

MACQUARIE COAL

GLENCORE



Environmental Management Strategy Plan

Number: WWCX-1443240966-16450

Owner: Manager - Environment & Community

Status: Approved

Version: 1.0

Effective: 8/02/2023

Review:

Uncontrolled unless viewed on the intranet

Table of Contents

1.	Introduction	4
1.1	Overview	4
1.2	Purpose and Scope.....	4
1.3	Objectives.....	6
1.4	Management System Structure	9
2.	Policy and Commitment	Error! Bookmark not defined.
3.	Planning	10
3.1	Legislation, Standards, Codes and Other External Requirements	10
3.2	Environmental Risks and Change Management	13
3.3	Mine Closure Works.....	13
4.	Implementation	13
4.1	Roles and Accountabilities	13
4.2	Documentation and Document Control.....	14
4.3	Communication and Engagement.....	14
4.4	Training	15
4.5	Emergency Preparedness and Response	16
5.	Operational Controls	16
5.1	Subsidence Remediation.....	17
5.2	Noise	17
	5.2.1 Criteria.....	17
	5.2.2 Management Measures	18
	5.2.3 Monitoring.....	18
5.3	Air Quality	19
	5.3.1 Criteria.....	19
	5.3.2 Management Measures	20
	5.3.3 Monitoring.....	21
5.4	Greenhouse Gas.....	21
	5.4.1 Criteria.....	21
	5.4.2 Management Measures	22
	5.4.3 Monitoring.....	22
5.5	Surface Water	23
	5.5.1 Surface Water Management System	23
	5.5.2 Erosion and Sediment Control	25
	5.5.3 Site Water Balance	26
	5.5.4 Criteria.....	27
	5.5.5 Monitoring.....	27
5.6	Groundwater	28

5.7	Heritage.....	29
5.7.1	Aboriginal	29
5.7.2	Historical.....	29
5.8	Visual.....	29
5.9	Waste	29
5.9.1	Criteria.....	29
5.9.2	Classification of Waste	30
5.9.3	Management of Classified Waste	30
5.9.4	Storage and Tracking of Waste	32
5.9.5	Management Measures	32
5.9.6	Monitoring.....	33
5.10	Bushfire	34
5.11	Rehabilitation.....	34
6.	Measurement and Evaluation	34
6.1	Environmental Monitoring Requirements	34
6.1.1	Environmental Inspections.....	35
6.2	Environmental Audits.....	35
6.3	Environmental Reporting	35
6.3.1	Internal Reporting	35
6.3.2	External Reporting.....	36
6.4	Community Complaints.....	36
6.5	Environmental Incidents	37
6.6	Non-Compliance and Corrective Actions	37
6.7	Independent Review and Land Acquisition.....	38
7.	Review and Improvement.....	38
7.1	Environmental Management Strategy Review	38
7.2	Continuous Improvement	39
8.	Document Information	40
8.1	Related Documents.....	40
8.2	Reference Information.....	40
8.3	Previous Document History	41
8.4	Change Information	41
	Appendix A - Regulatory Requirements	42
	Appendix B - EMS Consultation.....	65
	Appendix C - Environmental Monitoring Summary and Plans	100
	Appendix D - West Wallsend Waste Matrix.....	104

1. Introduction

1.1 Overview

Macquarie Coal is located in the Lake Macquarie region of New South Wales (NSW), in the local government area of Lake Macquarie City Council (LMCC) (Figure 1-1). Macquarie Coal encompasses West Wallsend Underground (WWU), the former Macquarie Coal Preparation Plant (MCCP) area, the former open-cut, Westside Mine and the former Teralba Colliery (Northgate and Southgate sites).

The sites forming Macquarie Coal are owned by the Macquarie Coal Joint Venture (MCJV). Oceanic Coal Australia Limited (OCAL) is the major participant in the MCJV, holding 80 per cent of ownership. OCAL ownership is 70% as OCAL and an additional 10% by virtue of its ownership of OCAL Macquarie. Other participants of the joint venture include Marubeni Coal Pty Ltd. (17%) and JFE Mineral (Australia) Pty Ltd. (3%). OCAL is wholly owned by Glencore Coal Assets Australia Pty Ltd (GCAA).

WWU was granted Project Approval (PA 09_0203) on 25 January 2012 by the former NSW Department of Planning and Infrastructure (now Department of Planning and Environment (DPE)). PA 09_0203 allowed for the continuation of mining operations at WWU and enables the consolidation of existing approvals for underground mining and infrastructure utilised for WWU. In addition, WWU obtained a modification to the PA 09_0203 to incorporate two additional long wall (LW) panels, LW 51 and LW 52, with the modification (PA 09_0203 MOD 1) approved by the Minister for Planning on 21 October 2014.

In May 2016 mining was completed at WWU. Coal washing operations and tailings reject generation ceased in July 2016 with the last coal railed from the product stockpile in October 2016. Mine closure works across WWU and MCCP have been underway since mining ended in June 2016, including building/infrastructure demolition and removal, subsidence remediation and sealing and capping of mine entries. Rehabilitation work for WWU are now complete however the rehabilitation will be monitoring and maintained/repared as required. As each area reach completion criteria an application will be made to the NSW Resource Regulator for formal rehabilitation certification as required under the relevant mining tenements.

WWU operates under Environment Protection Licence (EPL) 1360 issued by the NSW Environment Protection Authority (EPA).

This Environmental Management Strategy (EMS) has been prepared in accordance with Schedule 6 Condition 1 of PA 09_0203 and has been updated to reflect the current mine closure phase.

1.2 Purpose and Scope

This Environmental Management Strategy provides the strategic context for the environmental management of WWU and has been developed to identify, address and manage the environmental aspects and impacts related to WWU. This EMS has been developed in accordance with the Glencore standards and seeks generally to align with Australian Standard *ISO 14001: Environmental Management Systems*. The WWU EMS details the measures developed to enable WWU to operate in a sustainable manner and provide a framework for effective environmental management of the activities at WWU during its closure phase.

The EMS is based on the following five sustainable development management principles in accordance with ISO 14001 and the Glencore Coal Assets Australia (GCAA) Sustainable Development Management Framework:

- Environmental Policy and Commitment;

- Planning;
- Implementation and Operation;
- Measurement and Evaluation; and
- Review and Improvement.

This document has been prepared to satisfy Schedule 6 Condition 1 of PA 09_0203. A list of the requirements of this condition and an indication of where they are addressed within this document are provided in Table 1-1.

Project Approval Condition	Section of Document
Environmental Management Strategy The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Secretary. This strategy must:	This document
be submitted to the Secretary for approval within 6 months of this approval;	This document. Revised management plans were submitted in December 2014 (within 6 months of MOD 1 approval).
provide the strategic framework for environmental management of the project;	Section 2
identify the statutory approvals that apply to the project;	Section 3.1
describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;	Section 4.1
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;	Section 4.3
receive, handle, respond to, and record complaints;	Section 6.4
resolve any disputes that may arise during the course of the project;	Section 6.5
respond to any non-compliance; and	Section 6.6
Respond to emergencies.	Section 4.5
be integrated with strategies, plans and programs approved under the conditions of this approval; and	Section 5
Include a clear plan depicting all the monitoring required to be carried out under the conditions of this approval.	Appendix C

Table 1-1 PA 09_0203 Conditions

NOTE: Appendix A contains a list of other conditions relevant to environmental management at WWU from PA 09_0203, along with how they are addressed.

1.3 Objectives

This EMS has been developed in accordance with PA 09_0203 and seeks to achieve the following:

- Responsible environmental management at WWU;
- Compliance with all applicable legislation, standards, codes and other external requirements;
- Active engagement with the community;
- The implementation of a structured and systematic environmental risk based management system;
- Proactive and strategic sustainable development and environmental and community management planning, in order to achieve business objectives;
- Continuous improvement of environmental performance; and
- Meeting Glencore requirements.

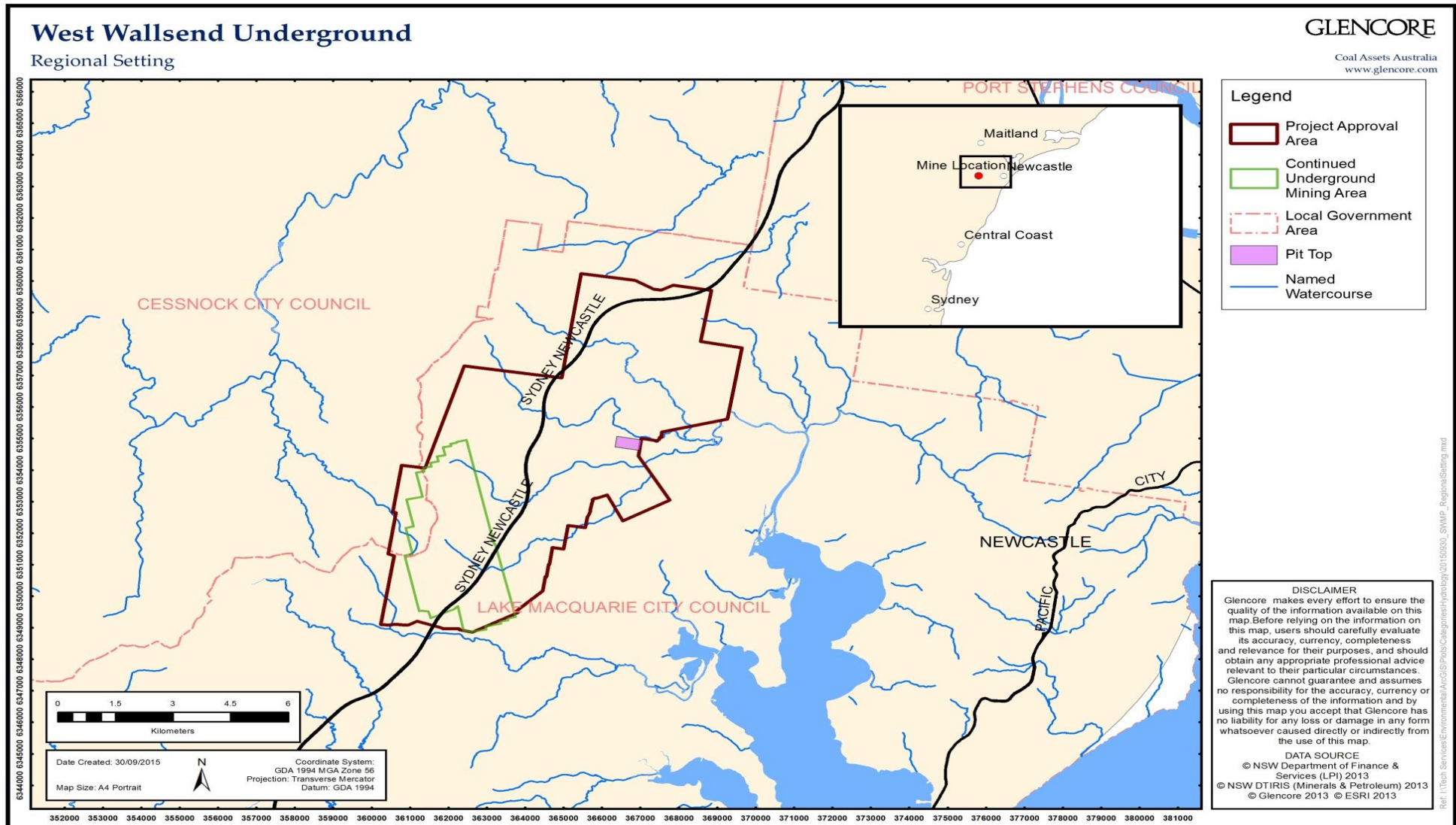


Figure 1-1 West Wallsend Underground regional setting

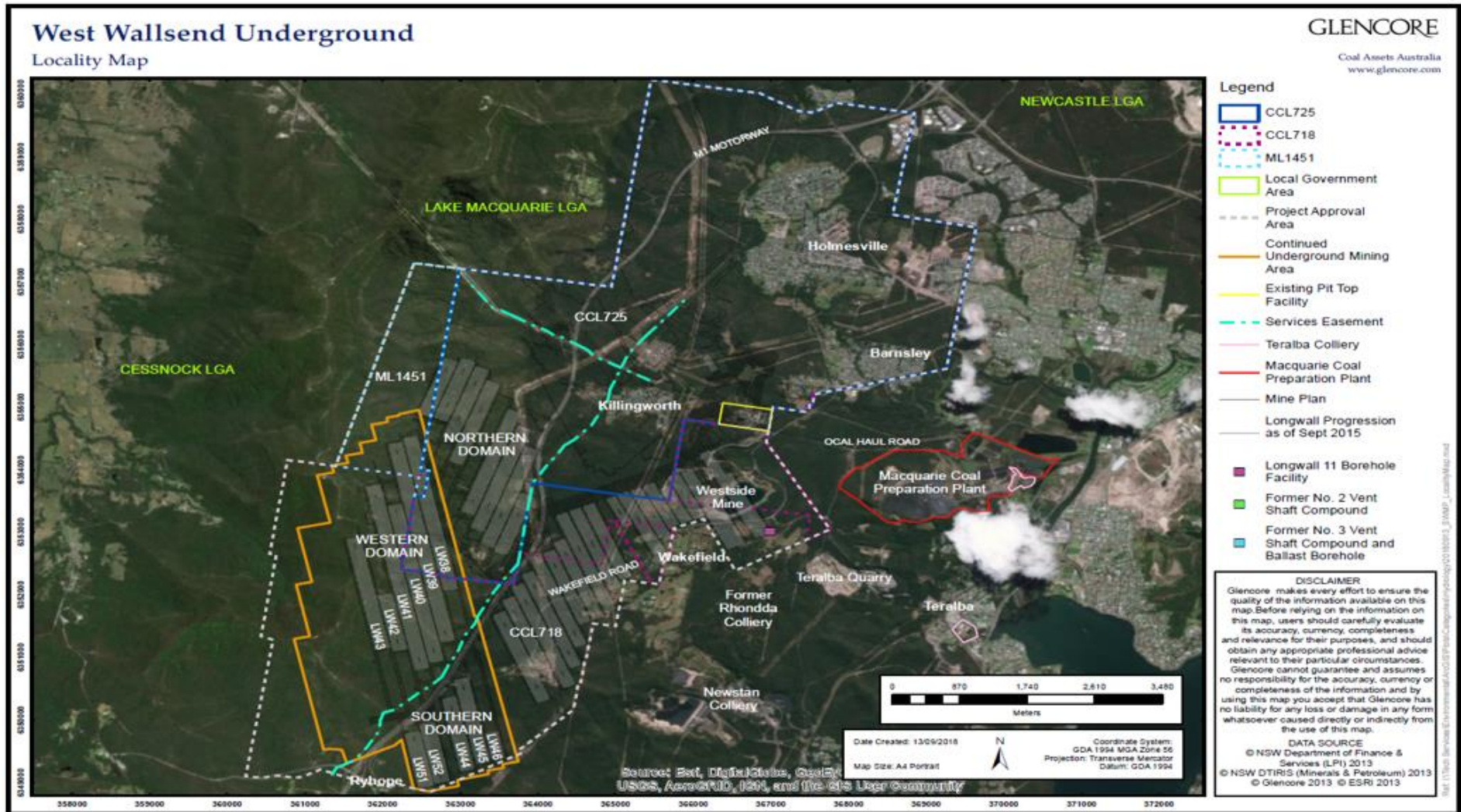


Figure 1-2 West Wallsend Underground continued operations area

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1.4 Management System Structure

Macquarie Coal has an Environmental Management System (EMS) for the management of environment and community aspects and impacts that are common across Macquarie Coal. The Macquarie Coal EMS includes an environmental management framework and a range of management plans and procedures which are applicable to all operations (e.g. Social Involvement Plan). As WWU is a component of Macquarie Coal, the WWU EMS fits under the umbrella of the Macquarie Coal EMS.

As outlined in **Section 1.2**, this document outlines the environmental management framework for WWU.

This WWU EMS has been updated to reflect the activities undertaken during the closure phase, and incorporates various management plans which were previously separate documents during the operational phase. **Table 1-2** provides details on the consolidation of management plans due to closure.

PA 09_0203 Requirement	Relevant Condition	Status
Extraction Plans	Schedule 3, Condition 5	Remaining and relevant requirements of the existing Extraction Plans have been addressed in the Rehabilitation Management Plan (RMP)
Noise Management Plan	Schedule 4, Condition 8	Incorporated into this EMS (see Section 5.2)
Air Quality and Greenhouse Gas Management Plan	Schedule 4, Condition 13	Incorporated into this EMS (see Section 5.3 and Section 5.4)
Surface Water Management Plan	Schedule 4, Condition 17	Incorporated into this EMS (see Section 5.5)
Aboriginal Cultural Heritage Management Plan	Schedule 4, Condition 20	Maintained (Umwelt 2012) and updated in 2016. This plan has been updated to be the final report for the project and consultation with Registered Aboriginal parties is currently underway prior to submitting this report to the department.
Waste Management Plan	Schedule 4, Condition 25	Incorporated into this EMS (see Section 5.9)
Rehabilitation Management Plan	Schedule 4, Condition 29	This requirement is met by the RMP.

This consolidation has been undertaken in consultation with the DPE, who approved the above approach on 9 May 2018 (Appendix B).

2. Planning

2.1 Legislation, Standards, Codes and Other External Requirements

WWU seeks to comply with all relevant environmental legislation, approvals and licenses relevant to the operation. To assist with this, WWU has adopted the Glencore Legislation Register This Legislation Register includes both State and Federal legislation, as well as State Environmental Planning Policies and any Codes of Practice to which WWU is required to comply. A Legal and Governance Register for Closure was also prepared during the development of the Detailed Mine Closure Mining Operations Plan (MOP) for the complex.

WWU will maintain awareness of ongoing changes to legislation, standards, codes and other external requirements via the receipt of regular updates from Glencore and legal advisers, participation in industry groups such as the NSW Minerals Council and Hunter Coal Environment Group and communication with government departments and agencies.

Where significant changes to legislation, standards, codes or other external requirements are identified as impacting upon processes or procedures at WWU, the relevant section of the EMS or site procedure will be updated in accordance with the sites document control procedure. This will also be managed through the Risk and Change Management Procedure.

The Macquarie Coal Environment and Community Manager is also responsible for monitoring the status of relevant approvals for WWU through the maintenance of the Approvals Register. The register is updated as required. This generally occurs when a new approval, licence or permit is granted. In addition, all approvals are to be entered into the client management software program (CMO) for tracking of expiry/renewal dates and compliance with approval requirements and commitments.

In the event WWU requires a new approval, the approval will be obtained in accordance with all legislative requirements. Table 1-0 details all the relevant licences/leases/approval numbers from regulatory bodies.

Issuing / Responsible Authority	Type of Lease, Licence, Approval	Date of Issue	Expiry	Comments
Approvals				
Lake Macquarie City Council	B/52-73TR	10 Jul 1973	NA	Mining operation and surface facilities at Teralba
Lake Macquarie City Council	89/0012	4 May 1989	Perpetuity	WWC Overland Coal Conveyor
Lake Macquarie City Council	DA90/0725	28 Feb 1991	Perpetuity	Lachlan Colliery (Includes No. 3 Ventilation Shaft) at WWC

Issuing / Responsible Authority	Type of Lease, Licence, Approval	Date of Issue	Expiry	Comments
				and Approval for extension to surface facilities incl. coal stockpiles (Located within the Lachlan Colliery DA boundary) at MCPP
Lake Macquarie City Council	90/725/B	28 Feb 1991 Modification determined 15 Apr 2010	Perpetuity	Modification for Construction of New Ballast Borehole at WWC
Lake Macquarie City Council	BA/98/02188	18 Jun 1999	Perpetuity	WWC Ballast Borehole Facility and Hopper
Lake Macquarie City Council	BA/98/02182	4 Jun 1999	Perpetuity	Addition to WWC Ventilation Fan Installation
Lake Macquarie City Council	DC/02/02090/1M	5 Sept 2002	Perpetuity	WWC Regional Office records room
Lake Macquarie City Council	DA 2434/2005	29 Dec 2005	Perpetuity	LW11 Borehole Pump Shed at Westside Mine and Borehole Pumping Shed for LW11 Borehole WWC
Lake Macquarie City Council	OSSM – SEPTIC/14/2017 WWU Killingworth	20 November 2017	30 June 2023	Approval to operate a Sewage Treatment System at WWC
Lake Macquarie City Council	DA/90/0725C	15 April 2010	Perpetuity	Installation of new ballast

Issuing / Responsible Authority	Type of Lease, Licence, Approval	Date of Issue	Expiry	Comments
				borehole adjacent to existing ballast borehole at WWC
DP&E	PA09_0203 (MOD 1)	25 Jan 2012	31 Dec 2021 for coal mining, continues for rehab activities	WWC Continued Operations Project Approval
Leases				
DRG	Consolidated Coal Lease (CCL) 718	16 Sept 1991	10 January 2030	Consolidated Coal Lease for WWC, MCPP and Teralba
DRG	CCL 725	16 Sept 1991	10 Oct 2029	Main mining lease for existing and future workings. Applies to WWC and Westside Mine.
DRG	ML 1336	2 Nov 1993	2 Nov 2035	Applies to WWC and Westside Mine
DRG	ML 1451	17 Jun 1999	16 Jun 2020*	WWC Western Extension (renewal lodged 13th June 2019)
Licences, Permits and Other Consents				
Environment Protection Authority (EPA)	Environment Protection Licence 1360	6 Sep 2017	Anniversary Date: 6 Sep	Consolidated EPL held for WWC, MCPP, Teralba and Westside Mine

Issuing / Responsible Authority	Type of Lease, Licence, Approval	Date of Issue	Expiry	Comments
NSW National parks and Wildlife Service department of Planning, Industry and Environment	Consent for Subsidence Management Activities	4 th May 2016	20 March 2026	Consent to undertake subsidence management and monitoring activities within Sugarloaf State Conservation Area WWC

Table 1-0 – Approvals, Leases and Licences

2.2 Environmental Risks and Change Management

The process of identification of environmental and community risks and hazards at WWU is undertaken in accordance Risk and Change Management Procedure. This process involves the completion of an Environment and Community Operational Risk Assessment which is reviewed as required or deemed appropriate by the Macquarie Coal Environment and Community Manager. All actions identified as part of risk assessments are entered into a site-based software package (CMO) for tracking.

All changes at a site level will be assessed in accordance with the Risk and Change Management Procedure. Where required, changes will be incorporated into the WWU EMS documents as soon as practicable after the change has occurred. Changes to operations (and the associated changes in environmental or community risk) are also communicated to employees, contractors, suppliers and external stakeholders as required.

2.3 Mine Closure Works

Mine Closure works is undertaken in accordance with the RMP submitted and approved as required to the NSW Resource Regulator.

3. Implementation

3.1 Roles and Accountabilities

Environmental management is the responsibility of all employees and contractors at WWU. The key WWU personnel and their relevant environment and community roles and accountabilities are outlined in Table 3-1. Specific roles and accountabilities are also defined within personnel position descriptions and the specific procedures contained within the relevant WWU procedural documents.

Role	Environment and Community Accountabilities
Environment and Community Manager or delegate	<ul style="list-style-type: none"> Develop, implement and maintain the WWU EMS; Advise site personnel of upcoming policy, legislation or guidelines (including changes) that may affect mine closure activities;

Role	Environment and Community Accountabilities
	<ul style="list-style-type: none"> • Conduct inspections of WWU’s operations to monitor environmental performance and compliance against regulatory conditions as well as outlining recommendations aimed at continual improvement of the environmental management system at each site; • Facilitate environmental risk assessments and develop environmental management protocols for works associated with existing or new activities; • Coordinate the WWU environmental monitoring network; • Review and endorse corrective actions that may arise from environmental inspections, incidents or community complaints; • Undertake and / or co-ordinate WWU’s statutory reporting requirements including the preparation of annual returns and Annual Reviews; • Provide ongoing environmental advice as required to site personnel; and • Develop and coordinate the delivery of environmental training packages.
All employees and contractors	<ul style="list-style-type: none"> • Conduct their work activities in accordance with the WWU EMS; and • Report environmental hazards / incidents to Environmental personnel or their immediate supervisor.

Table 3-1 – Roles and Responsibilities

3.2 Documentation and Document Control

WWU has developed a Document Control Procedure to provide guidance and direction on implementing and maintaining the WWU EMS. The document control process provides that:

- Appropriate documents are available for the operation of WWU;
- All documents are appropriately labelled, filed and entered into the document management system (SharePoint);
- Obsolete documents are promptly removed from all points of issue or use;
- Changes resulting from a review of components of the management systems are incorporated into the appropriate documentation and communicated effectively to the relevant personnel;
- Environmental documents are reviewed by the appropriate personnel prior to being issued; and
- Environmental correspondence documentation and environmental records are effectively maintained for a minimum of four years in accordance with relevant statutory requirements.

WWU also maintains a website ([Macquarie Coal \(glencore.com.au\)](http://Macquarie Coal (glencore.com.au))) which documents the relevant information required by Condition 11 of Schedule 6 of PA 09_0203. The website also includes monthly reports detailing environmental monitoring and performance data on an ongoing basis at WWU.

3.3 Communication and Engagement

Communication between all levels of mine management, employees, contractors and stakeholders is important for the effective implementation and maintenance of the EMS and to achieve continual improvement. Consultation with the community and other key external stakeholders will also be undertaken in accordance with the Macquarie Coal *Social Involvement Plan*. A copy of this document is published on the West Wallsend website.

Some of the key external stakeholders identified in the Social Involvement Plan include:

- Government departments;
- Macquarie Coal Complex Community Consultative Committee (CCC);
- Local Aboriginal groups;
- WWU employees;
- Local communities;
- Regional environmental groups; and
- Neighbouring mining operations.

Some of the key mechanisms that WWU utilises to communicate with external stakeholders and to keep the local community and regulatory agencies informed about the operation include:

- WWU Website ([Macquarie Coal \(glencore.com.au\)](http://Macquarie Coal (glencore.com.au)))
- Macquarie Coal Annual Review (available on website);
- Community Newsletters (available on website and distributed in hard copy to nearby community);
- Face to face meetings; and
- CCC Meetings.

WWU will continue to prepare and distribute a community newsletter to surrounding residences every six months.

3.4 Training

WWU aims to provide the necessary tools and training for its employees and contractors to enable the effective implementation of WWU management systems and to assist with the risk management process.

All employees and contractors are required to undergo a Glencore Generic Induction and Macquarie Coal Complex Site Familiarisation Induction prior to commencing any work at WWU. These inductions include:

- Key environmental issues for WWU;
- Environmental incident and community complaint reporting requirements; and
- Emergency contact details.

WWU has developed a site-specific Training Needs Analysis (TNA) to ensure that adequate training and resources are provided to meet these requirements. The WWU internal training and competency management systems require that the minimum qualifications, skills and training requirements are identified for all employees and contractors in the TNA.

All environment and community training programs are to include the following, where relevant:

- Compliance with relevant legislation, approvals and licences;
- The potential environmental and community impacts and associated controls for specific work activities;
- The potential consequences of non-compliance with environmental legislation, approvals and licences, the Macquarie Coal EMS and WWU EMS; and

- Environmental incident and community complaint management and reporting processes.

All training records are to be kept and attendance at training sessions is to be recorded.

Following changes to the mining operations or changes to a sites risk profile (Section 3.2), appropriate training will be provided to relevant employees and contractors as required.

3.5 Emergency Preparedness and Response

WWU has developed a site specific Emergency and Incident Management Plan. The Emergency and Incident Management Plan includes potential emergency situations identified from risk assessments, and assigns responsibilities and lists contacts in case of an emergency. In regards to responding to environmental emergencies, the Emergency and Incident Management Plan refers to the Pollution Incident Response Management Plan (PIRMP).

The PIRMP describes the processes that are to be implemented immediately after a pollution incident to reduce or control any pollution, and the procedures for notifying relevant external parties (including but not limited to the EPA and the local community) of pollution incidents. Details of residents that may be affected by pollution events from West Wallsend are maintained in the Consultation Manager Database and will be advised at the discretion of the Environment and Community Manager. The PIRMP provides specific response procedures for the following potential environmental incidents at WWU, and is available on the website ([Macquarie Coal \(glencore.com.au\)](http://Macquarie Coal (glencore.com.au)))

- Hydrocarbon or chemical spills to land;
- Hydrocarbon or chemical spills to water;
- Unauthorised offsite water discharges;
- Pipelines failures; or
- Dam wall failures.

4. Operational Controls

A series of management plans and monitoring programs have been prepared in accordance with PA 09_0203 to facilitate the management of specific environment impacts of the operation, however as the site no longer mines coal and has completed the majority of the rehabilitation activities the majority of these requirements are met by this environmental management strategy. Operational procedures have been developed and implemented as a mechanism for assessing risk at WWU and to ensure systems are operating effectively. A list of the environmental procedures for WWU is contained and maintained within the sites document control system.

All management plans and programs required by PA 09_0203 can be accessed on the WWU website, or are incorporated in to this EMS (as discussed in Section 1.4).

The following sections discuss how each environmental aspect is managed by WWU. The statutory requirements for each of these environmental aspects, and how they have been addressed are listed in Appendix A. The environmental monitoring locations are included in the Figures in Appendix C.

Operational controls have been reviewed to ensure that the management and monitoring measures in place are applicable and appropriate to the rehabilitation and closure activities being undertaken at the WWU.

4.1 Subsidence Remediation

Management of subsidence remediation during RMP which addresses the requirements of Schedule 2 Condition 5 of PA 09_0203. Given that underground mining has ceased, the remaining obligations are limited to the ongoing monitoring of subsidence impacts. Subsidence remediation works were completed in 2022 with a 5 year monitoring and maintenance period prior to seeking sign off from the NSW Resource Regulator. If ground disturbing works are needing to be undertaken a ground disturbance permit will be completed which shall include a plan to show relevant Arch sites.

The results of subsidence monitoring and management measures (including biodiversity and groundwater) will be reviewed annually and reported in the Macquarie Coal Annual Review.

4.2 Noise

As mine closure has have been completed with only minor monitoring and maintenance work planned for the future, future noise impacts are expected to be minimal. No community complaints have been received since mining was conducted and the requirement to monitor noise removed from the EPL for the site. However the site still have noise criteria in the project approval and EPL.

4.2.1 Criteria

Project specific noise assessment criteria applicable to WWU are detailed within Schedule 4, Condition 2 of PA 09_0203 and Condition L5.1 of EPL 1360 for daytime, evening and night-time periods. WWU will ensure that the noise generated by WWU does not exceed criteria in Table 5-1 at any residence on privately-owned land or on more than 25 per cent of any privately-owned land.

Receiver Area	EPA ID	Location	Day	Evening	Night	
			LAeq (15 min)	LAeq (15 min)	LAeq (15 min)	LA1 (1 min)
R1	12	Killingworth main (48 The Trongate)	39	39	39	49
R2	13	Killingworth north (2 The Trongate)	41	41	41	49
R3	14	Barnsley west (50 Charlton St)	40	40	40	49
R4	15	Barnsley southwest (15 Bendigo St)	41	41	41	49
R5	16	Barnsley south (15 Charlton St)	37	37	37	49
R6	17	Barnsley main (84 Northville Dr)	35	35	35	49
R7	18	Barnsley (59 Charlton St)	44	44	44	49
R8	20	Any residence in Wakefield (School Rd)	35	35	35	51

Table 5-1 Project Specific Noise Criteria dB(A)

Note: Noise generated by the project is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy. It is

noted that the noise criteria do not apply if WWU has an agreement with the relevant landowner to generate higher noise levels, and WWU has notified DPE in writing of the terms of this agreement.

In accordance with Schedule 4, Condition 3 of PA 09_0203, WWU will implement all reasonable and feasible measures to ensure that the noise generated by the WWU combined with the noise generated by other mines does not exceed the criteria in Table 5-2, at any residence on privately-owned land or on more than 25 per cent of any privately-owned land.

Location	Day	Evening	Night
All privately owned land	55	45	40

Table 5-2 – Cumulative Noise Criteria dB(A)

Note: Cumulative noise is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy.

4.2.2 Management Measures

WWU is committed to implementing reasonable and feasible best practice noise mitigation measures and investigating ways to minimise noise generated by WWU.

Operating practices during the decommissioning and closure phases which are aimed at minimising noise impact to the community include:

- Community newsletters to give regular updates to inform the community when audible activities are planned;
- Regular maintenance of all equipment and machinery; and
- Consideration of noise in pre works risk assessments where required.

In accordance with Schedule 4, Condition 4 of PA 09_0203, WWU will upon receiving a written request from the owner of residence R7 (59 Charlton St, Barnsley), implement 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 three months of receiving this request from the owner, WWU 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 Secretary for resolution. This request is unlikely as the fan site in close proximity to the residence has been demolished and the site have been rehabilitated.

4.2.3 Monitoring

All noise monitoring at WWU has ceased at WWU as mine closure works have been completed. The requirement for noise monitoring has also been removed from the sites EPL.

Meteorological Monitoring

The local meteorological data collected during the attended monitoring program and by the unattended noise monitoring units will be supplemented by more detailed records from the WWU weather station (EPA Point 19).

The meteorological data recorded by the weather station includes:

- Wind speed, wind direction and sigma-theta at 10 metres above ground level;

- Temperature at 2 metres and 10 metres above the ground;
- Relative humidity; and
- Rainfall.

Meteorological data will continue to be collected until 2027 when licences are expected to be relinquished.

4.3 Air Quality

WWU is committed to implementing all reasonable and feasible air quality mitigation measures to reduce the potential impact of the site on sensitive receivers. The EPL no longer requires air quality monitoring to be undertaken by WWU.

The potential sources of dust emissions from WWU during the closure phase are:

- Wheel generated dust from unsealed roadways;
- Materials handling and transfer (i.e. during rehabilitation activities); and
- Windblown dust from open areas.

4.3.1 Criteria

Goals for dust concentration are referred to as long term (annual average) and short term (24 hour maximum) goals. The TSP and PM10 annual average goals relate to the total dust in the air and not just the dust from WWU. Schedule 4, Condition 11 of PA 09_0203 specifies the air quality criteria for WWU, which are outlined in Tables 5-3 and 5-4.

Pollutant	Averaging Period	^d Criterion
Total Suspended Solids (TSP) matter	Annual	^a 90 µg/m ³
Particulate matter < 10 µm (PM₁₀)	Annual	^a 30 µg/m ³

Table 5-3 – Long Term Criteria for Particulate Matter

Pollutant	Averaging Period	^d Criterion
Particulate matter < 10 µm (PM₁₀)	24 hour	¹ 50 µg/m ³

Table 5-4 – Short Term Criteria for Particulate Matter

Dust deposition levels refer to the quantity of dust particles which settle out of the air as measured in grams per square metre per month (g/m²/month) at a particular location.

Condition 11 of Schedule 4 outlines maximum allowable limits in terms of an acceptable increase in dust deposition over the existing background levels. For example, in residential areas with annual average dust deposition levels of between 0 and 2 g/m²/month an increase of up to 2 g/m²/month would be permitted before it would be considered that a significant degradation of air quality had occurred. The PA 09_0203 air quality criteria for dust deposition are included in Table 5-5.

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

Table 5-5 – Long Term Criteria for Deposited Dust

Notes for Tables 5-3 to 5-5

Total impact (i.e. incremental increase in concentrations due to the project plus background concentrations due to other sources);

Incremental impact (i.e. incremental increase in concentrations due to the project on its own);

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; and

Excludes extraordinary events such as bushfire, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed to by the Director-General in consultation with OEH.

4.3.2 Management Measures

A range of dust control measures are currently employed at WWU.

Unsealed Roads

WWU will implement the following management controls to mitigate dust emissions from unsealed roads:

- Ripping and revegetation of obsolete roads;
- Unsealed access roads with high traffic volumes will be sealed, chemically stabilised or regularly watered;
- Hardstand areas with ‘frequent mobile equipment activity’ will be chemically stabilised or regularly watered (where required); and
- Apply preventative measures where practicable to prevent material being deposited on haul roads, such as:
 - Avoid overloading which could result in spillage;
 - Provide for storm water drainage to prevent water erosion onto stabilised unsealed roads; and
 - Prevent wind erosion from adjacent open areas through the use of wind breaks, vegetative stabilisation or chemical sealing of ground where possible.

Sealed Roads

- WWU will implement the following management controls to mitigate dust emissions from sealed roads:
- Application of preventative measures where practicable to prevent material being deposited on roads, such as:
 - Prevent wind erosion from adjacent open areas through the use of wind breaks, vegetative stabilisation or chemical sealing of ground;
 - Avoid overloading of trucks which could result in spillage; and

- Provide for storm water drainage to prevent water erosion onto sealed roads; and

Exposed Areas

WWU is committed to minimising the area of disturbance by restricting the clearance of vegetation and topsoil. Where possible, clearing activities will be limited to the minimum area necessary, with air quality management measures implemented to mitigate dust emissions from the exposed areas.

Additionally, rehabilitation and revegetation of disturbed areas will occur as soon as practical, to minimise the potential for windblown dust. Short term stabilisation measures, such as hydromulch, may be used to stabilise disturbed areas. Access to disturbed or rehabilitated areas will be restricted to prevent further disturbance.

Further details of stockpile management are provided in the Closure MOP.

Offsite Odours, Fume and Spontaneous Combustion

In accordance with Schedule 4, Condition 12 of PA 09_0203 and the Protection of the Environment Operations Act 1997 (POEO Act), WWU are required to implement best practice air quality management, including the implementation of all reasonable and feasible measures to minimise offsite odours, fume and dust emissions and spontaneous combustion from WWU.

There are no activities undertaken on site that are likely to generate offsite odours and/or fumes, as required by Schedule 4, Condition 9 of PA 09_0203. Similarly, no spontaneous combustion incidents have occurred at WWU during its operations. In the event one of these incidents occurs, WWU will complete an investigation into the cause and implement corrective actions to prevent a reoccurrence (see Closure MOP for further detail).

General measures

- Mine closure activities will be modified as needed to ensure compliance with air quality criteria
- Trucks transporting dust generating material will be covered to minimise air quality impacts.

4.3.3 Monitoring

No monitoring for air quality will be conducted as mine closure activities have been completed. It should be noted that no air quality monitoring is required in the sites EPL.

4.4 Greenhouse Gas

- The primary sources of greenhouse gas emissions at WWU during the closure phase are:
- Electricity consumption at remaining buildings; and
- Fuel combustion during rehabilitation activities.

Other sources of greenhouse gas emissions from the site include:

- Consumption of oils, lubricants and greases;
- Waste water handling; and

4.4.1 Criteria

The Greenhouse Gas Protocol (Umwelt, 2010) categories greenhouse gases into scope 1, 2 and 3 emissions. The three 'scope' categories can be defined as:

- Scope 1 covers direct emissions from the combustion of fuels (e.g. diesel) and industrial processes within the boundary of the operation;
- Scope 2 covers indirect emissions from the operation's consumption of purchased electricity produced by another organisation; and
- Scope 3 includes other indirect emissions as a result of the operation's activities that are not from sources owned or controlled by the organisation (for example, product transport by rail).

National Greenhouse and Energy Reporting System

WWU are required to report greenhouse emissions in accordance with the National Greenhouse Gas and Energy Reporting System (NGERS). The National Greenhouse and Energy Reporting Act 2007 (the NGER Act) requires individual sites to report greenhouse gas emissions, energy consumption and energy production, via the Emissions and Energy Reporting System (EERS), if one of the following threshold criteria is met:

- The site generates greenhouse gases (Scope 1 and Scope 2) in excess of 25,000 tCO₂e; or
- The site consumes in excess of 100 TJ of energy; or
- The site produces in excess of 100 TJ of energy.

4.4.2 Management Measures

In accordance with Schedule 4, Condition 10 of PA 09_0203, WWU will implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the site.

Scope 1 and Scope 2 greenhouse gas emissions can be managed through project design, procurement processes and project operation.

Site Controls

WWU has implemented a sealing strategy which restricts the direct avenues and pathways by which methane emissions can reach the surface. All shafts at WWU have been capped and sealed in accordance with MDG6001 Guidelines for the Permanent Filling and Capping of Surface Entries to Coal Seams. The mine ventilation systems are no longer operating.

WWU has installed a new waste water treatment plant, which is the most feasible method of managing greenhouse gas emissions from waste water during closure. The waste water treatment plant treats domestic wastewater generated from surface facilities in tanks, and then recycles the water through a transpiration system.

4.4.3 Monitoring

The Glencore NGERS Protocols provide specific monitoring standards for monitoring greenhouse gas emissions, energy use and energy production. Glencore NGERS Protocols are based on the monitoring standards specified in the NGERS Measurement Technical Guidelines.

WWU has consulted with the EPA regarding greenhouse gas emission reporting and the site no longer triggers National Pollution Inventory (NPI) reporting requirements.

As listed in Table 5-7, greenhouse gas and activity use data is monitored for multiple purposes at WWU through established systems.

Emission/Energy Source	Activity Data/Direct Measurement	Monitoring System
Fuel combustion	Diesel (Stationary)	Invoices/Bowser records
	Diesel (Transport)	Invoices/Bowser records
	Diesel (Contractors)	Invoices
	Petrol (Transport)	
	Oils and Greases (Stationary)	Purchasing Reports
	Oils and Greases (Transport)	Purchasing Reports
	Oils and Greases (Recycled)	Waste Invoices
Industrial processes	SF ₆ gas insulated switch gear	Register kept on site
Waste	Waste water handling	Calculation
Scope 2 emissions	Electricity use	Invoices

Table 5-7 – WWU Greenhouse Gas and Energy Use Monitoring Systems

To comply with the NGER Act, WWU is required to retain records of energy consumption, energy production, emissions data and estimations for a minimum of seven years from the end of the reporting period in which the activities took place. WWU has developed procedures for the collection and retention of data to maintain compliance with the legislative requirements of the NGER Act.

4.5 Surface Water

The WWU water management system includes mine dewatering systems, water storages, sediment basins and flocculent dosing stations as well as drains and bunding around the laydown hardstand areas and fuelling areas.

In describing the management of surface water for the closure of WWU, the following definitions apply.

- Dirty water/sediment-laden water – potentially sediment-laden surface runoff from disturbed areas of the Site (including rehabilitation areas prior to successful revegetation);
- Clean water - surface runoff from undisturbed catchments or successfully rehabilitated areas; and
- Contaminated water – water that has the potential to cause significant environmental harm if released into the environment (i.e. hydrocarbons, effluent etc).

4.5.1 Surface Water Management System

Clean and Dirty Water

Runoff water from the WWU pit top facilities potentially contains sediment and needs to be managed accordingly. Runoff is directed to the water management system dams via catch drains. Water is then treated in the dams before being used where possible on site for dust suppression and equipment wash down or is discharged off site via EPA Point 2.

During normal operation, the water management system dams are maintained at low levels to ensure that adequate capacity is available in the event of a storm event or period of prolonged rainfall. If required, water is discharged in accordance with the EPL 1360.

Where possible, runoff from undisturbed areas adjacent to WWU surface facilities is diverted around disturbed areas using diversion drains. The diversion drains prevent the clean water from entering the dirty water catchment and minimise the inflow of clean water runoff into the pit top facilities.

Water Storage

Runoff from the WWU pit top facility is captured and treated in four dams located at the WWU pit top. These dams store and treat water prior to discharge at EPA Point 2. The dams have a combined storage volume of approximately 16.9 ML. The dams have capacity to capture runoff from the 10 year Average Recurrence Interval (ARI) 24 hour storm event from the total catchment area, as detailed in Table 5-8.

Figure 5-1 Pit Top Surface Water Management System

Dam	Catchment Area (ha)	Effective Storage Volume (ML)	5 Day 95 th Percentile Runoff Volume (ML) ¹	10 year ARI 24 hour Storm Event Volume (ML)
North East Dam	2.2	3.5	1.5	1.4
Top Dam	5.6	8.6	3.9	2.8
Bottom Dam (cells 1 & 2)	1.6	4.8	1.1	2.2
Total	9.4	16.9	6.5	6.4

Table 5-8 – WWU Surface Facility Storage Dams

1 Based on 76.7 mm rainfall with 90% runoff.

Water levels within sediment dams are pro-actively managed to maintain stormwater capacity and to minimise the requirement to discharge during storm events. Freeboard will be maintained in all sediment dams prior to rainfall events. In the event that water levels during a rainfall event reduce the freeboard, opportunities to transfer water within the water management system, or to treat and discharge water are assessed.

Maintenance and upgrade works such as sediment removal are periodically undertaken to ensure the surface water management system remains consistent with PA 09_0203.

Water Transfer and Disposal

WWU has one licensed discharge point at EPA Point 2 under EPL 1360. The licensed discharge point is currently used for discharge of surplus surface water runoff from the WWU pit top site. Water quality is monitored at the EPA Point 2 discharge point as well as upstream of and downstream of the discharge point in Burkes Creek.

Water discharged from the site will comply with all quality limits contained within EPL 1360, which are included in Section 5.5.4.

Water Treatment

Weekly visual inspections of the surface water dams are undertaken to determine whether stored water requires flocculation.

An automated flocculent station has been established on the Top Dam. In addition, a portable venturi flocculent station is available that can be used to treat all dams.

Potable Water

Potable water is purchased from Hunter Water Corporation (HWC). Potable water is used in the surface facilities for amenities and equipment wash down.

Wastewater

As part of the site closure works at WWU, a waste water treatment plant has been installed. This system replaces the old sewage treatment plant which previously transferred treated water to the washery for use in the coal handling plant. The new system allows waste water generated from site activities to be treated in tanks and recycled through a transpiration system. The waste water treatment plant was approved by Lake Macquarie City Council under approval OSSM – SEPTIC/14/2017 (council reference) WWU Killingworth.

Pipelines

WWU manages surface water pipelines where possible in accordance with the Glencore Pipeline Management Protocol. The Pipeline Management Protocol outlines the requirements for the design, installation, operation and maintenance of surface pipelines to:

- Minimise the risk of pipeline failure (e.g. rupture, leakage or damage from physical impact); and
- Provide that contingencies for containment and remediation are in place to minimise environmental impacts if pipeline failure occurs.

When works are being done on pipelines or pumps a risk assessment and/or a change management shall be undertaken to consider any HSEC risks.

Surface Water Management During Closure

No surface water management works are proposed at WWU during decommissioning and closure execution; the current water management system will remain in place while suitable post mining land uses are determined. The existing dams will continue to be dewatered and desilted as required. Additional erosion and sediment control management measures will be undertaken, where required, during the decommissioning works to ensure that there are no adverse impacts to the surrounding environment. These controls will remain in place and be routinely inspected to ensure they are functional until such time as any remediated disturbance areas have been stabilised.

4.5.2 Erosion and Sediment Control

Glencore has developed a Ground Disturbance Permit Procedure to ensure that site clearing activities are planned and carried out in a manner that minimises environment and community impacts. A Glencore Ground Disturbance Permit Form is to be completed for vegetation clearing, top soil removal, tree lopping and ground disturbance activities to detail the erosion and sediment control measures to be implemented for that activity.

The form requires detailed erosion and sediment control planning for each stage/area of the relevant activity in line with the Glencore Erosion and Sediment Control Procedure. Any erosion and sediment controls implemented will be maintained until the area is rehabilitated and deemed to no longer be required through inspections of the works area.

Standard erosion and sediment control techniques will be utilised in accordance with the requirements of Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom, 2004) and Volumes 2A, 2C, 2D and 2E (DECC, 2008) (the Blue Book).

The measures that will be implemented include the following:

- Installation of erosion and sediment control measures as the first step in the process for land disturbance (even though most of the mine site is rehabilitated and no further disturbance forecast);
- Minimising all disturbed areas and stabilisation by rehabilitation;
- Utilisation of diversion banks upslope of disturbed areas to direct clean water runoff away from the site. The diversion banks will be designed to ensure effective segregation of sediment-laden runoff and allow clean surface water to return to natural watercourses;
- Utilisation of catch drains to capture runoff from disturbed areas and direct runoff into sediment dams;
- Utilisation of sediment dams to capture runoff from infrastructure areas;
- Adding flocculants to dams, where required, to aid the settlement of entrained sediment;
- Placement of geotextile liners and rock check dams in drains as required to reduce water velocities and prevent scouring;
- Construction of graded banks over final reshaped areas to minimise erosion and re-direct runoff to catch drains and water storage areas;
- Regular maintenance of controls and inspection of works immediately after storm events to ensure erosion and sediment controls are performing adequately;
- Revegetation of final stable landforms and disturbed areas; and
- Repair or redesign of erosion and sediment controls that are not performing adequately, as identified in field inspections.

4.5.3 Site Water Balance

An annual site water balance will be compiled based on site water management data collected in accordance with the requirements of Condition 17(a) of Schedule 5 of PA 09_0203. Specific reporting outcomes from the annual site water balance include:

- An estimate of the volume of rainfall runoff collected in each of the catchment areas that make up the WWU Water Management System;
- The volume of water transferred to or from other mining operations;
- Water discharged via EPA Point 2 to Burkes Creek; and
- Potable water usage.

The annual site water balance will also be used to manage the risks associated with the management, storage and transfer of water at WWU. **Figure 5-2** shows the inflows and outflows of the WWU water management system. The results of the annual water balance review will be reported in the Macquarie Coal Annual Review. This will include a comparison of the performance against the predictions in the West Wallsend Continued Operations Project Environmental Assessment (Umwelt, 2010), a comparison of the reported groundwater inflow against licence conditions, a review of the rainfall yield model, a review of the water loss models (i.e. evaporation and coal moisture), an assessment of the monitoring equipment reliability and any requirements for additional monitoring

equipment. Annual reviews are published on the West Wallsend website <http://www.westwallsendmine.com.au/en/Pages/home.aspx>.

4.5.4 Criteria

Schedule 5, Condition 16 of PA 09_0203 required that all surface water discharges from the site comply with the discharge limits (both volume and quantity) set for the site in the EPL. WWU operates under EPL 1360, which includes two water monitoring points. EPA Point 1 is within the MCPP area and details of criteria and monitoring for this point are included in the MCPP EMP. EPA Point 2 is located near the WWU pit top area and relevant criteria are included in **Table 5-9**

EPA Point	EPL 1360 Concentration Limit			Discharge Limit (kL/day)
	pH	TSS (mg/L)	Conductivity (µS/cm)	
EPA Point 2	6.5 – 9.0	50	10,000	4,000

Table 5-9 – EPL 1360 Water Monitoring Criteria

Discharge of surface water runoff via EPA Point 2 may be necessary during periods of prolonged rainfall.

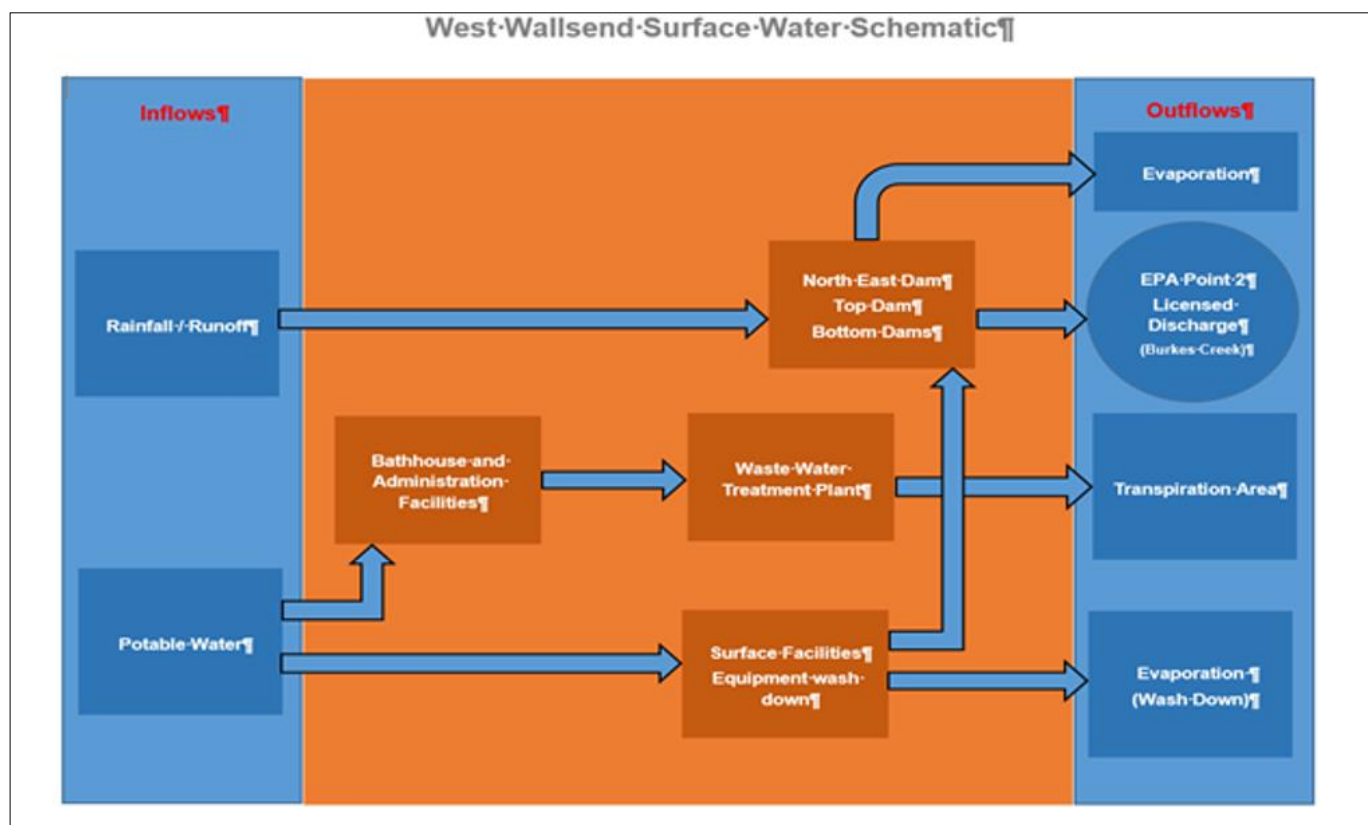


Figure 5-2 Water Management System Inflows and Outflows

4.5.5 Monitoring

The objective of the surface water monitoring program is to provide details of the monitoring undertaken on site to monitor the effects of the WWU on existing surface water bodies. The purpose

of this monitoring is to assist in detecting if any significant off-site impacts occur as a result of closure activities and to trigger response plans to adverse impacts.

Surface water monitoring at WWU will be undertaken in accordance with relevant Australian Standards, legislation and the OEH approved methods for sampling, including (but not limited to):

- Approved Methods for the Sampling and Analysis of Water pollutants in NSW (DEC, 2004);
- AS/NZS 5667.1:1998 Water Quality – Sampling – Guidance on the Design of Sampling Programs, Sampling Techniques and the Preservation and Handling of Samples; and
- AS/NZS 5667.10:1998 Water Quality – Sampling – Guidance on Sampling of Waste Waters.

This program includes monitoring of the following elements of the WWU water management system and surrounding creeks:

- Daily rainfall, as recorded at the WWU weather station. The WWU weather station was installed and commissioned in December 2012 in accordance with the Approved Methods for Sampling of Air Pollutants in New South Wales Guideline.
- Regular visual inspections of water management infrastructure;
- Monthly inspections of all erosion and sediment controls, as well as after storm events (i.e. rainfall events of greater than 50 mm in 24 hours);
- Transfers of water to, from and around the site;
- Off-site surface water discharges; and

Monitoring locations, frequency and parameters measured for each component of the water management system is provided in Table 5-10 and Appendix C. WWU will continue to undertake all surface water monitoring in accordance with EPL 1360 to enable runoff water quality to be monitored during post execution phases.

WWU will monitor the volume of water discharged via EPA Point 2 through a v-notch weir with level sensor attached to a continuous logger.

Location	Analysis	Sampling Frequency	Requirement
EPA Point 2	pH Conductivity Total Suspended Solids	Monthly (during discharge)	EPL1360
	Volume	Continuous during discharge	EPL1360

Table 5-10 – West Wallsend Underground Water Monitoring

All monitoring data will be retained in an appropriate format on site and will be used to review the effectiveness of the WWU water management system on an ongoing basis, with the water quality monitoring results reported on an annual basis within the Macquarie Coal Annual Review and in the EPL Annual Return (where applicable).

4.6 Groundwater

There are no requirements to manage groundwater at WWU as dewatering from mine working no longer takes place; however, monitoring of groundwater recovery levels will continue in association with subsidence remediation during closure execution and post closure as per Rehabilitation Management Plan.

4.7 Heritage

4.7.1 Aboriginal

An Aboriginal Cultural Heritage Management Plan (ACHMP) has been developed for Macquarie Coal in accordance with Condition 5(k) of Schedule 3 of PA 09_0203 and in consultation with the registered Aboriginal Stakeholders. The ACHMP defines Macquarie Coal's approach to continuing to maintain open and ongoing communication between Macquarie Coal and all relevant Aboriginal stakeholders. The strategy also defines the principles and protocols for the management of Aboriginal sites across Macquarie Coal sites, including WWU. A copy of the Aboriginal Cultural Heritage Management Plan is published on the West Wallsend website: [Macquarie Coal \(glencore.com.au\)](http://Macquarie Coal (glencore.com.au))

If any suspected Aboriginal heritage objects are discovered during works within the area will cease until appropriate investigations are conducted and any necessary permits or management processes are in place, in accordance with the National Parks and Wildlife Act 1974 and other relevant legislation.

4.7.2 Historical

Condition 5(k) of Schedule 3 of the PA09_0203 requires the development of a Heritage Management Plan. In order to satisfy the condition for the management of historical heritage items, an historical heritage management section was included within the LW 51 and LW 52 Extraction Plan. Mining at WWU ceased in 2016 and there are no remaining requirements related to heritage in the Rehabilitation Management Plan.

The Closure MOP (SLR 2016) considered the risk of rehabilitation and European heritage interacting during closure as low. No items of historical heritage significance were identified to be protected from demolition across the Macquarie Coal Complex.

4.8 Visual

The local topography and vegetation heavily restrict the visibility of WWU, with views of the WWU surface facilities generally restricted to the remaining infrastructure. Due to the cessation of mining activities, decommissioning and removal of the majority of infrastructure, there is now limited potential for visual effects from WWU activities.

A tree screen was planted during 2006 along the heavy vehicle entrance to WWU which has provided visual screening of WWU. There are no further lighting impacts due to the cessation of mining and nil night time activities.

4.9 Waste

Waste management practises at WWU are based on the waste management hierarchy whereby waste is minimised in the first instance, reused/recycled in the second instance and disposed of as a last resort. In accordance with Schedule 4, Condition 25 of PA 09_0203, Macquarie Coal currently has a total waste management system which includes segregation, disposal and reporting. Waste is removed from site by a licenced contractor.

4.9.1 Criteria

WWU currently holds EPL 1360, which contains a specific condition pertaining to waste. Condition L4.1 states that;

Any waste received at the premises must only be used for the activities referred to in relation to that waste in the column titled “Activity” in the table contained within the EPL. Also any waste received at the premises is subject to those limits or conditions, if any, referred to in relation to that waste contained in the column titled “Other Limits” in the table contained within the EPL.

In July 2016 WWU obtained approval from Lake Macquarie City Council (Approval # OSSM/141/2002) to operate a Commercial Aerated Wastewater Treatment Plant on site at 1A The Broadway Killingworth. The waste water treatment plant has been operated in accordance with the manufacturer’s operation manual and all required maintenance and testing reports are forwarded to the council as outlined in the development approval.

4.9.2 Classification of Waste

Under the POEO Act, a waste generator must properly classify their waste to ensure that appropriate management practices are employed in the storage, handling and disposal of waste. The first step in classifying waste is to identify the waste types generated from WWU.

The classification of waste streams, in accordance with the NSW EPA Waste Guidelines, is as follows:

- Special waste;
- Liquid waste;
- Hazardous waste;
- Restricted Solid waste;
- General Solid waste (putrescible); and
- General Solid waste (non-putrescible)

If a particular waste stream has not already been classified as a waste type, then it is the responsibility of the waste producer to classify the waste in accordance with the NSW EPA’s Waste Guidelines.

A list of each waste streams generated and associated classifications, estimated volumes, waste codes, management requirements and details of the designated waste contractor are included in Appendix D for all major waste streams generated by WWU. Any additional waste streams that are not listed in Appendix D must be classified and managed in accordance with the NSW EPA’s Waste Guidelines.

4.9.3 Management of Classified Waste

Certain wastes require specific transportation and disposal management practices under the POEO Act and the Protection of the Environment (Waste) Regulation 2005. These wastes are listed under Schedule 1 of the Regulation, and are subject to specific waste tracking requirements under the Protection of the Environment (Waste) Regulation 2005, and therefore, these wastes are segregated from other waste streams at WWU. Details of the disposal requirements for the different types of wastes are summarised in Table 5-11.

Waste Classification	West Wallsend Waste Streams	Legislative Requirements
General Solid Waste (non-putrescible)	Building and demolition waste (bricks, concrete, paper, plastics, glass, metal and timber) Paper and cardboard Virgin excavated natural material	No waste facility licence required if disposed on mine site from which waste was generated Disposed of offsite to either Inert Waste Class 1 or Class 2

Waste Classification	West Wallsend Waste Streams	Legislative Requirements
	<p>Tyres (<5000 t/yr and <50t storage at any time)</p> <p>Small batteries</p> <p>Metal drums</p> <p>Mechanically crushed oil filters</p> <p>Oil absorbent material / Oily rags (not containing free liquids)</p>	Landfill (a licensed waste facility)
General Solid Waste (putrescible)	Office waste	To be disposed of at a licensed landfill facility.
Special Waste	Asbestos	<p>Waste activities must be licensed, subject to exemptions</p> <p>Licensed transporter must be used for liquid and non-liquid waste in loads greater than 200 kg in quantity</p> <p>Waste tracking required; subject to exemptions</p> <p>Disposed of off-site to Industrial Waste Landfill</p>
Hazardous	<p>Used car and truck batteries</p> <p>Grease and oil drums</p> <p>Oil and fuel filters</p> <p>Solvents</p> <p>Waste oil drums</p>	<p>Waste activities must be licensed, subject to exemptions</p> <p>Licensed transporter must be used for liquid and non-liquid waste in loads greater than 200 kg in quantity</p> <p>Waste tracking required, subject to exemptions</p>
Liquid Waste	<p>Oily water</p> <p>Engine Coolant</p> <p>Parts washers liquid waste</p> <p>Waste oil</p>	<p>Waste activities must be licensed, subject to exemptions</p> <p>Licensed transporter must be used for liquid and non-liquid waste in loads greater than 200 kg in quantity</p> <p>Waste tracking required, subject to exemptions</p>
Liquid Waste	<p>Sewage</p> <p>Dredged sediment</p>	No requirements as waste is disposed of on-site
	Saline water discharge	Not usually subject to waste licensing requirements (discharge licence for saline)

Waste Classification	West Wallsend Waste Streams	Legislative Requirements
		water required under POEO Act)

Table 5-11 – Management of Classified Waste

4.9.4 Storage and Tracking of Waste

Non-licensed waste activities are required to comply with the Protection of the Environment (Waste) Regulation 2005 which outlines the management of hazardous (liquid and non-liquid), industrial or group A liquid wastes.

Storage of Waste

A person who stores waste on premises (whether or not the waste was produced on the premises) must ensure that it is stored in an environmentally safe manner. The failure to do so may result in prosecution under the Protection of the Environment Operations (Penalty Notices) Regulation 2004.

Transport of Hazardous Waste

In the event that a licensed contractor is engaged to remove hazardous waste from the site, WWU personnel are to ensure the following occurs:

- WWU holds a consignment authorisation for the removal of the waste;
- WWU obtains a waste transport certificate for the waste and that relevant sections of the certificate have been completed by authorised WWU personnel;
- The waste transport certificate has been given to the waste contractor;
- The waste contractor is appropriately licensed; and
- The waste facility which is to accept the waste is legally able to accept the waste.

WWU must retain waste transport certificates for a period of at least four years.

Licensed waste contractors send reports on a monthly basis detailing the types and quantity of waste collected for each reporting period as well as the cost of removal. Copies of the agreements are kept on site and are also maintained by the Environment and Community Department.

Exemptions to Waste Tracking

An exemption from the above mentioned obligations for waste tracking may be administered by the NSW EPA. An application for such an exemption must:

- Be in the approved form;
- Be accompanied by a fee as determined by the NSW EPA; and
- Be accompanied by information and documentation requested by the NSW EPA for determining whether the exemption should be granted.

Waste which is not listed under Schedule 1 of the Regulation does not require waste tracking and therefore does not require an exemption from the NSW EPA.

4.9.5 Management Measures

Waste Separation, Reuse and Recycling

There are numerous benefits to separating waste streams. These include:

- Reducing the potential for contamination of general waste streams;
- Improving the ease of waste storage, handling, disposal and tracking;
- Educating employees of the importance of waste stream segregation and recycling;
- Potentially generating an income from recyclable waste streams; and
- Reducing the potential disposal costs for some items.

At WWU, recyclable waste streams are separated from other waste at the point at which they are produced and placed in designated bins marked for recycling. Where possible, waste material is reused in other applications or recycled. This includes separation of paper and cardboard, scrap metal, waste oil and wastewater. Green waste generated at WWU may be utilised for landscaping purposes.

Other waste streams which are separated at the point of production include batteries, grease, metal drums, oil and fuel filters, parts and washers. These wastes are collected by contractors for appropriate disposal.

Waste Storage

Secure areas on site are allocated for the storage of waste materials, which have the potential to cause environmental harm (e.g. hazardous or restricted waste). Adequate containment (bunding) is provided to minimise the potential for spillage or leaching which could affect surface water quality or cause soil contamination. Bunded areas are constructed and operated in accordance with the NSW EPA's Technical Guideline "Bunding and Spill Management" and Australian Standard (1940-2004) "The Storage and Handling of Flammable and Combustible Liquids". Particular waste streams, such as waste oil, are also managed to provide that they are safe from likely ignition sources to minimise the risk of fire.

Transportation and Disposal

All waste that cannot be reused or recycled is either disposed of on site (inert waste only) or transported off site for disposal at an authorised landfill facility. Wastes permissible for onsite disposal include building and demolition waste, coal reject, dredged sediment and tailing fines.

Waste classified as solid, is transported by a licensed contractor (JR Richards and Sons Pty Ltd) for disposal at a suitably licensed landfill.

In accordance with Condition L4.1 of EPL No. 1360, the only wastes that are received, treated, processed, reprocessed or disposed of at WWU are; organics, bio-solids, excavated natural material (ENM) and virgin excavated natural material (VENM).

4.9.6 Monitoring

As required under waste tracking regulations, waste data forms are to be completed for wastes classified as industrial, hazardous and Group A wastes and forwarded to the Environment and Community Department who must retain the records for a period of four years. Information regarding the generation, storage, treatment or disposal of industrial, hazardous and Group A wastes is to be reported to the NSW EPA upon request, under waste tracking regulations. The information must be retained for a period of four years from when it was provided to the NSW EPA.

In the event that an agreement has been made with an authorised contractor for the disposal of waste from the site, a copy of the agreement must be retained on site for at least four years and produced to any authorised NSW EPA officer upon request.

JR Richards and Sons Pty Ltd hold the waste contract at WWU. As part of this contract, waste inspections are undertaken by the waste contractor. JR Richards and Sons Pty Ltd. also provide a monthly waste report detailing all waste taken offsite and associated tonnages.

All results and analysis of waste monitoring are to be incorporated into the Macquarie Coal Annual Review.

4.10 Bushfire

Macquarie Coal has a *Bushfire Hazard Management Plan* that covers all of its landholdings, and WWU, MCPP, Westside Mine and Teralba Colliery are managed in accordance with this Strategy. It was written to adhere to the requirements of the NSW Rural Fire Service and Schedule 4, Condition 26 of PA 09_0303. It provides fire prevention, control and response measures at each of the sites and continues to apply during the closure phase. The following is a summary of the management measures adopted:

- The use of Asset Protection Zones (APZ) at sites to create a buffer between bushland and infrastructure;
- Mechanical or manual hazard reduction activities, including slashing and burning, are carried out three times a year;
- Minimisation of fuel sources within the APZs;
- Maintaining a fire trail network and monitoring these trails;
- Raising awareness amongst staff and contractors about fire safety and prevention of ignition; and
- Prohibiting works with potential to start fires (e.g. welding) during high/extreme/catastrophic fire days.

4.11 Rehabilitation

Rehabilitation at WWU is undertaken in accordance with the Rehabilitation management Plan , which was prepared to meet the requirements of Schedule 4, Condition 29 of PA 09_0203. A copy of the plan is available at [Macquarie Coal \(glencore.com.au\)](http://Macquarie Coal (glencore.com.au))

5. Measurement and Evaluation

5.1 Environmental Monitoring Requirements

The monitoring programs in Section 5 are developed based on regulatory requirements and also include a protocol for assessing compliance with the relevant impact assessment criteria. Monitoring data is also contained in monthly reporting documents which are placed on the WWU website as required by PA 09_0203.

Monitoring methodologies are outlined in Section 5 and are all based on Australia Standard or other relevant guidelines. Figures identifying the environmental monitoring locations required by the WWU PA 09_0203 are contained within Appendix C. Environmental records for WWU are managed in accordance with the Document Control Procedure (Section 4.2).

Equipment used in the monitoring programs such as flow meters, online instrumentation and hand held analytical meters are tested and calibrated in accordance with the manufacturers specifications. Samples are to be analysed by a National Association of Testing Authorities (NATA) accredited laboratory, where available.

5.1.1 Environmental Inspections

Formal monthly environmental inspections are undertaken to determine compliance with legislation, standards, codes and other internal and external requirements. The inspections apply a risk based approach across all activities undertaken onsite providing a comprehensive review of the operation. Inspections are conducted by the Environment and Community Manager or his/her delegate and are recorded on a site-specific inspection report form.

In the event a non-conformance is identified during an inspection, corrective and/or preventative actions are to be developed in accordance with Section 6.6. The completion and effectiveness of the corrective and/or preventative action is to be assessed post-implementation.

5.2 Environmental Audits

Where required, internal and external audits for WWU are undertaken to verify compliance with legislation, licences, approvals codes and other requirements. All internal and external auditors are to be appropriately qualified personnel, and the recommendations from internal and external audits are consolidated into action plans and entered into Glencore's compliance management system, to allow tracking of progress against the audit actions.

In accordance with Condition 9 of Schedule 6 of PA 09_0203, independent environmental audits of WWU will be commissioned every three years. All findings following the audit are placed on the WWU website. The audit must:

- Be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary of the DPE;
- Include consultation with the relevant agencies;
- Assess the environmental performance of WWU and whether it is complying with the relevant requirements in PA 09_0203 and any relevant EPL or Mining Lease (including any assessment, plan or program required under these approvals);
- Review the adequacy of any approved strategies, plans or programs required under these approvals; and
- Recommend measures or actions to improve the environmental performance of the complex and/or any strategy, plans or program required under these approvals.

A copy of the audit report is to be submitted to the DPE within six weeks of its completion, along with an action plan for the recommendations made in the report.

5.3 Environmental Reporting

5.3.1 Internal Reporting

WWU will communicate relevant environmental management information to its employees, contractors and visitors through avenues such as:

- Formal training and toolbox talks;
- Inductions; and
- Incident / hazard / near miss communications.

5.3.2 External Reporting

External reporting relating to environment and community performance will be facilitated by the Environment and Community Manager or their delegate as required.

A summary of monitoring results will be provided in the Macquarie Coal Annual Review, in accordance with Schedule 6, Condition 4 of PA 09_0203. Monitoring results will also be made publicly available on the WWU website in accordance with Schedule 6, Condition 11 of PA 09_0203. WWU will update these results regularly in accordance with the relevant legislation.

The Macquarie Coal Annual Review and monitoring reports include, but are not limited to, the following information:

- A summary of any operations and rehabilitation undertaken during the report period;
- Monitoring results against key performance indicators, including:
 - Rehabilitation performance;
 - Air quality;
 - Noise;
 - Surface and groundwater;
 - Flora and fauna;
 - Weed control; and
 - Bushfire.
- A summary of complaints and incidents during the report period;
- An analysis of monitoring results;
- Key trends in monitoring results;
- Non-compliances; and
- Any other environmental aspects required.

In accordance with Schedule 5, Condition 1 of PA 09_0203, as soon as practicable after obtaining monitoring results showing an exceedance of criteria in Schedule 4, WWU will:

- Notify affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the project is again complying with the relevant criteria; and
- Send a copy of the NSW Health fact sheet entitled 'Mine Dust and You' to the affected landowners and/or tenants of the land (including tenants of any mine-owned land) following exceedance of any relevant air quality criteria in Schedule 4.

5.4 Community Complaints

Site environment and community management issues will be addressed in regular Macquarie Coal Complex CCC meetings in accordance with Condition 6 of Schedule 6 of PA 09_0203. CCC meetings will be conducted generally in accordance with the Community Consultative Committee Guidelines (Department of Planning and Environment, 2016, or its latest version). Specific issues relating to individual landowners and residents will be addressed directly by the Environment and Community Manager or his/her delegate as required.

Complaints relating to the environmental management of WWU are to be managed in accordance with the Macquarie Coal Community Complaint and Environmental Incident Management Procedure, a copy of this document is available on the West Wallsend website ([Macquarie Coal \(glencore.com.au\)](http://Macquarie Coal (glencore.com.au))). This includes initial contact with the complainant within 24 hours of receiving the complaint, as well as a detailed investigation into the cause of the complaint. Complaints are recorded on the WWU incident report form, which is to be forwarded to the Environment and Community Manager to facilitate that corrective actions are implemented as well as circulated to the relevant WWU personnel.

Where a community complaint cannot be resolved using the procedure outlined above, the dispute will be resolved in accordance with the independent review process outlined in Schedule 5, Condition 2 of PA 09_0203.

A summary of complaints will be made available to regulatory authorities on request and provided in the Macquarie Coal Annual Review. Complaints will also be made publicly available on the WWU website in accordance with Condition 11 of Schedule 6 of PA 09_0203.

5.5 Environmental Incidents

The definitions section within PA 09_0203 defines an incident as “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.”

The Macquarie Coal Community Complaint and Environmental Incident Management Procedure is used by WWU to:

- Manage hazards and incidents to minimise damage to people, environment, community and other assets;
- Facilitate reporting of environmental incidents; and
- Identify factors that contributed to incidents through an investigation process and to learn from those events to prevent reoccurrences.

Environmental incidents will be investigated to a level commensurate to their risk level in consultation with the Environment and Community Manager. Environmental incidents will be reported annually in the Macquarie Coal Annual Review.

In addition, reporting of environmental incidents is required in accordance with Condition 7, Schedule 6 of PA 09_0203, which states:

‘The Proponent shall notify the Secretary and any other relevant agencies of any incident that has caused, or has the potential to cause, significant risk of material harm to the environment, at the earliest opportunity. For any other incident associated with the project, the Proponent shall notify the Secretary 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 Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.’

In accordance with the POEO legislation, WWU must, within 14 days of receipt of monitoring data relating to a pollution incident, make the data available on the WWU website.

5.6 Non-Compliance and Corrective Actions

An environmental non-conformance or non-compliance can be defined as:

- Any inspection/test result that does not meet the acceptance criteria specified in the EPL and other conditions of approval;
- Any notice of non-compliance issued by EPA or any other regulatory authority with environmental jurisdiction; or
- Any non-conformance with identified objectives and targets.

The non-conformance may be from routine inspections, audits or monitoring, or it can be from an external complaint or an internal incident.

Following the identified of a non-compliance, the following steps will be undertaken in accordance with the *Community Complaint & Environmental Incident Management* procedure:

- Conduct a preliminary review of the nature of the non-compliance, including:
 - any relevant monitoring data; and
 - current mine activities and land use practices;
- Commission an investigation into the non-compliance to confirm cause and effect and consider relevant options for amelioration of potential impacts or prevention of further non-compliances as appropriate;
- Prepare an action plan in consultation with the relevant stakeholders; and
- Implement additional monitoring as necessary to measure the effectiveness of the controls implemented.

A copy of the Community Complaints and Environmental Incident Management Procedure is published on the West Wallsend website <http://www.westwallsendmine.com.au/en/Pages/home.aspx>. The outcomes of the investigations into any unforeseen impacts and the controls / remediation actions implemented will be undertaken in consultation with relevant authorities as required and will be reported in the Macquarie Coal Annual Review.

Adaptive management associated with subsidence is discussed in the Closure Subsidence Management Plan.

5.7 Independent Review and Land Acquisition

In the event a landowner considers WWU to be exceeding the relevant criteria outlined in Schedule 3 of PA 09_0203, the independent review process outlined in Conditions 2-3, Schedule 5 of PA 09_0203 will be followed.

Additionally, in the event that WWU receives a written request from a landowner requesting acquisition, the acquisition procedure outlined in Conditions 4-5, Schedule 5 of PA 09_0203 will be followed. It should be noted that there are no specific acquisition criteria outlined in the PA 09_0203.

6. Review and Improvement

6.1 Environmental Management Strategy Review

In accordance with Condition 5 of Schedule 6, WWU will review, and if necessary revise, the strategies, plans, and programs required under PA 09_0203 to the satisfaction of the Secretary, within 3 months of the submission of:

- a) the submission of an annual review under condition 4 above;
- b) the submission of an incident report under condition 7 below;
- c) the submission of an audit report under condition 9 below; 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 Secretary.

The Environment and Community Manager (or delegate) will review and if necessary, revise this EMS and resubmit to DPE as required. The EMS will reflect changes in environmental requirements, technology and operational procedures. Updated versions of the approved EMS will be made publicly available on the WWU website.

6.2 Continuous Improvement

The basis for continuous improvement is provided by reviewing performance and developing corrective/preventative actions as detailed in Section 6.6. As part of the review process, performance criteria will be used to evaluate the performance of WWU against the PA 09_0203 and internal requirements.

In addition, WWU also undertakes regular reviews of all environmental management strategies/plans. This review provides a proactive approach to environmental management at the site and allows for continuous improvement of management practices on an ongoing basis.

Any opportunities for continuous improvement will be identified and incorporated into the WWU EMS where appropriate.

7. Document Information

Relevant legislation, standards and other reference information must be regularly reviewed and monitored for updates and should be included in the site management system. Related documents and reference information in this section provides the linkage and source to develop and maintain site compliance information.

7.1 Related Documents

Related documents, listed in **Table 7-1** below, are *documents* directly related to or referenced from within this document.

Number	Title
WWC	Risk and Change Management Procedure
	Approvals Register
	EMS Document Control Procedure
	Communication and Engagement Procedure
	Social Involvement Plan
	Emergency Response Manual
	Pollution Incident Response Management Plan
	Community complaint and Environmental Incident Management Procedure

Table 7-1 – Related documents

7.2 Reference Information

Reference information, listed in **Table 7-2** below, is *information* that is directly referred to for the development of this document.

Reference	Title
GCAA	Community and Stakeholder Engagement
	Environment
	Change
	Glencore Legislation Register
	Assurance
	Statutory Approvals Protocol

Reference	Title
External	West Wallsend Colliery Continued Operations Project Environmental Assessment, Report prepared for Oceanic Coal Australia Limited.
	Aboriginal Cultural Heritage Management Plan, West Wallsend Colliery
	West Wallsend Colliery LW 51 and LW 52 Environmental Assessment prepared for Oceanic Coal Australia Limited.
	Aboriginal Cultural Heritage Management Plan
	Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects
	Rehabilitation Management Plan

Table 7-2 – Reference information

7.3 Previous Document History

Documents listed in **Table 7-23** below are internal documents that have been archived due to wither the document review, the merging of multiple documents as a part of this review, or documents that have been re-published to the West Wallsend Complex Site on the Intranet.

Archive Site	ID	Title
West Wallsend UG	WWCUG-1477460896-35624	Environment Management Strategy

Table 7-3 – Previous Document History

7.4 Change Information

Full details of the document history are recorded in the document control register, by version. A summary of the current change is provided in **Table 7-4** below. Example detail shown below.

Version	Date	Change Details
1.0	08/02/2023	Template updated and transferred to Complex
1.1	5/6/23	Updated following independent external audit in 2023 and the completion of mine closure works.

Table 7-4 – Change information

Appendix A - Regulatory Requirements

Condition	Condition Description	Where Addressed
PA 09_0203		
Schedule 3, Condition 1	<p>Subsidence</p> <p>Performance Measures – Natural and Heritage Features</p> <p>The Proponent shall ensure that the project does not cause any exceedances of the performance measures in Table 1, to the satisfaction of the Director-General.</p>	<p>Mining ceased in 2016. Section 5.1 Closure Subsidence Management Plan</p>
Schedule 3, Condition 2	<p>Offsets</p> <p>If the Proponent exceeds the performance measures in Table 1 and the Director-General determines that:</p> <p>(a) it is not reasonable or feasible to remediate the impact or environmental consequence; or</p> <p>(b) remediation measures implemented by the Proponent have failed to satisfactorily remediate the impact or environmental consequence;</p> <p>then the Proponent shall provide a suitable offset to compensate for the impact or environmental consequence, to the satisfaction of the Director-General.</p> <p>Note: Any offset required under this condition must be proportionate with the significance of the impact or environmental consequence</p>	<p>Noted</p>
Schedule 3, Condition 3	<p>Performance Measures – Built Features</p> <p>The Proponent shall ensure that the project does not cause any exceedances of the performance measures in Table 2, to the satisfaction of the Director-General.</p>	<p>Mining ceased in 2016. Section 5.1 Closure Subsidence Management Plan</p>
Schedule 3, Condition 4	<p>Any dispute between the Proponent and the owner of any built feature over the interpretation, application or implementation of the performance measures in Table 2 is to be settled by the Director-General, following consultation with the MSB and the Executive Director Mineral Resources. Any decision by the Director General shall be final and not subject to further dispute resolution under this approval.</p>	<p>Noted</p>

<p>Schedule 3, Condition 5</p>	<p>Extraction Plan</p> <p>The Proponent shall prepare and implement an Extraction Plan for second workings on site to the satisfaction of the Director-General. Each extraction plan must:</p> <ul style="list-style-type: none"> (a) be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Director-General; (b) be approved by the Director-General before the Proponent carries out any of the second workings covered by the plan; (c) include detailed plans of existing and proposed first and second workings and any associated surface development; (d) include detailed performance indicators for each of the performance measures in Tables 1 and 2; (e) provide revised predictions of the potential subsidence effects, subsidence impacts and environmental consequences of the proposed second workings, incorporating any relevant information obtained since this approval; (f) describe the measures that would be implemented to ensure compliance with the performance measures in Tables 1 and 2, and manage or remediate any impacts and/or environmental consequences; (g) include a Built Features Management Plan, which has been prepared in consultation with DRE and the owners of affected public infrastructure, to manage the potential subsidence impacts and/or environmental consequences of the proposed second workings, and which: <ul style="list-style-type: none"> • addresses in appropriate detail all items of key public infrastructure and other public infrastructure and all classes of other built features; • has been prepared following appropriate consultation with the owner/s of potentially affected feature/s; • recommends appropriate remedial measures and includes commitments to mitigate, repair, replace or compensate all predicted impacts on potentially affected built features in a timely manner; and • in the case of all key public infrastructure, and other public infrastructure except roads, trails and associated structures, reports external auditing for compliance with ISO 31000 (or alternative standard agreed with the infrastructure owner) and provides for annual auditing of compliance and effectiveness during extraction of longwalls which may impact the infrastructure; • include a revised and updated F3 Freeway Management Plan; (h) include a Water Management Plan, which has been prepared in consultation with EPA and NOW, which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings on watercourses and aquifers, including: <ul style="list-style-type: none"> • surface and groundwater impact assessment criteria, including trigger levels for investigating any potentially adverse impacts on water resources or water quality; • a program to monitor and report stream flows, assess any changes resulting from subsidence impacts and remediate and improve stream stability; • a program to monitor and report groundwater inflows to underground workings; • a program to predict, manage and monitor impacts on groundwater bores on privately-owned land; and (i) include a Biodiversity Management Plan, which has been prepared in consultation with OEH, which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings on aquatic and terrestrial flora and fauna, with a specific focus on threatened species [particularly the black-eyed susan (<i>Tetradlea juncea</i>) and small flower Grevillea (<i>Grevillea parviflora subsp pariflora</i>)], populations and their habitats; endangered ecological communities; and water dependent ecosystems; 	<p>WWU have extracted coal by the longwall underground mining method in the West Borehole Seam in accordance with approved Extraction Plans.</p> <p>The remaining requirements of the subsidence management plans are addressed in the Detailed Mine Closure Mining Operations Plan (MOP) .</p> <p>Aboriginal Cultural Heritage Management Plan</p>
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Condition	Condition Description	Where Addressed
	(j) include a Land Management Plan, which has been prepared in consultation with any affected public authorities, to manage the potential impacts and/or environmental consequences of the proposed second workings on land in general, with a specific focus on cliffs, minor cliffs, cliff terraces, rock face features and steep slopes;	
Schedule 3, Condition 5	<p>(k) include a Heritage Management Plan, which has been prepared in consultation with OEH and relevant stakeholders for both Aboriginal and historic heritage, to manage the potential environmental consequences of the proposed second workings on both Aboriginal and non-Aboriginal heritage items, and includes all requirements under conditions 18-20 of Schedule 4;</p> <p>(l) include a Public Safety Management Plan, which has been prepared in consultation with DRE, to ensure public safety in the mining area;</p> <p>(m) include a subsidence monitoring program, which has been prepared in consultation with DRE and OEH, to:</p> <ul style="list-style-type: none"> provide data to assist with the management of the risks associated with subsidence; validate the subsidence predictions; analyse the relationship between the predicted and resulting subsidence effects and predicted and resulting impacts under the plan and any ensuing environmental consequences; and inform the contingency plan and adaptive management process; <p>(n) include a contingency plan that expressly provides for adaptive management where monitoring indicates that there has been an exceedance of any performance measure in Tables 1 and 2, or where any such exceedance appears likely;</p> <p>(o) proposes appropriate revisions to the Rehabilitation Management Plan required under condition 29 of Schedule 4; and</p> <p>(p) include a program to collect sufficient baseline data for future Extraction Plans.</p> <p>Notes:</p> <ul style="list-style-type: none"> To identify the longwall mining domains referred to in this condition, see Appendix 2. An SMP that is substantially consistent with this condition and which is approved by DRE prior to 30 September 2012 is taken to satisfy the requirements of this condition. Such an SMP may also be subject to later variation. 	<p>WWU have extracted coal by the longwall underground mining method in the West Borehole Seam in accordance with approved Extraction Plans.</p> <p>The Detailed Mine Closure Mining Operations Plan (MOP) addressed the remaining and relevant requirements of the existing Extraction Plans.</p>
Schedule 3, Condition 6	<p>The Proponent shall ensure that the management plans required under conditions 5(g)-(l) above include:</p> <p>(a) an assessment of the potential environmental consequences of the Extraction Plan, incorporating any relevant information that has been obtained since this approval; and</p> <p>(b) a detailed description of the measures that would be implemented to remediate predicted impacts.</p>	
Schedule 3, Condition 7	<p>First Workings</p> <p>The Proponent may carry out first workings on site, other than in accordance with an approved Extraction Plan, provided that DRE is satisfied that the first workings are designed to remain long-term stable and non-subsiding, except insofar as they may be impacted by approved second workings.</p>	Complete.
Schedule 3, Condition 7	<p>Payment of Reasonable Costs</p> <p>The Proponent shall pay all reasonable costs incurred by the Department to engage suitably qualified, experienced and independent experts to review the adequacy of any aspect of an Extraction Plan.</p>	Noted

Condition	Condition Description	Where Addressed
Schedule 4, Condition 1	<p>Noise Criteria</p> <p>Until 31 December 2012, the Proponent shall ensure that the noise generated by the project does not exceed the criteria in Table 3 at any residence on privately-owned land or on more than 25 per cent of any privately-owned land.</p> <p>However, these noise criteria do not apply if the Proponent has an agreement with the relevant landowner to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.</p>	No longer applicable. See Schedule 4, Condition 2.
Schedule 4, Condition 2	<p>From 1 January 2013, the Proponent shall ensure that the noise generated by the project does not exceed the criteria in Table 4 at any residence on privately-owned land or on more than 25 per cent of any privately owned land.</p> <p>However, these noise criteria do not apply if the Proponent has an agreement with the relevant landowner to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.</p>	Section 5.2.1
Schedule 4, Condition 3	<p>Cumulative Noise Criteria</p> <p>The Proponent shall implement all reasonable and feasible measures to ensure that the noise generated by the project combined with the noise generated by other mines in the area does not exceed the criteria in Table 5 at any residence on privately-owned land or on more than 25 per cent of any privately-owned land.</p>	Section 5.2.1
Schedule 4, Condition 4	<p>Noise Mitigation</p> <p>Upon receiving a written request from the owner of the residence listed in Table 6, the Proponent shall implement noise mitigation measures (such as double-glazing, insulation, and/or air conditioning) at the residence in consultation with the landowner. 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.</p>	Section 5.2.2
Schedule 4, Condition 5	<p>The Proponent shall ensure that the following noise mitigation measures are undertaken by the end of December 2012:</p> <p>(a) all necessary works to ensure an operational noise reduction of 10dB(A) at the coal breaker; and</p> <p>(b) any additional works to ensure compliance with the noise criteria in Table 4, to the satisfaction of the Director-General.</p>	No longer applicable

Condition	Condition Description	Where Addressed
Schedule 4, Condition 6	<p>Noise Compliance Report</p> <p>The Proponent shall prepare a Noise Compliance Report for the project to the satisfaction of the Director General.</p> <p>The report must:</p> <p>(a) be prepared by a suitably qualified acoustic consultant, whose appointment has been approved by the Director-General;</p> <p>(b) be prepared in consultation with EPA, and be submitted to the Director-General for approval by the end of March 2013;</p> <p>(c) investigate and evaluate the effectiveness of the noise mitigation measures required under condition 5 above to comply with the noise criteria in Table 4; and</p> <p>(d) if required, include an action plan to implement additional measures and a protocol for monitoring the effectiveness of these measures.</p>	<p>Complete</p> <p>The report was prepared by Global Acoustics and investigated and evaluated the effectiveness of the noise mitigation measures required under Schedule 3, Condition 5 and Table 4 of PA 09_0203. The NMP was updated to reflect the outcomes of the Noise Compliance Report and findings from the report were reported in the WWU Annual Review.</p>
Schedule 4, Condition 7	<p>Operating Conditions</p> <p>The Proponent shall:</p> <p>(a) implement best management practice, including all reasonable and feasible noise mitigation measures to minimise the construction, operational and road traffic noise generated by the project; and</p> <p>(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.</p>	<p>Section 5.2</p>
Schedule 4, Condition 8	<p>Noise Management Plan</p> <p>The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Director-General. This plan must:</p> <p>(a) be prepared in consultation with EPA and Council, and submitted to the Director-General for approval within 6 months of this approval;</p> <p>(b) describe the noise mitigation measures that would be implemented to ensure compliance with the relevant conditions of this approval;</p> <p>(c) include a protocol for continual improvement of noise performance; and</p> <p>(e) include a noise monitoring program that:</p> <ul style="list-style-type: none"> • uses a combination of attended and unattended monitoring to evaluate the performance of the project; and • includes a protocol for determining exceedances of the relevant conditions of this approval. 	<p>The aspects of the Noise Management relevant to the closure phase have been incorporated into Section 5.2</p>
Schedule 4, Condition 9	<p>Odour</p> <p>The Proponent shall ensure that no offensive odours are emitted from the site, as defined under the POEO Act.</p>	<p>Section 5.3</p>

Condition	Condition Description	Where Addressed
Schedule 4, Condition 10	<p>Greenhouse Gas Emissions</p> <p>The Proponent shall implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the site to the satisfaction of the Director-General.</p>	Section 5.4
Schedule 4, Condition 11	<p>Air Quality Criteria</p> <p>The Proponent shall implement all reasonable and feasible mitigation measures to ensure that the particulate emissions generated by the project do not exceed the criteria listed in Tables 7, 8 and 9 at any residence on privately-owned land or on more than 25 per cent of any privately-owned land.</p>	Section 5.3.1
Schedule 4, Condition 12	<p>Operating Conditions</p> <p>The Proponent shall:</p> <p>(a) implement best practice air quality management, including all reasonable and feasible measures to minimise off-site odour, fume and dust emissions generated by the project, including from any spontaneous combustion on site,</p> <p>(b) minimise any visible air pollution generated by the project; and</p> <p>(c) regularly assess the air quality monitoring and meteorological data, and relocate, modify and/or suspend operations to ensure compliance with the relevant conditions of this approval;</p> <p>to the satisfaction of the Director-General.</p>	Section 5.3.2
Schedule 4, Condition 13	<p>Air Quality & Greenhouse Gas Management Plan</p> <p>The Proponent shall prepare and implement a detailed Air Quality & Greenhouse Gas Management Plan for the project to the satisfaction of the Director-General. This plan must:</p> <p>(a) be prepared in consultation with EPA, and submitted to the Director-General for approval within 6 months of this approval;</p> <p>(b) describe the measures that would be implemented to ensure compliance with the relevant conditions of this approval;</p> <p>(c) describe the measures that would be implemented to minimise the greenhouse gas emissions from the site; and</p> <p>(d) include an air quality monitoring program to evaluate the performance of the project and includes a protocol for determining exceedances with the relevant conditions of this approval.</p>	The aspects of the Air Quality and Greenhouse Gas Management Plan relevant to the closure phase have been incorporated into Section 5.3 and Section 5.4
Schedule 4, Condition 14	<p>Meteorological Monitoring</p> <p>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 complies with the requirements in the Approved Methods for Sampling of Air Pollutants in New South Wales guideline.</p>	Section 5.3.3

Condition	Condition Description	Where Addressed
Schedule 4, Condition 15	<p>Compensatory Water Supply</p> <p>The Proponent shall provide a compensatory water supply to any landowner of privately-owned land whose water entitlements are adversely impacted (other than an impact that is negligible) as a result of the project, in consultation with NOW, and to the satisfaction of the Director-General.</p> <p>The compensatory water supply measures must provide an alternative long-term supply of water that is equivalent to the loss attributed to the project. Equivalent water supply must be provided (at least on an interim basis) within 24 hours of the loss being identified.</p> <p>If the Proponent and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution.</p> <p>If the Proponent is unable to provide an alternative long-term supply of water, then the Proponent shall provide alternative compensation to the satisfaction of the Director-General.</p>	Noted
Schedule 4, Condition 16	<p>Surface Water Discharges</p> <p>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.</p>	Section 5.5

Condition	Condition Description	Where Addressed
Schedule 4, Condition 17	<p>Surface Water Management Plan</p> <p>The Proponent shall prepare and implement a Surface Water Management Plan for the project to the satisfaction of the Director-General. This plan must be prepared in consultation with NOW and EPA by suitably qualified and experienced persons whose appointment has been endorsed by the Director-General, and submitted to the Director-General for approval within 6 months of this approval. This plan must include:</p> <p>(a) a comprehensive water balance for the project, that includes details of:</p> <ul style="list-style-type: none"> • sources and security of water supply; • water use on site; • water management on site; • off-site water transfers; and <p>(b) management plans for the surface facilities sites, that include:</p> <ul style="list-style-type: none"> • a detailed description of water management systems for each site, including: <ul style="list-style-type: none"> ○ clean water diversion systems; ○ erosion and sediment controls; and ○ any water storages; • measures to minimise potable water use and to reuse and recycle water; • measures to comply with surface water discharge limits; • measures to manage sewage wastewater in accordance with Council requirements; and • monitoring and reporting procedures. <p>Note: This plan must be suitably integrated with the Water Management Plan that forms a part of an Extraction Plan.</p>	The aspects of the Surface Water Management Plan relevant to the closure phase have been incorporated into Section 5.5
Schedule 4, Condition 17A	<p>Groundwater Modelling and Management</p> <p>By the end of March 2015, the Proponent shall, in consultation with NOW, prepare and submit a groundwater model which describes the past, current and proposed impacts of the project, to the satisfaction of the Secretary.</p>	Complete
Schedule 4, Condition 17B	<p>By the end of February 2015, the Proponent shall, in consultation with OEH, develop, implement and submit a groundwater and connective fracturing monitoring program for Longwalls 51 and 52, to the satisfaction of the Secretary.</p>	Complete
Schedule 4, Condition 18	<p>Potential Avoidance of Heritage Items</p> <p>The Proponent shall protect the heritage items identified in Table 2 of Appendix 4 unless the Proponent can demonstrate, to the satisfaction of the Director-General, that sites of a similar nature and similar significance exist in the SSCA.</p>	Section 5.7 Aboriginal Cultural Heritage Management Plan

Condition	Condition Description	Where Addressed
Schedule 4, Condition 19	Minimisation of Impact to Heritage Items The Proponent shall protect the heritage item identified in Table 3(a) of Appendix 4 unless the Proponent can demonstrate, to the satisfaction of the Director-General, that the measures relating to the sites in Table 3(b), identified in section 8.2.3 of the EA Technical Paper (Appendix 12 Part 1) have been achieved.	
Schedule 4, Condition 20	Management of Heritage Items Prior to carrying out any development on site that could impact the heritage items identified in Table 4 of Appendix 4, the Proponent shall undertake the management and mitigation measures identified in section 8.4 of the EA Technical Paper (Appendix 12 Part 1) in consultation with the relevant Aboriginal stakeholders, and in accordance with methodologies approved by the Director-General.	
Schedule 4, Condition 21	Monitoring of Coal Transport The Proponent shall: (a) keep accurate records of the amount of coal transported from the site (on a monthly basis); and (b) make these records publicly available on its website at the end of each calendar year.	No longer applicable as mining ceased in 2016.
Schedule 4, Condition 22	Wakefield Road Intersection The Proponent shall ensure that the intersection of the Mine Services Facility site access road and Wakefield Road is: (a) constructed prior to the construction of the Mine Services Facility; (b) not constructed until the intersection designs are approved by Council; and (c) constructed and maintained to the satisfaction of Council.	Complete
Schedule 4, Condition 23	Traffic Management Plan The Proponent shall prepare and implement a Traffic Management Plan for the site to the satisfaction of Council. The plan shall focus on traffic management along Wakefield Road to minimise potential conflicts between road users and to ensure that the intersection of the Mine Services Facility access road and Wakefield Road is operating effectively. The plan must be developed in consultation with the Council and the CCC, and must be submitted for the approval of the Director-General prior to the commencement of construction of the Mine Services Facility.	Complete
Schedule 4, Condition 24	Visual Amenity and Lighting The Proponent shall: (a) implement all reasonable and feasible measures to minimise the visual and off-site lighting impacts of the project; (b) ensure no unshielded outdoor lights shine above the horizontal; and (c) ensure that all external lighting associated with the project complies with Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting, to the satisfaction of the Director-General.	Section 5.8

Condition	Condition Description	Where Addressed
Schedule 4, Condition 25	<p>Waste</p> <p>The Proponent shall:</p> <p>(a) minimise and monitor the waste generated by the project;</p> <p>(b) ensure that the waste generated by the project is appropriately stored, handled and disposed of;</p> <p>(c) manage on-site sewage treatment and disposal in accordance with the requirements of Council; and</p> <p>(d) report on waste management and minimisation in the Annual Review, to the satisfaction of the Director-General.</p>	Section 5.9
Schedule 4, Condition 26	<p>Bushfire</p> <p>The Proponent shall:</p> <p>(a) ensure that the project is suitably equipped to respond to fires on site; and</p> <p>(b) assist the Rural Fire Service and emergency services as much as possible if there is a fire in the vicinity of the site.</p>	Section 5.10
Schedule 4, Condition 27	<p>Rehabilitation Objectives</p> <p>The Proponent shall rehabilitate the site to the satisfaction of the Executive Director Mineral Resources. This rehabilitation must be generally consistent with the proposed rehabilitation strategy described in the EA, and comply with the objectives in Table 10.</p>	
Schedule 4, Condition 28	<p>Progressive Rehabilitation</p> <p>The Proponent shall carry out the rehabilitation of the site progressively, that is, as soon as reasonably practicable following disturbance.</p>	
Schedule 4, Condition 29	<p>Rehabilitation Management Plan</p> <p>The Proponent shall prepare and implement a Rehabilitation Management Plan for the project, to the satisfaction of the Executive Director Mineral Resources. This plan must:</p> <p>(a) be prepared in consultation with the Department, OEH, NOW, Council and the CCC, and be submitted to the Executive Director Mineral Resources in DRE for approval within 6 months of this approval, or as otherwise agreed with the Director-General;</p> <p>(b) be prepared in accordance with any relevant DRE guideline, and be consistent with the rehabilitation objectives in the EA and in Table 10;</p> <p>(c) build, to the maximum extent practicable, on the other management plans required under this approval; and</p> <p>(d) address all aspects of rehabilitation and mine closure, including final land use assessment, rehabilitation objectives, domain objectives, completion criteria and rehabilitation monitoring.</p>	Section 5.11 The Closure MOP has been prepared to meet the requirements of these conditions.
Schedule 4, Condition 30	<p>Remediation Trial</p> <p>Prior to the commencement of secondary extraction in either Longwall 51 or Longwall 52, the Proponent shall, in consultation with OEH, complete a field trial of the revised surface cracking remediation procedures to be used at the Project, to the satisfaction of the Secretary.</p>	Complete

Condition	Condition Description	Where Addressed
Schedule 5, Condition 1	<p>Notification of Landowners</p> <p>As soon as practicable after obtaining monitoring results showing:</p> <p>(a) an exceedance of any relevant criteria in Schedule 4, the Proponent shall notify affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the project is again complying with the relevant criteria; and</p> <p>(b) an exceedance of any relevant air quality criteria in Schedule 4, the Proponent shall send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the affected landowners and/or existing tenants of the land (including the tenants of any mine-owned land).</p>	Section 6.3.2
Schedule 5, Condition 2	<p>Independent Review</p> <p>If an owner of privately-owned land considers the project to be exceeding the relevant criteria in Schedule 4, then he/she may ask the Director-General in writing for an independent review of the impacts of the project on his/her land.</p> <p>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:</p> <p>(a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to:</p> <ul style="list-style-type: none"> • consult with the landowner to determine his/her concerns; • conduct monitoring to determine whether the project is complying with the relevant criteria in Schedule 4; 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 <p>(b) give the Director-General and landowner a copy of the independent review.</p>	Noted Section 6.7
Schedule 5, Condition 3	<p>If the independent review determines that the project is complying with the relevant criteria in Schedule 4, then the Proponent may discontinue the independent review with the approval of the Director-General.</p> <p>If the independent review determines that the project is not complying with the relevant impact assessment criteria in Schedule 4, and that the project is primarily responsible for this non-compliance, then the Proponent shall:</p> <p>(a) implement all reasonable and feasible mitigation measures, in consultation with the landowner and appointed independent person, and conduct further monitoring until the project complies with the relevant criteria; or</p> <p>(b) secure a written agreement with the landowner to allow exceedances of the relevant criteria, to the satisfaction of the Director-General.</p> <p>If the independent review determines that any relevant acquisition criteria in Schedule 4 are being exceeded and that the project is primarily responsible for this non-compliance, then upon receiving a written request from the landowner, the Proponent shall acquire all or part of the landowner's land in accordance with the procedures in conditions 4-5 below.</p>	Noted Section 6.7

<p>Schedule 5, Condition 4</p>	<p>Land Acquisition</p> <p>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:</p> <p>(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:</p> <ul style="list-style-type: none"> • 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 undertaken by the Proponent on the land; <p>(b) the reasonable costs associated with:</p> <ul style="list-style-type: none"> • relocating within the Lake Macquarie 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 <p>(c) reasonable compensation for any disturbance caused by the land acquisition process.</p> <p>If 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 within 28 days after the Proponent makes its written offer, then either party may refer the matter to the Director-General for resolution.</p> <p>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:</p> <ul style="list-style-type: none"> • 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. <p>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.</p> <p>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,</p> <p>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.</p> <p>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.</p>	<p>Noted Section 6.7</p>
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Condition	Condition Description	Where Addressed
	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.	
Schedule 5, Condition 5	The Proponent shall pay all reasonable costs associated with the land acquisition process described in condition 4 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.	Noted Section 6.7
Schedule 6, Condition 1	<p>Environmental Management Strategy</p> <p>The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Director-General. This strategy must:</p> <p>(a) be submitted to the Director-General for approval within 6 months of this approval;</p> <p>(b) provide the strategic framework for environmental management of the project;</p> <p>(c) identify the statutory approvals that apply to the project;</p> <p>(d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;</p> <p>(e) describe the procedures that would be implemented to:</p> <ul style="list-style-type: none"> • 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 <p>(f) be integrated with strategies, plans and programs approved under the conditions of this approval; and</p> <p>(g) include a clear plan depicting all the monitoring required to be carried out under the conditions of this approval.</p>	This document Section 1.2

Condition	Condition Description	Where Addressed
Schedule 6, Condition 2	<p>The Proponent shall ensure that the management plans required under this approval are prepared in accordance with any relevant guidelines, and include:</p> <p>(a) detailed baseline data;</p> <p>(b) a description of:</p> <ul style="list-style-type: none"> • 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; <p>(c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;</p> <p>(d) a program to monitor and report on the:</p> <ul style="list-style-type: none"> • impacts and environmental performance of the project; • effectiveness of any management measures (see (c) above); <p>(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;</p> <p>(f) a program to investigate and implement ways to improve the environmental performance of the project over time;</p> <p>(g) a protocol for managing and reporting any:</p> <ul style="list-style-type: none"> • incidents; • complaints; • non-compliances with conditions of this approval and statutory requirements; and • exceedances of the impact assessment criteria and/or performance criteria; and <p>(h) a protocol for periodic review of the plan.</p> <p>Note: The Director-General may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.</p>	<p>The originally approved management plans included this information. Only information relevant to the current closure phase has been included in this revised EMS.</p>

Condition	Condition Description	Where Addressed
Schedule 6, Condition 3	<p>Adaptive Management</p> <p>The Proponent must assess and manage project-related risks to ensure that there are no exceedances of the criteria and/or performance measures in Schedules 3 and 4. Any exceedance of these criteria and/or performance measures constitutes a breach of this approval and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation.</p> <p>Where any exceedance of these criteria and/or performance measures has occurred, the Proponent must, at the earliest opportunity:</p> <ul style="list-style-type: none"> (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. 	Section 6.6 Closure Subsidence Management Plan
Schedule 6, Condition 4	<p>Annual Review</p> <p>By the end of March each year (or other such timing as agreed by the Director-General), the Proponent shall submit a review of the environmental performance of the project to the satisfaction of the Director General. This review must:</p> <ul style="list-style-type: none"> (a) describe the works (including any rehabilitation) carried out in the past calendar year, and the works proposed to be carried out over the current calendar year; (b) include a comprehensive review of the monitoring results and complaints records of the project over the past calendar year, which includes a comparison of these results against the: <ul style="list-style-type: none"> • relevant statutory requirements, limits or performance measures/criteria; • monitoring results of previous years; and • relevant predictions in the EA; (c) identify any non-compliance over the past calendar year, and describe what actions were (or are being) taken to ensure compliance; (d) identify any trends in the monitoring data over the life of the project; (e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and (f) describe what measures will be implemented over the current calendar year to improve the environmental performance of the project. 	Section 6.3.2

Condition	Condition Description	Where Addressed
Schedule 6, Condition 5	<p>Revision of Strategies, Plans and Programs</p> <p>Within 3 months of:</p> <p>(a) the submission of an annual review under condition 4 above;</p> <p>(b) the submission of an incident report under condition 7 below;</p> <p>(c) the submission of an audit report under condition 9 below; and</p> <p>(d) any modification to the conditions of this approval (unless the conditions require otherwise),</p> <p>the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Director-General.</p>	Section 7.1
Schedule 6, Condition 6	<p>Community Consultative Committee</p> <p>The Proponent shall establish and operate a Community Consultative Committee (CCC) for the project in general accordance with the Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects (Department of Planning, 2007, or its latest version), or alternative consultative framework as may be agreed by the Director-General, to the satisfaction of the Director General.</p> <p>This CCC or alternative framework must be operating within 6 months of this approval.</p> <p>Notes:</p> <ul style="list-style-type: none"> The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Proponent complies with this approval. The Committee should be comprised of an independent chair and appropriate representation from the Proponent, Council and the local community. In establishing the CCC, the Department will accept the continued representation from existing CCC members. 	Section 4.3 Section 6.4
Schedule 6, Condition 7	<p>Incident Reporting</p> <p>The Proponent shall notify, at the earliest opportunity, the Director-General and any other relevant agencies of any incident that has caused, or has the potential to cause, significant risk of material harm to the environment. For any other incident associated with the project, the Proponent shall notify the Director General and any other relevant agencies as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of the incident, the Proponent shall provide the Director-General and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.</p>	Section 6.5
Schedule 6, Condition 8	<p>Regular Reporting</p> <p>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.</p>	Section 6.3

Condition	Condition Description	Where Addressed
Schedule 6, Condition 9	<p>Independent Environmental Audit</p> <p>By the end of June 2013 (or other such timing as agreed by the Director-General), and every 3 years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:</p> <ul style="list-style-type: none"> (a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Director-General; (b) include consultation with the relevant agencies; (c) assess the environmental performance of the project and assess whether it is complying with the requirements in this approval and any relevant EPL or Mining Lease (including any assessment, plan or program required under these approvals); (d) review the adequacy of strategies, plans or programs required under the abovementioned approvals; and (e) recommend measures or actions to improve the environmental performance of the project, and/or any strategy, plan or program required under these approvals. <p>Note: This audit team must be led by a suitably qualified auditor and include experts in any field specified by the Director General.</p>	Section 6.2
Schedule 6, Condition 10	<p>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.</p>	
Schedule 6, Condition 11	<p>Access to Information</p> <p>From the end of April 2012, the Proponent shall:</p> <ul style="list-style-type: none"> (a) make copies of the following publicly available on its website: <ul style="list-style-type: none"> • the EA; • all current relevant statutory approvals for the project; • approved strategies, plans and programs required under the conditions of this approval; • a comprehensive summary of the monitoring results of the project, which have been reported in accordance with the various plans and programs approved under the conditions of this approval; • a complaints register, which is to be updated on a monthly basis; • minutes of CCC meetings; • the annual reviews of the project; • any independent environmental audit, and the Proponent’s response to the recommendations in any audit; • any other matter required by the Director-General; and (b) keep this information up-to-date, to the satisfaction of the Director-General. 	Section 6.3.2

Condition	Condition Description	Where Addressed
Relevant Statement of Commitments from PA 09_0203		
6.3.1	Subsidence A comprehensive Extraction Plan will be developed for the Project in accordance with the project approval	Section 6.1 Detailed Mine Closure Mining Operations Plan (MOP)
6.3.2	Remediation and rehabilitation of mining related subsidence impacts will be carried out, as detailed in Section 5.2.4 of the EA, as soon as practicable following subsidence.	
6.3.3	A detailed Subsidence Survey Monitoring Program has been developed for the Project and is outlined in Appendix 5 of the EA. The monitoring program will be implemented and the results used to refine the ongoing management of subsidence as the Project progresses.	
6.4.1	Ecology In the event that significant impacts on identified ecological values are identified and cannot be adequately remediated, WWC will engage a suitably qualified and experienced ecologist to prepare a Biodiversity Offset Strategy in consultation with OEH and DP&I. Given that such areas are likely to be minor in area, it is proposed that rather than focussing on land base offsetting, this strategy could focus on 'in kind' offsetting by remediation or rehabilitation of equivalent areas of disturbed or poor condition vegetation within the Sugarloaf State Conservation Area (SSCA).	Section 6.1 Detailed Mine Closure Mining Operations Plan (MOP)
6.4.2	WWC will undertake remediation works within the SSCA to a value of \$50,000 per annum over the life of the Project, in consultation with OEH.	
6.4.3	The results of the ecological monitoring and management measures will be reviewed annually and reported in the AEMR. Management measures will be adapted, as required, on the basis of monitoring outcomes.	
6.5.1	Groundwater WWC will continue to maintain the existing groundwater monitoring network and also undertake regular analysis of groundwater monitoring data to compare predicted and actual groundwater impacts. This will include groundwater make in the underground operations.	Section 5.6 Detailed Mine Closure Mining Operations Plan (MOP)
6.5.2	Prior to commencement of longwall mining in Longwall 46, WWC will review the need for establishment of alluvial monitoring in Diega Creek and Central Creek in consultation with NOW and to the satisfaction of DP&I.	
6.5.3	The monitoring network and monitoring program will be reviewed on an annual basis to determine ongoing suitability and any proposed changes will be discussed in the Annual Review.	
6.6.1	Surface Water WWC will submit an updated Surface Water Management Plan for the Project, as outlined in the approval conditions.	The approved WWU Surface Water Management Plan incorporated these requirements.
6.6.2	The existing Water Management System will continue to be used to control and treat runoff from the WWC pit top site with surface runoff directed to the water management system dams for use as dust suppression or discharge.	

Condition	Condition Description	Where Addressed
6.6.3	WWC will complete a series of investigations within 12 months of Project Approval, including: <ul style="list-style-type: none"> • a more detailed desktop investigation of the various salt concentrations at other Xstrata operations and relevance to WWC; • trailing shandying percentages based on the more detailed investigations of salts; and • determining the most appropriate shandying percentage taking into consideration potential water quality impacts on the life and maintenance of the underground mining equipment. 	Now that operations have ceased, the management and monitoring of surface water during the closure phase has been incorporated into Section 5.5.
6.6.4	The optimal water re-use strategy confirmed by the investigations will be implemented within two years of Project Approval. If the investigations indicate that shandying potable water with mine water for re-use on site is not viable, WWC will investigate the feasibility of other options for mine water treatment and re-use e.g. reverse osmosis.	
6.6.5	A comprehensive monitoring regime will be implemented to monitor drainage lines and the locations identified in Figure 5.12 of the EA for potential subsidence impacts. Monitoring procedures will include: <ul style="list-style-type: none"> • monitoring of vertical and horizontal subsidence along order drainage lines as determined in consultation with the DRE; • monitoring, measuring and recording (e.g. photographic records) of the extent and magnitude of any surface cracking along the second order drainage line and first order drainage lines in depths of cover less than 100 metres that may occur during and post mining operations. If works are required (sealing of cracks), methods approved by the OEH and DRE would be adopted; • visual inspection and recording of stream bed and bank condition and riparian vegetation along the second order drainage line, including collection of baseline data and monitoring during and post mining operations; • monitoring of geomorphological response of each watercourse to the predicted subsidence, as follows: <ul style="list-style-type: none"> ○ prior to mining review the potential geomorphological response of each watercourse to the predicted subsidence using the guidelines included in River Hydrology and Energy Relationships – Design Notes for the Mining Industry published by Department of Water and Energy (November 2007) and the methods described below; ○ for each watercourse within the continued underground mining area: ○ describe the existing (i.e. pre-mining) watercourse characteristics including bed controls using approaches outlined in AUSRIVAS (Australian River Assessment System); ○ calculate the stream power for the existing and predicted subsidence conditions; ○ determine threshold limits of stream power for incision and bed load deflation, taking into consideration existing stream stability, surface and substrate soil conditions and stream grades; ○ refine the monitoring program, including monitoring of any bed control points, areas where subsidence may increase the stream power above the determined threshold limits potentially causing channel erosion/instability and monitoring may include long section and cross section surveys, photographic records and/or methods outlined in AUSRIVAS; ○ investigate and implement any remediation required to mitigate potential impacts of changes in stream power as a result of underground mining activities; ○ during and post mining, monitor watercourses, in accordance with the developed monitoring program; ○ ongoing monitoring and maintenance will be necessary for any areas requiring surface • mitigation works to facilitate effective rehabilitation. 	

Condition	Condition Description	Where Addressed
6.7.1	<p>Air Quality</p> <p>WWC will continue to implement existing dust controls, including:</p> <ul style="list-style-type: none"> the use of manually-operated water sprays for unpaved areas and for the paved ring road at the WWC pit top, used by trucks transporting coal to MCPP via the private haul road; periodic sweeping of the haul road and other paved areas to reduce road surface silt loadings; and use of loading flaps during truck loading at the surface bin to restrict dust. 	Section 5.3
6.8.1	<p>Noise</p> <p>Noise emissions from the Project, when measured within 30 metres of a private residence, will not exceed the criteria outlined in the project approval, unless a specific agreement is reached with the landholder in regard to noise impacts at that residence.</p>	Section 5.2
6.8.2	<p>WWC will undertake mitigation of the breaker and No. 2 ventilation shaft to improve existing noise impacts associated with its operation. WWC will also investigate whether there are any feasible opportunities for further noise reduction at Killingworth.</p>	
6.8.3	<p>WWC will submit a Noise Management for the Project, in accordance with the approval conditions. The Plan will:</p> <p>(a) describe the noise mitigation measures that would be implemented to ensure compliance with relevant conditions of approval; and</p> <p>(b) will include a Noise Monitoring Program that:</p> <ul style="list-style-type: none"> includes attended monitoring to assess compliance with the Project Specific Noise Levels; and includes a protocol for determining exceedances of the relevant conditions of approval. 	
6.9.1	<p>Greenhouses Gases</p> <p>WWC will report its greenhouse and energy performance via legislative reporting requirements.</p>	Section 5.4
6.10.1	<p>Aboriginal Archaeology</p> <p>WWC has committed to modify the mine plan to protect the following sites of Aboriginal cultural and archaeological significance:</p> <ul style="list-style-type: none"> the stone arch; one rock shelter in the Bangalow Creek catchment; two rock shelter sites in the Cockle Creek catchment; Palmers Creek Grinding Grooves 1 and 2; the Western Domain 5 (#38-4-0993 - wet soak with artefact scatter site); modification of the mine plan to lessen the probability of impact to the Palmers Creek Grinding Grooves 3 site. 	Section 5.7.1 Aboriginal Cultural Heritage Management Plan
6.10.2	<p>WWC has committed to providing \$200,000.00 over the life of the project to assist with the management of Aboriginal cultural and archaeological sites/values within the SSCA.</p>	
6.10.3	<p>WWC has committed to fund a program of monitoring and reporting of subsidence impacts on landscape features of Aboriginal cultural value and Aboriginal archaeological sites recorded within the proposed continued underground mining area.</p>	

Condition	Condition Description	Where Addressed
6.10.4	If monitoring finds that at least three of the Diega Creek Grinding Groove sites 2 through 6 do not suffer from impacts that cause cracking of the sandstone within the area of the sandstone platform containing the grooves and within 1 metre of any groove, WWC will proceed with subsidence of Diega Creek Grinding Grooves 1. If this is not possible because 3 or more of the Diega Creek Grinding Grooves 2 to 6 sites have cracked within the specified site area, WWC will commit to protecting Diega Creek Grinding Grooves 1 from damage related to subsidence.	
6.10.5	WWC has committed to funding a program of further survey within the SSCA in consultation with the Aboriginal stakeholders and the NPWS/OEH, the purpose of the survey is to meet the requirements of Intergenerational Equity in relation to the potential subsidence impacts to Bangalow Creek 1, 2, 3, 4, 5, 6 and #38-4-0461 Grinding Grooves.	
6.10.6	WWC will commit to the provision of funding for further Aboriginal Cultural Heritage values investigations. The specific nature of the investigation will be subject of further consultation with the registered Aboriginal stakeholders and endorsement by the OEH.	
6.10.7	<p>WWC will prepare an ACHMP for the project that is consistent with the Aboriginal cultural and archaeological management commitments made in this report and includes the following matters:</p> <ul style="list-style-type: none"> • details of the proposed implementation of, and methodology for, the conservation offset strategy; • a detailed salvage program for Aboriginal archaeological sites within the proposed continued underground mining area including isolated finds, artefact scatters (if subsidence remediation works are required in the site areas) and the Cockle Creek Rock shelter with Artefacts and PAD; • a detailed description of the mitigation measures that would be undertaken for all Aboriginal archaeological sites and landscape features of Aboriginal cultural value within the proposed continued underground mining area prior to and/or following subsidence; • a detailed description of the measures that would be implemented to protect Aboriginal archaeological sites and landscape features of Aboriginal cultural value for the life of the project; • a detailed methodology for inspection of locations proposed for surface ventilation infrastructure construction and future exploration boreholes; • a description of the measures that would be implemented if any new Aboriginal sites/artefacts or skeletal remains are discovered during works associated with the Project; • the provision of Aboriginal cultural awareness training for relevant WWC personnel and contractors as part of the induction process; and • a protocol for the ongoing consultation and involvement of the Aboriginal stakeholder groups and NPWS/OEH in the conservation and management of Aboriginal cultural heritage within the proposed continued underground mining area. 	Aboriginal Cultural Heritage Management Plan
6.11.1	<p>Historic Heritage</p> <p>WWC will map the recorded historic heritage sites on relevant project drawings and plans used during subsidence remediation works to provide that their presence is considered in planning such works. Impacts to such sites will be avoided during subsidence remediation works.</p>	Section 5.7.2
6.11.2	WWC personnel involved in subsidence remediation works will be briefed about the location of the recorded heritage items and their heritage status in an induction prior to conducting work in the continued underground mining area.	

Condition	Condition Description	Where Addressed
6.11.3	WWC will undertake inspections of historical heritage sites following the completion of undermining the recorded historic heritage sites. If subsidence cracks are identified in the vicinity of the identified sites they will be remediated as soon as practicable, except where any remediation works may result in further adverse impacts.	
6.12.1	Traffic and Transport WWC will consult with LMCC on the final design of the new intersection associated with the proposed Mining Services Facility. This intersection will require LMCC approval under the Roads Act prior to commencement of these works. The intersection design will include appropriate deceleration and merge lanes, and signage.	Complete
6.12.2	Prior to the commencement of construction activities associated with the Mining Services Facility, WWC will prepare a construction traffic management plan in consultation with LMCC and the CCC.	Complete
6.12.3	WWC will consult with LMCC to determine relevant funding to have the road markings at the intersection of Wakefield Road and The Broadway repainted to appropriately delineate control and lane lines.	Complete
6.12.4	No haulage of coal will be undertaken on public roads, except in the case of emergency and as approved by the Director General.	No longer applicable as coal production ceased in 2016.
6.13.1	Visual WWC will maintain and implement a range of visual controls to screen views of the Mining Services Facility and minimise the visual impacts, including: <ul style="list-style-type: none"> where possible, trees will be retained to maintain visual amenity; planting of vegetation screening, where necessary, to shield the proposed Mining Services Facility; and all buildings and infrastructure potentially visible to the public, including the proposed Mining Services Facility, will be coloured in suitably natural tones, where practicable. 	Section 5.8
6.14.1	Waste The management of waste materials generated by the construction and operation of the Project will be managed through the design; procurement of materials and purchasing; identification and segregation of reusable and recyclable materials; processing materials for recycling; and considering environmental impacts for waste removal processes, as outlined in the existing Waste Management Plan.	Section 5.9
6.15.1	Community WWC will continue to prepare and distribute a community newsletter to surrounding residences every six months.	Section 4.3
6.15.2	WWC will continue to engage the community regarding the Project and operations in general through a Community Consultative Committee, as considered appropriate by Department of Planning and Infrastructure.	
6.16.1	Decommissioning and Mine Closure A detailed closure planning process will be undertaken for the Project five years prior to cessation of mining.	Section 3.3

Condition	Condition Description	Where Addressed
6.16.2	Decommissioning of the mining operations and surface facilities associated with the Project will occur progressively throughout the life of the Project, in accordance with conditions of the relevant mining titles and existing closure plan. This will include progressive decommissioning of mine entries, ventilation fans, ventilation shafts, borehole facilities and associated surface facilities, where no longer required.	
6.17.1	<p>Annual Environmental Management Report</p> <p>WWC will prepare an Annual Review, in accordance with project approval requirements.</p>	Section 6.3.2
6.17.2	<p>Independent Environmental Audit</p> <p>WWC will commission and pay the full cost of an Independent Environmental Audit of the Project in accordance with the project approval.</p>	Section 6.2

Appendix B - EMS Consultation



Planning Services
Resource Assessments
Contact: May Patterson
Phone: 8275 1190
Email: may.patterson@planning.nsw.gov.au

Ben Clibborn
Environment and Community Manager
Macquarie Coal
PO Box 4186
EDGEWORTH NSW 2285

Ben
Dear Mr Clibborn

West Wallsend Colliery Continued Operations Project (PA 09_0203) Management Plan Updates

I refer to your letter dated 29 March 2018 and email dated 1 May 2018 requesting the Department's endorsement of Macquarie Coal's approach to update and consolidate several management plans required under the above approval to better reflect the mine closure stage.

The Department is satisfied with the proposed approach to:

- consolidate the remaining and relevant requirements of the Extraction Plans with the Rehabilitation Management Plan;
- consolidate the Noise, Air Quality and Greenhouse Gas, Surface Water and Waste Management Plans with the Environmental Management Strategy; and
- continue preparation of a stand-alone Aboriginal Cultural Heritage Management Plan.

The Department also approves the staging of these plans under condition 14 of Schedule 2 of the project approval in order to reflect solely the mine closure stage.

Should you have any enquiries in relation to this matter, please contact May Patterson on the details above.

Yours sincerely,

Howard Reed
Howard Reed *9.5.18*
Director Resource Assessments
as nominee of the Secretary

Department of Planning & Environment
320 Pitt Street, Sydney NSW 2000 | GPO Box 39 Sydney NSW 2001 | T 1300 305 695 | www.planning.nsw.gov.au

MACQUARIE COAL

GLENCORE

29th March 2018

Tertius Greyling
Senior Environmental Assessment Officer
NSW Department of Planning & Environment
GPO Box 39
Sydney NSW 2001

Dear Tertius,

RE: PA 09_0203 Management Plan update/rationalisation

As discussed with myself during March 2018 West Wallsend has completed mining in May 2016. From the cessation of mining, the site operates day work only Monday the Friday undertaking various mine closure works. Mine Closure works to date have included sealing of the underground working (completed in 2016), ongoing subsidence monitoring, subsidence remediation and building demolition. We have kept the local community informed by face-to-face meetings for specific stakeholders and regular newsletters for the broader community. The Community Consultative Committee continue to operate and meet on a regular basis. The mine closure works are expected to take several years to complete and receive regulatory sign off.

Macquarie coal plan to update the various management plans required under the consent. The table below shows how this could be achieved considering mining has ceased almost 2 years ago.

Current Management Plan	Relevant condition	Proposed Management Plan	Comment/Rationale
Extraction Plans	Schedule 3, Condition 5	Incorporate any relevant requirement into rehabilitation management plan	Extraction plan primarily focused on mining process. As mining is now complete focus shift to rehabilitation and regulatory signoff.
Noise Management Plan	Schedule 4, Condition 8	Incorporated into Environmental Management Strategy (EMS)	Site no longer operates at night or over weekends. Noise emissions from the site are now minimal.
Air Quality and Greenhouse Gas Management Plan	Schedule 4, Condition 13	Incorporated into EMS	Minimal site activities excluding coal processing.
Surface Water Management Plan	Schedule 4, Condition 17	Incorporated into EMS	Mining has ceased and dewatering of Underground Workings has ceased.
Aboriginal Cultural	Schedule 4, Condition 20	Aboriginal Cultural Heritage Management Plan	No change, return of artefacts being progressed.

PO Box 4186, Edgeworth, NSW 2285
The Broadway, Killingworth, NSW 2278
T + 61 2 4941 2100 F + 61 2 4955 2314 www.glencore.com

Oceanic Coal Australia Pty Ltd ABN 39 003 856 782
Manager and Agent of the Macquarie Coal Joint Venture

GLENCORE

Heritage Management Plan			
Waste Management Plan	Schedule 4, Condition 25	Incorporated into EMS	Minor waste management being taken place
Rehabilitation Management Plan	Schedule 4, Condition 29	Rehabilitation Management Plan	Nil changes, primary operational plan during mine closure works
Environmental Management Strategy	Schedule 6, Condition 1	Environmental Management Strategy	General update and incorporate requirements from relevant other plans and DA commitments

Could you confirm if the department is comfortable with this approach? Each updated plan will demonstrate how the conditions of consent are included.

Should you require any further information or have any questions regarding this matter, please don't hesitate to contact me on 4941 2163.

Yours sincerely



Ben Clibborn
Environment and Community Manager
Oceanic Coal Australia Pty Limited



Planning Services
Resource Assessments
Contact: May Patterson
Phone: 8275 1180
Email: may.patterson@planning.nsw.gov.au

Ben Clibborn
Environment and Community Manager
Oceanic Coal Australia Pty Limited
PO Box 4186
EDGEWORTH NSW 2285


Dear Mr Clibborn

**West Wallsend Colliery (PA 09_0203)
Review of West Wallsend Colliery Environmental Management Strategy**

The Department has reviewed the West Wallsend Colliery Environmental Management Strategy for the West Wallsend Colliery, which has been prepared in accordance with condition 1 of Schedule 6 of the West Wallsend project approval (PA 09_0203). The Department notes that the site has completed mining and is finalising consent requirements towards mine closure and that several plans and strategies have been amalgamated into the EMS.

The Department considers that the EMS has not adequately addressed the relevant requirements of the consent. These requirements are reflected in condition 1, Schedule 6 and the following additional conditions of consent:

- *Condition 5, Schedule 3 - Extraction Plan;*
- *Condition 8, Schedule 4 - Noise Management Plan;*
- *Condition 13, Schedule 4 - Air Quality and Greenhouse Gas Management Plan;*
- *Condition 17, Schedule 4 - Surface Water Management Plan; and*
- *Condition 25, Schedule 4 - Waste Management Plan.*

The Department's comments on this document are set out in **Attachment A**.

The Department requests that this document is re-submitted by **18 January 2019**.

Should you have any enquiries in relation to this matter, please contact May Patterson on the details above.

Yours sincerely,



Howard Reed *19.12.18*
Director Resource Assessments
as nominee of the Secretary

Department of Planning & Environment
320 Pitt Street, Sydney NSW 2000 | GPO Box 39 Sydney NSW 2001 | T 1300 305 695 | www.planning.nsw.gov.au

Attachment A
West Wallsend Underground Coal Mine Project – Post Approval
Environmental Management Strategy

West Wallsend Colliery – PA 09_0203 – Condition 1, Schedule 6	Satisfactory (Yes/No/Partial)	Comment	Action Required
<p>Environmental Management Strategy</p> <p>The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Secretary. This strategy must:</p> <p>a) be submitted to the Secretary for approval within 6 months of this approval;</p> <p>b) provide the strategic framework for environmental management of the project;</p>	Partial	<ul style="list-style-type: none"> This document 	NA
<p>a) be submitted to the Secretary for approval within 6 months of this approval;</p> <p>b) provide the strategic framework for environmental management of the project;</p>	Yes	<ul style="list-style-type: none"> Revised management plans were submitted in December 2014 and in October 2015. 	NA
<p>c) identify the statutory approvals that apply to the project;</p>	Yes	<ul style="list-style-type: none"> Section 2 outlines the applicant (Glencore) statement of values and the company's commitment to meeting one of the Minerals Council Code for Sustainable Development, being 'Enduring Value'. Glencore's commitment to Enduring Value has the following obligations: <ul style="list-style-type: none"> Progressive implementation of the International Council on Mining and Metals (ICMM) Principles and Elements; Public reporting of site level performance, in accordance with the Global Reporting Initiative (GRI), which is undertaken via reporting to the Glencore Corporate Practice (GCP) Database; and Assessment of the systems used to manage key operation risks. 	NA
<p>d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;</p>	Partial	<ul style="list-style-type: none"> Section 3.1 makes reference to a 'Glencore Legislation Register'. This has not been included for reference. 	Provide include the relevant licences /leases/ approval numbers from other regulatory bodies, where applicable (e.g. EPL number etc)
<p>e) describe the procedures that would be implemented to: <ul style="list-style-type: none"> keep the local community and relevant agencies informed about </p>	Yes	<ul style="list-style-type: none"> Section 4.1 'Roles and Accountabilities' Table 3-1 provides a table incorporating the roles and responsibilities of the environment and community manager or delegate and all employees and contractors and their respective environment and community accountabilities. 	NA
<p>e) describe the procedures that would be implemented to: <ul style="list-style-type: none"> keep the local community and relevant agencies informed about </p>	Partial	<ul style="list-style-type: none"> Section 4.3 'Communication and Engagement' outlines some of the key mechanisms used to communicate with external stakeholders and to keep the local community and regulatory agencies informed of the operation. These include the West Wallsend website, Macquarie Coal Annual Review, Community 	EMS must provide a link to the Social Involvement Plan, or include a copy as an appendix or detail

Attachment A
West Wallsend Underground Coal Mine Project – Post Approval
Environmental Management Strategy

<p>the operation and environmental performance of the project;</p> <ul style="list-style-type: none"> 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; 		<p>Newsletters, face to face meetings, CCC meetings and community newsletters.</p> <ul style="list-style-type: none"> EMS refers to a 'Social Involvement Plan' which could not be found on Glencore's website and is not an addendum to the EMS. Section 6.4 'Community Complaints' outlines that complaints relating to the environmental management of West Wallsend Underground are to be managed in accordance with the <i>Macquarie Coal Community Complaint and Environmental Incident Management Procedure</i>. A copy of the complaints register is available on the project's website. Section 6.5 'Environmental Incidents' outlines that the <i>Macquarie Coal Community Complaint and Environmental Incident Management Procedure</i> is used by WWU to manage hazards and incidents, facilitate reporting of environmental incidents; and identify factors that contributed to incidents. Section 6.6 'Non-Compliance and Corrective Actions' outlines the procedures will be undertaken in accordance with the <i>Community Complaint and Environmental Incident Management</i>. Section 4.5 'Emergency Preparedness and Response' refers to the <i>Pollution Incident Response Management Plan (PIRMP)</i> to respond to environmental emergencies. Section 6.3 of the PIRMP, 'Notification to Local Landholders and Community' appears to be incomplete. Section 5 'Operational Controls' refers to a series of management plans and monitoring programs prepared in accordance with PA 09_0203 to facilitate the management of specific environmental impacts of the operation. The management plans and programs can be accessed on the project's website. 	<p>relevant information from the strategy.</p> <p>NA</p> <p>NA</p> <p>Please provide a link to the Community Complaint and Environmental Incident Management or include as an appendix.</p> <p>Please update and complete Section 6.3 of the PIRMP.</p> <p>Please provide clear information and commitments regarding the notification of affected residents in relation to an emergency.</p> <p>NA</p>
<p>f) be integrated with strategies, plans and programs approved under the conditions of this approval, and</p>	<p>Yes</p>		

Attachment A
West Wallsend Underground Coal Mine Project – Post Approval
Environmental Management Strategy

	Yes	NA	Action Required
	Satisfactory (Yes/No/Partial)	Comment	Action Required
g) include a clear plan depicting all the monitoring required out under the conditions of this approval.		<ul style="list-style-type: none"> Appendix C outlines the environmental monitoring locations. 	NA
West Wallsend Colliery – PA 09_0203 – Condition 5, Schedule 3			
Extraction Plan			
The Proponent shall prepare and implement an Extraction Plan for second workings on site to the satisfaction of the Secretary. Each extraction plan must:		<ul style="list-style-type: none"> Remaining and relevant requirements of the existing extraction plans have been incorporated into the WWU Closure Subsidence Management Plan. Section 5.1 refers to the 'Closure Subsidence Management Plan' (CSMP). EMS does not contain copies of strategies, plans and programs approved under the conditions of consent. Table 8-1, <i>Related Documents</i> refers to a list of internal documents. However, it is noted that the Closure Subsidence Management Plan does not have an identification number and is unclear whether the document is still being prepared by the company. The CSMP has been prepared to consolidate any remaining and relevant requirements of the existing Extractions Plans. 	Please provide a link to the Closure Subsidence Management Plan or include as an appendix.
a) be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Secretary.	NA		
b) Proponent carries out any of the second workings covered by the plan.	NA		
c) include detailed plans of existing and proposed first and second workings and any associated surface development.	NA		
d) Include detailed performance indicators for each of the performance measures in Tables 1 and 2.	NA		
e) provide revised predictions of the potential subsidence effects, subsidence impacts and environmental consequences of the proposed second workings, incorporating any relevant information obtained since this approval.	Partial		
f) describe the measures that would be implemented to ensure compliance with the performance measures in Tables 1 and 2, and manage or remediate any impacts and/or environmental consequences;	NA		
g) include a Built Features Management Plan, which has been prepared in consultation with DPE and the owners of affected public infrastructure, to manage the potential subsidence impacts and/or environmental consequences of the proposed second workings, and which:	NA		

Attachment A
West Wallsend Underground Coal Mine Project – Post Approval
Environmental Management Strategy

<ul style="list-style-type: none"> • addresses in appropriate detail all items of key public infrastructure and other public infrastructure and all classes of other built features; • has been prepared following appropriate consultation with the owner/s of potentially affected feature/s; • recommends appropriate remedial measures and includes commitments to mitigate, repair, replace or compensate all predicted impacts on potentially affected built features in a timely manner; and • in the case of all key public infrastructure, and other public infrastructure except roads, trails and associated structures, reports external auditing for compliance with ISO 31000 (or alternative standard agreed with the infrastructure owner) and provides for annual auditing of compliance and effectiveness during extraction of longwalls which may impact the infrastructure; • include a revised and updated F3 Freeway Management Plan; 		
<p>h) Include a Water Management Plan, which has been prepared in consultation with EPA and NOW, which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings on watercourses and aquifers, including:</p> <ul style="list-style-type: none"> • surface and groundwater impact assessment criteria, including trigger levels of investigating any potentially adverse impacts on water resources or water quality; • a program to monitor and report stream flows, assess any changes resulting from subsidence impacts and remediate and improve stream stability; • a program to monitor and report groundwater inflows to underground workings; 		

NA

Attachment A
West Wallsend Underground Coal Mine Project – Post Approval
Environmental Management Strategy

<ul style="list-style-type: none"> a program to predict, manage and monitor impacts on groundwater bores on privately-owned land; and 			
<ul style="list-style-type: none"> i) include a Biodiversity Management Plan, which has been prepared in consultation with OEH, which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings on aquatic and terrestrial flora and fauna, with a specific focus on threatened species (particularly the black-eyes susan (<i>Tetralochea juncea</i>) and small flower Grevillea (<i>Grevillea parviflora</i> subsp <i>parviflora</i>), populations and their habitats; endangered ecological communities; and water dependent ecosystems; 	NA		
<ul style="list-style-type: none"> j) include a Land Management Plan, which has been prepared in consultation with any affected public authorities, to manage the potential impacts and/or environmental consequences of the proposed second workings on land in general, with a specific focus on cliffs, minor cliffs, cliff terraces, rock face features and steep slopes; 	NA		
<ul style="list-style-type: none"> k) include a Heritage Management Plan, which has been prepared in consultation with OEH and relevant stakeholders for both Aboriginal and historic heritage, to manage the potential environmental consequences of the proposed second workings on both Aboriginal and non-Aboriginal heritage items, and includes all requirements under conditions 18-20 of Schedule 4; 	NA		
<ul style="list-style-type: none"> l) include a Public Safety Management Plan, which has been prepared in consultation with DRE, to ensure public safety in the mining area; 	No		
<ul style="list-style-type: none"> m) include a subsidence monitoring program, which has been prepared in consultation with DRE and OEH, to: <ul style="list-style-type: none"> provide data to assist with the management of the risks associated with subsidence; 	Partial		

Attachment A
West Wallsend Underground Coal Mine Project – Post Approval
Environmental Management Strategy

<ul style="list-style-type: none"> validate the subsidence predictions; analyse the relationship between the predicted and resulting subsidence effects and predicted and resulting impacts under the plan and any ensuing environmental consequences; and inform the contingency plan and adaptive management process; 			
<p>n) Include a contingency plan that expressly provides for adaptive management where monitoring indicates that there has been an exceedance of any performance measures in Tables 1 and 2, or where any such exceedance appears likely;</p>	No		
<p>o) Propose appropriate revisions to the Rehabilitation Management Plan required under condition 29 of Schedule 4; and</p>	No		
<p>p) include a program to collect sufficient baseline data for future Extraction Plans.</p>	NA		
<p>West Wallsend Colliery – PA 09_0203 – Condition 6, Schedule 3</p> <p>The Proponent shall ensure that the management plans required under conditions 5(g)-(l) above include:</p> <p>a) an assessment of the potential environmental consequences of the Extraction Plan, incorporating any relevant information that has been obtained since this approval; and</p> <p>b) a detailed description of the measures that would be implemented to remediate predicted impacts.</p>	<p>Satisfactory (Yes/No/Partial)</p> <p>No</p>	<p>Comment</p> <ul style="list-style-type: none"> The company has extracted coal in accordance with the approved Extraction Plans. The CSMP has been prepared to consolidate any remaining and relevant requirements of the existing Extractions Plans. 	<p>Action Required</p> <p>Please provide a link to the Closure Subsidence Management Plan or include as an appendix.</p>
<p>West Wallsend Colliery – PA 09_0203 – Condition 8, Schedule 4</p>	<p>Satisfactory (Yes/No/Partial)</p> <p>No</p>	<p>Comment</p> <ul style="list-style-type: none"> Section 5.2 'Noise' states that: "the significant operational noise sources at the pit top have been decommissioned and removed from site as part of the mine closure process". Specifically, sources of noise during the closure phase include demolition and rehabilitation activities. It is noted that as mining has ceased since 2016; "only daytime attended monitoring will be undertaken during the closure 	<p>Action Required</p> <p>Please liaise with EPA and Council on the proposed monitoring and mitigation procedures and measures for the decommissioning of the WWU site.</p>
<p>Noise Management Plan</p> <p>The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Secretary. This plan must:</p> <p>a) be prepared in consultation with EPA and Council, and submitted to the Secretary for approval within 6 months of this approval.</p>			

Attachment A
West Wallsend Underground Coal Mine Project – Post Approval
Environmental Management Strategy

	Partial	Partial	Phase. Noise monitoring during the night period will only be undertaken when operations or activities are occurring during the night period".	
b) describe the noise mitigation measures that would be implemented to ensure compliance with the relevant conditions of this approval;	Partial	Partial	<ul style="list-style-type: none"> Unsure if EPA and Council have been consulted on the proposed monitoring and mitigation procedures and measures for the decommissioning of the WWU site. 	Action Required
c) include a protocol for continual improvement of noise performance; and	Partial	Satisfactory (Yes/No/Partial)	<p>West Wallsend Colliery – PA 09_0203 – Condition 13, Schedule 4</p> <p>Air Quality and Greenhouse Gas Management Plan</p> <p>The Proponent shall prepare and implement a detailed Air Quality & Greenhouse Gas Management Plan for the project to the satisfaction of the Secretary. This plan must:</p> <p>a) be prepared in consultation with EPA, and submitted to the Secretary for approval within 6 months of this approval;</p> <p>b) describe the measures that would be implemented to ensure compliance with the relevant conditions of this approval;</p> <p>c) describe the measures that would be implemented to minimise the greenhouse gas emissions from the site; and</p> <p>d) include an air quality monitoring program to evaluate the performance of the project and includes a protocol for determining exceedances with the relevant conditions of this approval.</p>	Comment
d) include a noise monitoring program that: <ul style="list-style-type: none"> uses a combination of attended and unattended monitoring to evaluate the performance of the project; and includes a protocol for determining exceedances of the relevant conditions of this approval. 	Partial	Partial	<ul style="list-style-type: none"> The aspects of the Air Quality and Greenhouse Gas Management Plan relevant to the closure phase has been incorporated into Sections 5.3 'Air Quality' and 5.4 'Greenhouse Gas'. No details of whether EPA has been consulted in the preparation and proposed mitigation measures as outlined in Sections 5.3 and 5.4. Section 5.3.2 Air Quality Management Measures outlines the measures currently employed at WWU. Section 5.4.2 Greenhouse Gas Management Measures outlines the measures to be employed at WWU. Section 5.3.3 Monitoring, Table 5-6 – Air Quality Monitoring Frequency outlines the frequency of air quality monitoring. It is noted that 'monitoring is undertaken in accordance with EPL 1360 and PA 09_0203 conditions, which specify required methods of sampling, analysis and frequency of monitoring'. 	<p>Confirm if EPA has been consulted on the management measures set out in Section 5.3 and 5.4.</p> <p>NA</p> <p>Clarify if measures have been or currently being undertaken on site.</p> <p>NA</p>

Attachment A
West Wallsend Underground Coal Mine Project – Post Approval
Environmental Management Strategy

West Wallsend Colliery – PA 09_0203 – Condition 17, Schedule 4	Satisfactory (Yes/No/Partial)	Comment	Action Required
<p>Surface Water Management Plan The Proponent shall prepare and implement a Surface Water Management Plan for the project to the satisfaction of the Secretary. This plan must be prepared in consultation with NOW and EPA by suitably qualified and experienced persons whose appointment has been endorsed by the Secretary, and submitted to the Secretary for approval within 6 months of this approval. This plan must include:</p> <ul style="list-style-type: none"> a) a comprehensive water balance for the report, that includes details of: <ul style="list-style-type: none"> • sources and security of water supply; • water use on site; • water management on site; • off-site water transfers; and b) management plans for the surface facilities site, that include: <ul style="list-style-type: none"> • a detailed description of water management systems for each site, including: <ul style="list-style-type: none"> - clean water diversion systems; - erosion and sediment controls; and - any water storages. • measures to minimise potable water use and to reuse and recycle water; • measures to comply with surface water discharge limits; • measures to manage sewage wastewater in accordance with Council requirements; and • monitoring and reporting procedures. 	Partial	<ul style="list-style-type: none"> • Section 5.5 Surface Water outlines the WWU water management system for closure including dirty water/sediment-laden water, contact water, clean water and contaminated water. • No details of whether EPA has been consulted in the preparation and proposed mitigation measures as outlined in Sections 5.3 and 5.4. • Section 5.3.3 outlines the site water balance. • Copy of the comprehensive water balance report to include details as required under sub-section 17(a) is required. 	<p>Confirm if EPA has been consulted on the management measures of surface water for the closure of WWU.</p> <p>Copy of the comprehensive water balance report as per the requirement of condition 17(a) and (b). Schedule 4 is to be submitted.</p>
<ul style="list-style-type: none"> • measures to minimise potable water use and to reuse and recycle water; • measures to comply with surface water discharge limits; • measures to manage sewage wastewater in accordance with Council requirements; and • monitoring and reporting procedures. 	No	<ul style="list-style-type: none"> • Copy of the comprehensive water balance report to include details as required under sub-section 17(b) is required. • It is noted that surface water discharge limits from the site operates under EPL 1360. • Uncertain if measures are in place to manage sewage wastewater in accordance with Council requirements. • Section 5.5. Monitoring outlines the monitoring and reporting procedures. 	<p>Copy of the comprehensive water balance report as per the requirement of condition 17(a) and (b). Schedule 4 is to be submitted.</p> <p>Provide evidence that management of sewage wastewater has been undertaken as per Council's requirements.</p>
<p>West Wallsend Colliery – PA 09_0203 – Condition 20, Schedule 4 Aboriginal Cultural Heritage Management Plan Prior to carrying out any development on site that could impact the heritage items identified in Table 4 of Appendix 4, the Proponent shall undertake the management and mitigation measures identified in section 8.4 of the EA Technical Paper (Appendix 12</p>	Satisfactory (Yes/No/Partial)	<p>Comment</p> <ul style="list-style-type: none"> • Section 5.7.1 Aboriginal Heritage outlines that an 'Aboriginal Cultural Heritage Management Plan (ACHMP) has been developed for Macquarie Coal in accordance with Condition 5(k) of Schedule 3 of PA 09_0203 and in consultation with registered Aboriginal Stakeholders'. 	<p>Action Required</p> <p>Please provide a copy of the Aboriginal Cultural Heritage Management Plan or attach as an appendix to the EMS.</p>

Attachment A
West Wallsend Underground Coal Mine Project – Post Approval
Environmental Management Strategy

<p>Part 1) in consultation with the relevant Aboriginal stakeholders, and in accordance with methodologies approved by the Secretary.</p>			<p>Please ensure the Plan has been updated to address post-mining measures.</p>
<p>West Wallsend Colliery – PA 09_0203 – Condition 25, Schedule 4</p> <p>Waste The Proponent shall:</p> <ul style="list-style-type: none"> a) minimise and monitor the waste generated by the project; b) ensure that the waste generated by the project is appropriately stored, handled, and disposed of; c) manage on-site sewage treatment and disposal in accordance with the requirements of Council; and d) report on waste management and minimisation in the Annual Review, to the satisfaction of the Secretary. 	<p>Satisfactory (Yes/No/Partial)</p> <p>Partial</p>	<p>Comment</p> <ul style="list-style-type: none"> • Table 1-2 Consolidation of Management Plans for Closure specifies that the status of the Plan has been updated in 2016. It is unclear whether post mining measures have been incorporated in the updated Plan.o 	<p>Action Required</p> <p>Please amend and update Table 1-2 with the correct reference section of the EMS.</p> <p>Confirmation of whether on-site sewage treatment and disposal has been undertaken in accordance with Council's requirements.</p>
<p>West Wallsend Colliery – PA 09_0203 – Condition 29, Schedule 4</p> <p>Rehabilitation Management Plan The Proponent shall prepare and implement a Rehabilitation Management Plan for the project, to the satisfaction of the Executive Director Mineral Resources. This plan must:</p> <ul style="list-style-type: none"> a) be prepared in consultation with the Department, OEH, NOW, Council and the CCC, and be submitted to the Executive Director Mineral Resources in DRE for approval within 6 months of this approval, or as otherwise agreed with the Secretary; b) be prepared in accordance with any relevant DRE guideline, and be consistent with the rehabilitation objectives in the EA and in Table 10; c) build, to the maximum extent practicable, on the other management plans required under this approval; and 	<p>Satisfactory (Yes/No/Partial)</p> <p>Partial</p>	<p>Comment</p> <ul style="list-style-type: none"> • Table 1-2 Consolidation of Management Plans for Closure specifies that the status of the Rehabilitation Management Plan has been met by the 'Closure Mining Operations Plan (MOP) (SLR 2016) and has recently been amended in 2018 with Approval granted by the NSW Resources Regulator'. • Section 3.3 Mine Closure Planning outlines a summary of the Plan and closure activities. 	<p>Action Required</p> <p>Please provide a copy of the Closure Mining Operations Plan (MOP) or attach as an appendix to the EMS.</p> <p>Please provide evidence that the MOP has been approved by the Resources Regulator.</p>

Attachment A
West Wallsend Underground Coal Mine Project – Post Approval
Environmental Management Strategy

<p>d) address all aspects of rehabilitation and mine closure, including final land use assessment, rehabilitation objectives, domain objectives, completion criteria and rehabilitation monitoring.</p> <p>General comments:</p> <ul style="list-style-type: none"> The EMS version, author and status shall be updated to incorporate all changes to the EMS. 		
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Good morning Ben and Allison.

Many thanks for sending through the updated West Wallsend EMS.

A review of the document found some minor updates required. Please also note that the table provided was titled 'Westside Environmental Management Plan' as opposed to West Wallsend Environmental Management Strategy. The waste requirement was also omitted from the table. If you can also provide me with a copy of the Aboriginal Cultural Management Plan for the Department's approval, that will be much appreciated.

Please find attached review comments for your consideration and action.

Kind regards,

May Patterson

Team Leader

Resource Assessments

320 Pitt Street | GPO BOX | Sydney NSW 2001

T 02 8275 1190

E: may.patterson@planning.nsw.gov.au



**Attachment A
West Wallsend Underground Coal Mine Project – Post Approval
Environmental Management Strategy**

<i>West Wallsend Colliery – PA 09_0203 – Condition 1, Schedule 6</i>	Satisfactory (Yes/No/Partial)	Comment	Action Required	Where Addressed	Satisfactory	Action Required
Environmental Management Strategy The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Secretary. This strategy must:	Partial	<ul style="list-style-type: none"> This document 	NA			
a) be submitted to the Secretary for approval within 6 months of this approval;	Yes	<ul style="list-style-type: none"> Revised management plans were submitted in December 2014 and in October 2015. 	NA	This document	Yes	NA
b) provide the strategic framework for environmental management of the project;	Yes	<ul style="list-style-type: none"> Section 2 outlines the applicant (Glencore) statement of values and the company's commitment to meeting one of the Minerals Council Code for Sustainable Development, being 'Enduring Value'. Glencore's commitment to Enduring Value has the following obligations: <ul style="list-style-type: none"> Progressive implementation of the International Council on Mining and Metals (ICMM) Principles and Elements; Public reporting of site level performance, in accordance with the Global Reporting Initiative (GRI), which is undertaken via reporting to the Glencore Corporate Practice (GCP) Database; and Assessment of the systems used to manage key operation risks. 	NA	NA	NA	NA
c) identify the statutory approvals that apply to the project;	Partial	<ul style="list-style-type: none"> Section 3.1 makes reference to a 'Glencore Legislation Register'. 	Provide include the relevant licences	<i>Table 1-0 added to incorporate the</i>	Yes	NA

**Attachment A
West Wallsend Underground Coal Mine Project – Post Approval
Environmental Management Strategy**

		This has not been included for reference.	/leases/ approval numbers from other regulatory bodies, where applicable (e.g. EPL number etc)	<i>approvals, licences, leases etc.</i>		
d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;	Yes	<ul style="list-style-type: none"> Section 4.1 'Roles and Accountabilities' Table 3-1 provides a table incorporating the roles and responsibilities of the environment and community manager or delegate and all employees and contractors and their respective environment and community accountabilities. 	NA	NA	NA	NA
e) describe the procedures that would be implemented to: <ul style="list-style-type: none"> keep the local community and relevant agencies informed about the operation and environmental performance of the project; 	Partial	<ul style="list-style-type: none"> Section 4.3 'Communication and Engagement' outlines some of the key mechanisms used to communicate with external stakeholders and to keep the local community and regulatory agencies informed of the operation. These include the West Wallsend website, Macquarie Coal Annual Review, Community Newsletters, face to face meetings, CCC meetings and community newsletters. EMS refers to a 'Social Involvement Plan' which could not be found on Glencore's website and is not an addendum to the EMS. 	EMS must provide a link to the Social Involvement Plan, or include a copy as an appendix or detail relevant information from the strategy.	<i>'The Macquarie Coal Social Involvement has been published on the West Wallsend website. Section 4.3 updated to state that a copy of the Plan is on the website.'</i>	Yes	NA
<ul style="list-style-type: none"> receive, handle, respond to, and record complaints; 	Yes	<ul style="list-style-type: none"> Section 6.4 'Community Complaints' outlines that complaints relating to the environmental management of West Wallsend Underground are to be managed in accordance with 	NA	NA	NA	NA

**Attachment A
West Wallsend Underground Coal Mine Project – Post Approval
Environmental Management Strategy**

		<i>the Macquarie Coal Community Complaint and Environmental Incident Management Procedure. A copy of the complaints register is available on the project's website.</i>				
<ul style="list-style-type: none"> resolve any disputes that may arise during the course of the project; 	Yes	<ul style="list-style-type: none"> Section 6.5 'Environmental Incidents' outlines that the <i>Macquarie Coal Community Complaint and Environmental Incident Management Procedure</i> is used by WWU to manage hazards and incidents, facilitate reporting of environmental incidents; and identify factors that contributed to incidents. 	NA	NA	NA	NA
<ul style="list-style-type: none"> respond to any non-compliance; 	Partial	<ul style="list-style-type: none"> Section 6.6 'Non-Compliance and Corrective Actions' outlines the procedures will be undertaken in accordance with the <i>Community Complaint and Environmental Incident Management</i>. 	Please provide a link to the Community Complaint and Environmental Incident Management or include as an appendix.	<i>The Community Complaints and Environmental Incident Management Procedure has been published on the West Wallsend website. Section 6.6 updated to state that a copy of the procedure is on the website.</i>	Partial	Section 6.6 has not been updated. Please update Section 6.6 as per commitment.
<ul style="list-style-type: none"> respond to emergencies; 	No	<ul style="list-style-type: none"> Section 4.5 'Emergency Preparedness and Response' refers to the <i>Pollution Incident Response Management Plan (PIRMP)</i> to respond to environmental emergencies. Section 6.3 of the PIRMP, 'Notification to Local Landholders and Community' appears to be incomplete. 	Please update and complete Section 6.3 of the PIRMP. Please provide clear information and commitments regarding the notification of affected residents in	<i>Section 4.5 updated to include a link to the PIRMP on the West Wallsend website and advises where the list of resident's details are recorded that may be affected by pollution events. Contact with these residents will be at the discretion of the Environment and Community Manager.</i>	Yes	NA

**Attachment A
West Wallsend Underground Coal Mine Project – Post Approval
Environmental Management Strategy**

			relation to an emergency.			
f) be integrated with strategies, plans and programs approved under the conditions of this approval; and	Yes	<ul style="list-style-type: none"> Section 5 'Operational Controls' refers to a series of management plans and monitoring programs prepared in accordance with PA 09_0203 to facilitate the management of specific environmental impacts of the operation. The management plans and programs can be accessed on the project's website. 	NA	NA	NA	NA
g) include a clear plan depicting all the monitoring required out under the conditions of this approval.	Yes	<ul style="list-style-type: none"> Appendix C outlines the environmental monitoring locations. 	NA	NA	NA	NA
West Wallsend Colliery – PA 09_0203 – Condition 5, Schedule 3	Satisfactory (Yes/No/Partial)	Comment	Action Required	Where Addressed	Satisfactory	Action Required
Extraction Plan		<ul style="list-style-type: none"> Remaining and relevant requirements of the existing extraction plans have been incorporated into the WWU Closure Subsidence Management Plan. Section 5.1 refers to the 'Closure Subsidence Management Plan' (CSMP). EMS does not contain copies of strategies, plans and programs approved under the conditions of consent. Table 8-1, <i>Related Documents</i> refers to a list of internal documents. However, it is noted that the Closure Subsidence Management Plan does not have an identification number and is unclear whether the document is still being prepared by the company. 	Please provide a link to the Closure Subsidence Management Plan or include as an appendix.	<i>'The remaining requirements of the extraction plans are covered in the Detailed Mine Closure Mining Operations Plan (MOP) which is published on the West Wallsend website'.</i>	NA	NA
The Proponent shall prepare and implement an Extraction Plan for second workings on site to the satisfaction of the Secretary. Each extraction plan must:						
a) be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Secretary;	NA					
b) be approved by the Secretary before the Proponent carries out any of the second workings covered by the plan;	NA					
c) include detailed plans of existing and proposed first and second workings and any associated surface development;	NA					

**Attachment A
West Wallsend Underground Coal Mine Project – Post Approval
Environmental Management Strategy**

d) Include detailed performance indicators for each of the performance measures in Tables 1 and 2.	NA	<ul style="list-style-type: none"> The CSMP has been prepared to consolidate any remaining and relevant requirements of the existing Extractions Plans. 				
e) provide revised predictions of the potential subsidence effects, subsidence impacts and environmental consequences of the proposed second workings, incorporating any relevant information obtained since this approval;	Partial					
f) describe the measures that would be implemented to ensure compliance with the performance measures in Tables 1 and 2, and manage or remediate any impacts and/or environmental consequences;	NA					
g) include a Built Features Management Plan, which has been prepared in consultation with DPE and the owners of affected public infrastructure, to manage the potential subsidence impacts and/or environmental consequences of the proposed second workings, and which: <ul style="list-style-type: none"> addresses in appropriate detail all items of key public infrastructure and other public infrastructure 	NA					

**Attachment A
West Wallsend Underground Coal Mine Project – Post Approval
Environmental Management Strategy**

<p>and all classes of other built features;</p> <ul style="list-style-type: none"> • has been prepared following appropriate consultation with the owner/s of potentially affected feature/s; • recommends appropriate remedial measures and includes commitments to mitigate, repair, replace or compensate all predicted impacts on potentially affected built features in a timely manner; and • in the case of all key public infrastructure, and other public infrastructure except roads, trails and associated structures, reports external auditing for compliance with ISO 31000 (or alternative standard agreed with the infrastructure owner) and provides for annual auditing of compliance and effectiveness during extraction of longwalls which may impact the infrastructure; • include a revised and updated F3 Freeway Management Plan; 						
<p>h) Include a Water Management Plan, which has been prepared in consultation with EPA and NOW, which provides for the management of the potential impacts and/or environmental</p>	<p align="center">NA</p>					

**Attachment A
West Wallsend Underground Coal Mine Project – Post Approval
Environmental Management Strategy**

<p>consequences of the proposed second workings on watercourses and aquifers, including:</p> <ul style="list-style-type: none"> • surface and groundwater impact assessment criteria, including trigger levels of investigating any potentially adverse impacts on water resources or water quality; • a program to monitor and report stream flows, assess any changes resulting from subsidence impacts and remediate and improve stream stability; • a program to monitor and report groundwater inflows to underground workings; • a program to predict, manage and monitor impacts on groundwater bores on privately-owned land; and 							
<p>i) include a Biodiversity Management Plan, which has been prepared in consultation with OEH, which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings on aquatic and terrestrial flora and fauna, with a specific focus on threatened species (particularly the black-eyes susan (<i>Tetradthea</i></p>	<p align="center">NA</p>						

**Attachment A
West Wallsend Underground Coal Mine Project – Post Approval
Environmental Management Strategy**

<p><i>juncea</i>) and small flower Grevillea (<i>Grevillea parviflora</i> subsp <i>parviflora</i>), populations and their habitats; endangered ecological communities; and water dependent ecosystems;</p>						
<p>j) include a Land Management Plan, which has been prepared in consultation with any affected public authorities, to manage the potential impacts and/or environmental consequences of the proposed second workings on land in general, with a specific focus on cliffs, minor cliffs, cliff terraces, rock face features and steep slopes;</p>	<p align="center">NA</p>					
<p>k) Include a Heritage Management Plan, which has been prepared in consultation with OEH and relevant stakeholders for both Aboriginal and historic heritage, to manage the potential environmental consequences of the proposed second workings on both Aboriginal and non- Aboriginal heritage items, and includes all requirements under conditions 18-20 of Schedule 4;</p>	<p align="center">NA</p>					
<p>l) include a Public Safety Management Plan, which</p>	<p align="center">No</p>					

**Attachment A
West Wallsend Underground Coal Mine Project – Post Approval
Environmental Management Strategy**

	has been prepared in consultation with DRE, to ensure public safety in the mining area;					
m)	<p>Include a subsidence monitoring program, which has been prepared in consultation with DRE and OEH, to:</p> <ul style="list-style-type: none"> • provide data to assist with the management of the risks associated with subsidence; • validate the subsidence predictions; • analyse the relationship between the predicted and resulting subsidence effects and predicted and resulting impacts under the plan and any ensuing environmental consequences; and • inform the contingency plan and adaptive management process; 	Partial				
n)	<p>Include a contingency plan that expressly provides for adaptive management where monitoring indicates that there has been an exceedance of any performance measures in Tables 1 and 2, or where any such exceedance appears likely;</p>	No				
o)	<p>Propose appropriate revisions to the Rehabilitation Management Plan required under condition 29 of Schedule 4; and</p>	No				

**Attachment A
West Wallsend Underground Coal Mine Project – Post Approval
Environmental Management Strategy**

p) include a program to collect sufficient baseline data for future Extraction Plans.	NA					
West Wallsend Colliery – PA 09_0203 – Condition 6, Schedule 3	Satisfactory (Yes/No/Partial)	Comment	Action Required	Where Addressed	Satisfactory	Action Required
The Proponent shall ensure that the management plans required under conditions 5(g)-(l) above include: a) an assessment of the potential environmental consequences of the Extraction Plan, incorporating any relevant information that has been obtained since this approval; and b) a detailed description of the measures that would be implemented to remediate predicted impacts.	No	<ul style="list-style-type: none"> The company has extracted coal in accordance with the approved Extraction Plans. The CSMP has been prepared to consolidate any remaining and relevant requirements of the existing Extractions Plans. 	Please provide a link to the Closure Subsidence Management Plan or include as an appendix.	<i>The remaining requirements of the extraction plans are addressed in the Detailed Mine Closure Mining Operations Plan (MOP), this is published on the West Wallsend website.</i>	NA	NA
West Wallsend Colliery – PA 09_0203 – Condition 8, Schedule 4	Satisfactory (Yes/No/Partial)	Comment	Action Required	Where Addressed	Satisfactory	Action Required
Noise Management Plan The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Secretary. This plan must: a) be prepared in consultation with EPA and Council, and submitted to the Secretary for approval within 6 months of this approval; b) describe the noise mitigation measures that would be implemented to	No	<ul style="list-style-type: none"> Section 5.2 'Noise' states that: <i>"the significant operational noise sources at the pit top have been decommissioned and removed from site as part of the mine closure process"</i>. Specifically, sources of noise during the closure phase include demolition and rehabilitation activities. It is noted that as mining has ceased since 2016; <i>"only daytime attended monitoring will be undertaken during the closure phase. Noise monitoring during the night period will only be"</i> 	Please liaise with EPA and Council on the proposed monitoring and mitigation procedures and measures for the decommissioning of the WWU site.	<i>'Section 5.2 updated to include consultation with EPA and Council related to noise monitoring. Lake Macquarie City Council (LMCC) commented on the 2018 MOP amendment and a counsellor from the Council is the chair of the Community Consultative Committee. LMCC also receives a copy</i>	NA	NA
	Partial					

**Attachment A
West Wallsend Underground Coal Mine Project – Post Approval
Environmental Management Strategy**

ensure compliance with the relevant conditions of this approval;		<i>undertaken when operations or activities are occurring during the night period".</i>		<i>of the Annual Review which outlines environmental performance, site activities and future plans for the site which will result in reduced noise emissions.</i>		
c) include a protocol for continual improvement of noise performance; and	Partial	<ul style="list-style-type: none"> • Unsure if EPA and Council have been consulted on the proposed monitoring and mitigation procedures and measures for the decommissioning of the WWU site. 				
d) include a noise monitoring program that: <ul style="list-style-type: none"> • uses a combination of attended and unattended monitoring to evaluate the performance of the project; and • includes a protocol for determining exceedances of the relevant conditions of this approval. 	Partial					
West Wallsend Colliery – PA 09 0203 – Condition 13, Schedule 4	Satisfactory (Yes/No/Partial)	Comment	Action Required	Where Addressed	Satisfactory	Action Required
Air Quality and Greenhouse Gas Management Plan The Proponent shall prepare and implement a detailed Air Quality & Greenhouse Gas Management Plan for the project to the satisfaction of the Secretary. This plan must: <ul style="list-style-type: none"> a) be prepared in consultation with EPA, and submitted to the Secretary for approval within 6 months of this approval; 	Partial	<ul style="list-style-type: none"> • The aspects of the Air Quality and Greenhouse Gas Management Plan relevant to the closure phase has been incorporated into Sections 5.3 'Air Quality' and 5.4 'Greenhouse Gas'. • No details of whether EPA has been consulted in the preparation and proposed mitigation measures as outlined in Sections 5.3 and 5.4. 	Confirm if EPA has been consulted on the management measures set out in Section 5.3 and 5.4.	<i>'Sections 5.3 and 5.4 updated. The EPA approved a variation on the 6th September 2018 to the West Wallsend EPL (1360) which implemented reduced noise monitoring requirements. Historically, the EPA has not provided comment on site environmental</i>	Yes	NA

**Attachment A
West Wallsend Underground Coal Mine Project – Post Approval
Environmental Management Strategy**

				<p><i>management measures.</i></p> <p><i>WWU has consulted with the EPA regarding greenhouse gas emissions reporting and the site no longer triggers National Pollution Inventory (NPI) reporting requirements'.</i></p>		
b) describe the measures that would be implemented to ensure compliance with the relevant conditions of this approval;	Yes	<ul style="list-style-type: none"> Section 5.3.2 Air Quality Management Measures outlines the measures currently employed at WWU. 	NA	NA	NA	NA
c) describe the measures that would be implemented to minimise the greenhouse gas emissions from the site; and	Partial	<ul style="list-style-type: none"> Section 5.4.2 Greenhouse Gas Management Measures outlines the measures to be employed at WWU. 	Clarify if measures have been or currently being undertaken on site.	'Site Controls in Section 5.4.2 details management measures that have been implemented on site. Section 5.4.3 updated to state that WWU no longer triggers National Pollution Inventory (NPI) reporting requirements'.	Yes	NA
d) include an air quality monitoring program to evaluate the performance of the project and includes a protocol for determining exceedances with the relevant conditions of this approval.	Yes	<ul style="list-style-type: none"> Section 5.3.3 Monitoring, Table 5-6 – Air Quality Monitoring Frequency outlines the frequency of air quality monitoring. It is noted that <i>'monitoring is undertaken in accordance with EPL 1360 and PA 09_0203 conditions, which specify required methods of sampling, analysis and frequency of monitoring'.</i> 	NA	NA	NA	NA

**Attachment A
West Wallsend Underground Coal Mine Project – Post Approval
Environmental Management Strategy**

<i>West Wallsend Colliery – PA 09 0203 – Condition 17, Schedule 4</i>	Satisfactory (Yes/No/Partial)	Comment	Action Required	Where Addressed	Satisfactory	Action Required
<p>Surface Water Management Plan The Proponent shall prepare and implement a Surface Water Management Plan for the project to the satisfaction of the Secretary. This plan must be prepared in consultation with NOW and EPA by suitably qualified and experienced persons whose appointment has been endorsed by the Secretary, and submitted to the Secretary for approval within 6 months of this approval. This plan must include:</p> <p>a) a comprehensive water balance for the report, that includes details of:</p> <ul style="list-style-type: none"> • sources and security of water supply; • water use on site; • water management on site; • off-site water transfers; and 	Partial	<ul style="list-style-type: none"> • Section 5.5 Surface Water outlines the WWU water management system for closure including dirty water/sediment-laden water, contact water, clean water and contaminated water. • Section 5.5.3 outlines the site water balance. • Copy of the comprehensive water balance report to include details as required under sub-section 17a) is required. 	<p>Confirm if EPA has been consulted on the management measures of surface water for the closure of WWU.</p> <p>Copy of the comprehensive water balance report as per the requirement of condition 17(a) and (b), Schedule 4 is to be submitted.</p>	<p><i>‘Sections 5.3 and 5.4 are not related to surface water management.</i></p> <p><i>Consultation was undertaken with the EPA regarding surface water management during the EPL variation request in 2018. This resulted in a water study being undertaken as part of the licence variation.</i></p> <p><i>Section 5.3.3 is Monitoring for Air Quality not the site water balance.</i></p> <p><i>Section 5.5.3 outlines the site water balance, the annual site water balance is included in the Annual Review, which can be accessed on the West Wallsend website, a copy of the website link was included in Section 5.3.3’.</i></p>	Yes	NA
<p>b) management plans for the surface facilities site, that include:</p> <ul style="list-style-type: none"> • a detailed description of water management 	No	<ul style="list-style-type: none"> • Copy of the comprehensive water balance report to include details as required under sub-section 17b) is required. 	Copy of the comprehensive water balance report as per the requirement	<i>‘Section 5.5.1 (wastewater) updated to include Council approval of the waste</i>	NA	NA

**Attachment A
West Wallsend Underground Coal Mine Project – Post Approval
Environmental Management Strategy**

<p>systems for each site, including:</p> <ul style="list-style-type: none"> - clean water diversion systems; - erosion and sediment controls; and - any water storages. <ul style="list-style-type: none"> • measures to minimise potable water use and to reuse and recycle water; • measures to comply with surface water discharge limits; • measures to manage sewage wastewater in accordance with Council requirements; and • monitoring and reporting procedures. 		<ul style="list-style-type: none"> • It is noted that surface water discharge limits from the site operates under EPL 1360. • Uncertain if measures are in place to manage sewage wastewater in accordance with Council requirements. • Section 5.5.Monitoring outlines the monitoring and reporting procedures. 	<p>of condition 17(a) and (b), Schedule 4 is to be submitted.</p> <p>Provide evidence that management of sewage wastewater has been undertaken as per Council's requirements.</p>	<p><i>water treatment plant</i>'.</p>		
<p>West Wallsend Colliery – PA 09_0203 – Condition 20, Schedule 4</p>	<p>Satisfactory (Yes/No/Partial)</p>	<p>Comment</p>	<p>Action Required</p>	<p>Where Addressed</p>	<p>Satisfactory</p>	<p>Action Required</p>
<p>Aboriginal Cultural Heritage Management Plan Prior to carrying out any development on site that could impact the heritage items identified in Table 4 of Appendix 4, the Proponent shall undertake the management and mitigation measures identified in section 8.4 of the EA Technical Paper (Appendix 12 Part 1) in consultation with the relevant Aboriginal stakeholders, and in accordance with methodologies approved by the Secretary.</p>	<p>Partial</p>	<ul style="list-style-type: none"> • Section 5.7.1 Aboriginal Heritage outlines that an '<i>Aboriginal Cultural Heritage Management Plan (ACHMP) has been developed for Macquarie Coal in accordance with Condition 5(k) of Schedule 3 of PA 09_0203 and in consultation with registered Aboriginal Stakeholders</i>'. • Table 1-2 Consolidation of Management Plans for Closure specifies that the status of the Plan has been updated in 2016. It is unclear whether post mining measures have been incorporated in the updated Plan. 	<p>Please provide a copy of the Aboriginal Cultural Heritage Management Plan or attach as an appendix to the EMS. Please ensure the Plan has been updated to address post-mining measures.</p>	<p><i>'Section 5.7.1 updated to include a link to the Aboriginal Cultural Heritage Management Plan on the West Wallsend website.</i></p> <p><i>A copy of the revised (2016) Aboriginal Cultural Heritage Management Plan was submitted to the Department of Planning on 27 April 2016, pending approval</i>'.</p>	<p>Partial</p>	<p>Please resubmit the Aboriginal Cultural Heritage Management Plan to the Department of Planning and Environment for approval.</p>
<p>West Wallsend Colliery – PA 09_0203 – Condition 25, Schedule 4</p>	<p>Satisfactory (Yes/No/Partial)</p>	<p>Comment</p>	<p>Action Required</p>	<p>Where Addressed</p>	<p>Satisfactory</p>	<p>Action Required</p>

**Attachment A
West Wallsend Underground Coal Mine Project – Post Approval
Environmental Management Strategy**

<p>Waste The Proponent shall:</p> <ul style="list-style-type: none"> a) minimise and monitor the waste generated by the project; b) ensure that the waste generated by the project is appropriately stored, handled, and disposed of, c) manage on-site sewage treatment and disposal in accordance with the requirements of Council; and d) report on waste management and minimisation in the Annual Review, to the satisfaction of the Secretary. 	<p>Partial</p>	<ul style="list-style-type: none"> • Table 1-2 Consolidation of Management Plans for Closure specifies that the status of the Waste Management Plan is incorporated in Section 5.8 of the EMS. This is incorrect as the waste section is incorporated in Section 5.9 of the EMS. • EPL 1360 specifies a condition pertaining to waste management. • Unsure if on-site sewage treatment and disposal has been undertaken in accordance with the requirements of Council. 	<p>Please amend and update Table 1-2 with the correct reference section of the EMS.</p> <p>Confirmation of whether on-site sewage treatment and disposal has been undertaken in accordance with Council's requirements.</p>	<p>Has not been addressed</p>	<p>No</p>	<p>Please address as per previous action required.</p>
<p>West Wallsend Colliery – PA 09_0203 – Condition 29, Schedule 4</p>	<p>Satisfactory (Yes/No/Partial)</p>	<p>Comment</p>	<p>Action Required</p>	<p>Where Addressed</p>	<p>Satisfactory</p>	<p>Action Required</p>
<p>Rehabilitation Management Plan The Proponent shall prepare and implement a Rehabilitation Management Plan for the project, to the satisfaction of the Executive Director Mineral Resources. This plan must:</p> <ul style="list-style-type: none"> a) be prepared in consultation with the Department, OEH, NOW, Council and the CCC, and be submitted to the Executive Director Mineral Resources in DRE for approval within 6 months of this approval, or as otherwise agreed with the Secretary; 	<p>Partial</p>	<ul style="list-style-type: none"> • Table 1-2 Consolidation of Management Plans for Closure specifies that the status of the Rehabilitation Management Plan has been met by the 'Closure Mining Operations Plan (MOP) (SLR 2016) and has recently been amended in 2018 with Approval granted by the NSW Resources Regulator'. • Section 3.3 Mine Closure Planning outlines a summary of the Plan and closure activities. 	<p>Please provide a copy of the Closure Mining Operations Plan (MOP) or attach as an appendix to the EMS.</p> <p>Please provide evidence that the MOP has been approved by the Resources Regulator.</p>	<p>'Section 5.11 has been updated to include a link to the Detailed Mine Closure Mining Operations Plan (MOP) on the West Wallsend website.</p> <p>Appendix E contains a copy of the Detailed Mine Closure Mining Operations Plan (MOP) approval letter from the Resources Regulator.</p>	<p>Yes</p>	<p>NA</p>
<ul style="list-style-type: none"> b) be prepared in accordance with any relevant DRE 						

**Attachment A
West Wallsend Underground Coal Mine Project – Post Approval
Environmental Management Strategy**

guideline, and be consistent with the rehabilitation objectives in the EA and in Table 10;						
c) build, to the maximum extent practicable, on the other management plans required under this approval; and						
d) address all aspects of rehabilitation and mine closure, including final land use assessment, rehabilitation objectives, domain objectives, completion criteria and rehabilitation monitoring.						
General comments:						
<ul style="list-style-type: none"> The EMS version, author and status shall be updated to incorporate all changes to the EMS. 				•	•	•



17 April 2018

Dear Mr Ben Clibborn

Subject Import Of Material - Macquarie Coal Preparation Plant

Thank you for providing Council an opportunity to provide comment on an updated version of the Mining Operation Plan (MOP) to satisfy rehabilitation obligations under Conditions 2 and 3 of Consolidated Coal Lease 718 (CCL718).

To confirm, Oceanic Coal Australia are engaged in ongoing rehabilitation works to amend the MOP to include one of the following actions:

1. Import material from offsite, or
2. Develop on-site borrow pits, or
3. Import material (VENM and/or ENM) from off-site and develop on-site borrow pits (not preferred).

The site has approximately 80 hectares of material to cover and requires 400,000 M³ of fill/growth medium.

Sources of VENM and ENM for the proposed rehabilitation currently being considered are:

- Receipt of approximately 80,000 cubic metres of VENM with delivery by road transport based on an average of 18 daily truck movements; and
- Receipt of VENM and ENM from various local and regional sources as and when such material becomes available; and
- Use of material 'won' from on-site for use on site

Council raises no objection to the proposal, subject to the matters detailed in this correspondence being considered.

Should you require further information, please contact the undersigned on 4921 0358 or by e-mail on aregado@lakemac.nsw.gov.au.

Yours faithfully

A handwritten signature in black ink that reads "aregado".

Amy Regado
Acting Senior Development Planner
Development Assessment and Compliance

126-138 Main Road Speers Point NSW 2284
1906 Hunter Region Mail Centre NSW 2310
ABN 81 085 027 888

T 02 4921 0333
F 02 4958 7257
E council@lakemac.nsw.gov.au

www.lakemac.com.au
www.facebook.com/lakemaccity
www.twitter.com/lakemac

Schedule Of Issues

Proposed Import Of Material - Macquarie Coal Preparation Plant

Implications for Council's land use planning strategies

In response to the Draft Greater Newcastle Metropolitan Plan, Council recently submitted to the Department of Planning and Environment (DoPE) a catalyst area be included in the Greater Newcastle Metropolitan Plan.

In Council's submission, this area was identified as the North West Lake Macquarie Catalyst Area. This area is identified as having significance for growth in light industry and emerging new economy industries, the suitable reuse of mining land, transport connectivity and recreational facilities. To date, DoPE are supported this proposal and the catalyst area is being developed as a draft addition to the Draft Greater Newcastle Metropolitan Plan.

Importantly, one, or all of the subject site identified for rehabilitation works is located within the Teralba Precinct of the North West Lake Macquarie Catalyst Area.

As identified, Council has identified some, or all of the site as having potential for development of light industrial and emerging new economy industries. This type of development would represent a more sensitive use than current mining activity. The MOP currently identifies the tailings dam for future bushland, pasture and water management. Appropriate fill, and consideration to Council's adopted contaminated land thresholds (as described in the National Environment Protection Measure) that will enable these future development types should be considered.

Further, Council is considering the feasibility of developing a new Cardiff M1 connection traversing the Teralba precinct. It is recommended you continue ongoing consultation with Council regarding the proposed location of borrow pits and the suitability of fill for such use post mining activities.

Visual impact

The site is within Scenic Management Zone 11 (hinterland with limited settlement) of the Lake Macquarie Scenic Management Guidelines 2013. This document outlines desirable future character and guidelines for development works. The site is adjacent to and visible from the developing residential area of Boolaroo on the flanks of Munibung Hill and possibly the Cameron Park residential area.

Any temporary stockpiles or permanent landforms should reference this document and reference the visual impact guidelines to meet or enable desirable future character as per any rehabilitation works.

Impact on heritage

The subject site is located on and/or within close proximity to a number of heritage sites. These include:

1. Cockle Creek Railway Bridge (Item no. 4);
2. Elcom Newcastle Substation (Item no. 108);
3. Former Cockle Creek Railway Bridge (Item no.3);

4. Former Killingworth Hotel (Item no. 109);
5. Gartlee Mine (Item no. 166);
6. Rhondda Colliery Railway (Item no. 170);
7. Seaham, West Wallsend, Fairley and Killingworth Railway (Item no.10);
8. Soldier's Memorial (Item no. 110)

Council advise the heritage sites listed above may support future uses such as transport connectivity and recreational facilities. Development (and associated impacts) of borrow pits and/or imported material near, or on significant heritage sites should be considered with caution.

It is recommended you continue ongoing consultation with Council when considering works on, or close to the heritage sites listed above.

Impact on flooding

An assessment of the flooding impacts of any fill material is required. Consideration should be given to whether any fill is proposed within flood planning area, and where material importation results in a loss of flood storage.

Impact to Council road assets

Haulage routes must be defined and the length of Council roads agreed upon prior to any material hauled occurring on Council roads.

The defined and agreed route is required to be restricted to roads identified by Council's Asset Management Department as "haulage routes".

A dilapidation report in the form of a detailed road survey shall be submitted to Council prior to haulage works proceeding.

A traffic control plan shall be provided for Rhondda Road, Teralba detailing how turning trucks leaving the facility will merge with existing traffic using this road.

Haulage along Council roads will be limited between the hours of 6:00AM and 6:00PM. Operation outside of these hours is not permitted.

No articulated trucks are to travel through the township of Teralba, in particular the steep incline of Rhondda Road close to Railway Street.

Importation and extraction of material

Importation and exportation of materials should meet the following:

- Any imported material to the site shall be classified as either excavated natural material (ENM) or virgin excavated natural material (VENM) in accordance with the Waste Classification Guidelines.
- Any excavated fill material transported to the site is to satisfy the guidelines provided in the Protection of the Environment Operations Act 1997 and the Contaminated Land Management Act 1997.
- The applicant needs to substantiate that only waste virgin excavated natural material (VENM) e.g. clay, gravel sand, soil and rock is accepted as fill that:
 - is not mixed with any other waste;

- o has been excavated from areas that are not contaminated, as the result of industrial, commercial, mining or agricultural activities, with manufacture chemicals;
- o does not contain sulphidic ores or soils; or
- o consists of excavated natural materials that meet such criteria as may be approved by the NSW Office of Environment & Heritage.
- o documentation is to be maintained and provided to Council as it' request detailing the various locations of excavated VENM including date, time plus the quantities where excavated material removed so as to provide an investigative trail should an instance of contamination be detected at the site or complaint received.
- o suppression of dust may be required in times of high westerly winds.
- o the site is located on and/or adjacent to Acid Sulfate Soils classes 5, 4, 3, 2 and 1. Excavation of borrow pits should investigate impacts on Acid Sulfate Soils and any possible lowering of the water table
- Erosion and sediment control measures must be detailed to ensure water quality and dust are effectively managed;
- The works should be subject to a detailed monitoring program. Council has concerns that operations of this nature have the potential to receive unauthorised loads of material by unauthorised vehicles.

To address this, the site requires adequate security, supervision of all unloading, and a detailed checking procedure (where every truck is logged and accompanied by appropriate paperwork) and cross referenced with the departure site.

Contributions

The site falls within the Glendale Contributions Catchment – 2015, which levies for the provision of:

1. Public transportation (based on the number of additional workers),
2. Plan preparation and administration (based on the number of additional workers), and

Haulage for the maintenance, repair and rehabilitation of the local road network (based on a rate per tonne per kilometre of goods / materials hauled). This includes all roads under Council's care and control within the Lake Macquarie Local Government Area (LGA) but excludes National highways, State roads and privately owned roads within the LGA.

The contributions will be expended on road maintenance, repairs, and rehabilitation. Road haulage contributions are applicable to the road network. The roads over which individual contributions are calculated will be determined on a development specific basis, based on the actual roads to be utilised. In order to calculate the haulage levy, a haulage route needs to be clearly defined and the length of Council roads agreed upon prior to any material hauled on Council's roads.

Council seeks through an appropriate mechanism, development contributions for:

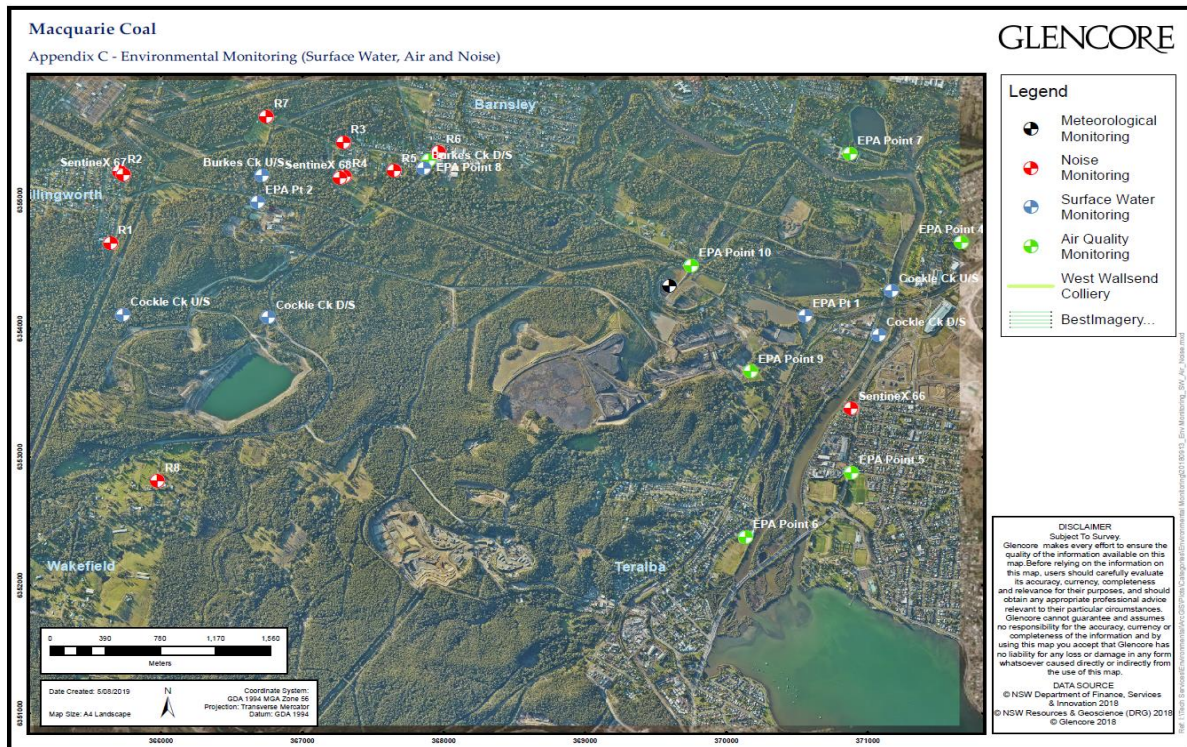
- Additional workers at \$60.68 (subject to indexation and valid until 14/5/2018) per worker, and

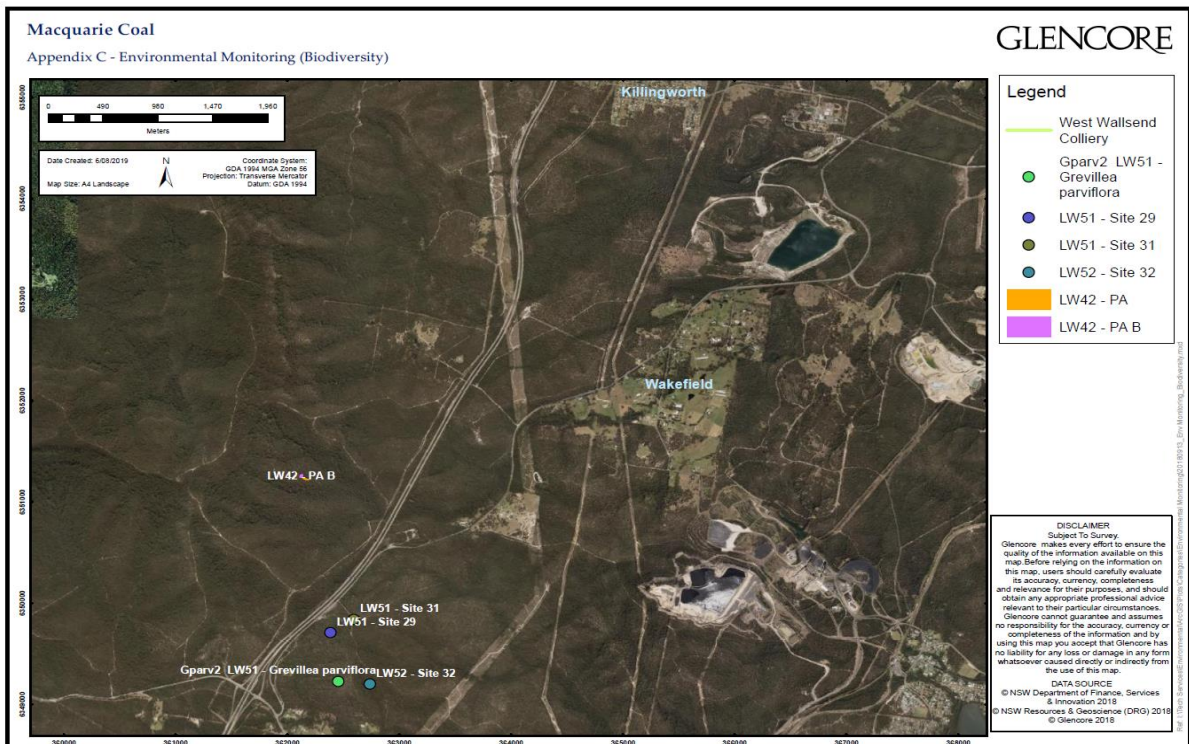
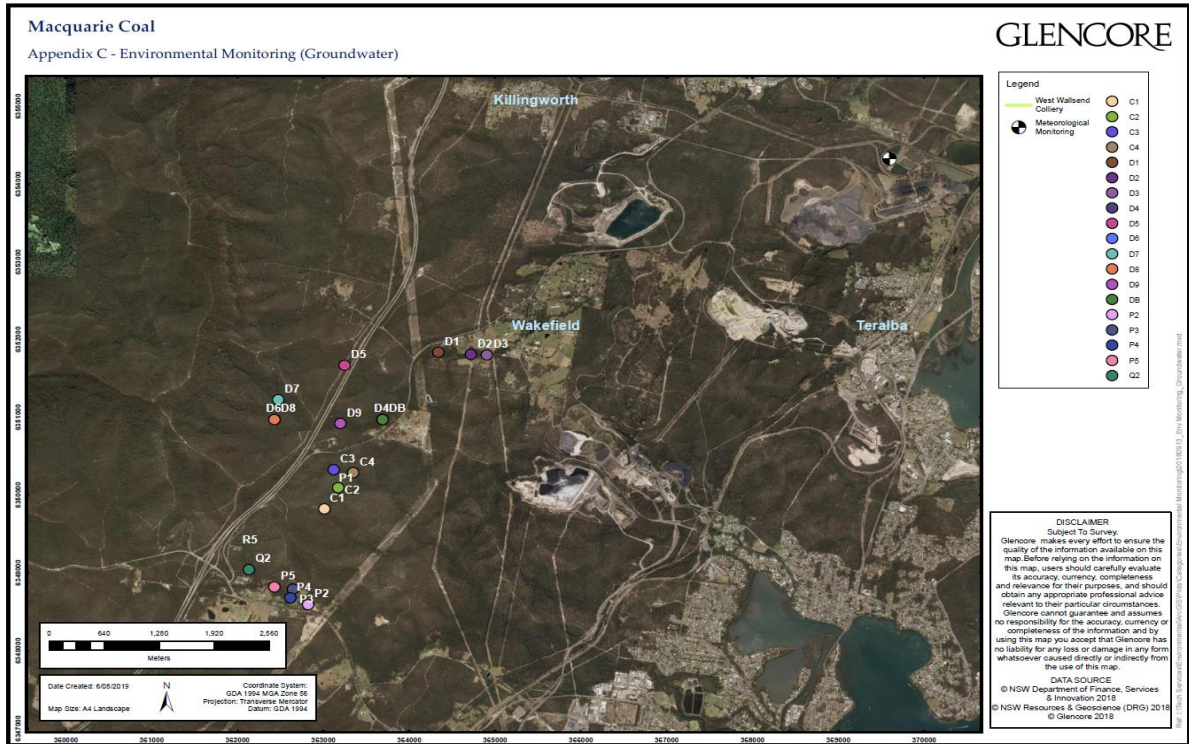
Appendix C - Environmental Monitoring Summary and Plans

Location	Parameters	Frequency
Surface Water		
EPA Point 2 (EPL 1360)	pH, Electrical Conductivity (EC), Total Suspended Solids (TSS)	Monthly (during discharge)
EPA Point 2 (EPL 1360)	Discharge Volume - flow monitoring	Continuous during discharge
Noise		
EPA Pt 12 R1 (48 The Trongate Killingworth)	LAeq (15 min) & LA1 (1 min)	Quarterly (Attended) until site is rehabilitated
EPA Pt 13 R2 (2 The Trongate Killingworth)	LAeq (15 min) & LA1 (1 min)	
EPA Pt 14 R3 (50 Charlton Street Barnsley)	LAeq (15 min) & LA1 (1 min)	
EPA Pt 15 R4 (15 Bendigo Street Barnsley)	LAeq (15 min) & LA1 (1 min)	
EPA Pt 16 R5 (15 Charlton Street Barnsley)	LAeq (15 min) & LA1 (1 min)	
EPA Pt 17 R6 (84 Northville Drive Barnsley)	LAeq (15 min) & LA1 (1 min)	
EPA Pt 18 R7 (59 Charlton Street Barnsley)	LAeq (15 min) & LA1 (1 min)	
EPA Pt 20 R8 (Any residence in Wakefield)	LAeq (15 min) & LA1 (1 min)	
SentineX 67 (Killingworth)	LAeq (15 min), LAmin (15 min), LA90 (15 min), LA10 (15 min), LAmx (15 min), LA1 (1 min), wind direction, wind speed and temperature.	

Location	Parameters	Frequency
SentineX 68 (Barnsley)	LAeq (15 min), LAmin (15 min), LA90 (15 min), LA10 (15 min), LAmax (15 min), LA1 (1 min), wind direction, wind speed and temperature.	Continuous (Unattended) until site is rehabilitated
Air		
EPA Pt 19 Meteorological Station MCPP	Wind speed at 10 metres above ground, wind direction at 10 metres above ground, sigma-theta at 10 metres above ground, temperature at 2 metres and 10 metres above ground, relative humidity and rainfall.	Continuous until site is rehabilitated
EPA Point 4	Dust Deposition	Continuous (collected monthly) until site is rehabilitated
EPA Point 5	Dust Deposition	
EPA Point 6	Dust Deposition	
EPA Point 7	Dust Deposition	
EPA Point 8	Dust Deposition	
EPA Point 9	Dust Deposition	
EPA Point 10	Dust Deposition	
Biodiversity		
LW 51 – Site 29	Flora survey plot, diurnal and nocturnal herpetofauna survey, habitat assessment, photo monitoring	Yearly up to and including 2018
LW 52 – Site 31	Flora survey plot, diurnal and nocturnal herpetofauna survey, habitat assessment, photo monitoring	Yearly up to and including 2018
LW 52 – Site 32	Flora survey plot, diurnal and nocturnal herpetofauna survey, habitat assessment, photo monitoring	Yearly up to and including 2018
Gparv2 LW 51 – (Grevillea parviflora Monitoring Site)	Flora survey plot	Yearly up to and including 2018
LW 42 PA A	Flora survey plot, diurnal and nocturnal herpetofauna survey,	Yearly up to and including 2019

Location	Parameters	Frequency
	habitat assessment, photo monitoring	
LW 42 PA B	Flora survey plot, diurnal and nocturnal herpetofauna survey, habitat assessment, photo monitoring	Yearly up to and including 2019





Appendix D - West Wallsend Waste Matrix

Waste Stream	Description	Waste Classification	Waste Origin Code (ANZSIC)	Waste Code	Estimated Quantity per Year	Management of Waste	Details of Waste Contractor
Batteries	Small batteries e.g. AAA's, 9 volts, D etc in non-commercial quantities.	General solid waste (non-putrescible)	1101	N/A	10kg	Management to include: disposal of waste to licensed waste facility & waste data form to be completed and maintained on site for 4 years.	JR Richards
	Used car and truck batteries. Computer wet cell batteries	Hazardous Waste- lead acid or nickel cadmium	1101	B100 D220	500kg	Management to include: disposal of waste to licensed waste facility & waste data form to be completed and maintained on site for 4 years.	JR Richards
Clinical/ First Aid waste	Medical waste from the first aid room.	Special waste	1101	R100	10kg	Management to include: disposal of waste to licensed waste facility & waste data form to be completed and maintained on site for 4 years.	JR Richards
Dredged sediment	From surface sediment dams, sumps etc.	Liquid waste. If dewatered classified as general solid waste (non-putrescible)	1101	N/A	1000T/yr	Disposed of on site within MCPP tailings dam.	Not Applicable

Number: WWCX-1443240966-16450
Owner: Manager - Environment & Community

Status: Approved
Version: 1.0

Effective: 8/02/2023
Review:

Page 104 of 109

Waste Stream	Description	Waste Classification	Waste Origin Code (ANZSIC)	Waste Code	Estimated Quantity per Year	Management of Waste	Details of Waste Contractor
Gas Cylinders	To be collected for re-filling	Not applicable	1101	N/A		Not classified as a waste if collected for recycling by gas supplier.	Not Applicable
Grease(in XXXL grease drums)	Grease	Hazardous waste	1101	J100	50KG	Management to include: disposal of waste to licensed waste facility & waste data form to be completed and maintained on site for 4 years.	JR Richards
Grease and Oil Drums	Not cleaned and containing hydrocarbon residues.	liquid waste	1101	N/A	880KG	Management to include: disposal of waste to licensed waste facility & waste data form to be completed and maintained on site for 4 years.	JR Richards
Mine water/surface water discharge	Mine water/surface water discharge	Non-controlled Aqueous Liquid Waste (P20 Waste Guidelines)	1101	N/A	309176KL	West Wallsend is licensed to discharge this water off site under EPL 1360 at EPA Point 2	Not Applicable
Municipal Waste	Office domestic waste.	General solid waste (putrescible)	1101	N/A	500T/yr	To be disposed of within general waste bins on site.	JR Richards
Oil Absorbent Material	Not containing free liquids	General solid waste (non-putrescible)	1101	N/A	2500KG	Where practical placed into a plastic bag prior to being disposed of within general waste bins on site.	JR Richards

Waste Stream	Description	Waste Classification	Waste Origin Code (ANZSIC)	Waste Code	Estimated Quantity per Year	Management of Waste	Details of Waste Contractor
Oil and fuel Filters	Containing no free oil (Mechanically crushed and not containing free liquids)	General solid waste (non-putrescible)	1101	N/A	TBC	Management to include: disposal of waste to licensed waste facility & waste data form to be completed and maintained on site for 4 years.	JR Richards
	Contains free oil	Liquid waste	1101	J100	700KG	Management to include: disposal of waste to licensed waste facility & waste data form to be completed and maintained on site for 4 years.	JR Richards
Oily Rags	Contains free oil	General solid waste (non-putrescible)	1101	N/A	50KG	Management to include: disposal of waste to licensed waste facility & waste data form to be completed and maintained on site for 4 years.	JR Richards
Oily Water/ Hydrocarbon Spillages	Oily water from washdown bay, workshop floors & lube bay floor., solcenic spills etc	Liquid waste	1101	J120	23T/YR	Management to include: disposal of waste to licensed waste facility & waste data form to be completed and maintained on site for 4 years.	JR Richards
Paper & cardboard	paper & cardboard	General solid waste (non-putrescible)	1101	N/A	2 Tonnes/Yr	To be placed in onsite recycling packs.	JR Richards

Waste Stream	Description	Waste Classification	Waste Origin Code (ANZSIC)	Waste Code	Estimated Quantity per Year	Management of Waste	Details of Waste Contractor
Parts Washers Liquid Waste	Parts Washers Liquid Waste	Liquid waste	1101	J100	250lt	Management to include: disposal of waste to a licensed waste facility and waste data form to be completed and maintained on site for 4 years.	JR Richards
Scrap Metal	Scrap Metal	General solid waste (non-putrescible)	1101	N/A	85 Tonnes	To be disposed of for recycling or can be disposed of to any classified licensed landfill facility with the exception of inert (general waste bins on site).	JR Richards
Sewage	Waste generated from the bathhouse and office toilets.	Liquid waste	1101	N/A		Treated by on site waste water treatment plant and recycled via transpiration system.	Not applicable
Toner Cartridges	Spent cartridges from Xerox printers and photocopiers	General solid waste (non-putrescible)	1101	N/A	10kg	To be disposed of within general waste bins on site.	JR Richards
Tyres	Used, rejected or unwanted tyres (including	Special waste	1101	T140	1000kg/yr	Permissible to be disposed of on mine site in quantities less than 5000 tonnes per year or to a	JR Richards

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Review:

Page 107 of 109

Waste Stream	Description	Waste Classification	Waste Origin Code (ANZSIC)	Waste Code	Estimated Quantity per Year	Management of Waste	Details of Waste Contractor
	shredded tyres or tyre pieces)					facility that is licensed for the treatment or disposal of tyres	
Waste Oil	Black Oil – mixture of a range of oils including hydraulic, gear, engine etc.	Liquid waste	1101	J100	7000kg/yr	Management to include: stored in waste oil tank and disposed of to a licensed waste facility and waste data form to be completed and maintained on site for 4 years.	JR Richards

3

Authorisation Holder means the holder of the relevant authorisation(s).

Mining Operations Plan means the project, mining and mining related operations described in the "Oceanic Coal Australia Limited Mining Operations Plan, Closure of the OCAL Complex" prepared by SLR Pty Ltd and dated 23 May 2018.

If you have any questions about this Notice, please contact Neil McElhinney directly on 4063 6724.

Yours sincerely,



MONIQUE MEYER
Manager Environmental Operations (Eastern)
Compliance Operations
Resources Regulator
NSW Department of Planning and Environment

Signed under delegation from the Minister for Resources.

Signed under delegation from the Secretary of the NSW Department of Planning and Environment.