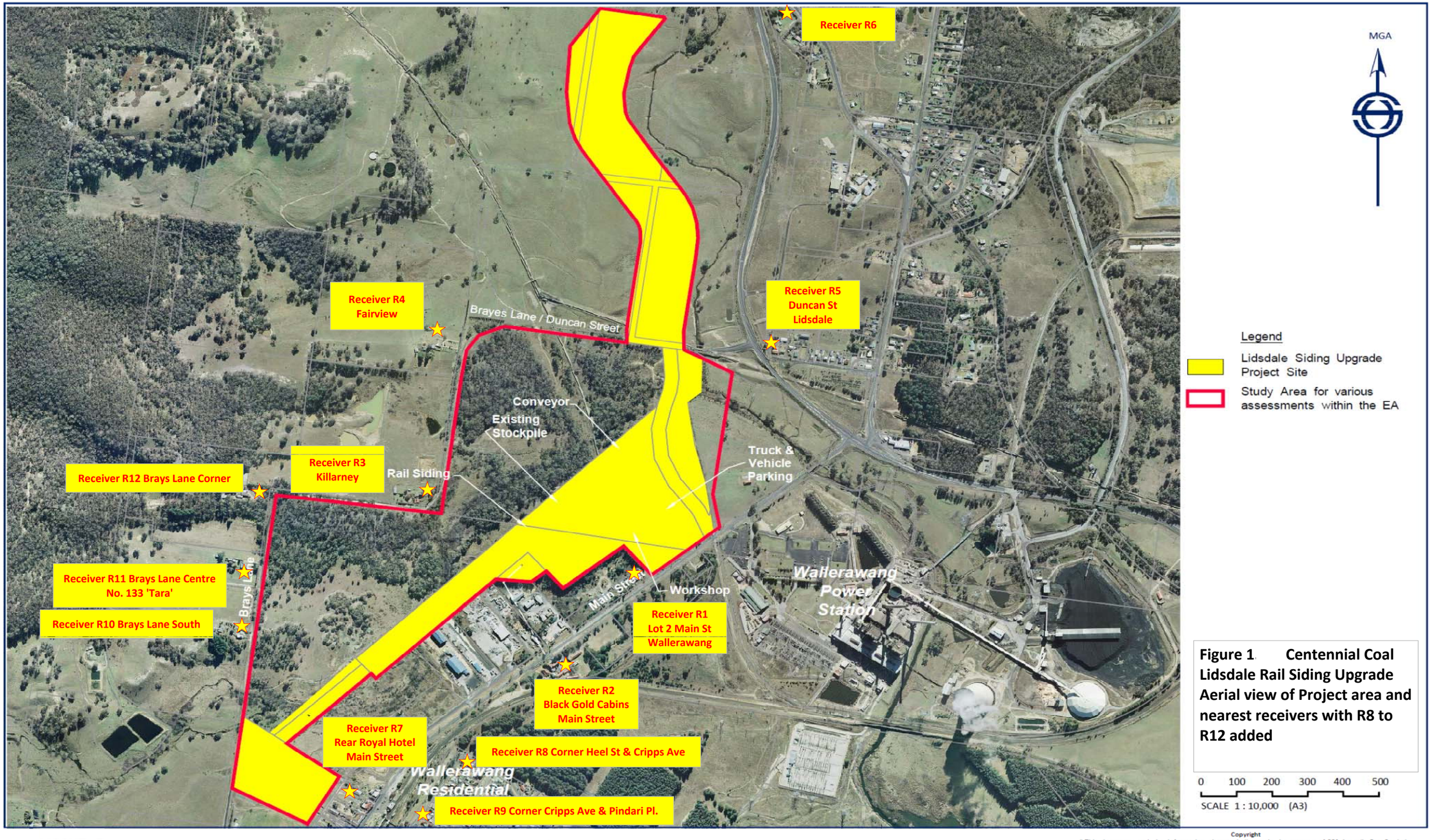

Figure 1 Centennial Coal Lidsdale Rail Siding Upgrade Aerial view of Project area and nearest receivers with R8 to R12 added

TITLE: LIDSDALE SIDING UPGRADE PROJECT
PROJECT SITE PLAN

LOCATION: WALLERAWANG

DATUM: (GDA 94)
PROJECTION: PROJECT AREA

6TH AUGUST 2012
ENV. ASSESSMENT

AUTOCAD REF: 110912 UPGRADES TO PROJECT AREA
VERSION (PLAN BY): LOCATION PLAN

CLIENT: CENTENNIAL COAL
JOB REF: 110912

RPS AUSTRALIA EAST PTY LTD (ABN 44 140 292 762)
241 DENISON STREET BROADMEADOW PO BOX 428 HAMILTON NSW 2303
T: 02 4940 4200 F: 02 4961 6794 www.rpsgroup.com.au

Figure 2: Noise Monitoring Locations

LEGEND

- Groundwater Monitoring Bore
- Surface Water Monitoring Site
- Lidsdale Siding Study Area

N

0 50 100 200

Metres

SCALE 1:8,000 @ A3

GDA 1994 MGA Zone 56

DATA SOURCES

RPS Aquaterra Sydney

Figure 3
Monitoring Network

AUTHOR	GS	REPORT NO	024a
DRAWN	JC	REVISION	A
DATE	14/11/2013	JOB NO.	S168D