

## Independent Environmental Audit 2020

### Clarence Colliery

January 2021



#### Document History

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## Abbreviations

<b>Abbreviation</b>	<b>Description</b>
AR	Annual Review (prepared for the NSW Department of Planning, Industry and Environment in accordance with DA 504-00 Schedule 5 condition 5)
BCA	Building Code of Australia
BCD	Biodiversity Conservation & Science Directorate within NSW Department of Planning, Industry and Environment
CC	Centennial Coal
CCC	Community Consultative Committee
Clarence	Clarence Colliery Pty Ltd, a wholly owned subsidiary of Centennial Coal Company Limited, a wholly owned subsidiary of Banpu Public Company.
CoC	Condition of consent
Council	Lithgow City Council
CHPP	Coal Handling and Preparation Plant
DA	Development Application
DC	Development Consent
Director-General	Director-General of Department of Planning, Industry and Environment or delegate
DPIE	NSW Department of Planning, Industry and Environment
DPI	NSW Department of Primary Industries
DRG	Division of Resources and Geosciences within the Department of Planning, Industry and Environment including Resource Regulator
E&C Coordinator	Clarence Colliery's Environment & Community Coordinator
EIS	Environmental Impact Statement
EC	Electrical Conductivity
ECD	Centennial Coal's Environment Compliance Database
EEC	Endangered Ecological Community as defined under the NSW Threatened Species Conservation Act 1995
Environmental consequences	Environmental consequences of Subsidence Impacts, including: damage to infrastructure, buildings and residential dwellings; loss of surface flows to the subsurface; loss of standing pools; adverse water quality impacts; development of iron bacterial mats; cliff falls; rock falls; damage to Aboriginal heritage sites; impacts on aquatic ecology, ponding etc.
EM	Environmental Monitoring
EMS	Environmental Management Strategy
EPA	NSW Environment Protection Authority
EP&A Act	Environmental Planning and Assessment Act 1979
EP&A Regulation	Environmental Planning and Assessment Regulation 2000
EPL	Environment Protection Licence
ESCP	Erosion and Sediment Control Plan
GBMWhA	Greater Blue Mountains World Heritage Area
HRA	High Risk Activity
IEA	Independent Environmental Audit
INP	Industrial Noise Policy
Land	Land means the whole of a lot, or contiguous lots owned by the same landowner, in a current plan registered at the Land Titles Office at the date of this approval
LCC	Lithgow City Council
LD	Leachate Dam
LDP	EPL 726 Licensed Discharge Point
Mine Water	Water that accumulates within active mining areas, coal rejects emplacement areas, tailings dams and infrastructure areas, synonymous with dirty water
Mining Operations	Includes all coal extraction, processing, and transportation activities carried out on site
Minister	Minister for Planning and Public spaces, or delegate

<b>Abbreviation</b>	<b>Description</b>
Mtpa	Million tonnes per annum
NPWS	National Parks and Wildlife Services
Planning Secretary	Secretary of NSW Department of Planning, Industry and Environment or delegate
POEO Act	Protection of the Environment Operations Act, 1997
PRP	Pollution Reduction Program (Condition U in the EPL)
Privately owned land	Land that is not owned by a public agency, or a mining company (or its subsidiary).
Project	The development as described in the EA
Proponent	Clarence Colliery Pty Ltd, a wholly owned subsidiary of Centennial Coal Company Limited, a wholly owned subsidiary of Banpu Public Company.
PRP	Pollution Reduction Program (condition U in EPL 726)
REA	Reject Emplacement Area
REF	Review of Environmental Factors
RMS	NSW Roads and Maritime services
ROM	Run of Mine
SEE	Statement of Environmental Effects
Site	Lands described in Schedule 1 of the Development Consents of DA 504-00
SMR	Subsidence Management Report
SMSR	Subsidence Management Status Report
SOC	Statement of Commitments
SSD	State Significant Development
SSGV	Site specific guideline value
Subsidence or Subsidence effects	Deformation of the ground mass due to mining, being all mining induced ground movements, including both vertical and horizontal displacement, tilt, strain and curvature
Subsidence impacts	Physical changes to the ground and its surface caused by Subsidence Effects, including tensile and shear cracking of the rock mass, localised buckling of strata caused by valley closure and upsidence and surface disturbance or troughs
SMP	Subsidence Management Plan
TARP	Trigger Action Response Plan
THPSS	Temperate Highland Peat Swamps on Sandstone
TSS	Total Suspended Solids
VWP	Vibrating wire piezometers
Water	Water Division within NSW Department of Planning, Industry and Environment, responsible for surface and groundwater in NSW
WMP	Water Management Plan
WRAQGHGMP	Western Region Air Quality and Greenhouse Gas Management Plan
WRBOMP	Western Region Biodiversity Offset Management Plan
WRNMP	Western Region Noise Management Plan
WTP	Water Treatment Plant
WTPRRF	Water Treatment Plant Residuals Receival Facility

## Executive Summary

MCW Environmental Pty Ltd (MCW Environmental) was engaged by Clarence Colliery Pty Ltd to conduct an Independent Environmental Audit (IEA) of the Clarence Colliery (Clarence) located at Newnes Junction in the Blue Mountains, New South Wales (NSW). Clarence Colliery Pty Ltd is the operator of the Clarence mine and the disclosed agent of the Clarence Joint Venture Participants.

The purpose of the IEA was to satisfy the requirements of NSW Department of Planning, Industry and Environment (DPIE) Development Consent (DA 504-00) Schedule 5 - Conditions 6 and 7 to conduct an IEA every five years.

The period of the IEA has been defined as from the 13 January 2016 to 11 October 2020.

The IEA included assessment of compliance with key approvals and licences applicable to Clarence; review of the development and implementation of management plans developed as part of the Conditions of Consent; and assessment of the subsidence, surface water, ground water, air quality and noise impacts of the development. Non-compliances and recommendations are provided in Section 0. Detailed compliance assessments including IEA findings and recommendations are provided in Appendix A. The overall compliance status is summarised in Table ES 1.

**Table ES 1: Overall Compliance Assessment**

Key Approval and Licence	Compliant Conditions of Consent <sup>Note</sup> (%)	Non-compliant Conditions of Consent (No.)
Development Consent Clarence Colliery Mine DA 504-00	88%	18
DA 504-00 Appendix 3 Statement of Commitments	82%	1
1976 Development Consent Clarence Colliery Mine	100%	0
1993 Development Consent Clarence Colliery Mine	90%	1
1994 Development Consent Clarence Colliery Mine	67%	4
2018 MOD 035/18	86%	2
Environmental Protection Licence No. 726	89%	7
Mining Lease 1583	94%	1
Consolidated Coal Lease 705	90%	3
Subsidence Management Plan (SMP) Approval 800 Area	89%	2
Subsidence Management Plan (SMP) Approval 900 Area	89%	2

<sup>Note</sup> In assessing the percentage compliance, where a condition has multiple parts, if one part has been assessed as non-compliant then the whole condition has been counted as non-compliant. Conditions assessed as compliant, not triggered or noted have been counted as compliant.

# 1 INTRODUCTION

## 1.1 Background

MCW Environmental Pty Ltd (MCW Environmental) was engaged by Clarence Colliery Pty Ltd to conduct an Independent Environmental Audit (IEA) of the Clarence Colliery (Clarence) located at Newnes Junction in the Blue Mountains, New South Wales (NSW). Clarence Colliery Pty Ltd is the operator of the Clarence mine and the disclosed agent of the Clarence Joint Venture Participants.

The purpose of the IEA was to satisfy the requirements of NSW Department of Planning, Industry and Environment (DPIE) Development Consent (DA 504-00) Schedule 5 Conditions 6 and 7 to conduct an IEA every five years. The previous IEA was conducted by MCW Environmental Consulting Pty Ltd in January 2016.

## 1.2 The Project

The Clarence Colliery is located on the eastern extremity of the Western Coal Field, off Bells Line of Road approximately 10 km east of Lithgow, NSW; on the Newnes Plateau near the catchment divide between the Wollangambe River and Farmers Creek/Coxs River system. Land to the east of the site is protected under the Blue Mountains National Park, one of the eight protected areas making up the Greater Blue Mountains World Heritage Area (GBMWH) (UNESCO 2013). The Newnes State Forest is located to the north and west of Clarence Colliery. The main landowner in the mining lease areas is NSW State Forests (Figure 1-1). The colliery is located within the Hawkesbury-Nepean Catchment and discharges water to the Wollangambe River which drains to the Colo River.

The Hanson sand mining quarry is located immediately west of the site; and there is a disused Rocla Quarry and an approved proposed quarry (Newnes Kaolin Project) south-east of the site. The nearest residential neighbours are located at Newnes Junction approximately 1 km south of the Clarence pit top and adjacent to the Main Western Railway.

Clarence extracts thermal coal from the Katoomba and Lithgow coal seams for domestic and export markets. Operations commenced in 1979, initially operating as a bord and pillar mine, with longwall mining from 1993 and bord and pillar mining reintroduced after CC purchased the facility in 1998. Bord and pillar mining techniques use partial extraction to minimise surface subsidence and aquifer impacts, whilst maximising resource recovery and mine productivity.

Most of the coal produced is transported by rail. A sealed, wide access road links Clarence to the Bells Line of Road enabling road transport of coal to Sydney, local markets and until 31 December 2020, to the Mt Piper Power Station.

The surface infrastructure at the pit top for the current mining operations is shown in Figure 1-2. During the period of the IEA, underground development and partial extraction occurred mainly in the 800 Area and 900 Area under Consolidated Coal Lease (CCL) 705 and Mining Lease (ML) 1583. The status of surface operations during the IEA site visit is shown in Table 1-1.

**Table 1-1: Surface Operations**

Infrastructure	Status (IEA site visit)
Mine administration and bathhouse building	Operational
Store and workshop building	Operational
Water treatment plant (WTP)	Operational
Rail loop and train load out facilities	Operational. Coal is transported from Clarence to off-site locations either by rail (using the Main Western rail line) and trucks. Coal is also transported to domestic markets via road haulage.



Infrastructure	Status (IEA site visit)
Conveyor systems transferring coal from the underground mine to the pit top	Operational
Ventilation facility	Operational
Downcast ventilation shaft on the Newnes Plateau	Operational
Coal handling and preparation plant (CHPP)	Operational. Coal is washed, sized and sorted prior to despatch from site.
Run of mine (ROM) stockpile area	Operational
Product coal stockpile area	Operational
REA I, II and IV	Partially rehabilitated but not closed under the High Risk Activity (HRA) notification process. A rehabilitation trial was commenced on REA IV in 2019.
REA III	Coal fines are being recovered from REA III. The final landform shaping with coarse coal reject and rehabilitation will be undertaken after the period of this IEA.
REA V	REA V is under construction within the rail loop with emplacement of reject coal in the easternmost portion.
REA VI	Constructed in 2017 and operational – receiving reject coal.
Water management system:	
• Water treatment plant (WTP)	Operational
• Water Treatment Plant Residuals Receiving Facility (WTPRRF)	Constructed during period of the IEA and operating to reduce water in leachate.
• Leachate Dams 1– 2	Operational
• Leachate Dam 3	Constructed during the period of the IEA and operational
• Leachate Dam 4 (REA V)	Under construction
• Grit traps, sediment traps and primary arrestor	Operational
• Primary arrestor and polishing lagoon	Operational
• Main Dam on the Wollongambe River	Operational
• Pump and reticulation infrastructure	Operational
• Licenced Discharge Point (LDP) 002	Discharging
• Licenced Discharge Point (LDP) 003	No discharge during the period of the IEA
• Licenced Discharge Point (LDP) 004	No discharge during the period of the IEA
Sewage treatment plant and irrigation area	Operational (with new STP scheduled to be commissioned in October 2020)
Mine administration and bathhouse building	Operational

A selection of photos taken during the site inspection in October 2020 is provided to support IEA findings in Appendix A.



On 2 July 2015 (during the period of the previous IEA) an incident occurred where coal fines were released from REA III to the Wollangambe River. This incident resulted in prosecution under the Protection of Environment Operations Act 1997 and regulatory action triggering Wollangambe River water quality monitoring, remediation, and rehabilitation. Remediation and rehabilitation was completed during the period of the IEA with confirmation received from the EPA in 2015, 2016 and 2019 that Clean Up actions (1531813 and 1532719) were complete. Further details are provided in section 2.3.1.

### 1.3 IEA Team

The IEA was undertaken by:

- Michael Woolley, Lead Auditor (MCW Environmental). Michael is a certified Lead Auditor for Environmental Management, Site Contamination Assessment and Compliance Auditing (Exemplar Global).
- Jenny MacMahon, Auditor (MacMahon Consulting).

The IEA team was endorsed by DPIE on 18 September 2020 (Appendix C). A statement of independence of the auditors is included in Appendix D.

### 1.4 IEA Objectives

The objective of the IEA was to meet the requirements of Development Consent of DA 504-00 Schedule 5 - Conditions 6 and 7 for an Independent Environmental Audit.

### 1.5 IEA Scope of Work

#### 1.5.1 Independent Environmental Audit (DA 504-00)

The audit was conducted in accordance with the requirements of Development Consent of DA 504-00, Schedule 5 - Conditions 6 and 7 as shown in Table 1-2.

**Table 1-2: Scope of Work**

Condition	Requirement	This Report
6	<i>Within 5 years of the date of this consent, and every 5 years thereafter, unless the Planning Secretary directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:</i>	
(a)	<i>be conducted by a suitably qualified, experienced, and independent person whose appointment has been endorsed by the Planning Secretary;</i>	Section 1.3 Appendices D & G
(b)	<i>be consistent with ISO 19011:2002 – Guidelines for Quality and/or Environmental Systems Auditing, or updated versions of this guideline;</i>	Section 1.5.3
(c)	<i>assess the environmental performance of the development, and its effects on the surrounding environment;</i>	Sections 2, 3 and Appendix A
(d)	<i>assess whether the development is complying with the relevant standards, performance measures, and statutory requirements;</i>	Section 2, 3 and Appendix A
(e)	<i>review the adequacy of the Applicant's Environmental Management Strategy and Environmental Monitoring Program; and, if necessary,</i>	Section 2.5
(f)	<i>recommend measures or actions to improve the environmental performance of the development, and/or the environmental management and monitoring systems.</i>	Section 0
7	<i>The Independent Environmental Audit shall include a detailed audit of the subsidence, surface water, and ground water impacts of the development. The audit shall:</i>	
(a)	<i>review the monitoring data for the development;</i>	Section 3

Condition	Requirement	This Report
(b)	<i>identify any trends in the monitoring data;</i>	Section 3
(c)	<i>examine the subsidence, surface water, and ground water impacts of the development;</i>	Section 3
(d)	<i>compare these impacts against the relevant impact assessment criteria; and, if necessary,</i>	Section 3
(e)	<i>recommend measures to reduce, mitigate, or remediate these impacts</i>	Section 3
<i>If the independent audit determines that the subsidence, surface water, and/or ground water impacts resulting from the underground mining operations are greater than those predicted in the EIS/Supplementary Report or the relevant impact assessment criteria, the Applicant shall:</i>		
(a)	<i>assess the significance of these impacts;</i>	Section 3
(b)	<i>investigate measures to minimise these impacts, including modifying subsequent mine plans; and</i>	Section 3
(c)	<i>describe what measures would be implemented to reduce, minimise, mitigate or remediate these impacts in the future;</i>	Section 3
	<i>to the satisfaction of the Planning Secretary</i>	Section 3

### 1.5.2 IEA Period

The period of this IEA is from the 13 January 2016 (the day following the last day of the previous IEA period) to 11 October 2020 (the day prior to the first day of the site visit conducted as part of this IEA).

### 1.5.3 IEA Process

The following activities were undertaken for the IEA:

- The IEA methodology was developed to be consistent with ISO 19011:2002 – Guidelines for Quality and/or Environmental Systems Auditing and in consideration of the Independent Audit Post Approval Requirements (DPIE, May 2020).
- Initial discussions were held with Clarence to plan the IEA, develop the scope, introduce the IEA team, identify key Clarence personnel, request documentation, and confirm logistics of the site visit.
- Two two-day site visits were held on 12 - 13, and 29 - 30, October 2020. Tasks undertaken during the IEA site visits included:
  - an opening meeting on 12 October 2020. A register of attendees is included in Appendix E
  - site inspections on 12, 13 and 29 October 2020
  - review of documentation
  - interviews with the Environment & Community (E&C) Coordinator; Mine Manager; Coal Handling Preparation Plant (CHPP) Manager; Technical Services Manager, Mine Surveyor and Group Manager Environment
  - a close out meeting on 30 October. A register of attendees is included in Appendix E.
- Provision and review of additional documentation after the site visits.
- Review of feedback received from DPIE, other regulatory agencies and the Community Consultative Committee (CCC), on the environmental performance of the project during the period of the IEA (summarised in Appendix F).
- An assessment of compliance for conditions within key approvals for current activities at Clarence (Appendix A).
- Review of the Environment Compliance Database (ECD); monthly Environment Protection Licence (EPL) reports; complaint register; regulatory correspondence and consultation; EPA Public Register; and ARs; was undertaken to identify regulatory action, incidents and complaints that occurred during the period of the IEA.

- Assessment of the status of implementation of actions for recommendations (for non-compliances) in the previous IEA (Appendix B).
- Review of the development and implementation of management plans developed as part of the conditions of consent in key approvals (section 2.5 and Appendix A).
- Detailed assessment of the subsidence, surface water, and ground water impacts of the development (section 3).
- For conditions within key approvals that were assessed as non-compliant and/or where there is an opportunity to improve environmental performance, recommendations have been provided (Table 2 2).
- Preparation of a draft report and finalisation of the report following review of comments from Clarence.

#### **1.5.4 Key Approvals and Licence**

The IEA assessed compliance with conditions of consent in the following key approvals and the EPL (as modified during the period of the IEA) for current activities at Clarence:

- Development Consent DA 504-00: granted in 2005 for the conversion of exploration into mining leases for expansion to the east and west (Appendix A1):
  - MOD 4 was granted in 2019 for the supply of coal to Mt Piper Power Station
  - MOD 5 was granted in 2019 for an increase in workforce from 300 to 400 full time equivalents
  - MOD 6 for rail transfer of coarse coal reject material to the Charbon Colliery was excluded from the IEA as submissions on MOD 6 are currently being assessed
- 1994 Development Consent 174/93 variation was granted by Lithgow City Council (LCC) to extend mining activities to the north encompassing ML 1353 and ML 1354 including extension of surface reject disposal areas, water management and ancillary structures with the pit top. (Appendix A2)
- 1993 Development Consent: a variation was granted by LCC in 1993 to amend the reject emplacement facilities and expanded the mining area to include all of CCL 705:
  - 2018 for the relocation of REA V access and associated vegetation clearing (Appendix A2)
- 1976 Development Consent IRM.GE.76: granted to commence mining in 1976 by the Blaxland Shire Council, now known as LCC:
  - 2018 MOD 35/018 for decommissioning, re-profiling and rehabilitation of REA III (Appendix A2)
- EPL 726 variations as reported on the EPA Public Register and summarised in Table 1-3 (Appendix A3)
- Consolidated Coal Lease (CCL) 705 (Appendix A4)
- Mining Lease (ML) 1583, ML 1353 & ML 1354 – Conditions 4 and 5 only (Appendix A4)
- Subsidence Management Plan Area 900 Approval (Appendix A5):
  - Variation 5 – Approved Plan CL1620\_1 granted 5 March 2019
- Subsidence Management Plan Area 800 Approval (Appendix A5):
  - Variation 4 – Approved Plan CL1410-1 granted 6 June 2017
  - Variation 5 – Approved Plan CL1490-1 granted 18 April 2018
  - Variation 6 – Approved Plan CL1753-1 granted 11 October 2020

**Table 1-3: EPL Variations**

Date	s.58 EPL Variation	Description	Status
2 August 2016	1542564	<ul style="list-style-type: none"> <li>• Further to the Clean Up notice issued to Clarence for the July 2015 REA III loss of containment incident, an EPL variation and Pollution Reduction Programme (PRP) was issued for the Wollangambe River environmental monitoring program</li> </ul>	PRP completed 16 April 2019
12 August 2016	1543427	<ul style="list-style-type: none"> <li>• Leakage from Leachate Dam (LD) 2 caused elevated metals in a Wollangambe River unnamed tributary resulting in an EPL variation and PRP to investigate and eliminate water leakage associated with LD 2.</li> </ul>	PRP completed 5 June 2017

Date	s.58 EPL Variation	Description	Status
3 October 2016	N/A	<ul style="list-style-type: none"> <li>Further to upgrades to the WTP and ecotoxicity testing of mine water discharge, a PRP was issued to implement mine water treatment to meet water quality concentration limits for the discharge of mine water into the Wollangambe River at LDP 002.</li> </ul>	PRP completed 5 June 2017
1 March 2017	1544461	<ul style="list-style-type: none"> <li>Five year statutory review of the EPL resulted in an EPL variation to include limits for contaminants for water discharged at LDP 002; the addition of a new monitoring point (Point 9) on the Wollangambe River at its western boundary of the GBMWA and associated monitoring conditions; and a PRP to meet new water quality limits for metals discharged from LDP 002.</li> </ul>	PRP completed 5 June 2017
5 June 2017	1552802	<ul style="list-style-type: none"> <li>Water quality discharge limits and associated water quality monitoring for discharges into the Wollangambe River were altered, and removal of PRP conditions (mine water treatment to meet water quality concentration limits for the discharge of mine water into the Wollangambe River at LDP 002) as the requirements of these conditions had been met.</li> </ul>	N/A
20 September 2018	1561554	<ul style="list-style-type: none"> <li>To address salinity levels of water discharged into the Wollangambe River, the EPL was varied and a PRP issued to 1) by 31 December 2019, cease discharging from LDP 002 except when LCC advises that it does not require additional water 2) by 31 July 2021, cease discharges from LDP 002 into the Wollangambe River catchment.</li> </ul>	PRP revised in s.58 EPL Variation 1572992 and replaced
28 November 2018	1572992	<ul style="list-style-type: none"> <li>The EPL was varied to remove the PRP issued on 20 September 2018 to address salinity levels and a new PRP was issued to transfer treated water, which would otherwise be discharged via LDP 002 into the Wollangambe River, to the Coxs River.</li> </ul>	PRP revised in s.58 EPL Variation 1590599 and ongoing
9 January 2020	1586943	<ul style="list-style-type: none"> <li>The EPL was varied to remove LDP 001 from the EPL, remove U1.1 (PRP for Wollangambe River Monitoring Reports); and further to the Show Cause notice issued by the EPA on 9 August 2019 for the LD 2 gravity fed pipeline leak where water discharged from riser overflow, a PRP for pipeline integrity and management improvement works was issued.</li> </ul>	PRP works completed 9 April 2020
15 January 2020	1590599	<ul style="list-style-type: none"> <li>The PRP issued on 28 November 2018 to transfer treated water, which would otherwise be discharged via LDP 002 into the Wollangambe River to the Coxs River, was varied to provide the opportunity to submit an alternative project by 30 September 2020 that will cease discharge to the Wollangambe River by 30 June 2021.</li> </ul>	<p>CC has applied to the EPA to vary EPL 726 and PRP U1:</p> <ul style="list-style-type: none"> <li>A timeframe to require a Development Application to be lodged with the relevant determining authority by 31 December 2021.</li> <li>A PRP amendment to cease discharge into the Wollangambe River via LDP002 within 24 months of the relevant approval being granted.</li> </ul>

### 1.5.5 Key Documents

The following key documents, which were prepared to satisfy the conditions of consent of key approvals during the period of this IEA, were reviewed:

- Monitoring and Audit
  - 2016 -2019 Annual Reviews (AR)
  - Environmental Monitoring Program (CC, 2017)
  - Monitoring records for subsidence, surface water, groundwater, noise, and air quality
  - IEA Report (MCW Environmental, 2016)
- Management Plans (as required under key approvals):
  - MOP Amendment A (1 January 2018 to 31 October 2022) (CC, 2019)
  - Environmental Management Strategy (CC, 2012 and revised in 2020)
  - Water Management Plan (CC, 2017)
  - Western Region Noise Management Plan (CC, 2016 and revised in 2018)
  - Western Region Air Quality and Greenhouse Gas Management Plan (CC, 2018)
  - Western Region Historic Heritage Management Plan (CC, 2018)
  - Western Region Aboriginal Cultural Heritage Management Plan (CC, 2017)
- The following plans and strategies were referenced in key approvals:
  - Western Region Biodiversity Management Plan (CC, 2019)
  - Long Term Reject Emplacement Strategy (CC, 2014)
  - Pollution Incident Response Management Plan (CC, 2020)

## 1.6 Assessment of Compliance

The assessment of compliance was based on evidence provided in documentation supported by observation and interview, and is provided in Appendix A. Compliance status categories are described in Table 1-4 and are based on Independent Audit Post Approval Requirements (DPIE, May 2020).

**Table 1-4: Compliance Status Description**

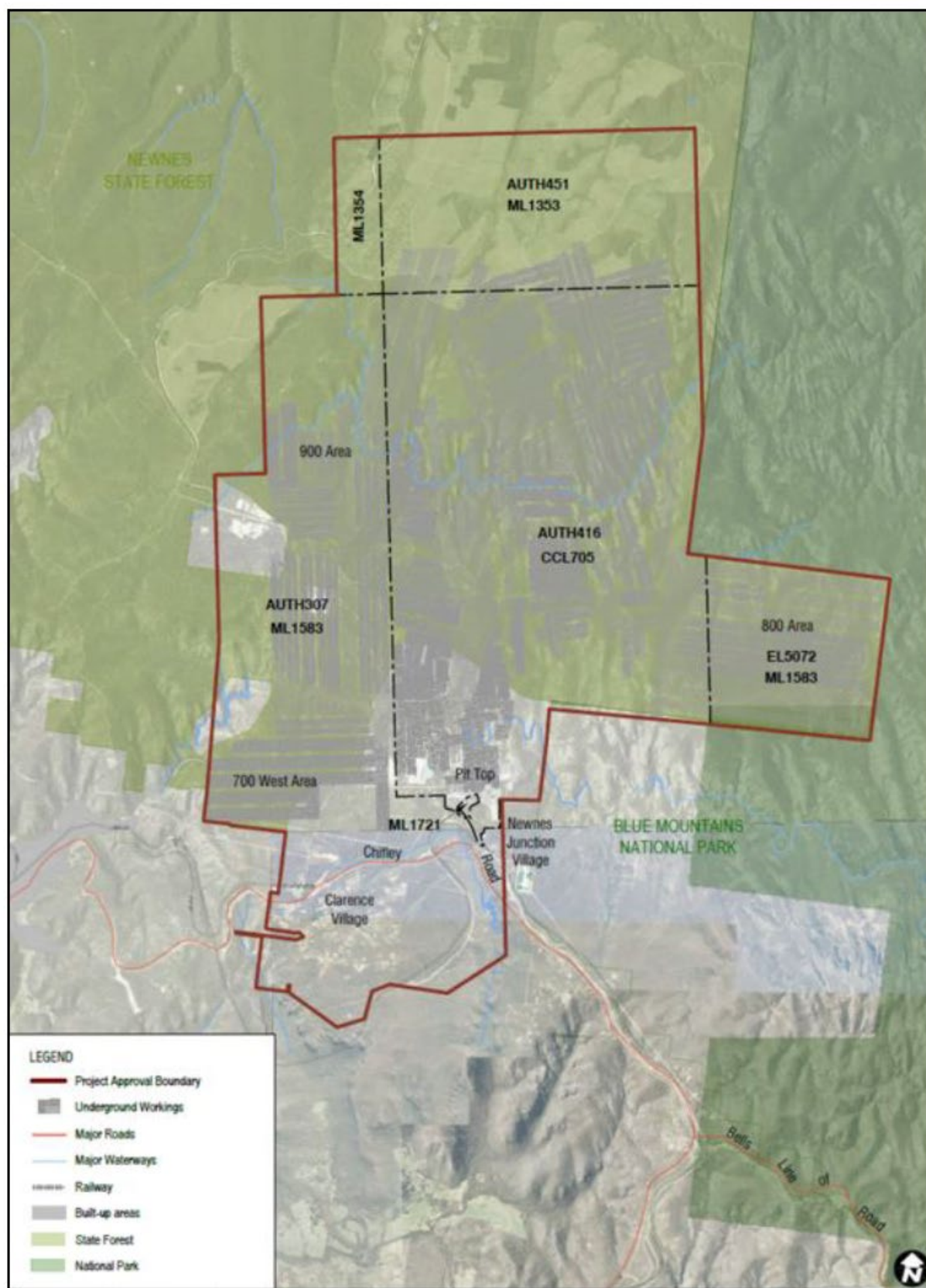
Performance Category	Definition
Compliant (C)	The auditor has collected sufficient verifiable evidence to demonstrate that all elements of the requirement have been complied with within the scope of the audit.
Non-compliant (NC)	The auditor has determined that one or more specific elements of the conditions or requirements have not been complied with within the scope of the audit
Not Triggered	A requirement has an activation or timing trigger that has not been met during the temporal scope of the audit being undertaken (may be a retrospective or future requirement), therefore an assessment of compliance is not relevant

Where a condition was assessed as non-compliant and/or compliant and there is an opportunity to improve the environmental performance, a recommendation has been made and included in Table 2-2: Non-Compliances and RecommendationsTable 2-2.

## 1.7 Agency and Community Consultation

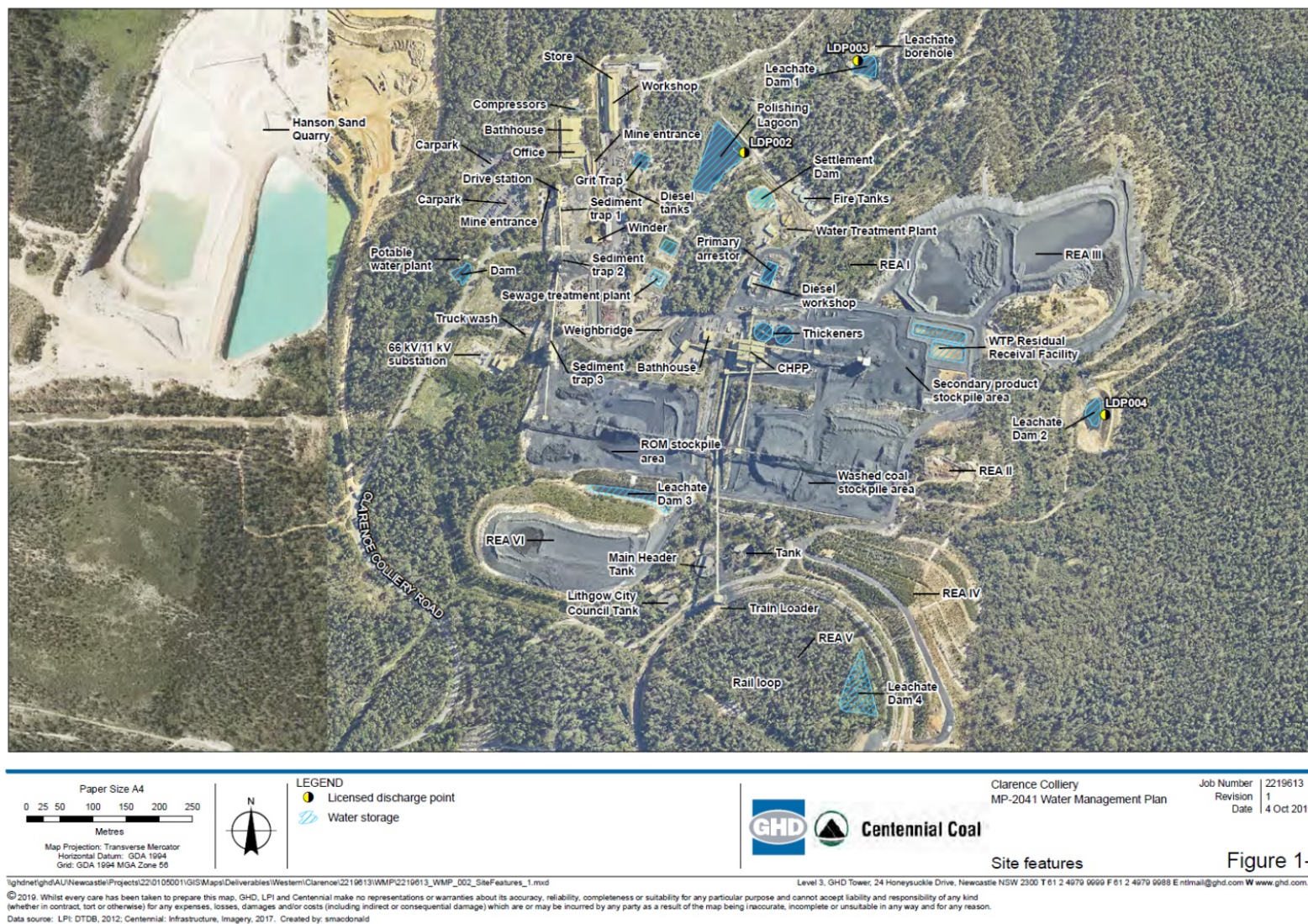
Consultation with agencies and community was undertaken in November and December 2020 with feedback and responses summarised in Appendix F.





**Figure 1-1: Regional Context**  
 Source AR (CC, 2019)





**Figure 1-2: Site Features**  
Source: Draft WMP (CC, 2020)



## 2 Audit Findings

### 2.1 Compliance Assessment

An assessment of compliance for conditions within key approvals for current activities is included in Appendix A and a summary is provided in Table 2-1.

**Table 2-1: Compliance Assessment**

Approval	Total Conditions of Consent (No.)	Non-compliant Conditions of Consent (No.)	Compliant Conditions of Consent <sup>Note</sup> (%)
Development Consent Clarence Colliery Mine DA 504-00	59	18	88%
DA 504-00 Appendix 3 Statement of Commitments	11	1	82%
1976 Development Consent Clarence Colliery Mine	7	0	100%
1993 Development Consent Clarence Colliery Mine	10	1	90%
1994 Development Consent Clarence Colliery Mine	12	4	67%
2018 MOD035/18	14	2	86%
Environmental Protection Licence No. 726	63	7	89%
Mining Lease 1583	16	1	94%
Consolidated Coal Lease 705	31	3	90%
Subsidence Management Plan (SMP) Approval 800 Area	18	2	89%
Subsidence Management Plan (SMP) Approval 900 Area	19	2	89%

<sup>Note</sup> In assessing the percentage compliance, where a condition has multiple parts, if one part has been assessed as non-compliant then the whole condition has been counted as non-compliant. Conditions assessed as compliant, not triggered or noted have been counted as compliant.

### 2.2 Non-compliances and Recommendations

Conditions within key approvals that were assessed as non-compliant and/or where there is an opportunity to improve environmental performance, have recommendations provided in Table 2 2.

Table 2-2: Non-Compliances and Recommendations

ID #	App.	Cond. No.	Requirement Summary	Finding	Recommendation #
NC-1	DA504	Sch 2-11	<b>Operation of Plant and Equipment</b> The Applicant shall ensure that all plant and equipment at the site, or used in connection with the development, are: (a) maintained in a proper and efficient condition; and (b) operated in as proper and efficient manner.	<p>The following incidents have been assessed as non-compliances with DA504-00 Sch 2-11 as they related to WTP and water storages/infrastructure:</p> <ul style="list-style-type: none"> <li>Exceedance of water quality concentration limits at LDP 002 on numerous occasions during the period of the IEA. To address these exceedances, improvement works have been undertaken throughout the period of the IEA. A current EPL 726 PRP (s.58 EPL 726 Variation no. 1590599) includes actions that will result in cessation of discharge from LDP 002 to the Wollangambe River. The actions are under development with consultation with the EPA and stakeholders. When completed, these actions were assessed by the auditors as adequately addressing the exceedances of water quality concentration limits in LDP 002, consequently, no further recommendations were made.</li> <li>A leak from the base of LD 2 and/or a discharge pipeline resulted in elevated metals, low pH and toxicity characteristics in water in a tributary of the Wollangambe River. To address this incident, improvement works have been undertaken. s.58 EPL 726 Variation no. 1543427 included actions to eliminate and investigate the leakage, which were completed on 5 June 2017.</li> <li>A riser cap on the gravity pipeline from LD 2 to the underground borehole failed due to a pipe blockage allowing escape of water via a pipeline riser. To address this incident, improvement works have been undertaken. s.58 EPL 726 Variation no. 1586943 included actions for LD2 pipeline integrity and management improvement works, which were completed by 9 April 2020.</li> </ul>	Closed. No recommendation.

ID #	App.	Cond. No.	Requirement Summary	Finding	Recommendation #
C-1	DA504	Sch 3-1	<b>Subsidence Impact Assessment Criteria</b> The Applicant shall ensure that surface subsidence generated by the development does not exceed the criteria listed in Table 1 for Subsidence, Tilt and Strain.	<ul style="list-style-type: none"> <li>The ARs, SMP variations and SMSRs reference that the subsidence impact assessment criteria is 100 mm +/- 25 mm whereas the criteria in DA504 Sch 3 -1 Table 1 is 100 mm.</li> <li>SMSRs, ARs or SMP Variations have not included an assessment of tilt and strains against the maximum impact criteria since 2015.</li> <li>Although this condition has been assessed as Compliant, recommendations have been included to consult with DPIE/DRG and if agreed, obtain written approval that assessment against the subsidence impact assessment criteria for tilts and strains is no longer required, that the maximum subsidence impact assessment criteria is 100 mm +/- 25 mm (and not 100 mm as specified in DA 504 Sch 3-1) and that subsidence impact &gt; 100mm on H Line does not trigger condition red on the TARP (as this area was mined prior to DA504).</li> </ul>	R1: Consult with DPIE/DRG and if, agreed, obtain written approval that the: <ul style="list-style-type: none"> <li>That the subsidence impact assessment criteria for tilts and strains (as specified in DA 504 Sch 3-1) are not required.</li> <li>That the maximum subsidence impact assessment criteria is 100 mm +/- 25 mm (and not 100 mm as specified in DA 504 Sch 3-1).</li> <li>Whether subsidence impact &gt; 100mm on H Line triggers 'condition red' on the TARP, as this area was mined prior to DA504.</li> </ul>
C-2	DA504	Sch 3-2	<b>Subsidence Management Plan</b> Before carrying out any underground mining operations that will potentially lead to subsidence of the land surface, the Applicant shall prepare a Subsidence Management Plan for those operations in accordance with the following DRG documents (or the most current and updated versions of these documents):	<ul style="list-style-type: none"> <li>Management of subsidence for Area 800 and Area 900 is distributed across a number of approved documents including:               <ul style="list-style-type: none"> <li>800 Area SMP (2011) and variations</li> <li>800 Area SMP Variation 6 (2020)</li> <li>800 Area Subsidence and Infrastructure Monitoring Program (2020)</li> <li>Area 800 SMP Subsidence and Pillar Design TARP (undated)</li> <li>Partial Extraction 900 Area Environmental Monitoring Program (2014)</li> <li>Clarence Environmental Monitoring Program (2017)</li> <li>2017 WMP.</li> </ul> </li> <li>The SMP includes monitoring of pillar stability and subsidence (e.g., subsidence surveys, surface cracking on roads, tracks or vegetated areas, cliffline / pagoda damage or instability and</li> </ul>	R2: Identify and consolidate quantitative subsidence impact assessment criteria (as specified in DA 504-00 Sch 3 and SMP Approvals), and corresponding baseline data, monitoring (parameter, method and frequency) and reporting requirements, responsibilities, and standardise TARPs; into a management plan document which is reviewed and updated following changes to the development, approvals and/or subsidence monitoring requirements.

ID #	App.	Cond. No.	Requirement Summary	Finding	Recommendation #
				<p>piezometer water level). SMSRs (CC, 2016 – 2020) included monitoring trends over time. (compliant). The 2017 WMP also included TARPs for surface cracking on cliffline / pagoda damage or instability and piezometer water level (and additional aspects) that were slightly different to the SMP TARPs.</p> <ul style="list-style-type: none"> <li>Although this condition is assessed as Compliant, the auditors have recommended consolidation of the impact assessment criteria, monitoring requirements, responsibilities, and TARPs.</li> </ul>	
NC-2	DA504	Sch 3-3	<p><b>Pollution of Waters</b></p> <p>Except as may be expressly provided by an Environment Protection Licence, the Applicant shall comply with section 120 of the Protection of the Environment Operations Act 1997 during the carrying out of the development</p>	<ul style="list-style-type: none"> <li>The auditors have assessed that “pollution of waters” includes exceedance of EPL 726 LDP 002 discharge concentration limits.</li> <li>Although considerable improvement works to WTP and water storage and transfer infrastructure has been undertaken during the period of the IEA, numerous exceedances of EPL 726 LDP 002 water concentration limits were recorded (refer Appendix A3 EPL 726 L2.1 (Concentration Limits).</li> <li>A current EPL 726 PRP (s.58 Variation no. 1590599) includes actions that will result in stopping discharge from LDP 002 to the Wollangambe River. The actions are under development with consultation with the EPA and stakeholders. When completed, these actions were assessed as adequately addressing the exceedances of water quality concentration limits in LDP 002, consequently, no further recommendations were made.</li> </ul>	Closed. No recommendation.
NC-3	DA504	Sch 3-5	<p><b>Water Resources Impact Assessment Criteria.</b></p> <p>The Applicant shall ensure that the development does not result in any:</p> <p>(a) significant inflows to mine workings;</p> <p>(b) reduction in pumping yield in privately owned groundwater bores;</p> <p>(c) reduction in surface flows and groundwater baseflow to upland swamps (Newnes Plateau Shrub Swamps) and wetlands; and</p> <p>(d) reduction in surface flows and groundwater baseflow to waterbodies including Marrangaroo Creek, Farmers Creek, Dargans Creek, Wolgan River, Dumbano Creek, Bungleboori Creek and</p>	<ul style="list-style-type: none"> <li>Impact criteria for surface flows and groundwater baseflow to waterbodies including Marrangaroo Creek, Farmers Creek, Dargans Creek, Wolgan River, Dumbano Creek, Bungleboori Creek and Wollangambe River have not been quantified.</li> <li>Refer Appendix A1 DA504 Sch 5-3 (Environmental Monitoring Program) and R15.</li> </ul>	R3: Identify and consolidate quantitative water resources impact assessment criteria for each of the water resources impacts (as specified in DA504 Sch 3-5 a) to d)); and corresponding baseline data, monitoring and reporting requirements, responsibilities, and TARPs; into a management document which is reviewed and updated following changes to the development, approvals

ID #	App.	Cond. No.	Requirement Summary	Finding	Recommendation #
			Wollangambe River (excluding reduction in flows associated with the proposed water transfer scheme), to the satisfaction of the Planning Secretary.	<ul style="list-style-type: none"> <li>SMSR four-monthly groundwater levels (hydrographs) are reported in m(bgl) and are not able to be readily assessed against the groundwater level impact assessment criteria in the WMP TARP which are in m(AHD). Although Clarence has reported on the uncharacteristic decline in groundwater levels at CLRP5 in SMSR reports in March 2020, July 2020 and the 2019 AR, the auditors were unable to assess if the WMP TARPs for groundwater level or piezo head change have been triggered as the units of measurement are not aligned.</li> </ul>	<p>and/or monitoring requirements.</p> <p>R4: Align the units in the WMP TARP groundwater level impact assessment criteria (m(AHD)) with units used in the four-monthly groundwater levels (hydrographs) monitoring results (m(bgl)).</p> <p>R5: Conduct an independent investigation into the decline in groundwater level at CLRP5 to understand the basis of the decline; assess if the decline in groundwater level and/or piezo head change at CLRP5 trigger the 2017 WMP groundwater TARP. Pending the outcome of the investigation and assessment against the TARP, implement TARP response and notification actions</p>
NC-4	DA504	Sch 3-8	<p><b>Erosion and Sediment Control</b></p> <p>The Erosion and Sediment Control Plan shall:</p> <p>(a) be consistent with the requirements of the Department of Housing's Managing Urban Stormwater: Soils and Construction manual;</p> <p>(b) identify activities that could cause soil erosion and generate sediment;</p> <p>(c) describe measures to minimise soil erosion and the potential for the transport of sediment to downstream waters;</p> <p>(d) describe the location, function, and capacity of erosion and sediment control structures; and</p>	<ul style="list-style-type: none"> <li>The erosion and sediment control plan does not reference Department of Housing's Managing Urban Stormwater: Soils and Construction manual, or adequately identify causes of erosion, measures to minimise soil erosion, describe the location of erosion and sediment control structures or maintenance requirements.</li> <li>Sediment and erosion controls observed during the site inspection were generally in good condition with improvement opportunities identified during the site inspection (12 October 2020) e.g. at an area of recent erosion observed on the access</li> </ul>	<p>R6: Prepare and implement a sediment and erosion control plan to meet each of the requirements of DA504 Sch 3-8 (Erosion and Sediment Control Plan).</p>

ID #	App.	Cond. No.	Requirement Summary	Finding	Recommendation #
			(e) describe what measures would be implemented to maintain the structures of the mine.	track to LD 2, Wollangambe River crossing (Point 9), and an area draining to the Main Dam.	
NC-5	DA504	Sch 3-9	<b>Surface Water Monitoring</b> The Surface Water Monitoring Program shall include: (a) detailed baseline data on surface water flows (including ground water baseflows) and quality in waterbodies and wetlands above the mine; (b) surface water impact assessment criteria; (c) a program to monitor surface water flows (including ground water base flows) and quality; and (d) a protocol for the investigation, notification and mitigation of identified exceedances of the surface water impact assessment criteria; and (e) a program to monitor the effectiveness of the Erosion and Sediment Control Plan.	<ul style="list-style-type: none"> <li>The Surface Water Monitoring Program did not include detailed baseline data on surface water flows in waterbodies and wetlands above the mine or a program to monitor surface water flows.</li> <li>Although qualitative surface water impact assessment criteria are provided in the 2017 WMP (Table 6-7 and the TARP) for capacity of surface water storage, clean and dirty water separation, erosion and sediment control and hydrocarbon management, the criteria was assessed as qualitative.</li> </ul>	R7: Identify and consolidate quantitative surface water impact assessment criteria for each of the surface water impacts (as specified in DA504 Sch 3-9 a) to e)); and corresponding baseline data, monitoring and reporting requirements, responsibilities, and TARPs into a management document which is reviewed and updated following changes to the development, approvals and/or monitoring requirements.
NC-6	DA504	Sch 3-12A	<b>Biodiversity Offset Strategy</b> By the end of December 2016, the Applicant shall, in consultation with OEH, and to the satisfaction of the Planning Secretary: (a) provide a suitable offset to satisfactorily offset clearing 4.1 hectares of Newnes Plateau Narrow-leaved Peppermint – Silver-top Ash Layered Open Forest and the loss of related biodiversity values, including for threatened species; and (b) make suitable arrangements to manage, protect and provide long-term security in perpetuity for this area, consistent with the relevant NSW Offsets policy.	<ul style="list-style-type: none"> <li>Although initial approval of the biodiversity offset was sought before the end of December 2016, due to the extent of modifications requested by BCD many of which reflected new offset approaches by the regulator, the draft WRBOMP was not approved by the end of December 2016, consequently this condition was assessed as non-compliant. As the offset was approved by DPIE on 23 April 2019, and following revision, further approval was sought from DPIE and was granted in August 2019, no recommendation was made regarding the biodiversity offset strategy.</li> <li>In response to a consultation request for this IEA by the auditor, BCD advised <i>“that the proposed offset has been accepted by BCS and that the current status of the long-term security is unknown to BCS. Originally, the Carinya offset was to be transferred to Capertee National Park. However, on 8 November 2019 Centennial advised that the transfer was unable to proceed (Centennial’s business partners were unable to commit at that stage) and that retirement of the biodiversity offset site would be progressed with the NSW Biodiversity Conservation Trust.</i></li> </ul>	R8: Advise BCD of the current status of the long-term security for the biodiversity offset for the clearing of 4.1 hectares of Newnes Plateau Narrow-leaved Peppermint – Silver-top Ash Layered Open Forest and the loss of related biodiversity values, including for threatened species.

ID #	App.	Cond. No.	Requirement Summary	Finding	Recommendation #
				<i>Centennial wanted to keep open the option to transfer the land to national park following the commencement of the conservation agreement”.</i>	
NC-7	DA504	Sch 3-15	<b>Noise Impact Assessment Criteria</b> The Applicant shall ensure that the noise generated by the development, excluding train-loading and rail operations, does not exceed the noise impact assessment criteria presented in Table 6 Noise impact assessment criteria dB(A) at any residence on privately owned land.	<ul style="list-style-type: none"> <li>The night noise impact assessment criteria (35 dB(A)) was exceeded in 2017 (42 dB(A)) and 2018 (43 dB(A)); and was equalled in 2019 (35 dB(A)).</li> </ul>	R9: Assess opportunities to consistently achieve night noise impact assessment criteria in DA504 Sch 3-15 (Noise Impact Assessment Criteria) and EPL L5.1 (Noise Limits).
NC-8	DA504	Sch 3-20	<b>Visual Impact</b> The Applicant shall minimise the visual impacts of the development to the satisfaction of the Planning Secretary.	<ul style="list-style-type: none"> <li>REA III has a visually-dominant embankment with minimal rehabilitation. Although REA III is no longer receiving reject material, recovery of coal fines from REA III is being undertaken under the HRA Notification process. REA III final landform shaping and rehabilitation will be undertaken after the period of this IEA.</li> <li>REA III final landform and rehabilitation are being driven by HRA REA III; consequently, no further recommendations have been made.</li> <li>Appendix A2 MOD 035/18 condition 14 (OEH) and R22.</li> </ul>	Refer to Appendix A2 MOD 035/18 condition 14 (Office of Environment and Heritage) (NC-21): R22.
NC-9	DA504	Sch 3-22	<b>Lighting Emissions</b> All external lighting associated with the development shall comply with Australian Standard AS4282 (INT) 1995 Control of Obtrusive Effects of Outdoor Lighting.	<ul style="list-style-type: none"> <li>The 2018 AR reports that a consultant was commissioned in May 2018 to assess AS4282 compliance of lighting at REA VI and that “Clarence is compliant with AS4282”. No evidence of this assessment was provided.</li> </ul>	R10: Design external lighting to comply with AS4282 (INT) 1995 Control of Obtrusive Effects of Outdoor Lighting and maintain records of compliance.
NC-10	DA504	Sch 3-23	<b>Greenhouse Gas</b> The Applicant shall: (a) monitor the greenhouse gas emissions generated by the development; (b) investigate ways to reduce greenhouse gas emissions on site; and (c) report on these investigations in the Annual Review, to the satisfaction of the Planning Secretary.	<ul style="list-style-type: none"> <li>No greenhouse emission investigations were reported in the 2018 AR or 2019 AR.</li> </ul>	R11: Investigate and report annually in the Annual Review on initiatives Clarence is implementing to reduce greenhouse emissions.



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ID #	App.	Cond. No.	Requirement Summary	Finding	Recommendation #
C-3	DA504	Sch 3-24A	<b>Reject Emplacement</b> The Applicant shall prepare and implement a long term Reject Management Strategy for the project to the satisfaction of the Planning Secretary. This plan must be: (a) prepared in consultation with Water Division, EPA and BCD; (b) consider alternatives to reject emplacement, including beneficial re-use and underground disposal; and (c) be submitted to the Planning Secretary for approval by the end of November 2014.	<ul style="list-style-type: none"> <li>Preparation of the long term Reject Management Strategy was required prior to the period of this IEA however; this condition was assessed as compliant in the previous 2016 IEA.</li> <li>Management of short-medium term REA rehabilitation is included in the 2018 -2022 MOP.</li> <li>As the strategy was prepared in 2014, the status of REAs and future emplacement considerations in the 2014 Reject Management Strategy did not reflect current operations and available information.</li> </ul>	R12: Revise the 2014 long term Reject Management Strategy to reflect status of REAs and future emplacement and rehabilitation considerations. or otherwise confirm with DPIE that this condition can be determined through the MOP process.
C-4	DA504	Sch 3-26	<b>Dangerous Goods</b> The Applicant shall ensure that the storage, handling, and transport of dangerous goods is done in accordance with the relevant Australian Standards, particularly AS 1940 and AS1596, and the Dangerous Goods Code.	<ul style="list-style-type: none"> <li>Dangerous Goods were generally stored appropriately in the pit top area, regular inspections had been undertaken and an internal Dangerous Goods audit with corrective actions was undertaken in May 2020; consequently, this condition was assessed as compliant. Some improvement opportunities were identified during the site inspection.</li> </ul>	R13: Improve storage and use of dangerous goods and hazardous materials: <ul style="list-style-type: none"> <li>Assess the suitability of detergents used in the vehicle wash bay and downstream impact on oil and grease removal in the grit basin and WTP. Implement corrective actions if required.</li> <li>Store empty containers that have been used for dangerous goods and hazardous materials within bunded areas.</li> <li>Clean up spills in pit top area promptly to minimise load on WTP.</li> </ul>
NC-11	DA504	Sch 5-1	<b>Environmental Management Strategy</b> Within 12 months of the date of this consent, the Applicant shall prepare and implement an Environmental Management Strategy for the	<ul style="list-style-type: none"> <li>The 2020 EMS was assessed as compliant with the requirements of Schedule 5 conditions 1 a) to e).</li> <li>As the EMS was not updated within three months of the completion of the 2016 IEA, as required by DA 504-00 Sch 5-1 (f), this condition was assessed as non-compliant. As the EMS</li> </ul>	Closed. No recommendation.

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ID #	App.	Cond. No.	Requirement Summary	Finding	Recommendation #
			<p>development to the satisfaction of the Planning Secretary.</p> <p>This strategy must:</p> <p>(a) provide the strategic context for environmental management of the development;</p> <p>(b) identify the statutory requirements that apply to the development;</p> <p>(c) describe in general how the environmental performance of the development would be monitored and managed during the development;</p> <p>(d) describe the procedures that would be implemented to:</p> <ul style="list-style-type: none"> <li>- keep the local community and relevant agencies informed about the operation and environmental performance of the development;</li> <li>- receive, handle, respond to, and record complaints;</li> <li>- resolve any disputes that may arise during the course of the development;</li> <li>- respond to any non-compliance;</li> <li>- manage cumulative impacts; and</li> <li>- respond to emergencies; and</li> </ul> <p>(e) describe the role, responsibility, authority, and accountability of all the key personnel involved in environmental management of the development; and</p> <p>(f) be updated within 3 months of the completion of each Independent Environmental Audit.</p>	<p>was updated in 2020 and approved by DRE in 2020, no further recommendations have been made.</p>	
NC-12	DA504	Sch 5-2	<p><b>Environmental Management Strategy</b></p> <p>Within 14 days of the Planning Secretary's approval for the strategy, the Applicant shall:</p> <p>(a) send copies of the approved strategy to the relevant agencies, Council, and the CCC; and</p> <p>(b) ensure the approved strategy is publicly available during the development.</p>	<ul style="list-style-type: none"> <li>• The original approved EMS and 2020 EMS were not available on the CC website.</li> <li>• No evidence was provided that the 2020 EMS had been provided the relevant agencies, Council or CCC.</li> </ul>	<p>R14: Place the 2020 EMS on the CC website and provide copies of, or links to, the 2020 EMS to relevant agencies, Council, and the CCC.</p>

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ID #	App.	Cond. No.	Requirement Summary	Finding	Recommendation #
NC-13	DA504	Sch 5-3	<b>Environmental Monitoring Program</b> Within 12 months of the date of this consent, the Applicant shall prepare an Environmental Monitoring Program for the development in consultation with the relevant agencies, and to the satisfaction of the Planning Secretary. This program must consolidate the various monitoring requirements in schedule 3 of this consent into a single document.	<ul style="list-style-type: none"> <li>Monitoring requirements for subsidence are not included in the 2017 Environmental Monitoring Program e.g., as specified in DA504-00 Sch 3-2 and Sch 3-9(f)).</li> <li>Impact assessment criteria and TARPs for monitoring triggered by DA 504-00 Sch 3 are located in numerous management plans and associated documents.</li> </ul>	R15: Revise the Clarence Environmental Monitoring Program: <ul style="list-style-type: none"> <li>Include each of the monitoring requirements in DA504-00 Sch 3 (Specific Environmental Conditions).</li> <li>For each monitoring requirement, identify impact assessment criteria, baseline data, monitoring and reporting requirements, responsibilities, and TARPs.</li> <li>Identify when the Clarence Environmental Monitoring Program is required to be updated.</li> <li>Correct Table references.</li> </ul>
NC-14	DA504	Sch 5-4	<b>Environmental Monitoring Program</b> Within 3 months of the completion of each Independent Environmental Audit, the Applicant shall review, and if necessary update, the Environmental Monitoring Program to the satisfaction of the Planning Secretary.	<ul style="list-style-type: none"> <li>The 2016 IEA, dated 29 July 2016, included one recommendation to update the Environmental Monitoring Program to include details of the flora and fauna monitoring undertaken (as required by Development Consent 1994 condition 3). Although the 2017 Environmental Monitoring Program was updated to include flora and fauna monitoring in 2017, as this was more than 3 months after the completion of the IEA, this condition was assessed as non-compliant. As the Program has been updated, no further recommendations have been made.</li> </ul>	Closed. No recommendation.
NC-15	DA504	Sch 5-8	<b>Independent Environmental Audit</b> Within 3 months of commissioning the Independent Environmental Audit, the Applicant shall submit a copy of the audit report to the Planning Secretary, with a response to the recommendations contained in the audit report.	<ul style="list-style-type: none"> <li>The 2016 IEA was reportedly provided to the DPIE in 2016 however, the 2016 AR reports that <i>"there was a delay in finalising the report due to the legally privileged and confidential nature of the report with the ongoing prosecution following the 2nd July 2015 Overtopping incident"</i>.</li> </ul>	Closed. No recommendation.

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ID #	App.	Cond. No.	Requirement Summary	Finding	Recommendation #
				<ul style="list-style-type: none"> <li>One complaint was registered on 5 March 2017 that “the Clarence Independent Audit Report was not available on the Clarence Website and requested a copy”.</li> <li>As the IEA was not finalised within 3 months, this condition was assessed as non-compliant. As the 2016 AR includes an action plan addressing the recommendations in the IEA, and copies of the IEA and revised action plan were available on the CC website, no recommendations have been made.</li> </ul>	
NC-16	DA504	Sch 5-10	<b>Community Consultation Committee</b> The Applicant shall, at its own expense: <ul style="list-style-type: none"> <li>(a) ensure that 2 of its representatives attend the CCC’s meetings;</li> <li>(b) provide the CCC with regular information on the environmental performance and management of the development;</li> <li>(c) provide meeting facilities for the CCC;</li> <li>(d) arrange site inspections for the CCC, if necessary;</li> <li>(e) take minutes of the CCC’s meetings;</li> <li>(f) make these minutes available to the public;</li> <li>(g) respond to any comments or recommendations the CCC may have in relation to the environmental management or performance of the development;</li> <li>(h) forward a copy of the minutes of each CCC meeting, and any responses to the CCC’s recommendations to the Planning Secretary within a month of acceptance of the minutes by the CCC.</li> </ul>	<ul style="list-style-type: none"> <li>Although the CCC meeting minutes were available to the public on the CC website, there was no evidence that the minutes had been provided to DPIE.</li> </ul>	R16: Provide CCC minutes and responses to the CCC’s recommendations to DPIE within a month of acceptance of the minutes by the CCC.
NC-17	DA504	Sch 5-11	<b>Access to Information</b> Within 1 month of the approval of any management plan/strategy required under this consent (or any subsequent revision of these management plans strategies), the completion of the independent audits required under this consent, or the completion of the Annual Review, the Applicant shall:	<ul style="list-style-type: none"> <li>The CC website did not have a copy of the 2017 WMP or the 2020 EMS.</li> <li>Although the June 2017 and September 2018 CCC minutes referenced the MOP and WRNMP, there was no evidence that all revised and approved plans, ARs and the IEA were provided to Council, relevant agencies and the CCC.</li> </ul>	R17: Following approval of revised management plans, completion of ARs and the IEA; provide copies of the documents, or links to the documents, to Council, the relevant agencies, CCC and on the CC website.

ID #	App.	Cond. No.	Requirement Summary	Finding	Recommendation #
			<p>(a) provide a copy of the relevant document/s to the Council, relevant agencies and the CCC;</p> <p>(b) ensure that a copy of the relevant documents is made publicly available at the mine; and</p> <p>(c) put a copy of the relevant document/s on the Applicant's website, to the satisfaction of the Planning Secretary</p>		
NC-18	DA504	Sch 5-12	<p><b>Access to Information</b></p> <p>During the life of the development, the Applicant shall:</p> <p>(a) make a summary of the results of all monitoring required under this consent publicly available both at the mine and on the Applicant's website; and</p> <p>(b) update these results on a regular basis (at least every 3 months), to the satisfaction of the Planning Secretary,</p> <p>Note: The Applicant's environmental management plans/protocols should specify the reporting provisions for each environmental aspect.</p>	<ul style="list-style-type: none"> <li>Although monitoring of surface water and groundwater has been undertaken, the Environmental Monitoring Program (CC, 2017) and 2017 WMP do not specify the reporting requirements for water monitoring, consequently this condition has been assessed as non-compliant.</li> </ul>	R18: Include reporting provisions for all monitoring required under DA504 Sch 3 (Specific Environmental Conditions) in corresponding management plans and programs and make available on the CC website.
NC-19	DA504	App 3	<p><b>TPHSS</b></p> <p>Annually undertake, in summer months, a rapid assessment on established cross-sections within the TPHSS Community to monitor the integrity of the swamp</p>	<ul style="list-style-type: none"> <li>Although annual rapid assessments at the swamp close to REA VI have been undertaken in the Autumn of 2017, 2018 and 2019, as they were not undertaken in the summer months, this condition has been assessed as Non-compliant.</li> </ul>	R19: Undertake the annual rapid assessment on TPHSS community in the summer months.
NC-20	MOD 035/18	7	<p><b>Rehabilitation</b></p> <p>The applicant shall arrange an annual onsite meeting, over the life of the project, to inspect the results of rehabilitation works. Representatives from Council, the Department of Conservation and Land Management, National Parks and Wildlife Service and Department of Mineral Resources shall be invited to attend each meeting and the applicant shall adhere to any recommendations made by these representatives. The first annual site meeting shall be undertaken not more than</p>	<ul style="list-style-type: none"> <li>The DRG are invited annually to the site for the annual Resources Regulator inspection which includes inspection of rehabilitation areas.</li> <li>This condition has been assessed as non-compliant as there was no evidence that representatives from LCC, DPI Water and NPWS have been invited annually to an onsite meeting to inspect the results of rehabilitation works.</li> </ul>	R20: Arrange an annual on-site meeting over the life of the project, to inspect the results of rehabilitation works, with invitations to representatives from Council, the Department of Conservation and Land Management, National Parks and Wildlife Service and Department of Mineral Resources (or equivalent agency).

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			one (1) year after the commencement of operations for REA III.		
C-5	MOD 035/18	13	<b>Rehabilitation</b> The development will need to be monitored and included in the Mines Annual Environmental Report. This is to ensure that the containment of the potential low level acid generating material and subsequent rehabilitation is satisfactory and that there are no ongoing land management issues when the mining tenement is relinquished. The report and monitoring results are to be sent to Lithgow Council and to the Crown Lands.	<ul style="list-style-type: none"> <li>In May 2020, Clarence Colliery was issued a notice under Section 240(1)(c) of the Mining Act 1992 in relation to the operations of the tailings storage facilities and decommissioning and closure requirements. Clarence provided a report in response to the notice which nominated actions to address the identified concerns. Annual rehabilitation monitoring reports have been summarised and included as attachments in the 2018 and 2019 ARs consequently this condition as assessed as Compliant.</li> <li>Actions to assess groundwater monitoring regime in the REA III Decommissioning HRA v3 include a sampling regime to be completed by 16 October 2020 (after the period of this IEA) and independent groundwater monitoring around REA III to determine capping suitability to be completed by 25 June 2021 (after the period of this IEA). A recommendation has been provided to include the results of this monitoring in the ARs and provide to LCC and Crown Lands.</li> </ul>	R21: Provide results from the REA III groundwater sampling regime (triggered by the REA III Decommissioning HRA) over the life of the REA III rehabilitation and include an impact assessment of these results against rehabilitation criteria in Annual Reviews. Provide the AR to LCC and Crown Lands.
NC-21	MOD 035/18	14	<b>Office of Environment and Heritage</b> The rehabilitation of the site is to follow the best practice guidelines and be consistent with the Clarence Colliery Mining Operations Plan (MOP). The rehabilitation should be to establish Plant Community Types (PCTs) that would occur naturally on the site. When the MOP is updated, reference to vegetation communities should use community types so that it is consistent with other Centennial Coal management plans and current state-wide vegetation community descriptions.	<ul style="list-style-type: none"> <li>The rehabilitation of the site is required to follow the best practice guidelines and be consistent with the MOP. Given that the cumulative rehabilitation progress was less than forecast in the 2014 -2017 MOP for the end of 2017, and less than forecast in the 2018 -2021 MOP Amendment A for the end of 2019; and that rehabilitation condition required improvement (e.g., weed management post bushfire), this condition was assessed as non-compliant. Notwithstanding the non-compliant finding, the auditors recognise that rehabilitation progress has been impacted by:               <ul style="list-style-type: none"> <li>the impact of three years of severe drought during the period of the IEA.</li> <li>the scheduling for REA III final landform, capping and rehabilitation being delayed due to the recovery of fine coal from REA III (following the July 2015 incident).</li> </ul> </li> </ul>	R22: To improve rehabilitation performance, undertake progressive rehabilitation of REAs including: <ul style="list-style-type: none"> <li>Assess the status of current cumulative rehabilitation areas against forecasts in the 2018 -2022 MOP Amendment A and report in ARs.</li> <li>Implement recommendations from the 2020 annual rehabilitation monitoring report.</li> <li>Continue to conduct an annual independent review of</li> </ul>

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				<ul style="list-style-type: none"> <li>the Gospers Mountain bushfire (December 2019 – early 2020).</li> </ul>	rehabilitation performance by competent persons and implement recommendations.
NC-22	1994 DC	9	The applicant shall consult with the Soil Conservation Service during topsoil stripping and stockpiling associated with Reject Emplacement Areas IV and V.	<ul style="list-style-type: none"> <li>Topsoil stripping and stockpiling associated with REA IV occurred before the period of this IEA. Topsoil stripping for Stage 1 REA V had commenced during the period of this IEA. No evidence was provided that consultation had been undertaken with the Soil Conservation Service (now within DPIE) during topsoil stripping of REA V.</li> </ul>	R23: Consult with the Soil Conservation Service (now within DPIE) during topsoil stripping and stockpiling associated with Reject Emplacement Areas and V; or seek approval that this condition is not required for future works.
NC-23	1994 DC	10	The applicant shall consult with the Soil Conservation Service prior to the construction of runoff diversion and erosion and sediment control works. Such works are to be constructed to the satisfaction of the Soil Conservation Service.	<ul style="list-style-type: none"> <li>The figure supporting the Development Consent granted by LCC in 1994 includes LD 2, REA V and LD 4.</li> <li>Runoff diversion and erosion and sediment control works has been undertaken during the period of the IEA e.g. construction of LD 4 at REA V and improvements to erosion at LD 2 (refer photos in Appendix A1 DA504 Sch 3-8 (Sediment and Erosion Control Plan)). No evidence was provided that these works referenced the Managing Urban Stormwater: Soils and Construction manual and/or were constructed to the satisfaction of the Soil Conservation Service.</li> <li>Although DPIE and DRE reviewed REA III HRA, the auditors were unable to assess if this meets the requirements of this condition, consequently this condition was assessed as Non-compliant.</li> </ul>	R24: Consult with the Soil Conservation Service (now within DPIE) prior to construction of runoff diversion and erosion and sediment control works and construct such works to the satisfaction of the Soil Conservation Service; or seek approval from LCC that this condition is not required for future works.
NC-24	1994 DC	11	The applicant shall prepare, within 6 months of the commencement of operations for Reject Emplacement Area IV and Reject Emplacement Area V respectively, a detailed rehabilitation plan for each area. This plan is to be submitted to the Department of Mineral Resources, the Soil Conservation Service and Council for approval.	<ul style="list-style-type: none"> <li>An annual rehabilitation monitoring report has been conducted and is included as an attachment to the AR, and summarised within the AR e.g. Koru Environmental Monitoring Report 2018 and the 2018 AR.</li> <li>The annual rehabilitation monitoring report assesses current rehabilitation performance against the criteria in the 2018 – 2022 MOP.</li> <li>The 2018 AR references a rehabilitation trial program on REA IV which subsequently commenced in 2019. The trial program was</li> </ul>	R25: Within 6 months of commencement of reject emplacement at REA V, provide a detailed rehabilitation plan for REA V to the Soil Conservation Service (now within DPIE) for approval.



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				presented to government agencies (DPIE, and EPA) as part of the REA III decommissioning HRA.	
				<ul style="list-style-type: none"> <li>REA IV and REA VI rehabilitation was impacted by the Gaspers Mountain bushfire (December 2019). REA V construction has only commenced in 2020 – consequently no rehabilitation has been undertaken. There was no evidence provided that consultation had been undertaken on progressive rehabilitation on REA IV with the Soil Conservation Service.</li> </ul>	
NC-25	1994 DC	12	The applicant shall consult with the Soil Conservation Service in respect of the progressive and final rehabilitation of Reject Emplacement Areas IV and V. Rehabilitation of these areas is to be undertaken to the satisfaction of the Soil Conservation Service, the Department of Mineral Resources and Council.	<ul style="list-style-type: none"> <li>An annual rehabilitation monitoring report has been conducted and is included as an attachment to the AR, and summarised within the AR e.g. Koru Environmental Monitoring Report 2018 and the 2018 AR.</li> <li>The annual rehabilitation monitoring report assesses current rehabilitation performance against the criteria in the 2018 – 2022 MOP.</li> <li>A rehabilitation trial program on REA IV was presented to DPIE and EPA as part of the REA III decommissioning HRA in 2018. The trial commenced in 2019.</li> <li>REA IV and REA VI rehabilitation was impacted by the Gaspers Mountain bushfire (December 2019). REA V construction has only commenced in 2020 – consequently no rehabilitation has been undertaken.</li> <li>There was no evidence provided that consultation had been undertaken on progressive rehabilitation on REA IV with Council.</li> </ul>	R26: Consult with the Soil Conservation Service (now within DPIE), the Department of Mineral Resources (now DRG) and Council on the progressive rehabilitation of REA IV and when required REA V; and obtain approval that that progressive and final rehabilitation of REA IV and V has been undertaken to the satisfaction of the Soil Conservation Service (now within DPIE), the Department of Mineral Resources (DRG) and Council.
NC-26	1993 DC	6	<b>Rehabilitation</b> The applicant shall arrange an annual onsite meeting, over the life of the project, to inspect the results of rehabilitation works. Representatives from Council, the Department of Conservation and Land Management, National Parks and Wildlife Service and Department of Mineral Resources shall be invited to attend each meeting and the applicant shall adhere to any recommendations made by these representatives. The first annual	<ul style="list-style-type: none"> <li>The DRG are invited annually to the site for the annual Resources Regulator inspection which includes inspection of rehabilitation areas.</li> <li>This condition has been assessed as non-compliant as there was no evidence that representatives from LCC, DPI Water and NPWS have been invited annually to an onsite meeting to inspect the results of rehabilitation works.</li> </ul>	Refer to Appendix A2 MOD035/18 condition 7 (Rehabilitation) (NC-20): R20.

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			site meeting shall be undertaken not more than one (1) year after the commencement of operations for REA III.		
NC-27	EPL 726	L1.1	<b>Pollution of Waters</b> Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.	<ul style="list-style-type: none"> <li>Refer NC-2 in this table, Appendix A1 DA504 Sch 3-3 (Pollution of Waters) and Appendix A3 EPL 726 L2.1 (Concentration Limits).</li> <li>Multiple exceedances of water quality discharge concentration limits at LDP 002 have been reported in monthly EPL monitoring reports and corresponding ARs, during the period of this IEA (refer Appendix A3 L1.1 (Pollution of Waters)).</li> <li>On 15 January 2020, the EPL was revised to include a PRP to cease discharge to the Wollangambe River at LDP 002. An application is pending with the EPA to vary EPL 726 and PRP U1 for a project to meet the PRP requirements. When completed, these actions were assessed as adequately addressing the exceedances of water quality concentration limits in LDP 002, consequently, no further recommendations were made.</li> </ul>	Refer to Appendix A1 DA504 Sch 3-3 (Pollution of Waters).
NC-28	EPL 726	L2.1	<b>Concentration Limits</b> For each monitoring/discharge point or utilisation area specified in the table(s) (refer EPL 726), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table (L2.4)	<ul style="list-style-type: none"> <li>Refer Appendix A1 DA504 Sch 3-3 (Pollution of Waters) (NC-2), Appendix A3 EPL 726 L1.1 (Pollution of Waters) and L2.1 (Concentration Limits).</li> </ul>	Refer to Appendix A1 DA504 Sch 3-3 (Pollution of Waters). (NC-2).

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ID #	App.	Cond. No.	Requirement Summary	Finding	Recommendation #								
NC-29	EPL 726	L5.1	<b>Noise limits</b> Noise generated from the premises, excluding train loading and rail operations, must not exceed the noise limits specified in the table <table><tr><th>Location</th><th>Day (LAeq 15 min)</th><th>Evening (LAeq 15 min)</th><th>Night (LAeq 15 min)</th></tr><tr><td>Any residence on privately owned land not subject to an agreement with the licensee</td><td>38</td><td>36</td><td>35</td></tr></table>	Location	Day (LAeq 15 min)	Evening (LAeq 15 min)	Night (LAeq 15 min)	Any residence on privately owned land not subject to an agreement with the licensee	38	36	35	<ul style="list-style-type: none"><li>No exceedances of the noise limits were recorded in 2016 and 2019.</li><li>Exceedance of the night noise limit was recorded in 2017 (42 dB(A)) and in 2018 (43dB(A)).</li><li>Refer Appendix A1 DA504 Sch 3-15 (Noise Impact Assessment Criteria).</li></ul>	Refer to Appendix A1 DA504 Sch 3-15 (Noise Impact Assessment Criteria) (NC-7): R9.
Location	Day (LAeq 15 min)	Evening (LAeq 15 min)	Night (LAeq 15 min)										
Any residence on privately owned land not subject to an agreement with the licensee	38	36	35										
NC-30	EPL 726	O2.1	<b>Plant and Equipment</b> All plant and equipment installed at the premises or used in connection with the licensed activity: a) must be maintained in a proper and efficient condition; and b) must be operated in a proper and efficient manner.	<ul style="list-style-type: none"><li>Refer Appendix A1 DA504 Sch 2-11 (Operation of Plant and Equipment).</li></ul>	Refer to Appendix A1 DA504 Sch 2-11 (Operation of Plant and Equipment) (NC-11).								
NC-31	EPL 726	M3.1	<b>Testing Methods</b> Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.	<ul style="list-style-type: none"><li>The ALS monitoring Excel workbook includes Methodology of Water Analysis worksheet; however, the worksheet does not identify the method for all Pollutants listed in EPL M2.3 (e.g., metals) and consequently an assessment against the Approved Methods Publication could not be undertaken.</li></ul>	R27: Identify the monitoring methods for each of the Pollutants identified in M2.3 in the ALS monthly environmental monitoring reports (.xls), assess if the methodology is in accordance with the EPA Approved Methods, and if required undertake corrective actions.								
NC-32	EPL 726	M4.1	<b>Noise Monitoring</b> The licensee must undertake yearly (in-line with the reporting period) noise monitoring as outlined below, to determine compliance with the noise limits stipulated by condition L5.1:	<ul style="list-style-type: none"><li>Unattended noise results were not included in the March 2018 Environmental Noise Monitoring Report (Global Acoustics, 2018) or the December 2019 Environmental Noise Monitoring Report (Global Acoustics, 2019)</li></ul>	R28: Conduct both attended and unattended annual noise monitoring in accordance with EPL 726 M4.1.								

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			<p>a) 1 day attended noise monitoring covering the day, evening and night time periods; and</p> <p>b) 5 days unattended noise monitoring (monitor and logger) covering each days day, evening and night time periods.</p>		
NC-33	CCL 705	3 (2)	<p>The AEMR must be prepared in accordance with the Secretary's guidelines current at the time of reporting and contain a review and forecast of performance for the proceeding and ensuing twelve months in terms of</p> <p>a) the accepted Mining Operations Plan</p> <p>b) development consent requirements and conditions</p> <p>c) Department of Environment and Conservation and Department of Planning licences and approvals</p> <p>d) any other statutory environmental requirements;</p> <p>e) details of any variations to environmental approvals applicable to the lease area; and</p> <p>f) where relevant, progress towards final rehabilitation objectives.</p>	<ul style="list-style-type: none"> <li>The Table of Contents of the 2016, 2017, 2018 and 2019 ARs were aligned with the DPIE Post Approval requirements for Mining Developments. Although a detailed review of the AR development was not undertaken as part of this IEA, the 2019 AR was assessed as including most of the topics of the DPIE Post Approval requirements for Mining Developments.</li> <li>Although the ARs included the rehabilitation status (e.g., AR 2019 Table 29), proposed rehabilitation for the next 12 month reporting period, and a reference to the MOP site rehabilitation objective (e.g., AR 2019 section 13); as there was no assessment of current rehabilitation progress against final rehabilitation objectives, this condition was assessed as non-compliant.</li> </ul>	Refer to Appendix A2 MOD 035/18 condition 14 (OEH) (NC-21): R22.
NC-34	CCL 705	13(a)	<p><b>Rehabilitation</b></p> <p>Land disturbed must be rehabilitated to a stable and permanent form suitable for a subsequent land use acceptable to the Director-General and in accordance with the Mining operations plan so that</p> <ul style="list-style-type: none"> <li>- there is no adverse environmental effect outside the disturbed area and that the land is properly drained and protected from soil erosion.</li> <li>- the state of the land is compatible with the surrounding land and land use requirements.</li> <li>- the landforms, soils, hydrology and flora require no greater maintenance than that in the surrounding land.</li> </ul>	<ul style="list-style-type: none"> <li>Clarence engaged third party consultants to annually monitor rehabilitation and a rehabilitation trial program was commenced in 2019 to improve rehabilitation results on REA II and REA IV and identify suitable rehabilitation methods for REA III. Rehabilitation on REA IV and REA VI was impacted by drought and the December 2019 Gospers Mountain bushfire. Clarence are now seeking advice on how to progress rehabilitation. Annual rehabilitation monitoring scheduled for November 2020 may assist in providing direction.</li> <li>The intent of this condition is to drive progressive rehabilitation, hence a recommendation to progress rehabilitation and consultation with stakeholders has been made.</li> </ul>	<p>Refer to recommendations:</p> <ul style="list-style-type: none"> <li>Appendix A2 MOD 035/18 condition 13 (Rehabilitation) (C-5): R21.</li> <li>Appendix A2 MOD 035/18 condition 14 (Rehabilitation) (NC-21): R22.</li> <li>Appendix A2 MOD035/18 condition 7 (Rehabilitation) (NC-20): R20.</li> </ul>

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			<ul style="list-style-type: none"> <li>- in cases where revegetation is required and native vegetation has been removed or damaged, the original species must be re-established with close reference to the flora survey included in the Mining operations plan. if the original vegetation was not native, any re-established vegetation must be appropriate to the area and at an acceptable density,</li> <li>- the land does not pose a threat to public safety</li> </ul>	<ul style="list-style-type: none"> <li>At the time of the site inspection, and as outlined in the annual rehabilitation monitoring reports and ARs, no disturbed land had been rehabilitated to a stable and permanent form.</li> <li>Given that there is an obligation to undertake progressive rehabilitation in accordance with the MOP, and that the cumulative rehabilitation progress was less than forecast in the 2014 -2017 MOP for the end of 2017, and less than forecast in the 2018 -2021 MOP Amendment A for the end of 2019, this condition was assessed as non-compliant.</li> <li>Refer Appendix A2 MOD035/18 condition 7 (Rehabilitation) (NC-20): R20.</li> <li>Refer Appendix A2 MOD035/18 condition 13 (Rehabilitation) (C-5): R21.</li> <li>Refer Appendix A2 MOD035/18 condition 14 (Rehabilitation) (NC-21): R22</li> <li>Refer Appendix A2 1994 Development Approval condition 12 (Progressive and final rehabilitation) (NC-25): R26.</li> </ul>	<ul style="list-style-type: none"> <li>Appendix A2 1994 Development Approval condition 12 (Progressive and final rehabilitation) (NC-25): R26.</li> </ul>
NC-35	CCL 705	29	<b>Contamination of Waters</b> The lease holder shall provide and maintain to the satisfaction of the Minister efficient means to prevent contaminated waters discharging or escaping from the subject area onto surrounding areas and shall comply with any direction given or which may be given in this regard by the Minister	<ul style="list-style-type: none"> <li>The auditors have assessed that exceedance of EPL 726 LDP 002 discharge concentration limits represents "contamination of waters discharging from the subject area onto surrounding areas". As there were a number of exceedances of LDP 002 discharge concentration limits recorded during the period of this IEA, this condition was assessed as non-compliant.</li> <li>Refer Appendix A1 DA504 Sch 3-3 (Pollution of Waters): NC-2.</li> </ul>	Refer to Appendix A1 DA504 Sch 3-3 (Pollution of Waters).
NC-36	ML 1583	25	<b>Security</b> a) A security in the sum of \$50,000.00 must be given and maintained with the Minister by the lease holder for the purpose of ensuring the fulfilment by the lease holder of obligations under this lease. If the lease holder fails to fulfil any one or more of such obligations the said sum may be applied at the discretion of the Minister towards the cost of fulfilling such obligations, For the purpose of this clause the lease holder shall be deemed to	<ul style="list-style-type: none"> <li>On 23 September 2014, DRG advised that the Security for ML 1583 was \$43,000, that security for \$70,000 was already held, and DRG acknowledged that security certificates have already been received.</li> <li>The securities for ML 1583 were increased on 8 October 2020 (just prior to this IEA commencing) when DRG advised CC that a security deposit of \$285,000 is required for rehabilitation obligations under ML 1583</li> </ul>	R29: Increase security deposit to \$285,000 to meet the Notification Assessment for rehabilitation obligations for ML 1583 (DRG, 8 October 2020).

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			<p>have failed to fulfil the obligations of this lease If the lease holder fails to comply with any condition or provision hereof, any provision of the Act or regulations made there under or any condition or direction imposed or given pursuant to a condition or provision hereof or of any provision of the Act or regulations made there under</p> <p>b) The lease holder must provide the security required by sub-clause (a) in one of the following forms</p> <p>i) cash,</p> <p>ii) a security certificate in a form approved by the Minister and issued by an authorised deposit - taking institution</p>	<ul style="list-style-type: none"> <li>• Certificates for the following securities totalling \$70,000 were sighted for ML 1583: <ul style="list-style-type: none"> <li>○ Certificate 300506 for MLA 208 and 209 – ML 1583 (\$50,000)</li> <li>○ Certificate 25061004 for MLA 208 and 209 – ML 1583 (\$20,000)</li> </ul> </li> </ul>	
NC-37	900 Area SMP	13	<p><b>Environmental Management Plan</b></p> <p>Environmental Management Plan</p> <p>The Leaseholder must submit to the Director Environmental Sustainability for approval an Environmental Management Plan (EMP) for the panels which are the subject of this approval.</p> <p>a) surface water and groundwater and dependent ecosystems</p> <p>b) Newnes Plateau shrub swamps and hanging swamps including dependence on groundwater levels and quality for terrestrial and aquatic flora and fauna</p> <p>c) Bungleboori Creek;</p> <p>d) Cliffs, pagodas and steep slopes; and</p> <p>e) archaeological sites</p> <p>The leaseholder shall ensure that underground mining does not result in any more than negligible environmental consequences to the aforementioned features.</p> <p>The leaseholder must not operate other than in accordance with an EMP approved by the Director Environmental Sustainability. This Plan must</p>	<ul style="list-style-type: none"> <li>• The Clarence Environmental Monitoring Program has been prepared to meet the requirements of this condition. The Clarence Environmental Monitoring Program was approved by DRG on 19 June 2014 and further to revision, was approved again on 2 December 2014.</li> <li>• The Clarence Environmental Monitoring Program was varied in 2017. No evidence of consultation or approval of the 2017 Clarence Environmental Monitoring program was provided.</li> <li>• No separate environmental monitoring programs were prepared to support SMP variations during the period of this IEA. Clarence reported that separate environmental monitoring programs are only prepared for SMP variations where the SMP variation warrants additional environmental monitoring.</li> <li>• The Partial Extraction 900 Area Environmental Monitoring Program (CC, 2014) includes references to SMP 900 Area condition 13 items a) to e), however it does not identify how risks to these issues will be managed. Management of items a) to e) is provided in the Clarence Environmental Management Plan or the 2017 WMP.</li> <li>• Although the Clarence Environmental Monitoring Program has been developed to meet the requirements of the SMP Environmental Management Plan, the Monitoring Program does</li> </ul>	<p>Refer to recommendations:</p> <ul style="list-style-type: none"> <li>• Appendix A1 DA504 Sch 3-2 (Subsidence Management Plan) (C-2): R2.</li> <li>• Appendix A1 DA504 Sch 3-5 (Water Resources Impact Assessment Criteria) (NC-3): R3.</li> <li>• Appendix A1 DA504 Sch 3-9 (Surface Water Monitoring) (NC-5): R7.</li> </ul>

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			<p>address subsidence impacts above and must include:</p> <ul style="list-style-type: none"> <li>i) a detailed monitoring programme</li> <li>ii) trigger levels for subsidence impacts that require actions and responses</li> <li>iii) the procedures that would be followed in the event that the monitoring indicates an exceedance of trigger levels</li> <li>iv) the procedures that would be followed in the event that the monitoring indicates an exceedance of trigger levels</li> <li>vi) a protocol for the notification of identified exceedances of the trigger levels</li> <li>vii) a contingency plan</li> </ul> <p>This Plan must be prepared in consultation with relevant landholders and government agencies.</p> <p>The Leaseholder must not cause subsidence impacts prior to the Environmental Management Plan being approved. The EMP must be developed in sufficient time to allow two years data to be collected prior to extraction commencing, unless otherwise authorised by the Director Environmental Sustainability.</p>	<p>not include all of requirements of 900 Area SMP condition 13 i) to vii), consequently this condition was assessed as non-compliant.</p> <ul style="list-style-type: none"> <li>• Refer Appendix A1 DA504 Sch 3-2 (Subsidence Management Plan): C-2 and R2.</li> <li>• Refer Appendix A1 DA504 Sch 3-5 (Water Resources Impact Assessment Criteria): NC-3 and R3.</li> <li>• Refer Appendix A1 DA504 Sch 3-9 (Surface Water Monitoring): NC-5 and R7.</li> </ul>	
NC-38	900 Area SMP	18 (b) and (c)	<p><b>Annual Report</b></p> <p>The annual report must:</p> <ul style="list-style-type: none"> <li>a) include a summary of the subsidence and environmental monitoring results for the year</li> <li>b) Include an analysis of these monitoring results against the relevant; <ul style="list-style-type: none"> <li>• impact assessment criteria;</li> <li>• monitoring results from previous panels; and</li> <li>• predictions in the SMP</li> </ul> </li> <li>c) Identify any trends in the monitoring results over the life of the activity, including trends in aquifers associated</li> </ul>	<ul style="list-style-type: none"> <li>• Summary of the subsidence and environmental monitoring results for the year (SMR sections 2, 3 and 4) (compliant).</li> <li>• Subsidence is assessed against impact assessment criteria and predictions as provided in the 900 Area TARP (SMR section 3.3) (compliant)</li> <li>• Groundwater levels are assessed against impact assessment criteria as provided in the WMP TARP (CC, 2017) and previous annual monitoring (SMR section 4.1) (compliant)</li> <li>• Flora and fauna are assessed against impact assessment criteria as described in the SMR and comparison with previous annual report (SMR sections 4.2 and 4.3) (compliant)</li> <li>• Cliffline and Pagoda photographs are visually assessed.</li> </ul>	<p>Refer to recommendations:</p> <ul style="list-style-type: none"> <li>• Appendix A1 DA504 Sch 2-11 (Subsidence Management Plan) (C-2): R2.</li> <li>• Appendix A1 DA504 Sch 3 -5 (Water Resources Impact Assessment Criteria) (NC-3): R3.</li> </ul>



ID #	App.	Cond. No.	Requirement Summary	Finding	Recommendation #
			with aquitards and strata above and below them;	<ul style="list-style-type: none"> <li>Upstream and downstream surface water sampling results from Farmers Creek were reported although an assessment against criteria was not available (non-compliant).</li> <li>Refer to Appendix A1 DA504 Sch 2-11 (Subsidence Management Plan) (C-2): R2.</li> <li>Refer to Appendix A1 DA504 Sch 3 -5 (Water Resources Impact Assessment Criteria) (NC-3): R3.</li> </ul>	
NC-39	800 Area SMP	13	<p><b>Environmental Management Plan</b></p> <p>The Leaseholder must submit to the Director Environmental Sustainability for approval an Environmental Management Plan (EMP) for the panels which are the subject of this approval.</p> <ol style="list-style-type: none"> <li>surface water and groundwater and dependent ecosystems</li> <li>surface water and groundwater and dependent ecosystems</li> <li>Dumbano Creek;</li> <li>Cliffs / pagodas</li> <li>aboriginal archaeological sites</li> <li>flora and fauna</li> <li>any other significant environmental feature that may be impacted by subsidence resulting from the proposed pillar mining</li> </ol> <p>The leaseholder must not operate other than in accordance with an Environmental Management Plan (EMP) approved by the Director Environmental Sustainability. This plan must address subsidence impacts above and must include:</p> <ol style="list-style-type: none"> <li>a pre-mining inspection of swamps in the subject area to identify existing physical characteristics of the swamps and associated terrestrial and aquatic flora and fauna;</li> <li>a detailed monitoring programme</li> <li>trigger levels for subsidence impacts that require actions and responses</li> </ol>	<ul style="list-style-type: none"> <li>The Clarence Environmental Monitoring Program has been prepared to meet the requirements of this condition. The Clarence Environmental Monitoring Program was approved by DRG on 19 June 2014 and further to revision, was approved again on 2 December 2014.</li> <li>The Clarence Environmental Monitoring Program was varied in 2017. No evidence of consultation or approval of the 2017 Clarence Environmental Monitoring program was sighted by the auditors.</li> <li>No separate environmental monitoring programs were prepared to support SMP variations during the period of this IEA. Clarence reported that separate environmental monitoring programs are only prepared for SMP variations where the SMP variation warrants additional environmental monitoring.</li> <li>Management of items a) to e) is provided in the Clarence Environmental Management Plan and the 2017 WMP.</li> <li>Although the Clarence Environmental Monitoring Program has been developed to meet the requirements of the SMP Environmental Management Plan, the Monitoring Program does not include all of requirements of 900 Area SMP condition 13 i) to vii), consequently this condition was assessed as non-compliant.</li> <li>Refer Appendix A1 DA504 Sch 3-2 (Subsidence Management Plan): C-2 and R2.</li> <li>Refer Appendix A1 DA504 Sch 3-5 (Water Resources Impact Assessment Criteria): NC-3 and R3.</li> <li>Refer Appendix A1 DA504 Sch 3-9 (Surface Water Monitoring): NC-5 and R7.</li> </ul>	<p>Refer to recommendations:</p> <ul style="list-style-type: none"> <li>Appendix A1 DA504 Sch 3-2 (Subsidence Management Plan) (C-2): R2.</li> <li>Appendix A1 DA504 Sch 3-5 (Water Resources Impact Assessment Criteria) (NC-3): R3.</li> <li>Appendix A1 DA504 Sch 3-9 (Surface Water Monitoring) (NC-5): R7.</li> </ul>

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ID #	App.	Cond. No.	Requirement Summary	Finding	Recommendation #
			iv) the procedures that would be followed in the event that the monitoring indicates an exceedance of trigger levels iv) the procedures that would be followed in the event that the monitoring indicates an exceedance of trigger levels vi) a protocol for the notification of identified exceedances of the trigger levels vii) a contingency plan This Plan must be prepared in consultation with relevant landholders and government agencies. The Leaseholder must not cause subsidence impacts prior to the Environmental Management Plan being approved. The EMP must be developed in sufficient time to allow two years data to be collected prior to extraction commencing, unless otherwise authorised by the Director Environmental Sustainability.		
NC-40	800 Area SMP	18	<b>Annual Report</b> The Leaseholder shall prepare an annual report. This report shall be submitted to the Director General within twelve months of the date of this approval and annually thereafter	<ul style="list-style-type: none"> <li>Refer Appendix A5 Area 900 SMP condition 18.</li> </ul>	Refer to Appendix A5 900 Area SMP condition 18 (NC-39): R31.
NC-41	800 Area SMP	18 (b) and (c)	<b>Annual Report</b> The annual report must: <ol style="list-style-type: none"> <li>include a summary of the subsidence and environmental monitoring results for the year</li> <li>Include an analysis of these monitoring results against the relevant;               <ul style="list-style-type: none"> <li>impact assessment criteria;</li> <li>monitoring results from previous panels; and</li> <li>predictions in the SMP</li> </ul> </li> <li>Identify any trends in the monitoring results over the life of the activity, including trends in aquifers associated</li> </ol>	<ul style="list-style-type: none"> <li>Refer Appendix A5 900 Area SMP condition 18 b) and c).</li> </ul>	Refer to recommendations: <ul style="list-style-type: none"> <li>Appendix A1 DA504 Sch 2-11 (Subsidence Management Plan) (C-2): R2.</li> <li>Appendix A1 DA504 Sch 3 -5 (Water Resources Impact Assessment Criteria) (NC-2): R3.</li> </ul>

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ID #	App.	Cond. No.	Requirement Summary	Finding	Recommendation #
			with aquitards and strata above and below them		
NC-42	2016 IEA Actions	26	Update the Environmental Monitoring Program to include details of the flora and fauna monitoring undertaken and provide to the NPWS for consultation.	<ul style="list-style-type: none"><li>The 2017 Environmental Monitoring program includes flora and fauna monitoring. Although the results of annual flora and fauna monitoring are summarised in the ARs which are available on the CC website, there was no evidence provided that NPWS had been consulted in the preparation of the flora and fauna monitoring.</li></ul>	R30: Provide NPWS with the flora and fauna monitoring program for review and if required, revise the Clarence environmental monitoring program accordingly.

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## 2.3 Regulatory Actions, Incidents and Complaints

### 2.3.1 July 2015 Incident

On 2 July 2015 (during the period of the previous IEA) an incident occurred where coal fines were released from REA III to the Wollangambe River. A summary of regulatory action taken as a result of this incident during the period of this IEA, is provided in Table 2-3.

**Table 2-3: July 2015 Incident - Regulatory Actions (2016 -2020)**

Regulatory Agency	Action	Status	Evidence
EPA	• Clean Up Notice 1531813 (3 July 2015)	• Complete	• IEA (MCW Environmental, 2016) • 2016 AR (CC, 2017) • Determinations actions 1,2,4 and 5 - Clean Up Notice 1531813 (EPA, 13 July 2016) • Summary of Compliance ten actions 5 - Clean Up Notice 1531813 (EPA, 20 July 2015) • Clean Up Notice 1531813 Lifted (EPA, 23 August 2019)
	• EPL Variation no. 1542564 and PRP (2 August 2015)	• Complete	• EPA Public Register
	• Clean Up Notice 1532719 (18 August 2015)	• Complete	• IEA (MCW Environmental, 2016) • 2017 AR (CC, 2017) • HRA Notification SHRA-2018/00138 (CC, 2018) • Compliance with seven directions letter to CC (EPA, 5 July 2016)
Land & Environment Court	• Prosecution (Court no. 50425/2016) POEO Act s.116 (1) (a) (14 July 2017). Penalty was to pay \$720,000 to the Office of Environment and Heritage for restoration or enhancement projects of the environment and to publicise details of the offence in the Australian Financial Review, the Sydney Morning Herald and Lithgow Mercury and investigation costs of \$103,000	• Complete	• EPA Public Register (Prosecutions)
	• Prosecution (Court no. 5042/2016) POEO Act s.116 (1) (a) (14 July 2017). Penalty was to pay \$330,000 to the Environmental Trust to fund projects aimed at restoring and enhancing the environment and to publicise details of the offence in Financial Review, the Sydney Morning Herald and Lithgow Mercury. Also ordered to pay investigation costs of \$3,010	• Complete	• EPA Public Register (Prosecutions)
DRG	• Direction under S240 Mining Act 1992 to cease using REAs as holding cells for thickened coal fines, tailings, and liquids	• Complete	• IEA (MCW Environmental, 2016) • HRA Notification REA III (CC, September 2018)
	• Notice to Provide Information and/or Records under Section 248B(1) of the Mining Act 1992 on the 1 December 2015. This was replaced by a second Notice to Provide Information issued on the 7 January 2016; and information (as outlined in a Schedule of Requested Documents) was required to be provided by the 25 January 2016	• Complete	• 2016 AR (CC, 2017) • HRA Notification REA III (CC, September 2018)

### 2.3.2 Regulatory Actions

A summary of regulatory actions during the period of the IEA (including notices, orders, show cause, penalty notices and/or prosecutions) in relation to the key approvals and licence, are provided in Table 2-5.

### 2.3.3 Incidents and Complaints

Details of environmental incidents and complaints recorded during the period of the IEA in ARs, monthly environmental monitoring (EM) reports, ECD, complaints register, EPA Public Register are provided in Appendix G and are summarised in Table 2-4.

**Table 2-4: Environmental Incidents and Complaints (DA504 and EPL condition)**

Incidents and Complaints	Total Incidents (No.)	2016 Incident (No.)	2017 Incident (No.)	2018 Incident (No.)	2019 Incident (No.)	2020 Incident (No.)
Water Quality (Exceedance of EPL 726 L2.4 concentration limits at LDP 002)	31	1	7	12	5	6
Water (Potential to pollute waters EPL 726 L1.1 and DA 504 Sch 3-3)	2	1	0	0	1	0
Water (Discharge volume exceeded EPL L3.1)	1	0	1	0	0	0
Noise (Exceedance of EPL L5.1 and DA 504 Sch 3-15 criteria)	2	0	1	1	0	0
Air Quality: Deposited dust (Exceedance of DA 504 Sch 3-13 criteria)	1	0	1	0	0	0
Air Quality (Failure to monitor in accordance with EPL M2.2 and DA 504 Sch 3-13)	7	4	1	1	0	1
<b>Total No. of Incidents</b>	<b>44</b>	<b>6</b>	<b>11</b>	<b>14</b>	<b>6</b>	<b>7</b>
Complaints	2	0	2	0	0	0
<b>Total No. of Complaints</b>	<b>3</b>		<b>2</b>	<b>1<sup>a</sup></b>		

<sup>a</sup> Clarence was not confirmed as the source of this complaint

Exceedance of EPL water quality concentration limits at LDP 002 contributed to 70% of the total number of incidents recorded. EPA response to these incidents during the period of this IEA included an Official Caution (14 August 2017), two Show Cause letters (19 September 2019 and 17 July 2020) and five EPL Variations (Table 1-3) with associated PRPs for improved mine water treatment (3 October 2016); revised water quality limits of concentration (1 March 2017 and 5 June 2017); additional monitoring (Point 9) on the Wollangambe River (1 March 2017); and cessation of discharge into the Wollangambe River (20 September 2018, 28 November 2018 and 15 January 2020).

A further 16% of incidents resulted from failure to monitor deposited dust primarily due to vandalism.

## 2.4 Previous IEA Action Status

An assessment of the status of implementation of the recommendations for non-compliances in the previous IEA is provided in Appendix B.

**Table 2-5: Regulatory Action (2016 - 2020)**

Date	Reg. Action	Evidence	CoC / EPL	Incident Date	Description	Actions
<b>DPIE</b>						
26 May 2017	DPIE Official Caution	<ul style="list-style-type: none"> <li>Email to MCW Environmental (DPIE, 30 October 2020)</li> </ul>	DA 504 Sch 2-2	2017	Terms of Approval	<ul style="list-style-type: none"> <li>No further action.</li> </ul>
28 June 2017	DPIE Warning Letter	<ul style="list-style-type: none"> <li>Email to MCW Environmental (DPIE, 30 October 2020)</li> </ul>	DA 504 Sch 3-21A		Lighting Emissions	<ul style="list-style-type: none"> <li>No information available from CC.</li> <li>Refer recommendation R10 (Table 2-2)</li> </ul>
March 2018	DPIE Show Cause	<ul style="list-style-type: none"> <li>2018 AR (CC, 2019)</li> </ul>	DA 504 Sch 3-15	27 March 2018	Noise <ul style="list-style-type: none"> <li>Night-time noise not measured due to weather conditions</li> </ul>	<ul style="list-style-type: none"> <li>Additional noise monitoring (expanded worst case program) was undertaken on 11 September 2018 (Global Acoustics).</li> <li>Investigation by Recognition Research was undertaken into differential values between the monitoring locations and sensitive receptors identifying that attended sound levels at the residential receiver indicated that the contribution sound levels from the Colliery did not exceed the limit conditions.</li> </ul>
10 July 2018	DPIE Official Caution	<ul style="list-style-type: none"> <li>Letter to DPIE (CC, 31 August 2018)</li> <li>Letter to DPIE (CC, 28 September 2018)</li> <li>2018 AR (CC, 2019)</li> <li>Email to MCW Environmental (DPIE, 30 October 2020)</li> <li>WRNMP (CC, June 2018)</li> </ul>	DA 504 Sch 3-15 & EPL L5.1	13/14 December 2017	Noise <ul style="list-style-type: none"> <li>Exceedance of night-time noise criteria</li> </ul>	<ul style="list-style-type: none"> <li>Additional noise monitoring (expanded worst case program) was undertaken on 11 September 2018 (Global Acoustics).</li> <li>Letter to DPIE (CC, 28/09/2018) with results of additional noise monitoring and proposed further noise assessment was provided by CC by 31 October 2018 (complete).</li> <li>WRNMP was updated by 28 September 2018 (complete)</li> <li>The 2018 AR reports that Clarence will seek an EPL amendment. No subsequent changes to EPL 726 noise monitoring or limits were identified by the auditors.</li> </ul>

Date	Reg. Action	Evidence	CoC / EPL	Incident Date	Description	Actions
20 May 2020	DPIE s240 Notice	<ul style="list-style-type: none"> <li>S.240 Notice (DPIE, 20 May 2020)</li> <li>REA II Decommissioning HRA v3 (CC)</li> </ul>	CCL 705	26 February 2020 (site inspection)	<ul style="list-style-type: none"> <li>Inadequate groundwater quality monitoring presents a risk that any impacts to groundwater systems by the reject emplacement area are not detected in a timely manner to allow mitigation to be put in place to remediate the impacts.</li> <li>Uncertain landform design presents a risk that the final landform is not designed to accommodate significant rainfall events, leading to erosion and depletion of capping or the storage embankments.</li> </ul>	<ul style="list-style-type: none"> <li>Actions to assess groundwater monitoring regime in the REA II Decommissioning HRA v3 include: <ul style="list-style-type: none"> <li>Sampling regime to be completed by 16 October 2020 (after the period of this IEA).</li> <li>Independent groundwater monitoring around REA III to determine capping suitability to be completed by 25 June 2021 (after the period of this IEA).</li> </ul> </li> </ul>
<b>EPA</b>						
14 August 2017	EPA Official Caution	<ul style="list-style-type: none"> <li>Letter to CC (EPA, 14 August 2017)</li> </ul>	EPL L2.1 & EPL L2.4	21 June 2017	<p>Water quality (LDP 002) - exceedance of water concentration limits:</p> <ul style="list-style-type: none"> <li>Cobalt, nickel and zinc</li> </ul>	<p>WTP and water storage and transfer infrastructure improvements that were completed during the period of this IEA included:</p> <ul style="list-style-type: none"> <li>Additional pH probes installed.</li> <li>Training in pH probe calibration and cleaning.</li> <li>Independent verification of the WTP.</li> <li>Lagoon cleaning.</li> <li>pH set point, acid and coagulant pre-flocculant dilution trials and pH probe modifications.</li> <li>Three heavy duty Delta magnetic water conditioners installed and turbidity monitor at LDP 002.</li> </ul>



Date	Reg. Action	Evidence	CoC / EPL	Incident Date	Description	Actions
2 July 2018	EPA Request	<ul style="list-style-type: none"> <li>Letter to CC (EPA, 2 July 2018)</li> <li>Letter to EPA (CC, 31 August 2018)</li> </ul>	EPL L1 & EPL O1.1	July 2018 (inspection only)	Request for information: <ul style="list-style-type: none"> <li>Review all chemical and hydrocarbon storage areas by 31 August 2018</li> <li>Provide details of capacity of oil/water separator pond and how surface water is managed during rainfall events, and confirmation all surface water from UG portal drains to the oil/water separator pond (by 31 August 2018)</li> <li>Capacity of LD 1, 3 for a 1: 100 year, 72 hour rainfall event (by 31 July 2018)</li> </ul>	<ul style="list-style-type: none"> <li>Review of chemical and hydrocarbon storage areas conducted by Clarence by 31 August 2018.</li> <li>Response was provided to EPA regarding capacity of oil/water separator pond, surface water management and capacity of LD 1, 3 and 4 for a 1:100, 72 hour rainfall event.</li> </ul>
19 Sept 2019	EPA Show Cause SF 19/81258	<ul style="list-style-type: none"> <li>2019 AR (CC, 2020)</li> <li>Show Cause letter to DPIE (CC, 8 October 2019)</li> <li>Email to RS (EPA, 9 April 2020)</li> </ul>	EPL L1.1	9 August 2019	Water - potential to pollute waters <ul style="list-style-type: none"> <li>A riser cap on the gravity pipeline from LD 2 to the underground borehole failed due to a pipe blockage allowing escape of water via a pipeline riser. The water did not exit the lease area and no environmental harm occurred.</li> <li>A new PRP (condition U2.1) was included in EPL 726 listing investigations and works for improved pipeline integrity, installation of additional monitoring and valves and reduced water inputs to be completed and reported by 10 April 2020</li> </ul>	<ul style="list-style-type: none"> <li>PRP (condition U2.1) actions were completed by 10 April 2020.</li> </ul>

Date	Reg. Action	Evidence	CoC / EPL	Incident Date	Description	Actions
17 July 2020	EPA Show Cause 1597458	<ul style="list-style-type: none"> <li>Show Cause letter to CC (EPA, 17 July 2020)</li> <li>Show Cause response letter re. EPA Discharge Exceedances LDP 002 (CC, 5 August 2020)</li> <li>2018 AR (CC, 2019)</li> <li>2019 AR (CC, 2020)</li> </ul>	EPL L2.1 & EPL L2.4	2017 - 2020	<p>Water quality (LDP 002) - exceedance of water concentration limits:</p> <ul style="list-style-type: none"> <li>Cobalt, nickel &amp; zinc (21 June 2017)</li> <li>Cobalt, nickel and zinc (February, April, May, June, July, August, September, October, November &amp; December 2018)</li> <li>Zinc (April, May and July 2019); chloride (January 2019); and cobalt (November 2019)</li> <li>Cobalt (January 2020); copper, nickel, zinc, cobalt, chromium (April 2020); &amp; cobalt and zinc</li> </ul>	<p>Following consultation with stakeholders, CC applied to the EPA to vary EPL 726 for:</p> <ul style="list-style-type: none"> <li>The timeframe to require a Development Application and associated environmental assessments to be lodged with the relevant determining authority by 31 December 2021.</li> <li>A PRP amendment to reflect that an alternate project to discharge to Coxs River will satisfy the outcome of ceasing discharge into the Wollangambe River via LDP002 within 24 months of the relevant approval being granted.</li> </ul> <p>At the time of preparing this IEA report, a response to the EPL variation application had not been received from the EPA.</p>

## 2.5 Environmental Management Plans

Clarence has an Environmental Management Strategy (EMS) which is supported by a corporate environmental management framework, management plans and an environmental monitoring program. The management plans that were developed and implemented to meet conditions of consent in key approvals and their approval date and revision status are provided in Table 2-6.

**Table 2-6: Environmental Management Plans**

Management Plan	Condition of Consent	Date of approval by DPIE	Compliance with CoC (Refer Appendices A1 and A5)
Environmental Management Strategy (Rev 2, 21 April 2020)	DA504 Sch 5-1	<ul style="list-style-type: none"> <li>April 2020</li> </ul>	Yes
Water Management Plan, incorporating: <ul style="list-style-type: none"> <li>Erosion and Sediment Control Plan</li> <li>Surface Water Monitoring Program</li> <li>Groundwater Monitoring Program</li> <li>Surface and Groundwater Response Plan</li> </ul>	DA504 Sch 3-6 to 11	<ul style="list-style-type: none"> <li>2015 WMP February 2015</li> <li>2017 WMP (no approval sighted)</li> <li>Draft 2020 WMP (draft only at the time of this IEA)</li> </ul>	No Refer Table 2-2 R3, R6 and R7
Western Region Air Quality and Greenhouse Gas Management Plan	DA504 Sch 3-14	<ul style="list-style-type: none"> <li>22 July 2016</li> <li>4 July 2018</li> </ul>	Yes
Western Region Noise Management Plan Western Region	DA504 Sch 3-16	<ul style="list-style-type: none"> <li>22 July 2016</li> <li>4 July 2018</li> </ul>	Yes
Western Region Aboriginal Cultural Heritage Management Plan	DA504 Sch 3-30	<ul style="list-style-type: none"> <li>23 October 2014</li> <li>22 July 2016</li> <li>27 October 2017</li> </ul>	Yes
Western Region Historic Heritage Management Plan (CC, 2018)	DA504 Sch 3-30	<ul style="list-style-type: none"> <li>22 July 2016</li> <li>4 July 2018</li> </ul>	Yes
Clarence Environmental Monitoring Program	DA504 Sch 5-3	<ul style="list-style-type: none"> <li>Original July 2007</li> <li>19 June 2014</li> <li>2 December 2014.</li> <li>Revised in 2017 (no approval sighted)</li> </ul>	No Refer Table 2-2: R2, R3, R7 and R15
Environmental Management Plan	800 and 900 Area SMPs condition 13	<ul style="list-style-type: none"> <li>The Clarence Environmental Monitoring Program has been prepared to meet the requirements of this condition.</li> </ul>	No Refer Table 2-2: R2, R3, R7 and R16
Subsidence Management Plan	DA504 Sch 3-1	<ul style="list-style-type: none"> <li>800 Area SMP – 1 November 2013</li> <li>900 Area SMP – 21 January 2014</li> </ul>	No Refer AppendixA5
800 Area SMP	800 Area SMP -1	<ul style="list-style-type: none"> <li>1 November 2013</li> </ul>	No Refer AppendixA5
800 Area SMP Variation 6	800 Area SMP -8	<ul style="list-style-type: none"> <li>20 May 2020</li> </ul>	Yes
800 Area SMP Variation 5	800 Area SMP -8	<ul style="list-style-type: none"> <li>18 April 2018</li> </ul>	Yes
800 Area SMP Variation 4	800 Area SMP -8	<ul style="list-style-type: none"> <li>8 June 2017</li> </ul>	Yes
900 Area SMP	900 Area SMP-1	<ul style="list-style-type: none"> <li>21 January 2014</li> </ul>	No Refer AppendixA5

Management Plan	Condition of Consent	Date of approval by DPIE	Compliance with CoC (Refer Appendices A1 and A5)
900 Area SMP Variation 5	900 Area SMP-8	• 13 March 2019	Yes
900 Area SMP Variation 4	900 Area SMP-8	• 25 January 2019	Yes
900 Area SMP Variation 3	900 Area SMP-8	• 26 July 2019	Yes

An assessment of compliance of management plans against conditions of consent is provided in Appendix A.

### 3 Environmental Performance

In addition to the assessment of compliance for conditions within key approvals, a more detailed assessment of the subsidence, surface water, and ground water impacts of the development during the period of this IEA, and recommendations to improve environmental performance, are included in Table 3-1: Detailed Assessment - Subsidence, Table 3-2: Detailed Assessment - Surface Water and

Table 3-3: Detailed Assessment - Groundwater.

#### 3.1 Subsidence

Identification of subsidence impact assessment criteria, review of subsidence monitoring data and trends, and an assessment of monitoring results (where available) against impact assessment criteria during the period of the IEA is summarised in Table 3-1.

There were no exceedances of subsidence impact assessment criteria for mining activities that have been undertaken following approval of DA504-00 in December 2005. Maximum subsidence along the H and I lines, above previously extracted older eastern panels, reported impacts equal to or slightly above the subsidence impact criteria of 100 mm (DA 504-00 Schedule 3 -1). The maximum reported subsidence in SMSRs was 104mm on H Line on 28 February 2019 with this result being consistent with 2014 – 2018 results (CC, 27 March 2019). As this area was reportedly mined prior to the current Development Consent DA 504-00 and under previous requirements, this impact was assessed by the auditors as not representing a non-compliance with the current Development Consent. Discussion on subsidence impact measured on the H and I lines has been included within the 2019 AR, 2019 Annual SMR (CC, 2020) and the four monthly SMSR (CC, March 2020)

Bushfires in December 2019 and January 2020, and associated access limitations, resulted in the scheduled 2020 annual survey for several subsidence lines being postponed.

#### 3.2 Surface Water

Identification of subsidence impact assessment criteria, review of subsidence monitoring data and trends, and an assessment of monitoring results against impact assessment criteria during the period of the IEA is summarised in Table 3-2.

#### 3.3 Groundwater

Identification of subsidence impact assessment criteria, review of subsidence monitoring data and trends, and an assessment of monitoring results (where available) against impact assessment criteria during the period of the IEA is summarised in

Table 3-3.

#### 3.4 Summary

Monitoring data relating to subsidence, groundwater and surface water has been reviewed by the auditors for the period of this IEA and summarised in Tables 3-1 to 3-3. This review supports assessments by Clarence that subsidence-related impacts of the partial extraction mining undertaken under the current approval are minimal, and are within the impact assessment criteria, for:

- Subsidence:
  - Subsidence from partial extraction for mining activities that have been undertaken following approval of DA504 (2005).
  - Surface cracking on roads.
  - Cliffline / pagoda instability.
  - Flora.

- Fauna.
- Surface Water:
  - Water course instabilities.
- Groundwater:
  - Newnes Plateau shrub swamps and hanging swamps including dependence on groundwater levels (SMP condition 13).
  - Reduction in groundwater flows to upland swamps (Newnes Plateau Shrub Swamps) and wetlands
  - Piezometer head change.
  - Significant inflows to mine working.
  - Reduction in pumping yields in privately owned bores.

As identified during the compliance assessment (Appendix A1) and this more detailed assessment, recommendations have been made to improve the management of monitoring data, to enable assessment of subsidence monitoring data against impact assessment criteria (as specified in DA504 and/or SMP Approvals) for:

- Subsidence:
  - Tilt and horizontal strain (if required).
- Surface Water:
  - Surface flows to upland swamps (Newnes Plateau Shrub Swamps) and wetlands.
  - Reduction in surface flows and groundwater baseflow to waterbodies including Marrangaroo Creek, Farmers Creek, Dargans Creek, Wolgan River, Dumbano Creek, Bungleboori Creek and Wollangambe River.
  - Surface water quality monitoring at EPL 726 Point 9 located on Wollangambe River downstream of Main Dam.
  - Surface water dependent ecosystems.
- Groundwater
  - Groundwater level.
  - Groundwater quality.

Recommendations are included in Table 2-2.

Table 3-1: Detailed Assessment - Subsidence


Impact Assessment Criteria (source)	Monitoring Data and Trends	Evidence	Impact < predicted / criteria?	Rec #
<b>SI-1: Subsidence from partial extraction (DA504 Sch 3-1)</b>  <u>Criteria</u> a) 100 mm (DA504 Sch 3-1) & b) < 70 mm before flooding or < 90 mm after flooding (SMP TARP)	A review of subsidence monitoring data identified: <ul style="list-style-type: none"> <li>900 D Line – Maximum subsidence measured less than 80 mm and as only two surveys have been undertaken no comment on trend (raw data: 30 July, 14 October 2020).</li> <li>900 B Line – Maximum subsidence measured less than 50 mm and as only two surveys have been undertaken no comment on trend (raw data: 8 May 2020, 30 June 2020).</li> <li>903 Line Subs – Maximum subsidence measured less than 25 mm and the trend is consistently less than 25 mm (raw data: 11 Dec 2015, 8 Feb 2016, 6 Sept 2016, 1 Sept 2017, 28 Sept 2018, 12 Sept 2019, 16 October 2020).</li> <li>800 E Line – Maximum Subsidence measured less than 20 mm and the trend is consistently less than 20 mm. (raw data: 1 Sep 2017, 1 December 2017, 26 June 2018, 6 December 2018, 2 July 2019, 2 July 2020).</li> <li>800 D Line – Maximum Subsidence measured less than 20 mm and the trend is consistently less than 20 mm (raw data: 30 August 2016, 29 Nov 2016, 25 May 2017, 1 December 2017, 22 June 2018, 2 July 2019, 10 July 2020).</li> <li>800 C Line – Maximum Subsidence measured less than 20 mm and the trend is consistently less than 25 mm (raw data: 4 May 2016, 12 August 2016, 12 Feb 2017, 31 August 2017, 21 Feb 2018, 13 Feb 2019, 24 Feb 2020).</li> <li>707 Sub – Maximum Subsidence measured less than 30 mm and the trend is consistently less than 30 mm (raw data: 6 Feb 2013, 6 June 2013, 8 Nov 2013, 4 Dec 2013, 26 Nov 2014, 2 June 2015, 17 Nov 2015, 14 June 2016, 7 Nov 2016, 24 Nov 2017, 3 Dec 2018, 14 Nov 2019).</li> <li>700 F Line – Maximum Subsidence measured less than 20 mm and the trend is consistently less than 25 mm (raw data: 28 Jan 2014, 5 Sept 2014, 1 Sept 2015, 1 Sept 2016, 27 Sept 2017, 28 Sept 2018, 24 Sept 2019).</li> <li>3-1812-900A – Maximum Subsidence measured less than 50 mm and the trend is consistently less than 50 mm (raw data: 16 Oct 2014, 6 March 2015, 28 August 2015, 15 August 2016, 9 August 2017, 29 August 2019, 1 August 2019, 14 August 2020).</li> <li>3-1809-800B – Maximum Subsidence measured less than 20 mm and the trend is consistently less than 20 mm (raw data: 11 Feb 2012, 5 May 2015, 18 Nov 2015, 3 May 2016, 29 Nov 2016, 25 May 2017, 30 Nov 2017, 15 Nov 2018).</li> </ul>	<ul style="list-style-type: none"> <li>Raw subsidence data (Excel spreadsheets for H, I U, W&amp;Z, 700A, 700B, 800A, 800B, 900A, 700F, 707 SUB, 800C, 800D, 800E, 900B, 900D, and 903) provided 16 November 2020</li> <li>Annual SMRs (CC, 2017 -2019)</li> <li>SMSRs (CC, 2016 - 2020)</li> <li>ARs (2017 -2020)</li> <li>800 Area Subsidence Monitoring Program (CC, August 2020)</li> <li>900 Area Environmental Monitoring Program (CC, 21 March 2014)</li> <li>800 Area SMP TARP</li> <li>900 Area SMP Variation 5 (CC, April 2019)</li> <li>900 Area SMP Variation 5_Aproved Plan (signed and dated 13 March 2019)</li> <li>800 Area SMP Variation 6 (CC, May 2020)</li> <li>800 Area SMP Variation 6_Aproved</li> </ul>	<ul style="list-style-type: none"> <li>Yes. Subsidence is &lt;100mm (with exception of older H and I Line survey results. Panels below these lines were mined prior to DA504).</li> </ul>	Refer R1 (Table 2-2)



Impact Assessment Criteria (source)	Monitoring Data and Trends	Evidence	Impact < predicted / criteria?	Rec #
	<ul style="list-style-type: none"> <li>3-1788-800A Line – Maximum Subsidence measured less than 25 mm and the trend is consistently less than 25 mm. (raw data: 4 May 2015, 9 Feb 2016, 20 Sept 2016, 4 Nov 2016, 20 Feb 2017, 8 dec 2017, 23 Feb 2018 &amp; 23 August 2018).</li> <li>3-1533-700B Line – Maximum Subsidence measured less than 65 mm with most results less than 50 mm and a slight increase to 60 and 64 mm in 2013 (raw data: 6 April 2010, 17 Jan 2011, 4 July 2011, 30 Jan 2012, 6 Sep 2012, 21 Jan 2013, 25 July 2013, 20 Jan 2014, 14 July 2014, 8 Jan 2015, 2 July 2015, 20 Jan 2016, 7 June 2016, 16 Feb 2017, 30 Jan 2018, 23 Jan 2019).</li> <li>3-1530-700A Line – Maximum Subsidence measured less than 55 mm and the trend is consistently less than 55 mm. (raw data: 12 Feb 2010, 21 June 2010, 14 Jan 2011, 15 March 2011, 4 July 2011, 30 Jan 2012, 7 Sept 2012, 30 Jan 2013, 25 July 2013, 20 Jan 2014, 14 Jan 2015, 1 July 2015, 15 Jan 2016, 5 June 2016, 9 Jan 2017, 26 Jan 2018, 30 Jan 2019).</li> <li>W &amp; Z Lines – Maximum Subsidence measured less than 70 mm. The trend for W Line is consistently less than 40 mm during the period of the IEA. The trend for Z Line is consistently less than 35 mm during the period of the IEA (raw data: 1 Dec 2009, 19 Sept 2010, 21 Sept 2011, 25 Sept 2012, 12 Sept 2013, 9 Sept 2014, 7 Sept 2015, 26 Sept 2016, 21 Sept 2017, 20 Sept 2108, 26 Sept 2019).</li> <li>3-1524-U Line - - Maximum Subsidence measured less than 35 mm with trend consistently less than 35 mm. (raw data: 31 August 2009, 26 July 2010, 11 July 2011, 4 June 2012, 3 June 2013, 3 July 2014, 30 July 2015, 28 July 2016, 12 July 2017, 16 July 2018, 23 July 2019, 22 July 2020).</li> <li>3-1380 I Line – Maximum Subsidence measured was 102 mm on 11 October 2010. During the period of the IEA, measurements were less than 100 mm. The 2018 and 2019 ARs report that the H and I Lines have demonstrated stability for several years and “<i>Surface inspections have found no evidence of any surface damage around the H and I lines ..</i>” (raw data: 16 June 2006, 29 Jan 2007, 24 July 2007, 26 Feb 2008, 26 Feb 2009, 13 May 2009, 8 July 2009, 20 August 2009, 1 Feb 2010, 11 Oct 2010, 24 Feb 2011, 27 Feb 2012, 26 Feb 2013, 24 Feb 2014, 18 Feb 2015, 16 Feb 2016, 23 Feb 2017, 15 March 2018, 12 March 2019).</li> <li>3-1380-H Line – Maximum Subsidence measured was 102 mm on 23 Feb 2017 (raw data) and 104mm (2019 Annual SMR (CC, 2020)) with other measurements during the period of the IEA less than 90 mm. The H Line is above previously extracted panel 612 and as this area was mined prior to Development Consent</li> </ul>	Plan (signed and dated 20 May 2020)		

Impact Assessment Criteria (source)	Monitoring Data and Trends	Evidence	Impact < predicted / criteria?	Rec #
	<p>DA 504-00 and under previous subsidence requirements, this impact was assessed as not representing a non-compliance with the subsidence impact assessment criteria. The 2018 and 2019 ARs report that the H and I Lines have demonstrated stability for several years and “<i>Surface inspections have found no evidence of any surface damage around the H and I lines ...</i>”. The 2019 AR also reports that “<i>there has already been a review of mine design for later panels</i>”, which is a requirement of the 800 and 900 SMP TARP when &gt;100 mm subsidence. (raw data: 16 June 20006, 29 Jan 2007, 24 July 2007, 26 Feb 2008, 11 Sept 2008, 11 Sept 2008, 3 Nov 2008, 26 Feb 2009, 13 May 2009, 8 July 2009, 20 August 2009, 1 Feb 2020, 13 August 2010, 24 Feb 2011, 27 Feb 2012, 26 Feb 2013, 19 Feb 2014, 18 Feb 2015, 17 Feb 2016, 23 Feb 2017, 15 March 2018, 28 Feb 2019).</p>			
<b>SI-2: Tilt from partial extraction (DA504 Sch 3-1)</b>  <u>Criteria</u> 3.0 mm/m (DA504 Sch 3-1)	<ul style="list-style-type: none"> <li>No tilt measurements were taken during the period of this IEA.</li> <li>3-1530-700A Line - Maximum Tilt measured less than 1 mm (raw data: 12 Feb 2010, 21 June 2010, 14 Jan 2011, 15 March 2011, 4 July 2011, 30 Jan 2012, 7 Sept 2012, 30 Jan 2013, 20 Jan 2014, 9 July 2014).</li> <li>3-1533-700B Line - Maximum Tilt measured less than 1 mm (raw data: 6 April 2010, 17 Jan 2011, 4 July 2011, 30 Jan 2012, 6 Sep 2012, 21 Jan 2013, 25 July 2013, 20 Jan 2014, 14 July 2014).</li> </ul>	<ul style="list-style-type: none"> <li>Raw subsidence data (Excel spreadsheets for H, I U, W&amp;Z, 700A, 700B, 800A, 800B, 900A, 700F, 707 SUB, 800C, 800D, 800E, 900B, 900D, and 903) provided 16 November 2020</li> <li>Annual SMR (CC, 2017 -2019)</li> <li>ARs (2017 -2020)</li> </ul>	Not assessed as no tilt measurements were taken during the period of this IEA.	Refer R1 (Table 2-2)
<b>SI-3: Horizontal strain from partial extraction (DA504 Sch 3-1)</b>  <u>Criteria</u> 2.0 mm/m (DA504 Sch 3-1)	<ul style="list-style-type: none"> <li>No horizontal strain measurements were taken during the period of this IEA.</li> <li>3-1530-700A Line – Maximum Horizontal Strain measured was 2.8 on 30 Jan 2013 (raw data: 12 Feb 2010, 21 June 2010, 14 Jan 2011, 15 March 2011, 4 July 2011, 30 Jan 2012, 7 Sept 2012, 30 Jan 2013, 20 Jan 2014, 9 July 2014).</li> <li>3-1533-700B Line - Maximum Horizontal Strain measured was 5.4 mm on 14 July 2014 (prior to the period of this IEA) (raw data: 8 Feb 2010, 6 April 2010, 17 Jan 2011, 4 July 2011, 30 Jan 2012, 6 Sep 2012, 21 Jan 2013, 25 July 2013, 20 Jan 2014, 14 July 2014).</li> </ul>	<ul style="list-style-type: none"> <li>Raw subsidence data (Excel spreadsheets for H, I U, W&amp;Z, 700A, 700B, 800A, 800B, 900A, 700F, 707 SUB, 800C, 800D, 800E, 900B, 900D, and 903) provided 16 November 2020</li> <li>Annual SMR (CC, 2018 -2020)</li> </ul>	Not assessed as no horizontal strain measurements were taken during the period of this IEA.	Refer R1 (Table 2-2)

Impact Assessment Criteria (source)	Monitoring Data and Trends	Evidence	Impact < predicted / criteria?	Rec #
		<ul style="list-style-type: none"> <li>ARs (2017 -2020)</li> </ul>		
<b>SI-4: Surface cracking on roads, tracks, vegetated areas</b>  <u>Criteria</u> No visible surface cracking (SMP TARP)	<ul style="list-style-type: none"> <li>The ARs report that surface inspections were undertaken during subsidence line surveys at the far inbye ends of 810, 812, 814 and 816 at least three times per year; and surface photograph inspections undertaken at least annually (and up to four times a year) at the far inbye ends of 810, 812, 814 and 816 panels and the NPWS boundary.</li> <li>There have been no observations of surface cracking on roads, tracks or vegetated areas reported during site inspections by Clarence or observed by the auditors during limited site inspection.</li> <li>No reports of observations of visible subsidence damage have been made in SMSRs or Annual SMRs.</li> </ul>	<ul style="list-style-type: none"> <li>ARs (CC, 2017-2020)</li> <li>SMSRs (CC, 2017 - 2020)</li> <li>Annual SMR (CC, 2018- 2020)</li> <li>2017 WMP MP-2041 (CC, 2017)</li> <li>SMP TARP</li> </ul>	Yes.	
<b>SI-5: Cliffline/ pagoda instability (SMP condition 13)</b>  <u>Criteria</u> No visible surface cracking on cliffline or pagoda or rock fall of isolated blocks (SMP TARP)	<ul style="list-style-type: none"> <li>The ARs report that surface inspections were undertaken during subsidence line surveys at the far inbye ends of 810, 812, 814 and 816 panels at least three times per year; and surface photograph inspections undertaken at least annually (and up to four times a year) at the far inbye ends of 810, 812, 814 and 816 panels and the NPWS boundary in February 2019.</li> <li>There have been no observations of surface cracking on cliff lines and pagodas reported during site inspections by Clarence.</li> <li>No reports of observations of subsidence damage have been made in SMSRs or Annual SMRs.</li> </ul>	<ul style="list-style-type: none"> <li>ARs (CC, 2017-2020)</li> <li>SMSRs (CC, 2017 - 2020)</li> <li>Annual SMR (CC, 2018- 2020)</li> <li>2017 WMP MP-2041 (CC, 2017)</li> <li>SMP TARP</li> </ul>	Yes.	
<b>SI-6: Flora</b>  <u>Criteria</u> Negligible impact (Lease extension EIS, October 2000 as referenced in 2018 and 2019 ARs)	<ul style="list-style-type: none"> <li>Flora monitoring has been undertaken since 2004 and was undertaken each year during the period of the IEA at the following locations in Spring, Summer and Autumn in general accordance with the Clarence Environmental Monitoring Program:               <ul style="list-style-type: none"> <li>Eastern SMP – six sites including two control sites</li> <li>700 West area – two sites including one control site</li> <li>Outbye SMP – four sites including two control sites</li> <li>800 Area SMP – eight sites</li> <li>900 Area SMP – three sites (Paddys Swamp)</li> </ul> </li> <li>Monitoring includes review of meteorological conditions and indicator factors for plant condition, physical impact from trampling, track creation and browsing by fauna, vegetation condition, plant damage, exotic plant species, impact of bushfire, and new populations of threatened species.</li> <li>The results of flora monitoring are summarised in the ARs with the 2016, 2017, 2018 and 2019 ARs repeating the following statement in each AR <i>"There were</i></li> </ul>	<ul style="list-style-type: none"> <li>Clarence Environmental Monitoring Program (CC, 2017)</li> <li>ARs (CC, 2017 -2020)</li> <li>Annual SMRs (CC, 2018 -2020)</li> </ul>	Yes.	Refer R2 (Table 2-2)

Impact Assessment Criteria (source)	Monitoring Data and Trends	Evidence	Impact < predicted / criteria?	Rec #
	<p><i>no anomalous results for spring relating to sites which lie over or in proximity to recently mined areas, nor were there any indications of residual effects of subsidence in areas undermined previously. The patterns of species richness, species composition and plant disease relate strongly to bush fire impacts and relatively dry seasonal weather conditions with no indication of a mining effect."</i></p> <ul style="list-style-type: none"> <li>• The 2018 and 2019 ARs report "The Clarence Colliery Lease Extension Environmental Impact Statement (October 2000) predicted the overall impact on flora and fauna to be negligible. The results presented in Section 6.2 show trends in plant species richness, plant condition and weed distribution which are consistent with previous annual reports. Subsidence impact to flora and fauna is therefore consistent with predicted impacts".</li> <li>• A small swamp 400 m south of Clarence, consistent with Newnes Plateau Hanging Swamp ecological community, has been monitored on annual basis since 2017 using a rapid assessment of methodology. No indications of an impact from nearby mine operations including an REA, was reported.</li> <li>• The 2017, 2018 and 2019 Annual SMRs report flora monitoring has shown no measurable impact from mining.</li> <li>• Impact from the Gaspers Mountain bushfire (end 2019 to January 2020) was observed on some areas in the surrounding Newnes State Forest and the Blue Mountains National Park (e.g. Paddy's swamp). Consequently, the 2020 flora survey is expected to reflect these changed conditions from 2019 flora survey.</li> </ul>			
				
	<p>Photo 1: Gaspers Mountain bushfire impact observed at Paddy's swamp (13 October 2020)</p>			

Impact Assessment Criteria (source)	Monitoring Data and Trends	Evidence	Impact < predicted / criteria?	Rec #
<p><b>SI-7: Fauna</b></p> <p><u>Criteria</u></p> <p>a) Negligible impact (Lease extension EIS, October 2000 as referenced in 2018 and 2019 ARs)</p> <p>&amp;</p> <p>b) Biodiversity indices over time (ARs (CC, 2017 -2020)</p>	<ul style="list-style-type: none"> <li>Fauna monitoring has been undertaken since 2008 and was undertaken each year during the period of the IEA in Spring, Summer and Autumn at the following locations in Spring, Summer and Autumn: <ul style="list-style-type: none"> <li>Western SMP - six sites including three control sites (two new control sites in 2019 at Nine mile swamp and Paddy's swamp).</li> <li>Outbye SMP – three sites</li> <li>Eastern SMP – three sites</li> <li>800 Area (Eastern portion) – three sites</li> <li>900 Area – two sites</li> </ul> </li> <li>Fauna monitoring undertaken uses the methods of setting traps including Elliot traps, tomahawk cage traps, glider traps and pitfall traps, additional monitoring includes spotlighting, hair funnels, remote cameras, bird surveys, call broadcasting, herpetological searches, bat call detection, animal track recognition and opportunistic observations.</li> <li>Biodiversity indices include: <ul style="list-style-type: none"> <li>Species richness of faunal groups</li> <li>Diversity indices of faunal groups</li> <li>Capture rates of individual species</li> <li>Population status of species</li> <li>Contribution to the faunal assemblages by threatened species, species dependent upon woodland and by species declining in the Central West</li> <li>Habitat complexity scores</li> <li>Comparisons between Treatment and Control sites</li> </ul> </li> <li>The 2019 AR reports <i>“Overall it is difficult to relate changes in fauna populations over the years to any quantifiable parameter, including mining activities. The assessment of the data from Clarence Eastern SMP and Outbye SMP Areas shows that mining activities do not appear to be a significant factor in determining changes in fauna populations at Newnes Plateau. It is postulated that fauna population numbers are determined by climate, fire and predators.”</i></li> <li>The 2018 and 2019 ARs report <i>“The Clarence Colliery Lease Extension Environmental Impact Statement (October 2000) predicted the overall impact on flora and fauna to be negligible. The results presented in Section 6.2 show trends in plant species richness, plant condition and weed distribution which are consistent with previous annual reports. Subsidence impact to flora and fauna is therefore consistent with predicted impacts”.</i></li> </ul>	<ul style="list-style-type: none"> <li>Clarence Environmental Monitoring Program (CC, 2017)</li> <li>ARs (CC, 2017 -2020)</li> <li>Annual SMRs (CC, 2018 -2020)</li> </ul>	Yes.	Refer R2 (Table 2-2)

Impact Assessment Criteria (source)	Monitoring Data and Trends	Evidence	Impact < predicted / criteria?	Rec #
	<ul style="list-style-type: none"> <li>The 2017, 2018 and 2019 Annual SMRs report fauna monitoring has shown no measurable impact from mining.</li> <li>Impact from the Gospers Mountain bushfire (end 2019 to January 2020) was observed on some areas in the surrounding Newnes State Forest and the Blue Mountains National Park (e.g., Paddy's swamp). Consequently, the 2020 flora survey is expected to reflect these changed conditions from 2019 flora survey.</li> </ul>			

Table 3-2: Detailed Assessment - Surface Water

Impact Assessment Criteria (source)	Monitoring Data and Trends	Evidence	Impact < predicted / criteria?	Rec #
<b>SIS-1: Reduction in surface flows to upland swamps (Newnes Plateau Shrub Swamps) and wetlands (DA504 Sch 3-5)</b>  <u>Criteria</u> None identified as surface flows to upland swamps were not quantified	Surface flows to upland swamps were not monitored or quantified.	<ul style="list-style-type: none"> <li>ARs (CC, 2017 -2020)</li> <li>Annual SMRs (CC, 2018-2020)</li> <li>2017 WMP MP-2014 (CC, 2017)</li> <li>Draft 2020 WMP MP 2041 (CC, 2020)</li> </ul>	Not assessed as surface flows to upland swamps were not quantified.	Refer R3 (Table 2-2)
<b>SIS-2: Reduction in surface flows and groundwater baseflow to waterbodies including Marrangaroo Creek, Farmers Creek, Dargans Creek, Wolgan River, Dumbano Creek, Bungleboori Creek and Wollangambe River. (DA504 Sch 3-5 and SMP condition 13)</b>  <u>Criteria</u> a) None identified for surface flows as surface flows to water bodies were not quantified &	a) Surface flows to upland swamps were not monitored or quantified. b) For assessment of subsidence levels refer to SI-1 (Table 3-1)		a) Not assessed as surface flows to waterbodies were not quantified.  b) Subsidence impact has been assessed in SI-1	Refer R3 (Table 2-2)



Impact Assessment Criteria (source)	Monitoring Data and Trends	Evidence	Impact < predicted / criteria?	Rec #
b) Water course instabilities – subsidence levels within predictions (2017 WMP TARP)			(Table 3-1).	
<b>SIS-3: Surface water quality monitoring at EPL 726 Point 9 located on Wollangambe River downstream of Main Dam (section 6.1.1, 2017 WMP)</b>  <u>Criteria</u> Watercourse Water Quality: Surface water quality consistent with historic baseline and below SSGV specified in Table 6-1, 2017 WMP (2017 WMP TARP)	<ul style="list-style-type: none"> <li>Baseline data for Wollangambe River water quality downstream of Main Dam (Point 9) over the period 2012 to 2017 is provided in the 2017 WMP.</li> <li>The 2017 WMP and Clarence Environmental Monitoring Program requires monthly monitoring for Point 9 water quality parameters specified in Table 4-1, 2017 WMP.</li> <li>Site specific guideline values (SSGV) for some of the parameters specified in Table 4-1 are provided in Table 6-1, 2017 WMP. EPL 726 concentration limits for Cobalt at LDP 002 have been exceeded on multiple occasions during the period of this IEA. There is no SSGV for Cobalt in Table 6-1 2017 WMP.</li> <li>The 2017 WMP does not identify who has responsibility for assessment of water quality at EPL 726 Point 9 against SSGVs in Table 6-1, 2017 WMP; and where these results are reported.</li> <li>Monthly Point 9 monitoring results only (i.e. no assessment against SSGV) are reported in Monthly EM reports and are available on the CC website. There is no requirement in EPL 726 to assess Point 9 monitoring results against SSGV.</li> </ul>	<ul style="list-style-type: none"> <li>Clarence Environmental Monitoring Program (CC, 2017)</li> <li>2017 WMP MP-2041 (CC, 2017)</li> <li>Monthly EM Reports (CC, 2016 -2020)</li> </ul>	Not assessed as there was no evidence sighted that the quality of surface water at Point 9 was assessed against SSGV values and monitoring data on instream vegetation.	Refer R7 (Table 2-2)
<b>SIS-4: Surface water dependent ecosystems (SMP condition 13)</b>  <u>Criteria</u> a) Watercourse Water Quality: Surface water quality consistent with historic baseline and below SSGV specified in Table 6-1, 2017 WMP (2017 WMP TARP) & b) In stream vegetation - no significant change in vegetation extent or quality compared with previous monitoring (2017 WMP TARP)	Surface water quality <ul style="list-style-type: none"> <li>Monthly surface water quality monitoring parameters are specified in Table 4-1, 2017 WMP for samples at: <ul style="list-style-type: none"> <li>Main Dam</li> <li>Polishing Lagoon</li> <li>Leachate Dam 1</li> <li>Leachate Dam 2</li> <li>Farmers Creek below Lithgow Dam No. 2</li> <li>Farmers Creek at Coerwull Road Bridge</li> <li>Wollangambe River US</li> <li>Wollangambe River DS (Point 9)</li> </ul> </li> <li>Quarterly surface water quality monitoring parameters are specified in Table 4-1, 2017 WMP at: <ul style="list-style-type: none"> <li>Farmers Creek US</li> <li>Farmers Creek DS</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>ARs (CC, 2017 -2020)</li> <li>Annual SMRs (CC, 2018-2020)</li> </ul>	Not assessed as there was no evidence sighted that the quality of surface water that flows to surface water dependent ecosystems was assessed against SSGV values and no monitoring data sighted on	Refer R7 (Table 2-2)

Impact Assessment Criteria (source)	Monitoring Data and Trends	Evidence	Impact < predicted / criteria?	Rec #
	<ul style="list-style-type: none"> <li>A review of 2016 -2019 ARs indicate that surface water quality monitoring at LDP002 and Point 9 was taken in accordance with the Clarence Environmental Monitoring Program with results provided in ARs and Monthly EM reports.</li> <li>Although 2017, 2018 and 2019 Annual SMRs report that “<i>Surface water quality monitoring indicates no adverse impact from mining with upstream and downstream results for Farmers Creek (700 Area)</i>”, there was no evidence provided that the quality of surface water that flows to surface water dependent ecosystems was assessed against SSGV values.</li> </ul> <p>Instream vegetation</p> <ul style="list-style-type: none"> <li>The 2017 WMP describes aquatic ecology monitoring within the Wollangambe River has been undertaken in Spring and Autumn since 2012; baseline conditions were provided; and that aquatic ecology monitoring of Farmers Creek has not occurred to date.</li> <li>No monitoring data on instream vegetation was provided for review by the auditors.</li> </ul>		instream vegetation.	

Table 3-3: Detailed Assessment - Groundwater

Impact Assessment Criteria (source)	Monitoring Data and Trends	Evidence	Impact < predicted / criteria?	Rec #
<p><b>SIG-1: Groundwater level (DA504 Sch 3-5)</b></p> <p><u>Criteria</u> Groundwater level is greater than triggers specified in Table 6-2, 2017 WMP (2017 WMP TARP)</p>	<ul style="list-style-type: none"> <li>Groundwater level monitoring includes 16 vibrating wire piezometers (VWPs) and 18 standpipes. VWPs are continuously logged for piezometric head and groundwater levels. Data is downloaded very two months (with some gaps due to bushfires in late 2019 and early 2020). Monitoring has been undertaken in general accordance with the 2017 WMP and Clarence Environmental Monitoring Program.</li> <li>Six standpipe monitoring bores focus on the Banks Wall sandstone formation located at CLRP4, CLRP5, CLRP7, CLRP8, CLRP10, CLRP15, CC113 (inactive); while VWPs monitor groundwater at CLRP1, CLRP2, CLRP3, CLRP6, CLRP11, CLRP12, CLRP13, CLRP14, CLRP15, CLRP16, CLRP17, CLRP18, CLRP19, CLRP22, CC114, CC115; and at swamp locations: HV1, HV2, HVU1, HVU2, CS1, CS2, CS3, MW05, HS1, HS2, CLRP15, PES1,</li> </ul>	<ul style="list-style-type: none"> <li>Clarence Environmental Monitoring Program (CC, 2017)</li> <li>2017 WMP MP-2041 (CC, 2017)</li> <li>ARs (CC, 2017 -2020)</li> <li>Annual SMRs (CC, 2017-2019)</li> <li>SMSRs (CC, 2016 - 2020)</li> </ul>	Not assessed as auditors were unable to assess water level data against criteria specified in Table 6-2 due to unit incompatibility.	Refer R4 and R5 (Table 2-2)

Impact Assessment Criteria (source)	Monitoring Data and Trends	Evidence	Impact < predicted / criteria?	Rec #
	<p>PES2. Locations, parameters, frequency and trigger values are provided in sections 5 and 6 of the 2017 WMP.</p> <ul style="list-style-type: none"> <li>Downloaded groundwater level results are graphed over time and reported in ARs, Annual SMRs and SMSRs.</li> <li>A review of hydrographs for VWP, open hole piezometer results and descriptions of trends for each location by the auditors has identified, that in general, piezometers have continued trends, with one exception where there has been an accelerated water level decline in CLRP5.</li> <li>CLRP 5 was originally located to measure potential impact from the 700 Area and is located near Bungleboori #4 swamp and is now above panel 902. First workings in panel 902 undermined CLRP05 in December 2013 and January 2014 and during 2019, first workings and pillar extraction occurred 2 km north of CLRP5 in the 900 Area. The following changes in groundwater level are noted: <ul style="list-style-type: none"> <li>SMSR July-Oct (CC, November 2019) reports an uncharacteristic decline in groundwater level at CLRP5 believed to be an instrumentation issue.</li> <li>SMSR Nov -Feb 2020 (CC, March 2020) reports an uncharacteristic decline in groundwater level at CLRP5 and <i>“there have been no observable indications of mining impacts and water levels are currently reflecting the decline of the CRD”</i> and <i>“It is believed the water level response at CLRP5 is an instrumentation issue. CLRP5 will be closely monitored and logger replaced if necessary”</i>.</li> <li>SMSR March – June 2020 (CC, July 2020) reports <i>“There was an uncharacteristic decline and fluctuation (up to 3 m) in water levels in mid-2019. Water levels continue to show a declining trend into the current reporting period. The hydrograph response is verified by manual measurements and at this point in time the cause of the decline is unknown, but it is possibly a response to the significant rainfall deficit since mid-2016. This trend should be monitored again in the next reporting period.</i></li> <li>The 2019 AR reports an abnormal groundwater level decline (up to 3m) at CLRP5. The 2019 AR and 2019 Annual SMR report that this <i>“groundwater level decline is unlikely to be a direct mining response as current workings are 2 km north and historical mining occurred over five years ago”</i>. The AR also reports that CLRP5 will be reviewed again after the next monitoring round.</li> <li>The 2017 WMP includes:</li> </ul> </li> </ul>			

Impact Assessment Criteria (source)	Monitoring Data and Trends	Evidence	Impact < predicted / criteria?	Rec #
	<ul style="list-style-type: none"> <li>▪ a CLRP5 trigger value for groundwater levels at 1,072 m(AHD) (WMP Table 6-3).</li> <li>▪ groundwater level TARP to undertake investigation if the change in groundwater level is due to mining-related activity when groundwater level falls below the groundwater level triggers specified in Table 6-2 (WMP Appendix I).</li> <li>▪ piezo head change TARP for a stepped mining related 5m piezometric head loss in any aquifer above the Mt York Claystone triggering a field inspection by E&amp;C Coordinator, investigation into cause and continued monitoring (WMP Appendix I).</li> <li>○ SMSR four-monthly groundwater levels (hydrographs) are reported in m(bgl) and are not able to be readily assessed against the groundwater level impact assessment criteria in the 2017 WMP TARP which are in m(AHD). Although Clarence has reported on the uncharacteristic decline in groundwater levels at CLRP5 in SMSR reports in March 2020, July 2020 and the 2019 AR, the auditors were unable to assess if the 2017 WMP TARPs for groundwater level or piezo head change have been triggered as the units of measurement are not aligned. Recommendation R5 (Appendix A1 DA504 Sch 3-5 (Water Impact Assessment Criteria) requires further investigation into the CLRP5 water level decline.</li> <li>• Although ARs, Annual SMRs and SMRs have reported that groundwater impacts have been minimal at seam level and piezometric height has decreased in seam level aquifers as expected, the auditors were unable to assess water level data against criteria specified in Table 6-2 due to unit incompatibility.</li> </ul>			
<b>SIG-2</b> <b>Newnes Plateau shrub swamps and hanging swamps including dependence on groundwater levels and quality for terrestrial and aquatic flora and fauna (SMP condition 13)</b> <b>&amp;</b> <b>Reduction in groundwater flows to upland swamps (Newnes Plateau</b>	<ul style="list-style-type: none"> <li>• VWPs monitor groundwater at swamp locations: HV1, HV2, HVU1, HVU2, CS1, CS2, CS3, MW05, HS1, HS2, CLRP15, PES1, PES2. Locations, parameters, frequency and trigger values are provided in sections 5 and 6 of the 2017 WMP.</li> <li>• The 2017 WMP identifies that groundwater levels were monitored in the Clarence Swamp (from November 2013) and the Hanson Swamp (from July 2015). Review of Hanson Swamp groundwater level monitoring data by Aurecon (2016) indicated that there is no direct permeability connection between the Clarence Swamp and historical first workings located to the north of the Clarence Swamp and that there was no</li> </ul>	<ul style="list-style-type: none"> <li>• Clarence Environmental Monitoring Program (CC, 2017)</li> <li>• 2017 WMP MP-2041 (CC, 2017)</li> <li>• ARs (CC, 2017 -2020)</li> <li>• Annual SMRs (CC, 2017-2019)</li> <li>• SMSRs (CC, 2016 - 2020)</li> </ul>	Yes.	N/A

Impact Assessment Criteria (source)	Monitoring Data and Trends	Evidence	Impact < predicted / criteria?	Rec #
<b>Shrub Swamps) and wetlands (DA504 Sch 3-5)</b>  <u>Criteria</u> Swamp water level - no significant fall in piezometric height of surface aquifer (2017 WMP TARP)	<p>indication of impact on groundwater levels in the Hanson Swamp due to mining.</p> <ul style="list-style-type: none"> <li>The draft 2020 WMP identifies additional groundwater level monitoring has been undertaken during the period of the IEA at Oleria Swamp (from July 2018), Pagoda Swamp (from August 2019) and Paddys Swamp East (from March 2017).</li> <li>The 2017 WMP includes surface inspection and groundwater level monitoring requirements; and quantitative trigger values in TARPs for groundwater levels relative to baseline data, piezometric head change and swamp water level. Groundwater level hydrographs and descriptions are included in ARs, Annual SMRs and SMSRs.</li> <li>There were no reported incidents during the period of the IEA where WMP TARPs at swamps were triggered.</li> </ul>			
<b>SIG-3 Groundwater quality (DA504 Sch 3-10)</b>  <u>Criteria</u> Groundwater monitoring results do not exceed trigger values listed in Table 6-5, 2017 WMP. (2017 WMP TARP)	<ul style="list-style-type: none"> <li>Groundwater quality monitoring is specified in the 2017 WMP and Clarence Environmental Monitoring Program. Quarterly groundwater quality samples are collected at four standpipes in the groundwater monitoring network focussing on Banks Wall Sandstone (Clarence Aquifer) at CLRP4, CLRP5, CLRP7 and CLRP8.</li> <li>Groundwater quality monitoring parameters and frequency for these four samples are specified in Table 4-3, 2017 WMP.</li> <li>Biannual stygofauna monitoring is also described in section 4.3.3, 2017 WMP. Results of stygofauna monitoring were not sighted by the auditors.</li> <li>Groundwater quality monitoring results were not reviewed by the auditors.</li> <li>There were no reported incidents during the period of the IEA where Table 6-5 WMP TARPs were triggered.</li> <li>Although, the 2017, 2018 and 2019 Annual SMRs reported "<i>Groundwater impact has been minimal with the main effects being at seam level. Piezometric height has decreased in the seam level aquifers as expected. There has been no adverse impact on upper aquifers (i.e. above the Mt York Claystone) as a consequence of mining activities (including the Clarence aquifer).</i>", there was no groundwater quality monitoring data reported in ARs, Annual SMRs or SMSRs.</li> </ul>	<ul style="list-style-type: none"> <li>Clarence Environmental Monitoring Program (CC, 2017)</li> <li>2017 WMP MP-2041 (CC, 2017)</li> <li>ARs (CC, 2017 -2020)</li> <li>Annual SMRs (CC, 2017-2019)</li> <li>SMSRs (CC, 2016 - 2020)</li> </ul>	Not assessed as there were no groundwater quality monitoring data reported in ARs, Annual SMRs or SMSRs.	Refer R2 (Table 2 2)

Impact Assessment Criteria (source)	Monitoring Data and Trends	Evidence	Impact < predicted / criteria?	Rec #
<b>SIG-4: Groundwater dependent ecosystems (SMP condition 13)</b>  <u>Criteria</u> Groundwater quality monitoring results less than trigger values listed in Table 6-5, 2017 WMP. (2017 WMP TARP)	<ul style="list-style-type: none"> <li>Refer SIG-3</li> </ul>			
<b>SIG-5: Piezometer head change (DA504 Sch 3-10)</b>  <u>Criteria</u> No significant fall in piezometric height of aquifers above Mt York Claystone (2017 WMP TARP)	<ul style="list-style-type: none"> <li>Refer SIG-1</li> </ul>			
<b>SIG-6: Significant inflows to mine working (DA504 Sch 3-5)</b>  <u>Criteria</u> Dewatering Volumes (2017 WMP TARP)	<ul style="list-style-type: none"> <li>ARs report that groundwater inflow has compared favourably to model predictions; that groundwater take is licenced (WAL 36479); and that this entitlement has not been exceeded.</li> <li>The 2017 WMP TARP includes a dewatering volume for the 82 and 79 cut through dewatering bores below 6,623 ML over 12 month period.</li> </ul>	<ul style="list-style-type: none"> <li>ARs (CC, 2017 -2020)</li> <li>2017 WMP MP-2041 (CC, 2017)</li> </ul>	<ul style="list-style-type: none"> <li>Yes.</li> </ul>	Refer R3 (Table 2-2)
<b>SIG-7: Reduction in pumping yields in privately owned bores (DA504 Sch 3-5)</b>  <u>Criteria</u> Not quantified (DA504 Sch 3-5)	<ul style="list-style-type: none"> <li>No incidents or complaints for changes in pumping yield from privately owned groundwater bores, were recorded in the ECD (2016 - 2020).</li> <li>The 2017, 2018 and 2019 Annual SMR report "<i>There has been no adverse impact on upper aquifers (i.e. above the Mt York Claystone) as a consequence of mining activities (including the Clarence aquifer)</i>".</li> </ul>	<ul style="list-style-type: none"> <li>ECD (CC, 2016 -2020)</li> <li>Complaint Register (CC, 2020)</li> </ul>	<ul style="list-style-type: none"> <li>Yes.</li> </ul>	Refer R3 (Table 2-2)



## 4 Limitations of Report

MCW Environmental Consulting Pty Limited (MCW Environmental) has conducted this Independent Environmental Audit (IEA) and generated this report in accordance with the usual care and thoroughness of the consulting profession for the use of Centennial Clarence Pty Ltd and only those third parties who have been authorised in writing by MCW Environmental to rely on this Report.

It is based on generally accepted practices and standards at the time it was prepared. No other warranty, expressed or implied, is made as to the professional advice included in this Report. This IEA report did not assess any aspects relating to safety or soil or groundwater contamination at the site.

The IEA Report is prepared in accordance with the scope of work and for the purpose outlined in the MCW Environmental Proposal dated 12 August 2020 and the signed contract executed between MCW Environmental and Centennial Clarence Pty Ltd.

Where this IEA Report indicates that information has been provided to MCW Environmental by third parties, MCW Environmental has made no independent verification of this information except as expressly stated in the Report. MCW Environmental assumes no liability for any inaccuracies in or omissions to that information.

This IEA Report was prepared between October 2020 and January 2021 and is based on the conditions encountered and information reviewed at the time of the site visit on 12, 13, 29 and 30 October 2020. MCW Environmental disclaims responsibility for any changes that may have occurred after this time.

This IEA Report should be read in full. No responsibility is accepted for use of any part of this report in any other context or for any other purpose or by third parties. This IEA Report does not purport to give legal advice. Legal advice can only be given by qualified legal practitioners.

Except as required by law, no third party may use or rely on this IEA Report unless otherwise agreed by MCW Environmental in writing. Where such agreement is provided, MCW Environmental will provide a letter of reliance to the agreed third party in the form required by MCW Environmental.

To the extent permitted by law, MCW Environmental expressly disclaims and excludes liability for any loss, damage, cost or expenses suffered by any third party relating to or resulting from the use of, or reliance on, any information contained in this IEA Report. MCW Environmental does not admit that any action, liability or claim may exist or be available to any third party.

Except as specifically stated in this section, MCW Environmental does not authorise the use of this IEA Report by any third party.

It is the responsibility of third parties to independently make inquiries or seek advice in relation to their particular requirements and proposed use of the site.

## Appendix A: Compliance Assessment

- **A1: NSW DPIE: Development Approval - DA504 (as modified)**
- **A2: Lithgow City Council:**
  - **2018 Development Approval No. IRM.GE.76: Modification of Consent MOD 035/2018**
  - **1994 Northern Lease Extension Area Development Consent DA173/93**
  - **1993 Amended Development Consent DA174/93**
  - **1976 Development Consent IRM.GE.76**
- **A3: Environment Protection Licence 726 (Environment Protection Authority)**
- **A4: (DRG)**
  - **Consolidated Coal Lease 705**
  - **Mining Lease 1583**
- **A5: Subsidence Management Plans: Area 800 and Area 900 (DRG)**

## **Appendix A1: Development Approvals Compliance Assessment:**

- Development Consent DA 504-00 (as modified) (NSW DPIE)**

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
<b>SCHEDULE 2 – ADMINISTRATIVE CONDITIONS</b>					
<b>Obligation to Minimise Harm to the Environment</b>					
2-1	The Applicant shall implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the development.	<ul style="list-style-type: none"> <li>This IEA</li> <li>ARs (CC, 2017 -2020)</li> <li>EPA Annual Returns</li> <li>Annual SMRs (CC, 2018 - 2020)</li> <li>Clarence Environmental Monitoring Program (CC, 2017)</li> </ul>	<ul style="list-style-type: none"> <li>Monitoring of subsidence, surface water, groundwater, noise and air was generally undertaken in accordance with approved management plans.</li> <li>Although a number of incidents relating to exceedance of EPL 726 water concentration limits at LDP 002 and loss of containment from LD 2, have been reported to regulators during the period of this IEA, no incidents that caused harm to the environment were reported in ARs, EPA Annual Returns and Annual Year SMRs.</li> </ul>	Noted	
2-2	The Applicant shall carry out the development: <ul style="list-style-type: none"> <li>generally in accordance with the EIS and Statement of Commitments; and</li> <li>in accordance with the conditions of this consent.</li> </ul>	<ul style="list-style-type: none"> <li>This IEA</li> </ul>	<ul style="list-style-type: none"> <li>A detailed review of the EIS and Supplementary Report was not conducted as part of this audit.</li> <li>Refer assessment against the EIS SOC's (Appendix 3) in this table below.</li> <li>Refer to Appendix A1 (this table) and Appendix A2 Development Consents.</li> </ul>	Noted	
2-3	If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this consent shall prevail to the extent of any inconsistency	<ul style="list-style-type: none"> <li>Section 1.5.4 and Appendix A of this 2020 IEA</li> </ul>	<ul style="list-style-type: none"> <li>This IEA assessed compliance with key approvals and the EPL. Where an inconsistency was identified, the most recent document prevailed.</li> </ul>	Noted	
2-4	The Applicant shall comply with any reasonable requirement/s of the Planning Secretary arising from the Department's assessment of: <ul style="list-style-type: none"> <li>(a) any strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with this consent; and</li> <li>(b) the implementation of any actions or measures contained in these document</li> </ul>	<ul style="list-style-type: none"> <li>Management Plans available on <a href="#">CC website</a></li> <li>Email to MCW Environmental – IEA Consultation (DPIE, 30 October 2020)</li> <li>HRA Notification REA III V1 (CC, September 2018)</li> <li>Improvements in ARs (2018)</li> <li>WRAC REA III Decommissioning HRA v3 (CC)</li> </ul>	<ul style="list-style-type: none"> <li>Refer to Table 2.5 Regulatory Action (2016 - 2020) of the 2020 IEA report for a summary of regulatory actions undertaken during the period of this IEA.</li> <li>Examples of where Clarence has complied with requirements of DPIE are: <ul style="list-style-type: none"> <li>Planned inspection of tailings management on 26 February 2020 resulted in s.240 of Mining Act Notice to conduct a risk assessment on tailings storages which was conducted by 30 October 2020.</li> <li>Response to DPIE Show Cause letter (March 2018) and Official Caution (July 2018).</li> </ul> </li> </ul>	Compliant	

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation																
			<ul style="list-style-type: none"><li>○ Revision of management plans.</li><li>○ DPIE attendance at 2018 REA III TAP meeting.</li></ul>																		
Limits on Approval																					
2-5	This consent shall lapse of 31 December 2026. Note: Conditions of this consent may require activities to be carried out by the Applicant beyond the period of the approval.			Noted																	
2-6	The Applicant shall not extract more than 3 million tonnes of ROM coal per year from the Mine.	<ul style="list-style-type: none"><li>• ARs (CC, 2016, 2017, 2018 &amp; 2019)</li></ul>	<ul style="list-style-type: none"><li>• No incidents or community enquiries relating to truck movements reported on the ECD.</li><li>• AR reported tonnes of ROM coal as:<table><tr><th>Calendar year</th><th>Limit</th><th>Tonnes of ROM coal</th></tr><tr><td>2016</td><td>3,000,000</td><td>2,693,151</td></tr><tr><td>2017</td><td>3,000,000</td><td>2,616,951</td></tr><tr><td>2018</td><td>3,000,000</td><td>1,772,124</td></tr><tr><td>2019</td><td>3,000,000</td><td>1,871,648</td></tr></table></li></ul>	Calendar year	Limit	Tonnes of ROM coal	2016	3,000,000	2,693,151	2017	3,000,000	2,616,951	2018	3,000,000	1,772,124	2019	3,000,000	1,871,648	Compliant		
Calendar year	Limit	Tonnes of ROM coal																			
2016	3,000,000	2,693,151																			
2017	3,000,000	2,616,951																			
2018	3,000,000	1,772,124																			
2019	3,000,000	1,871,648																			
2-7	Except for the period referred to in condition 7AA, the Applicant may transport up to 200,000 tonnes of coal by road per calendar year in total, with a maximum of 100,000 tonnes per calendar year transported to the west, via the Darling Causeway and Great Western Highway haulage route shown in Appendix 5.	<ul style="list-style-type: none"><li>• CLA Road Transport.xls</li><li>• ECD (2016 - 2020)</li></ul>	<table><tr><th>Calendar year</th><th>Limit (Tonnes by road)</th><th>Tonnes of coal by road</th><th>Tonnes of coal by road (west)</th></tr><tr><td>2016</td><td>200,000</td><td>153,816</td><td>5,030</td></tr><tr><td>2017</td><td>200,000</td><td>198,198</td><td>8,385</td></tr><tr><td>2018</td><td>200,000</td><td>173,052</td><td>383</td></tr></table>	Calendar year	Limit (Tonnes by road)	Tonnes of coal by road	Tonnes of coal by road (west)	2016	200,000	153,816	5,030	2017	200,000	198,198	8,385	2018	200,000	173,052	383	Compliant	
Calendar year	Limit (Tonnes by road)	Tonnes of coal by road	Tonnes of coal by road (west)																		
2016	200,000	153,816	5,030																		
2017	200,000	198,198	8,385																		
2018	200,000	173,052	383																		
2-7AA	Until 31 <sup>st</sup> December 2020, the Applicant may transport up to 300,000 tonnes of coal by road per calendar year in total, including 200,000 tonnes of coal by road per calendar year to the Mount Pipe Power Station or to locations north of Sydney or Eastern NSW using the haulage routes shown in Figure1 of Appendix 5.	<ul style="list-style-type: none"><li>• CLA Road Transport.xls</li><li>• 2019 AR (CC, 2020)</li></ul>	<table><tr><th>Calendar year</th><th>Limit (Tonnes by road)</th><th>Tonnes of coal by road</th><th>Tonnes of coal by road (west)</th></tr><tr><td>2019</td><td>300,000</td><td>188,821</td><td>50,217</td></tr><tr><td>2020 (YTD)</td><td>300,000</td><td>N/A</td><td>748</td></tr></table>	Calendar year	Limit (Tonnes by road)	Tonnes of coal by road	Tonnes of coal by road (west)	2019	300,000	188,821	50,217	2020 (YTD)	300,000	N/A	748	Compliant					
Calendar year	Limit (Tonnes by road)	Tonnes of coal by road	Tonnes of coal by road (west)																		
2019	300,000	188,821	50,217																		
2020 (YTD)	300,000	N/A	748																		
2-7A	Other than via the haulage route shown in EA Mod 3, the Applicant shall not cause any coal truck movements through the City of Lithgow without the prior approval of the Council.	<ul style="list-style-type: none"><li>• ECD (2016 - 2020) (Incident and Community Enquiries) for period of this IEA</li><li>• No issues raised by CCC, Lithgow Council and/or EPA during consultation for this IEA</li><li>• Clarence Complains (CC, August 2020)</li></ul>	<ul style="list-style-type: none"><li>• No incidents, complaints or community enquiries relating to truck movements through Lithgow were reported.</li><li>• Coal Haulier Induction includes “<i>Do not deviate from the designated haul route unless directed to by a mine official or Loader Operator.</i>”</li></ul>	Compliant																	
2-7-B	Haulage of coal to the west shall only take place between the hours of 7 am to 10 pm Monday to Saturday and between 8 am to 10 pm on Sunday and public holidays.	<ul style="list-style-type: none"><li>• ECD (2016 - 2020) (Incident and Community Enquiries) for period of this IEA</li></ul>	<ul style="list-style-type: none"><li>• No incidents or community enquiries relating to truck movements outside of 7 am to 10 pm Monday to Saturday and between 8 am to 10 pm on Sunday and</li></ul>	Compliant																	

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
		<ul style="list-style-type: none"> <li>No issues raised by CCC, Lithgow Council and/or EPA during consultation for this IEA</li> <li>Coal Haulier Induction (4035)</li> </ul>	<p>public holidays were reported in the ECD (2016 - 2020).</p> <ul style="list-style-type: none"> <li>Coal Haulier Induction includes "Loading times are 0700 – 1700 Mon-Thu, Friday 0700- 1600. Only by exceptional circumstances will loading occur outside these time as approved by CHPP Management".</li> </ul>		
	<b>Structural Adequacy</b>				
2-8	<p>The Applicant shall ensure that all new buildings, structures, and any alterations to existing buildings and structures are constructed in accordance with the relevant requirements of the BCA.</p> <p>Notes:</p> <ul style="list-style-type: none"> <li>-Under Part 4A of the EP&amp;A Act, the Application is required to obtain construction and occupation certificates for any building works.</li> <li>-Part 8 of the EP&amp;A Regulation sets out the requirements for the certification of development.</li> </ul>		<ul style="list-style-type: none"> <li>No new buildings were reportedly constructed or altered during the period of this IEA.</li> </ul>	Compliant	
<b>Demolition</b>					
2-9	The Application shall ensure that all demolition work is carried out in accordance with AS 2601-2001: The Demolition of Structures, or its latest version.	<ul style="list-style-type: none"> <li>IEA site inspection</li> <li>Interview with E&amp;C Coordinator</li> </ul>	<ul style="list-style-type: none"> <li>No demolition works were reported to have occurred at the site during the period of this IEA.</li> <li>No evidence of demolition was observed during the IEA site inspection.</li> </ul>	Compliant	
<b>Protection of Public Infrastructure</b>					
2-10	<p>The Application shall:</p> <ul style="list-style-type: none"> <li>(a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and</li> <li>(b) relocate, or pay the full costs associated with relocating any public infrastructure that needs to be relocated as a result of the development.</li> </ul>	<ul style="list-style-type: none"> <li>ECD (2016 - 2020) (Incident and Community Enquiries) for period of this IEA.</li> </ul>	<ul style="list-style-type: none"> <li>Public infrastructure that traverses the site includes transmission lines and tracks.</li> <li>No damage to public infrastructure was reported to have occurred in association with site development and operation.</li> <li>Clarence reported that CC repaired the pipe that transfers water to LCC (which was damaged during 2020 bushfires).</li> </ul>	Compliant	
<b>Operation of Plant and Equipment</b>					
2-11	<p>The Applicant shall ensure that all plant and equipment at the site, or used in connection with the development, are:</p> <ul style="list-style-type: none"> <li>(a) maintained in a proper and efficient condition; and</li> <li>(b) operated in as proper and efficient manager.</li> </ul>	<ul style="list-style-type: none"> <li>Site inspection</li> <li>Monthly EM reports (CC, 2016 -2020)</li> <li>Induction (as undertaken by auditors on 12/10/2020)</li> <li>Monthly and weekly E&amp;C Coordinator Environment Inspections</li> </ul>	<p>Evidence that plant and equipment at the site were (a) maintained in a proper and efficient condition; and (b) operated in as proper and efficient manager; during the period of the IEA included:</p> <ul style="list-style-type: none"> <li>Dedicated WTP Operator.</li> <li>LDP002, 003 and 004 Oil &amp; Grease monitoring data has not exceeded the</li> </ul>	Non-compliant (NC-1)	Closed. No recommendation.

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
		<ul style="list-style-type: none"> <li>CHPP Manager daily inspections</li> <li>Interview with E&amp;C Coordinator</li> <li>Interview with CHPP Manager (29 October 2020)</li> <li>Interview with WTP Technician (12 October 2020)</li> <li>ECD (2016 - 2020) (Incident and Community Enquiries) for the period of this IEA</li> <li>Electrical Engineering Control Plan (MP-1913, 2016)</li> <li>Mechanical Control Plan MP-1056 9 (CC, 2017))</li> <li>Maintenance Work Orders generated from the Centennial Coal Pulse Maintenance System e.g. Daily Inspection WTP Operational Checklist (25 May 2018), WTP weekly inspection (11 October 2019 and 25 June 2020), Inspection of sumps and WTP (undated), lime discharge pipe replacement 30 May 2018,</li> <li>Work order for environmental monthly inspections (April 2020, June 2020 and September 2020)</li> <li>CHPP Inspection 29 October 2020</li> <li>DG1: 6-month verification certificate (ALS, March 2019)</li> <li>DG1: Annual verification certificate (ALS, October 2019)</li> <li>DG1: Calibration certificate (ALS, 2017)</li> <li>Land Disturbance Notice for REA V construction, 12 May 2019</li> </ul>	<p>100 percentile concentration limit, 10 mg/litre, during the period of this IEA.</p> <ul style="list-style-type: none"> <li>Mechanical and Electrical Control Plans include responsibilities and requirements for equipment monitoring, testing, audit, and incident management.</li> <li>Implementation of process for surface disturbance for REAV construction and exploration borehole 7004.</li> <li>Work order for monthly environmental inspections generated.</li> <li>The mandatory site induction for employees, contractors and visitors includes environmental awareness and obligations to undertake works and to protect the environment including: <ul style="list-style-type: none"> <li>Spill response: assess, control, contain and repair</li> <li>Permit process including that a surface disturbance notice is required for intrusive works</li> <li>Emergency and environment contacts (phone and website)</li> <li>Awareness of environmental aspects: dangerous goods, water, noise, air, waste and reporting (e.g. SLAM) requirements</li> <li>Incident management</li> </ul> </li> <li>Chemical and hydrocarbon storage review and Dangerous Goods and Hazardous Substances Audit were undertaken in 2018 and 2020 respectively.</li> </ul> <p>Three 'incidents' have been assessed as representing non-compliances with DA504-00 Sch 2-11 due to WTP and water storage and transfer infrastructure issues:</p> <ol style="list-style-type: none"> <li>2016 -2020: Exceedance of water quality concentration limits at LDP 002 on numerous occasions during the period of the IEA. WTP and water infrastructure improvements that have been implemented during the period of</li> </ol>		



## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
		<ul style="list-style-type: none"> <li>Land Disturbance Notice for exploration boreholes 7005, 5 September 2017</li> <li>Waste Monthly Report (JR Richards, Feb, March April, and June 2020)</li> <li>EPL 726 LDP 002 monitoring records (no exceedance of oil &amp; grease 100 percentile concentration limit, 10 mg/litre)</li> <li>Show Cause 1597458 response letter re. EPA Discharge Exceedances LDP 002 (CC, 5 August 2020)</li> <li>Response to EPA request letter (CC, 31 August 2018)</li> <li>Dangerous Goods and Hazardous Substance Audit (CC, May 2020)</li> </ul>	<p>the IEA, to improve water quality at LDP 002, have included:</p> <ul style="list-style-type: none"> <li>2016: Engineering works to divert surface water from all areas other than REAs, to the polishing lagoon. From the Polishing Lagoon water is pumped to the WTP for treatment or returned underground to the mine water storage.</li> <li>2017: The WTP Residuals Receiving Facility (sludge lagoons) was developed, additional pH probes installed, training in pH probe calibration and cleaning, independent verification of the WTP, lagoon cleaning, pH set point, acid and coagulant pre-flocculant dilution trials, Jar testing programs, pH probe modifications and three heavy duty Delta magnetic water conditioners installed.</li> <li>2018: Improvements included new WTP processes and control systems, increased flocculant capture, reinstated settling pond, turbidity monitor installed at LDP 002, change in acid dosing from sulphuric acid to HCL, installation of new dosing tanks and upgrade to plant control and automation; and investigations into pH dosing.</li> <li>2019: Modifications to pH dosing.</li> <li>On 15 January 2020, the EPL was revised (s.58 EPL Variation no. 1590599) to include actions that will result in cessation of discharge from LDP 002 to the Wollangambe River. The actions are under development by Clarence with consultation with the EPA and stakeholders. When completed, these actions were assessed by the auditors as adequately addressing the exceedances of water quality concentration limits in LDP 002,</li> </ul>		

Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
			<p>consequently, no further recommendations were made.</p> <p>2) August 2016 Leachate Dam 2 leak – a leak from LD 2 base and/or a discharge pipeline resulted in elevated metals, low pH and toxicity characteristics in water in a tributary of the Wollangambe River. As a result of the leak, EPA incident #110693-2016 was raised and s.58 variation 1543427, 12 August 2016 implemented. Corrective actions, which were completed by 5 June 2017, included a bentonite and geotextile blankets applied to the internal toe of the LD 2 wall, pipeline integrity assessment and monitoring program.</p> <p>3) August 2019 Riser Pipe: A riser cap on the gravity pipeline from LD 2 to the underground borehole failed due to a pipe blockage allowing escape of water via a pipeline riser. The water did not exit the lease area and no environmental harm occurred. As a result of the incident, EPL variation (1586943) was implemented. Corrective actions, which were completed by 9 April 2020, included improved pipeline integrity, installation of additional monitoring and valves, and reduced water inputs.</p>		

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation												
SCHEDULE 3 SPECIFIC ENVIRONMENTAL CONDITIONS																	
SUBSIDENCE																	
Note: The development will generally be regulated under the approval process for managing the impacts of coal mining subsidence under the Mining Act 1992.																	
Subsidence Impact Assessment Criteria																	
3-1	<p>The Applicant shall ensure that surface subsidence generated by the development does not exceed the criteria listed in Table 1.</p> <p>Table 1: Subsidence Impact Assessment Criteria</p> <table><tr><th>Level of Extraction</th><th>Subsidence</th><th>Tilt</th><th>Horizontal Strain (compressive and tensile)</th></tr><tr><td>First workings</td><td>20 mm</td><td>1.0 mm/m</td><td>1.0 mm/m</td></tr><tr><td>Partial Extraction</td><td>100 mm</td><td>3.0 mm/m</td><td>2.0 mm/m</td></tr></table> <p>Note: The first workings and partial extraction areas refer to those areas shown conceptually on Figure 5.6 (revised) of the Supplementary Report, as reproduced in Appendix 2.</p>	Level of Extraction	Subsidence	Tilt	Horizontal Strain (compressive and tensile)	First workings	20 mm	1.0 mm/m	1.0 mm/m	Partial Extraction	100 mm	3.0 mm/m	2.0 mm/m	<ul style="list-style-type: none"><li>Interview with Mine Surveyor</li><li>Interview with Technical Services Manager</li><li>Interview with E&amp;C Coordinator</li><li>Site inspection</li><li>2017 Annual SMR (CC, 2018)</li><li>2018 Annual SMR (CC, 2019)</li><li>2019 Annual SMR (CC, 2020)</li><li>ARs (CC, 2017 -2020)</li><li>SMP Application for 700 West / 800 Area (CC, 2011),</li><li>SMP 800 Area (CC, 2013 and as varied in 2017 and 2020)</li><li>SMP 900 Area (CC, 2014 and as varied in 2019)</li><li>800 Area SMP – TARP (printed 30 October 2020)</li><li>Subsidence and Infrastructure Monitoring Program for the 800 Area Monitoring Program (CC, 2020)</li><li>Partial Extraction 900 Area Environmental Monitoring Program (CC, 2014)</li><li>Clarence Environmental Monitoring Program (CC, 2017)</li><li>Review of Subsidence Information from Recent Partial Extraction Areas (Strata Engineering Australia 2011a)</li><li>Raw subsidence data (Excel spreadsheets for H, I U,</li></ul>	<ul style="list-style-type: none"><li>Since late 1990's Clarence has used the partial extraction method which involves partially removing pillars in the coal panel. This extraction method is designed to keep the spine of coal and a barrier pillar to reduce subsidence impacts. Subsidence model is updated with new data updates e.g. in 2019 when Area 900 SMP variation with new mining layout was proposed, a full review of modelling data was undertaken. Modelling considers a 20 mm subsidence impact from flooding. New panel design and associated modelling was reviewed by subject matter expert, Strata<sup>2</sup>.</li><li>Area 900 SMP variation 6 plan shows areas proposed for mining and residual spine and barriers.</li><li>The maximum subsidence impact prediction for 'elastic' overburden behaviour in Area 800 and Area 900 is 100 mm +/- 25 mm i.e. allowing +/- 25 mm for survey accuracy (Ref. End of Year SMSRs (CC, 2017, 2018, 2019).</li><li>The ARs, SMP variations and SMSRs reference that the subsidence impact assessment criteria is 100 mm +/- 25 mm.</li><li>Although the subsidence impact assessment criteria in DA504 states that maximum subsidence impact is 100 mm, DPIE and DRE have accepted ARs, SMP variations and SMSRs referencing the subsidence impact assessment criteria as 100 mm +/- 25 mm throughout the period of the IEA without recommending removal of the 25mm. The +/- 25 mm was reportedly allowance for survey accuracy.</li></ul>	Compliant (C-1)	<p>R1: Consult with DPIE/DRG and if, agreed, obtain written approval that the:</p> <ul style="list-style-type: none"><li>That the subsidence impact assessment criteria for tilts and strains (as specified in DA 504 Sch 3-1) are not required.</li><li>That the maximum subsidence impact assessment criteria is 100 mm +/- 25 mm (and not 100 mm as specified in DA 504 Sch 3-1).</li><li>Whether subsidence impact &gt; 100mm on H Line triggers 'condition red' on the TARP, as this area was mined prior to DA504.</li></ul>
Level of Extraction	Subsidence	Tilt	Horizontal Strain (compressive and tensile)														
First workings	20 mm	1.0 mm/m	1.0 mm/m														
Partial Extraction	100 mm	3.0 mm/m	2.0 mm/m														

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
		W&Z, 700A, 700B, 800A, 800B, 900A, 700F, 707 SUB, 800C, 800D, 800E, 900B, 900D, and 903) provided 16 November 2020	<p>Although this condition has been assessed as Compliant, a recommendation has been included to obtain written approval from DPIE/DRG that assessment against the subsidence impact assessment criteria as 100 mm +/- 25 mm is acceptable.</p> <ul style="list-style-type: none"> <li>Maximum surface subsidence impacts in Area 800 and Area 900 as shown as DOA 504-00 Appendix 2 Partial Extraction workings subsidence protection zones, are reported in 2017, 2018 and 2019 End of Year SMSRs as not exceeding the 100 mm criteria listed in DA504 Sch 3-1 Table 1.</li> <li>In Area 800 area subsidence is approximately &lt;25 mm which is significantly less than the 100mm (max predicted impact); and for Area 900 subsidence is approximately &lt; 40-50 mm which is also less than 100 mm (max predicted impact).</li> <li>800 Area Environmental Monitoring Program (Attachment 2 Subsidence Monitoring Program TARP (CC, 2020)) and 900 Area Environmental Monitoring Program (Attachment 3 Subsidence Monitoring Program TARP (CC, 2014)) identifies actions to be taken if subsidence monitoring data approaches and/or exceeds the subsidence impact assessment criteria.</li> <li>Subsidence monitoring is undertaken and reported every four months, with results summarised in Annual SMR reports. Reports are provided to DRG and are available on the CC website. Evidence of distribution of the first period 2020 SMSR to stakeholders was sighted.</li> <li>In Area 900, pillar stress monitoring has been undertaken, identifying that pillars are behaving as predicted.</li> <li>During the IEA site inspection along a section of the A subsidence monitoring</li> </ul>		

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation								
			<p>line (A7, A8, A9), no surface cracking was observed.</p> <ul style="list-style-type: none"><li>Maximum subsidence along the H line above previously extracted panel 612 reported impacts equal to or slightly above the DA 504-00 subsidence impact criteria for partial extraction of 100 mm (refer Table A1 1). As this area was reportedly mined in 2005, prior to the current Development Consent DA 504-00 and under previous subsidence requirements, this impact was assessed by the auditors as not representing a non-compliance with the current Development Consent.</li></ul> <p><i>Table A1 1: Subsidence at panel 612 (mined prior to DA504-00)</i></p> <table><tr><td></td><td><b>612 panel Maximum Subsidence (mm)</b></td></tr><tr><td>2017</td><td>102</td></tr><tr><td>2018</td><td>100</td></tr><tr><td>2019</td><td>104</td></tr></table> <p>Source: End of Year SMSRs (CC, 2017, 2018, 2019).</p> <ul style="list-style-type: none"><li>Since 2015, Clarence has been progressively upgrading to using Feno markers for subsidence monitoring. Feno markers reduce impacts to the surface as clearing is not required to complete survey runs, however, they do not allow for measurement of tilts and strains.</li><li>SMSRs, ARs or SMP Variations have not included an assessment of tilt and strains against the maximum impact criteria since 2015. DPIE and DRG have accepted SMP Variations including TARPs, SMSR reports and ARs (without tilts and strains monitoring data and assessment against criteria) throughout the period of the IEA without recommendation for inclusion of tilt and strain monitoring.</li></ul>		<b>612 panel Maximum Subsidence (mm)</b>	2017	102	2018	100	2019	104		
	<b>612 panel Maximum Subsidence (mm)</b>												
2017	102												
2018	100												
2019	104												

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment



No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
			<ul style="list-style-type: none"> <li>Although this condition has been assessed as Compliant, a recommendation has been included to obtain written approval from DPIE/DRG that assessment against the subsidence impact assessment criteria for tilts and strains is no longer required.</li> </ul>		
<b>Subsidence Management Plan</b>					
3-2	<p>Before carrying out any underground mining operations that will potentially lead to subsidence of the land surface, the Applicant shall prepare a Subsidence Management Plan for those operations in accordance with the following DRG documents (or the most current and updated versions of these documents):</p> <p>(a) New Approval Process for Management of Coal Mining Subsidence- Policy; and</p> <p>(b) Guideline to the Applications for Subsidence Management Approvals, to the satisfaction of the Planning Secretary of the Planning Secretary.</p> <p>In addition to the above each Subsidence Management Plan shall:</p> <p>(a) describe how the subsidence impact assessment criteria will be monitored over time;</p> <p>(b) provide for the notification of relevant authorities, including DRG, Water Division and the Planning Secretary in the event of any exceedance of the impact assessment criteria; and</p> <p>(c) detail measures to reduce, mitigate and remediate any impacts.</p> <p>During the preparation of each Subsidence Management Plan the Applicant shall consult with the Department, Council, EPA, Water Division and the CCC, and have regard for any comments provided by these agencies/committees.</p>	<ul style="list-style-type: none"> <li>SMSR End of Year (CC, 2016, 2017, 2018 &amp; 2019)</li> <li>900 Area</li> <li>Partial Extraction 900 Area Environmental Monitoring Program (CC, 2014)</li> <li>900 Area SMP Application (CC, September 2013)</li> <li>900 Area SMP Variation 5 (CC, April 2019)</li> <li>900 Area SMP Variation 5 Approval (DRG, 26 July 2019)</li> <li>SMP 900 Area Approval (DRG, 21 January 2014)</li> <li>800Area</li> <li>800 Area SMP (CC, 2011)</li> <li>SMP Approved Plan_800 CL1753 (CC, May 2020)</li> <li>800 Area SMP Variation 6 (CC, May 2020)</li> <li>800 Area SMP Variation Approval letter (DRG, 2014)</li> <li>800 Area SMP Subsidence and Infrastructure Monitoring Program for the 800 Area (CC, August 2020)</li> <li>Letter to CC SMP 800 Variation 6 approval Ref MAAG0007256 (DRG. 11 August 2020)</li> <li>800 Area SMP TARP (CC, undated)</li> <li>800 SMP Limited Subsidence Monitoring Program for 804 – 820 Panels (CC, 29 March 2018)</li> </ul>	<ul style="list-style-type: none"> <li>Approval for 800 Area SMP Variation 6 was granted by DRG (11 August 2020).</li> <li>Approval for 900 Area SMP Variation 5 was granted by DRG (26 July 2019).</li> <li>Refer Appendix A5 of this 2020 IEA report for assessment of compliance of SMP Area 800 and SMP Area 900.</li> <li>Management of subsidence for Area 800 and Area 900 is distributed across a number of approved documents including: <ul style="list-style-type: none"> <li>800 Area SMP (2011) and variations</li> <li>800 Area SMP Variation 6 (2020)</li> <li>800 Area Subsidence and Infrastructure Monitoring Program (2020)</li> <li>Area 800 SMP Subsidence and Pillar Design TARP (undated)</li> <li>Partial Extraction 900 Area Environmental Monitoring Program (2014)</li> <li>Clarence Environmental Monitoring Program (2017)</li> <li>2017 WMP.</li> </ul> </li> <li>Although this condition has been assessed as Compliant, a recommendation has been made to consolidate subsidence impact assessment criteria, monitoring, responsibilities, and TARPs.</li> <li>(a) The Subsidence Monitoring Program includes monitoring of pillar stability and subsidence (e.g. subsidence surveys, surface cracking on roads, tracks or vegetated areas, cliffline / pagoda</li> </ul>	Compliant (C-2)	R2: Identify and consolidate quantitative subsidence impact assessment criteria (as specified in DA 504-00 Sch 3 and SMP Approvals), and corresponding baseline data, monitoring (parameter, method and frequency) and reporting requirements, responsibilities, and standardise TARPs; into a management plan document which is reviewed and updated following changes to the development, approvals and/or subsidence monitoring requirements.

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
		<ul style="list-style-type: none"> <li>EDG17 Guideline for Applications for Subsidence Management Approvals (DRG, 2003)</li> <li>Clarence Environmental Monitoring Program (CC, 2017)</li> <li>WMP MP-2041 (CC, 2017)</li> </ul>	<p>damage or instability and piezometer water level). SMSRs (CC, 2016 – 2020) included monitoring trends over time. (compliant). The 2017 WMP also included TARPs for surface cracking on cliffline / pagoda damage or instability and piezometer water level (and additional aspects) that were slightly different to the SMP TARPs.</p> <ul style="list-style-type: none"> <li>(b) The 800 Area SMP TARP includes notification of relevant authorities for subsidence. SMSRs (CC, 2016 - 2020) report that subsidence impacts are below the 100mm maximum predicted impact for mining operations approved under DA 504 (as modified) consequently the requirement to notify relevant authorities, or measures to reduce, mitigate or remediate impacts, has not been triggered. (compliant).</li> <li>(c) Actions to reduce subsidence impacts are focussed on the method of partial extraction mining and pillar design (which aims to minimise subsidence) and responses to monitoring. TARPs include pillar stability and subsidence monitoring (e.g. subsidence survey, surface cracking on roads, tracks or vegetated areas, cliffline / pagoda damage or instability and piezometer water level). (compliant).</li> </ul>		
<b>SURFACE WATER &amp; GROUNDWATER</b>					
<b>Pollution of Waters</b>					
3-3	Except as may be expressly provided by an Environment Protection Licence, the Applicant shall comply with section 120 of the Protection of the Environment Operations Act 1997 during the carrying out of the development.	<ul style="list-style-type: none"> <li>EPL 726 (as amended)</li> <li>Refer to EPL 726 compliance assessment (Appendix A3 of this 2020 IEA)</li> <li>Refer to EPA Regulatory Actions (Section 2.3.2 of this IEA)</li> <li>Site inspection (12 October 2020)</li> <li>Draft 2020 WMP MP-2041 (CC, 2020)</li> <li>AR (CC, 2016 - 2018)</li> </ul>	<ul style="list-style-type: none"> <li>Section 120 of the POEO Act provides: <ul style="list-style-type: none"> <li><i>A person who pollutes any waters is guilty of an offence.</i></li> <li><i>In this section: "pollute" waters includes cause or permit any waters to be polluted</i></li> </ul> </li> <li>The auditors have assessed that "pollution of waters" includes exceedance of EPL 726 LDP 002 discharge concentration limits.</li> <li>A summary of regulatory actions and a compliance assessment against the</li> </ul>	Non-compliant (NC-2)	Closed. No recommendation.




## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
		<ul style="list-style-type: none"> <li>WTP Residual Receival Facility Cell 1 Waste classification (GHD, 14/12/2017)</li> </ul>  <p>Photo 2: WTP Residual Receival Facility storage 'pillow' of residual sludge sediment</p>  <p>Photo 3: WTP Residual Receival Facility (drying lagoon)</p>	<p>requirements of EPL 726 are included in section 2.3.2 and Appendix A3 EPL 726 of this 2020 IEA.</p> <ul style="list-style-type: none"> <li>This condition was assessed as non-compliant as there were numerous exceedances of EPL 726 water concentration limits recorded during the period of this 2020 IEA (refer Appendix A3 EPL 726 L2.1). To address these exceedances improvement works have been undertaken and include: <ul style="list-style-type: none"> <li>2016: To improve discharge water quality at LDP002, engineering works were completed to divert surface water from all areas other than REAs, to the polishing lagoon. From the Polishing Lagoon water is pumped to the WTP for treatment or returned underground to the mine water storage.</li> <li>2017: The WTP Residuals Receival Facility (drying lagoons) was commissioned. Waste characterisation of the residual sludge sediment has been undertaken and due to elevated concentrations of nickel, has been assessed as Hazardous Waste. Assessment of long-term waste disposal options is continuing. Improvements included additional pH probes, training in pH probe calibration and cleaning, independent verification of the WTP, lagoon cleaning, pH set point, acid and coagulant pre-flocculant dilution trials, Jar testing programs, pH probe modifications and three heavy duty Delta magnetic water conditioners installed.</li> </ul> </li> </ul>		

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation									
			<ul style="list-style-type: none"><li>○ 2018: Improvements including processes, control systems, increased flocculant capture, reinstated settling pond, turbidity monitor installed at LDP 002, change in acid dosing from sulphuric acid to HCL, installation of new dosing tanks and upgrade to plant control and automation; and investigations into pH dosing.</li><li>○ 2019: Modifications to pH dosing.</li><li>• A current EPL 726 PRP (s.58 EPL 726 Variation no. 1590599) includes actions that will result in stopping discharge from LDP 002 to the Wollangambe River. The actions are under development with consultation with the EPA and stakeholders. When completed, these actions were assessed by the auditors as adequately addressing the exceedances of water quality concentration limits in LDP 002, consequently no further recommendations were made.</li></ul>											
Water Discharge Pollution Limits														
3-4	<p>Except as may be expressly provided by an Environment Protection Licence, the Applicant shall ensure that the discharges from any licensed discharge points comply with the limits in Table 2: Table 2: Water Discharge Pollution Limits</p> <table><tr><th>Pollutant</th><th>Units of Measure</th><th>100 percentile concentration limit</th></tr><tr><td>pH</td><td>pH</td><td>6.5&lt;=pH&lt;=9.0</td></tr><tr><td>Non-filterable residue</td><td>mg/litre</td><td>NFR&lt;= 120</td></tr></table>	Pollutant	Units of Measure	100 percentile concentration limit	pH	pH	6.5<=pH<=9.0	Non-filterable residue	mg/litre	NFR<= 120	<p>Photo 4: Grit trap (adjacent to pit top)</p>	<ul style="list-style-type: none"><li>• Additional and more onerous water discharge pollution limits are included in EPL 726. Consequently, this condition has been superseded by EPL 726 condition L2 and assessed as not triggered.</li><li>• In 2016, to improve discharge water quality at LDP 002, engineering works were completed to divert surface water from all areas other than REAs, to the polishing lagoon. From the Polishing Lagoon water is pumped to the WTP for treatment or returned underground to the mine water storage.</li><li>• A compliance assessment against the requirements of EPL 726, including Pollution of Waters and Concentration</li></ul>	Not triggered	
Pollutant	Units of Measure	100 percentile concentration limit												
pH	pH	6.5<=pH<=9.0												
Non-filterable residue	mg/litre	NFR<= 120												

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
		 <p>Photo 5: Polishing lagoon</p>	Limits, is included in Appendix A3 of this 2020 IEA.		
<b>Water Resources Impact Assessment Criteria</b>					
3-5	<p>The Applicant shall ensure that the development does not result in any:</p> <ul style="list-style-type: none"> <li>(a) significant inflows to mine workings;</li> <li>(b) reduction in pumping yield in privately owned groundwater bores;</li> <li>(c) reduction in surface flows and groundwater baseflow to upland swamps (Newnes Plateau Shrub Swamps) and wetlands; and</li> <li>(d) reduction in surface flows and groundwater baseflow to waterbodies including Marrangaroo Creek, Farmers Creek, Dargans Creek, Wolgan River, Dumbano Creek, Bungleboori Creek and Wollangambe River (excluding reduction in flows associated with the proposed water transfer scheme), to the satisfaction of the Planning Secretary. <p>Note- Each of these impact assessment criteria must be quantified in the respective sub-plans of the Water Management Plan (See Condition 6 below), to the satisfaction of the Planning Secretary.</p> </li></ul>	<ul style="list-style-type: none"> <li>• WMP MP-2041 (CC, 2017)</li> <li>• Draft 2020 WMP MP-2041 (CC, 2020)</li> <li>• Water Access Licence WL 3647910</li> <li>• ARs (CC, 2016 - 2019)</li> <li>• ECD (2016 - 2020)</li> <li>• Monthly and weekly E&amp;C Coordinator Environment Inspections</li> <li>• SMSR End of Year (2016 - 2019)</li> <li>• SMSR March-June 2019 (CC, July 2019)</li> <li>• SMSR July -Oct 2019 (CC, Nov 2019)</li> <li>• SMSR Nov -Feb (CC, March 2019)</li> <li>• SMSR March – June 2020 (CC, July 2020)</li> </ul>	<ul style="list-style-type: none"> <li>• The 2015 WMP was revised in 2017 and a further revision has been drafted in 2020 however at the time of this IEA, the draft 2020 WMP has not been approved by the Planning Secretary or implemented. This IEA assessed preparation and implementation of the 2017 WMP.</li> <li>• (a) Sources of inflows to mine workings include rainfall, catchment run off and groundwater inflow. Clarence's mining method, partial extraction, minimises disturbance to natural surface water and groundwater and minimises inflows to mine workings. The Clarence hydrogeological model was updated in 2016 and again in 2020 (GHD, 2020a). The model included predictions of groundwater inflow into underground workings. The 2017 WMP includes quantitative trigger values in a TARP for dewatering volumes (Appendix I). ARs report that groundwater inflow has compared favourably to model predictions; that groundwater take is licenced (WAL 36479); and that this entitlement has not been exceeded. (compliant).</li> <li>• (b) The 2017 WMP includes baseline groundwater data; groundwater level monitoring requirements and quantitative trigger values in TARPs for groundwater levels relative to baseline data. The ARs and SMSRs report that:</li> </ul>	Non-Compliant (NC-3)	<p>R3: Identify and consolidate quantitative water resources impact assessment criteria for each of the water resources impacts (as specified in DA504 Sch 3-5 a) to d)); and corresponding baseline data, monitoring and reporting requirements, responsibilities, and TARPs; into a management plan document which is reviewed and updated following changes to the development, approvals and/or monitoring requirements.</p> <p>R4: Align the units in the WMP TARP groundwater level impact assessment criteria (m(AHD)) with units used in the four-monthly</p>

Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
			<ul style="list-style-type: none"> <li>Open hole piezometer (Clarence aquifer) groundwater monitoring results indicate there have been no observable indications of mining impacts.</li> <li>Multi-level vibrating wire piezometer (targeting shallower Banks Wall Sandstone down to Katoomba seam) groundwater monitoring results indicate depressurisation in the coal seam is generally restricted to sequences below the Mount York Claystone and that there are no adverse effects on the upper aquifers.</li> </ul> <p>No incidents or complaints for changes in pumping yield from privately owned groundwater bores, were recorded in the ECD (2016 - 2020). (compliant).</p> <ul style="list-style-type: none"> <li>(c) The 2017 WMP identifies that groundwater levels were monitored in the Clarence Swamp (Nov 2013 to present) and the Hanson Swamp (July 2015 to present). Review of Hanson Swamp groundwater level monitoring data by Aurecon (2016) indicated that there is no direct permeability connection between the Clarence Swamp and historical first workings located to the north of the Clarence Swamp and that there was no indication of impact on groundwater levels in the Hanson Swamp due to mining. The draft 2020 WMP identifies additional groundwater level monitoring has been undertaken during the period of the IEA at Oleria Swamp (July 2018 to present), Pagoda Swamp (August 2019 to present) and Paddys Swamp East (March 2017 to present). The 2017 WMP includes surface inspection and groundwater level monitoring requirements; and quantitative trigger values in TARPs for groundwater levels relative to baseline data, piezometric</li> </ul>		<p>groundwater levels (hydrographs) monitoring results (m(bgl)).</p> <p>R5: Conduct an independent investigation into the decline in groundwater level at CLRP5 to understand the basis of the decline; assess if the decline in groundwater level and/or piezo head change at CLRP 5 trigger the 2017 WMP groundwater TARP. Pending the outcome of the investigation and assessment against the TARP, implement TARP response and notification actions.</p>

Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
			<p>head change, swamp and pagoda / cliff line visual monitoring and swamp water level. Groundwater level results are included in ARs and SMSRs. There were no reported incidents during the period of the IEA where these TARPs were triggered. The auditors did not sight records of observed surface water flows to upland swamps, consequently this condition as assessed as non-compliant (non-compliant).</p> <ul style="list-style-type: none"> <li>(d) The 2017 WMP (Appendix J.1) states that impacts on near-surface aquifers and affected surface water flows and shrub swamps would be detected by the groundwater monitoring program. As impact criteria for surface flows and groundwater baseflow to waterbodies including Marrangaroo Creek, Farmers Creek, Dargans Creek, Wolgan River, Dumbano Creek, Bungleboori Creek and Wollangambe River have not been quantified, this condition was assessed as non-compliant. The auditors note that the draft 2020 WMP reports that <i>"surface water flow will be measured monthly within the Wollangambe River and quarterly within Farmers Creek and that no flow monitoring is undertaken within Marrangaroo Creek, Daragans Creek, Wolgan River, Dumbano Creek, or Bungleboori Creek. Flow changes are not expected with only minor subsidence predicted as a result of the mining method adopted. Further information is detailed within the current Subsidence Management Plans for each mining area. Changes of groundwater baseflow volumes are inferred through swamp monitoring, which is undertaken in Clarence Swamp, Hanson Swamp, Oleria Swamp, Pagoda Swamp and Paddys Swamp East."</i></li> </ul>		

Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
			<ul style="list-style-type: none"> <li>The draft 2020 WMP includes correspondence from regulators on the draft 2020 WMP (Appendix A) including recommendations from DPIE to include quantified impact assessment criteria for water resources impacts listed in DA504 Sch 3-5. This IEA has not assessed if the issues raised by regulators (Draft 2020 WMP Appendix A) have been adequately addressed.</li> </ul> <p><u>CLRP5</u> The Clarence aquifer is monitored by six standpipe piezometers including CLRP5. CLRP 5 was originally located to measure potential impact from the Area 700 Area and is located near Bungleboori #4 swamp and is now above panel 902. First workings in panel 902 undermined CLRP05 in December 2013 and January 2014 and during 2019, first workings and pillar extraction occurred 2 km north of CLRP5 in the 900 Area. The following changes in groundwater level are noted:</p> <ul style="list-style-type: none"> <li>SMSR July-Oct (CC, November 2019) reports an uncharacteristic decline in groundwater level at CLRP5 believed to be an instrumentation issue.</li> <li>SMSR Nov -Feb 2020 (CC, March 2020) reports an uncharacteristic decline in groundwater level at CLRP5 and <i>“there have been no observable indications of mining impacts and water levels are currently reflecting the decline of the CRD”</i> and <i>“It is believed the water level response at CRLP5 is an instrumentation issue. CLRP5 will be closely monitored and logger replaced if necessary”</i>.</li> <li>SMSR March – June 2020 (CC, July 2020) reports <i>“There was an uncharacteristic decline and fluctuation (up to 3 m) in water levels in mid-2019. Water levels continue to show a declining trend into the current reporting period. The hydrograph response is</i></li> </ul>		

Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
			<p><i>verified by manual measurements and at this point in time the cause of the decline is unknown, but it is possibly a response to the significant rainfall deficit since mid-2016. This trend should be monitored again in the next reporting period.</i></p> <ul style="list-style-type: none"> <li>The 2019 AR reports an abnormal groundwater level decline (up to 3m) at CLRP5. The 2019 AR and 2019 Annual SMR report that this “<i>groundwater level decline is unlikely to be a direct mining response as current workings are 2 km north and historical mining occurred over five years ago</i>”. The AR also reports that CLRP5 will be reviewed again after the next monitoring round.</li> <li>The 2017 WMP includes: <ul style="list-style-type: none"> <li>a CLRP5 trigger value for groundwater levels at 1,072 m(AHD) (WMP Table 6-3).</li> <li>Groundwater level TARP to undertake investigation if the change in groundwater level is due to mining-related activity when groundwater level falls below the groundwater level triggers specified in Table 6-2 (WMP Appendix I).</li> <li>Piezo head change TARP for a stepped mining related 5m piezometric head loss in any aquifer above the Mt York Claystone triggering a field inspection by E&amp;C Coordinator, investigation into cause and continued monitoring (WMP Appendix I).</li> </ul> </li> <li>SMSR four-monthly groundwater levels (hydrographs) are reported in m(bgl) and are not able to be readily assessed against the groundwater level impact assessment criteria in the 2017 WMP TARP which are in m(AHD). Although Clarence has reported on the uncharacteristic decline in groundwater</li> </ul>		



**Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
			levels at CLRP5 in SMSR reports in March 2020, July 2020 and the 2019 AR, the auditors were unable to assess if the 2017 WMP TARPs for groundwater level or piezo head change have been triggered as the units of measurement are not aligned.		
<b>Water Management Plan</b>					
3-6	<p>Within 12 months of the date of this consent, the Applicant shall prepare and subsequently implement a Water Management Plan for the mine in consultation with Council, SCA, EPA, Water Division and to the satisfaction of the Planning Secretary. This plan must be prepared by a qualified hydrogeologist/hydrologist and include:</p> <p>(a) a Water Balance;  (b) an Erosion and Sediment Control Plan;  (c ) Surface Water Monitoring Program;  (d) a Ground Water Monitoring Program; and  (e) a Surface and Ground Water Response Plan, to address and potential adverse impacts associated with the development.</p> <p>Note: The Water Management Plan may be prepared in a staged manner in accordance with the staging of the development.</p>	<ul style="list-style-type: none"> <li>• 2017 WMP MP-2041 (CC, 2017)</li> <li>• Draft 2020 WMP MP-2041 (CC, 2020)</li> <li>• Clarence Environmental Monitoring Program (CC, 2017)</li> <li>• SMP Area 800</li> <li>• SMP Area 900</li> <li>• Site inspection</li> </ul>	<ul style="list-style-type: none"> <li>• Preparation of the WMP was required prior to the period of this IEA.</li> <li>• Assessed as compliant in previous IEA (MCW Environmental, 2016).</li> <li>• The 2015 WMP was revised in 2017 and a draft WMP was prepared in October 2020 however at the time of this IEA, the draft 2020 WMP has not been approved by the Planning Secretary or implemented. This IEA assessed preparation and implementation of the 2017 WMP.</li> <li>• The draft 2020 WMP includes correspondence from regulators on the draft 2020 WMP (Appendix A) including recommendations from DPIE to include quantified impact assessment criteria for water resources impacts listed in DA504 Sch 3-5. This IEA has not assessed if the issues raised by regulators (Draft 2020 WMP Appendix A) have been addressed.</li> <li>• The 2017 WMP, which has been approved by DPIE, includes: <ul style="list-style-type: none"> <li>○ Review by Dr Stuart Gray (GHD specialist hydrogeologist) (WMP section 1) (compliant)</li> <li>○ (a) Water Balance (WMP section 3.7) (compliant)</li> <li>○ (b) References to erosion and sediment controls (WMP sections 3.6 and 6.2.1) (compliant).</li> <li>○ (c) Surface Water Monitoring Program including surface water baseline data (WMP section 5.1 and Appendix D),</li> </ul> </li> </ul>	Compliant (implementation)	

Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
			<p>monitoring requirements (WMP section 4.1) and triggers (WMP section 6.1).</p> <ul style="list-style-type: none"> <li>○ (d) Ground Water Monitoring Program including groundwater baseline data (WMP section 5.2.1 and Appendix E), monitoring requirements (WMP section 4.3), and triggers (WMP section 6.1.2) (compliant).</li> <li>○ (e) Surface and Ground Water Response Plan including and TARPs for surface water storage volume, watercourse water quality, groundwater levels relative to baseline data, piezo head change and swamp water level (WMP Appendix I) (compliant).</li> </ul> <p>Evidence of implementation of 2017 WMP commitments during the period of this IEA include:</p> <ul style="list-style-type: none"> <li>• To meet LDP002 discharge limits: <ul style="list-style-type: none"> <li>○ 2016: Engineering works to divert surface water from all areas other than REAs, to the polishing lagoon. From the Polishing Lagoon water is now pumped to the WTP for treatment or returned underground to the mine water storage.</li> <li>○ 2017: The WTP Residuals Receival Facility (sludge lagoons) was developed, additional pH probes installed, training in pH probe calibration and cleaning, independent verification of the WTP, lagoon cleaning, pH set point, acid and coagulant pre-flocculant dilution trials, Jar testing programs, pH probe modifications and three heavy duty Delta magnetic water conditioners installed.</li> </ul> </li> </ul>		


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No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
			<ul style="list-style-type: none"> <li>○ 2018: New WTP processes and control systems, increased flocculant capture, reinstated settling pond, turbidity monitor installed at LDP 002, change in acid dosing from sulphuric acid to HCL, installation of new dosing tanks and upgrade to plant control and automation; and investigations into pH dosing.</li> <li>● 2016 – 2020: <ul style="list-style-type: none"> <li>○ sediment and erosion controls at LD 2.</li> <li>○ groundwater management including mine water extraction, dewatering and treatment.</li> <li>○ surface water and groundwater monitoring and reporting as described in the 2017 Environmental Monitoring Program.</li> <li>○ weekly and monthly inspections had been undertaken by the E&amp;C Coordinator generally in accordance with the 2017 WMP inspection and TARP requirements</li> <li>○ meteorological monitoring.</li> <li>○ reporting of monitoring results in the through the ARs.</li> <li>○ review of the WMP in 2017 and 2020.</li> </ul> </li> </ul>		
3-6A	The Applicant shall prepare and implement a revised Water Management Plan for the development, taking into account the construction of Reject Emplacement Area VI and protection of the adjacent Newnes Plateau Hanging Swamp (see Appendix 4), and the relocation of the effluent irrigation area, to the satisfaction of the Planning Secretary. This plan must be prepared in consultation with Council, SCA, EPA and WaterNSW, and be submitted to the Planning Secretary for approval by 31 October 2014.	<ul style="list-style-type: none"> <li>● IEA (MCW Environmental, 2016)</li> <li>● 2017 WMP MP-2041 (CC, 2017)</li> </ul>	<ul style="list-style-type: none"> <li>● Preparation of the WMP was required prior to the period of this IEA.</li> <li>● Assessed as compliant in previous IEA (MCW Environmental, 2016).</li> <li>● Refer Appendix A1 DA504 Sch 3 -6 (above)</li> </ul>	Compliant (implementation)	




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No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
3-6B	<p>The Applicant shall design, construct and operate Reject Emplacement Areas V and VI to ensure that:</p> <p>(a) its commitments in Appendix 3 are implemented;</p> <p>(b) the base of the emplacement is suitably lined to comply with a permeability standard of less than <math>1 \times 10^{-9}</math> metres per second over a minimum thickness of 0.5 metres, or equivalent performance; and</p> <p>(c) there are no discharges from the emplacement to surface waters.</p>	<ul style="list-style-type: none"> <li>REA 6 Engineering Assessment (Aurecon, 2017)</li> <li>2017 AR (CC, 2018)</li> <li>Draft 2020 WMP MP-2041 (CC, October 2020)</li> <li>ECD (2016 -2020)</li> </ul>	<ul style="list-style-type: none"> <li>REA VI was constructed in 2017 and operated during the audit period.</li> <li>REA V was under construction at the time of the IEA site inspection; and is located within the rail loop with emplacement of reject coal in the easternmost portion.</li> <li>(a) Refer to the separate assessment of compliance with Appendix 3 Statement of Commitments below in this table. (compliant).</li> <li>(b) The 2017 AR reported that <i>"comprehensive compaction and permeability testing was completed during the installation of the clay liner in REAVI, with testing confirming the required permeability was achieved"</i>. The draft 2020 WMP (CC, 2020) reports <i>"The base of REA VI has been constructed to be suitably lined with material (typically clay or bentonite when clay is not available) with permeability less than <math>1 \times 10^{-9}</math> m/s over a thickness of 0.5 m."</i> The site was unable to provide the actual REA VI permeability testing results however an independent engineering review of REA VI (including site inspection) has been undertaken in 2017 which reports <i>"The Stage 1 toe and foundation area was found to be in good condition (Photograph 13). Seepage is emerging at the interface between the reject material and the clay liner, which is indicating that the liner is performing well and leachate from the rejects is migrating towards the Leachate Dam, as intended. The deep erosion gullies observed during a previous year's inspection have been repaired (Photograph 14). This gully erosion had appeared due to increased seepage emerging at this location, as it was within the lowest point of the foundation. The drainage grading and rockfill protection placed here should now provide adequate protection to the</i></li> </ul>	Compliant	

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment





No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
			<p><i>clay liner and toe area</i>"; consequently, assessment of compliance with condition (b) was assessed as compliant.</p> <ul style="list-style-type: none"> <li>(c) The 2019 AR reports that leachate and surface water runoff from REA VI is transferred LD 3 and that water from LD 3 is discharged into underground water storages. No incidents were reported that REA IV discharged water to surface waters.</li> </ul>		
3-7	<p>The Water Balance shall:</p> <p>(a) include details of all water extracted, dewatered, transferred, used and/or discharged by the mine; and</p> <p>(b) provide for the annual re-calculation of the water balance and reporting of the review in the Annual Review.</p>	<ul style="list-style-type: none"> <li>AR (CC, 2017, 2018 and 2019)</li> <li>WMP MP-2041 (CC, 2017)</li> <li>Draft 2020 WMP MP-2041 (CC, 2020)</li> </ul>	<ul style="list-style-type: none"> <li>The 2017 WMP and draft 2020 WMP water balances include details (and plan) of water extracted, dewatered, transferred, used and/or discharged by the mine.</li> <li>The ARs (2017 -2019) include references to annual re-calculation of the water balance.</li> </ul>	Compliant	
3-8	<p>The Erosion and Sediment Control Plan shall:</p> <p>(a) be consistent with the requirements of the Department of Housing's Managing Urban Stormwater: Soils and Construction manual;</p> <p>(b) identify activities that could cause soil erosion and generate sediment;</p> <p>(c ) describe measures to minimise soil erosion and the potential for the transport of sediment to downstream waters;</p> <p>(d) describe the location, function, and capacity of erosion and sediment control structures; and</p> <p>(e) describe what measures would be implemented to maintain the structures of the mine.</p>	<ul style="list-style-type: none"> <li>WMP MP-2041 (CC, 2017)</li> <li>Draft 2020 WMP MP-2041 (CC, 2020)</li> <li>IEA (MCW Environmental, 2016)</li> <li>Site inspection (12 – 13 October 2020)</li> </ul>  <p>Photo 6: Sediment fences on track to LD 1</p>	<ul style="list-style-type: none"> <li>The 2015 WMP was revised in 2017 and a draft WMP was prepared in October 2020 however at the time of this IEA, the draft 2020 WMP has not been approved by the Planning Secretary or implemented. This IEA assessed the Erosion and Sediment Control Plan included within the 2017 WMP.</li> <li>The draft 2020 WMP includes correspondence from regulators on the draft 2020 WMP including recommendations from DPIE to include all requirements of an erosion and sediment control plan as listed in DA504 Sch 3-8 and a program to monitor the effectiveness of erosion and sediment controls (DA504 Sch 3-9).</li> <li>This IEA has not assessed if the issues raised by regulators (draft 2020 WMP Appendix A) have been addressed, however although the draft 2020 WMP includes references to sediment and erosion controls; the draft 2020 WMP does not include all requirements of an erosion and sediment control plan (DA504 Sch 3-8) or a program to</li> </ul>	Non-compliant (NC-4)	R6: Prepare and implement a sediment and erosion control plan to meet each of the requirements of DA504 Sch 3-8.

# Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
		 <p>Photo 7: Sediment &amp; erosion improvements (LD 2)</p>  <p>Photo 8: Sediment fence near LD 2</p>  <p>Photo 9: Improvement opportunity to address erosion at Point 9 Wollangambe River crossing</p>	<p>monitor the effectiveness of erosion and sediment controls (DA504 Sch 3-9) (non-compliant).</p> <ul style="list-style-type: none"> <li>The sediment and erosion control section within the 2017 WMP Plan does not: <ul style="list-style-type: none"> <li>(a) include requirements to be consistent with the requirements of the Department of Housing's Managing Urban Stormwater: Soils and Construction manual (with the exception of surface water storage capacity in Table 6-7) (non-compliant).</li> <li>(b) identify activities that could cause soil erosion and generate sediment (non-compliant).</li> <li>(c) adequately describe measures to minimise soil erosion and the potential for the transport of sediment to downstream waters (non-compliant).</li> <li>(d) describe the location, function, and capacity of erosion and sediment control structures (non-compliant).</li> <li>(e) describe what measures would be implemented to maintain the structures of the mine (non-compliant).</li> </ul> </li> <li>Sediment and erosion controls observed during the site inspection were generally in good condition with improvement opportunities identified during the site inspection (12 October 2020) e.g. at an area of recent erosion observed on the access track to LD 2, Wollangambe River crossing (Point 9) and an area draining to the Main Dam (refer photos).</li> </ul>		



# Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
		 <p>Photo 10: Sediment fence near REA V</p>  <p>Photo 11: Coir sediment control</p>	 <p>Photo 12: Improvement opportunity on the access track to LD 2</p>  <p>Photo 13: Improvement opportunity on an area draining to the Main Dam</p>		
3-9	<p>The Surface Water Monitoring Program shall include:</p> <p>(a) detailed baseline data on surface water flows (including ground water baseflows) and quality in waterbodies and wetlands above the mine;</p> <p>(b) surface water impact assessment criteria;</p> <p>(c) a program to monitor surface water flows (including ground water base flows) and quality; and</p> <p>(d) a protocol for the investigation, notification and mitigation of identified exceedances of the surface water impact assessment criteria; and</p> <p>(e) a program to monitor the effectiveness of the Erosion and Sediment Control Plan.</p>	<ul style="list-style-type: none"> <li>• WMP MP-2041 (CC, 2017)</li> <li>• Clarence Environmental Monitoring Program (CC, 2017)</li> <li>• IEA (MCW Environmental, 2016)</li> <li>• ARs (2016 -2020)</li> <li>• Monthly and weekly E&amp;C Coordinator Environment Inspections</li> <li>• ECD (2016 -2020)</li> <li>• Monthly Environmental Monitoring Report (ALS, each month in 2019)</li> </ul>	<ul style="list-style-type: none"> <li>• The 2015 WMP was revised in 2017 and a draft WMP was prepared in October 2020 however at the time of this IEA, the draft 2020 WMP has not been approved by the Planning Secretary or implemented.</li> <li>• The draft 2020 WMP includes correspondence from regulators on the draft 2020 WMP (Appendix A) including recommendations from DPIE and OEH to include quantified impact assessment criteria and water quality trigger values. This IEA has not assessed if the issues raised by regulators (Draft 2020 WMP Appendix A) have been addressed.</li> <li>• Fortnightly flows in Farmers Creek – part of the Clarence Water Transfer Scheme to LCC (below dam and Coerwull Road) were available in the ALS monthly environmental monitoring report during 2019.</li> </ul>	Non-Compliant (NC-5)	R7: Identify and consolidate quantitative surface water impact assessment criteria for each of the surface water impacts (as specified in DA504 Sch 3-9 a) to e)); and corresponding baseline data, monitoring and reporting requirements, responsibilities, and TARPs; into a management document which is reviewed and updated following



Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
			<ul style="list-style-type: none"> <li>This IEA assessed the Surface Water Monitoring Program included within the 2017 WMP: <ul style="list-style-type: none"> <li>(a) detailed baseline data on surface water flows in waterbodies and wetlands above the mine was not available in the 2017 WMP. (non-compliant).</li> <li>(a) changes in groundwater baseflow volumes in water bodies and wetlands above the mine were inferred through swamp groundwater level monitoring (section 5.2) with detailed groundwater baseline data provided in Appendix D (compliant).</li> <li>(a) baseline data on surface water quality in waterbodies and wetlands above the mine is provided in Farmers Creek upstream and Wollangambe River upstream water quality data (section 5.1 and Appendix D) (compliant).</li> <li>(b) although qualitative surface water impact assessment criteria are provided in the WMP (Table 6-7 and the TARP) for capacity of surface water storage, clean and dirty water separation, erosion and sediment control and hydrocarbon management, the criteria was assessed as qualitative (compliant with the condition with a recommendation for improvement).</li> <li>(c) a program to monitor surface water flows was not available in the 2017 WMP (non-compliant).</li> <li>(c) a program to monitor groundwater base flows and</li> </ul> </li> </ul>		changes to the development, approvals and/or monitoring requirements.

**Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
			<p>quality is provided in sections 5.2 and 4.2 respectively (compliant).</p> <ul style="list-style-type: none"> <li>○ (d) a protocol for the investigation, notification, and mitigation of identified exceedances of qualitative surface water storage volume, clean water diversion, erosion and sediment control, hydrocarbon management and watercourse water quality is included in TARPs (Appendix I). Engineering solutions for subsidence and associated impacts are included in the 2017 WMP (Appendix J) (compliant).</li> <li>○ (e) the 2017 WMP TARP for erosion and sediment control identifies visual identification of erosion as a trigger. A program of inspections is also provided in section 4.1 of the 2017 WMP which includes reporting on the condition of sediment control structures is included. In addition, total suspended solids (TSS) are measured at LDP 002 and there have been no exceedances of EPL 726 TSS concentration limits recorded during the period of this IEA indicating effective sediment and erosion control (compliant).</li> </ul>		
3-10	<p>The Groundwater Monitoring Program shall include:</p> <p>(a) detailed baseline data on ground water levels and quality, based on statistical analysis, to benchmark the pro-mining natural variation in ground water levels and quality;</p> <p>(b) ground water impact assessment criteria;</p> <p>(c ) a program to monitor the volume and quality of ground water seeping into the underground mine workings; and</p>	<ul style="list-style-type: none"> <li>• WMP MP-2041 (CC, 2017)</li> <li>• Clarence Environmental Monitoring Program (CC, 2017)</li> <li>• Draft 2020 WMP MP-2041 (CC, 2020)</li> <li>• Water Access Licence WL 3647910</li> <li>• ARs (CC, 2016 - 2019)</li> </ul>	<ul style="list-style-type: none"> <li>• The 2015 WMP was revised in 2017 and a draft WMP was prepared in October 2020 however at the time of this IEA, the draft 2020 WMP has not been approved by the Planning Secretary or implemented. This IEA assessed the Groundwater Monitoring Program within the 2017 WMP: <ul style="list-style-type: none"> <li>○ (a) detailed baseline data on ground water levels and</li> </ul> </li> </ul>	Compliant	

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
	<p>(d) a program to monitor regional ground water levels and quality in the following geologic formations:</p> <p>(i) Banks Wall Sandstone;</p> <p>(ii) Burra-Moko Head Sandstone;</p> <p>(iii) Caley Formation; and</p> <p>(iv) Katoomba Coal Seam.</p> <p>(e) a protocol for the investigation, notification and mitigation of identified exceedances of the ground water impact assessment criteria.</p>		<p>quality, based on statistical analysis, to benchmark the pro-mining natural variation in ground water levels and quality (WMP section 5.2 and Appendix E) (compliant).</p> <ul style="list-style-type: none"> <li>○ (b) ground water impact assessment criteria (WMP section 6.1.2) (compliant).</li> <li>○ (c) a program to monitor the volume and quality of ground water seeping into the underground mine workings: The 2017 WMP includes groundwater monitoring requirements (WMP section 4.3) and quantitative trigger values (TARP) for dewatering volumes, groundwater level and groundwater quality (WMP Appendix I) (compliant).</li> <li>○ (d) a program to monitor regional ground water levels and quality in the following geologic formations: (i) Banks Wall Sandstone; (ii) Burra-Moko Head Sandstone; (iii) Caley Formation; and (iv) Katoomba Coal Seam (WMP section 4.3) (compliant).</li> <li>○ e) The 2017 WMP TARP includes investigation and notification requirements if groundwater impact assessment criteria is exceeded.</li> <li>○ The 2017 WMP does not include groundwater quality monitoring reporting requirements, however this has been addressed in Appendix A1 DA504 Sch 3-2 (Subsidence Management Plan): R2.</li> </ul> <ul style="list-style-type: none"> <li>• The draft 2020 WMP includes correspondence from regulators on the</li> </ul>		

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
			draft 2020 WMP (WMP Appendix A). This IEA has not assessed if the issues raised by regulators (Draft 2020 WMP Appendix A) have been addressed.		
3-11	The Surface and Ground Water Response Plan shall include: (a) the procedures that would be followed in the event of any exceedance of the surface or ground water impact assessment criteria, or other identified impact on surface or ground water; and (b) measures to mitigate, remediate and/or compensate any identified impacts.	<ul style="list-style-type: none"> <li>WMP MP-2041 (CC, 2017)</li> </ul>	<ul style="list-style-type: none"> <li>The WMP includes a TARP for surface water and groundwater monitoring results (Tables 8 and 9). The TARPs outline the action to be taken in the event of an exceedance of the surface or ground water impact assessment criteria and measures to mitigate or remediate any identified impacts.</li> </ul>	Compliant	
<b>Reporting</b>					
3-12	Each year, the Applicant shall: (a) review the Water Management Plan; (b) update each sub-plan; and (c) report the results of this review in the Annual Review, including; (d) the results of monitoring; (e) details of the review for each sub-plan; (f) amendments to the subplans; and (g) details of the measures undertaken/proposed to address any identified issues.	<ul style="list-style-type: none"> <li>WMP MP-2041 (CC, 2017)</li> <li>Draft 2020 WMP MP-2041 (CC, 2020)</li> <li>ARs (CC, 2016 -2019)</li> </ul>	<ul style="list-style-type: none"> <li>(a), (b) and (c) The ARs (2017 -2019) document reviews of the WMP and sub-plans and includes: <ul style="list-style-type: none"> <li>(d) the results of monitoring</li> <li>(e) details of the review for each sub-plan</li> <li>(f) amendments to the subplans</li> <li>(g) details of the measures undertaken/proposed to address any identified issues.</li> </ul> </li> <li>A draft 2020 WMP (CC, 2020) has been drafted, however at the time of this IEA, it has not been approved by the Planning Secretary or implemented.</li> </ul>	Compliant	
<b>BIODIVERSITY</b>					
3-12A	Biodiversity Offset Strategy By the end of December 2016, the Applicant shall, in consultation with OEH, and to the satisfaction of the Planning Secretary: (a) provide a suitable offset to satisfactorily offset clearing 4.1 hectares of Newnes Plateau Narrow-leaved Peppermint – Silver-top Ash Layered Open Forest and the loss of related biodiversity values, including for threatened species; and (b) make suitable arrangements to manage, protect and provide long-term security in perpetuity for this area, consistent with the relevant NSW Offsets policy.	<ul style="list-style-type: none"> <li>Western Region Biodiversity Offset Management Plan (CC, 2019)</li> <li>Carinya Lot 163 Biodiversity Offset Management Plan (CC, January 2020)</li> <li>IES (MCW Environmental, 2016)</li> <li>Email to MCW Environmental (BCD, November 2020)</li> </ul>	<ul style="list-style-type: none"> <li>The biodiversity offset strategy to offset clearing 4.1 hectares of Newnes Plateau Narrow-leaved Peppermint – Silver-top Ash Layered Open Forest and the loss of related biodiversity values, and associated management, are included within the Western Region Biodiversity Offset Management Plan (WRBOMP). A record of consultation on the WRBOMP is included in Appendix A of the WRBOMP and identifies that a draft WRBOMP was provided to Central Tablelands Local Land Services, Department of Environment and Energy, Forestry Corporation and Office of Environment and Heritage on 9</li> </ul>	Non-compliant (NC-6)	R8: Advise BCD of the current status of the long-term security for the biodiversity offset for the clearing 4.1 hectares of Newnes Plateau Narrow-leaved Peppermint – Silver-top Ash Layered Open Forest and the loss of related biodiversity values, including for

# Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
			<p>November 2016; and that following receipt of feedback, the draft WRBOMP was revised and approval sought from the Planning Secretary on 16 December 2016. Further information was requested, meetings held, and additional feedback sought from government agencies from 2017 to early 2019. This condition was assessed as non-compliant as although initial approval of the offset was sought before the end of December 2016, due to the extent of modifications requested by BCD many of which reflected new offset approaches by the regulator, the draft WRBOMP was not approved by the end of December 2016. It was approved by DPIE on 23 April 2019, and following revision, further approval was sought from DPIE and was granted in August 2019 consequently, no further recommendations have been made with respect to meeting the requirements of DA504 Sch 3- 12A.</p> <ul style="list-style-type: none"> <li>In response to a consultation request by the auditor, BCD advised that the proposed offset has been accepted by BCD and that the current status of the long-term security is unknown to BCD. <i>Originally, the Carinya offset was to be transferred to Capertee National Park. However, on 8 November 2019 Centennial advised that the transfer was unable to proceed (Centennial's business partners were unable to commit at that stage) and that retirement of the biodiversity offset site would be progressed with the NSW Biodiversity Conservation Trust. Centennial wanted to keep open the option to transfer the land to national park following the commencement of the conservation agreement.</i></li> </ul>		threatened species.


## AIR QUALITY

### Air Quality Impact Assessment Criteria

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation																							
3-13	<p>The Applicant shall ensure that the air pollution generated by the development does not exceed the criteria listed in Tables 3, 4, and 5 at any privately-owned land.</p> <p>Table 3: Long term impact assessment criteria for particulate matter</p> <table><tr><th>Pollutant</th><th>Averaging period</th><th>Criterion</th></tr><tr><td>Total Suspended particulates (TSP) matter</td><td>Annual</td><td>90ug/m<sup>3</sup></td></tr><tr><td>Particulate matter &lt;= 10 um (PM<sub>10</sub>)</td><td>Annual</td><td>25ug/m<sup>3</sup></td></tr></table> <p>Table 4: Short term impact assessment criteria for particulate matter</p> <table><tr><th>Pollutant</th><th>Averaging period</th><th>Criterion</th></tr><tr><td>Particulate matter &lt;= 10 um (PM<sub>10</sub>)</td><td>24-hour</td><td>50ug/m<sup>3</sup></td></tr></table> <p>Table 5: Long term impact assessment criteria for deposited dust</p> <table><tr><th>Pollutant</th><th>Averaging Period</th><th>Maximum increase in deposited dust level</th><th>Maximum total deposited dust level</th></tr><tr><td>Deposited dust</td><td>Annual</td><td>2 g/m<sup>2</sup>/month</td><td>4 g/m<sup>2</sup>/month</td></tr></table> <p>Note: Deposited dust is assessed as insoluble solids as defined by Standards Australia, 1991, AS 3580.10.1-1991: Methods for Sampling and Analysis of Ambient Air - Determination of Particulates - Deposited Matter - Gravimetric Method.</p>	Pollutant	Averaging period	Criterion	Total Suspended particulates (TSP) matter	Annual	90ug/m <sup>3</sup>	Particulate matter <= 10 um (PM <sub>10</sub> )	Annual	25ug/m <sup>3</sup>	Pollutant	Averaging period	Criterion	Particulate matter <= 10 um (PM <sub>10</sub> )	24-hour	50ug/m <sup>3</sup>	Pollutant	Averaging Period	Maximum increase in deposited dust level	Maximum total deposited dust level	Deposited dust	Annual	2 g/m <sup>2</sup> /month	4 g/m <sup>2</sup> /month	<ul style="list-style-type: none"><li>Monthly EM Reports (CC, 2016 – 2020)</li><li>ARs (CC, 2016 -2019)</li><li>ECD (2016 - 2020) (CC, 2016 -2020)</li><li>Complaint Register (CC, August 2020)</li></ul>	<ul style="list-style-type: none"><li>Total suspended particulate matter (TSP) - no exceedance of the annual average criteria was recorded during the period of this IEA.</li><li>Particulate matter &lt;10µm (PM10) - no exceedance of the annual or 24-hour average criteria was recorded during the period of this IEA.</li><li>Deposited dust - the annual average did not exceed the 4 g/m<sup>2</sup>/month total and 2 g/m<sup>2</sup>/month increase during the period of this IEA.</li><li>No air quality complaints were recorded in the ECD (2016 - 2020).</li><li>In July 2016, DG 1 dust monitoring was not undertaken as the sampling bottle had been stolen; and at DG 2 as the bottle was shattered as a result of freezing temperatures.</li></ul>	Compliant	
Pollutant	Averaging period	Criterion																										
Total Suspended particulates (TSP) matter	Annual	90ug/m <sup>3</sup>																										
Particulate matter <= 10 um (PM <sub>10</sub> )	Annual	25ug/m <sup>3</sup>																										
Pollutant	Averaging period	Criterion																										
Particulate matter <= 10 um (PM <sub>10</sub> )	24-hour	50ug/m <sup>3</sup>																										
Pollutant	Averaging Period	Maximum increase in deposited dust level	Maximum total deposited dust level																									
Deposited dust	Annual	2 g/m <sup>2</sup> /month	4 g/m <sup>2</sup> /month																									
Air Quality Monitoring Program																												
3-14	<p>Within 6 months of the date of this consent, the Applicant shall prepare and subsequently implement an Air Quality Monitoring Program for the development, in consultation with EPA, and to the satisfaction of the Planning Secretary. This program must include an air monitoring protocol for evaluating compliance with the air quality criteria in this consent.</p>	<ul style="list-style-type: none"><li>IEA (MCW Environmental, 2016)</li><li>WRAQGHGMP (CC, 2018)</li><li>Letters to CC for approval of the WRAQGHGMP (DPIE, 22 July 2016) (DPIE, 4 July 2018)</li><li>Monthly EM reports (CC, 2016 -2020)</li></ul>	<ul style="list-style-type: none"><li>Preparation of the Air Quality Management Plan was prior to the period of this IEA (assessed as compliant in previous IEA).</li><li>The Western Region Air Quality and Greenhouse Gas Management Plan was revised and approved by DPIE in 2016 and 2018.</li></ul>	Compliant (implementation)																								

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation												
		 Photo 14: EPL dust gauge DG1	<ul style="list-style-type: none"><li>Evidence of implementation of the WRAQGHGMP include:<ul style="list-style-type: none"><li>Monitoring in accordance with EPL 726 and comparison of air quality monitoring results with air impact assessment criteria.</li><li>Monthly EM reports (2016 – 2020).</li><li>Reporting of incidents relating to damage of sampling equipment.</li></ul></li></ul>														
NOISE																	
	<b>Noise Impact Assessment Criteria</b>																
3-15	<p>Noise Impact Assessment Criteria</p> <p>The Applicant shall ensure that the noise generated by the development, excluding train-loading and rail operations, does not exceed the noise impact assessment criteria presented in Table 6 at any residence on privately owned land.</p> <p>Table 6: Noise impact assessment criteria dB(A)</p> <table><tr><td colspan="4">L<sub>Aeq</sub> (15 min)</td></tr><tr><td>Location</td><td>Day</td><td>Evening</td><td>Night</td></tr><tr><td>Residences on privately owned land</td><td>38</td><td>36</td><td>35</td></tr></table> <p>Notes</p> <p>(a) For the purpose of these noise criteria, 5dB(A) must be added to the measured level if the noise is substantially tonal or impulsive in character.</p> <p>(b) The noise criteria do not apply where the Applicant and the affected landowner have reached a negotiated agreement in regard to noise, and a copy of the agreement has been forwarded to the Planning Secretary and EPA.</p> <p>(c) Noise from the development is to be measured at the most affected point or within the residential boundary/ or at the most affected point within 30 metres of a dwelling (rural situations) when the dwelling is more than 30 metres from the boundary, to determine compliance with the noise limits in the above table. Where it can be demonstrated that direct measurement of noise from the development is impractical, the EPA may accept alternative means of determining compliance 'see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.</p> <p>(d) The noise criteria apply under prevailing meteorological conditions (winds up to 3m/s), except under conditions of temperature inversions. Noise impacts that may be</p>	L <sub>Aeq</sub> (15 min)				Location	Day	Evening	Night	Residences on privately owned land	38	36	35	<ul style="list-style-type: none"><li>Environmental Noise Monitoring (Global Acoustics, December 2016)</li><li>Environmental Noise Monitoring (Global Acoustics, December 2017)</li><li>Environmental Noise Monitoring (Global Acoustics, March 2018)</li><li>Environmental Noise Monitoring (Global Acoustics, December 2019)</li><li>ARs (CC, 2016 -2019)</li><li>Monthly EM Reports (CC, 2016 – 2020)</li><li>Western Region Noise Management Plan (CC, 2018)</li><li>ECD (CC, 2016 -2020)</li></ul>	<ul style="list-style-type: none"><li>A noise improvement project was commenced in 2016 and included enclosure of the main surface conveyor drive house, realignment of transfer chutes, installation of a train loading bay enclosure, new housing on the rock breaker and relocation of train refuelling and idling facilities.</li><li>Annual noise monitoring has been undertaken to assess compliance with the noise impact assessment criteria. No exceedance of the criteria was recorded in 2016 and 2019. Exceedance of the night criteria was recorded in 2017 (42 dB(A)) and in 2018 (43dB(A)).</li><li>2017: Clarence exceeded the LAeq,15minute criterion at M1 by 7 dB during the night measurement at 22:00 on 13 December 2017. A general mining continuum of conveyors and possibly the rotary breaker were audible during the measurement and generated the site only LAeq,15minute of 42 dB (A). Noise levels from site dropped off after 13 minutes into the measurement. The Global Acoustics report states "<i>Clarence was primarily responsible for the measured levels</i>". One noise complaint was recorded on the EPA Hotline on 10 April 2017 reporting a constant low hum. The complaint was investigated and a source at Clarence was not identified.</li></ul>	Non-compliant (NC-7)	R9: Assess opportunities to consistently achieve night noise impact assessment criteria in DA504 Sch 3-15 and EPL L5.1
L <sub>Aeq</sub> (15 min)																	
Location	Day	Evening	Night														
Residences on privately owned land	38	36	35														





## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
	enhanced by temperature inversions must be addressed by: -documenting noise complaints received to identify any higher level of impacts or patterns of temperature inversions; and -where levels of noise complaints indicate a higher level at impact then actions to quantify and ameliorates any enhanced impacts under temperature inversion conditions shall be developed and implemented.		<ul style="list-style-type: none"> <li>2018: The 2018 AR references additional noise monitoring (<i>"extensive paired attended and unattended monitoring to determine the noise levels experienced at sensitive receivers"</i>) was undertaken as a result of exceedance of noise criteria in 2017; that attended noise monitoring was conducted in March 2018 and September 2018; and a study by Recognition Research was conducted in 2018 to further investigate differential values between Monitoring Location and Sensitive receptors. In March 2018, night measurements were unable to be taken due to weather conditions. The DPIE issued a Show Cause Notice for additional monitoring and an Official Caution in July 2018. Further to the Official Caution, Clarence has completed additional monitoring and reviewed the Western Region Noise Management Plan and conducted additional studies. The 2018 AR reports that <i>"The November monitoring determined that the monitoring point should be either moved to better discern the operational noise from other sources or that a correction factor derived statistically as 7 dba be applied. If the correction factor was applied, this monitoring result would be considered compliant. Further discussions will be held with EPA."</i></li> <li>Annual night noise monitoring in 2019 was 35 dB(A) LAeq (15 min) which is equal to the 35 dB(A) LAeq (15 min) limit.</li> <li>No further noise complaints were recorded in the ECD in 2019 and 2020.</li> </ul>		
<b>Noise Management Plan</b>					
3-16	Within 6 months of the date of this consent, the Applicant shall prepare and subsequently implement a Noise Management Plan for the development, in consultation with EPA, and to the satisfaction of the Planning Secretary. The plan shall include:	<ul style="list-style-type: none"> <li>IEA (MCW Environmental, 2016)</li> <li>Western Region Noise Management Plan (CC, 2018)</li> </ul>	<ul style="list-style-type: none"> <li>(a) Annual noise monitoring has been undertaken to assess compliance with the noise impact assessment criteria, in accordance with the Western Region Noise Management Plan (CC, 2018).</li> </ul>	Compliant (Implementation)	



## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
	(a) a noise monitoring protocol for evaluating compliance with the noise impact assessment criteria; (b) a plan for the management and minimisation of noise emissions associated with train-loading and rail operations, including consideration of all feasible and reasonable noise mitigation measures; and (c) a protocol for the investigation, notification, and mitigation of identified exceedances of the noise impact assessment criteria.	<ul style="list-style-type: none"> <li>Approval of Western Region Noise Management Plan Letter to CC (DPIE, July 2018)</li> <li>ECD (2016 - 2020)</li> <li>Complaint Register (CC, August 2020)</li> </ul>	The Western Region Noise Management plan was revised and approved by DPIE in 2016 and 2018. <ul style="list-style-type: none"> <li>(b) The Plan includes both common noise management and mitigation measures for train loading (WRNMP section 3.1); measures for unpredicted noise impacts (WRNMP section 5.1); and a TARP that includes investigation, notification, and mitigation of identified exceedances. (WRNMP Table 5-1).</li> <li>(c) Train loading and rail noise feasibility assessment and associated mitigation measures are also provided in the Clarence Environmental Monitoring Program (CC, 2017).</li> </ul>		
3-16A	The Applicant shall prepare and implement a revised Noise Management Plan for the development, with a particular focus on reducing rail noise, to the satisfaction of the Planning Secretary. This plan must be prepared in consultation with EPA, provide for the implementation of the Applicant's commitments in Appendix 4, and be submitted to the Planning Secretary for approval by 31 October 2014.	<ul style="list-style-type: none"> <li>IEA (MCW Environmental, 2016)</li> <li>Clarence Environmental Monitoring Program (CC, 2017)</li> <li>Western Region Noise Management Plan (CC, 2018)</li> <li>Approval of Western Region Noise Management Plan Letter to CC (DPIE, July 2018)</li> <li>Site inspection</li> </ul>	<ul style="list-style-type: none"> <li>Preparation of the Noise Management Plan was assessed as an Administrative non-compliance in the previous IEA as the Noise Management Plan had not been approved by 31 October 2014.</li> <li>Annual noise monitoring has been undertaken in accordance with the Western Region Noise Management Plan (CC, 2018) to assess compliance with the noise impact assessment criteria.</li> <li>The WRNMP Table 2 includes rail noise feasibility assessment and associated mitigation measures.</li> </ul>	Compliant	
<b>METEOROLOGICAL MONITORING</b>					
3-17	Within 6 months of the date of this consent, the Applicant shall establish and subsequently maintain a suitable meteorological station operating in the vicinity of the development in accordance with the requirements in Approved Methods for Sampling of Air Pollutants in New South Wales, and to the satisfaction of the EPA and the Planning Secretary.	<ul style="list-style-type: none"> <li>IEA (2011, MCW Environmental)</li> <li>Monthly EM Reports (CC, 2016 -2020)</li> <li>Site inspection</li> <li>Calibration Certificate (ALS, September 2018 and October 2017)</li> </ul>	<ul style="list-style-type: none"> <li>Establishment of the meteorological station was assessed in a previous IEA as compliant.</li> <li>The meteorological station was operational during the period of this IEA and was maintained by ALS on a quarterly basis.</li> <li>An independent review of compliance with the NSW EPA Approved Methods for Sampling of Air Pollutants in New South Wales has not been undertaken as part of this audit.</li> </ul>	Compliant (Maintenance)	
<b>TRAFFIC AND TRANSPORT</b>					
<b>Road Haulage</b>					




## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
3-18	The Applicant shall ensure that all vehicles loaded with coal leaving the site are covered and remain covered throughout the duration of their journey.	<ul style="list-style-type: none"> <li>Coal and Delivery Haulier Induction Pulse Code: 4035</li> <li>Completed Coal and Delivery Haulier inductions (20 &amp; 23 October 2020)</li> <li>Site inspection (29 October 2020)</li> </ul>  <p>Photo 15: Gate signage for load covering</p>  <p>Photo 16: Covered load departing Clarence 29 October 2020</p>	<ul style="list-style-type: none"> <li>The site maintains a Coal and Delivery Haulier Induction (sighted written training assessments), which includes that: <i>"It is the responsibility of the truck driver to ensure that the truck hoist is lowered and the tailgate is closed prior to loading and all loads are covered prior to leaving the site."</i></li> <li>The induction also includes a question regarding the requirement for trucks to be covered.</li> <li>All coal haulier drivers are required to undertake the induction.</li> <li>Trucks with covered loads were observed departing the site during the site inspection (refer photo).</li> <li>Signage at the exit gate to remind drivers that loads must be covered) (refer photo).</li> </ul>	Compliant	
3-19	The Applicant shall ensure all loaded vehicles leaving the site are cleaned of materials that may fall on the road before they are allowed to leave the site.	<ul style="list-style-type: none"> <li>Coal and Delivery Haulier Induction Pulse Code: 4035</li> <li>Completed Coal and Delivery Haulier inductions (October 2020)</li> <li>Site inspection (29 October 2020)</li> </ul>	<ul style="list-style-type: none"> <li>The site maintains a Coal and Delivery Haulier Induction (sighted written training assessments), which includes that <i>"It is the responsibility of the truck driver to ensure there is no spillage from the vehicle along the roadway. A trimming platform is provided at the loading area to clean any coal from vehicle gunnels and the truck wash is to be used by all trucks prior to leaving site"</i>.</li> <li>All coal haulier drivers are required to undertake the induction.</li> </ul>	Compliant	

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
		 <p>Photo 17: Automated wheel wash on CHPP vehicle exit road</p>	<ul style="list-style-type: none"> <li>A mandatory wash down bay for trucks is located on the exit road from the CHPP area.</li> <li>The truck wash down bay for the cleaning of loaded vehicles prior to exiting the site was operational during the site inspection (refer photo).</li> </ul>		
<b>Use of Wallerawang Power Station Intersection</b>					
3-19A	The Applicant shall not utilise the intersection of the Castlereagh Highway and Wallerawang Power Station Haul Road for haulage of coal until the intersection has been upgraded in accordance with Austroads standards, to the satisfaction of RMS.	<ul style="list-style-type: none"> <li>Signed drawings (19 May 2016)</li> <li>14.3557.2263 Lithgow HW18 Centennial Coal Final Certificate (Lithgow Council 4 December 2017)</li> <li>ECD (2016 - 2020)</li> </ul>	<ul style="list-style-type: none"> <li>The intersection of the Castlereagh Highway and Wallerawang Power Station Haul Road had been upgraded at the time of the site inspection.</li> <li>No complaints or incidents were recorded on the ECD (2016 - 2020).</li> </ul>	Compliant	
<b>VISUAL IMPACT</b>					
3-20	The Applicant shall minimise the visual impacts of the development to the satisfaction of the Planning Secretary.	<ul style="list-style-type: none"> <li>Site inspection</li> <li>2018 - 2022 MOP (CC, 2017)</li> <li>2018 - 2022 MOP Amendment A (CC, 2019)</li> <li>AR (CC, 2018 &amp; 2019)</li> <li>Draft 2020 WMP MP-2041 (CC, October 2020)</li> <li>HRA REA III (MOP, 2018)</li> </ul>  <p>Photo 18: Non reflective, green, brown paint on pit top and CHPP structures</p>	<ul style="list-style-type: none"> <li>The site's location on the edge of valley surrounded by Newnes State Forest and Blue Mountains National Park minimises visual impact when viewed from off-site locations.</li> <li>The broader Clarence region including the area surrounding the Clarence site, was severely impacted by the Gospers Mountain fire in December 2019.</li> <li>Structures and buildings were constructed of non-reflective materials in green/brown tones (refer photo).</li> <li>Coal stockpiles adjacent to the CHPP are located in with limited off site visual impact.</li> <li>REAs are key landscape features on the site. The status, and site observations, for REAs are: <ul style="list-style-type: none"> <li>REA I and REA II were partially rehabilitated but not closed under the High Risk Activity (HRA) Notification process. Off-site visual impact is minimised.</li> </ul> </li> </ul>	Non-compliant (NC-8)	Closed. No recommendation.

# Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment


No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
		 <p>Photo 19: Visual impact of REA III</p>  <p>Photo 20: Bushfire impact on REA IV Rehabilitation</p>  <p>Photo 21: REA V – under construction</p>	<ul style="list-style-type: none"> <li>REA III is no longer operational for reject emplacement; however, further to the July 2015 incident at REA III, Clarence are recovering coal fines from REA III under the HRA Notification process. Representatives from regulatory authorities attended the HRA. REA III final landform shaping and rehabilitation will be undertaken after the period of this IEA. REA III has a visually-dominant embankment (refer photo).</li> <li>REA IV – following consultation with DPIE and EPA to address underperforming rehabilitation on REA IV, a rehabilitation trial commenced in 2019 with the results of the trial planned to be used to identify suitable methods for rehabilitation on all REAs. The REA IV rehabilitation area was impacted initially by severe drought and, more recently by the December 2019 Gospers Mountain bushfire (refer photo). Clarence are reportedly seeking advice on how to progress and the annual rehabilitation monitoring, scheduled for November 2020, may assist in providing direction.</li> <li>REA V was recently cleared, and construction is currently underway (refer photo).</li> <li>REA VI was constructed in 2017 and operational during the period of the audit. Some rehabilitation had occurred on the northern embankment, although this area was impacted initially by severe</li> </ul>		



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No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
			<p>drought and, more recently by the December 2019 Gospers Mountain bushfire. Clarence are reportedly seeking advice on how to progress and the annual rehabilitation monitoring, scheduled for November 2020, may assist in providing direction.</p> <ul style="list-style-type: none"> <li>Given the high visual impacts of REA III and that the rehabilitation of REA III has been delayed by coal fines recovery, this condition is assessed as Non-compliant. REA III final landform and rehabilitation are being driven by HRA REA III, consequently no further recommendations have been made.</li> <li>Refer Appendix A1 DA504 Sch 3-28 (Mine Closure Strategy) (this table).</li> <li>Refer Appendix A4 CCL 705 condition 13 (Rehabilitation).</li> </ul>		
<b>Lighting Emissions</b>					
3-21	The Applicant shall take all practicable measures to mitigate off-site lighting impacts from the development to the satisfaction of the Planning Secretary.	<ul style="list-style-type: none"> <li>ECD (2016 - 2020) (2016 - 2020)</li> <li>Complaint Register (CC, August 2020)</li> <li>Monthly EM Reports (CC, 2016 -2020)</li> <li>Email to MCW Environmental – IEA Consultation (DPIE, 30 October 2020)</li> <li>ARs (CC, 2016 -2020)</li> </ul>	<ul style="list-style-type: none"> <li>The site's location on the edge of valley surrounded by Newnes State Forest and Blue Mountains National Park minimises the off-site impact from lighting on sensitive receptors.</li> <li>No complaints regarding lighting were recorded in the ECD (2016 - 2020) or in monthly EM Reports during the period of the audit.</li> <li>In response to an IEA consultation email from MCW Environmental, DPIE advised that Clarence had been provided with a Warning Letter regarding lighting emissions on 28 June 2017. There was no information provided by Clarence on this issue. In the absence of details of this incident, and complaints or incident reports about lighting, this condition has been assessed as compliant.</li> </ul>	Compliant	
3-22	All external lighting associated with the development shall comply with Australian Standard AS4282 (INT) 1995 Control of Obtrusive Effects of Outdoor Lighting.	<ul style="list-style-type: none"> <li>Proposed Reject Emplacement Area (REA V) Access Review (ARC Traffic and Transport, April 2016)</li> </ul>	<ul style="list-style-type: none"> <li>No complaints regarding lighting were recorded in the ECD (2016 - 2020) or in monthly EM Reports during the period of the audit.</li> </ul>	Non-compliant (NC-9)	R10: Design external lighting to comply with AS4282 (INT) 1995

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
		 <p>Photo 22: Lighting installed on access track to REA V</p>	<ul style="list-style-type: none"> <li>The 2018 AR reports that a consultant was commissioned in May 2018 to assess AS4282 compliance of lighting at REA VI and that "Clarence is compliant with AS4282". No evidence of this assessment was provided, consequently this condition has been assessed as non-compliant.</li> <li>Lighting had been installed during 2019 for REA V access. A 2016 access review study for REA V reports <i>Given the proposed 24 hour operations of the crossing, it is proposed that the crossing and broader approaches (through the length of the SISD distance on all approaches) be lit outside of daily hours. The final lighting design will be determined with reference to appropriate standards, but again would augment the SISD provided to the crossing, and lines of sight provided to the REA Access Road stop-lines, through non-daylight periods.</i> There was no evidence that the lighting had actually been designed in accordance with AS4282 (INT)</li> </ul>		Control of Obtrusive Effects of Outdoor Lighting and maintain records of compliance.
<b>GREENHOUSE GAS</b>					
3-23	The Applicant shall: (a) monitor the greenhouse gas emissions generated by the development; (b) investigate ways to reduce greenhouse gas emissions on site; arid (c ) report on these investigations in the Annual Review, to the satisfaction of the Planning Secretary.	<ul style="list-style-type: none"> <li>WRAQGHGMP (CC, 2018)</li> <li>ARs (CC, 2016 -2019)</li> <li>2016-2017 NGER Report (CC, 2017)</li> <li>2017-2018 NGER Report (CC, 2018)</li> <li>2018-2019 NGER Report (CC, 2019)</li> </ul>	<ul style="list-style-type: none"> <li>The Western Region Air Quality and Greenhouse Gas Management Plan references a corporate target to reduce greenhouse gas emissions by 25% by 2020 with an action plan and to deliver this goal.</li> <li>a) Greenhouse gas emissions are tracked including energy consumed (electricity, diesel, petroleum based oil and grease, SF6 and fugitive emissions), electricity produced (coal extracted). From these the Scope 1 and 2 emissions are calculated for reporting under the National Greenhouse Gas and Energy Reporting scheme. The monthly greenhouse gas data is included in ARs.</li> <li>b) The 2016 AR reported that engineering investigations into GHG emission reduction included replacing</li> </ul>	Non-compliant (NC-10)	R11: Investigate and report annually in the Annual Review on initiatives Clarence is implementing to reduce greenhouse emissions.



## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment


No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
			<p>outdated conveyor drives with more efficient system where possible. The 2017 AR reported that systematic replacement of conventional conveyor drives with variable speed drives and a compressed air audit to reduce leaks and load on the air compressor, to improve energy efficiency.</p> <ul style="list-style-type: none"> <li>c) No greenhouse emission investigations were reported in the 2018 AR or 2019 AR, consequently this condition was assessed as non-compliant.</li> </ul>		
<b>WASTE MINIMISATION</b>					
3-24	The Applicant shall minimise the amount of waste generated by the development to the satisfaction of the Planning Secretary.	<ul style="list-style-type: none"> <li>Waste Management Standard CL-10-09 (CC, 2020)</li> <li>Monthly waste stream report.xls (JR Richards, January, Feb, March, April, and June 2020)</li> <li>Monthly and weekly E&amp;C Coordinator Environment Inspections</li> <li>ECD (CC, 2016 -2020)</li> <li>Site inspection (12-13 October 2020)</li> </ul>  <p>Photo 23: Waste segregation area at pit top</p>	<ul style="list-style-type: none"> <li>Waste management on site is undertaken by contractors JR Richards. JR Richards provides monthly waste data in a spreadsheet which includes data and graphical representation of waste recycled and waste disposed; improvements identified and actioned; and a register of waste disposal locations.</li> <li>Underground mine waste is segregated at the pit top for recycling. This waste segregation area is included in the E&amp;C Coordinator inspections.</li> <li>The Clarence Colliery Waste Management Standard was reviewed in 2020 and includes: <ul style="list-style-type: none"> <li>5% reduction in total waste volumes on a comparative year basis (calculated on a kg of waste per ROM tonne produced)</li> <li>10% improvement in recycling rates on a comparative year basis (calculated as a percentage of total waste material).</li> </ul> </li> <li>The AR does not report on performance against the Waste Management Standard.</li> </ul>	Compliant	
<b>REJECT EMPLACEMENT</b>					
3-24A	The Applicant shall prepare and implement a long term Reject Management Strategy for the project to	<ul style="list-style-type: none"> <li>Long Term Reject Emplacement Strategy (CC, 2014)</li> </ul>	<ul style="list-style-type: none"> <li>Preparation of the long term Reject Management Strategy was prior to the period of this IEA however; this</li> </ul>	Compliant (C-3)	R12: Revise the 2014 long term Reject

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment


No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
	the satisfaction of the Planning Secretary. This plan must be: (a) prepared in consultation with Water Division, EPA and BCD; (b) consider alternatives to reject emplacement, including beneficial re-use and underground disposal; and (c) be submitted to the Planning Secretary for approval by the end of November 2014.	<ul style="list-style-type: none"> <li>IEA (MCW Environmental, 2016)</li> <li>2018 - 2022 MOP (CC, 2017)</li> <li>2018 - 2022 MOP Amendment A (CC, 2019)</li> </ul>	<ul style="list-style-type: none"> <li>condition was assessed as compliant in previous IEA.</li> <li>Management of short-medium term REA rehabilitation is included in the MOP.</li> <li>As the strategy was prepared in 2014, the status of REAs and future emplacement considerations did not reflect current operations and available information.</li> </ul>		Management Strategy to reflect status of REAs and future emplacement and rehabilitation considerations or otherwise confirm with DPIE that this condition can be determined through the MOP process.

### HAZARDS MANAGEMENT




#### Spontaneous Combustion

3-25	The Applicant shall take the necessary measures to prevent, as far as is practical, spontaneous combustion on the site.	<ul style="list-style-type: none"> <li>Spontaneous Combustion Major Hazard Management Plan CL-35 (CC, May 2019)</li> <li>Outburst Management Plan CL-26 (CC, 2019)</li> <li>Stockpile Management plan MP-1368 (CC, 2017)</li> <li>ECD (2016 - 2020)</li> <li>Site inspection</li> <li>Daily stockpile report – morning meeting summary (CC, 29 October 2020)</li> </ul>  <p>Photo 24: Water sprinklers on conveyors above ROM stockpiles</p>	<ul style="list-style-type: none"> <li>Spontaneous Combustion Major Hazard Management Plan (CC, 2019) assessed the risk of spontaneous combustion at the site and reported that spontaneous combustion hazard assessments were conducted for coal samples from 709, 908 and 910 Panels in 2018 and 2019. MP-1974 Revision No.2); and the following TARPs, procedures and measures have been developed to address the identified risks: <ul style="list-style-type: none"> <li>TARP-1844 Spontaneous Combustion TARP</li> <li>TARP-2628 Stockpile Fire Response</li> <li>MP-2479 Reject Emplacement Management Plan</li> <li>TARP-2622 Bushfire Response Card</li> <li>Stockpile Condition Inspection Reports</li> <li>REA 3 Design Report (contained within APP182725)</li> <li>APP182725 - REA 3 HRA Notification</li> </ul> </li> <li>The daily stockpile report is presented at each CHPP morning meeting and includes report on condition and hazards.</li> </ul>	Compliant	
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## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
			<ul style="list-style-type: none"> <li>Fixed sprinklers were observed as being in place above ROM stockpiles (refer photo). A full assessment of the presence and adequacy of site fire protection equipment has not been undertaken by the auditors.</li> <li>During the Gospers Mountain bushfire in December 2019, handheld thermal imaging and drones with infrared camera were reportedly used to assess potential stockpile fires.</li> <li>No spontaneous combustion incidents were recorded on the ECD (2016 - 2020) during the period of the IEA.</li> </ul>		
<b>DANGEROUS GOODS</b>					
3-26	The Applicant shall ensure that the storage, handling, and transport of dangerous goods is done in accordance with the relevant Australian Standards, particularly AS 1940 and AS1596, and the Dangerous Goods Code.	<ul style="list-style-type: none"> <li>Dangerous Goods Audit (CC, 12-13 May 2020)</li> <li>Dangerous Goods Licence (NDG020999) for the storage and handling of dangerous chemicals on the premises</li> <li>Dangerous Goods and Hazardous Substance Management Plan C-31 (CC, October 2017)</li> <li>WMP MP-2041 (CC, 2017)</li> <li>Site inspection (12 October 2020)</li> <li>Transport Certificate No. 2T00852422 (1 December 2017) for transport of hazardous waste</li> </ul>  <p>Photo 25: Spill kit and hydrant adjacent to pit top store.</p>	<ul style="list-style-type: none"> <li>Dangerous Goods were stored appropriately in the work shed at the pit top.</li> <li>Fire hydrants and spill kits were located at regular intervals in appropriate areas at the Pit Top and CHPP buildings.</li> <li>Dangerous Goods and hazardous substances are listed on Chemwatch list in the Surface first aid room.</li> <li>MSDSs were located near the CHPP office area.</li> <li>Weekly and monthly inspections had been undertaken by the E&amp;C Coordinator generally in accordance with the 2017 WMP inspection and TARP requirements.</li> <li>A record of a transport certificate for hazardous waste was available.</li> <li>An internal audit of the storage and handling of dangerous goods was undertaken in May 2020 and generated an action plan for improvements.</li> <li>The following improvement opportunities were identified following the site inspection on 12 October 2020: <ul style="list-style-type: none"> <li>There is potential for the removal of oil and grease in under/overflow weirs in the grit trap to be impacted if detergent from the pit top vehicle wash</li> </ul> </li> </ul>	Compliant (C-4)	<p>R13: Improve storage and use of dangerous goods and hazardous materials:</p> <ul style="list-style-type: none"> <li>Assess the suitability of detergents used in the vehicle wash bay and downstream impact on oil and grease removal in the grit basin and WTP. Implement corrective actions if required.</li> <li>Store empty containers that have been used for dangerous goods and hazardous materials</li> </ul>

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
		 <p>Photo 26: Containers used for diesel stored outside bunded area.</p>  <p>Photo 27: Pit top vehicle wash down area with detergent draining into the grit trap.</p>  <p>Photo 28: Spills with absorbent material outside bunded work area.</p>	<p>bay enters the grit trap. Assess the suitability of detergents used in the vehicle wash bay and downstream impact on oil and grease removal in the grit basin and WTP (refer photo).</p> <ul style="list-style-type: none"> <li>○ Empty containers that have been used for dangerous goods and hazardous materials were stored outside bunded areas (refer photo).</li> <li>○ Spills with absorbent material were outside bunded areas during rain (refer photo).</li> </ul>		<p>within bunded areas.</p> <ul style="list-style-type: none"> <li>• Clean up spills in pit top area promptly to minimise load on WTP.</li> </ul>
<b>BUSHFIRE MANGEMENT</b>					
3-27	<p>The Applicant shall:</p> <p>(a) ensure that the development is suitably equipped to respond to any fires on-site; and</p> <p>(b) assist the Rural Fire Service and emergency services as much as possible if there is a fire on-site during the development.</p>	<ul style="list-style-type: none"> <li>• Spontaneous Combustion Major Hazard Management Plan CL-35 (CC, May 2019)</li> <li>• Stockpile Management Plan MP-1368 (CC, 2017)</li> </ul>	<ul style="list-style-type: none"> <li>• Bushfire is identified a significant risk in the Spontaneous Combustion Major Hazard Management plan and the Stockpile Management Plan. The plans include monitoring requirements and corresponding mitigation measures.</li> </ul>	Compliant	

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
		<ul style="list-style-type: none"> <li>Site inspection (12 October 2020)</li> </ul>  <p>Photo 29: Burnt vegetation from Gospers Mountain fire (Dec 2019) close to pit top.</p>	<ul style="list-style-type: none"> <li>Despite the Gospers Mountain fire (December 2019) causing severe impact in the Newnes State Forest and Blue Mountains National Park that surround the site, although vegetation near infrastructure and some REA rehabilitation was impacted, Clarence did not experience loss of plant or equipment, due to reported sustained firefighting efforts from Clarence personnel and RFS.</li> <li>The site reportedly supported local RFS firefighting efforts during the Gospers Mountain bushfire including helicopter access to dam water for water bombing.</li> <li>MCW Environmental auditors are not fire specialists and are not in a position to assess whether Clarence is suitably equipped to respond to fire. The compliance status is based on the outcomes of the 2019 Gospers Mountain bushfire as described above.</li> </ul>		
<b>MINE CLOSURE STRATEGY</b>					
3-28	<p>At least 3 years prior to the cessation of mining, the Applicant shall prepare a Mine Closure Strategy for the development, in consultation with Council, DRG, Water Division and EPA, and to the satisfaction of the Planning Secretary, The plan must:</p> <p>(a) define the objectives and criteria for mine closure;</p> <p>(b) investigate options for the future use of the site, including the pit top and surface facilities area;</p> <p>(c) investigate ways to minimise the adverse socio-economic effects associated with mine closure, including reduction in local employment levels;</p> <p>(d) define a strategy for the ongoing management of water inflow to the mine;</p> <p>(e) describe the measures that would be implemented to minimise or manage the ongoing environmental effects of the development; and</p> <p>(f) describe how the performance of these measures would be monitored over time</p>	<ul style="list-style-type: none"> <li>IEA (MCW Environmental, 2016)</li> <li>2018 AR (CC, 2019)</li> <li>2018 Rehabilitation Monitoring (Koru, 2019)</li> <li>2018 -2022 MOP Amendment (CC, 2019)</li> <li>WMP MP-2041 (CC, 2018)</li> <li>Draft 2020 WMP MP-2041 (CC, 2020)</li> </ul>	<ul style="list-style-type: none"> <li>As the site is greater than 3 years from cessation of mining, this condition is not triggered.</li> <li>The previous IEA reported that Clarence had commenced closure planning by preparing a Conceptual Rehabilitation and Mine Closure Plan (CC, December 2012). The Plan was prepared by consultants GSS Environmental and addressed DA 504 Schedule 3 condition 28 requirements a) to c); and that requirements d) to f) will be addressed closer to mine closure. The Plan had not been revised since December 2012.</li> <li>An annual independent rehabilitation monitoring assessment (including recommendations) is undertaken by a rehabilitation expert and included as a summary and appendix to the ARs. The 2018 -2022 MOP Amendment A includes future land use, closure performance measures, and</li> </ul>	Not triggered (NT-1)	<p>Refer to recommendations:</p> <ul style="list-style-type: none"> <li>Appendix A2 MOD 035/18 condition 7 (Rehab) and R 20.</li> <li>Appendix A2 MOD 035/18 condition 14 and R22.</li> </ul>



## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
			<p>rehabilitation objectives, monitoring, activities, and progress.</p> <ul style="list-style-type: none"> <li>Annual rehabilitation monitoring was scheduled to be conducted in November 2020 to provide an independent assessment of the impact of the Gospers Mountain 2019 bushfire on rehabilitation including the REA IV and REA VI areas and an assessment of weed control and groundcover planting condition. Recommendations to progress and improve rehabilitation are included in Appendix A2 MOD 035/18 condition 14 (OEH) and R22.</li> <li>MCW Environmental did not undertake an assessment of progress of rehabilitation recommendations from the annual rehabilitation monitoring reports.</li> </ul>		
<b>REHABILITATION</b>					
3-29	Prior to the commencement of construction of Reject Emplacement Areas V or VI, the Applicant shall revise the Mining Operations Plan for the development to include detailed rehabilitation objectives and completion criteria for Reject Emplacement Areas V and VI, to the satisfaction of the Executive Director, Mineral Resources	<ul style="list-style-type: none"> <li>2018 -2022 MOP (CC, 2017)</li> <li>Letter to CC Approval of MOP (DRG, 12 February 2018)</li> <li>2018 -2022 MOP Amendment A (CC, 2019)</li> <li>Letter to CC Notice of Approval (DRG, 27 May 2019)</li> <li>IEA (MCW Environmental, 2016)</li> </ul>	<ul style="list-style-type: none"> <li>The previous IEA reported that the MOP was revised to include REA VI and was approved by the DRG (24 November 2014).</li> <li>The 2018 - 2022 MOP was prepared in 2017 and approved by DRG in February 2018.</li> <li>The 2018 -2022 MOP was revised (Amendment A) to include decommissioning and rehabilitation of REA III and construction of REA V. The 2018 -2022 MOP (Amendment A) was approved by DRG in May 2019 indicating DRG was satisfied with rehabilitation objectives and completion criteria.</li> <li>Rehabilitation objectives are included in Table 12 of the 2018 -2022 MOP (Amendment A) with additional objectives included in section 4.3.</li> <li>Performance indicators and completion criteria are included in section 6.2.</li> </ul>	Compliant	
<b>HERITAGE</b>					
Heritage Management Plan					
3-30	The Applicant shall prepare and implement a Heritage Management Plan for the development to	<ul style="list-style-type: none"> <li>IEA (MCW Environmental, 2016)</li> </ul>	<ul style="list-style-type: none"> <li>Preparation of the Heritage Management Plan was approved on 23</li> </ul>	Compliant	

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
	<p>the satisfaction of the Planning Secretary. This Plan must:</p> <p>(a) be prepared in consultation with relevant Aboriginal stakeholders;</p> <p>(b) be submitted to the Planning Secretary for approval prior to 31 October 2014;</p> <p>(c) include consideration of the Aboriginal and non-Aboriginal cultural context and significance of the site;</p> <p>(d) detail the responsibilities of all stakeholders; and</p> <p>(e) include programs/procedures and management measures for appropriate identification, management, conservation and protection of both Aboriginal and non-Aboriginal heritage items identified on the site.</p>	<ul style="list-style-type: none"> <li>Western Region Aboriginal Cultural Management Plan (CC, 2017)</li> <li>Western Region Historic Heritage Management Plan (CC, 2018)</li> <li>Letter to CC Approval of Western Region Management Plans (DPIE, 22 July 2018)</li> <li>Surface Disturbance Notice Permit</li> </ul>	<p>October 2014 i.e. prior to the period of this IEA.</p> <ul style="list-style-type: none"> <li>The Western Region Aboriginal Cultural Heritage Management Plan was revised in 2016 and 2017 and approved on 22 July 2016 and 27 October 2017 respectively.</li> <li>This condition was assessed as non-compliant in the 2016 IEA as Non Aboriginal heritage had not been addressed in management plans. To address this non-compliance, a Western Region Historic Heritage Plan was developed and includes monitoring and management of heritage areas and unexpected finds. The Historic Heritage Management Plan was approved by DPIE on 22 July 2016 and a revised plan was approved on 4 July 2018.</li> <li>The 2017 Western Region Aboriginal Cultural Heritage Management Plan includes: <ul style="list-style-type: none"> <li>a) Consultation log with Aboriginal parties (Attachments 8 and 8A (Aboriginal Cultural Heritage Management Plan))</li> <li>b) Approval letter (DPIE, 23 October 2014)</li> <li>c) Aboriginal and non-aboriginal context is provided in both the Western Region Aboriginal Cultural Heritage Management Plan (sections 1 and 6 and attachment 4) and Historic Heritage Management Plans Aboriginal Cultural heritage Management Plan (sections 1 and 6 and attachment 3)</li> <li>d) Western Region Aboriginal Cultural Heritage Management Plan (section 9) and Historic Heritage Management Plans (section 7)</li> <li>e) Western Region Aboriginal Cultural Heritage Management Plan (section 9) and Historic</li> </ul> </li> </ul>		



## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
			<p>Heritage Management Plans (section 6)</p> <p>f) Western Region Aboriginal Cultural Heritage Management Plan (section 6) and Historic Heritage Management Plans (section 6)</p> <ul style="list-style-type: none"> <li>The requirement for monitoring aboriginal cultural and historic heritage monitoring sites during the period of the IEA had reportedly not been triggered as mining activities had not occurred in the vicinity of sites identified in the Aboriginal Management Plan during the period of this IEA.</li> <li>The Surface Excavation and Disturbance Permit (PE-1431) includes a question asking if the area is covered by an Aboriginal cultural heritage or European heritage survey.</li> </ul>		
<b>SCHEDULE 4 ADDITIONAL PROCEDURES</b>					
<b>NOTIFICATION OF LANDHOLDERS</b>					
4-1	If the results of monitoring required in schedule 3 identify that impacts generated by the development are greater than the relevant impact assessment criteria in schedule 3, then the Applicant shall notify the Planning Secretary and the affected landowners and/or existing or future tenants (including tenants of mine owned properties) accordingly, and provide quarterly monitoring results to each of these parties until the results show that the development is complying with the criteria in schedule 3.	<ul style="list-style-type: none"> <li>ECD (2016 - 2020) (2016 - 2020)</li> <li>Letter to residents (noise exceedance) (CC, 6 February 2018)</li> </ul>	<ul style="list-style-type: none"> <li>State Forest is the main landholder for Clarence operations. There are limited private residences directly affected by the operation.</li> <li>Following exceedance of the night-time noise criteria in annual noise monitoring, Clarence notified residents and advised of quarterly monitoring.</li> </ul>	Compliant	
<b>INDEPENDENT REVIEW</b>					
4-2	If a landowner (excluding mine owned properties) considers that the development is exceeding the impact assessment criteria in schedule 3, then he/she may ask the Applicant in writing for an independent review of the impacts of the development on his/her land. If the Planning Secretary is satisfied that an independent review is warranted, the Applicant shall within 3 months of the Planning Secretary advising that an independent review is warranted: (a) consult with the landowner to determine his/her concerns;	<ul style="list-style-type: none"> <li>ECD (CC, 2016 - 2020)</li> </ul>	<ul style="list-style-type: none"> <li>A request for independent review has reportedly not been made by a landholder during the period of this audit.</li> </ul>	Compliant	

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
	(b) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Planning Secretary, to conduct monitoring on the land, to determine whether the development is complying with the relevant criteria in schedule 3, and identify the source(s) and scale of any impact on the land, and the development's contribution to this impact; and (c) give the Planning Secretary and landowner a copy of the independent review.				
<b>SCHEDULE 5 ENVIRONMENTAL MANAGEMENT, MONITORING, AUDITING &amp; REPORTING</b>					
<b>ENVIRONMENTAL MANAGEMENT STRATEGY</b>					
5-1	<p>Within 12 months of the date of this consent, the Applicant shall prepare and implement an Environmental Management Strategy for the development to the satisfaction of the Planning Secretary.</p> <p>This strategy must:</p> <p>(a) provide the strategic context for environmental management of the development;</p> <p>(b) identify the statutory requirements that apply to the development;</p> <p>(c) describe in general how the environmental performance of the development would be monitored and managed during the development;</p> <p>(d) describe the procedures that would be implemented to:</p> <ul style="list-style-type: none"> <li>- keep the local community and relevant agencies informed about the operation and environmental performance of the development;</li> <li>- receive, handle, respond to, and record complaints;</li> <li>- resolve any disputes that may arise during the course of the development;</li> <li>- respond to any non-compliance;</li> <li>- manage cumulative impacts; and</li> <li>- respond to emergencies; and</li> </ul> <p>(e) describe the role, responsibility, authority, and accountability of all the key personnel involved in environmental management of the development; and</p> <p>(f) be updated within 3 months of the completion of each Independent Environmental Audit.</p>	<ul style="list-style-type: none"> <li>• Environmental Management Strategy (CC, 2012)</li> <li>• Environmental Management Strategy Rev2 (CC, April 2020)</li> <li>• Letter to CC Approval of EMS Rev 2 (DRG, 27 April 2020)</li> <li>• Clarence Environmental Monitoring Program (CC, 2017)</li> <li>• CCC minutes (CC, 2016 – 2020)</li> <li>• ECD (2016 - 2020) (2016 - 2020)</li> <li>• Complaint Register (CC, August 2020)</li> <li>• CC website</li> </ul>	<ul style="list-style-type: none"> <li>• The original 2012 EMS was revised in 2014 although the 2014 EMS was not approved by the DRG. The 2014 EMS was revised in 2020 to reflect the revised 2018 - 2022 MOP Amendment A and incorporate recommendations from the 2016 IEA. The 2020 EMS was approved by the DRG on 27 April 2020.</li> <li>• The document control panel of the 2020 EMS identifies that DPE provided comments on a 2019 EMS prior to finalisation of the 2020 EMS.</li> <li>• The 2020 EMS was assessed as compliant with the requirements of Schedule 5 conditions 1 a) to e).</li> <li>• As the EMS was not updated within three months of the completion of the 2016 IEA, as required by DA 504-00 Sch 5-1 (f), this condition was assessed as non-compliant. As the EMS was updated in 2020 and approved by DRE in 2020, no further recommendations have been made.</li> <li>• Evidence of implementation of the EMS included: <ul style="list-style-type: none"> <li>○ environmental monitoring was undertaken as described in the Clarence Environmental Monitoring Program.</li> <li>○ water, dust, and noise monitoring results are reported in monthly EM reports on Clarence's website and</li> </ul> </li> </ul>	Non-compliant (NC-11)	Closed. No recommendation.

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
			<ul style="list-style-type: none"> <li>on an annual basis in the EPL Annual Return and the ARs.</li> <li>CCC meetings were held and minutes of meetings were available on the CC website.</li> <li>Pollution Incident Response Management Plan was reportedly activated in accordance with EMS (e.g. LD 2 leaking leachate water, August 2016).</li> <li>Complaint Register was available.</li> <li>The letter from DRG approving the 2020 EMS requested that <i>"Please ensure that a copy of the approved plan is placed on your website at the earliest convenience"</i>. The EMS was not available on the CC website (refer Appendix A1 DA504 Sch 5-2 below)</li> </ul>		
5-2	Within 14 days of the Planning Secretary's approval for the strategy, the Applicant shall: (a) send copies of the approved strategy to the relevant agencies, Council, and the CCC; and (b) ensure the approved strategy is publicly available during the development.	<ul style="list-style-type: none"> <li>Clarence's website</li> </ul>	<ul style="list-style-type: none"> <li>The original approved EMS and 2020 EMS were not available on the CC website.</li> <li>No evidence was provided that the 2020 EMS had been provided the relevant agencies, Council or CCC.</li> </ul>	Non-compliant (NC-12)	R14: Place the 2020 EMS on the CC website and provide copies of, or links to, the 2020 EMS to relevant agencies, Council, and the CCC.
<b>ENVIRONMENTAL MONITORING PROGRAM</b>					
5-3	Within 12 months of the date of this consent, the Applicant shall prepare an Environmental Monitoring Program for the development in consultation with the relevant agencies, and to the satisfaction of the Planning Secretary. This program must consolidate the various monitoring requirements in schedule 3 of this consent into a single document.	<ul style="list-style-type: none"> <li>IEA (MCW Environmental, 2011)</li> <li>Clarence Environmental Monitoring Program (CC, 2017)</li> <li>EPL 726</li> <li>2011 IEA (URS, 2011) references a letter to CC - Environmental Management Approvals (DA 504-00) RefS02/02820 (DPIE, 25 July 2007).</li> </ul>	<ul style="list-style-type: none"> <li>The site developed the Clarence Environmental Monitoring Program (CL-EWP-P-050 Rev1), which was approved by DPIE in 2007, and by DRG on 19 June 2014 and further to revision, was approved again on 2 December 2014.</li> <li>The Environmental Monitoring Program was revised in 2017. This condition does not require approval of revisions of the Environmental Monitoring Program by DPIE and there was no evidence provided that the revised Program had been provided to, or approved by, DPIE.</li> <li>The revised Program included EPL 726 monitoring requirements.</li> </ul>	Non-compliant (NC-13)	R15: Revise the Clarence Environmental Monitoring Program: <ul style="list-style-type: none"> <li>Include each of the monitoring requirements in DA504-00 Sch 3.</li> <li>For each monitoring requirement, identify impact assessment</li> </ul>

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
			<ul style="list-style-type: none"> <li>Many of the references to tables within the 2017 Clarence Environmental Monitoring Program are incorrect.</li> <li>Monitoring requirements for subsidence e.g. as specified in DA504-00 Sch 3-2 and Sch 3-9(f)) are not included in the 2017 Clarence Environmental Monitoring Program.</li> <li>Impact assessment criteria and TARPs for monitoring triggered by DA 504-00 Sch 3 are located in numerous management plans and associated documents.</li> </ul>		<p>criteria, responsibilities, and TARPs (which include reporting requirements).</p> <ul style="list-style-type: none"> <li>Identify when the Clarence Environmental Monitoring Program is required to be updated.</li> <li>Correct Table references.</li> </ul>
5-4	Within 3 months of the completion of each Independent Environmental Audit, the Applicant shall review, and if necessary update, the Environmental Monitoring Program to the satisfaction of the Planning Secretary.	<ul style="list-style-type: none"> <li>IEA (MCW Environmental, 2016)</li> <li>Clarence Environmental Monitoring Program (CC, 2017)</li> <li>EPL 726</li> </ul>	<ul style="list-style-type: none"> <li>The 2016 IEA, dated 29 July 2016, included one recommendation to update the Clarence Environmental Monitoring Program to include details of the flora and fauna monitoring undertaken (as required by Development Consent 1994 condition 3). Although the 2017 Clarence Environmental Monitoring Program had been updated to include flora and fauna monitoring, as the plan was not updated until 2017, this condition was assessed as non-compliant. Although the results of annual flora and fauna monitoring are summarised in the ARs which are available on the CC website, there was no evidence provided that NPWS had been consulted in the preparation of the flora and fauna monitoring.</li> <li>Refer Appendix B 2016 IEA Actions (Environmental Monitoring Program - Flora and Fauna)</li> </ul>	Non-compliant (NC-14)	Closed. No recommendation.
<b>REPORTING</b>					
<b>Annual Reporting</b>					
5-5	The Applicant shall prepare and submit an Annual Review to the Planning Secretary and the relevant agencies. This report must: (a) identify the standards and performance measures that apply to the development;		<ul style="list-style-type: none"> <li>ARs had been prepared for 2016-2019 and were available on the CC website.</li> <li>The 2016 – 2019 ARs were assessed by the auditors as meeting the requirements of Schedule 5 condition 5 a) to l).</li> </ul>	Compliant	

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
	(b) describe the works carried out in the last 12 months; (c) describe the works that will be carried out in the next 12 months; (d) include a summary of the complaints received during the past year, and compare this to the complaints received in previous years; (e) include a summary of the monitoring results for the development during the past year, (f) include an analysis of these monitoring results against the relevant: - impact assessment criteria; - monitoring results from previous years; and - predictions in the EIS; (g) identify any trends in the monitoring results over the life of the development; (h) identify any non-compliance during the previous year; and (i) describe what actions were, or are being taken to ensure compliance.				
<b>Incident Reporting</b>					
5-5A	The Applicant shall immediately notify the Planning Secretary and any other relevant agencies of any incident. Within 7 days of the date of the incident, the Applicant shall provide the Planning Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.	<ul style="list-style-type: none"> <li>ARs (CC, 2016 -2020)</li> <li>LD 2 leak (EPA incident #110693-2016 and PRP), EPL 7256 variation 1543427 (EPA, 12 August 2016)</li> <li>Letter to EPA (CC, 28 October 2016)</li> <li>CCC minutes (October 2016)</li> <li>ECD (2016 -2020)</li> <li>PIRMP (CC, 11/07/2019)</li> </ul>	<ul style="list-style-type: none"> <li>The Development Consent defines an incident as a set of circumstances that:               <ul style="list-style-type: none"> <li><i>causes or threaten to cause material harm to the environment; and/or</i></li> <li><i>breaches or exceeds the limits or performance measures / criteria in this consent.</i></li> </ul> </li> <li>The ECD includes a fortnightly alert to review water quality results and report to EPA.</li> <li>The current PIRMP includes notification to DPIE.</li> <li>There was evidence of notification (PIRMP activation) to relevant agencies for the following incident during the period of this IEA:               <ul style="list-style-type: none"> <li>13 August 2016 Leachate Dam 2 leak – a leak from LD 2 base and/or a discharge pipeline resulted in elevated metals, low pH and toxicity characteristics in water in a tributary of the Wollangambe River.</li> </ul> </li> <li>Activation of the PIRMP for this</li> </ul>	Compliant	

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
			incident was reported in CCC minutes.		
<b>Regular Reporting</b>					
5-5B	The Applicant shall provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent, and to the satisfaction of the Planning Secretary.	<ul style="list-style-type: none"> <li>ARs (CC, 2016 – 2019)</li> <li>Monthly EM Reports (CC, 2016 -2020)</li> <li>CCC minutes (CC, 2016 - 2020)</li> </ul>	<ul style="list-style-type: none"> <li>The ARs are available on the CC website and provide an annual update on the environmental performance.</li> <li>Monthly EM Reports, as required under the POEO Act, are available on the CC website.</li> <li>Environmental performance is also discussed in the quarterly CCC meetings and CCC minutes are available on the CC website.</li> </ul>	Compliant	
<b>INDEPENDENT ENVIRONMENTAL AUDIT</b>					
5-6	<p>Independent Environmental Audit</p> <p>Within 5 years of the date of this consent, and every 5 years thereafter, unless the Planning Secretary directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:</p> <p>(a) be conducted by a suitably qualified, experienced, and independent person whose appointment has been endorsed by the Planning Secretary;</p> <p>(b) be consistent with ISO 19011:2002 — Guidelines for Quality and/or Environmental Systems Auditing, or updated versions of this guideline;</p> <p>(c) assess the environmental performance of the development, and its effects on the surrounding environment;</p> <p>(d) assess whether the development is complying with the relevant standards, performance measures, and statutory requirements;</p> <p>(e) review the adequacy of the Applicants Environmental Management Strategy and Environmental Monitoring Program; and, if necessary,</p> <p>(f) recommend measures or actions to improve the environmental performance of the development, and/or the environmental management and monitoring systems.</p>	<ul style="list-style-type: none"> <li>This IEA</li> </ul>		Compliant	
5-7	The Independent Environmental Audit shall include a detailed audit of the subsidence, surface water, and ground water impacts of the development. The	<ul style="list-style-type: none"> <li>This IEA</li> </ul>		Compliant	

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
	<p>audit shall:</p> <p>(a) review the monitoring data for the development;</p> <p>(b) identify any trends in the monitoring data;</p> <p>(c) examine the subsidence, surface water, and ground water impacts of the development;</p> <p>(d) compare these impacts against the relevant impact assessment criteria; and, if necessary,</p> <p>(e) recommend measures to reduce, mitigate, or remediate those impacts</p> <p>If the independent audit determines that the subsidence, surface water, and/or ground water impacts resulting from the underground mining operations are greater than those predicted in the EIS/Supplementary Report or the relevant impact assessment criteria, the Applicant shall:</p> <p>(a) assess the significance of these impacts;</p> <p>(b) investigate measures to minimise these impacts, including modifying subsequent mine plans; and</p> <p>(c) describe what measures would be implemented to reduce, minimise, mitigate or remediate those impacts in the future;</p> <p>to the satisfaction of the Planning Secretary</p>				
5-8	<p>Within 3 months of commissioning the Independent Environmental Audit, the Applicant shall submit a copy of the audit report to the Planning Secretary, with a response to the recommendations contained in the audit report.</p>	<ul style="list-style-type: none"> <li>Complaint Register (CC, August 2020)</li> </ul>	<ul style="list-style-type: none"> <li>The 2016 IEA was reportedly provided to the DPIE in 2016 however, the 2016 AR reports that <i>"there was a delay in finalising the report due to the legally privileged and confidential nature of the report with the ongoing prosecution following the 2<sup>nd</sup> July 2015 Overtopping incident"</i>. As this date is likely to have exceeded the 3 months since IEA commissioning, this condition was assessed as non-compliant.</li> <li>One complaint was registered on 5 March 2017 that <i>"the Clarence Independent Audit Report was not available on the Clarence Website and requested a copy"</i>. The complaint register reports that most recent Audit Report had not been made publicly available due to a lengthy review into the REAIII overtopping incident that occurred in July 2015. The document was later published on to the website and the complainant was provided with a copy of the report.</li> </ul>	Non-compliant (NC-15)	Closed. No recommendation.



## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
			<ul style="list-style-type: none"> <li>The 2016 AR includes an action plan addressing the recommendations in the IEA.</li> <li>Copies of the IEA and revised action plan were available on the CC website in November 2020.</li> <li>Refer to Appendix B of this IEA report for review of the status of 2016 IEA actions.</li> </ul>		
<b>COMMUNITY CONSULTATION COMMITTEE</b>					
5-9	<p>Within 3 months of the date of this consent, the Applicant shall establish a Community Consultative Committee to oversee the environmental performance of the mine. The CCC shall:</p> <p>(a) be comprised of:</p> <ul style="list-style-type: none"> <li>2 representatives from the Applicant, including the person responsible for environmental management at the mine;</li> <li>at least 1 representative from Council (if available); and</li> <li>at least 3 representatives from the local community, whose appointment has been approved by the Planning Secretary in consultation with the Council;</li> </ul> <p>(b) be chaired by an independent chairperson, whose appointment has been approved by the Planning Secretary;</p> <p>(c) meet at least twice a year; and</p> <p>(d) review and provide comment on the environmental performance of the development, including any environmental management plans, monitoring results, audit reports, or complaints.</p>	<ul style="list-style-type: none"> <li>Email to MCW Environmental – IEA Consultation (CCC Chair, November 2020)</li> <li>CCC minutes (2016 – 2020)</li> <li>CCC Chairperson's Annual Report to DPIE for 2018</li> </ul>	<ul style="list-style-type: none"> <li>The CCC has met approximately every four months during the period of the IEA. The CC was generally comprised of the required representatives and there were no changes to the previously approved independent chairperson.</li> <li>The auditors reviewed selected CCC meeting minutes for the period of the IEA which indicate adherence to prescribed requirements for the operation of the CCC.</li> <li>CCC meetings were held and although minutes of meetings were available on the CC website, copies of presentations provided by Clarence at CCC meetings were not available.</li> <li>The Chair of the CCC was consulted during this IEA and despite their being issues raised during the drought that Clarence was impacting groundwater, there are no significant current issues that have been raised by the CCC (refer Appendix G of this IEA report).</li> <li>The Chair of the CCC provided an annual report on the operation of the CCC for 2018.</li> </ul>	Compliant	
5-10	<p>The Applicant shall, at its own expense:</p> <p>(a) ensure that 2 of its representatives attend the CCC's meetings;</p> <p>(b) provide the CCC with regular information on the environmental performance and management of the development;</p> <p>(c) provide meeting facilities for the CCC;</p> <p>(d) arrange site inspections for the CCC, if necessary;</p>	<ul style="list-style-type: none"> <li>Email to MCW Environmental – IEA Consultation (CCC Chair, November 2020)</li> <li>CCC minutes (2016 – 2020)</li> </ul>	<ul style="list-style-type: none"> <li>The auditors reviewed a sample of CCC meeting minutes for the period 2016-2020 which indicate adherence to requirements for the operation of the CCC.</li> <li>A site visit of the rehabilitation trial area and REA V construction was undertaken</li> </ul>	Non-compliant (NC-16)	R16: Provide CCC minutes and responses to the CCC's recommendations to DPIE within a month of acceptance of the

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
	(e) take minutes of the CCC's meetings; (f) make these minutes available to the public; (g) respond to any comments or recommendations the CCC may have in relation to the environmental management or performance of the development; (h) forward a copy of the minutes of each CCC meeting, and any responses to the CCC's recommendations to the Planning Secretary within a month of acceptance of the minutes by the CCC.		after the 17 September 2019 CCC meeting. <ul style="list-style-type: none"> <li>Although the CCC meeting minutes were available to the public on the CC website, there was no evidence that the minutes had been provided to the DPIE; consequently, this condition was assessed as non-compliant.</li> </ul>		minutes by the CCC.
<b>ACCESS TO INFORMATION</b>					
5-11	Within 1 month of the approval of any management plan/strategy required under this consent (or any subsequent revision of these management plans strategies), the completion of the independent audits required under this consent, or the completion of the Annual Review, the Applicant shall: (a) provide a copy of the relevant document/s to the Council, relevant agencies and the CCC; (b) ensure that a copy of the relevant documents is made publicly available at the mine; and (c) put a copy of the relevant document/s on the Applicant's website, to the satisfaction of the Planning Secretary.	<ul style="list-style-type: none"> <li>CC website</li> <li>2016 AR (CC, 2017)</li> <li>CCC Minutes (CC, 24 September 2018)</li> </ul>	<ul style="list-style-type: none"> <li>The following ARs, IEAs and approved revised environment management plan/strategy were available on site and on the CC website: <ul style="list-style-type: none"> <li>ARs (CC, 2016 -2019)</li> <li>2016 IEA (MCW Environmental, 2016)</li> <li>2018 - 2022 MOP Amendment A (CC, 1 March 2019)</li> <li>Western Region Noise Management Plan (CC, June 2018)</li> <li>Western Region Air Quality and Greenhouse Gas Management Plan (CC, June 2018)</li> <li>Western Region Heritage Management Plan (CC, June 2018)</li> <li>Western Region Aboriginal Cultural Heritage Management Plan (CC, July 2017)</li> <li>Clarence Water Management Plan (CC, 2015)</li> </ul> </li> <li>The CC website did not have a copy of the 2017 WMP or the 2020 EMS.</li> <li>Although the June 2017 and September 2018 CCC minutes referenced the MOP and WRNMP, there was no evidence that all revised and approved plans, ARs and the IEA were provided to Council, relevant agencies and the CCC:</li> <li>The 2016 AR stated that actions to provide plans to Council, relevant agencies and the CCC had been added to the ECD.</li> </ul>	Non-compliant (NC-17)	R17: Following approval of revised management plans, completion of ARs and the IEA; provide copies to Council, the relevant agencies, CCC and on the CC website.

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
5-12	<p>During the life of the development, the Applicant shall:</p> <p>(a) make a summary of the results of all monitoring required under this consent publicly available both at the mine and on the Applicant's website; and</p> <p>(b) update these results on a regular basis (at least every 3 months), to the satisfaction of the Planning Secretary,</p> <p>Note: The Applicant's environmental management plans/protocols should specify the reporting provisions for each environmental aspect.</p>	<ul style="list-style-type: none"> <li>ARs (CC, 2016 – 2019)</li> <li>Monthly EM Reports (CC, 2016 -2020)</li> <li>Clarence Environmental Monitoring Program (CC, 2017)</li> <li>WMP MP-2041 (CC, 2017)</li> <li>WRAQGHGMP (CC, 2018)</li> </ul>	<ul style="list-style-type: none"> <li>Monthly EM Reports were available on the CC website (2016 – 2020). These reports include meteorological data and monitoring results for discharge water quality at LDP 002, air quality and annual noise results.</li> <li>In addition, the ARs, which are available on the CC website, report monitoring for air quality (PM10 and TSP), flora and fauna, surface water, groundwater, and rehabilitation.</li> <li>End of year SMSRs are available on the CC website.</li> <li>The WRAQGHGMP and WRNMP include monitoring reporting requirements.</li> <li>Although monitoring of surface water and groundwater has been undertaken, the Clarence Environmental Monitoring Program (CC, 2017) and 2017 WMP do not specify the reporting requirements for water monitoring, consequently this condition has been assessed as non-compliant.</li> </ul>	Non-compliant (NC-18)	R18: Include reporting provisions for all monitoring required under DA504 Sch 3 in corresponding management plans / protocols and make available on the CC website.
<b>REVISION OF STRATEGIES, PLANS OR PRPGRAMS</b>					
5-13	<p>Within 3 months of: (a) the submission of an incident report under condition 5A, Schedule 5;</p> <p>(b) the submission of an annual review under condition 5 of Schedule 5;</p> <p>(c) the submission of an audit report under condition 6 of Schedule 5; or</p> <p>(d) any modification to the conditions of this consent, (unless the conditions require otherwise), the Applicant must review the strategies, plans, and programs required under this consent, to the satisfaction of the Planning Secretary. Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted for the approval of the Planning Secretary.</p> <p>Note: This is to ensure that strategies, plans and programs are regularly updated to incorporate any measures recommended to improve the environmental performance of the development.</p>		<ul style="list-style-type: none"> <li>This condition was added to DA504 in August 2019.</li> <li>There were no incidents reported under DA504 Sch 5-5A since August 2019.</li> </ul>	Compliant	

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
APPENDIX 3 STATEMENT OF COMMITMENTS					
Refer DA504-00 Schedule condition 6B 3 (in this Appendix A1) regarding design, construct and operate Reject Emplacement Areas V and VI					
CONSTRUCTION PHASE					
<b>General REA VI Construction Management</b>					
	<p>Prior to construction, develop a Construction Environmental Management Plan, incorporating:</p> <ul style="list-style-type: none"> <li>- construction of REA VI generally in accordance with the design plans contained within Attachment 2 of the Response to Submissions</li> <li>- capacity of the REA V1 will not exceed 390,000m3</li> <li>- construction of water management infrastructure as described in Section 7</li> <li>- REA VI will remain outside of the modelled surface water catchment associated with the Hanging Swamp (as per Figure 1 with this Response to Submissions)</li> <li>- A Construction Groundwater Monitoring Program including the installation of an additional monitoring well used to determine the existing groundwater level</li> <li>- Excavation for the preparation of the proposed REA VI will not occur within 2 metres of the perched water table</li> <li>- Clay lining and compacting the base of REA VI to prevent migration of any leachate seepage into groundwater acquirers</li> <li>- A Construction Noise Management Plan</li> </ul>		<ul style="list-style-type: none"> <li>• Not triggered during the period of this IEA.</li> <li>• Assessed as Compliant in 2016 IEA</li> </ul>	Not triggered	
OPERATIONAL PHASE					
<b>Soil and Water Management</b>					
	Manage and treat all leachate from REA VI in accordance with the existing Water Management Plan and additional water management infrastructure included as part of the proposal	<ul style="list-style-type: none"> <li>• WMP MP-2041 (CC, 2017)</li> <li>• ECD (2016-2020)</li> </ul>	<ul style="list-style-type: none"> <li>• The 2017 WMP includes a description of leachate management from REA VI (fig 3-1).</li> <li>• LD 3 was constructed as part of REA VI Leachate is conveyed from LD 3 via pipeline to Leachate Dam No.2. In the event of high flows, leachate is transferred via pipeline directly to the WTP.</li> <li>• No incidents were recorded regarding leachate from LD 3.</li> </ul>	Compliant	
<b>Effluent Irrigation</b>					
	Undertake irrigation in accordance with the Effluent Irrigation Operational Environment Management Plan	<ul style="list-style-type: none"> <li>• Clarence Colliery Effluent Reuse Operational Environment Management Plan (GHD, November 2013)</li> </ul>	<ul style="list-style-type: none"> <li>• The site reportedly operated the STP effluent in accordance with the Effluent Reuse Operational Environment Management Plan.</li> </ul>	Compliant	

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
		<ul style="list-style-type: none"> <li>Site inspection</li> </ul>	<ul style="list-style-type: none"> <li>The site was commissioning a new STP at the time of the IEA site inspection.</li> </ul>		
<b>Water Monitoring</b>					
	Update the Water Management Plan to include monitoring of the additional monitoring well. Undertake surface water and groundwater monitoring in accordance with the updated Water Management Plan		<ul style="list-style-type: none"> <li>This condition was assessed as being replaced by DA504 Sch 3 conditions 6 to 12.</li> </ul>	Not triggered	
<b>TPHSS Monitoring</b>					
	Annually undertake, in summer months, a rapid assessment on established cross-sections within the THPSS Community to monitor the integrity of the swamp	<ul style="list-style-type: none"> <li>ARs (2016 -2020)</li> <li>2017 REA VI Swamp Rapid Assessment (Gingra Ecological Surveys, April 2017)</li> <li>2019 REA VI Swamp Rapid Assessment (Gingra Ecological Surveys, March 2019)</li> </ul>	<ul style="list-style-type: none"> <li>2016 AR identifies that rapid assessment on THPSS communities will be conducted annually from 2017.</li> <li>Rapid assessments of an area of swamp vegetation located within the Clarence Colliery Pit Top, in close proximity to coal reject emplacement area VI, were undertaken in 2017, 2018 and 2019 in either March or April.</li> <li>Although annual rapid assessments at the swamp close to REA VI have been undertaken in the Autumn of 2017, 2018 and 2019, as they were not undertaken in the summer months, this condition has been assessed as Non-compliant.</li> </ul>	Non-compliant (NC-19)	R19: Undertake the annual rapid assessment on the THPSS community in the summer months.
<b>Heritage</b>					
	Development of a Cultural Heritage Management Plan for Clarence Colliery	<ul style="list-style-type: none"> <li>Aboriginal Cultural Heritage Management Plan (CC, 2016)</li> <li>Historic Heritage Management Plan (CC, 2018)</li> </ul>	<ul style="list-style-type: none"> <li>Aboriginal Cultural Heritage Management Plan and Historic Heritage Management Plan had been developed.</li> </ul>	Compliant	
<b>Traffic and Transport</b>					
	Undertake line marking to delineate the required parking spaces	<ul style="list-style-type: none"> <li>Site inspection</li> </ul>	<ul style="list-style-type: none"> <li>Line marking had been undertaken.</li> </ul>	Compliant	
<b>Rail noise and Vibration</b>					
	Development of a Noise Management Plan (within 6 months if approval) which will include the following with regard to train loading operations: - within 3 months of approval and in consultation with Pacific National and Sydney trains, review operational and rail loading practices to reduce noise, including review of the location of relief points and signals on the departure side of the rail loop to	<ul style="list-style-type: none"> <li>ECD (2016-2020)</li> <li>Complaints Register (CC, August 2020)</li> <li>Western Region Noise Management Plan (CC, 2018)</li> <li>Approval of Western Region Noise Management Plan</li> </ul>	<ul style="list-style-type: none"> <li>Not triggered during the period of this IEA.</li> <li>The Western Region Noise Management Plan was revised and approved by the DRE in 2018.</li> <li>The 2018 Western Region Noise Management Plan advises that in the event of an incident or complaint that the</li> </ul>	Not triggered	

## Appendix A1: Development Consent DA 504-00 (as modified) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status (#)	Recommendation
	<p>minimise idling noise near residential receivers to the satisfaction of the Director General</p> <ul style="list-style-type: none"> <li>- implementation of acoustical mitigation at receivers as agreed to with relevant property owner for residential receivers labelled R1 to R6</li> <li>- where acoustical mitigation at receivers is insufficient to meet compliance with relevant noise criteria, negotiated agreements will be pursued with residential receivers labelled R1 to R6 following the process outlined Section 7 and Section 8 of the Industrial Noise Policy</li> </ul>	Letter to CC (DPIE, July 2018)	<p>incident will be investigated, mitigated at the source, or cease operation if mitigation is not feasible and document.</p> <ul style="list-style-type: none"> <li>• No requests from sensitive receptors for acoustical mitigation were reported.</li> </ul>		
<b>Visual Amenity</b>					
	Undertake rehabilitation of the REA VI in accordance with the conceptual Rehabilitation and Closure plan (2012)		<ul style="list-style-type: none"> <li>• REA VI was constructed and in use during the period of this IEA consequently no rehabilitation has been undertaken.</li> <li>• Not triggered during the period of this IEA.</li> </ul>	Not triggered	
<b>Social-economic</b>					
	Undertake community consultation in accordance with Section 16.4	<ul style="list-style-type: none"> <li>• Email to MCW Environmental -IEA Consultation (CCC Chair, November 2020)</li> </ul>	<ul style="list-style-type: none"> <li>• Section 16.4 of the EIS commits to the following mitigation measures relating to social economic impacts:  <i>"- Consultation with residents of Newnes Junction will be undertaken to ensure there are no issues arising from the day to day operation of the Clarence Colliery.</i>  <i>- The existing CCC will seek one additional community representative from Newnes Junction to be a member of the Clarence CCC."</i> </li> <li>• It was reported that Newnes Junction residents have been consulted on a number of occasions and that Clarence has sought to include a member however has not received any interest. Two members from the Clarence community attended CCC meetings.</li> </ul>	Compliant	

## **Appendix A2:**

- **2018 Development Approval No. IRM.GE.76: Modification of Consent MOD 035/2018**
- **1994 Northern Lease Extension Area Development Consent DA173/93**
- **1993 Amended Development Consent DA174/93**
- **1976 Development Consent IRM.GE.76**



**Appendix A2: Development Consent: DA No. IRM.GE.76 (as modified) (Lithgow City Council) - Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
<b>2018 DEVELOPMENT APPROVAL DA No. IRM.GE.76: MODIFICATION OF CONSENT MOD 035/2018</b>					
<b>SCHEDULE A</b>					
<b>ADMINISTRATIVE CONDITIONS</b>					
MOD 035/18-1	<p>The applicant shall carry out the development generally in accordance with the 1975 Environmental Impact Statement, prepared by Dames &amp; Moore, Modification of Development Consent MOD035/18, except as amended in the Statement of Environmental Effects prepared by R.W. Corkery &amp; Co. dated April, 1993 and Statement of Environmental Effects prepared by GHD dated September 2018.</p> <ul style="list-style-type: none"> <li>First modification issued July 1993 for the amendment to the Reject Emplacement Areas</li> <li>Amended as per Second MOD035/18- Decommissioning &amp; Rehabilitation of Clarence Colliery Emplacement Areas 3 dated 6/05/2019</li> </ul>	<ul style="list-style-type: none"> <li>This IEA</li> </ul>	<ul style="list-style-type: none"> <li>The original EIS for the proposed Clarence Colliery was prepared in 1975. The EIS was not reviewed by the auditors as it was considered that an assessment against this EIS given the age of the document and the time lapsed would not be effective.</li> </ul>	Noted	
MOD 035/18-2	<p>This consent must coincide and be consistent with the previous Clarence Colliery Approvals that being:</p> <ol style="list-style-type: none"> <li>DA174/93 issued by Lithgow Council dated 15 February 1994, for an extension of underground coal mining, Associated Reject Disposal Areas, water management and ancillary structures</li> <li>Section 96 (S96036/17) Modification of DA174/93-Relocation of Intersection to Access (Rea V) and Undertake Additional Clearing</li> <li>DA504/00 issued by the Department of Planning for the expansion of Clarence Colliery's operations into a new mining lease</li> <li>DA 504-00 Modification 2 (June 2014)- approved the construction, operation and rehabilitation of REA 6 and approved the relocation of the sewage treatment plant sprinklers to the lower grade areas of REA 3</li> <li>DA 504 Modification 3 (June 2014) – Approved transport of coal and coal fines to the west of the site</li> </ol> <p>- Additional as per MOD035/18 dated 6/05/2019</p>	<ul style="list-style-type: none"> <li>This IEA</li> </ul>		Noted	
MOD 035/18-3	<p>Reject emplacement only to be undertaken in the areas referred to as Reject Emplacement Areas I, II and III in the Statement of Environment Effects prepared by R.W. Corkery &amp; Co date April, 1993</p>	<ul style="list-style-type: none"> <li>MOP (CC, 2018)</li> <li>AR (CC, 2018 &amp; 2019)</li> <li>Draft WMP MP-2041 (CC, October 2020)</li> <li>HRA REA III Decommissioning</li> </ul>	<ul style="list-style-type: none"> <li>The original EIS for the proposed Clarence Colliery was prepared in 1975. The EIS was not reviewed by the auditors as it was considered that an assessment against this EIS</li> </ul>	Compliant	

**Appendix A2: Development Consent: DA No. IRM.GE.76 (as modified) (Lithgow City Council) - Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
	and Statement of Environmental Effects prepared by GHD dated September 2018 <ul style="list-style-type: none"> <li>- First Modification issued 21 July 1993 for the amendment to the Reject Emplacement Areas;</li> <li>- Amended as per Second MOD035/18- Decommissioning &amp; Rehabilitation of Clarence Colliery Emplacement Areas 3.</li> </ul>	<ul style="list-style-type: none"> <li>• 2018 -2022 MOP (CC, 2019)</li> </ul>	<p>given the age of the document and the time lapsed would not be effective.</p> <ul style="list-style-type: none"> <li>• Reject emplacement has occurred in REA I, REA I, REA III, REA IV and REA VI.</li> <li>• REA IV, REA V and REA VI were approved by Development Consent DA 504-00 and subsequent Modifications.</li> </ul>		
MOD 035/18-4	All Pit Top Structures to be constructed of non-reflective materials of a colour which is compatible with surrounding bushland.	<ul style="list-style-type: none"> <li>• Site inspection</li> </ul>	<ul style="list-style-type: none"> <li>• All structures and buildings were observed by the auditors to be constructed of non-reflective materials in green/brown tones.</li> </ul>	Compliant	
MOD 035/18-5	The applicant shall prepare, prior to the commencement of site works for REA III, a sediment and erosion control plan. The plan shall incorporate measures for the management of surface runoff, control of water discharge points and the conservation and protection of soil stockpiles. The plan shall be submitted to the Department of Conservation and Land Management (DCLM) for its approval and to Council for its information. All works shall be carried out in accordance with the approved plan.	<ul style="list-style-type: none"> <li>• 2011 IEA (MCW Environmental, 2011)</li> <li>• 2016 IEA (MCW Environmental, 2017)</li> <li>• WMP MP-2041 (CC, 2017)</li> </ul>	<ul style="list-style-type: none"> <li>• Construction of REA III commenced following approval in 1993.</li> <li>• The 2011 IEA was unable to assess if the ESCP was prepared prior to the commencement of site works for REA III and the 2016 IEA assessed this condition as 'Closed out'.</li> <li>• This condition has been assessed as 'not triggered' as it is prior to the period of this IEA.</li> <li>• Refer to Appendix A1 DA504 Sch 3-8 Erosion and Sediment Control Plan.</li> </ul>	Not triggered	
MOD 035/18-6	The applicant shall prepare, within six (6) months of the commencement of operations for REA III, a detailed rehabilitation plan. This plan is to be submitted to the Department of Mineral Resources, Department of Conservation and Land Management and Council for approval.	<ul style="list-style-type: none"> <li>• WRAC REA III Decommissioning HRA</li> <li>• HRA Notification REA III (CC, September 2018)</li> </ul>	<ul style="list-style-type: none"> <li>• This condition has been assessed as 'not triggered' as it is prior to the period of this IEA.</li> <li>• REA III is no longer operational for reject emplacement; however, further to the July 2015 incident at REA III, Clarence are recovering coal fines from REA III under the HRA Notification process. Representatives from regulatory authorities attended the HRA. IRM.GE.76 (modification) was approved on 8 May 2019 to facilitate the decommissioning and re-profiling of REA III. The REA III final landform shaping and rehabilitation will be undertaken after the period of this IEA.</li> </ul>	Not triggered	

**Appendix A2: Development Consent: DA No. IRM.GE.76 (as modified) (Lithgow City Council) - Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
MOD 035/18-7	The applicant shall arrange an annual on site meeting, over the life of the project, to inspect the results of rehabilitation works. Representatives from Council, the Department of Conservation and Land Management, National Parks and Wildlife Service and Department of Mineral Resources shall be invited to attend each meeting and the applicant shall adhere to any recommendations made by these representatives. The first annual site meeting shall be undertaken not more than one (1) year after the commencement of operations for REA III.	<ul style="list-style-type: none"> <li>Email to regulators IEA consultation (MCW Environmental, 9 November 2020)</li> <li>WRAC REA III Decommissioning HRA</li> <li>HRA Notification REA III (CC, September 2018)</li> <li>Email to MCW Environmental (E&amp;C coordinator, 4 December 2020)</li> </ul>	<ul style="list-style-type: none"> <li>The DRG are invited annually to the site for the annual Resources Regulator inspection which includes inspection of rehabilitation areas.</li> <li>No comments were received from government agencies regarding on-site meetings in response to an IEA consultation request from MCW Environmental for this IEA.</li> <li>An on-site meeting was conducted for the REA III HRA activity in 2018 that was attended by regulators and included a site inspection. Stakeholders for the HRA included DPIE RR, DPIE-Sustainability, EPA, LCC and CCC.</li> <li>This condition has been assessed as non-compliant as there was no evidence that representatives from LCC, DPI Water and NPWS have been invited annually to an onsite meeting to inspect the results of rehabilitation works.</li> </ul>	Non-compliant (NC-20)	R20. Arrange an annual on-site meeting over the life of the project, to inspect the results of rehabilitation works, with invitations to representatives from Council, the Department of Conservation and Land Management, National Parks and Wildlife Service and Department of Mineral Resources (or equivalent agency).
MOD 035/18-8	The applicant shall obtain from the Environmental Protection Authority all statutory approvals and licences as may be required under the Clean Air Act, 1961, the Clean Waters Act, 1970, and the Noise Control Act, 1975. Such approvals and licences are to be obtained prior to the commencement of works and the development is to be carried out in accordance with the terms of these approvals and licences.	<ul style="list-style-type: none"> <li>EPL 726</li> <li>Appendix A3 EPL 726</li> </ul>	<ul style="list-style-type: none"> <li>EPL 726 includes requirements for air and noise.</li> </ul>	Compliant	
MOD 035/18-9	All water storage structures and leachate dams to be designed and constructed to a standard satisfactory to the Environmental Protection Authority.	<ul style="list-style-type: none"> <li>Letter to CC Clarence Colliery site inspection (EPA, 2 July 2018)</li> <li>Letter to EPA (CC, 31 August 2018)</li> <li>Email to EPA-IEA consultation (MCW Environmental, 9 November 2020)</li> </ul>	<ul style="list-style-type: none"> <li>In 2018, following a site inspection by the EPA, the EPA requested comments from CC regarding: <ul style="list-style-type: none"> <li>the current classification of LD 1, LD 2 and LD 3 as sediment dams or whether these LDs should be classified as mine water dams.</li> <li>details of capacity of oil/water separator pond and how surface water is managed during rainfall</li> </ul> </li> </ul>	Compliant	


**Appendix A2: Development Consent: DA No. IRM.GE.76 (as modified) (Lithgow City Council) - Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
			<p>events and confirmation all surface water from UG portal drains to the oil/water separator pond.</p> <ul style="list-style-type: none"> <li>A written response was provided to EPA regarding capacity of oil/water separator pond, surface water management and capacity of LD 1, 3 and 4 for a 1:100, 72 hour rainfall event; and capacity of LD 1, 3 for a 1: 100 year, 72 hour rainfall event.</li> <li>No new PRPs or changes to the EPL were subsequently made, and no comments were received from the EPA regarding water storages and LDs in response to an IEA consultation email from MCW Environmental for this IEA, consequently this condition was assessed as compliant.</li> </ul>		
MOD 035/18-10	The applicant shall obtain all the necessary approvals from the Department of Mineral Resources.	<ul style="list-style-type: none"> <li>2018 -2022 MOP (CC, 2019)</li> <li>ARs (CC, 2017 -2020)</li> </ul>	<ul style="list-style-type: none"> <li>The 2018 -2022 MOP (CC, 2019) includes a list of Authorisations and approved Subsidence Management Plans (Tables 3 and 4 respectively).</li> <li>The ARs include a statement of compliance with licences, leases and approvals (Table 2). No non-compliances with mining leases 1583, 1354, 1353, and 1721, CCL 705 or SMPs were identified in the 2017, 2018 and 2019 AR; and no non-compliances with mining leases 1583, 1354, 1353, and 1721, and CCL 705 were identified in the 2016 AR.</li> </ul>	Compliant	
MOD 035/18-11	At the completion of mining and reject emplacement operations, the applicant shall ensure that the site is completely rehabilitated to a standard reflecting its natural state and to be to the satisfaction of Council, the Department of Mineral Resources and the Department of Conservation and Land Management.		<ul style="list-style-type: none"> <li>Not triggered as mining and reject emplacement are not complete.</li> </ul>	Not triggered	
<b>Roads and Maritime Services</b>					
MOD 035/18-12	Site establishment may involve removal of extraneous material from REA 3 for off-site disposal	<ul style="list-style-type: none"> <li>CL-10-09 Waste Management Standard</li> </ul>	<ul style="list-style-type: none"> <li>Clarence has a waste management standard that describes process for</li> </ul>	Not triggered	

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No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
	<p>by a licensed waste contractor. Safe transportation of such materials is to be strictly adhered to and be within existing transportation limits stipulated in the existing consent</p> <ul style="list-style-type: none"> <li>Additional as per MOD035/18 dated 6/05/2019</li> </ul>		<p>the classification and transportation of waste.</p> <ul style="list-style-type: none"> <li>In 2017, waste characterisation of the residual sludge sediment (WTP Residuals Receiving Facility) was undertaken and due to elevated concentrations of nickel, was assessed as Hazardous Waste. Assessment of long-term waste disposal options is continuing.</li> <li>No extraneous material from REA was reported to have been disposed offsite by a waste contractor.</li> </ul>		
<b>CROWN LANDS</b>					
MOD 035/18-13	<p>The development will need to be monitored and included in the Mines Annual Environmental Report. This is to ensure that the containment of the potential low level acid generating material and subsequent rehabilitation is satisfactory and that there are no ongoing land management issues when the mining tenement is relinquished. The report and monitoring results are to be sent to Lithgow Council and to the Crown Lands</p> <ul style="list-style-type: none"> <li>Additional as per MOD035/18 dated 6/05/2019</li> </ul>	<ul style="list-style-type: none"> <li>2019 AR (CC, 2020)</li> <li>2018 AR (CC, 2019)</li> <li>Rehabilitation Monitoring 2018 (Koru Environmental, 2019)</li> <li>2018 -2022 MOP Amendment A (CC, 2019)</li> <li>Email to MCW Environmental IEA Consultation DRG, 2020)</li> <li>S.240 Notice (DPIE, 20 May 2020)</li> <li>REA III Decommissioning HRA v3 (CC)</li> </ul>	<ul style="list-style-type: none"> <li>The 2018 -2022 MOP Amendment A included REA III rehabilitation works and review of the entire site rehabilitation.</li> <li>The 2019 AR reports that land under active rehabilitation was consistent in 2018 and 2019 at 22 ha and was proposed to increase slightly to 24 ha in 2020.</li> <li>ARs include a summary of rehabilitation and were available on the CC website.</li> <li>An annual rehabilitation monitoring report has been conducted and included as an attachment to the AR e.g. Koru Environmental Monitoring Report 2018 and the 2018 AR.</li> <li>The annual rehabilitation monitoring report assesses current rehabilitation performance against the criteria in the 2018 – 2022 MOP and recommendations.</li> <li>In May 2020, DRG issued Clarence a notice under Section 240(1)(c) of the Mining Act 1992 in relation to the operations of the REA III tailings storage facilities and decommissioning and closure requirements. Clarence provided a report in response to the notice</li> </ul>	Compliant (C-5)	R21: Provide results from the REA III groundwater sampling regime (triggered by the REA III Decommissioning HRA) over the life of the REA III rehabilitation and include an impact assessment of these results against rehabilitation criteria in Annual Reviews. Provide the AR to LCC and Crown Lands.

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No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
			<p>which nominated actions to address the identified concerns.</p> <ul style="list-style-type: none"> <li>Actions to assess the groundwater monitoring regime in the REA III Decommissioning HRA v3 include a sampling regime is to be completed by 16 October 2020 (after the period of this IEA) and independent groundwater monitoring around REA III to determine capping suitability to be completed by 25 June 2021 (after the period of this IEA). A recommendation has been provided to include the results of this monitoring in the ARs and provide to LCC and Crown Lands.</li> </ul>		
<b>OFFICE OF ENVIRONMENT AND HERITAGE</b>					
MOD 035/18-14	<p>The rehabilitation of the site is to follow the best practice guidelines and be consistent with the Clarence Colliery Mining Operations Plan (MOP). The rehabilitation should be to establish Plant Community Types (PCTs) that would occur naturally on the site.</p> <p>When the MOP is updated, reference to vegetation communities should use community types so that is it consistent with other Centennial Coal management plans and current state-wide vegetation community descriptions.</p> <ul style="list-style-type: none"> <li>Additional as per MOD035/18 dated 6/05/2019</li> </ul>	<ul style="list-style-type: none"> <li>2019 AR (CC, 2020)</li> <li>2018 AR (CC, 2019)</li> <li>Rehabilitation Monitoring 2018 (Koru Environmental, 2019)</li> <li>2018 - 2022 MOP Amendment A (CC, 2019)</li> <li>2014 – 2017 MOP (CC, September 2014)</li> </ul>  <p>Photo 30: Bushfire impact on Rehabilitation on REA IV</p>	<ul style="list-style-type: none"> <li>The 2014 - 2017 MOP (Table 17) forecast that the cumulative rehabilitation area at the end of the MOP (31 December 2017) would be 28 ha. The 2017 AR (Table 39) reports that the land under 'active rehabilitation' during 2017 was 25.4 ha (i.e., 91% of the forecast); and that no rehabilitation areas have been assessed as 'completed rehabilitation'.</li> <li>The 2018 - 2022 MOP Amendment A was approved by DRG in 2019 and included changes associated with Development Consent IRM.GE.76 MOD 035/18 to recover fine coal from REA III. With recovery of fine coal works commencing in 2018 REA III building of final landform, capping and rehabilitation was consequently delayed.</li> <li>The 2018 - 2021 MOP Amendment A includes that: <ul style="list-style-type: none"> <li>the cumulative rehabilitation area at the commencement of the 2018 - 2021 MOP (1 January 2018) was 22.0 ha (reflecting changes</li> </ul> </li> </ul>	Non-compliant (NC-21)	<p>R22: To improve rehabilitation performance, undertake progressive rehabilitation of REAs including:</p> <ul style="list-style-type: none"> <li>Assess the status of current cumulative rehabilitation areas against forecasts in the 2018 -2022 MOP Amendment A and report in ARs.</li> <li>Implement recommendations from the 2020 annual rehabilitation monitoring report.</li> <li>Continue to conduct an annual independent review of rehabilitation performance by competent</li> </ul>



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No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
		 <p>Photo 31: Rehabilitation on REA VI</p>  <p>Photo 32: Weed (pampas grass) at LD4</p>	<p>resulting from 'from refinements to site rehabilitation and disturbance data and identification of errors in the approved MOP calculations' (Table 22).</p> <ul style="list-style-type: none"> <li>○ rehabilitation trials will be undertaken during the MOP term.</li> <li>○ the cumulative rehabilitation area at the end of the 2019 was forecast to be 23.9 ha.</li> <li>○ the cumulative rehabilitation area at the end of the 2022 was forecast to be 39.9 ha.</li> </ul> <ul style="list-style-type: none"> <li>• The substantial increase in forecast rehabilitation (i.e., 16ha in three years) for the period 2020 to 2022, reflected that the following works would be undertaken during this period: completion of REA II and REA III rehabilitation works, REA IV rehabilitation works, Stage 1 REA V and REA VI rehabilitation, and Stage 2 REA V construction.</li> <li>• The 2019 AR (Table 29) reports that the land under 'active rehabilitation' during 2019 was 22.0 ha (i.e., 92% of the forecast 23.9 ha); and that no rehabilitation areas have been assessed as 'completed rehabilitation'.</li> <li>• The 2019 AR reports 'Field surveys were undertaken between 04th and 06th of November 2019, at a time where the locality remained in a severe state of drought (ongoing for the past three years). This was acknowledged as having affected the condition of the rehabilitation, and negatively impacted monitoring results recorded in the past two years.'</li> <li>• A rehabilitation trial commenced on REA IV in 2019 with the results of</li> </ul>		<p>persons and implement recommendations.</p> <p>Also refer to recommendations:</p> <ul style="list-style-type: none"> <li>• Refer Appendix A2 MOD035/18 condition 7 (Rehabilitation): R20.</li> <li>• Refer Appendix A2 MOD035/18 condition 13 (Rehabilitation): R21.</li> <li>• Refer Appendix A2 1994 Development Approval condition 12 (Progressive and final rehabilitation): R26.</li> </ul>



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No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
			<p>the trial planned to be used to identify suitable methods for rehabilitation on all REAs.</p> <ul style="list-style-type: none"> <li>• REA IV rehabilitation was initially impacted by severe drought followed by the December 2019 Gospers Mountain bushfire (refer photo). Clarence are reportedly seeking advice on the best way to proceed with rehabilitation. The annual rehabilitation monitoring, scheduled for November 2020, may assist in providing rehabilitation direction (refer Appendix A1 DA504 Sch 3-28 (Mine Closure Strategy) and R14.</li> <li>• A rehabilitation monitoring report has been conducted annually and included as an attachment to the AR e.g., Koru Environmental Monitoring Report 2018 and the 2018 AR.</li> <li>• The annual rehabilitation monitoring report assesses current rehabilitation performance against the criteria in the 2018 – 2022 MOP and provides recommendations to improve rehabilitation performance at Clarence and ensure that rehabilitated communities progress towards a natural state commensurate to local native vegetation communities.</li> <li>• The following observations regarding rehabilitation were made during the IEA site inspection: <ul style="list-style-type: none"> <li>○ REA I and REA II were partially rehabilitated.</li> <li>○ REA III is no longer operational for reject coal emplacement, however activities associated with coal fine recovery were being undertaken.</li> <li>○ REA IV. This rehabilitation area was impacted by the December 2019 Gospers Mountain bushfire (refer</li> </ul> </li> </ul>		

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No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
			<p>photo). Weeds were present.</p> <ul style="list-style-type: none"> <li>○ REA V was recently cleared, and construction is currently underway, consequently no rehabilitation.</li> <li>○ REA VI. Some rehabilitation had occurred on the northern embankment areas although there was visible impact from the December 2019 Gospers Mountain bushfire (refer photo). Weeds were present.</li> </ul> <ul style="list-style-type: none"> <li>• As the site is adjacent to the GBMWhA weed management on REAs is important e.g., to minimise potential for weeds in the National Park.</li> <li>• The rehabilitation of the site is required to follow the best practice guidelines and be consistent with the MOP. Given that rehabilitation progress was less than forecast in the 2014 -2017 MOP for the end of 2017, and less than forecast in the 2018 -2021 MOP Amendment A for the end of 2019; and that rehabilitation condition required improvement (e.g., weed management post bushfire), this condition was assessed as non-compliant. Notwithstanding the non-compliant finding, the auditors recognise that rehabilitation progress has been impacted by: <ul style="list-style-type: none"> <li>○ the impact of three years of severe drought during the period of the IEA.</li> <li>○ the scheduling for REA III final landform, capping and rehabilitation being delayed due to the recovery of fine</li> </ul> </li> </ul>		

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No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
			<ul style="list-style-type: none"> <li>coal from REA III (following the July 2015 incident).                             <ul style="list-style-type: none"> <li>the Gospers Mountain bushfire (December 2019 – early 2020).</li> </ul> </li> <li>Also refer to Appendix A2 (this appendix) MOD 035/18-condition 13 and 1994 Development Approval condition 12.</li> <li>An assessment of references to 'common types' of vegetation communities in management plans has not been undertaken by the auditors. This condition is noted for the future review of the MOP and management plans.</li> </ul>		
<b>1994 NORTHERN LEASE EXTENSION AREA DEVELOPMENT CONSENT DA173/93</b>					
1994DC-1	The development is to be carried out in accordance with the Environmental Impact Statement prepared by RW Corkery and Co Pty Ltd, date November 1993, except as may be specified or amended by the following conditions.		<ul style="list-style-type: none"> <li>The original EIS for the proposed Clarence Colliery was prepared in 1975. The EIS was not reviewed by the auditors as given the age of the document, the time lapsed since it was prepared and subsequent approvals, it was considered that an assessment against this EIS would not be effective.</li> </ul>	Noted	
1994DC-2	The south-eastern section of the Northern Extension is to be limited to "first workings" only. Any appropriate protection zones to safeguard surface features shall be determined when the company applies to the Department of Mineral Resources for approval to extract pillars or mine by longwall method in accordance with Section 138 of the Coal Mines Regulation Act.		<ul style="list-style-type: none"> <li>Prior to the period of this IEA.</li> </ul>	Not triggered	
1994DC-3	The applicant shall prepare, in consultation with the National Parks and Wildlife Service, a monitoring plan for the four Newnes Plateau Shrub Swamps located within the Northern Extension. The plan will measure the impacts, following subsidence, of changes to water levels, plant presence, abundance, structure and animal presence. Monitoring will include amphibians, reptiles, birds and mammals, with special emphasis on the Blue Mountains Water Skink and rare plants. Monitoring	<ul style="list-style-type: none"> <li>Western Region Biodiversity Management Plan (CC, 2019)</li> <li>ARs (CC, 2017 -2020)</li> <li>Clarence Environmental Monitoring Program (CC, 2017)</li> </ul>	<ul style="list-style-type: none"> <li>Prior to the period of this IEA (not triggered).</li> <li>Subsidence was reported to be less than the subsidence impact assessment criteria (100 mm) during the period of the IEA.</li> <li>The Western Region Biodiversity Management Plan was developed in 2016 and most recently revised in 2019. The plan was developed to</li> </ul>	Not triggered	

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No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
	will include any appropriate comparisons with swamp areas not subject to longwall mining and shall be undertaken for a period of at least 5 years.		<p>meet requirements of DA504 Sch 3-12A.</p> <ul style="list-style-type: none"> <li>A Clarence specific biodiversity management is included as Appendix D to the Western Region Biodiversity Management Plan.</li> <li>Flora and fauna monitoring is undertaken in accordance with the Clarence Environmental Monitoring Program and reported in the ARs.</li> </ul>		
1994DC-4	The applicant shall prepare a contingency plan to re-establish the rare plant <i>Notochloe microdon</i> , <i>Boronia deanei</i> and <i>Celmisia longifolia</i> prior to longwall mining beneath the Newnes Plateau Shrub Swamps. The plan shall be implemented if existing populations decline. Details are to be provided to the NPWS.		<ul style="list-style-type: none"> <li>No long wall mining was undertaken during the period of this IEA.</li> </ul>	Not triggered.	
1994DC-5	The applicant shall inform the National Parks and Wildlife Service of the results of subsidence monitoring prior to commencement of longwall mining under the Mount Horne Aboriginal sites. The likely impacts of longwall mining on these sites, and any appropriate mitigative measures or protection zones, are to be fully assessed when the applicant applies to the Department of Mineral Resources for approval to extract pillars or mine by longwall method in accordance with Section 138 of the Coal Mines Regulation Act, 1982.		<ul style="list-style-type: none"> <li>No long wall mining was undertaken during the period of this IEA.</li> </ul>	Not triggered.	
1994DC-6	All water storage structures and leachate dams are to be designed and constructed to the satisfaction of the Environment Protection Authority.	<ul style="list-style-type: none"> <li>Letter to CC Clarence Colliery site inspection (EPA, 2 July 2018)</li> <li>Letter to EPA (CC, 31 August 2018)</li> <li>Email to EPA-IEA consultation (MCW Environmental, 9 November 2020)</li> </ul>	<ul style="list-style-type: none"> <li>In 2018, following a site inspection by the EPA, the EPA requested comments from CC regarding: <ul style="list-style-type: none"> <li>the current classification of LD 1, LD 2 and LD 3 as sediment dams or whether these LDs should be classified as mine water dams.</li> <li>details of capacity of oil/water separator pond and how surface water is managed during rainfall events and confirmation all surface water from UG portal drains to the oil/water separator pond.</li> </ul> </li> </ul>	Compliant	

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No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
			<ul style="list-style-type: none"> <li>A written response was provided to EPA regarding capacity of oil/water separator pond, surface water management and capacity of LD 1, 3 and 4 for a 1:100, 72 hour rainfall event; and capacity of LD 1, 3 for a 1: 100 year, 72 hour rainfall event (by 31 July 2018).</li> <li>No new PRPs or changes to the EPL were subsequently made, and no comments were received from the EPA regarding water storages and LDs in response to an IEA consultation email from MCW Environmental for this IEA, consequently this condition was assessed as compliant.</li> </ul>		
1994DC-7	The applicant shall obtain from the Environment Protection Authority all statutory approvals and licences as may be required under the Clean Air Act, 1961, the Clean Waters Act, 1970, and the Noise Control Act, 1975. Such approvals and licences shall be obtained, or incorporated into existing approvals, prior to the commencement of works or extension to existing facilities.	<ul style="list-style-type: none"> <li>EPL 726</li> <li>Appendix A3 EPL 726</li> </ul>	<ul style="list-style-type: none"> <li>EPL 726 includes requirements for air and noise.</li> </ul>	Compliant	
1994DC-8	The applicant shall provide to the National Parks and Wildlife Service details of Pit Top water monitoring results as supplied to the Environment Protection Authority under the Clean Water Act.	<ul style="list-style-type: none"> <li>EPL Annual Returns</li> <li>ARs (CC, 2017 -2020)</li> <li>CC website</li> </ul>	<ul style="list-style-type: none"> <li>Pit top water monitoring results are provided to the EPA as the responsible authority through EPL Annual Returns.</li> <li>NPWS are provided with a copy of the AR which includes an annual summary and discussion of water monitoring results.</li> <li>In addition, as required by the POEO Act, EPL monitoring results are published on the Centennial Clarence website on a monthly basis.</li> </ul>	Compliant	
1994DC-9	The applicant shall consult with the Soil Conservation Service during topsoil stripping and stockpiling associated with Reject Emplacement Areas IV and V.	<ul style="list-style-type: none"> <li>Site inspection</li> </ul>	<ul style="list-style-type: none"> <li>Topsoil stripping and stockpiling associated with REA IV occurred before the period of this IEA.</li> <li>Topsoil stripping for Stage 1 REA V had commenced during the period of this IEA. No evidence was provided that consultation had been</li> </ul>	Non-compliant (NC-22)	R23: Consult with the Soil Conservation Service (now within DPIE) during topsoil stripping and stockpiling associated with Reject

**Appendix A2: Development Consent: DA No. IRM.GE.76 (as modified) (Lithgow City Council) - Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
			undertaken with the Soil Conservation Service (now within DPIE) during topsoil stripping of REA V.		Emplacement Areas and V; or seek approval that this condition is not required for future works...
1994DC-10	The applicant shall consult with the Soil Conservation Service prior to the construction of runoff diversion and erosion and sediment control works. Such works are to be constructed to the satisfaction of the Soil Conservation Service.	<ul style="list-style-type: none"> <li>Site inspection</li> <li>Development Consent DA173/93 granted 15 February 1994 by LCC (extension underground coal mining associated reject disposal areas, water management and ancillary structures)</li> </ul>	<ul style="list-style-type: none"> <li>The figure supporting the Development Consent granted by LCC in 1994 includes LD 2, REA V and LD 4.</li> <li>Runoff diversion and erosion and sediment control works were undertaken during the period of the IEA e.g. construction of LD 4 at REA V and improvements to erosion at LD 2 (refer photos in Appendix A1 DA504 Sch 3-8). No evidence was provided that these works referenced the Managing Urban Stormwater: Soils and Construction manual and/or were constructed to the satisfaction of the Soil Conservation Service (now within DPIE).</li> <li>Although DPIE and DRE reviewed REA III HRA, the auditors were unable to assess if this meets the requirements of this condition, consequently this condition was assessed as Non-compliant.</li> </ul>	Non-compliant (NC-23)	R24: Consult with the Soil Conservation Service (now within DPIE) prior to construction of runoff diversion and erosion and sediment control works and construct such works to the satisfaction of the Soil Conservation Service; or seek approval from LCC that this condition is not required for future works.
1994DC-11	The applicant shall prepare, within 6 months of the commencement of operations for Reject Emplacement Area IV and Reject Emplacement Area V respectively, a detailed rehabilitation plan for each area. This plan is to be submitted to the Department of Mineral Resources, the Soil Conservation Service and Council for approval.	<ul style="list-style-type: none"> <li>2018 -2022 MOP Amendment A (CC, 2019)</li> <li>Letter to CC Notice of Approval (DRG, 27 May 2019)</li> </ul>	<ul style="list-style-type: none"> <li>Rehabilitation planning and management for the REAs is included within the 2018 -2022 MOP Amendment A (section 5). The MOP was approved by the DRG in 2019.</li> <li>REA IV had been constructed and used to capacity and was in the process of being rehabilitated during the period of the IEA.</li> <li>Topsoil stripping for Stage 1 REA V had commenced during the period of this IEA. No evidence was provided that a detailed rehabilitation plan for REA V had been submitted to the Soil Conservation Service (now within DPIE) for approval.</li> </ul>	Non-compliant (NC-24)	R25: Within 6 months of commencement of reject emplacement at REA V, provide a detailed rehabilitation plan for REA V to the Soil Conservation Service (now within DPIE) for approval.

**Appendix A2: Development Consent: DA No. IRM.GE.76 (as modified) (Lithgow City Council) - Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
1994DC-12	The applicant shall consult with the Soil Conservation Service in respect of the progressive and final rehabilitation of Reject Emplacement Areas IV and V. Rehabilitation of these areas is to be undertaken to the satisfaction of the Soil Conservation Service, the Department of Mineral Resources and Council.	<ul style="list-style-type: none"> <li>2018-2022 MOP Amendment A (CC, 2019)</li> <li>ARs (CC, 2017 – 2020)</li> </ul>	<ul style="list-style-type: none"> <li>An annual rehabilitation monitoring report has been conducted and is included as an attachment to the AR, and summarised within the AR e.g. Koru Environmental Monitoring Report 2018 and the 2018 AR.</li> <li>The annual rehabilitation monitoring report assesses current rehabilitation performance against the criteria in the 2018 – 2022 MOP.</li> <li>The 2018 AR references a rehabilitation trial program on REA IV which subsequently commenced in 2019. The trial program was presented to government agencies DPIE and EPA as part of the REA III decommissioning HRA.</li> <li>REA IV rehabilitation was impacted by the Gaspers Mountain bushfire (December 2019).</li> <li>REA V construction has commenced in 2020 – consequently no rehabilitation has been undertaken.</li> <li>There was no evidence provided that consultation had been undertaken on progressive rehabilitation on REA IV with Council.</li> </ul>	Non-compliant (NC-25)	R26: Consult with the Soil Conservation Service (now within DPIE), the Department of Mineral Resources (now DRG) and Council on the progressive rehabilitation of REA IV and when required, REA V; and obtain approval that that progressive and final rehabilitation of REA IV and V has been undertaken to the satisfaction of the Soil Conservation Service (now within DPIE), the Department of Mineral Resources (DRG) and Council.
<b>1993 AMENDED DEVELOPMENT CONSENT DA174/93</b>					
1993DC-1	The applicant shall carry out the development generally in accordance with the 1975 Environmental Impact Statement, prepared by Dames & Moore, except as amended in the Statement of Environmental Effects prepared by R.W. Corkery & Co. dated April, 1993.		<ul style="list-style-type: none"> <li>The original EIS for the proposed Clarence Colliery was prepared in 1975. The EIS was not reviewed by the auditors as it was considered that an assessment against this EIS given the age of the document and the time lapsed would not be effective.</li> </ul>	Noted	
1993DC-2	Reject emplacement only to be undertaken in the areas referred to as Reject Emplacement Areas I, II and III in the Statement of Environment Effects prepared by R.W. Corkery & Co date April, 1993.		<ul style="list-style-type: none"> <li>Reject emplacement has occurred in REA I, REA I, REA III, REA IV and REAVI.</li> <li>REA IV, REA V and REA VI were approved by Development Consent DA 504-00 and subsequent Modifications.</li> </ul>	Compliant	



**Appendix A2: Development Consent: DA No. IRM.GE.76 (as modified) (Lithgow City Council) - Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
1993DC-3	All Pit Top Structures to be constructed of non reflective materials of a colour which is compatible with surrounding bushland.		<ul style="list-style-type: none"> <li>Structures and buildings were observed by the auditors to be constructed of non-reflective materials in green/brown tones.</li> <li>Refer Appendix A1 DA 504 Sch 3-20.</li> </ul>	Compliant	
1993DC-4	The applicant shall prepare, prior to the commencement of site works for REA III, a sediment and erosion control plan. The plan shall incorporate measures for the management of surface runoff, control of water discharge points and the conservation and protection of soil stockpiles. The plan shall be submitted to the Department of Conservation and Land Management (DCLM) for its approval and to Council for its information. All works shall be carried out in accordance with the approved plan.		<ul style="list-style-type: none"> <li>Prior to the period of this IEA.</li> </ul>	Not triggered	
1993DC-5	The applicant shall prepare, within six (6) months of the commencement of operations for REA III, a detailed rehabilitation plan. This plan is to be submitted to the Department of Mineral Resources, Department of Conservation and Land Management and Council for approval.		<ul style="list-style-type: none"> <li>Prior to the period of this IEA.</li> </ul>	Not triggered	
1993DC-6	The applicant shall arrange an annual on site meeting, over the life of the project, to inspect the results of rehabilitation works. Representatives from Council, the Department of Conservation and Land Management, National Parks and Wildlife Service and Department of Mineral Resources shall be invited to attend each meeting and the applicant shall adhere to any recommendations made by these representatives. The first annual site meeting shall be undertaken not more than one (1) year after the commencement of operations for REA III.	<ul style="list-style-type: none"> <li>Email to EPA, NPWS, BCD, DRG, DPI Water, LCC, and CC – IEA Consultation (MCW Environmental, 9 November 2020)</li> <li>HRA Notification REA III v1 (CC, September 2018)</li> </ul>	<ul style="list-style-type: none"> <li>The DRG are invited annually to the site for the annual Resources Regulator inspection which includes inspection of rehabilitation areas.</li> <li>No comments were received from government agencies regarding on-site meetings in response to an IEA consultation email from MCW Environmental for this IEA.</li> <li>An on-site meeting was conducted for the REA III HRA activity in 2018 that was attended by regulators and included a site inspection. Stakeholders for the HRA included DPIE RR, DPIE-Sustainability, EPA, LCC and CCC.</li> <li>This condition has been assessed as non-compliant as there was no evidence that representatives from LCC, DPI Water and NPWS have been invited annually to an onsite</li> </ul>	Non-compliant (NC-26)	Refer R20 for Appendix A2 MOD 035/18-7 (above in this Appendix A2).

**Appendix A2: Development Consent: DA No. IRM.GE.76 (as modified) (Lithgow City Council) - Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
			meeting to inspect the results of rehabilitation works.		
1993DC-7	The applicant shall obtain from the Environmental Protection Authority all statutory approvals and licences as may be required under the Clean Air Act, 1961, the Clean Waters Act, 1970, and the Noise Control Act, 1975. Such approvals and licences are to be obtained prior to the commencement of works and the development is to be carried out in accordance with the terms of these approvals and licences.	<ul style="list-style-type: none"> <li>EPL 726</li> <li>Appendix A3 EPL 726</li> </ul>	<ul style="list-style-type: none"> <li>EPL 726 includes requirements for air and noise.</li> </ul>	Compliant	
1993DC-8	All water storage structures and leachate dams to be designed and constructed to a standard satisfactory to the Environmental Protection Authority.	<ul style="list-style-type: none"> <li>Letter to CC Clarence Colliery site inspection (EPA, 2 July 2018)</li> <li>Letter to EPA (CC, 31 August 2018)</li> <li>Email to EPA-IEA consultation (MCW Environmental, 9 November 2020)</li> </ul>	<ul style="list-style-type: none"> <li>In 2018, following a site inspection by the EPA, the EPA requested comments from CC regarding: <ul style="list-style-type: none"> <li>the current classification of LD 1, LD 2 and LD 3 as sediment dams or whether these LDs should be classified as mine water dams.</li> <li>details of capacity of oil/water separator pond and how surface water is managed during rainfall events and confirmation all surface water from UG portal drains to the oil/water separator pond.</li> </ul> </li> <li>A written response was provided to EPA regarding capacity of oil/water separator pond, surface water management and capacity of LD 1, 3 and 4 for a 1:100, 72 hour rainfall event; and capacity of LD 1, 3 for a 1: 100 year, 72 hour rainfall event (by 31 July 2018)</li> <li>No comments were received from the EPA regarding water storages and LDs in response to an IEA consultation email from MCW Environmental for this IEA.</li> </ul>	Compliant	
1993DC-9	The applicant shall obtain all the necessary approvals from the Department of Mineral Resources.	<ul style="list-style-type: none"> <li>2018 -2022 MOP (CC, 2019)</li> </ul>	<ul style="list-style-type: none"> <li>DRG authorisations and SMP approvals are listed in Table 3 and Table 4 of the 2018 -2022 MOP respectively (CC, 2019).</li> </ul>	Compliant	

**Appendix A2: Development Consent: DA No. IRM.GE.76 (as modified) (Lithgow City Council) - Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
1993DC-10	At the completion of mining and reject emplacement operations, the applicant shall ensure that the site is completely rehabilitated to a standard reflecting its natural state and to be to the satisfaction of Council, the Department of Mineral Resources and the Department of Conservation and Land Management.		<ul style="list-style-type: none"> <li>Not triggered as mining and reject emplacement are not complete.</li> </ul>	Not triggered	
<b>1976 DEVELOPMENT CONSENT: IRM.GE.76</b>					
1976DC-1	Approval of building plans	<ul style="list-style-type: none"> <li>Site inspection</li> </ul>	<ul style="list-style-type: none"> <li>No new building plans were reportedly required during the audit period.</li> </ul>	Not triggered	
1976DC-2	Properly planned landscaping to be provided	<ul style="list-style-type: none"> <li>Conceptual Rehabilitation and Mine Closure Plan (December 2012)</li> <li>Mining Operations Plan (MOP) (CC, 2018)</li> <li>ARs (CC, 2016 -2020)</li> <li>2018 Rehabilitation Monitoring Report (Koru Environmental, 2019)</li> </ul>	<ul style="list-style-type: none"> <li>For the purposes of this IEA, landscaping has been interpreted as rehabilitation.</li> <li>The 2016, 2017, 2018 and 2019 ARs and 2018 -2022 MOP report on rehabilitation status, rehabilitation monitoring and include Clarence's key rehabilitation objectives for site rehabilitation to: <ul style="list-style-type: none"> <li>Restore all disturbed surface lands to provide a landform largely consistent topographically with the pre-mining and surrounding landscape.</li> <li>Achieve an optimum post-mining land capability suitable for supporting the natural bushland environment which surrounds the site. The entire site will be returned to a natural woodland environment, consistent with bushland surrounding the site which is dominated by 'Sydney Montane Dry Sclerophyll Forest' communities (DEC, 2006).</li> </ul> </li> <li>Annual third party rehabilitation monitoring has been undertaken with reports summarised in the AR and included as an attachment. The</li> </ul>	Compliant	

Appendix A2: Development Consent: DA No. IRM.GE.76 (as modified) (Lithgow City Council) - Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
			<p>report includes an assessment of rehabilitation progress against the 2018 -2022 MOP criteria and recommendations. The 2018 Rehabilitation Report (Koru Environmental, 2019) identified severe erosion with the diversion drains on REA IV which appeared to have been repaired at the time of the site inspection.</p> <ul style="list-style-type: none"> <li>• The 2019 AR (Table 29) reports that in both 2018 and 2019 no land had been prepared for rehabilitation; no rehabilitation had been completed; and that 22ha land was under active rehabilitation.</li> <li>• REAs are key landscape features on the site. The status of REAs, and observations from the site inspection, are: <ul style="list-style-type: none"> <li>○ REA I, REA II and REA IV are partially rehabilitated but not closed under the High Risk Activity (HRA) Notification process. Off-site visual impact is minimised.</li> <li>○ REA III is no longer operational for reject emplacement; however, Clarence are recovering coal fines from REA III under the HRA Notification process. Representatives from regulatory authorities attended the HRA. REA III final landform shaping and rehabilitation will be undertaken after the period of this IEA. REA III has a visually-dominant embankment.</li> </ul> </li> </ul>		

**Appendix A2: Development Consent: DA No. IRM.GE.76 (as modified) (Lithgow City Council) - Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
			<ul style="list-style-type: none"> <li>○ REA IV – following consultation with DPIE and EPA to address underperforming rehabilitation on REA IV, a rehabilitation trial had commenced on REA IV with the results of the trial planned to be used to identify suitable methods for other REAs. The REA IV rehabilitation area was impacted by December 2019 Gospers Mountain bushfire.</li> <li>○ REA V was recently cleared, and construction has commenced.</li> <li>○ REA VI was constructed in 2017 and operational during the period of the audit, hence only some of the REA has been rehabilitated. REA VI was impacted by the 2019 Gospers Mountain bushfire.</li> </ul>		
1976DC-3	All conditions outlined in the Environmental Impact Statement are adhered to	<ul style="list-style-type: none"> <li>• Refer MOD035/18 compliance assessment for Development Consent IRM.GE.76 in this Appendix A2.</li> </ul>	<ul style="list-style-type: none"> <li>• An assessment against the original 1975 EIS for the proposed Clarence Colliery was not reviewed given the age of the document. Alternatively, assessment against DA504 and Development Consent IRM.GE.76 supported by Statements of Environmental Effect (GHD, 2018 and RW Corkery, 1993)</li> </ul>	Noted	
1976DC-4	External structures for surface facilities to be constructed so as to blend in with the surrounding bush land	<ul style="list-style-type: none"> <li>• Site inspection</li> </ul>	<ul style="list-style-type: none"> <li>• Structures and buildings were observed by the auditors to be constructed of non-reflective materials in green/brown tones.</li> <li>• Refer Appendix A1 DA 504 Sch 3-20</li> </ul>	Compliant	
1976DC-5	Collection dam to be constructed before actual Mine workings begin	<ul style="list-style-type: none"> <li>• 2016 IEA (MCW Environmental, 2016)</li> </ul>	<ul style="list-style-type: none"> <li>• Closed out in previous IEA (URS, 2011)</li> </ul>	Not triggered	

**Appendix A2: Development Consent: DA No. IRM.GE.76 (as modified) (Lithgow City Council) - Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
1976DC-6	That all conditions laid down by the National Parks and Wildlife Services, State Pollution Control Commission, Soil Conservation Department, Planning and Environmental Commission of NSW and Department of Mines must be complied with.	<ul style="list-style-type: none"> <li>This IEA</li> </ul>		Noted	
1976DC-7	Potable water to be of a standard as prescribed by the Health Commission of NSW	<ul style="list-style-type: none"> <li>Draft 2020 WMP MP-2041 (CC, October 2020)</li> <li>Monthly potable water test results.xls (CC, April 2018, November 2017, March 2019, October 2020)</li> </ul>	<ul style="list-style-type: none"> <li>Clarence Colliery is not connected to a municipal water supply, consequently drinking water is supplied by bottled water. Water for amenities is supplied by treated water from the WTP via the Bathhouse Tanks.</li> <li>Site water is tested monthly for pH and electrical conductivity (EC). The E&amp;C Coordinator advised that potable water analyses were manually assessed against Australian Drinking Water Guidelines – NHMRC 2011 version 3.5 updated August 2018</li> </ul>	Compliant	

## Appendix A3: Environment Protection Licence 726 (Environment Protection Authority)



## Appendix A3: Environment Protection Licence 726 - Compliance Assessment

	Requirement	Evidence	Findings	Compliance Status	Recommendation																			
1 ADMINISTRATIVE CONDITIONS																								
A1 What the licence authorises and regulates																								
A1.1	<div>This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee based activity classification and the scale of the operation.</div> <table><tr><th>Scheduled Activity</th><th>Fee Based Activity Scale</th><th>Scale</th></tr><tr><td>Coal works</td><td>Coal works</td><td>&gt; 2,000,000 – 5,000,000 T handled</td></tr><tr><td>Mining for coal</td><td>Mining for coal</td><td>&gt; 2,000,000 – 3,500,000 T produced</td></tr></table>	Scheduled Activity	Fee Based Activity Scale	Scale	Coal works	Coal works	> 2,000,000 – 5,000,000 T handled	Mining for coal	Mining for coal	> 2,000,000 – 3,500,000 T produced	<div>• ARs (CC, 2016; CC, 2017: CC, 2018 and CC, 2019)</div>	<table><tr><th>Calendar year</th><th>Tonnes of ROM coal</th></tr><tr><td>2016</td><td>2,693,151</td></tr><tr><td>2017</td><td>2,616,951</td></tr><tr><td>2018</td><td>1,772,124</td></tr><tr><td>2019</td><td>1,871,648</td></tr></table>	Calendar year	Tonnes of ROM coal	2016	2,693,151	2017	2,616,951	2018	1,772,124	2019	1,871,648	Compliant	
Scheduled Activity	Fee Based Activity Scale	Scale																						
Coal works	Coal works	> 2,000,000 – 5,000,000 T handled																						
Mining for coal	Mining for coal	> 2,000,000 – 3,500,000 T produced																						
Calendar year	Tonnes of ROM coal																							
2016	2,693,151																							
2017	2,616,951																							
2018	1,772,124																							
2019	1,871,648																							
A2 Premises or plant to which this licence applies																								
A2.1	<div>The licence applies to the following premises: Premises Details <b>CLARENCE COLLIERY</b> <b>OFF BELLS LINE OF ROAD</b> <b>NEWNES JUNCTION, NSW 2790</b> <b>CCL705, ML 1353, ML1354, ML1583, ML 1721, AUTH 307, AUTH 416, &amp; EL5072</b></div>			Noted																				
A3 Information supplied to the EPA																								
A3.1	<div>Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence. In this condition the reference to "the licence application" includes a reference to: a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.</div>			Noted																				
A3.2	<div>Any other document and/or management plan is not to be taken as part of the documentation in condition A3.1, other than those documents and/or management plans specifically referenced in this licence.</div>			Noted																				

## Appendix A3: Environment Protection Licence 726 - Compliance Assessment

	Requirement	Evidence	Findings	Compliance Status	Recommendation																				
2 DISCHARGES TO AIR AND WATER AND APPLICATIONS TO LAND																									
P1 Location of monitoring/discharge points and areas																									
P1.1	The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area			Noted																					
P1.2	<div>The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.</div> <div>Water and land</div> <table><tr><th>EPA ID No.</th><th>Type of Monitoring Point</th><th>Type of Discharge Point</th><th>Location Description</th></tr><tr><td>2</td><td>Discharge to waters Discharge quality monitoring</td><td>Discharge to waters Discharge quality monitoring</td><td>Discharge and monitoring point identified as LDP2 on figure EPL 726 Monitoring Locations dated 18/12/2019 (DOC19893162-04)</td></tr><tr><td>3</td><td>Discharge to waters Discharge quality monitoring</td><td>Discharge to waters Discharge quality monitoring</td><td>Discharge and monitoring point identified as LDP3 on figure EPL 726 Monitoring Locations dated 18/12/2019 (DOC19893162-04)</td></tr><tr><td>4</td><td>Discharge to waters Discharge quality monitoring</td><td>Discharge to waters Discharge quality monitoring</td><td>Discharge and monitoring point identified as LDP4 on figure EPL 726 Monitoring Locations dated 18/12/2019 (DOC19893162-04)</td></tr><tr><td>9</td><td>Water Quality Monitoring Point</td><td></td><td>Monitoring point identified as monitoring point 9 on figure EPL 726 (downstream of LDP002 and main dam) Monitoring Locations dated 18/12/2019 (DOC19893162-04)</td></tr></table>	EPA ID No.	Type of Monitoring Point	Type of Discharge Point	Location Description	2	Discharge to waters Discharge quality monitoring	Discharge to waters Discharge quality monitoring	Discharge and monitoring point identified as LDP2 on figure EPL 726 Monitoring Locations dated 18/12/2019 (DOC19893162-04)	3	Discharge to waters Discharge quality monitoring	Discharge to waters Discharge quality monitoring	Discharge and monitoring point identified as LDP3 on figure EPL 726 Monitoring Locations dated 18/12/2019 (DOC19893162-04)	4	Discharge to waters Discharge quality monitoring	Discharge to waters Discharge quality monitoring	Discharge and monitoring point identified as LDP4 on figure EPL 726 Monitoring Locations dated 18/12/2019 (DOC19893162-04)	9	Water Quality Monitoring Point		Monitoring point identified as monitoring point 9 on figure EPL 726 (downstream of LDP002 and main dam) Monitoring Locations dated 18/12/2019 (DOC19893162-04)	<div><ul style="list-style-type: none"><li>EPL 726 Environmental Monitoring Reports 2016 – 2020 (e.g. March 2016, April 2017, June 2018, December 2019, and August 2020)</li><li>ARs (CC, 2016; CC, 2017; CC, 2018; and CC, 2019)</li></ul></div>	<div><ul style="list-style-type: none"><li>The monitoring points listed in EPL 726 P1.2 table have been included in monthly EPL monitoring reports since June 2017.</li><li>Prior to June 2017, only EPA ID No. 2, 3 and 4 monitoring points have been included on the EPL. Summaries of monitoring results for EPA ID No. 2, 3 &amp; 4 are included in the 2016 – 2019 ARs.</li><li>The requirement to undertake water quality monitoring at EPA ID No. 9 was introduced into EPL 726 in March 2017 (monitoring only, no limits applied).</li><li>A summary of monitoring results for EPA ID No. 9 is included in the 2017 AR (10 samples), 2018 AR (12 samples) and 2019 AR (12 samples).</li></ul></div>	Compliant	
EPA ID No.	Type of Monitoring Point	Type of Discharge Point	Location Description																						
2	Discharge to waters Discharge quality monitoring	Discharge to waters Discharge quality monitoring	Discharge and monitoring point identified as LDP2 on figure EPL 726 Monitoring Locations dated 18/12/2019 (DOC19893162-04)																						
3	Discharge to waters Discharge quality monitoring	Discharge to waters Discharge quality monitoring	Discharge and monitoring point identified as LDP3 on figure EPL 726 Monitoring Locations dated 18/12/2019 (DOC19893162-04)																						
4	Discharge to waters Discharge quality monitoring	Discharge to waters Discharge quality monitoring	Discharge and monitoring point identified as LDP4 on figure EPL 726 Monitoring Locations dated 18/12/2019 (DOC19893162-04)																						
9	Water Quality Monitoring Point		Monitoring point identified as monitoring point 9 on figure EPL 726 (downstream of LDP002 and main dam) Monitoring Locations dated 18/12/2019 (DOC19893162-04)																						
P1.3	The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point	<div><ul style="list-style-type: none"><li>EPL 726 Environmental Monitoring Reports 2016 – 2020 (e.g. March 2016, April</li></ul></div>	<div><ul style="list-style-type: none"><li>The monitoring points listed in EPL 726 P1.3 table have been included in monthly EPL monitoring reports during the period of the audit.</li></ul></div>	Compliant																					

## Appendix A3: Environment Protection Licence 726 - Compliance Assessment

	Requirement		Evidence	Findings	Compliance Status	Recommendation															
	<b>Air</b> <table><tr><th>EPA ID No.</th><th>Type of Monitoring Point</th><th>Location Description</th></tr><tr><td>5</td><td>Dust monitoring</td><td>Dust Deposition Gauge identified as DG1 on figure EPL 726 Monitoring Locations dated 18/12/2019 (DOC19893162-04)</td></tr><tr><td>6</td><td>Dust monitoring</td><td>Dust Deposition Gauge identified as DG2 on figure EPL 726 Monitoring Locations dated 18/12/2019 (DOC19893162-04)</td></tr><tr><td>7</td><td>Dust monitoring</td><td>Dust Deposition Gauge identified as DG3 on figure EPL 726 Monitoring Locations dated 18/12/2019 (DOC19893162-04)</td></tr><tr><td>8</td><td>Meteorological monitoring</td><td>Meteorological monitoring identified as Weather Station on drawing CL126 and titled "Clarence Colliery Pit Top Monitoring Locations" and dated 02/2012</td></tr></table>		EPA ID No.	Type of Monitoring Point	Location Description	5	Dust monitoring	Dust Deposition Gauge identified as DG1 on figure EPL 726 Monitoring Locations dated 18/12/2019 (DOC19893162-04)	6	Dust monitoring	Dust Deposition Gauge identified as DG2 on figure EPL 726 Monitoring Locations dated 18/12/2019 (DOC19893162-04)	7	Dust monitoring	Dust Deposition Gauge identified as DG3 on figure EPL 726 Monitoring Locations dated 18/12/2019 (DOC19893162-04)	8	Meteorological monitoring	Meteorological monitoring identified as Weather Station on drawing CL126 and titled "Clarence Colliery Pit Top Monitoring Locations" and dated 02/2012	2017, June 2018, December 2019, and August 2020) <ul style="list-style-type: none"><li>ARs (CC, 2016; CC, 2017; CC, 2018; and CC, 2019)</li></ul>			
EPA ID No.	Type of Monitoring Point	Location Description																			
5	Dust monitoring	Dust Deposition Gauge identified as DG1 on figure EPL 726 Monitoring Locations dated 18/12/2019 (DOC19893162-04)																			
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8	Meteorological monitoring	Meteorological monitoring identified as Weather Station on drawing CL126 and titled "Clarence Colliery Pit Top Monitoring Locations" and dated 02/2012																			
<b>3 Limit Conditions</b>																					
<b>L1 Pollution of Waters</b>																					
L1.1	Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.		<ul style="list-style-type: none"><li>EPL 726 (as amended)</li><li>ECD (CC intranet, 2016 - 2020)</li><li>Letter to CC Ref: SF 16/34595 LD 2 pipeline leak in August 2016 (EPA, 10/08/21016)</li><li>Letter to EPA exceedance of lead levels in October 2016 (CC, 28 October 2016)</li><li>Letter to CC SF 19/81258 show cause for LD 2 burst pipe in August 2019 (EPA, 19/09/2019)</li><li>Letter to EPA Show Cause SF 19/81258 Pipe Discharge</li></ul>	<ul style="list-style-type: none"><li>The auditors have assessed that "pollution of waters" includes exceedance of EPL 726 LDP 002 discharge concentration limits.</li><li>Refer Appendix A1 DA504 Sch 3-3 (Pollution of Waters).</li><li>Refer Appendix A3 EPL 726 L2.1 below).</li></ul>	Non-compliant (NC-27)	Refer Appendix A1 DA504 Sch 3-3 (Pollution of Waters).															

## Appendix A3: Environment Protection Licence 726 - Compliance Assessment

	Requirement	Evidence	Findings	Compliance Status	Recommendation
		<p>Event 9 August 2019 (CC, 8 October 2019)</p> <ul style="list-style-type: none"> <li>Letter to DRG Show Cause NCG0002253 Pipe Discharge Event 9 August 2019 (CC, 6 November 2019)</li> <li>Wollangambe Environmental Monitoring Program Reports 1-5 (CC, March and October 2017; CC, May and December 2018; and CC, April 2019)</li> </ul>			
<b>L2 Concentration Limits</b>					
L2.1	For each monitoring/discharge point or utilisation area specified in the table\ (refer EPL 726), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table (L2.4)	<ul style="list-style-type: none"> <li>ARs (CC, 2016 - 2019)</li> <li>Monthly EM Reports (CC, 2016 -2020)</li> <li>EPA Public Register (EPL 726 Annual Return)</li> </ul>	<p>Numerous exceedances of water quality discharge concentration limits at LDP 002 have been reported in monthly EPL monitoring reports and corresponding ARs, during the period of this IEA:</p> <ul style="list-style-type: none"> <li>21/07/2020 – Cobalt and Zinc</li> <li>21/04/2020 – Copper, Nickel, Zinc and Cobalt</li> <li>19/02/2020 – Zinc and Cobalt</li> <li>15/01/2020 – Cobalt</li> <li>2019 – 1 x Chlorides</li> <li>01/07/2019 – Zinc and Nitrogen</li> <li>11/04/2019 – Zinc</li> <li>2018 – 1 x pH</li> <li>2018 – 1 x Chlorides</li> <li>08/05/2018 – Copper, Cobalt and Zinc</li> <li>28/02/2020 – Nickel</li> <li>21/12/2017 - Cobalt</li> <li>14/12/2017 – Cobalt</li> <li>06/12/2017 – Cobalt and Zinc</li> <li>29/11/2-17 – Cobalt and Zinc</li> <li>2/11/2017 – Cobalt and Nickel</li> <li>19/10/2017 – Cobalt and Nickel</li> <li>25/09/2017 – Cobalt, Nickel and Zinc</li> <li>29/08/2017 – Cobalt, Nickel and Zinc</li> <li>21/06/2017 – Cobalt, Nickel and Zinc</li> <li>13/02/2017 – Lead</li> <li>7/02/2017 – Lead (laboratory error)</li> <li>13/10/2016 – Lead</li> </ul>	Non-compliant (NC-28)	Refer Appendix A1 DA504 Sch 3-3 (Pollution of Waters).

## Appendix A3: Environment Protection Licence 726 - Compliance Assessment

	Requirement	Evidence	Findings	Compliance Status	Recommendation
			<ul style="list-style-type: none"> <li>To address these exceedances improvement works have been undertaken including:</li> <li>2016: To improve discharge water quality at LDP002, engineering works were completed to divert surface water from all areas other than REAs, to the polishing lagoon. From the Polishing Lagoon water is pumped to the WTP for treatment or returned underground to the mine water storage.</li> <li>2017: The WTP Residuals Receiving Facility (drying lagoons) was commissioned. Waste characterisation of the residual sludge sediment has been undertaken and due to elevated concentrations of nickel, has been assessed as Hazardous Waste. Assessment of long-term waste disposal options is continuing. Additional pH probes, training in pH probe calibration and cleaning, independent verification of the WTP, lagoon cleaning, pH set point, acid and coagulant pre-flocculant dilution trials, Jar testing programs, pH probe modifications and three heavy duty Delta magnetic water conditioners installed.</li> <li>2018: Improvements including processes, control systems, increased flocculant capture, reinstated settling pond, turbidity monitor installed at LDP 002, change in acid dosing from sulphuric acid to HCL, installation of new dosing tanks and upgrade to plant control and automation; and investigations into pH dosing.</li> <li>2019: Modifications to pH dosing.</li> <li>On 15 January 2020, the EPL was revised to include a PRP to cease discharge to the Wollangambe River at LDP 002. A current EPL 726 PRP (s.58 EPL 726 Variation no. 1590599) includes actions that will result in stopping discharge from LDP 002 to the</li> </ul>		

## Appendix A3: Environment Protection Licence 726 - Compliance Assessment

	Requirement	Evidence	Findings	Compliance Status	Recommendation
			Wollangambe River. The actions are under development by Clarence with consultation with the EPA and stakeholders. When completed, these actions were assessed as adequately addressing the exceedances of water quality concentration limits in LDP 002, consequently, no further recommendations were made.		
L2.2	Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.		<ul style="list-style-type: none"> <li>The specified percentage for pH is as per all of the other pollutants - 100 percentile. Compliance with the EPL concentration limits (including pH) is discussed in L1.1 above.</li> </ul>	Noted	
L2.3	To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table\.			Noted	
L2.4	Water and/or Land Concentration Limits (Points 2, 3, 4) Refer EPL 726 L2.4 Table Water and /or Land Concentration Limits	<ul style="list-style-type: none"> <li>ARs (CC, 2016; CC, 2017; CC, 2018; and CC, 2019)</li> <li>Monthly EM Reports (CC, 2016 -2020)</li> <li>EPA Public Register (EPL 726 Annual Return)</li> </ul>	<ul style="list-style-type: none"> <li>Noted. Refer EPL 726 L2.1 above</li> </ul>	Noted	
L2.5	The concentration limits stipulated by condition L2.1/L2.4 for EPA identification points 3 and 4 are deemed not to apply when the discharge from the stormwater control structures occurs solely as a result of rainfall measured at the premises which exceeds: a) a total of 56 millimetres of rainfall over any consecutive 5 day period. Note: A 56mm rainfall event is defined by the EPA endorsed publication "Managing urban stormwater: soils and construction" (Landcom 2004) as the rainfall depth in millimetres for a 95th percentile 5 day rainfall event for Sydney/Blue Mountains which is also consistent with the storage capacity (recommended minimum design criteria) for Type D sediment basins for mines and quarries (see "Managing urban stormwater: soils and construction, Volume 2E, mines and quarries" (DECC, 2008)).	<ul style="list-style-type: none"> <li>Site inspection</li> <li>ARs (CC, 2016 -2020)</li> <li>Monthly EM Reports (CC, 2016 -2020)</li> </ul>	<ul style="list-style-type: none"> <li>Meteorological monitoring (including rainfall) has been undertaken during the period of the IEA at the Clarence automated weather station.</li> <li>The monthly EM reports advise when discharges have occurred from LDP 003 and LDP 0004 and report on corresponding rainfall.</li> <li>The water balance is recalculated each year and the volume of water discharged from LDP 003 and LDP 004 (if any) is reported in ARs.</li> <li>There were no discharges from LDP 003 and LDP 004 reported in the 2016, 2017, 2018 and 2019 ARs.</li> <li>A review of the 2020 EM reports identified that in 2020, after a 230mm rainfall event on 10 February 2020, water was discharged for less than one day at LDP003 and LDP004 (estimated at less than 1,000 kilolitres at each LDP). As the rainfall event was greater</li> </ul>	Compliant	

## Appendix A3: Environment Protection Licence 726 - Compliance Assessment

	Requirement	Evidence	Findings	Compliance Status	Recommendation
			than the 56 mm rainfall event specified in EPL726 L2.5, concentration limits in EPL L2.4 and monitoring requirements in EPL 726 M2.1 did not apply.		
<b>L3 Volume and mass limits</b>					
L3.1	<p>Volume and Mass Limits</p> <p>For each discharge point or utilisation area specified below (by a point number), the volume/mass of:</p> <p>(a) liquids discharged to water; or;</p> <p>(b) solids or liquids applied to the area;</p> <p>must not exceed the volume/mass limit specified for that discharge point/ area:</p> <p>Point 2: 25000kilolitres per day</p> <p>Note: The total volume discharged from point 2 may exceed 25,000 kL/day on any day where greater than 10 mm of rainfall is recorded at the premises, for that day.</p>	<ul style="list-style-type: none"> <li>2019 LDP 002 Daily Discharge Volumes.xls</li> <li>ARs (CC, 2016 -2020)</li> <li>Monthly EM Reports (CC, 2016 -2020)</li> </ul>	<ul style="list-style-type: none"> <li>Real time volume monitoring is in place and able to be downloaded.</li> <li>A review of the 2019 LDP 002 Daily Discharge Volumes identified that there were no exceedances of the maximum discharge volume.</li> <li>The 2017 AR and March 2017 EM report states that the maximum discharge volume limit (25,000 kilolitres/day) from LDP 002 was exceeded on 19 March 2017. As the rainfall recorded was 52.8 mmm over a 24 hour period, the EPL726 L3.1 maximum volume limit was not exceeded.</li> <li>A review of the monthly EM reports for 2020 identified that on 10 February 2020 after a 230 mm rainfall event: <ul style="list-style-type: none"> <li>the maximum discharge volume limit (25,000 kilolitres/day) from LDP 002 was exceeded</li> <li>water was discharged for less than one day at LDP003 and LDP004 (estimated at less than 1,000 kilolitres).</li> </ul> <p>As the rainfall recorded was greater than 56 mmm over five consecutive days, and greater than 10mm in any day, the maximum discharge volume limit in EPL 726 L3.1 did not apply, and EPL726 L2.4 concentration limits at LDP 003 and LDP 004 did not apply.</p> </li> <li>In July 2020 after a &gt;10mm rainfall event, the maximum discharge volume limit (25,000 kilolitres/day) from LDP 002 was exceeded. As rainfall was &gt;10mm for that day, EPL726 L3.1 maximum volume limit was not exceeded.</li> </ul>	Compliant	
<b>L4 Waste limits</b>					



## Appendix A3: Environment Protection Licence 726 - Compliance Assessment

	Requirement	Evidence	Findings	Compliance Status	Recommendation								
L4.1	<p>The licensee must not cause, permit or allow any waste to be received at the premises, except the wastes expressly referred to in the column titled “Waste” and meeting the definition, if any, in the column titled “Description” in the table below. Any waste received at the premises must only be used for the activities referred to in relation to that waste in the column titled “Activity” in the table below. Any waste received at the premises is subject to those limits or conditions, if any, referred to in relation to that waste contained in the column titled “Other Limits” in the table below. Waste: General or Specific exempted waste: Description: Waste that meets all the conditions of a resource recovery exemption under Clause 51A of the POEO (Waste) Regulation 2005. Activity: As specified in each particular resource recovery exemption. Other Limits: N/</p>	<ul style="list-style-type: none"><li>Waste Management Standard CL-10-09 (CC, 2020)</li><li>Monthly waste stream report.xls (JR Richards, January, Feb, March, April, and June 2020)</li><li>Monthly and weekly E&amp;C Coordinator Environment Inspections</li><li>ECD (CC, 2016 -2020)</li><li>Site inspection (12-13 October 2020)</li></ul>	<ul style="list-style-type: none"><li>It was reported that no waste was received at the premises.</li><li>No evidence was observed during the site inspection to suggest that waste was being received at the premises.</li></ul>	Compliant									
Noise													
L5.1	<p>Noise limits Noise generated from the premises, excluding train loading and rail operations, must not exceed the noise limits specified in the table below.</p> <table><tr><th>Location</th><th>Day (LAeq 15 min)</th><th>Evening (LAeq 15 min)</th><th>Night (LAeq 15 min)</th></tr><tr><td>Any residence on privately owned land not subject to an agreement with the licensee</td><td>38</td><td>36</td><td>35</td></tr></table> <p>For the purposes of condition 5.1: a) Day is defined as: i. the period from 7am to 6pm Monday to Saturday; and ii. the period from 8am to 6pm Sundays and Public Holidays. b) Evening is defined as: the period from 6pm to 10pm. c) Night is defined as: i. the period from 10pm to 7am Monday to Saturday; and ii. the period from 10pm to 8am Sundays and Public Holidays. d) The morning shoulder period is a subset of the</p>	Location	Day (LAeq 15 min)	Evening (LAeq 15 min)	Night (LAeq 15 min)	Any residence on privately owned land not subject to an agreement with the licensee	38	36	35	<ul style="list-style-type: none"><li>Environmental Noise Monitoring (Global Acoustics, December 2016)</li><li>Environmental Noise Monitoring (Global Acoustics, December 2017)</li><li>Environmental Noise Monitoring (Global Acoustics, March 2018)</li><li>Environmental Noise Monitoring (Global Acoustics, December 2019)</li><li>ARs (CC, 2016 -2019)</li><li>Monthly EM Reports (CC, 2016 – 2020)</li><li>Western Region Noise Management Plan (CC, 2018)</li><li>ECD (CC, 2016 -2020)</li></ul>	<ul style="list-style-type: none"><li>A noise improvement project commenced in 2016 and included enclosure of the main surface conveyor drive house, realignment of transfer chutes, installation of a train loading bay enclosure, new housing on the rock breaker and relocation of train refuelling and idling facilities.</li><li>Annual noise monitoring has been undertaken to assess compliance with the noise impact assessment criteria. No exceedance of the criteria was recorded in 2016 and 2019. Exceedance of the night criteria was recorded in 2017 (42 dB(A)) and in 2018 (43dB(A)).</li><li>2017: Clarence exceeded the LAeq,15minute criterion at M1 by 7 dB during the night measurement at 22:00 on 13 December 2017. A general mining continuum of conveyors and possibly the rotary breaker were audible during the measurement and generated the site only LAeq,15minute of 42 dB(A). Noise levels from site dropped off after 13 minutes into the measurement. The Global Acoustics report states “Clarence</li></ul>	Non-compliant (NC-29)	Refer Appendix A1 DA504-00 Sch 3-15 (Noise Impact Assessment Criteria): R9
Location	Day (LAeq 15 min)	Evening (LAeq 15 min)	Night (LAeq 15 min)										
Any residence on privately owned land not subject to an agreement with the licensee	38	36	35										

## Appendix A3: Environment Protection Licence 726 - Compliance Assessment

	Requirement	Evidence	Findings	Compliance Status	Recommendation
	night period between 6am to 7am Monday to Saturday.		<p>was primarily responsible for the measured levels".</p> <ul style="list-style-type: none"> <li>2018: Annual noise monitoring was undertaken in March 2018 and night measurements were unable to be taken due to weather conditions. DPIE subsequently issued a Show Cause Notice for additional monitoring (undertaken in September 2018) and an Official Caution in July 2018. Further to the Official Caution, Clarence has undertaken additional monitoring, reviewed the Western Region Noise Management Plan and completed additional studies. The 2018 AR reports that <i>"The November monitoring determined that the monitoring point should be either moved to better discern the operational noise from other sources or that a correction factor derived statistically as 7 dba be applied. If the correction factor was applied, this monitoring result would be considered compliant. Further discussions will be held with EPA"</i>.</li> <li>Annual noise monitoring was conducted in 2019 and although no exceedances were recorded, the night level recorded was equal to the 35 dB(A) LAeq (15 min) limit.</li> <li>No further noise complaints were recorded in the ECD in 2019 and 2020.</li> <li>EPL L5.1 criteria are listed in the Western Region Noise Management Plan.</li> </ul>		
L5.2	To determine compliance with condition L5.1, noise from the premises is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of the residence where the residence is more than 30 metres from the residential boundary to determine compliance with the noise levels in condition L5.1	<ul style="list-style-type: none"> <li>Environmental Noise Monitoring (Global Acoustics, December 2016)</li> <li>Environmental Noise Monitoring (Global Acoustics, December 2017)</li> <li>Environmental Noise Monitoring (Global Acoustics, March 2018)</li> </ul>	<ul style="list-style-type: none"> <li>The annual Global Acoustics report (2018) reported noise monitoring was conducted at locations in accordance with relevant NSW EPA requirements and AS1055 Acoustics, Description and Measurement of Environmental Noise.</li> <li>The annual acoustic reports advised that modification factors did not need to be applied.</li> </ul>	Compliant	

## Appendix A3: Environment Protection Licence 726 - Compliance Assessment

	Requirement	Evidence	Findings	Compliance Status	Recommendation
			<ul style="list-style-type: none"> <li>EPL L5.2 criteria are listed in the Western Region Noise Management Plan.</li> </ul>		
L5.3	To determine compliance with condition L5.1, the modification factors in Section 4 of the NSW Industrial Noise Policy (EPA, 2000/2001) must be applied, as appropriate, to the noise levels measured by any monitoring equipment.	<ul style="list-style-type: none"> <li>Environmental Noise Monitoring (Global Acoustics, December 2016)</li> <li>Environmental Noise Monitoring (Global Acoustics, December 2017)</li> <li>Environmental Noise Monitoring (Global Acoustics, March 2018)</li> </ul>	<ul style="list-style-type: none"> <li>The annual acoustic reports advised that modification factors did not need to be applied, consequently this condition was assessed as not triggered.</li> <li>EPL L5.3 criteria are listed in the Western Region Noise Management Plan.</li> </ul>	Not triggered	
L5.4	The noise limits stipulated by condition L5.1 apply under all meteorological conditions except for the following: a) wind speeds greater than 3 metres per second at ground level; and b) temperature inversions as outlined in Section 5 of the NSW Industrial Noise Policy (EPA, 2000/2001).	<ul style="list-style-type: none"> <li>ARs (CC, 2016 -2019)</li> <li>Monthly EM Reports (CC, 2016 – 2020)</li> <li>Western Region Noise Management Plan (CC, 2018)</li> </ul>	<ul style="list-style-type: none"> <li>EPL L5.4 criteria are listed in the Western Region Noise Management Plan.</li> <li>In 2018, annual noise monitoring was undertaken in March 2018 and night measurements were unable to be taken due to weather conditions.</li> <li>Additional monitoring was undertaken in September 2018.</li> </ul>	Compliant	
<b>Operating Conditions</b>					
O1.1	Licensed activities must be carried out in a competent manner. This includes: a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.	<ul style="list-style-type: none"> <li>Site inspection (12-13 October 2020)</li> <li>Monthly EM reports (CC, 2016 -2020)</li> <li>Induction (as undertaken by auditors on 12/10/2020)</li> <li>Monthly and weekly E&amp;C Coordinator Environment Inspections</li> <li>CHPP Manager daily inspections</li> <li>Work order for environmental monthly inspections (April 2020, June 2020 and September 2020)</li> <li>CHPP Inspection 29 October 2020</li> </ul>	<ul style="list-style-type: none"> <li>Findings regarding storage and handling of materials and waste include: <ul style="list-style-type: none"> <li>A Chemical and Hydrocarbon Storage Review and Dangerous Goods and Hazardous Substances Audit was undertaken in 2018 and 2020 respectively.</li> <li>Dangerous Goods were generally stored appropriately in the pit top area as observed during the site inspection, regular inspections had been undertaken, an internal Dangerous Goods audit with corrective actions was undertaken in May 2020; however improvement opportunities were identified during the site inspection (refer Appendix A1 Sch 3-26 (Dangerous Goods)).</li> </ul> </li> </ul>	Compliant	Refer Appendix A1 DA504 Sch 3-8 (Erosion and Sediment Control) and Sch 3-26 (Dangerous Goods)

## Appendix A3: Environment Protection Licence 726 - Compliance Assessment

	Requirement	Evidence	Findings	Compliance Status	Recommendation
			<ul style="list-style-type: none"> <li>○ Sediment and erosion controls observed during the site inspection were generally in good condition with improvement opportunities identified during the site inspection (12 October 2020) e.g. at an area of recent erosion observed on the access track to LD 2, Wollangambe River crossing (Point 9), and an area draining to the Main Dam (refer Appendix A1 DA504 Sch 3-8).</li> <li>○ housekeeping and waste segregation were generally observed as acceptable during the site inspection.</li> <li>○ spill kits were available across the pit top.</li> <li>○ although the grit trap received soapy water from vehicle washing (refer photo), the oil and grease concentration limit at LDP 0002 had not been exceeded during the period of the IEA.</li> <li>○ the mandatory site induction for employees, contractors and visitors includes environmental awareness and obligations to undertake works and to protect the environment including spill response: assess, control, contain and repair; permits; emergency and environment contacts (phone and website); awareness of environmental aspects: dangerous goods, water, noise, air, waste and reporting (e.g. SLAM) requirements; and incident management.</li> <li>• Also refer Appendix A1 Sch 3-24 (Waste) and Sch 3-25 (Spontaneous Combustion).</li> </ul>		

## Appendix A3: Environment Protection Licence 726 - Compliance Assessment

	Requirement	Evidence	Findings	Compliance Status	Recommendation
O2.1	<p>All plant and equipment installed at the premises or used in connection with the licensed activity:</p> <p>a) must be maintained in a proper and efficient condition; and b) must be operated in a proper and efficient manner.</p> <p>Note: Plant is defined in the Dictionary. The type of plant and equipment that should be considered includes, but is not limited to, drainage systems; infrastructure and pollution control equipment such as (but not limited to) spill containment and clean-up equipment; dust screens and collectors; sediment collection systems, traps and sumps; waste collection, storage and disposal equipment.</p>	<ul style="list-style-type: none"> <li>Refer Appendix A1 DA504 Sch 2-11 (Operation of Plant and Equipment)</li> </ul>	<ul style="list-style-type: none"> <li>Refer Appendix A1 DA504 Sch 2-11 (Operation of Plant and Equipment).</li> </ul>	Non-compliant (NC-30)	Refer Appendix A1 DA504 Sch 2-11 (Operation of Plant and Equipment)
O3.1	Activities occurring in or on the premises must be carried out in a manner that will minimise the generation, or emission from the premises, of wind-blown or traffic generated dust.	<ul style="list-style-type: none"> <li>Refer DA504 Sch 3-13 (Air Quality Impact Assessment Criteria)</li> <li>Site inspection</li> </ul>	<ul style="list-style-type: none"> <li>Refer Appendix A1:DA504 Sch 3-13 (Air Quality Impact Assessment Criteria).</li> <li>TSP, particulate matter &lt;10µm (PM10) – and deposited dust did not exceed EPL 726 air monitoring requirements or DA504 air quality impact assessment criteria during the period of this IEA.</li> <li>No air quality complaints were recorded in the ECD (2016 - 2020).</li> <li>No dust generating activities were observed during the site inspection.</li> </ul>	Compliant	
O3.2	All trafficable areas, coal storage areas and vehicle manoeuvring areas in or on the premises must be maintained, at all times, in a condition that will minimise the generation, or emission from the premises, of wind-blown or traffic generated dust.	<ul style="list-style-type: none"> <li>Site inspection</li> </ul>	<ul style="list-style-type: none"> <li>Conditions during the site inspection were mild with rain on one day. Significant dust emissions were not observed during the site inspection. Control measures were sighted including use of water carts and sprinkler systems.</li> </ul>	Compliant	
O3.3	Trucks transporting coal from the premises must be covered immediately after loading to prevent wind blown emissions and spillage. The covering must be maintained until immediately before unloading the trucks.	<ul style="list-style-type: none"> <li>Site inspection</li> <li>Coal and Delivery Haulier Induction Pulse Code: 4035</li> <li>Completed Coal and Delivery Haulier inductions (20 &amp; 23 October 2020)</li> </ul>	<ul style="list-style-type: none"> <li>Refer Appendix A1 DA504 Sch 3-18 (Road Haulage).</li> </ul>	Compliant	
O4.1	The stormwater control structures identified at EPA identification points 3 and 4 must be drained or pumped out as necessary to maintain each structures design storage capacity within 5 days following rainfall.	<ul style="list-style-type: none"> <li>Site inspection (12-13 October 2020)</li> <li>Monthly EM reports (CC, 2016 -2020)</li> <li>Monthly and weekly E&amp;C Coordinator Environment Inspections</li> </ul>	<ul style="list-style-type: none"> <li>Design storage capacity is maintained as there is continuous draining from LD 1 (point 3) and LD 2 (point 4) by gravity to the pipeline that discharges to the underground borehole and mine workings.</li> </ul>	Compliant	

## Appendix A3: Environment Protection Licence 726 - Compliance Assessment

	Requirement	Evidence	Findings	Compliance Status	Recommendation
		<ul style="list-style-type: none"> <li>CHPP Manager daily inspections</li> <li>Work order for environmental monthly inspections (April 2020, June 2020, and September 2020)</li> </ul>	<ul style="list-style-type: none"> <li>After rainfall events, the E&amp;C coordinator reportedly walks the leachate drain, LDPs.</li> <li>Pulse issues a regular work order to assess stormwater infrastructure after rainfall events.</li> </ul>		
O4.2	The licensee must undertake maintenance as necessary to desilt any stormwater control structure identified at EPA identification points 3 and 4 in order to retain each structures design storage capacity.	<ul style="list-style-type: none"> <li>Site inspection (12-13 October 2020)</li> <li>Monthly and weekly E&amp;C Coordinator Environment Inspections</li> <li>CHPP Manager daily inspections</li> <li>Work order for environmental monthly inspections (April 2020, June 2020, and September 2020)</li> </ul>	<ul style="list-style-type: none"> <li>Environmental Weekly Inspection (SWP-2430) includes a check of Leachate Dam 1 and Leachate Dam 2 (focussing on levels, inflows and outflows).</li> </ul>	Compliant	

### Monitoring and Recording Conditions

#### M1 Monitoring records

M1.1	The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.	<ul style="list-style-type: none"> <li>Annual Returns (EPA website)</li> </ul>		Noted	
M1.2	All records required to be kept by this licence must be: (a) in a legible form, or in a form that can readily be reduced to a legible form; (b) kept for at least 4 years after the monitoring or event to which they relate took place; and (c) produced in a legible form to any authorised officer of the EPA who asks to see them.	<ul style="list-style-type: none"> <li>Monthly EM reports (CC, 2016 -2020)</li> <li>Monthly Environmental Monitoring Reports (ALS, 2019)</li> <li>2019 LDP 002 Daily Discharge Volumes.xls</li> <li>ARs (CC, 2016 -2019)</li> </ul>	<ul style="list-style-type: none"> <li>Soft copies of monthly water and air quality environmental monitoring in Excel were available for review.</li> <li>ARs (2016 -2019) and records of discharge water quality and volumetric flow monitoring for LDP 002 in 2019 were available.</li> </ul>	Compliant	
M1.3	The following records must be kept in respect of any samples required to be collected for the purposes of this licence: (a) the date(s) on which the sample was taken; (b) the time(s) at which the sample was collected; (c) the point at which the sample was taken; and (d) the name of the person who collected the sample.	<ul style="list-style-type: none"> <li>Monthly Environmental Monitoring Reports (ALS, 2019)</li> </ul>	<ul style="list-style-type: none"> <li>The Monthly ALS Environmental Monitoring Reports for 2019 included the sample record requirements of M1.3.</li> </ul>	Compliant	

#### M2 Requirement to monitor concentration of pollutants discharged

M2.1	For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling	<ul style="list-style-type: none"> <li>Monthly EM reports (CC, 2016 -2020)</li> <li>Monthly Environmental Monitoring Reports (ALS, 2019)</li> </ul>	<ul style="list-style-type: none"> <li>The EPL includes monitoring for EPA Points 2, 3, 4 (water discharge), 5, 6 and 7 (air) and 9 (Wollangambe River).</li> <li>The auditors reviewed primary water quality and particulate data records for</li> </ul>	Compliant	
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## Appendix A3: Environment Protection Licence 726 - Compliance Assessment

	Requirement	Evidence	Findings	Compliance Status	Recommendation
	method, units of measure, and sample at the frequency, specified opposite in the other columns:	<ul style="list-style-type: none"> <li>ARs (CC, 2016-2019)</li> </ul>	<p>2019 which identified the sampling method, units of measure, sample frequency as specified in M2.1.</p> <ul style="list-style-type: none"> <li>There were no discharges from LDP03 and LDP04 reported in 2016, 2017, 2018 and 2019 ARs. A review of the 2020 EM reports identified that in 2020, after a 230mm rainfall event on 10 February 2020, water was discharged for less than one day at LDP003 and LDP004 (estimated at less than 1,000 kilolitres at each LDP). As the rainfall event was greater than the 56 mm rainfall event specified in EPL726 L2.5, concentration limits in EPL L2.4 and monitoring requirements in EPL 726 M2.1 did not apply.</li> </ul>		
<b>Testing methods- concentration limits</b>					
M3.1	<p>Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.</p> <p>Note: The Protection of the Environment Operations (Clean Air) Regulation 2010 requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".</p>	<ul style="list-style-type: none"> <li>Monthly Environmental Monitoring Reports.xls (ALS, 2019)</li> </ul>	<ul style="list-style-type: none"> <li>The ALS monitoring Excel workbook includes Methodology of Water Analysis worksheet; however, the worksheet does not identify the method for all Pollutants listed in EPL M2.3 (e.g. metals) and consequently an assessment against the Approved Methods Publication could not be undertaken.</li> </ul>	Non-compliant (NC-31)	R27: Identify the monitoring methods for each of the Pollutants identified in M2.3 in the ALS monthly environmental monitoring reports (.xls), assess if the methodology is in accordance with the EPA Approved Methods, and if required undertake corrective actions.
M3.2	<p>Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with:</p> <p>a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or</p> <p>b) if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or</p> <p>c) if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.</p>	<ul style="list-style-type: none"> <li>Monthly Environmental Monitoring Reports (ALS, 2019)</li> </ul>	<ul style="list-style-type: none"> <li>The ALS monitoring Excel workbook includes spreadsheets for Methodology of Dust Analysis and Methodology of Water Analysis.</li> <li>The Methodology of Dust Analysis complies with M3.1.</li> </ul>	Compliant	
<b>Environmental Monitoring</b>					



## Appendix A3: Environment Protection Licence 726 - Compliance Assessment

	Requirement	Evidence	Findings	Compliance Status	Recommendation
M4.1	<p>The licensee must undertake yearly (in-line with the reporting period) noise monitoring as outlined below, to determine compliance with the noise limits stipulated by condition L5.1:</p> <p>a) 1 day attended noise monitoring covering the day, evening and night time periods; and</p> <p>b) 5 days unattended noise monitoring (monitor and logger) covering each days day, evening and night time periods.</p>	<ul style="list-style-type: none"> <li>Environmental Noise Monitoring (Global Acoustics, December 2016)</li> <li>Environmental Noise Monitoring (Global Acoustics, December 2017)</li> <li>Additional Environmental Noise Monitoring (Global Acoustics, March 2018)</li> <li>Environmental Noise Monitoring (Global Acoustics, December 2019)</li> <li>ARs (CC, 2016 -2019)</li> <li>Monthly EM Reports (CC, 2016 – 2020)</li> <li>ARs (CC, 2016-2020)</li> <li>Western Region Noise Management Plan (CC, 2018)</li> <li>ECD (CC, 2016 -2020)</li> </ul>	<ul style="list-style-type: none"> <li>The 2018 AR reports: <ul style="list-style-type: none"> <li>additional noise monitoring (<i>“extensive paired attended and unattended monitoring to determine the noise levels experienced at sensitive receivers”</i>). that was undertaken as a result of exceedance of noise criteria in 2017.</li> <li>attended noise monitoring was conducted in March 2018 and September 2018.</li> <li>a study by Recognition Research was conducted in 2018 to further investigate differential values between Monitoring Location and Sensitive receptors.</li> </ul> </li> <li>Unattended noise results were not included in the March 2018 Environmental Noise Monitoring Report (Global Acoustics, 2018) or the December 2019 Environmental Noise Monitoring Report (Global Acoustics, 2019).</li> </ul>	Non-compliant (NC-32)	R28: Conduct both attended and unattended annual noise monitoring in accordance with EPL 726 M4.1.
M4.2	<p>The results of the noise monitoring required by condition M4.1, and an interpretation of these results, must be provided as an attachment to each corresponding years Annual Return.</p>	<ul style="list-style-type: none"> <li>Environmental Noise Monitoring (Global Acoustics, December 2016)</li> <li>Environmental Noise Monitoring (Global Acoustics, December 2017)</li> <li>Additional Environmental Noise Monitoring (Global Acoustics, March 2018)</li> <li>Environmental Noise Monitoring (Global Acoustics, December 2019)</li> <li>ARs (CC, 2016 -2019)</li> </ul>	<ul style="list-style-type: none"> <li>Annual specialist noise monitoring reports (including results and interpretations) were included as attachments to the ARs.</li> </ul>	Compliant	
M4.3	<p>The licensee, following the receipt of a noise related complaint and if required by the EPA, must undertake noise monitoring as required by the EPA to determine compliance with the noise limits stipulated by condition L5.1.</p>	<ul style="list-style-type: none"> <li>Complaint Register (CC, 2020)</li> <li>ECD (2016 -2020)</li> <li>ARs (CC, 2016 -2020)</li> </ul>	<ul style="list-style-type: none"> <li>One noise complaint was recorded on the EPA Hotline on 10 April 2017 reporting a constant low hum. The complaint was investigated and a source at Clarence was not identified.</li> </ul>	Compliant	

## Appendix A3: Environment Protection Licence 726 - Compliance Assessment

	Requirement	Evidence	Findings	Compliance Status	Recommendation
M4.4	The results of the noise monitoring required by condition M4.3, and an interpretation of these results, must be provided to the EPA within 21 days of the completion of the noise monitoring.		<ul style="list-style-type: none"> <li>No records that additional noise monitoring was requested by the EPA under condition M4.3 for the complaint recorded in April 2017.</li> </ul>	Compliant	
<b>Weather monitoring</b>					
M5.1	For each monitoring point specified in the table below the licensee must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1. The licensee must use the sampling method, units of measure, averaging period and sample at the frequency, specified opposite in the other columns.	<ul style="list-style-type: none"> <li>6-month hydrographics verification certificate (ALS, 6 March 2019).</li> <li>ALS portal display (22 December 202)</li> </ul>	<ul style="list-style-type: none"> <li>The meteorological station was operational during the period of the IEA and was verified to conform to AS3580.14 by ALS on a six monthly basis with results uploaded into the client data portal.</li> <li>A review of the data indicated that air temperature, wind direction, wind speed, rainfall and relative humidity were monitored.</li> <li>Sigma theta measurement was sighted in a screenshot of the ALS weather station data portal.</li> <li>An independent review of compliance with the NSW EPA Approved Methods for Sampling of Air Pollutants in New South Wales has not been undertaken as part of this audit.</li> </ul>	Compliant	
<b>Recording of Pollution complaints</b>					
M6.1	The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.	<ul style="list-style-type: none"> <li>Complaint Register (CC, 2020)</li> <li>Clarence website 'Community Complaints Register'</li> </ul>	<ul style="list-style-type: none"> <li>A register of community complaints was available.</li> <li>A monthly update of the complaints register is available on the Clarence website.</li> </ul>	Compliant	
M6.2	The record must include details of the following: (a) the date and time of the complaint; (b) the method by which the complaint was made; (c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect; (d) the nature of the complaint; (e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and (f) if no action was taken by the licensee, the reasons why no action was taken.	<ul style="list-style-type: none"> <li>Complaint Register (CC, 2020)</li> <li>Clarence website 'Community Complaints Register'</li> </ul>	<ul style="list-style-type: none"> <li>The complaint register included requirements for EPL 726 M6.2.</li> </ul>	Compliant	
M6.3	The record of a complaint must be kept for at least 4 years after the complaint was made.	<ul style="list-style-type: none"> <li>Complaint Register (CC, 2020)</li> </ul>	<ul style="list-style-type: none"> <li>The complaint register included complaints from 2013 to 2020.</li> <li>No complaints have been recorded since July 2018.</li> </ul>	Compliant	

## Appendix A3: Environment Protection Licence 726 - Compliance Assessment

	Requirement	Evidence	Findings	Compliance Status	Recommendation
		<ul style="list-style-type: none"> <li>Clarence website 'Community Complaints Register'</li> </ul>			
M6.4	The record must be produced to any authorised officer of the EPA who asks to see them.		<ul style="list-style-type: none"> <li>Records of complaint have reportedly not been requested by the EPA.</li> </ul>	Not triggered	
<b>Telephone complaints</b>					
M7.1	The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.	<ul style="list-style-type: none"> <li>Clarence website 'Community Complaints Register'</li> </ul>	<ul style="list-style-type: none"> <li>Clarence operates a Community Information Hotline (02 6353 8039) which is manned by the Environment and Community Coordinator during normal working hours. Out of hours it was reported that the hotline is answered by the control room or the complainant can leave a voice mail message.</li> <li>A monthly update of the complaints register is available on the Clarence website.</li> </ul>	Compliant	
M7.2	The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.	<ul style="list-style-type: none"> <li>Clarence website 'Community Complaints Register'</li> </ul>	<ul style="list-style-type: none"> <li>Clarence operates a Community Information Hotline (02 6353 8039) which is manned by the Environment and Community Coordinator during normal working hours. Out of hours it was reported that the hotline is answered by the control room or the complainant can leave a voice mail message.</li> <li>A monthly update of the complaints register is available on the Clarence website.</li> </ul>	Compliant	
M7.3	The preceding two conditions do not apply until 3 months after: (a) the date of the issue of this licence or (b) if this licence is a replacement licence within the meaning of the Protection of the Environment Operations (Savings and Transitional) Regulation 1998, the date on which a copy of the licence was served on the licensee under clause 10 of that regulation.		<ul style="list-style-type: none"> <li>Outside the period of this IEA.</li> </ul>	Not triggered	

### Requirement to monitor volume or mass

## Appendix A3: Environment Protection Licence 726 - Compliance Assessment

	Requirement	Evidence	Findings	Compliance Status	Recommendation
M8.1	For each discharge point or utilisation area specified in table M8.1 the licensee must monitor: (a) the volume of liquids discharged to water or applied to the area; (b) the mass of solids applied to the area; (c) the mass of pollutants emitted to the air at the frequency and using the method and units of measure, specified: POINT 2: Daily using inline bubble meter instrumentation POINT 3: Daily during any discharge (estimate) POINT 4: Daily during any discharge (estimate)	<ul style="list-style-type: none"> <li>LDP 002 Daily Discharge Volumes 2019.xls</li> <li>ARs (CC, 2016 -2020)</li> </ul>	<ul style="list-style-type: none"> <li>An in-line meter has been installed at LDP002 for measuring flow.</li> <li>No discharges were reported from LDP03 and LDP04 were reportedly estimated.</li> </ul>	Compliant	
<b>6 Reporting Conditions</b>					
R1.1	The licensee must complete and supply to the EPA an Annual Return in the approved form comprising: (a) a Statement of Compliance; and (b) a Monitoring and Complaints Summary. At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.	<ul style="list-style-type: none"> <li>EPA website Public Register EPL 726</li> </ul>	<ul style="list-style-type: none"> <li>Annual Returns were provided from 2016 – 2019.</li> </ul>	Compliant	
R1.2	An Annual Return must be prepared in respect of each reporting period, except as provided below.			Noted	
R1.3	Where this licence is transferred from the licensee to a new licensee: (a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and (b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.		<ul style="list-style-type: none"> <li>The licence has not been transferred.</li> </ul>	Not triggered	
R1.4	Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on: (a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or (b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.		<ul style="list-style-type: none"> <li>The licence has not been surrendered.</li> </ul>	Not triggered	
R1.5	The Annual Return for the reporting period must be supplied to the EPA by registered post not later than	<ul style="list-style-type: none"> <li>EPA website Public Register EPL 726</li> </ul>	<ul style="list-style-type: none"> <li>The timing of the submission of the Annual Returns was not able to be</li> </ul>	Compliant	

### Appendix A3: Environment Protection Licence 726 - Compliance Assessment

	Requirement	Evidence	Findings	Compliance Status	Recommendation
	60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').		verified. Evidence that the Annual Returns have been provided to the EPA is available on the EPA Public Register, consequently this condition has been assessed as compliant.		
R1.6	The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.	<ul style="list-style-type: none"> <li>Annual Returns (CC, 2016 - 2019)</li> </ul>	<ul style="list-style-type: none"> <li>Copies of Annual Returns were available at the site.</li> </ul>	Compliant	
R1.7	Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by: (a) the licence holder; or (b) by a person approved in writing by the EPA to sign on behalf of the licence holder.	<ul style="list-style-type: none"> <li>2018 and 2019 Annual Returns (CC, 2019 &amp; 2020)</li> </ul>	<ul style="list-style-type: none"> <li>Copies of Annual Returns were available at the site.</li> <li>2018 and 2019 Annual Returns were signed by Director and Company Secretary.</li> </ul>	Compliant	
R1.8	A person who has been given written approval to certify a certificate of compliance under a licence issued under the Pollution Control Act 1970 is taken to be approved for the purpose of this condition until the date of first review of this licence.			Noted	
R2.1	Notifications must be made by telephoning the Environment Line service on 131 555. Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.	<ul style="list-style-type: none"> <li>Annual Returns (CC, 2016 - 2019)</li> </ul>	<ul style="list-style-type: none"> <li>The PIRMP was activated and reported to the EPA Environment Line on two occasions during the period of the IEA: <ul style="list-style-type: none"> <li>5 August 2016 (leachate leak from LD 2 causing elevated metal concentrations in unnamed Wollangambe River tributary).</li> <li>9 August 2019 (discharge of water from LD2 gravity pipeline).</li> </ul> </li> </ul>	Compliant	
<b>7 General Conditions</b>					
G1.1	A copy of this licence must be kept at the premises to which the licence applies.		<ul style="list-style-type: none"> <li>A copy of the EPL was available at the site.</li> </ul>	Compliant	
G1.2	The licence must be produced to any authorised officer of the EPA who asks to see it.		<ul style="list-style-type: none"> <li>The licence has reportedly not been requested by the IEA.</li> </ul>	Not triggered	
G1.3	The licence must be available for inspection by any employee or agent of the licensee working at the premises.		<ul style="list-style-type: none"> <li>No complaints or incidents were recorded regarding access to the licence.</li> <li>The licence was available on site for the auditors.</li> </ul>	Compliant	
G2.1	The location of EPA identification points 2 to 8 must be clearly marked by a sign that indicates the EPA identification points used in this licence and be located as close as practical to these points.	<ul style="list-style-type: none"> <li>Site inspection</li> </ul>	<ul style="list-style-type: none"> <li>Signage of LDP 002, LDP 003, LDP 004, DG2 and Point 9 was sighted during the site inspection.</li> </ul>	Compliant	

## Appendix A3: Environment Protection Licence 726 - Compliance Assessment

	Requirement	Evidence	Findings	Compliance Status	Recommendation										
8 Pollution Studies and Reduction Programs															
• An assessment of															
	U1 Discharges into the Wollangambe River														
U1.1	By 30 June 2020, the licensee is to lodge an application under Section 5.15 of the Environmental Planning and Assessment Act 1979 which seeks approval to carry out, as State Significant Infrastructure, the construction and operation of infrastructure designed for the purpose of transferring to the Coxs River treated groundwater which would otherwise be discharged via LDP002 into the Wollangambe River. The transferred water is to have a conductivity (EC) limit of 350 microsiemens per centimetre (us/cm) (90th percentile).	• Letter to EPA Transfer to Coxs River Revised Project Plan (CC, 30 September 2020)	• An alternative solution was proposed by 30 September 2020 as an approval path for transfer of treated groundwater to the Coxs River was not available.	Compliant											
U1.2	If the infrastructure referred to in Condition U1.1 is authorised to be carried out, under the Environmental Planning and Assessment Act 1979, as State Significant Infrastructure, the licensee is required to construct and operate the infrastructure no later than 18 months after the date on which the State Significant Infrastructure approval was granted. In the event that there is a legal challenge to the State Significant Infrastructure approval which is finally determined in favour of the licensee, it is required to construct and operate the infrastructure no later than 18 months after the appeal rights are exhausted			Compliant											
U1.3	If condition U1.1 above cannot be met by 30 June 2020, the licensee must submit an alternate project to the EPA by 30 September 2020 that will satisfy the outcome of ceasing discharge to the Wollangambe River via LDP002 by 30 June 2021.			Compliant											
U2 Pipeline Integrity and Management Improvement															
U2.1	<div>The Licensee must undertake the works as detailed in the table in EPL 726 U2.1 by the completion date</div> <table><thead><tr><th>Required Works</th><th>Completion Date</th></tr></thead><tbody><tr><td>Review Gate Valve operation (consider isolation)</td><td>30 March 2020</td></tr><tr><td>Set up remote monitoring of the Dam Level and Pipe Level that reports through the Citec System and has Alarms</td><td>7 February 2020</td></tr><tr><td>Investigate re - routing filter water back to the Primary Arrester via gravity feed</td><td>6 December 2020</td></tr><tr><td>Investigate practicality of toe drain being constructed along pipe route to give redundancy to the system</td><td>6 January 2020</td></tr></tbody></table>	Required Works	Completion Date	Review Gate Valve operation (consider isolation)	30 March 2020	Set up remote monitoring of the Dam Level and Pipe Level that reports through the Citec System and has Alarms	7 February 2020	Investigate re - routing filter water back to the Primary Arrester via gravity feed	6 December 2020	Investigate practicality of toe drain being constructed along pipe route to give redundancy to the system	6 January 2020	• Condition U2 Completion Report (CC, 7 April 2020)	• Works described in U2.1 have been completed and were reported by 10 April 2020.	Compliant	
Required Works	Completion Date														
Review Gate Valve operation (consider isolation)	30 March 2020														
Set up remote monitoring of the Dam Level and Pipe Level that reports through the Citec System and has Alarms	7 February 2020														
Investigate re - routing filter water back to the Primary Arrester via gravity feed	6 December 2020														
Investigate practicality of toe drain being constructed along pipe route to give redundancy to the system	6 January 2020														
U2.2	The Licensee must submit a report to the EPA documenting completion of the works listed in Condition	Compliant													

Appendix A3: Environment Protection Licence 726 - Compliance Assessment

	Requirement	Evidence	Findings	Compliance Status	Recommendation
	U2.1 by 10 April 2020				



## **Appendix A4: (DRG)**

- **Consolidated Coal Lease 705**
- **Mining Lease 1583**

**Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
<b>CONSOLIDATED COAL LEASE 705</b>					
<b>Notice to Landholders</b>					
CCL 705-1	<p>Within a period of three months from the date of grant/renewal of this lease or within such further time as the Minister may allow, the lease holder must serve on each landholder of the land a notice in writing indicating that this lease has been granted/renewed and whether the lease includes the surface. An adequate plan and description of the lease area must accompany the notice.</p> <p>If there are ten or more landholders affected, the lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this lease has been granted/renewed; state whether the lease includes the surface and must contain an adequate plan and description of the lease area.</p>		<ul style="list-style-type: none"> <li>Prior to the period of this IEA.</li> </ul>	Not triggered	
<b>Mining, Rehabilitation, Environmental Management Process (MREMP) Mining Operations Plan (MOP)</b>					
CCL 705-2 (1)	<p>Mining operations, including mining purposes, must be conducted in accordance with a Mining operations plan (the plan) satisfactory to the Secretary. The plan together with environmental conditions of development consent and other approvals will form the basis for</p> <p>a) ongoing mining operations and environmental management and</p> <p>b) ongoing monitoring of the project.</p>	<ul style="list-style-type: none"> <li>2018 - 2022 MOP (CC, 2017)</li> <li>Letter to CC Approval of MOP (DRG, 12 February 2018)</li> <li>2018 - 2022 MOP Amendment A (CC, 2019)</li> <li>Letter to CC Notice of Approval (DRG, 27 May 2019)</li> </ul>	<ul style="list-style-type: none"> <li>A detailed review of the MOP development and implementation was not undertaken as part of this IEA.</li> <li>A 2018 -2022 MOP was prepared in 2017 and approved by the DRG on 12 February 2018.</li> <li>The 2018 -2022 MOP was amended in 2019 (Amendment A) dated 11 March 2019 and was approved by DRE on 27 May 2019. This amendment incorporated the decommissioning and rehabilitation of REA III, and changes to mine operations and rehabilitation.</li> <li>The 2018-2022 MOP included Development Approvals in Appendix A.</li> </ul>	Compliant	
CCL 705-2 (2)	<p>The Plan must be prepared in accordance with the Director- General's guidelines current at the time of lodgement.</p>	<ul style="list-style-type: none"> <li>ESG3: Mining Operations Plan Guidelines (DRG, 2013)</li> <li>2018 - 2022 MOP Amendment A (CC, 2019)</li> </ul>	<ul style="list-style-type: none"> <li>A detailed review of the 2018 -2022 MOP Amendment A development and implementation was not undertaken as part of this IEA.</li> <li>A high level review of the 2018 -2022 MOP Amendment A identified that it was prepared in general accordance with ESG3: Mining Operations Plan Guidelines (DRG, 2013) and the table of contents included sections required by</li> </ul>		

**Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
			<p>ESG3 Mining Operations Plan Guidelines.</p> <ul style="list-style-type: none"> <li>The MOP reports that the rehabilitation cost estimate was prepared in accordance with the ESG1: Rehabilitation Cost Estimate Guidelines (DPIE, 2017).</li> </ul>		
CCL 705-2 (3)	<p>A Plan must be lodged with the Secretary</p> <ul style="list-style-type: none"> <li>a) prior to the commencement of mining operations (including mining purposes);</li> <li>b) subsequently as appropriate prior to the expiry of any current Plan; and</li> <li>c) in accordance with any direction issued by the Director- General</li> </ul>	<ul style="list-style-type: none"> <li>Letter to CC Approval of MOP (DRG, 12 February 2018)</li> <li>Letter to CC Notice of Approval (DRG, 27 May 2019)</li> </ul>	<ul style="list-style-type: none"> <li>The 2018 -2022 MOP was approved by DRE on 12 February 2018 and as amended on 27 May 2019.</li> </ul>		
CCL 705-2 (4)	<p>The Plan must present a schedule of proposed mine development for a period of up to seven (7) years and contain diagrams and documentation which identify</p> <ul style="list-style-type: none"> <li>a) area(s) proposed to be disturbed under the plan</li> <li>b) mining and rehabilitation method(s) to be used and their sequence</li> <li>c) areas to be used for disposal of tailings/waste</li> <li>d) existing and proposed surface infrastructure</li> <li>e) existing flora and fauna on the site</li> <li>f) progressive rehabilitation schedules</li> <li>g) areas of particular environmental, ecological and cultural sensitivity and measures to protect these areas</li> <li>h) water management systems (including erosion and sediment controls);</li> <li>i) proposed resource recovery and</li> <li>j) where the mine will cease extraction during the term of the Plan, a closure plan including final rehabilitation objectives/ methods and post mining land use / vegetation</li> </ul>	<ul style="list-style-type: none"> <li>2018 - 2022 MOP Amendment A (CC, 2019)</li> </ul>	<p>A detailed review of the MOP development and implementation was not undertaken as part of this IEA. Reference to the requirements of CCL 705 2(4) are included in the 2018 -2022 MOP amendment A in the following sections:</p> <ul style="list-style-type: none"> <li>(a) – section 2 and Plans (Appendix 2)</li> <li>(b) – section 5</li> <li>(c) – sections 2, 5 and 7 and Plans (Appendix 2)</li> <li>(d) – section 2 and Plans (Appendix 2)</li> <li>(e) – sections 3.2.5. and 3.2.6 and Plans (Appendix 2)</li> <li>(f) – sections 7 and 8</li> <li>(g) – section 3.2.11</li> <li>(h) – various locations including sections 3 and 7, Tables 13 and 25</li> <li>(i) – section 2</li> <li>(j) not applicable</li> </ul>		
CCL 705-2 (5)	<p>The Plan when lodged will be reviewed by the Department</p>	<ul style="list-style-type: none"> <li>Letter to CC Approval of MOP (DRG, 12 February 2018)</li> <li>Letter to CC Notice of Approval (DRG, 27 May 2019)</li> </ul>	<ul style="list-style-type: none"> <li>The 2018 -2022 MOP was approved by DRE on 112 February 2018 and 27 May 2019.</li> </ul>		
CCL 705-2 (6)	<p>The Secretary may within two (2) months of the lodgement of a Plan, require modification and re-lodgement</p>	<ul style="list-style-type: none"> <li>2018 - 2022 MOP (CC, 2017)</li> <li>Letter to CC Approval of MOP (DRG, 12 February 2018)</li> </ul>	<ul style="list-style-type: none"> <li>The 2018 -2022 MOP was amended in 2019 (Amendment A) (CC, 11 March 2019) and was approved by DRE on 27 May 2019. This amendment incorporated the decommissioning and</li> </ul>	Noted	

**Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
		<ul style="list-style-type: none"> <li>2018 - 2022 MOP Amendment A (CC, 2019)</li> <li>Letter to CC Notice of Approval (DRG, 27 May 2019)</li> </ul>	rehabilitation of REA III, and changes to mine operations and rehabilitation		
CCL 705-2 (7)	If a requirement in accordance with clause 6 is not issued within two months of the lodgement of a plan, the lease holder may proceed with implementation of the plan			Noted	
CCL 705-2 (8)	During the life of the Mining Operations Plan, proposed modifications to the Plan must be lodged with the Director - General and will be subject to the review process outlined in clauses 5 - 7 above.	<ul style="list-style-type: none"> <li>2018 - 2022 MOP (CC, 2017)</li> <li>2018 - 2022 MOP Amendment A (CC, 2019)</li> </ul>	<ul style="list-style-type: none"> <li>A 2018 -2022 MOP was prepared in 2017 and approved by the DRG on 12 February 2018.</li> <li>The 2018 -2022 MOP was amended in 2019 (Amendment A) dated 11 March 2019 and was approved by DRE on 27 May 2019. This amendment incorporated the decommissioning and rehabilitation of REA III, and changes to mine operations and rehabilitation.</li> </ul>	Compliant	
<b>Annual Environmental Management Report (AEMR)</b>					
CCL 705-3 (1)	Within 12 months of the commencement of mining operations and thereafter annually or, at such other times as may be allowed by the Secretary, the lease holder must lodge an Annual Environmental Management Report (AEMR) with the Director-General	<ul style="list-style-type: none"> <li>ARs (CC, 2016 -2019)</li> <li>CC website</li> <li>Letter to CC Notice of Satisfaction (CCL705, ML1583, ML1353, ML 1354, ML 1721 AR Report (DRG, 19 December 2018)</li> </ul>	<ul style="list-style-type: none"> <li>ARs have been prepared annually in 2016, 2017, 2018 and 2019.</li> <li>ARs are available on the CC website.</li> <li>A Notice of Satisfaction letter was sighted for the 2017 AR. Notice of Satisfaction letters were not sighted, and consequently not assessed, for 2018 and 2019 ARs.</li> </ul>	Compliant	
CCL 705-3 (2)	The AEMR must be prepared in accordance with the Secretary's guide lines current at the time of reporting and contain a review and forecast of performance for the proceeding and ensuing twelve months in terms of a) the accepted Mining Operations Plan b) development consent requirements and conditions c) Department of Environment and Conservation and Department of Planning licences and approvals d) any other statutory environmental requirements; e) details of any variations to environmental approvals applicable to the lease area; and f) where relevant, progress towards final rehabilitation objectives.	<ul style="list-style-type: none"> <li>Letter to CC (CCL705, ML1583, ML1353, ML 1354, ML 1721 AR Report (DRG, 19 December 2018)</li> <li>Post Approval requirements for Mining Developments (DPIE, 2015)</li> <li>2019 AR (CC, 2020)</li> </ul>	<ul style="list-style-type: none"> <li>The Table of Contents of the 2016, 2017, 2018 and 2019 ARs were aligned with the DPIE Post Approval requirements for Mining Developments.</li> <li>Although a detailed review of the AR development was not undertaken as part of this IEA, the 2019 AR was assessed as including most of the topics required by the DPIE Post Approval requirements for Mining Development including:</li> <li>A review of changes during the reporting period, and compliance with: <ul style="list-style-type: none"> <li>2018 -2022 MOP (section 3.1.2)</li> <li>Development Consents (Table 2)</li> </ul> </li> </ul>	Non-compliant (NC-33)	Refer Appendix A2 MOD 035/18 condition 14 (OEH) and R22.

Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
			<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>○ EPL 726 (Table 2)</li> </ul> </li> <li>• Environmental performance and assessment of monitoring results against criteria triggered by Development Consents and in EPL 726 including:                             <ul style="list-style-type: none"> <li>○ volume of water taken (WAL36479) (Table 21)</li> <li>○ monitoring and trends in groundwater (section 12.6), water discharged at LDP 002 (section 12.1.1), LDP 002 volume discharged (Table 26), Wollangambe River water quality at Point 9 (Table 25), flora and fauna and biodiversity indices over time in 800 Area and 900 Area (Table 16 and 17) and air quality (section 6.1).  <b>Note:</b> Although the 2019 AR included hydrographs for open boreholes (Figure 38), and reported on reported on the uncharacteristic decline in groundwater levels at CLRP5, the auditors were unable to assess if the 2017 WMP TARPs for groundwater level or piezo head change have been triggered as the units of measurement are not aligned. Refer to Appendix A1 DA504 Sch 3-5 (Water Resources Impact Assessment Criteria).</li> </ul> </li> <li>• Biodiversity offsets (section 6.2)</li> <li>• Noise (section 11)</li> <li>• Greenhouse gas emissions (Table 18)</li> <li>• Baseline reporting of four aboriginal heritage sites (section 9.1)</li> <li>• Water Balance (section 12.2)</li> <li>• Dates of community consultation meetings.</li> <li>• Status of actions from 2016 IEA.</li> <li>• Reportable incidents and regulatory actions.</li> </ul>		

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No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
			<ul style="list-style-type: none"> <li>Although the ARs included the rehabilitation status (e.g., AR 2019 Table 29), proposed rehabilitation for the next 12 month reporting period, and a reference to the MOP site rehabilitation objective (e.g., AR 2019 section 13); as there was no assessment of current rehabilitation progress against final rehabilitation objectives, this condition was assessed as non-compliant. Refer to Appendix A2 MOD 035/18 condition 14 and R22 for further findings and recommendations to address this non-compliance.</li> </ul>		
CCL 705-3 (3)	After considering an AEMR the Secretary may, by notice in writing, direct the lease holder to undertake operations, remedial actions or supplementary studies in the manner and within the period specified in the notice to ensure that operations on the lease area are conducted in accordance with sound mining and environmental practice.	<ul style="list-style-type: none"> <li>ARs (CC, 2016-2019)</li> </ul>	<ul style="list-style-type: none"> <li>Actions identified by DPIE in the review of the previous year's AR, and where they are addressed in the current AR, are included in 2016 AR, 2017 and 2018 ARs. There were no DPIE actions from the previous AR raised in the 2019 AR.</li> </ul>	Compliant	
CCL 705-3 (4)	The lease holder shall, as and when directed by the Minister, cooperate with the Secretary to conduct and facilitate review of the AEMR involving other government agencies and the local council	<ul style="list-style-type: none"> <li>ARs (CC, 2016 -2019)</li> <li>Letter to CC Notice of Satisfaction (CCL705, ML1583, ML1353, ML 1354, ML 1721 AR Report (DRG, 19 December 2018)</li> </ul>	<ul style="list-style-type: none"> <li>No issues were identified by regulatory stakeholders during consultation for this IEA regarding review of the AR. Refer to Appendix G of the IEA Report for a summary of regulatory agency consultation for this IEA.</li> <li>A Notice of Satisfaction letter was sighted for the 2017 AR. Notice of Satisfaction letters were not sighted, and consequently not assessed, for 2018 and 2019 ARs.</li> </ul>	Not triggered	
<b>Subsidence Management</b>					
CCL 705-4 (a)	The lease holder shall prepare a Subsidence Management Plan prior to commencing any underground mining operations which will potentially lead to subsidence of the land surface	<ul style="list-style-type: none"> <li>Annual SMR (CC, 2016, 2017, 2018 &amp; 2019)</li> <li>900 Area</li> <li>Partial Extraction 900 Area Environmental Monitoring Program (CC, 2014) Approved</li> <li>900 Area SMP Application (CC, September 2013)</li> <li>900 Area SMP Variation (CC, April 2019)</li> </ul>	<ul style="list-style-type: none"> <li>SMPs were prepared for Areas 700, 800 and 900 prior to commencing underground mining operations which will potentially lead to subsidence of the land surface.</li> <li>Evidence of approval of 800 Area SMP by DRG was sighted.</li> <li>Refer Appendix A5 of this IEA report for assessment of compliance of SMP Area 800 and SMP Area 900.</li> </ul>	Compliant	

**Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
		<ul style="list-style-type: none"> <li>SMP 900 Area Approval (DRG, 21 January 2014)</li> <li>800Area</li> <li>SMP Approved Plan_800 CL1753 (CC, May 2020)</li> <li>800 Area SMP Variation 6 (CC, May 2020)</li> <li>800 Area SMP Variation Approval letter (DRG, 2014)</li> <li>Letter to CC SMP 800 variation 6 approval Ref MAAG0007256 (DRG. 11 August 2020)</li> </ul>			
CCL 705-4 (b)	Underground mining operations which will potentially lead to subsidence include secondary extraction panels such as longwalls or minerals, associated first workings (gate roads, installation roads and associated main headings, etc), and pillar extractions, and are otherwise defined by the Guideline for Applications for Subsidence Management Approvals			Noted	
CCL 705-4 (c)	The lease holder must not commence or undertake underground mining operations that will potentially lead to subsidence other than in accordance with a Subsidence Management Plan approved by the Secretary, an approval under the Coal Mines Regulation Act 1982, or the document New Subsidence Management Plan Approval Process - Transitional Provisions	<ul style="list-style-type: none"> <li>800 Area SMP Variation 6 (CC, May 2020)</li> <li>900 Area SMP Variation (CC, April 2019)</li> <li>Annual SMRs (CC, 2016 - 2019)</li> </ul>	<ul style="list-style-type: none"> <li>The 800 and 900 Area SMP approvals include the requirement to prepare an end of year report (to be submitted within the first 3 months of the subsequent year) which includes a summary of subsidence and associated environmental monitoring for the year, analysis of these results against the relevant impact assessment criteria, identification of trends in monitoring results, and description of any actions taken to manage potential subsidence impacts due to mining. The report incorporates all SMP areas, and the latest report is publicly available via the Centennial website.</li> <li>Annual SMRs summarise mining activities undertaken and SMP approvals.</li> <li>Refer to section 4 of this IEA for an assessment of subsidence management.</li> </ul>	Compliant	
CCL 705-4 (d)	Subsidence Management Plans are to be prepared in accordance with the Guideline for Applications for subsidence management Approvals	<ul style="list-style-type: none"> <li>EDG Guideline for Applications for Subsidence</li> </ul>	<ul style="list-style-type: none"> <li>A detailed review of the SMPs development and implementation was not undertaken as part of this IEA.</li> </ul>	Compliant	



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No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
		Management Approvals (DRG, 2003) <ul style="list-style-type: none"> <li>800 Area SMP Variation 6 (CC, May 2020)</li> <li>800 Area SMP (CC, 2011)</li> </ul>	<ul style="list-style-type: none"> <li>The Table of Contents of 800 Area SMP (CC, 2011) and Variation 6 (CC, 2010) included requirements of EDG Guideline for Applications for Subsidence Management Approvals.</li> </ul>		
CCL 705-4 (e)	Subsidence Management Plans as approved shall form part of the Mining Operations Plan required under Condition 2 and will be subject to the Annual Environmental Management Report process as set out under Condition 3, The SMP is also subject to the requirements for subsidence monitoring and reporting set out in the document New Approval Process for Management of Coal Mining Subsidence – Policy	<ul style="list-style-type: none"> <li>2018 -2019 Amendment A (CC, 2019)</li> </ul>	<ul style="list-style-type: none"> <li>The 2018 -2019 MOP Amendment A and 2016 -2019 ARs referenced approved SMPs.</li> </ul>	Noted	
<b>Control of Operations</b>					
CCL 705-6	(a) If an Environmental Officer (EO) of the Department believes that the lease holder is not complying with any provision of the Act or any condition of this lease relating to the working of the lease, he may direct the lease holder to <ul style="list-style-type: none"> <li>i) cease working the lease or</li> <li>ii) cease that part of the operation not complying with the Act or conditions until in the opinion of the EO the situation is rectified</li> </ul> (b) The lease holder-must comply with any direction given. The DG may confirm, vary or revoke any such direction                     (c) A direction referred to in this condition may be served on the Mine Manager	<ul style="list-style-type: none"> <li>HRA Notification REA III (CC, September 2018)</li> <li>2018 - 2022 MOP Amendment (CC, 2019)</li> <li>s.240 Notice (DPIE, 20 May 2020)</li> <li>REA II Decommissioning HRA v3 (CC)</li> <li>Email to MCW Environmental – IEA Consultation (DRG, 15 November 2020)</li> </ul>	Clarence has received the following directions, and undertaken corrective actions, during the period of the IEA: <ul style="list-style-type: none"> <li>Further to a direction under s.240 Mining Act 1992 to cease using REAs as holding cells for thickened coal fines, tailings, and liquids issued to Clarence in 2015, the HRA Notification process for this s.240 was completed in September 2018 (allowing operational activities in preparation for the rehabilitation and decommissioning of REA III).</li> <li>The Notice to Provide Information and/or Records under Section 248B(1) of the Mining Act 1992 issued on the 1 December 2015, was replaced with a second Notice to Provide Information on the 7 January 2016 with information to be provided to DRG by the 25 January</li> </ul>	Compliant	

**Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
			<p>2016. The HRA Notification process for this notice has been completed in September 2018.</p> <ul style="list-style-type: none"> <li>A notice under Section 240(1)(c) of the Mining Act 1992 was issued in May 2020 in relation to the operations of the tailings storage facilities and decommissioning and closure requirements. Clarence provided a report in response to the notice which nominated actions to address the identified concerns. The REA III decommissioning HRA included a sampling regime to be completed by 16 October 2020 and independent groundwater monitoring around REA III to determine capping suitability to be completed by 25 June 2021. Both actions were required to be completed after the period of this IEA and hence have not been assessed.</li> </ul>		
<b>Reports</b>					
CCL 705-7	<p>The lease holder must provide an exploration report within a period of twenty - eight days after each anniversary of the date this lease has effect or at such other date as the DG may stipulate of each year. The report must be to the satisfaction of the DG and contain the following</p> <p>a- Full particulars, including results, interpretation and conclusions, of all exploration conducted during the twelve months period</p> <p>b- Details of expenditure incurred in conducting that exploration</p> <p>c- A summary of all geological findings acquired through mining or development evaluation activities</p> <p>d- Particulars of exploration proposed to be conducted in the next twelve months period</p> <p>e- All plans, maps, sections and other data necessary to satisfactorily interpret the report</p>	<ul style="list-style-type: none"> <li>Email to DRG for Exploration Report Submission (CC, 20 July 2016)</li> <li>Email to DRG for Exploration Report Submission (CC, 17 July 2017)</li> <li>Email to DRG for Exploration Report Submission (CC, 20 July 2016)</li> <li>Email to DRG for Exploration Report Submission (CC, 10 January 2020)</li> <li>Annual Exploration Report (CC, 20 December 2018)</li> <li>Annual Exploration Report (CC, 2017)</li> <li>Annual Exploration Report (CC, 2016)</li> </ul>	<ul style="list-style-type: none"> <li>Annual Exploration Reports were sighted for 2016, 2017 and 2018</li> <li>Evidence that reports were submitted to DRG was available for annual exploration reports from 2016 to 2019.</li> <li>Examples of evidence that the reports were accepted by DRG were available for the 2018 and 2019 annual exploration report.</li> <li>A brief review of the 2016, 2017 and 2018 reports indicated that the requirements of CCL 705 condition 7 were provided.</li> <li>The annual exploration reports were not reviewed in detail however the 2018 report included: <ul style="list-style-type: none"> <li>exploration completed during the 12 month period (section 2)</li> <li>expenditure (Table 7)</li> <li>geological features (section 2)</li> <li>exploration proposed in the next 12 months (section 3)</li> <li>plans (figures)</li> </ul> </li> </ul>	Compliant	

**Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
<b>Licence to Use Reports</b>					
CCL 705-8	<p>(a) The lease holder grants to the licence, the right in copyright to all exploration reports lodged in copyright. Minister, by way of a non-exclusive publish, print, adapt and reproduce any form and for the full duration of copyright</p> <p>(b) The non - exclusion licence will operate as a consent for the purposes of section 365 of the Mining Act 1992</p>			Noted	
CCL 705-9	<p><b>Confidentiality</b></p> <p>(a) All exploration reports submitted in accordance with the conditions of this lease will be kept confidential while the lease is in force, except in cases where:</p> <p>i- the lease holder has agreed that specified reports may be made non -confidential</p> <p>ii- reports deal with exploration conducted exclusively on areas that have ceased to be part of the lease</p> <p>(b) Confidentiality will be continued beyond the termination of a lease where an application for a flow-on title was lodged during- the currency of the lease. The confidentiality will last until that flow- on title or any subsequent flow-on title, has terminated</p> <p>(c) The Secretary may extend the period of confidentiality</p>			Noted	
<b>Terms of the non-exclusive licence</b>					
CCL 705-10	<p>The terms of the non-exclusive copyright licence granted under condition 8 (a) are:</p> <p>(a) The Minister may sub-licence others to publish, print, adapt and reproduce but not on-licence reports.</p> <p>(b) the Minister and any sub-license will acknowledge the lease holder's and any identifiable consultant's ownership of copyright in any reproduction of the reports, including storage of reports onto an electronic database.</p> <p>(c) the lease holder does not warrant ownership of all copyright works in any report and, the lease holder will use best endeavour to identify those parts of the report for which the lease holder on, the copyright.</p> <p>(d) there is no royalty payable by the Minister for the licence.</p> <p>If the lease holder has reasonable grounds to believe that the Minister has exercised his rights under the non-exclusive copyright licence in a manner which adversely affects the operations of the lease holder,</p>			Noted	


**Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
	that licence is revocable on the giving of a period of not less than three months notice,				
<b>Blasting</b>					
CCL 705-11 (a)	Ground Vibration The lease holder must ensure that the ground vibration peak particle velocity generated by any blasting within the lease area does not exceed 10 mm/second and does not exceed 5 mm/second in more than 50/o of the total number of blasts over a period of 12 months at any dwelling or occupied premises as the case may be, unless determined otherwise by the Department of Environment and Conservation	<ul style="list-style-type: none"> <li>2018 – 2022 MOP Amendment A (CC, 2019)</li> </ul>	<ul style="list-style-type: none"> <li>No blasting is conducted at Clarence Colliery.</li> </ul>	Not triggered	
CCL 705-11 (b)	Blast Overpressure The lease holder must ensure that the blast overpressure noise level generated by any blasting within the lease area does not exceed 120 dB (linear) and does not exceed 115 dB (linear) in more than 5% of the total number of blasts over a period of 12 months, at any dwelling or occupied premises, as the case may be, unless determined otherwise by the Department of Environment and conservation	<ul style="list-style-type: none"> <li>2018 – 2022 MOP Amendment A (CC, 2019)</li> </ul>	<ul style="list-style-type: none"> <li>No blasting is conducted at Clarence Colliery.</li> </ul>	Not triggered	
<b>Safety</b>					
CCL 705-12	Operations must be carried out in. a manner that ensures the safety of persons or stock in the vicinity of the operations. All drill holes shafts and excavations must be appropriately protected, to the satisfaction of the Secretary, to ensure that access to them by persons and stock is restricted. Abandoned shafts and excavations opened up or used by the lease holder must be filled in or otherwise rendered safe to a standard acceptable to the Secretary.		<ul style="list-style-type: none"> <li>An assessment of safety was excluded from the scope of this IEA.</li> </ul>		
<b>Rehabilitation</b>					
CCL 705-13 (a)	Land disturbed must be rehabilitated to a stable and permanent form suitable for a subsequent land use acceptable to the Director-General and in accordance with the Mining operations plan so that <ul style="list-style-type: none"> <li>- there is no adverse environmental effect outside the disturbed area and that the land is properly drained and protected from soil erosion.</li> <li>- the state of the land is compatible with the surrounding land and land use requirements.</li> <li>- the landforms, soils, hydrology and flora require no greater maintenance than that in the surrounding land.</li> </ul>	<ul style="list-style-type: none"> <li>ARs (CC, 2016 – 2019)</li> <li>2018 Rehabilitation Monitoring (Koru, 2019)</li> <li>2018 -2022 MOP Amendment (CC, 2019)</li> </ul>	<ul style="list-style-type: none"> <li>Clarence engaged third party consultants to annually monitor rehabilitation and a rehabilitation trial program was commenced in 2019 to improve rehabilitation results on REA II and REA IV and identify suitable rehabilitation methods for REA III. Rehabilitation on REA IV and REA VI was impacted by drought and the December 2019 Gospers Mountain bushfire. Clarence are now seeking advice on how to progress rehabilitation.</li> </ul>	Non-compliant (NC-34)	Refer to Appendix A2 MOD 035/18 condition 14 (Rehabilitation) and R22.

**Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
	<p>- in cases where revegetation is required and native vegetation has been removed or damaged, the original species must be re-established with close reference to the flora survey included in the Mining operations plan. if the original vegetation was not native, any re-established vegetation must be appropriate to the area and at an acceptable density,</p> <p>- the land does not pose a threat to public safety.</p>		<p>Annual rehabilitation monitoring scheduled for November 2020 may assist in providing direction.</p> <ul style="list-style-type: none"> <li>At the time of the site inspection, and as outlined in the rehabilitation monitoring reports and ARs, disturbed land was yet to be rehabilitated to a stable and permanent form. Consequently, this part of the condition was assessed as not triggered. Notwithstanding that this condition was assessed as Not triggered, the intent of this condition is to drive progressive rehabilitation, hence a recommendation to progress rehabilitation and consultation with stakeholders has been made.</li> <li>At the time of the site inspection, and as outlined in the annual rehabilitation monitoring reports and ARs, no disturbed land had been rehabilitated to a stable and permanent form.</li> <li>Given that there is an obligation to undertake progressive rehabilitation in accordance with the MOP, and that the cumulative rehabilitation progress was less than forecast in the 2014 -2017 MOP for the end of 2017, and less than forecast in the 2018 -2021 MOP Amendment A for the end of 2019, this condition was assessed as non-compliant.</li> <li>Refer to Appendix A2 MOD 035/18 condition 14 and R22 for further findings and recommendations to address this non-compliance.</li> </ul>		
CCL 705-13 (b)	Any topsoil that is removed must be stored and maintained in a manner acceptable to the Secretary	<ul style="list-style-type: none"> <li>ARs (CC, 2016 – 2019)</li> <li>2018 Rehabilitation Monitoring (Koru, 2019)</li> <li>Development Consent 174/93</li> </ul>	<ul style="list-style-type: none"> <li>An assessment of topsoil stockpiles was not undertaken as part of this IEA.</li> <li>Progressive rehabilitation has been reported in ARs with third party consultant annual rehabilitation monitoring reports included in the 2018 and 2019 ARs.</li> <li>Approval for REA V access vegetation clearing was provided on 8 February 2018.</li> </ul>	Compliant	

**Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
		 <p>Photo 33: Topsoil from Stage 1 REA V clearance stockpile</p>	<ul style="list-style-type: none"> <li>The 2018 Rehabilitation Monitoring Report includes an assessment of progress against MOP rehabilitation completion criteria for 'topsoil or alternative dressing media spread at depth of 100- 300mm' as: <ul style="list-style-type: none"> <li>REA 1 compliant</li> <li>REA II compliant</li> <li>REA III non-compliant</li> <li>REA IV compliant</li> </ul> </li> <li>During the site inspection, topsoil from clearance of Stage 1 REA V was observed to be stockpiled.</li> <li>No incidents or complaints regarding topsoil stockpiles from DRG or DPIE were recorded.</li> </ul>		
CCL 705-14	The lease holder must comply with any direction given by the Director- General regarding the stabilisation and revegetation at any mine residues tailings or overburden dumps situated on the lease area.	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Refer CCL 705 condition 6 above.</li> <li>REA III is no longer operational for reject emplacement; however, Clarence are recovering coal fines from REA III under the HRA Notification process. Representatives from regulatory authorities including DRG attended the HRA. REA III final landform shaping and rehabilitation will be undertaken after the period of this IEA.</li> <li>REA IV – following consultation with DPIE and EPA to address underperforming rehabilitation on REA IV, a rehabilitation trial had commenced on REA IV with the results of the trial planned to be used to identify suitable methods for other REAs. Rehabilitation on REA IV and REA VI was impacted by December 2019 Gaspers Mountain bushfire.</li> </ul>	Compliant	


**Exploratory Drilling**

**Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment**



No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
CCL 705-15	<p>(1) At least twenty eight days prior to commencement of drilling operations the lease holder must notify the relevant Department of Infrastructure, Planning and Natural Resources regional hydrogeologist of the intention to drill exploratory drill holes together with information on the location of the proposed holes</p> <p>(2) If the lease holder drills exploratory drill holes he must satisfy the Secretary that</p> <p>(a) all cored holes are accurately surveyed and permanently marked in accordance with Departmental guidelines so that their location can be easily established</p> <p>(b) all holes cored or otherwise are sealed to prevent the collapse of the surrounding surface;</p> <p>(c) all drill holes are permanently sealed with cement plugs to prevent surface discharge of groundwater's;</p> <p>(d) if any drill hole meets natural or noxious gases it is plugged or sealed to prevent their escape;</p> <p>(e) if any drill hole meets an artesian or sub-artesian flow it is effectively sealed to prevent contamination of aquifers.</p> <p>(f) once any drill hole ceases to be used the hole must be sealed in accordance with Departmental guidelines. Alternatively, the hole must be sealed as instructed by the Secretary.</p> <p>(g) once any drill hole ceases to be used the land and its immediate vicinity is left in a clean, tidy and stable condition.</p>		<ul style="list-style-type: none"> <li>During the period of the IEA, no exploratory drilling was undertaken in CCL 705. Five exploration boreholes and one piezo borehole were drilled in ML 1583 (refer Appendix A4 ML 1583 condition 15 below).</li> </ul>	Not triggered	
CCL 705-16	<p><b>Prevention of Soil Erosion and Pollution</b></p> <p>Operations must be carried out in a manner that does not cause or aggravate air pollution, water pollution (including sedimentation) or soil contamination or erosion, unless otherwise authorised by a 'relevant approval, and in accordance with an accepted Mining Operations plan. The purpose of this condition, water shall be taken to include any watercourse, water body or groundwaters. The lease holder must observe and perform any instructions given by the Secretary in this regard</p>	<ul style="list-style-type: none"> <li>Site inspection</li> </ul>	<ul style="list-style-type: none"> <li>Refer Appendix A1 DA504 Sch 3-8 Photos.</li> <li>Refer Appendix A3 EPL 726 O1.1.</li> <li>Sediment and erosion controls observed during the site inspection were generally in good condition with improvement opportunities identified during the site inspection (12 October 2020) e.g. at an area of recent erosion observed on the access track to LD 2, Wollangambe River crossing (Point 9), and an area draining to the Main Dam.</li> <li>Evidence of air pollution, water pollution and/or soil contamination as a result of sediment and erosion was not sighted.</li> </ul>	Compliant	Refer Appendix A1 DA504 Sch3-8 (Sediment and Erosion Control)



## Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment



No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
<b>Transmission lines, Communication lines and Pipelines</b>					
CCL 705-17	Operations must not interfere with or impair that stability or efficiency of any transmission line, communication line, pipeline or any other utility on the lease area without the prior written approval of the Secretary and subject to any conditions he may stipulate	<ul style="list-style-type: none"> <li>Site inspection</li> <li>ECD (2016 -2020)</li> <li>Complaints Register (CC, 2020)</li> </ul>	<ul style="list-style-type: none"> <li>No incidents or complaints regarding interference or impairment of transmission lines were recorded.</li> </ul>	Compliant	
<b>Fences, Gates</b>					
CCL 705-18	a) Activities on the lease may not interfere with or damage fences without the prior written approval of the owner thereof or the Minister and subject to any conditions the Minister may stipulate b) Gates within the lease area must be closed or left open in accordance with the requirements of the landholder	<ul style="list-style-type: none"> <li>Site inspection</li> <li>ECD (2016 -2020)</li> <li>Complaints Register (CC, 2020)</li> </ul>	<ul style="list-style-type: none"> <li>No incidents or complaints regarding fences or gates were recorded.</li> </ul>	Compliant	
<b>Roads and Tracks</b>					
CCL 705-19 (a)	Operations must not affect any road unless in accordance with an accepted Mining Operations plan or with the prior written approval of the Secretary and subject to any conditions he may stipulate	<ul style="list-style-type: none"> <li>ARs (CC, 2016 – 2019)</li> <li>Development Consent 174/93</li> <li>Site inspection</li> <li>ECD (2016 -2020)</li> <li>Complaint Register (CC, 2020)</li> <li>Proposed Reject Emplacement Area (REA V) Access Review (ARC Traffic and Transport, April 2016)</li> </ul>  <p>Photo 34: Access track on northern side of Wollangambe River</p>	<ul style="list-style-type: none"> <li>Approval for REA V was provided on 8 February 2018 and included relocation of an approved intersection from immediately west of the train loading facility (as proposed in the 1993 EIS) to the eastern side of the rail loop.</li> <li>The site inspection included travelling on tracks across the Newnes Plateau. Tracks were in generally good condition although there was evidence of impact from general public motorcycles on an access track near Paddys Swamp Newnes Plateau.</li> <li>No incidents or complaints were recorded regarding roads and tracks.</li> <li>An independent review to assess broader access and traffic characteristics of the REA V access track was undertaken by ARC Traffic and Transport.</li> </ul>	Compliant	
CCL 705-19 (b)	The lease holder must pay to the designated authority in control of the road ( generally the local council or the Roads and Traffic Authority) the cost incurred in fixing any damage to roads caused by operations		<ul style="list-style-type: none"> <li>No request for fixing damage to roads had reportedly been received by CC.</li> </ul>	Not triggered	

## Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
	carried out under the lease, less any amount paid or payable from the Mine Subsidence Compensation Fund				
CCL 705-20	Access tracks must be kept to a minimum and be positioned so that they do not cause any unnecessary damage to the land. Temporary access tracks must be ripped, topsoiled and revegetated as soon as possible after they are no longer required for mining operations. The design and construction of access tracks must be in accordance with specifications fixed by the Department of Infrastructure Planning and Natural Resources	<ul style="list-style-type: none"> <li>Site inspection</li> <li>ECD (2016 -2020)</li> <li>Complaint Register (CC, 2020)</li> </ul>  <p>Photo 35: Access track on Newnes Plateau to BM2 800 Area A-line</p>  <p>Photo 36: Feno marker on A-line subsidence monitoring A8</p>	<ul style="list-style-type: none"> <li>No incidents or complaints were recorded regarding roads and tracks.</li> <li>The RFS installed additional tracks in preparation for and during the Gaspers Mountain bushfire in 2019 – 2020. One track to the Wollongambe River is now used by the site to access a water monitoring point on the river.</li> <li>The use of Feno markers for subsidence monitoring has reduced access track impact.</li> </ul>	Compliant	

### Trees and Timber

## Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
CCL 705-21	<p>(a) The lease holder must not fell trees, strip bark or cut timber on the lease without the consent of the landholder who is entitled to the use of the timber, or if such a landholder refuses consent or attaches unreasonable conditions to the consent, without the approval of a warden</p> <p>(b) The lease holder must not cut destroy ringbark or remove any timber or other vegetative cover on the lease area except such as directly obstructs or prevents the carrying on of operations. Any clearing not authorised under the Mining Act 1992 must comply with the provisions of the Native Vegetation Conservation Act 1997.</p> <p>(c) The lease holder must obtain all necessary approvals or licences before using timber from any crown land within the lease area.</p>	<ul style="list-style-type: none"> <li>ARs (CC, 2016 – 2019)</li> <li>Development Consent 174/93</li> <li>Site inspection</li> <li>ECD (2016 -2020)</li> <li>Complaint Register (CC, 2020)</li> </ul>  <p>Photo 37: Use of felled timber for rehabilitation on REA IV (cleared area on REAV in background)</p>  <p>Photo 38: Use of felled timber at rehabilitated borehole site on Newnes Plateau (BM2 800 Area A line)</p>	<ul style="list-style-type: none"> <li>Approval for REA V access vegetation clearing was provided on 8 February 2018.</li> <li>During the site inspection, Stage 1 REA V was observed to have been recently cleared and timber was observed to be scattered back onto sites as part of rehabilitation at REA IV and drilling sites.</li> <li>No incidents or complaints were recorded regarding clearing and felling trees and cutting timber.</li> </ul>	Compliant	

**Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
CCL 705-23	<p><b>Resource Recovery</b></p> <p>(a) Notwithstanding any description of mining methods and their sequence or of proposed resource recovery contained within the Mining operations Plan, if at any time the Secretary is of the opinion that minerals which the lease entitles the lease holder to mine and which are economically recoverable at the time are not being recovered from the lease area, or that any such minerals which are being recovered are not being recovered to the extent which should be economically possible or which for environmental reasons are necessary to be recovered, he may give notice in writing to the lease holder requiring the holder to recover such minerals</p> <p>(b) The notice shall specify the minerals to be recovered and the extent to which they are to be recovered, or the objectives in regard to resource recovery, but shall not specify the processes the lease holder shall use to achieve the specified recovery</p> <p>(c) The lease holder must, when requested by the Secretary, provide such information as the Secretary may specify about the recovery of the mineral resources of the lease area</p> <p>(d) The Secretary shall issue no such notice unless the matter has firstly been thoroughly discussed with and a report to the Secretary has incorporated the views of the lease holder</p> <p>(e) The lease holder may object to the requirements of any notice issued under this condition and on receipt of such an objection the Minister shall refer it to a warden for inquiry and report under section 334 of the Mining Act, 1992</p> <p>(f) After considering the warden's report the Minister shall decide whether to withdraw, modify or maintain the requirements specified in the original notice and shall give the lease holder written notice of the decision.</p>	<ul style="list-style-type: none"> <li>• 2018 -2022 MOP Amendment A (CC, 2017)</li> </ul> <p>900 Area</p> <ul style="list-style-type: none"> <li>• Partial Extraction 900 Area Environmental Monitoring Program (CC, 2014) Approved</li> <li>• 900 Area SMP Application (CC, September 2013)</li> <li>• 900 Area SMP Variation (CC, April 2019)</li> <li>• SMP 900 Area Approval (DRG, 21 January 2014)</li> </ul> <p>800Area</p> <ul style="list-style-type: none"> <li>• SMP Approved Plan 800 CL1753 (CC, May 2020)</li> <li>• 800 Area SMP Variation 6 (CC, May 2020)</li> <li>• 800 Area SMP Variation Approval letter (DRG, 2014)</li> <li>• Letter to CC SMP 800 variation 6 approval Ref MAAG0007256 (DRG. 11 August 2020)</li> </ul>	<ul style="list-style-type: none"> <li>• No notices as referenced in CCL 705 condition 23 have been received by Clarence.</li> <li>• 2018 -2022 MOP Amendment A and SMP Approvals indicate approval of resource recovery method and timing.</li> </ul>	Not triggered	
CCL 705-24	<p><b>Indemnity</b></p> <p>The lease holder must indemnify and keep indemnified the Crown from and against all actions, suits, claims and demands of whatsoever nature and all costs, charges and expenses which may be brought against the lease holder or which the lease holder may incur in respect of any accident or injury to</p>			Noted	

Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
	any person or property which may arise out of the construction, maintenance or working of any workings now existing or to be made by the lease holder within the lease area or in connection with any of the operations notwithstanding that all other conditions of this lease shall in all respects have been observed by the lease holder or that any such accident or injury shall arise from any act or thing which the lease holder may be licensed or compelled to do				
CCL 705-26	<p><b>Single Security (extended)</b></p> <p>(a) The single security of \$1,500,000.00 given and maintained with the Minister by the lease holder for the purpose of ensuring the fulfilment by the lease holder of obligations under Consolidate Coal Lease No. 705 (Act 1973) and Mining Leases No's. 1353 and 1354 (Act 1992) is extended to apply to this renewal of this lease</p> <p>(b) If the lease holder fails to fulfil any one or more of the obligations under this lease, then the security held may be applied at the discretion of the Minister towards the cost of fulfilling such obligations. For the purpose of this 'clause the lease holder shall be deemed to have failed to fulfil the obligations of the lease if the lease holder fails to comply with any condition or provision hereof, any provision of the Act or regulations made there under or any condition or direction imposed or given pursuant to a condition or provision hereof or of any provision of the Act or regulations made there under</p>	<ul style="list-style-type: none"> <li>Security holding (Certificate No. 23081002) for CCL 705, ML 1353, and ML 1354 (\$6,746,000)</li> <li>Additional security holding (Certificate No. DG541623418 for CCL 705, ML 1353, ML 1354 and ML 1721 (\$2,522,000)</li> <li>Additional security holding (Certificate No. CENTENNIAL00225 for CCL 705, ML 1353, ML 1354, and ML 1721 (\$3,582,000)</li> <li>Certificate 300506 for MLA 208 and 209 – ML 1583 (\$50,000)</li> <li>Certificate 25061004 for MLA 208 and 209 – ML 1583 (\$20,000)</li> <li>Letter to CC Notification of Assessment for security deposit for rehabilitation obligations under CCL 705, ML 1353, ML 1354, and ML 1721 (DRG, 8 October 2020)</li> <li>Letter to CC Notification of Assessment for security deposit for rehabilitation obligations under CCL 705, ML 1353, ML 1354, and ML 1721 (DRG, 22 March 2020)</li> <li>Letter to CC Notification of Assessment for security deposit for rehabilitation</li> </ul>	<p>Correspondence from DRG regarding securities were sighted for CCL 705, ML 1353, ML 1354, and ML 1721:</p> <ul style="list-style-type: none"> <li>On 22 March 2018 DRG advised CC that a security deposit of \$12,850,000 is required for rehabilitation obligations under CCL 705, ML 1353, ML 1354, and ML 1721.</li> <li>On 8 October 2020, DRG advised CC that a security deposit of \$10,320,000 is required for rehabilitation obligations under CCL 705, ML 1353, ML 1354, and ML 1721. The Assessed Deposit was assessed by DRG as calculated consistent with three rehabilitation cost estimates referenced as: <ul style="list-style-type: none"> <li>Clarence Colliery EAMSG0002390 (dated 13 August 2020): \$10,217,468</li> <li>Exploration on ML 1353 EAMSG0003448 (dated 15 August 2019): \$51,624</li> <li>Exploration on ML 1354 EAMSG0003449 (dated 15 August 2019): \$50,640.</li> </ul> </li> <li>Certificates for the following securities totalling \$12,850,000 were sighted for CCL 705, ML 1353, ML 1354, and ML 1721: <ul style="list-style-type: none"> <li>Security holding (Certificate No. 23081002) for CCL 705, ML 1353, and ML 1354 (\$6,746,000)</li> <li>Additional security holding (Certificate No. DG541623418) for CCL 705, ML 1353, ML</li> </ul> </li> </ul>	Compliant	

**Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
		obligations under ML 1583 (DRG, 8 October 2020)	<p>1354 and ML 1721 (\$2,522,000)</p> <ul style="list-style-type: none"> <li>Additional security holding (Certificate No. CENTENNIAL00225) for CCL 705, ML 1353, ML 1354, and ML 1721 (\$3,582,000)</li> <li>As the total security holding certificates sighted for CCL705, ML 1353 and ML 1354 equalled the securities deposit in correspondence from the DRG dated 22 March 2018 and exceeded the securities deposit requirements in correspondence from DRG dated 8 October 2020, this condition was assessed as compliant.</li> </ul>		
<b>Details of Lands, Purposes and Additional Conditions</b>					
CCL 705-28	The lease holder shall be limited to the following operations and conditions within the specified areas described on the plan annexed hereto and marked 'B'. (See table within original document)			Noted	
CCL 705-29	<p>With regard to condition No. 28 and the plan annexed hereto and marked "B", the lease holder:</p> <p><u>Blue area on Plan B</u></p> <p>a- unless with the consent of the Minister, and subject to such conditions as he may impose the lease holder shall not dump on the subject lands any residues derived from the beneficiation of coal</p> <p>b- The lease holder shall provide and maintain to the satisfaction of the Minister efficient means to prevent contaminated waters discharging or escaping from the subject area onto surrounding areas and shall comply with any direction given or which may be given in this regard by the Minister</p> <p>c- The lease holder shall carry out and maintain the works authorized in such a manner as not to cause any danger to person or stock</p> <p>d i) the lease holder shall as far as may be practicable, carry out the works hereby authorised in such a manner as to interfere as little as possible with any track traversing the subject lands</p> <p>ii) The lease holder shall comply with any direction which may be given by the Minister or the Secretary regarding use by the public of any such track and if required to do so by the Minister the lease holder shall provide alternate tracks to the satisfaction of the Minister</p>	<ul style="list-style-type: none"> <li>ECD (2016 -2020)</li> <li>Complaints Register (CC, 2020)</li> <li>Monthly EM reports (CC, 2016 -2020)</li> </ul>	<p><u>Blue area on Plan B</u></p> <ul style="list-style-type: none"> <li>a) Coal reject has been placed in REAs: <ul style="list-style-type: none"> <li>REA I, REA II and REA IV are partially rehabilitated but not closed under the High Risk Activity (HRA) Notification process.</li> <li>REA III is no longer operational for reject emplacement; and Clarence are recovering coal fines from REA III under the HRA Notification process. Representatives from regulatory authorities attended the HRA. REA III final landform shaping and rehabilitation will be undertaken after the period of this IEA.</li> <li>REA IV – following consultation with DPIE and EPA to address underperforming rehabilitation on REA IV, a rehabilitation trial had commenced on REA IV with the results of the trial planned to be used to identify suitable methods for other</li> </ul> </li> </ul>	Non-compliant (NC-35)	Refer Appendix A1 DA 504 Sch 3-3 (Pollution of Waters).



## Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
	<p>e- The lease holder shall carry out the works hereby authorised in such a manner as not to interfere with the operations of the holder of Permissive Occupancy No 64 /2 Lithgow and any dispute between the lease holder and the holder of the said permissive occupancy shall be decided by the Minister whose decision shall be final  <u>Red area on Plan B (upcast shaft)</u></p> <p>f- The lease holder shall upon abandonment of any drill hole on the subject lands, fill in or suitably plug such a drill hole to the satisfaction of the Minister  <u>Yellow area on plan B</u></p> <p>g- The lease holder shall construct and maintain the railway within the subject area in accordance with the specifications and requirements of Rail Corporation of New South Wales</p> <p>h- The lease holder shall ensure that access over the subject land is available at all times to employees of Rail Corporations of New South Wales whilst in performance of their duties  <u>Green area on Plan B (downcast shaft)</u></p> <p>i) The lease holder shall within twenty four (24) hours notify the National Parks and Wildlife Services with laboratory analysis results of waters samples taken at discharge points</p> <p>k) The lease holder shall not dump or deposit any coal bearing material extracted during the construction of any shaft on the subject area. Such material shall be removed to the pit head dump facilities of the Clarence Colliery</p> <p>l) Notwithstanding the preceding conditions the lease holder shall not commence any excavation of works directly related to the construction of any shaft within the subject area until such time as the proposed siltation / setting dams have been constructed</p> <p>m) The lease holder shall ensure that any dam constructed on the subject area is not brought into operation until such time as the District inspector of Coal Mines has certified that</p> <p>i) the walls of any such dam has been compacted</p> <p>ii) the capacity of any such dam conforms to design specifications</p> <p>iii) any such dam is structurally sound and</p> <p>iv) the wall and catch drain of any such dam are so located as to trap all down slope movement of material from the construction site</p>		<p>REAs. REA IV rehabilitation was impacted by December 2019 Gospers Mountain bushfire.</p> <ul style="list-style-type: none"> <li>o REA V was recently cleared, and construction is currently underway.</li> <li>o REA VI was constructed in 2017 and operational during the period of the audit, hence only some rehabilitation has been undertaken. REA VI rehabilitation was also impacted by the 2019 Gospers Mountain bushfire.</li> </ul> <ul style="list-style-type: none"> <li>• b) Refer Appendix A1 DA504 Sch 3-3 and Appendix A3 EPL 726 conditions L1.1 regarding Pollution of Waters (non-compliant) and Table 2.5 regarding s.240 Notice (May 2020) regarding risk to groundwater from REA III. The auditors have assessed that exceedance of EPL 726 LDP 002 discharge concentration limits represents “contamination of waters discharging from the subject area onto surrounding areas”. As there were a number of exceedances of LDP 002 discharge concentration limits recorded during the period of this IEA, this condition was assessed as non-compliant.</li> <li>• c) No incidents or complaints regarding people or stock damage were reported. Safety has not been assessed as part of this audit.</li> <li>• d) No incidents, complaints or information provided during consultation with regulators and the CCC in November 2020 as part of this IEA, regarding tracks or roads were reported</li> <li>• e) Not assessed -outside scope of this IEA.</li> </ul> <p><u>Red area on Plan B (upcast shaft)</u></p> <ul style="list-style-type: none"> <li>• f) Exploration bores are reportedly grouted to the surface with bores that</li> </ul>		



**Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
	<p>n) All topsoil is to be stockpiled prior to the construction of the proposed dams. Such topsoil is to be replaced on the walls of the completed dams</p> <p>o) The dam batters are to be constructed in such a manner as to ensure the stability of the completed earth structure</p>		<p>used for exploration and then monitoring purposes having a monument at the surface housing. This was not verified by the auditors.</p> <p><u>Yellow area on plan B</u></p> <ul style="list-style-type: none"> <li>g) Not assessed -outside scope of this IEA.</li> <li>h) Not assessed -outside scope of this IEA.</li> </ul> <p><u>Green area on Plan B (downcast shaft)</u></p> <ul style="list-style-type: none"> <li>i) No discharges were reported from this area consequently the requirement to provide results to the NPWS was not triggered.</li> <li>k) No coal has reportedly been dumped at the downcast shaft area.</li> <li>l) No excavation works at the downcast shaft area.</li> <li>m) No dams constructed at the downcast shaft area.</li> <li>n) No dams constructed at the downcast shaft area.</li> <li>o) No dams constructed at the downcast shaft area.</li> </ul>		
CCL 705-30	<p>The lease holder shall carry out operations in such a way as to conform strictly to all provisions of the Sydney Water Catchment Management Act 1998 and the regulation there under applying to the prevention of pollution of the Warragamba Outer Catchment Area or the preservation of the purity of the water supply provided thereby or derived there from or for the protection of the property of Sydney Catchment Authority [hereinafter referred to as the Authority] on the Outer Catchment Area and also to alt requirements of the Authority from time to time under the said Act or any of the regulations for the time being in force,</p> <p>b-If the lease holder shall at any time be using or about to use any process which in the opinion of the Authority is likely to pollute the outer catchment Area or the water supply or to endanger any property of the Authority on the outer catchment Area the lease holder upon service of a notice in writing under the hand or the Minister to do so shall:</p> <p>i) discontinue the use of such process immediately or</p>		<ul style="list-style-type: none"> <li>Clarence reported that exploration drilling or other activities were not undertaken in the SCA catchment area by Clarence during the period of the IEA.</li> </ul>	Not triggered	

**Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
	<p>ii) there after refrain from adopting such process at any time as the case may require</p> <p>c- the lease holder shall provide and maintain to the satisfaction of the Minister efficient means to prevent the contamination, pollution, erosion or siltation of any stream or watercourse or outer catchment Area and shall observe any instruction given or which may be given by the Minister with a view to preventing or minimising the contamination, pollution or siltation of any stream watercourse or Outer Catchment Area.</p> <p>D- The lease holder hereby covenants with us ours Heirs and successors and as a separate covenant the lease holder hereby covenants with the Authority and its Successors that the lease holder shall at all times hereafter save harmless and keep us and the said Authority and our Heirs and successors and the successors of the said Authority indemnified from payment of compensation and from and against all actions proceedings claims and demands in respect any injury loss of damage arising out of or in any way connected with any interference with or deprivation or loss of access to the land and premises of this authority which may occur by reason of any works or operations undertaken or carried out by the said Authority or arising out of or in any way connected with any discontinuance or alteration of any process consequent upon the service of a notice in pursuance of the provisions of condition 31(b) or arising out of or in any way connected with the operation of any regulations relating to outer catchment Areas in force at the date hereof or made by-the said Authority at any time hereafter and the lease holder hereby agrees that for the purpose of this condition the said Authority shall be deemed to be a party to this authority.</p>				
CCL 705-31	<p>The lease holder shall</p> <p>a- Make such provisions for sanitation as may be directed by the Authority and shall at all times observe and perform' any requirements of the said Authority respecting sanitation.</p> <p>b- not establish any camps or habitations within any area under the control of the Authority unless with the consent of the Authority.</p> <p>c- Not sink any drill hole within the stored waters on the subject area nor within 40 metres of the top water level thereof unless with the consent of the Authority.</p>		<ul style="list-style-type: none"> <li>Clarence reported that exploration drilling or other activities were not undertaken in the SCA catchment area by Clarence during the period of the IEA.</li> </ul>	Not triggered	

**Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
	<p>d- Not sink any drill hole within any watercourse on the Warragamba Outer Catchment area nor within 100 metres thereof unless with the consent of the Authority.</p> <p>e- Not interfere with or impede the use of the Authority tracks of endanger their stability in any way by reason of the operations.</p> <p>f- Not construct any road to the sites of any drill holes unless with the consent of the Authority to the proposed route and type of road construction.</p> <p>g- Not interfere in any way with any fences on or adjacent to the Warragamba Outer Catchment Area unless with the consent in writing of the owner thereof or the Authority</p> <p>h) Give twenty eight days notice to the General Manager, catchment operations and Major Projects, Sydney catchment Authority, Penrith, of its intention to commence drilling operations.</p> <p>i) Not cut or remove any timber except such as directly obstructs or prevents the carrying on of operations and the lease holder shall obtain the consent in writing of the Authority before making use of the timber so cut for other than in connection with operations</p> <p>j) complete work in relation to rehabilitation within the Warragamba Outer Catchment Area before termination of the authority to the satisfaction of the Authority</p>				
<b>MINING LEASE 1583</b>					
<b>Notice to Landholders</b>					
ML 1583-1	<p>Within a period of three months from the date of grant of this lease or within such further time as the Minister may allow, the lease holder must serve on each landholder of the land a notice in writing indicating that this lease has been granted and whether the lease includes the surface, An adequate plan and description of the lease area must accompany the notice.</p> <p>If there are ten or more landholders affected, the lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this lease has been granted state whether the lease includes the surface and must contain an adequate plan and description of the lease area.</p>		<ul style="list-style-type: none"> <li>Outside the period of this IEA.</li> </ul>	Not triggered	

**Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
<b>Mining, Rehabilitation, Environmental Management Process (MREMP) Mining Operations Plan (MOP)</b>					
ML 1583-2 (1)	Mining operations, including mining purposes, must be conducted in accordance with a Mining operations plan (the plan) satisfactory to the Secretary. The plan together with environmental conditions of development consent and other approvals will form the basis for a) ongoing mining operations and environmental management and b) ongoing monitoring of the project.	<ul style="list-style-type: none"> <li>2018 - 2022 MOP (CC, 2017)</li> <li>Letter to CC Approval of MOP (DRG, 12 February 2018)</li> <li>2018 - 2022 MOP Amendment A (CC, 2019)</li> <li>Letter to CC Notice of Approval (DRG, 27 May 2019)</li> </ul>	<ul style="list-style-type: none"> <li>A detailed review of the MOP development and implementation was not undertaken as part of this IEA.</li> <li>A 2018 -2022 MOP was prepared in 2017 and approved by the DRG on 12 February 2018.</li> <li>The 2018 -2022 MOP was amended in 2019 (Amendment A) dated 11 March 2019 and was approved by DRE on 27 May 2019. This amendment incorporated the decommissioning and rehabilitation of REA III, and changes to mine operations and rehabilitation.</li> <li>The 2018-2022 MOP included Development Approvals in Appendix A.</li> </ul>	Compliant	
ML 1583-2 (2)	The Plan must be prepared in accordance with the Director- General's guidelines current at the time of lodgement.	<ul style="list-style-type: none"> <li>ESG3: Mining Operations Plan Guidelines (DRG, 2013)</li> <li>2018 - 2022 MOP Amendment A (CC, 2019)</li> </ul>	<ul style="list-style-type: none"> <li>A detailed review of the MOP development and implementation was not undertaken as part of this IEA.</li> <li>The 2018 -2022 MOP was prepared in accordance with ESG3: Mining Operations Plan Guidelines (DRG, 2013). The Table of Contents of the 2018-2022 MOP was aligned with the ESG3 Mining Operations Plan Guidelines.</li> <li>The MOP reports that the rehabilitation cost estimate was prepared in accordance with the ESG1: Rehabilitation Cost Estimate Guidelines (DPIE, 2017). This was not verified by the auditors.</li> </ul>		
ML 1583-2 (3)	A Plan must be lodged with the Secretary a) prior to the commencement of mining operations (including mining purposes); b) subsequently as appropriate prior to the expiry of any current Plan; and c) in accordance with any direction issued by the Director- General	<ul style="list-style-type: none"> <li>Letter to CC Approval of MOP (DRG, 12 February 2018)</li> <li>Letter to CC Notice of Approval (DRG, 27 May 2019)</li> </ul>	<ul style="list-style-type: none"> <li>The 2018 -2022 MOP was approved by DRE on 12 February 2018 and as amended on 27 May 2019.</li> </ul>		

**Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
ML 1583-2 (4)	The Plan must present a schedule of proposed mine development for a period of up to seven (7) years and contain diagrams and documentation which identify a) area(s) proposed to be disturbed under the plan b) mining and rehabilitation method(s) to be used and their sequence c) areas to be used for disposal of tailings/waste d) existing and proposed surface infrastructure e) existing flora and fauna on the site f) progressive rehabilitation schedules g) areas of particular environmental, ecological and cultural sensitivity and measures to protect these areas h) water management systems (including erosion and sediment controls); i) proposed resource recovery and j) where the mine will cease extraction during the term of the Plan, a closure plan including final rehabilitation objectives/ methods and post mining land use / vegetation	<ul style="list-style-type: none"> <li>2018 - 2022 MOP Amendment A (CC, 2019)</li> </ul>	<p>A detailed review of the MOP development and implementation was not undertaken as part of this IEA. Reference to the requirements of ML 1583 2(4) are included in the 2018 -2022 MOP in the following sections:</p> <ul style="list-style-type: none"> <li>(a) – section 2 and Plans (Appendix 2)</li> <li>(b) – section 5</li> <li>(c) – sections 2, 5 and 7 and Plans (Appendix 2)</li> <li>(d) – section 2 and Plans (Appendix 2)</li> <li>(e) – sections 3.2.5. and 3.2.6 and Plans (Appendix 2)</li> <li>(f) – sections 7 and 8</li> <li>(g) – section 3.2.11</li> <li>(h) – various locations including sections 3 and 7, Tables 13 and 25</li> <li>(i) – section 2</li> <li>(j) not applicable</li> </ul>		
ML 1583-2 (5)	The Plan when lodged will be reviewed by the Department	<ul style="list-style-type: none"> <li>Letter to CC Approval of MOP (DRG, 12 February 2018)</li> <li>Letter to CC Notice of Approval (DRG, 27 May 2019)</li> </ul>	<ul style="list-style-type: none"> <li>The 2018 -2022 MOP was approved by DRE on 12 February 2018 and 27 May 2019.</li> </ul>		
ML 1583-2 (6)	The Secretary may within two (2) months of the lodgement of a Plan, require modification and re-lodgement			Noted	
ML 1583-2 (7)	If a requirement in accordance with clause 6 is not issued within two months of the lodgement of a plan, the lease holder may proceed with implementation of the plan			Noted	
ML 1583-2 (8)	During the life of the Mining Operations Plan, proposed modifications to the Plan must be lodged with the Director - General and will be subject to the review process outlined in clauses 5 - 7 above.	<ul style="list-style-type: none"> <li>2018 - 2022 MOP (CC, 2017)</li> <li>2018 - 2022 MOP Amendment A (CC, 2019)</li> </ul>	<ul style="list-style-type: none"> <li>A 2018 -2022 MOP was prepared in 2017 and approved by the DRG on 12 February 2018.</li> <li>The 2018 -2022 MOP was amended in 2019 (Amendment A) dated 11 March 2019 and was approved by DRE on 27 May 2019. This amendment incorporated the decommissioning and rehabilitation of REA III, and changes to mine operations and rehabilitation.</li> </ul>	Compliant	

**Annual Environmental Management Report (AEMR)**

**Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
ML 1583-3 (1)	Within 12 months of the commencement of mining operations and thereafter annually or, at such other times as may be allowed by the Secretary, the lease holder must lodge an Annual Environmental Management Report (AEMR) with the Director-General	<ul style="list-style-type: none"> <li>ARs (CC, 2016 -2019)</li> <li>CC website</li> <li>Letter to CC Notice of Satisfaction (CCL705, ML1583, ML1353, ML 1354, ML 1721 AR Report (DRG, 19 December 2018)</li> </ul>	<ul style="list-style-type: none"> <li>ARs have been prepared annually in 2016, 2017, 2018 and 2019.</li> <li>ARs are available on the CC website.</li> <li>A Notice of Satisfaction Letter was sighted for the 2017 AR.</li> </ul>	Compliant	
ML 1583-3 (2)	The AEMR must be prepared in accordance with the Secretary's guide lines current at the time of reporting and contain a review and forecast of performance for the proceeding and ensuing twelve months in terms of a) the accepted Mining Operations Plan b) development consent requirements and conditions c) Department of Environment and Conservation and Department of Planning licences and approvals d) any other statutory environmental requirements; e) details of any variations to environmental approvals applicable to the lease area; and f) where relevant, progress towards final rehabilitation objectives.	<ul style="list-style-type: none"> <li>Letter to CC (CCL705, ML1583, ML1353, ML 1354, ML 1721 AR Report (DRG, 19 December 2018)</li> <li>Post Approval requirements for SSD (DPIE, 2015)</li> <li>2019 AR (CC, 2020)</li> </ul>	<ul style="list-style-type: none"> <li>The Table of Contents of the 2016, 2017, 2018 and 2019 ARs were aligned with the DPIE Post Approval requirements for SSD.</li> <li>A detailed review of the AR development and implementation was not undertaken as part of this IEA. The 2019 AR included:</li> <li>A review of changes during the reporting period, and compliance with: <ul style="list-style-type: none"> <li>2018 -2022 MOP (section 3.1.2)</li> <li>Development Consents (Table 2)</li> <li>EPL 726 (Table 2)</li> </ul> </li> <li>Environmental performance and assessment of monitoring results against criteria triggered by Development Consents and in EPL 726 (AR 2019 section 6) including: <ul style="list-style-type: none"> <li>volume of water taken (WAL36479) (Table 21)</li> <li>monitoring and trends in groundwater (section 12.6), water discharged at LDP 002 (section 12.1.1), LDP 002 volume discharged (Table 26), Wollangambe River water quality at Point 9 (Table 25), flora and fauna and biodiversity indices over time in 800 Area and 900 Area (Table 16 and 17) and air quality (section 6.1)</li> </ul> </li> <li>Biodiversity offsets (section 6.2)</li> <li>Noise (section 11)</li> <li>Greenhouse gas emissions (Table 18)</li> <li>Baseline reporting of four aboriginal heritage sites (section 9.1)</li> </ul>		

**Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
			<ul style="list-style-type: none"><li>Water Balance (section 12.2)</li><li>Rehabilitation status (AR 2019 Table 29) including proposed rehabilitation for the next 12 month reporting period, and reference to MOP site rehabilitation objective (AR 2019 section 13)</li><li>Dates of community consultation meetings.</li><li>Status of actions from 2016 IEA.</li><li>Reportable incidents and regulatory actions.</li></ul>		
ML 1583-3 (3)	After considering an AEMR the Secretary may, by notice in writing, direct the lease holder to undertake operations, remedial actions or supplementary studies in the manner and within the period specified in the notice to ensure that operations on the lease area are conducted in accordance with sound mining and environmental practice.	<ul style="list-style-type: none"><li>ARs (CC, 2016-2019)</li></ul>	<ul style="list-style-type: none"><li>Actions identified by DPIE in the review of the previous year's AR, and where they are addressed in the current AR, are included in 2016 AR, 2017 and 2018 ARs. There were no actions from the previous AR identified in the 2019 AR.</li></ul>		
ML 1583-3 (4)	The lease holder shall, as and when directed by the Minister, cooperate with the Secretary to conduct and facilitate review of the AEMR involving other government agencies and the local council		<ul style="list-style-type: none"><li>No issues were identified by regulatory stakeholders during consultation for this IEA regarding review of the AR. Refer to Appendix G of the IEA Report for a summary of regulatory agency consultation for this IEA.</li></ul>		Not triggered
Subsidence Management					
ML 1583-4 (a)	The lease holder shall prepare a Subsidence Management Plan prior to commencing any underground mining operations which will potentially lead to subsidence of the land surface	<ul style="list-style-type: none"><li>Annual SMR (CC, 2016, 2017, 2018 &amp; 2019)</li><li>900 Area<ul style="list-style-type: none"><li>Partial Extraction 900 Area Environmental Monitoring Program (CC, 2014) Approved</li><li>900 Area SMP Application (CC, September 2013)</li><li>900 Area SMP Variation (CC, April 2019)</li><li>SMP 900 Area Approval (DRG, 21 January 2014)</li></ul></li><li>800Area<ul style="list-style-type: none"><li>SMP Approved Plan_800 CL1753 (CC, May 2020)</li><li>800 Area SMP Variation 6 (CC, May 2020)</li><li>800 Area SMP Variation Approval letter (DRG, 2014)</li></ul></li></ul>	<ul style="list-style-type: none"><li>SMPs were prepared for Areas 700, 800 and 900 prior to commencing underground mining operations which will potentially lead to subsidence of the land surface.</li><li>Evidence of approval of 800 Area SMP by DRG was sighted.</li><li>Refer Appendix A5 of this IEA report for assessment of compliance of SMP Area 800 and SMP Area 900.</li></ul>	Compliant	



**Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
		<ul style="list-style-type: none"> <li>Letter to CC SMP 800 variation 6 approval Ref MAAG0007256 (DRG. 11 August 2020)</li> </ul>			
ML 1583-4 (b)	Underground mining operations which will potentially lead to subsidence include secondary extraction panels such as longwalls or minerals, associated first workings (gate roads, installation roads and associated main headings, etc), and pillar extractions, and are otherwise defined by the Guideline for Applications for Subsidence Management Approvals	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	Noted	
ML 1583-4 (c)	The lease holder must not commence or undertake underground mining operations that will potentially lead to subsidence other than in accordance with a Subsidence Management Plan approved by the Secretary, an approval under the Coal Mines Regulation Act 1982, or the document New Subsidence Management Plan Approval Process - Transitional Provisions	<ul style="list-style-type: none"> <li>800 Area SMP Variation 6 (CC, May 2020)</li> <li>900 Area SMP Variation (CC, April 2019)</li> <li>Annual SMRs (CC, 2016 - 2019)</li> </ul>	<ul style="list-style-type: none"> <li>The 800 and 900 Area SMP approvals include the requirement to prepare an end of year report (to be submitted within the first 3 months of the subsequent year) which includes a summary of subsidence and associated environmental monitoring for the year, analysis of these results against the relevant impact assessment criteria, identification of trends in monitoring results, and description of any actions taken to manage potential subsidence impacts due to mining. The report incorporates all SMP areas, and the latest report is publicly available via the Centennial website.</li> <li>Annual SMRs end of year reports summarise mining activities undertaken and SMP approvals.</li> <li>Refer to section 4 of this IEA for a more detailed assessment of subsidence management.</li> </ul>	Compliant	
ML 1583-4 (d)	Subsidence Management Plans are to be prepared in accordance with the Guideline for Applications for subsidence management Approvals	<ul style="list-style-type: none"> <li>EDG Guideline for Applications for Subsidence Management Approvals (DRG, 2003)</li> <li>800 Area SMP Variation 6 (CC, May 2020)</li> <li>800 Area SMP (CC, 2011)</li> </ul>	<ul style="list-style-type: none"> <li>A detailed review of the SMPs development and implementation was not undertaken as part of this IEA.</li> <li>The Table of Contents of 800 Area SMP (CC, 2011) and Variation 6 (CC, 2010) included requirements of EDG Guideline for Applications for Subsidence Management Approvals.</li> </ul>		
ML 1583-4 (e)	Subsidence Management Plans as approved shall form part of the Mining Operations Plan required under Condition 2 and will be subject to the Annual Environmental Management Report process as set	<ul style="list-style-type: none"> <li>2018 -2019 Amendment A (CC, 2019)</li> </ul>	<ul style="list-style-type: none"> <li>The 2018 -2019 MOP Amendment A and 2016 -2019 ARs referenced approved SMPs.</li> </ul>	Noted	

**Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
	out under Condition 3, The SMP is also subject to the requirements for subsidence monitoring and reporting set out in the document New Approval Process for Management of Coal Mining Subsidence - Policy				
<b>Control of Operations</b>					
ML 1583-6	<p>a) If an Environmental Officer of the Department believes that the lease holder is not complying with any provision of the Act or any condition of this lease relating to the working of the lease, he may direct the lease holder to:</p> <p>i) cease working the lease or</p> <p>ii) cease that part of the operation not complying with the Act or conditions</p> <p>until in the opinion of the Environmental Officer the situation is rectified</p> <p>b) The lease holder must comply with any direction given, The Director- General may confirm vary or revoke any such direction</p> <p>c) A direction refined to in this condition may be served on the Mine Manager</p>	<ul style="list-style-type: none"> <li>• HRA Notification REA III (CC, September 2018)</li> <li>• 2018 - 2022 MOP Amendment (CC, 2019)</li> <li>• s.240 Notice (DPIE, 20 May 2020)</li> <li>• REA II Decommissioning HRA v3 (CC)</li> <li>• Email to MCW Environmental – IEA Consultation (DRG, 15 November 2020)</li> </ul>	<p>Clarence has received the following directions, and undertaken corrective actions, during the period of the IEA:</p> <ul style="list-style-type: none"> <li>• Further to a direction under s.240 Mining Act 1992 to cease using REAs as holding cells for thickened coal fines, tailings, and liquids issued to Clarence in 2015, the HRA Notification process for this s.240 was completed in September 2018 (allowing operational activities in preparation for the rehabilitation and decommissioning of REA III).</li> <li>• The Notice to Provide Information and/or Records under Section 248B(1) of the Mining Act 1992 issued on the 1 December 2015, was replaced with a second Notice to Provide Information on the 7 January 2016 with information to be provided to DRG by the 25 January 2016. The HRA Notification process for this notice has been completed in September 2018.</li> <li>• A notice under Section 240(1)(c) of the Mining Act 1992 was issued in May 2020 in relation to the operations of the tailings storage facilities and decommissioning and closure requirements. Clarence provided a report in response to the notice which nominated actions to address the identified concerns. The REA III decommissioning HRA included a sampling regime to be completed by 16 October 2020 and independent groundwater monitoring around REA III to determine capping suitability to be completed by 25 June 2021. Both actions were required to be completed after the period of this IEA and hence were not assessed as part of this IEA.</li> </ul>	Compliant	


**Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
<b>Reports</b>					
ML 1583-7	<p>The lease holder must provide an exploration report within a period of twenty - eight days after each anniversary of the date this lease has effect or at such other date as the DG may stipulate of each year. The report must be to the satisfaction of the DG and contain the following</p> <p>a- Full particulars, including results, interpretation and conclusions, of all exploration conducted during the twelve months period</p> <p>b- Details of expenditure incurred in conducting that exploration</p> <p>c- A summary of all geological findings acquired through mining or development evaluation activities</p> <p>d- Particulars of exploration proposed to be conducted in the next twelve months period</p> <p>e- All plans, maps, sections and other data necessary to satisfactorily interpret the report</p>	<ul style="list-style-type: none"> <li>Email to DRG for Exploration Report Submission (CC, 20 July 2016)</li> <li>Email to DRG for Exploration Report Submission (CC, 17 July 2017)</li> <li>Email to DRG for Exploration Report Submission (CC, 20 July 2016)</li> <li>Email to DRG for Exploration Report Submission (CC, 10 January 2020)</li> <li>Annual Exploration Report (CC, 20 December 2018)</li> <li>Annual Exploration Report (CC, 2017)</li> <li>Annual Exploration Report (CC, 2016)</li> </ul>	<ul style="list-style-type: none"> <li>Annual Exploration Reports were sighted for 2016, 2017 and 2018</li> <li>Evidence that reports were submitted to DRG was available for annual exploration reports from 2016 to 2019.</li> <li>Examples of evidence that the reports were accepted by DRG were available for the 2018 and 2019 annual exploration report.</li> <li>A brief review of the 2016, 2017 and 2018 reports indicated that the requirements of CCL 705 condition 7 were provided.</li> <li>The annual exploration reports were not reviewed in detail however the 2018 report included: <ul style="list-style-type: none"> <li>exploration completed during the 12 month period (section 2)</li> <li>expenditure (Table 7)</li> <li>geological features (section 2)</li> <li>exploration proposed in the next 12 months (section 3)</li> <li>plans (figures)</li> </ul> </li> </ul>	Compliant	
<b>Licence to use Reports</b>					
ML 1583-8	<p>a) The lease holder grants to the Minister, by way of a non-exclusive licence, the right in copyright to publish, print, adapt and reproduce all exploration reports lodged in any form and for the full duration of copyright</p> <p>b) The non-exclusive licence will operate as a consent for the purposes of section 365 of the Mining Act 1992</p>			Noted	
<b>Confidentiality</b>					
ML 1583-9	<p>a) All exploration reports submitted in accordance with the conditions of this lease will be kept confidential while the lease is in force, except in cases where</p> <p>i) the lease holder has agreed that specified reports may be made non-confidential</p> <p>ii) reports deal with exploration conducted exclusively on areas that have ceased to be part of the lease</p> <p>b) Confidentiality will be continued beyond the termination of a lease where an application for a flow-on title was lodged during the currency of the lease. The confidentiality will last until that flow-on title or any subsequent flow-on title, has terminated</p>			Noted	



**Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
	c) The Director - General may extend the period of confidentiality.				
<b>Terms of the non-exclusive licence.</b>					
ML 1583-10	The terms of the non-exclusive copyright licence granted under condition 8 (a) are a) the Minister may sub-licence others to publish, print, adapt and reproduce by not on-licence reports b) the Minister and any sub-licensee will acknowledge the lease holders and any identifiable consultant's ownership of copyright in any reproduction of the reports, including storage of reports onto an electronic database c) the lease holder does not warrant ownership of all copyright works in any report and, the lease holder will use best endeavours to identify those parts of the report for which the lease holder owns the copyright d) there is no royalty payable by the Minister for the licence e) if the lease holder has reasonable grounds to believe that the Minister has exercised his rights under the non-exclusive copyright licence in a manner which adversely affects the operations of the lease holder, that licence is revocable on the giving of a period of not less than three months notice.			Noted	
<b>Safety</b>					
ML 1583-12	Operations must be carried out in a manner that ensures the safety of persons or stock in the vicinity of the operations. All drill holes shafts and excavations must be appropriately protected, to the satisfaction of the Secretary, to ensure that access to them by persons and stock is restricted. Abandoned shafts and excavations opened up or used by the lease holder must be filled in or otherwise rendered safe to a standard acceptable to the Secretary,		<ul style="list-style-type: none"> <li>An assessment of safety was excluded from the scope of this IEA</li> </ul>		
<b>Exploratory Drilling</b>					
ML 1583-15	(1) At least twenty eight days prior to commencement of drilling operations the lease holder must notify the relevant Department of Infrastructure, Planning and Natural Resources regional hydrogeologist of the intention to drill exploratory drill holes together with information on the location of the proposed holes (2) If the lease holder drills exploratory drill holes he must satisfy the Secretary that (a) all cored holes are accurately surveyed and permanently marked in accordance with Departmental	<ul style="list-style-type: none"> <li>Site inspection 12 October 2020</li> <li>ARs (CC, 2016 -2019)</li> <li>Annual Exploration Reports (CC, December 2019)</li> <li>Letter to Water NSW Notification of Commencement of Surface Drilling Activities 700 South</li> </ul>	<ul style="list-style-type: none"> <li>During the period of the IEA, five exploration wells were drilled in ML 1583:                             <ul style="list-style-type: none"> <li>2016: No exploration</li> <li>2017: No exploration</li> <li>2018: Four boreholes (CLRP 23, 24, 25 and 26 within A307 and ML 1583 for the Area 700 exploration program)</li> </ul> </li> </ul>	Compliant	

## Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
	<p>guidelines so that their location can be easily established</p> <p>(b) all holes cored or otherwise are sealed to prevent the collapse of the surrounding surface;</p> <p>(c) all drill holes are permanently sealed with cement plugs to prevent surface discharge of groundwater's;</p> <p>(d) if any drill hole meets natural or noxious gases it is plugged or sealed to prevent their escape;</p> <p>(e) if any drill hole meets an artesian or sub-artesian flow it is effectively sealed to prevent contamination of aquifers.</p> <p>(f) once any drill hole ceases to be used the hole must be sealed in accordance with Departmental guidelines. Alternatively, the hole must be sealed as instructed by the Secretary.</p> <p>(g) once any drill hole ceases to be used the land and its immediate vicinity is left in a clean, tidy and stable condition.</p>	<p>Drilling Program for CLRP 23-26 (CC, 11 August 2017)</p> <ul style="list-style-type: none"> <li>• Commencement of Drilling Operations – Signed Notification to DRE (DPI Water) for CLRP 23 -26 (CC, 20 July 2017)</li> <li>• 700 South Drilling Program Location Plan for CLRP 23-26 (CC, 21 July 2017)</li> <li>• Commencement of Drilling Operations – Signed Notification to DRE (DPI Water) for CLRP 28 -38 (CC, 11 June 2019)</li> <li>• Grouting Record Sheet for CLRP 28 (CC, 26 February 2020)</li> <li>• Grouting Record Sheet for CLRP 28 piezo (CC, 26 February 2020)</li> <li>• CLRP 28R and CLRP 28 Final Surveys.jpg</li> </ul>  <p>Photo 39: Rehabilitation CLRP 28 (provided by CC Geotechnical Engineer, 16 December 2020)</p>	<ul style="list-style-type: none"> <li>○ 2019: One borehole and one piezo at CLRP 28 (north of 906 Panel)</li> <li>• (a) Survey of CLRP 23 -26 provided in Annual Exploration Report (CC, 2019). Permanent marker sighted during site inspection at end of SMP 800 A1 subsidence line (BM2 800 A line).</li> <li>• (b) Grouting record for CLRP 28 sighted and CLRP rehabilitation photo provided by CC Geotechnical Engineer; and site inspection at end of SMP 800 A1 subsidence line (BM2 800 A line) where no collapse of surrounding surface was observed.</li> <li>• (c) Grouting record for CLRP 28 sighted</li> <li>• (d) No report of drill hole meeting natural or noxious gases during the period of the IEA by CC personnel, or in Annual Reviews and 2019 Exploration Report.</li> <li>• (e) No report of drill hole meeting an artesian or sub-artesian flow during the period of the IEA by CC personnel, or in Annual Reviews and 2019 Exploration Report. Grouting record for CLRP 28 sighted.</li> <li>• (f) Grouting Record Sheet for CLRP 28 includes acknowledgement that grouting/ sealing instructions undertaken in accordance with Min. Construction Req. for Water Bores in Australia and EDG01.</li> <li>• (g) Land from previous drilled borehole at end of SMP 800 A1 subsidence line (BM2 800 A line) was observed during site inspection in a clean, tidy and stable condition.</li> <li>• During the site inspection on 12 October 2020, a rehabilitated borehole site at the end of 800 Area A line subsidence monitoring line (BM2) was visited. There was evidence of the 2019 Gaspers Mountain bushfire and pockets of rehabilitation in good condition.</li> </ul>		

**Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
		 <p>Photo 40: Borehole rehabilitation at the end of SMP 800 A1 subsidence line (BM2 800 A line)</p>  <p>Photo 41: Borehole rehabilitation at the end of SMP 800 A1 subsidence line (BM2 800 A line)</p>			


**Prevention of Soil Erosion and Pollution**

ML 1583-16	Operations must be carried out in a manner that does not cause or aggravate air pollution, water pollution (including sedimentation) or soil contamination or erosion, unless otherwise authorised by a relevant approval, and in accordance with an accepted Mining operations plan. For the purpose of this condition, water shall be taken to include any watercourse, water body or groundwater's, The lease holder must observe and perform any instructions given by the Secretary in this regard	<ul style="list-style-type: none"> <li>Site inspection</li> </ul>	<ul style="list-style-type: none"> <li>Refer Appendix A1 DA504 Sch 3-8 Photos.</li> <li>Refer Appendix A3 EPL 726 O1.1</li> <li>Sediment and erosion controls observed during the site inspection were generally in good condition with improvement opportunities identified during the site inspection (12 October 2020) e.g. at an area of recent erosion observed on the access track to LD 2, Wollangambe River crossing (Point 9), and an area draining to the Main Dam.</li> <li>Evidence of air pollution, water pollution and/or soil contamination as a result of sediment and erosion was not sighted.</li> </ul>	Compliant	
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**Transmission Lines, Communication Lines and Pipelines**



## Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
ML 1583-17	Operations must not interfere with or impair the stability or efficiency of any transmission line, communication line, pipeline or any other utility on the lease area without the prior written approval of the Secretary and subject to any conditions he may stipulate.	<ul style="list-style-type: none"> <li>Site inspection</li> <li>ECD (2016 -2020)</li> <li>Complaints Register (CC, 2020)</li> </ul>	<ul style="list-style-type: none"> <li>No incidents or complaints regarding interference or impairment of transmission lines were recorded.</li> </ul>	Compliant	
<b>Roads and Tracks</b>					
ML 1583-19	Roads and Tracks a) Operations must not affect any road unless in accordance with an accepted Mining Operations Plan or with the prior written approval of the Secretary and subject to any conditions he may stipulate.	<ul style="list-style-type: none"> <li>ARs (CC, 2016 – 2019)</li> <li>Development Consent 174/93</li> <li>Site inspection</li> <li>ECD (2016 -2020)</li> <li>Complaint Register (CC, 2020)</li> </ul>  <p>Photo 42: Impact from general public access to track to Paddys Swamp.</p>	<ul style="list-style-type: none"> <li>Approval for REA V was provided on 8 February 2018 and included relocation of an approved intersection from immediately west of the train loading facility (as proposed in the 1993 EIS) to the eastern side of the rail loop.</li> <li>The site inspection included travelling on tracks across the Newnes Plateau. Tracks were in generally good condition although there was evidence of impact from general public motorcycles on an access track near Paddys Swamp Newnes Plateau.</li> <li>No incidents or complaints were recorded regarding roads and tracks.</li> </ul>	Compliant	
ML 1583-19 (b)	The lease holder must pay to the designated authority in control of the road (generally the local council or the Roads and traffic Authority) the cost incurred in fixing any damage to roads caused by operations carried out under the lease, less any amount paid or payable from the Mine Subsidence Compensation Fund.		<ul style="list-style-type: none"> <li>No request for fixing damage to roads had reportedly been received by CC.</li> </ul>	Not triggered	
<b>Resource Recovery</b>					
ML 1583-23	a) Notwithstanding any description of mining methods and their sequence or of proposed resource recovery contained within the Mining Operations Plan, if at any time the Secretary is of the opinion that minerals which the lease entitles the lease holder to mine and which are economically recoverable at the time are not being recovered from the lease area, or that any such minerals which are being recovered are not being recovered to the extent which should be economically possible or which for environmental reasons are	<ul style="list-style-type: none"> <li>2018 -2022 MOP Amendment A (CC, 2017) 900 Area</li> <li>Partial Extraction 900 Area Environmental Monitoring Program (CC, 2014) Approved</li> <li>900 Area SMP Application (CC, September 2013)</li> </ul>	<ul style="list-style-type: none"> <li>No notices as referenced in CCL 705 condition 23 have reportedly been received by Clarence.</li> <li>2018 -2022 MOP Amendment A and SMP Approvals indicate approval of resource recovery method and timing.</li> </ul>	Not triggered	



**Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
	<p>necessary to be recovered, he may give notice in writing to the lease holder requiring the holder to recover such minerals.</p> <p>(b) The notice shall specify the minerals to be recovered and the extent to which they are to be recovered, or the objectives in regard to resource recovery, but shall not specify the processes the lease holder shall use to achieve the specified recovery</p> <p>(c) The lease holder must, when requested by the Secretary, provide such information as the Secretary may specify about the recovery of the mineral resources of the lease area,</p> <p>d) The Secretary shall issue no such notice unless the matter has firstly been thoroughly discussed with and a report to the Secretary has incorporated the views of the lease holder.</p> <p>e) The lease holder may object to the requirements of any notice issued under this condition and on receipt of such an objection the Minister shall refer it to a Warden for inquiry and report under Section 334 of the Mining Act, 1992.</p> <p>f) After considering the Warden's report the Minister shall decide whether to withdraw, modify or maintain the requirements specified in the original notice and shall give the lease holder written notice of the decision. The lease holder must comply with the requirements of this notice</p>	<ul style="list-style-type: none"> <li>900 Area SMP Variation (CC, April 2019)</li> <li>SMP 900 Area Approval (DRG, 21 January 2014)</li> </ul> <p>800Area</p> <ul style="list-style-type: none"> <li>SMP Approved Plan 800 CL1753 (CC, May 2020)</li> <li>800 Area SMP Variation 6 (CC, May 2020)</li> <li>800 Area SMP Variation Approval letter (DRG, 2014)</li> <li>Letter to CC SMP 800 variation 6 approval Ref MAAG0007256 (DRG. 11 August 2020)</li> </ul>			
<b>Indemnity</b>					
ML 1583-24	The lease holder must indemnify and keep indemnity the Crown from and against all actions, suits, claims and demands of whatsoever nature and all costs, charges and expenses which may be brought against the lease holder or which the lease holder may incur in respect of any accident or injury to any person or property which may arise out of the construction, maintenance or working of any workings now existing or to be made by the lease holder within the lease area or in connection with any of the operations notwithstanding that all other conditions of this lease shall in all respects have been observed by the lease holder or that any such accident or injury shall arise from any act or thing which the lease holder may be licensed or compelled to do			Noted	
<b>Security</b>					

#### Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
ML 1583-25	<p>a) A security in the sum of \$50,000.00 must be given and maintained with the Minister by the lease holder for the purpose of ensuring the fulfilment by the lease holder of obligations under this lease. If the lease holder fails to fulfil any one or more of such obligations the said sum may be applied at the discretion of the Minister towards the cost of fulfilling such obligations. For the purpose of this clause the lease holder shall be deemed to have failed to fulfil the obligations of this lease If the lease holder fails to comply with any condition or provision hereof, any provision of the Act or regulations made there under or any condition or direction imposed or given pursuant to a condition or provision hereof or of any provision of the Act or regulations made there under</p> <p>b) The lease holder must provide the security required by sub-clause (a) in one of the following forms</p> <p>i) cash,</p> <p>ii) a security certificate in a form approved by the Minister and issued by an authorised deposit - taking institution</p>	<ul style="list-style-type: none"> <li>Letter to CC ML 1583 Security (DRG, 23 September 2014)</li> <li>Certificate 300506 for MLA 208 and 209 – ML 1583 (\$50,000)</li> <li>Certificate 25061004 for MLA 208 and 209 – ML 1583 (\$20,000)</li> <li>Letter to CC Notification of Assessment for security deposit for rehabilitation obligations under ML 1583 (DRG, 8 October 2020)</li> </ul>	<ul style="list-style-type: none"> <li>On 23 September 2014, DRG advised that the Security for ML 1583 was \$43,000, that security for \$70,000 was already held, and DRG acknowledged that security certificates have already been received.</li> <li>The securities for ML 1583 were increased on 8 October 2020 (just prior to this IEA commencing) when DRG advised CC that a security deposit of \$285,000 is required for rehabilitation obligations under ML 1583</li> <li>Certificates for the following securities totalling \$70,000 were sighted for ML 1583: <ul style="list-style-type: none"> <li>Certificate 300506 for MLA 208 and 209 – ML 1583 (\$50,000)</li> <li>Certificate 25061004 for MLA 208 and 209 – ML 1583 (\$20,000)</li> </ul> </li> </ul>	Non-compliant (NC-36)	R29: Increase security deposit for ML 1583 to \$285,000 to meet the Notification Assessment for rehabilitation obligations for ML 1583 (DRG, 8 October 2020)
<b>Prescribed Dam</b>					
ML 1583-27	<p>a) Notwithstanding any Mining Operations Plan, the lease holder must not mine within any part of the lease area which is within the notification area of the Lithgow and Lithgow 2 Dam without the prior written approval of the Minister and subject to any conditions he may stipulate.</p> <p>b) Where the lease holder desires to mine within the notification area he must:</p> <p>(i) at least twelve (12) months before mining is to commence or such lesser time as the Minister may permit, notify the Minister of the desire to do so. A plan of the mining system to be implemented must accompany the notice; and</p> <p>ii) provide such information as the Minister may direct.</p> <p>(C) The Minister must not, except in the circumstances set out in subparagraph (ii), grant approval unless subparagraph (i) of this paragraph has been complied with.</p> <p>(j) This sub-paragraph is complied with if:</p> <p>(a) the Dams Safety Committee as constituted by Section 7 of the Dams Safety Act 1978 and the owner of the dam have been notified in writing of the desire to mine refined to in paragraph (B).</p>		<ul style="list-style-type: none"> <li>Mining had reportedly not occurred within the notification area of Lithgow and Lithgow 2 Dams during the period of the IEA.</li> </ul>	Not triggered	

**Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
	<p>(b) the notifications referred to in clause (a) are accompanied by a description or plan of the area to be mined.</p> <p>(c) the Director General has complied with any reasonable request made by the Dams Safety Committee or the owner of the dam for further information in connection with the mining proposal.</p> <p>(d) the Dams Safety Committee has made its recommendations concerning the mining proposal or has informed the Minister in writing that it does not propose to make any such recommendations; and</p> <p>(e) where the Dams Safety Committee has made recommendations the approval is in terms that are:</p> <p>(i) in accordance with those recommendations; or</p> <p>(ii) where the Minister does not accept those recommendations or any of them – in accordance with a determination under subparagraph (ii) of this paragraph</p> <p>ii) Where the Minister does not accept the recommendations of the Dams Safety Committee or where the Dams Safety Committee has failed to make recommendations and has not informed the Minister in writing that it does not propose to make any recommendation, the relations to matters dealing with the safety of the dam :</p> <p>a) as determined by agreement between the Minister and the Minister administering the Dams Safety Act 1978 or</p> <p>b) in the event of failure to reach such agreement - as determined by the Premier</p> <p>d) The Minister, on notice from the Dams Safety Committee, may at any time or times</p> <p>i) cancel any approval given where a notice pursuant to Section 18 of the Dams Safety Act 1978 is given</p> <p>ii) suspend for a period of time, alter, omit from or add to any approval given or conditions impose</p>				
<b>Catchment Area</b>					
ML 1583-28	<p>a) The lease holder shall carry out operations in such a way as to conform strictly to all provisions of the Sydney Water Catchment Management Act 1998 and the regulations there under applying to the prevention of pollution of the Warragamba Outer Catchment Area or the preservation of the purity of the water supply provided thereby or derived there from or for the protection of the property of Sydney Catchment Authority (hereinafter referred to as the 'the Authority)</p>		<ul style="list-style-type: none"> <li>• Exploration drilling or other activities were reportedly not undertaken in the SCA catchment area during the period of the IEA</li> </ul>	Not triggered	

**Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
	<p>on the Outer Catchment Area and also to all requirements of the Authority from time to time under the said Act or any of the regulations for the time being in force</p> <p>b) If the lease holder shall at any time be using or about to use any process which in the opinion of the Authority is likely to pollute the Outer Catchment Area or the water supply or to endanger any property of the Authority on the Outer Catchment Area the lease holder upon service of a notice in writing under the hand of the Minister to do so shall</p> <p>i) discontinue the use of such process immediately, or</p> <p>ii) thereafter refrain from adopting such process at any time, as the case may require</p> <p>c) The lease holder shall provide and maintain to the satisfaction of the Minister efficient means to prevent the contaminable, pollution, erosion or siltation of any stream or watercourse or Outer Catchment Area and shall observe any instruction given or which may be given by the Minister with a view to preventing or minimising the contamination, pollution or siltation of any stream watercourse or Outer Catchment Area</p> <p>d) The lease holder hereby covenants with Us Ours Heirs and Successors and as a separate covenant the lease holder hereby covenants with the Authority and its Successors that the lease holder shall at all times hereafter save harmless and keep Us and the said Authority and Our Heirs and Successors and the Successors of the said Authority indemnified from payment of compensation and from and against all actions proceedings claims and demands in respect of any injury loss of damage arising out of or in any way connected with any interference with or deprivation or loss of access to the land and premises of this authority which may occur by reason of any works or operations undertaken or carried out by the said Authority or arising out of or in any way connected with any discontinuance or alteration of any process consequent upon the service of a notice in pursuance of the provisions of Condition 2S(b) or arising out of or in any way connected with the operation of any regulations relating to Outer Catchment Areas in force at the date hereof or made by the said 'Authority at any time hereafter and the lease holder hereby agrees that for the purpose of this condition the said Authority shall be deemed to be a party to this authority</p>				

**Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
ML 1583-29	<p>The lease holder shall</p> <p>a) Make such provisions for sanitation as may be directed by the Authority and shall at all times observe and perform any requirements of the said Authority respecting sanitation</p> <p>b) not establish any camps or habitations within any area under the control of the Authority unless with the consent of the Authority.</p> <p>(c) Not sink any drill hole within the stored waters on the subject area nor within 40 metres of the top water level thereof unless with the consent of the Authority.</p> <p>(d) Not sink any drill hole within any watercourse on the Warragamba Outer Catchment Area nor within 100 metres thereof unless with the consent of the Authority.</p> <p>(e) Not interfere with or impede the use of the Authority tracks or endanger their stability in any way by reason of the operations,</p> <p>(f) Not construct any road to the sites of any drill holes unless with the consent of the Authority to the proposed route and type of road construction.</p> <p>g) Not interfere in any way with any fences on or adjacent to the Warragamba Outer Catchment Area unless with the consent in writing of the owner thereof or the Authority.</p> <p>h) Give twenty eight days notice to the General Manager, Catchment Operations and Major Projects, Sydney Catchment Authority, Penrith, of its intention to commence drilling operations.</p> <p>i) Not cut or remove any timber except such as directly obstructs or prevents the carrying on of operations and the lease holder shall obtain the consent in writing of the Authority before making use of the timber so cut for other than in connection with operations.</p> <p>j) Complete work in relation to rehabilitation within the Warragamba Outer Catchment Area before termination of the authority to the satisfaction of the Authority</p>		<ul style="list-style-type: none"> <li>Exploration drilling or other activities were reportedly not undertaken in the SCA catchment area by Clarence during the period of the IEA.</li> </ul>	Not triggered	
<b>MINING LEASES 1353 &amp; 1354 (Conditions 4 &amp; 5 only – variation effective from 26 March 2018)</b>					
<b>Non-Compliance Reporting</b>					
ML 1353 & ML	(a) The lease holder must notify the Department upon becoming aware of any breaches of the	<ul style="list-style-type: none"> <li>ARs (2016 – 2019)</li> </ul>	<ul style="list-style-type: none"> <li>No non-compliances with conditions of ML 1353 and ML 1354 were reported in the 2016 -2019 ARs.</li> </ul>	Not triggered	

**Appendix A4: Consolidated Coal Lease 705, Mining Lease 1583 & Mining Lease 1353 – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
1354-4	conditions of this mining lease or breaches of the Mining Act or Regulations; (b) Notifications under condition 4 (a) must be provided in the form specified on the Department's website within seven (7) days of the mining lease holder becoming aware of the breach.				
<b>Environmental Incident Reporting (variation)</b>					
ML 1353 & ML 1354-5	The lease holder must provide environmental incident notifications and reports to the Secretary no later than seven (7) days after those environmental incident notifications and reports are provided to the relevant authorities under the Protection of the Environment Operations Act 1997. Definition: Environmental incident notifications and reports means any notifications and reports required to be provided to relevant authorities under Part 5.7 or Part 5.7A of the Protection of the Environment Operations Act 1997	<ul style="list-style-type: none"> <li>EPA Annual Returns (CC, 2016 -2019)</li> <li>ARs (2016 – 2019)</li> </ul>	<ul style="list-style-type: none"> <li>There were no incidents causing or threatening material harm reported during 2017 and 2018.</li> <li>The PIRMP was activated on two occasions during the period of the IEA: <ul style="list-style-type: none"> <li>5 August 20016 (leachate leak from LD 2 causing elevated metal concentrations in unnamed Wollangambe River tributary).</li> <li>9 August 2019 (discharge of water from LD2 gravity pipeline).</li> </ul> </li> <li>As LD 2 is in CCL 705 (i.e. not in ML 1353 or ML 1354), this condition was not triggered.</li> </ul>	Not triggered	5

## **Appendix A5: (DRG)**

- **Area 800 Subsidence Management Plan**
- **Area 900 Subsidence Management Plan**



## Appendix A5: Area 900 Subsidence Management Plan & Area 800 Subsidence Management Plan – Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
<b>SMP 900 Area</b>					
<b>Limits on Approval</b>					
SMP 900 - 1	The Leaseholder must carry out the activity strictly in accordance with SMP Approved Plan	900 Area <ul style="list-style-type: none"> <li>900 Area SMP Variation 5 (CC, April 2019)</li> <li>900 Area SMP Variation 5 Approved Plan (signed and dated 13 March 2019)</li> <li>Letter to CC Approval of 900 Area SMP Variation 5 (DRG, 26 July 2019)</li> <li>ARs (CC, 2017 -2020)</li> </ul>	<ul style="list-style-type: none"> <li>Approved SMP plans were available for variations undertaken during the period of the IEA.</li> <li>900 Area SMP was varied during the period of this IEA:               <ul style="list-style-type: none"> <li>Variation 3 (Approved Plan CL 1294) for replacing east west panels with north south panels, moving 910 panel, name change for 982 panel, establishment of set of mains (900 Panel) - approved on 7 June 2016.</li> <li>Variation 4 for extension of mining period to 31 January 2023 - approved on 25 January 2019.</li> <li>Variation 5 (Approved Plan CL 1620) for pillar configuration and system of partial extraction - approved on 26 July 2019.</li> </ul> </li> <li>No non-compliances with 900 Area SMPs were reported in the 2017, 2018 and 2019 annual reviews.</li> </ul>	Compliant	
SMP 900 - 2	The Leaseholder must carry out the activity generally in accordance with the SMP subject to the conditions of this Approval. In the event of any inconsistency between the conditions of this Approval and the SMP, the conditions of this Approval prevail to the extent of any inconsistency	<ul style="list-style-type: none"> <li>This compliance assessment (Appendix A5)</li> </ul>	<ul style="list-style-type: none"> <li>Approved 900 Area SMP plans were available for variations undertaken during the period of the IEA.</li> <li>No non-compliances with Area 800 and 900 SMPs were reported in the 2017, 2018 and 2019 annual reviews.</li> </ul>	Compliant	
SMP 900 - 3	Where this Approval requires actions to be undertaken by the Leaseholder, including remediation of subsidence impacts, the obligation continues until the Director General notifies the Leaseholder that the action has been completed to his or her satisfaction		<ul style="list-style-type: none"> <li>No actions were reportedly notified by the Director General.</li> </ul>	Not triggered	
SMP 900 - 4	The Director General may vary the conditions of this Approval by notice in writing			Noted	

## Appendix A5: Area 900 Subsidence Management Plan & Area 800 Subsidence Management Plan – Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
SMP 900 - 5	The Director General may at his or her discretion suspend or revoke this Approval if a) the Leaseholder fails to adhere to any condition of the Approval; or b) the head of any other government authority requests suspension or revocation on the basis of the Lease holder's non-compliance, or potential non-compliance, with legislation administered by that agency related to this Approval		<ul style="list-style-type: none"> <li>The Approval has not been revoked or suspended.</li> </ul>	Not triggered	
<b>General Obligation to Minimise Harm to the Environment</b>					
SMP 900 - 6	The Leaseholder must implement the SMP (as amended by the conditions of this Approval) and carry out any additional practicable measures necessary to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the activity Where prevention cannot be achieved the leaseholder is to demonstrate minimisation of harm to the environment that may result from the construction, operation, or rehabilitation of the activity.	<ul style="list-style-type: none"> <li>Appendix A 1 DA 504 Schedules 2 and 3</li> </ul>	<ul style="list-style-type: none"> <li>General harm to the environment has been assessed in Appendix A1 DA504 Schedule 2-1 to 2-4.</li> <li>Although a number of incidents relating to exceedance of EPL 726 water concentration limits at LDP 002 and loss of containment from LD 2 have been reported to regulators during the period of this IEA (refer Appendix A1 DA504 Schedule 2-11), no incidents that caused harm to the environment were reported in ARs, EPA Annual Returns and Annual SMRs.</li> </ul>	Compliant	
<b>Notification of Approval</b>					
SMP 900 - 7	The Proponent must give notice of this SMP approval with 30 days to the DP&I, NOW, OEH, Council, MSB, the local Aboriginal Land Council the owners/ operators of any infrastructure and landowners in the application area and any relevant government agencies of stakeholders that the Director General's approval of the SMP has been granted	<ul style="list-style-type: none"> <li>2016 IEA (MCW Environmental, 2017)</li> </ul>	<ul style="list-style-type: none"> <li>The 800 Area and 900 Area SMP Approvals were granted in 2013 (Approved Plan CL96) and 2014 (Approved Plan CL999) respectively which is prior to the period of this IEA.</li> <li>The previous IEA assessed this condition as compliant.</li> </ul>	Not triggered	
<b>Implementation of Approval</b>					
SMP 900 - 8	Any plans, programmes, reports or strategies required as a condition of this Approval must be developed having regard to any guidelines adopted by the Director General for the purpose of subsidence management and mine rehabilitation	900 Area <ul style="list-style-type: none"> <li>900 Area SMP Variation 5 (CC, April 2019)</li> <li>900 Area SMP Variation 5_ Approved Plan (signed and dated 13 March 2019)</li> <li>Letter to CC Approval of 900 Area SMP Variation 5 (DRG, 26 July 2019)</li> <li>EDG17 Guideline for Applications for Subsidence</li> </ul>	<ul style="list-style-type: none"> <li>The 900 Area Variation 5 SMP was approved by the DRG.</li> <li>Letter approval for the 900 Area SMP Variation 5 (DRG, 2019) revokes conditions 12 (Subsidence Monitoring Programme), 14 (Infrastructure and Property Management) and 15 (Public Safety).</li> <li>The DRG Resources Regulator website advises that although the EDG17 Guideline (DRG, 2003) is not relevant to future applications, it is still available for ongoing compliance of existing</li> </ul>	Compliant	

**Appendix A5: Area 900 Subsidence Management Plan & Area 800 Subsidence Management Plan – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
		<p>Management Approvals (DRG, 2003)</p> <ul style="list-style-type: none"> <li>• Clarence Environmental Monitoring Program (CC, 2017)</li> <li>• 2016 IEA (MCW Environmental, 2017)</li> <li>• Annual SMRs (CC, 2018 - 2020)</li> <li>• Four monthly SMSRs (CC): <ul style="list-style-type: none"> <li>○ March 2016</li> <li>○ July 2016</li> <li>○ July 2017</li> <li>○ November 2017</li> <li>○ March 2018</li> <li>○ November 2018</li> <li>○ March 2019</li> <li>○ July 2019</li> <li>○ November 2019</li> <li>○ March 2020</li> </ul> </li> </ul>	<p>subsidence management plans for the term of their approval.</p> <ul style="list-style-type: none"> <li>• An audit of 900 Area SMP Variation 5 against EDG17 requirements has not been undertaken however a high level review of these SMP variations against the EDG 17 section 8 requirements for 'Application for SMP Variation' was undertaken: <ul style="list-style-type: none"> <li>○ Description of proposed variation (SMP section 1).</li> <li>○ 6.3 Proposed mining system and resource recovery (SMP sections 2 and 8, and Appendices 1 and 2).</li> <li>○ 6.4 Application Area (SMP section 2 and Appendix 1).</li> <li>○ 6.5 Stability of underground workings (SMP section 5).</li> <li>○ 6.6.1 &amp; 6.6.2 Characteristics and surface and sub-surface features (SMP section 4.1).</li> <li>○ 6.6.3 Areas of environmental sensitivity (SMP section 4.2).</li> <li>○ 6.7 Subsidence prediction (SMP Section 6 and Appendix 3): <ul style="list-style-type: none"> <li>▪ Method (SMP section 6.1)</li> <li>▪ results (SMP section 6.2)</li> </ul> </li> <li>○ 6.8 Community Consultation: Community consultation was not included in either 800 Area SMP Variation 6 or 900 Area ASMP Variation 5. Community consultation is referenced in EDG17 as being required early in the application process. As the SMP variations have been approved by DRG, and as predicted subsidence impacts remained less than the subsidence impact assessment criteria referenced in the original SMP application, the</li> </ul> </li> </ul>		

## Appendix A5: Area 900 Subsidence Management Plan & Area 800 Subsidence Management Plan – Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
			<p>auditors have assessed consultation that was undertaken for the original SMP application was adequate.</p> <ul style="list-style-type: none"> <li>○ 6.9 Statutory requirements: Information on statutory requirements was not included in either 800 Area SMP Variation 6 or 900 Area ASMP Variation 5. Statutory requirements is required by EDG17 if there were proposed additional or increased subsidence impacts compared to the original SMP application. As the SMP Variations have been approved by DRG, and as predicted subsidence impacts remained less than the subsidence impact assessment criteria referenced in the original SMP application, the auditors have assessed 'statutory requirements' that were included for the original SMP application were adequate.</li> <li>○ 6.10 Subsidence impacts including risk assessment (SMP section 6.6).</li> <li>○ Relevance of proposed monitoring (SMP section 7).</li> <li>• Plans triggered by SMPs have been developed and approved by DRG e.g. subsidence monitoring program for 804 to 820 panels.</li> <li>• The Clarence environmental monitoring program includes biodiversity monitoring associated with original SMPs was approved by DRG (reported in previous IEA).</li> <li>• Incident management and reporting (condition 16) has been undertaken during the period of this IEA. Refer Appendix A1 DA 504 Sch 5-5A (Incident Reporting).</li> </ul>		

## Appendix A5: Area 900 Subsidence Management Plan & Area 800 Subsidence Management Plan – Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
			<ul style="list-style-type: none"> <li>Reports triggered by this SMP such as SMSRs (condition 17) and Annual Reviews (condition 18) have been developed during the period of this IEA and provided to DRG.</li> </ul>		
SMP 900 - 9	<p>The Leaseholder must implement any plan, programme or strategy required and approved pursuant to this Approval.</p> <p>Note: The Leaseholder may at any time submit an amended plan programme or strategy for approval. Once approved the amended plan programme or strategy must be implemented however up until the date of approval the Leaseholder must continue to implement the previously approved plan programme or strategy.</p>	<ul style="list-style-type: none"> <li>Clarence Environmental Monitoring Program (CC, 2017)</li> <li>Annual SMRs (CC, 2018 – 2020)</li> <li>SMSRs (CC, 2016 -2020)</li> </ul>	<ul style="list-style-type: none"> <li>The Annual SMRs include incidents, subsidence and environmental monitoring results and trends as required by SMPs.</li> </ul>	Compliant	
SMP 900 - 10	<p>Any modifications to plans, programmes or strategies already approved for the purposes of the conditions of this Approval must have regard to the matters set out in condition 8. Amended plans, programmes or strategies submitted for approval must be accompanied by all relevant supporting documentation to assist in the assessment of the amendment or modification.</p> <p>Note: This condition relates to plans, programmes and strategies required by the conditions of this Approval - if does not apply to variations to the SMP or the SMP Approved Plan which must be done in accordance with the requirements of the Mining Act, the conditions of title and the variation procedures identified in the SMP guidelines</p>	<ul style="list-style-type: none"> <li>900 Area SMP Variation 5 (CC, April 2019)</li> <li>Annual SMRs (CC, 2018 – 2020)</li> </ul>	<ul style="list-style-type: none"> <li>Refer condition 1 of this Appendix A5 for variations that were approved during the period of this IEA</li> <li>Refer condition 8 of this Appendix A5 for a high level review of SMP variations against the EDG 17 section 8 requirements for 'Application for SMP Variation'.</li> <li>Annual SMR reports include variations that were approved during the year.</li> <li>900 Area SMP Variation 5 was supported by approved plans.</li> </ul>	Compliant	
<b>Directions</b>					
SMP 900 - 11	<p>Directions</p> <p>The Leaseholder must comply with any written direction given by the Director General, Director Environmental Sustainability, Director Mine Safety Operations or Principal Subsidence Engineer relating to:</p> <p>a- the implementation of any aspect of the SMP or an approved plan, programme or strategy;</p> <p>b- assessing or reviewing the adequacy, effectiveness, or coverage of any approved plan, programme or strategy or any aspect of the SMP;</p> <p>c- the type, timing and/or location of monitoring of baseline conditions, subsidence or subsidence impacts</p> <p>d- any reporting requirement under this approval</p>		<ul style="list-style-type: none"> <li>No written directions were reported by Clarence to have been issued.</li> </ul>	Not triggered	

**Appendix A5: Area 900 Subsidence Management Plan & Area 800 Subsidence Management Plan – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
	<p>e- the carrying out of works to address subsidence impacts; and</p> <p>f- the carrying out of any studies or investigations related to subsidence or subsidence impacts and the reporting of any findings or conclusions.</p> <p>The obligations under this condition prevail over any other obligation under this Approval.</p> <p>Note: Compliance with a written direction will not operate as a defence to a breach of any obligation under this approval that occurred prior to the Direction being given</p>				
<b>Environmental Management Plan</b>					
SMP 900 - 13	The Leaseholder must submit to the Director Environmental Sustainability for approval an Environmental Management Plan (EMP) for the panels which are the subject of this approval. This plan must address subsidence impacts on:	<ul style="list-style-type: none"> <li>Clarence Environmental Monitoring Program (CC, 2017)</li> <li>Annual SMR (CC, 2018 - 2020)</li> <li>2016 IEA (MCW Environmental, 2016)</li> <li>Partial Extraction 900 Area Environmental Monitoring Program (CC, 2014)</li> <li>WMP MP-2041 (CC, 2017)</li> </ul>	<ul style="list-style-type: none"> <li>The Clarence Environmental Monitoring Program has been prepared to meet the requirements of this condition.</li> <li>The Clarence Environmental Monitoring Program was approved by DRG on 19 June 2014 and further to revision, was approved again on 2 December 2014.</li> <li>The Clarence Environmental Monitoring Program was varied in 2017. No evidence of consultation or approval of the 2017 Clarence Environmental Monitoring program was provided.</li> <li>No separate environmental monitoring programs were prepared to support SMP variations during the period of this IEA. Clarence reported that separate environmental monitoring programs are only prepared for SMP variations where the SMP variation warrants additional environmental monitoring.</li> <li>The Partial Extraction 900 Area Environmental Monitoring Program (CC, 2014) includes references to SMP 900 Area condition 13 items a) to e), however it does not identify how risks to these issues will be managed. Management of items a) to e) is provided in the Clarence Environmental Management Plan or the 2017 WMP.</li> <li>Although the Clarence Environmental Monitoring Program has been developed to meet the requirements of the SMP Environmental Management</li> </ul>	Non-compliant (NC-37)	<p>Refer to recommendations:</p> <ul style="list-style-type: none"> <li>Appendix A1 DA504 Sch 3-2 (Subsidence Management Plan): R2.</li> <li>Appendix A1 DA504 Sch 3-5 (Water Resources Impact Assessment Criteria): R3.</li> <li>Appendix A1 DA504 Sch 3-9 (Surface Water Monitoring): R7.</li> </ul>

**Appendix A5: Area 900 Subsidence Management Plan & Area 800 Subsidence Management Plan – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
			<p>Plan, the Monitoring Program does not include all of requirements of 900 Area SMP condition 13 i) to vii), consequently this condition was assessed as non-compliant.</p> <ul style="list-style-type: none"> <li>The Clarence Environmental Monitoring Program and /or WMP and/or Partial Extraction 900 Area Environmental Monitoring Program (Area 900 EM Program) and /or the Western Region Aboriginal Cultural Heritage Management Plan references the requirements of condition 13 as follows:</li> </ul>		
	a) surface water and groundwater and dependent ecosystems		a) Section 4 of the Clarence Environmental Monitoring Program		
	b) Newnes Plateau shrub swamps and hanging swamps including dependence on groundwater levels and quality for terrestrial and aquatic flora and fauna		b) Assumed in Section 4 of the Clarence Environmental Monitoring Program, although not clear.		
	c) Bungleboori Creek		c) Sections 5 and 7 of the Clarence Environmental Monitoring Program		
	d) Cliffs, pagodas and steep slopes; and		d) Section 7 of the Clarence Environmental Monitoring Program		
	e) archaeological sites		e) Western Region Aboriginal Cultural Heritage Management Plan (Attachment 3)		
	The leaseholder shall ensure that underground mining does not result in any more than negligible environmental consequences to the aforementioned features.		<ul style="list-style-type: none"> <li>The 2019 Annual SMR provided a summary of the monitoring required by the EMP. This appeared to address the monitoring requirements of the Area 900 EM Program, however a complete reconciliation of monitoring against the plan was not undertaken as part of this IEA.</li> </ul> <p>The 2017 and 2018 Annual SMRs have similar conclusions as reported in the 2019 SMR:</p> <ul style="list-style-type: none"> <li><i>Subsidence and environmental monitoring has been carried out generally in accordance with the relevant Subsidence and Environmental Monitoring Programs required under the various SMP approvals.</i></li> <li><i>All subsidence results during 2019 are below the 100mm maximum predicted</i></li> </ul>		



## Appendix A5: Area 900 Subsidence Management Plan & Area 800 Subsidence Management Plan – Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
			<p>(with the exception of the older panels ...)</p> <ul style="list-style-type: none"> <li>• Flora and fauna monitoring has shown no measurable impact from mining.</li> <li>• No effect of land subsidence has been observed from the monitoring conducted over 2019.</li> <li>• Groundwater impact has been minimal with the main effects being at seam level.</li> <li>• Piezometric height has decreased in the seam level aquifers as expected. There has been no adverse impact on upper aquifers (i.e. above the Mt York Claystone) as a consequence of mining activities (including the Clarence aquifer).</li> <li>• Piezometers and inspections within swamps have found no impact from mining.</li> <li>• Surface water quality monitoring indicates no adverse impact from mining with upstream and downstream results for Farmers Creek (700 Area).</li> <li>• Cliffline and pagoda photographic monitoring, combined with visual surface inspections, has found no evidence of any mining related impact.</li> </ul>		
	The leaseholder must not operate other than in accordance with an EMP approved by the Director Environmental Sustainability. This Plan must address subsidence impacts above and must include:				
	i) a detailed monitoring programme		i) Section 4 of the Clarence Environmental Monitoring program		
	ii) trigger levels for subsidence impacts that require actions and responses;		ii) <ul style="list-style-type: none"> <li>• 900 Area SMP TARP (also attached as an Appendix to Area 900 EM Program).</li> <li>• WMP TARP for surface water monitoring (also attached as an Appendix to Area 900 EM Program).</li> <li>• WMP TARP for groundwater monitoring (also attached as an Appendix to Area 900 EM Program).</li> </ul>		
	iii) the procedures that would be followed in the event that the monitoring indicates an exceedance of trigger levels		iii) <ul style="list-style-type: none"> <li>• 900 Area SMP TARP (also attached as an Appendix to Area 900 EM Program).</li> </ul>		

## Appendix A5: Area 900 Subsidence Management Plan & Area 800 Subsidence Management Plan – Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
			<ul style="list-style-type: none"><li>WMP section 8.</li></ul>		
	iv) measures to mitigate, remediate and/or compensate any identified impacts		iv) 2017 WMP		
	v) a protocol for the notification of identified exceedances of the trigger levels		v) <ul style="list-style-type: none"><li>900 Area Subsidence Management Plan</li><li>TARP (also attached as an Appendix to Area 900 EM Program).</li><li>WMP TARP for surface water monitoring</li><li>WMP TARP for groundwater monitoring (also attached as an Appendix to Area 900 EM Program)</li></ul>		
	vi) a contingency plan		<ul style="list-style-type: none"><li>900 Area Subsidence Management Plan TARP (also attached as an Appendix to Area 900 EM Program).</li><li>WMP TARP for surface water monitoring (also attached as an Appendix to Area 900 EM Program).</li><li>WMP TARP for groundwater monitoring (also attached as an Appendix to Area 900 EM Program).</li></ul>		
	This Plan must be prepared in consultation with relevant landholders and government agencies. This EMP must be developed in sufficient time to allow two years data to be collected prior to extraction commencing, unless otherwise authorised by the Director Environmental Sustainability. Note: The Plan should be submitted to the Director Environment Sustainability at least 30 days prior to the expected commencement of operation to enable sufficient time for the assessment of the plan. The Director Environmental Sustainability may require the provision of further information or a resubmission of the plan if it is considered inadequate. Complex issues or the need for additional information or a resubmission of the programme may require a longer assessment period.		<ul style="list-style-type: none"><li>Prior to the period of this IEA.</li></ul>		
Incident and Ongoing Management Reporting					
SMP 900 - 16	The Leaseholder must, within 24 hours of becoming aware of the occurrence, notify a) the Principal Subsidence Engineer b) the Mine Subsidence Board c) The Department of Water and Energy d) Other relevant stakeholders any Government Agency with a regulatory role if they request such notification of the following	<ul style="list-style-type: none"><li>Annual SMRs (CC, 2018 – 2020)</li><li>ARs (CC, 2017 -2020)</li></ul>	The Annual SMRs and ARs did not report incidents: <ul style="list-style-type: none"><li>That were significant unpredicted and/or higher-than predicted subsidence and/or abnormalities in the development of subsidence.</li><li>That exceeded predicted impacts on groundwater resources and/or the</li></ul>	Not triggered	

## Appendix A5: Area 900 Subsidence Management Plan & Area 800 Subsidence Management Plan – Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
	<p>i) Any significant unpredicted and/or higher-than predicted subsidence and/or abnormalities in the development of subsidence;</p> <p>ii) Any exceedance of predicted impacts on groundwater resources and/or the natural environment that may have been caused (whether partly or wholly) by subsidence;</p> <p>iii) Any observed subsidence impacts adverse to the serviceability and/or safety of infrastructure and other built structures that may be affected by mining;</p> <p>iv) Any significant subsidence-induced cracking and ground deformations observed in any surface areas within the SMP application area</p> <p>Note: Under Condition 11, the Leaseholder can be directed to, among other things, prepare a report on an incident reported under this condition. A report on the details of the incident, including likely or known causes response action and proposed responses will generally be required for incidents that involve material property or environmental damage or have the potential to cause such damage,</p>		<p>natural environment that may have been caused (whether partly or wholly) by subsidence.</p> <ul style="list-style-type: none"> <li>Where observed subsidence impacts were adverse to the serviceability and/or safety of infrastructure and other built structures that may be affected by mining.</li> <li>Where significant subsidence-induced cracking and ground deformations observed were in any surface areas within the SMP application area.</li> </ul>		
<b>Status Report</b>					
SMP 900 - 17 (a)	The Leaseholder must prepare and maintain a Subsidence Management Status Report which must include but not be limited to: <ul style="list-style-type: none"> <li>the current face position of the panel being extracted</li> </ul>	<ul style="list-style-type: none"> <li>Annual SMRs (CC, 2018 - 2020)</li> <li>Four monthly SMSRs (CC): <ul style="list-style-type: none"> <li>March 2016</li> <li>July 2016</li> <li>July 2017</li> <li>November 2017</li> <li>March 2018</li> <li>November 2018</li> <li>March 2019</li> <li>July 2019</li> <li>November 2019</li> <li>March 2020</li> <li>July 2020</li> </ul> </li> <li>CCC minutes (CC, 26 February 2018)</li> </ul>	Current face position of the panel being extracted (SMSR section 2 and Attachment 1)).	Compliant	
SMP 900 - 17 (b)	A summary of any subsidence management actions undertaken by the Leaseholder in the period subsequent to the last regular submission of the Status Report		Subsidence management actions (SMSR section 3).	Compliant	
SMP 900 - 17 (c)	A summary of any comments, advice and feedback from consultation with stakeholders in relation to the implementation of this Approval (including the preparation, implementation and review of plans, programmes, reports or strategies required by this approval) undertaken or received in the period subsequent to the last regular submission of the Status Report and a summary of the Leaseholder/s response to the comments, advice and feedback given by the stakeholders		Comments, advice and feedback from consultation with stakeholders (SMSR section 4 references the quarterly CCC meeting) e.g. an 800 SMP Area update included intersection of a diatreme which required modification to the mine plan and SMP (CCC minutes February 2018).	Compliant	
SMP 900 - 17 (d)	A summary of the observed and/or reported subsidence impacts, incidents, services difficulties, community complaints, and any other relevant information reported to the Leaseholder in the period		Observed and/or reported subsidence impacts, incidents, services difficulties, community complaints (SMSR section 5). No reports of observed and/or	Compliant	

## Appendix A5: Area 900 Subsidence Management Plan & Area 800 Subsidence Management Plan – Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
	subsequent to the last regular submission of the Status Report and a summary of the Leaseholder's response to these impact, incidents, services difficulties and complaints		reported subsidence impacts, incidents, services difficulties, community complaints were reported in the 11 SMSRs reviewed.		
SMP 900 - 17 (e)	A summary of subsidence development based on monitoring information compared with any defined triggers and/or the predicted subsidence to facilitate early detection of potential subsidence impacts		<ul style="list-style-type: none"> <li>Summary of subsidence monitoring information including subsidence monitoring trends and cliffline and pagoda photographic monitoring (SMSR section 6).</li> <li>Summary of environmental monitoring results including photographic monitoring of Newnes Plateau Shrub Swamps, groundwater monitoring, surface water monitoring at Farmers Creek, Flora and fauna monitoring.</li> </ul>	Compliant	
SMP 900 - 17 (f)	A summary of the adequacy, quality and defectiveness of the implemented management processes based on the monitoring and consultant information summarised above; and		<ul style="list-style-type: none"> <li>A summary of the adequacy, quality and defectiveness (SMSR section 8)</li> </ul>	Compliant	
SMP 900 - 17 (g)	A statement regarding any additional and/or outstanding management actions to be undertaken or the need for early repos or emergency procedures to ensure adequate management of any potential subsidence impacts due to mining.		<ul style="list-style-type: none"> <li>Proposed management actions (SMSR section 9)</li> </ul>	Compliant	
	The Subsidence Management Status Report must be updated at least every 14 days to reflect any changes in the information required to be included in the Report. The Status Report (as updated from time to time) must be submitted to the Principal Subsidence Engineer and the Department of Water and Energy from the date of this Approval. The Status Report (as updated from time to time) must be provided, upon request, to the Mine Subsidence Board, the Director of Environmental Sustainability, the Principal Subsidence Engineer, owners/operators of any infrastructure within the application area and relevant government agencies.	<ul style="list-style-type: none"> <li>SMSR (CC, July 2020)</li> <li>Letter to Subsidence Advisory with SMSR (CC, 31 July 2020)</li> <li>Letter to DRG with SMSR (CC, 31 July 2020)</li> <li>Letter to Dam Safety Committee with SMSR (CC, 31 July 2020)</li> <li>Letter to Endeavour Energy with SMSR (CC, 31 July 2020)</li> <li>Letter to EPA with SMSR (CC, 31 July 2020)</li> <li>Letter to Forest Corporation NSW with SMSR (CC, 31 July 2020)</li> <li>Letter to Department of Resources and Mining with SMSR (CC, 31 July 2020)</li> </ul>	<ul style="list-style-type: none"> <li>Letters were sighted indicating that SMSRs are issued to relevant parties listed as well as other agencies as considered appropriate</li> </ul>	Compliant	

## Appendix A5: Area 900 Subsidence Management Plan & Area 800 Subsidence Management Plan – Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
		<ul style="list-style-type: none"> <li>Letter to Resource Regulator with SMSR (CC, 31 July 2020)</li> <li>Letter to Water NSW with SMSR (CC, 31 July 2020)</li> </ul>			
<b>Annual Report</b>					
SMP 900 - 18	The Leaseholder shall prepare an annual report. This report shall be submitted to the Director General within twelve months of the date of this approval and annually thereafter	<ul style="list-style-type: none"> <li>SMP 900 Area Approval (DRG, 21 January 2014)</li> <li>2017 Annual SMR (End of Year) (CC, 14 March 2018)</li> <li>2018 Annual SMR (End of Year) (CC, 26 March 2019)</li> <li>2019 SMR (CC, 9 April 2020)</li> <li>SMP Area 800 TARP</li> <li>WMP MP-2041 (CC, 2017)</li> <li>March to June 2020 SMSR (CC, July 2020)</li> <li>2019 AR (CC, 2020)</li> </ul>	<ul style="list-style-type: none"> <li>As the date of approval for Area 900 SMP was 21 January 2014, the due date for submission of the Annual SMR to DRG is by 21 January of the following year.</li> <li>Annual SMRs were provided to DRG in <ul style="list-style-type: none"> <li>March 2018</li> <li>March 2019</li> <li>April 2020</li> </ul> </li> <li>Although the 2019 Annual SMR (End of Year Report) was submitted on 9 April 2020, which is slightly over 12 months from submission of the 2018 Annual SMR (End of Year Report) on 26 March 2018, this condition was assessed as generally meeting the requirement for annual submission.</li> </ul>	Compliant	
SMP 900 - 18 (a)	The annual report must: Include a summary of the subsidence and environmental monitoring results for the year;		<ul style="list-style-type: none"> <li>Summary of the subsidence and environmental monitoring results for the year (SMR sections 2, 3 and 4).(compliant).</li> </ul>	Compliant	
SMP 900 - 18 (b)	Include an analysis of these monitoring results against the relevant; <ul style="list-style-type: none"> <li>impact assessment criteria;</li> <li>monitoring results from previous panels; and</li> <li>predictions in the SMP</li> </ul>		<ul style="list-style-type: none"> <li>Subsidence is assessed against impact assessment criteria and predictions as provided in the 900 Area TARP (SMR section 3.3) (compliant)</li> <li>Groundwater levels are assessed against impact assessment criteria as provided in the 2017 WMP TARP, and previous annual monitoring (SMR section 4.1) (compliant)</li> <li>Flora and fauna are assessed against impact assessment criteria as described in the SMR and comparison with previous annual report (SMR sections 4.2 and 4.3) (compliant)</li> <li>Cliffline and Pagoda are visually assessed using photographs.</li> <li>Upstream and downstream surface water sampling results from</li> </ul>	Non-compliant (NC-38)	Refer recommendations: <ul style="list-style-type: none"> <li>Appendix A1 DA504 Sch 3-2 (Subsidence Management Plan): R2.</li> <li>Appendix A1 DA504 Sch 3-5 (Water Resources Impact Assessment Criteria): R3.</li> </ul>
SMP 900 - 18 (c)	Identify any trends in the monitoring results over the life of the activity; and				

## Appendix A5: Area 900 Subsidence Management Plan & Area 800 Subsidence Management Plan – Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
			<p>Wollangambe River Point 9, and from Farmers Creek, were reported although an assessment against criteria was not available (non-compliant).</p> <ul style="list-style-type: none"> <li>Refer Appendix A1 DA504 Sch 3-2 (Subsidence Management Plan): C-2 and R2.</li> <li>Refer Appendix A1 DA504 Sch 3-5 (Water Resources Impact Assessment Criteria) and R3.</li> </ul>		
SMP 900 - 18 (d)	<p>Describe what actions were taken to ensure adequate management of any potential or actual subsidence impacts due to mining.</p> <p>Note: The requirement of this condition may be satisfied via an Annual Review prepared under conditions of development consent or project approval</p>		<ul style="list-style-type: none"> <li>Subsidence results reported in 2017, 2018 and 2019 Annual SMRs are below the 100mm maximum predicted (with the exception of the older panels within the Eastern Area -refer Appendix A1 DA504 Sch 3-1 Subsidence Impact Assessment Criteria) consequently this condition was assessed as not triggered.</li> <li>Refer Appendix A1 DA504 Sch 3- 5 Water Resources Impact Assessment Criteria and R4. Clarence has reported on an uncharacteristic decline in groundwater levels at CLRP5 in SMSR reports in March 2020, July 2020 and the 2019 AR. The March – June 2020 SMSR (CC, July 2020) reports <i>“There was an uncharacteristic decline and fluctuation (up to 3 m) in water levels in mid-2019. Water levels continue to show a declining trend into the current reporting period. The hydrograph response is verified by manual measurements and at this point in time the cause of the decline is unknown, but it is possibly a response to the significant rainfall deficit since mid-2016. This trend should be monitored again in the next reporting period.”</i></li> </ul>	Not triggered.	
<b>Access to Information</b>					
SMP 900 - 19	<p>Within 3 months of the submission of an Annual Report (as required by Condition 18) or the approval of a plan, programme or strategy required under this Approval or the SMP (or any subsequent revision of</p>	<ul style="list-style-type: none"> <li>SMSR (CC, July 2020)</li> <li>Letter to Subsidence Advisory with SMSR (CC, 31 July 2020)</li> </ul>	<ul style="list-style-type: none"> <li>Annual SMRs have been prepared in 2016, 2017, 2018 and 2019 and as for the SMSRs, issued to agencies.</li> <li>The 2019 Annual SMR was available on the CC website.</li> </ul>	Compliant	

## Appendix A5: Area 900 Subsidence Management Plan & Area 800 Subsidence Management Plan – Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
	<p>these documents), the Leaseholder must, to the satisfaction of the Director General:</p> <p>a- provide a copy of these document/s to all relevant agencies</p> <p>b- ensure that a copy of the relevant documents is made publicly available at the Leaseholders regional office and</p> <p>c- put a copy of the relevant documents on the Leaseholders website</p> <p>Note: Relevant agencies currently include MSB, OEH, NOW and DP&amp;I.</p>	<ul style="list-style-type: none"> <li>Letter to DRG with SMSR (CC, 31 July 2020)</li> <li>Letter to Dam Safety Committee with SMSR (CC, 31 July 2020)</li> <li>Letter to Endeavour Energy with SMSR (CC, 31 July 2020)</li> <li>Letter to EPA with SMSR (CC, 31 July 2020)</li> <li>Letter to Forest Corporation NSW with SMSR (CC, 31 July 2020)</li> <li>Letter to Department of Resources and Mining with SMSR (CC, 31 July 2020)</li> <li>Letter to Resource Regulator with SMSR (CC, 31 July 2020)</li> <li>Letter to Water NSW with SMSR (CC, 31 July 2020)</li> <li>CC website</li> </ul>			
<b>Survey Marks</b>					
SMP 900 - 20	At the completion of subsidence or otherwise as required by the Land and Property Management Authority. the functionality of any survey marks affected by subsidence must be fully restored to the satisfaction of the Land and Property Management Authority.		<ul style="list-style-type: none"> <li>No survey marks have been reported to have been affected by subsidence.</li> </ul>	Not triggered	
<b>Water Supply</b>					
SMP 900 - 21	In the event of interruptions to water supplies (water quality and / or quantity) due to subsidence impacts on water supply systems and or sources caused by pillar extraction, the Leaseholder must provide without delay water supplies of equivalent quality and quantity to locations convenient to those affected within the SMP Application Area until such time the affected water supply system and / or sources are restored		<ul style="list-style-type: none"> <li>No interruption to water supplies due to subsidence impacts has been reported.</li> </ul>	Not triggered	
<b>SMP 800 Area</b>					
<b>Limits on Approval</b>					
SMP 800 - 1	The Leaseholder must carry out the activity strictly in accordance with SMP Approved Plan	<p>900 Area</p> <ul style="list-style-type: none"> <li>900 Area SMP Variation 5 (CC, April 2019)</li> </ul>	<ul style="list-style-type: none"> <li>Approved SMP plans were available for variations undertaken during the period of the IEA.</li> </ul>	Compliant	



**Appendix A5: Area 900 Subsidence Management Plan & Area 800 Subsidence Management Plan – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
		<ul style="list-style-type: none"> <li>900 Area SMP Variation 5_Aproved Plan (signed and dated 13 March 2019)</li> <li>Letter to CC Approval of 900 Area SMP Variation 5 (DRG, 26 July 2019)</li> </ul> <p>800 Area</p> <ul style="list-style-type: none"> <li>800 Area SMP Variation 6 (CC, May 2020)</li> <li>800 Area SMP Variation 6_Aproved Plan (signed and dated 20 May 2020)</li> <li>Letter to CC Approval of 800 Area SMP Variation 6 (DRG, 11 August 2020)</li> </ul> <p>ARs (CC, 2017 -2020)</p>	<ul style="list-style-type: none"> <li>800 Area SMP was varied during the period of this IEA: <ul style="list-style-type: none"> <li>Variation 4 for extension of mining period to 30 October 2021, developing mains north of 808 panel, extraction of 808 panel, reducing 806 and 804 panels and addition of the most southern 822 panel – approved 8 June 2017.</li> <li>Variation 5 for reducing 818 panel, relocating 820 panel, development and extraction of a new 819 panel, modifying 820 panel, development and extraction of 818 Mains and 818A panel (Approved Plan CL 1490) – approved on 18 April 2018.</li> <li>Variation 6 (Approved Plan CL1753) for addition of new 809 panel -approved on 11 August 2020.</li> </ul> </li> <li>No non-compliances with 800 Area SMP were reported in the 2017, 2018 and 2019 annual reviews.</li> </ul>		
SMP 800 - 2	The Leaseholder must carry out the activity generally in accordance with the SMP subject to the conditions of this Approval. In the event of any inconsistency between the conditions of this Approval and the SMP, the conditions of this Approval prevail to the extent of any inconsistency	<ul style="list-style-type: none"> <li>This compliance assessment (Appendix A5)</li> </ul>	<ul style="list-style-type: none"> <li>Approved 800 Area SMP plans were available for variations undertaken during the period of the IEA.</li> <li>No non-compliances with Area 800 and 900 SMPs were reported in the 2017, 2018 and 2019 annual reviews.</li> </ul>	Compliant	
SMP 800 - 3	Where this Approval requires actions to be undertaken by the Leaseholder, including remediation of subsidence impacts, the obligation continues until the Director General notifies the Leaseholder that the action has been completed to his or her satisfaction		<ul style="list-style-type: none"> <li>No actions were reportedly triggered by the Director General.</li> </ul>	Not triggered	
SMP 800 - 4	The Director General may vary the conditions of this Approval by notice in writing			Noted	
SMP 800 - 5	The Director General may at his or her discretion suspend or revoke this Approval if i) the Leaseholder falls to adhere to any condition of the Approval; or		<ul style="list-style-type: none"> <li>The Approval has not been revoked or suspended.</li> </ul>	Not triggered	

## Appendix A5: Area 900 Subsidence Management Plan & Area 800 Subsidence Management Plan – Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
	b- the head of any other government authority requests suspension or revocation on the basis of the Lease holder's non-compliance, or potential non-compliance, with legislation administered by that agency related to this Approval				
<b>General Obligation to Minimise Harm to the Environment</b>					
SMP 800 - 6	The Leaseholder must implement the SMP (as amended by the conditions of this Approval) and carry out any additional practicable measures necessary to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the activity Where prevention can not be achieved the leaseholder is to demonstrate minimisation of harm to the environment that may result from the construction, operation, or rehabilitation of the activity.	<ul style="list-style-type: none"> <li>Appendix A 1 DA 504 Schedules 2 and 3</li> </ul>	<ul style="list-style-type: none"> <li>General harm to the environment has been assessed in Appendix A1 DA504 Schedule 2-1 to 2-4.</li> <li>Although a number of incidents relating to exceedance of EPL 726 water concentration limits at LDP 002 and loss of containment from LD 2 have been reported to regulators during the period of this IEA (refer Appendix A1 DA504 Schedule 2-11), no incidents that caused harm to the environment were reported in ARs, EPA Annual Returns and Annual SMRs.</li> </ul>	Compliant	
<b>Notification of Approval</b>					
SMP 800 - 7	The Proponent must give notice of this SMP approval with 30 days to the DP&I, NOW, OEH, Council, MSB, the local Aboriginal Land Council the owners/ operators of any infrastructure and landowners in the application area and any relevant government agencies of stakeholders that the Director General's approval of the SMP has been granted	2016 IEA (MCW Environmental, 2017)	<ul style="list-style-type: none"> <li>The 800 Area SMP Approval was granted in 2013 (Approved Plan CL96) and 2014 (Approved Plan CL999) respectively which is prior to the period of this IEA.</li> <li>The previous IEA assessed this condition as compliant.</li> </ul>	Not triggered	
<b>Implementation of Approval</b>					
SMP 800 - 8	Any plans, programmes, reports or strategies required as a condition of this Approval must be developed having regard to any guidelines adopted by the Director General for the purpose of subsidence management and mine rehabilitation	800 Area <ul style="list-style-type: none"> <li>800 Area SMP Variation 6 (CC, May 2020)</li> <li>800 Area SMP Variation 6 Approved Plan (signed and dated 20 May 2020)</li> <li>Letter to CC Approval of 800 Area SMP Variation 6 (DRG, 11 August 2020)</li> <li>Letter to CC Approval of 804 to 820 panel subsidence monitoring programme (DRG, 23 April 2018)</li> <li>EDG17 Guideline for Applications for Subsidence</li> </ul>	<ul style="list-style-type: none"> <li>The 800 Area Variation 6 was approved by the DRG.</li> <li>Letter approval for the 800 Area SMP Variation 6 Approval (DRG, 2020) revokes conditions 12 (Subsidence Monitoring Programme), 14 (Infrastructure and Property Management) and 15 (Public Safety).</li> <li>The DRG Resources Regulator website advises that although the EDG17 Guideline (DRG, 2003) is not relevant to future applications, it is still available for ongoing compliance of existing subsidence management plans for the term of their approval.</li> </ul>	Compliant	

**Appendix A5: Area 900 Subsidence Management Plan & Area 800 Subsidence Management Plan – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
		<p>Management Approvals (DRG, 2003)</p> <ul style="list-style-type: none"> <li>• Environmental Monitoring Program (CC, 2017)</li> <li>• 2016 IEA (MCW Environmental, 2017)</li> <li>• Annual SMRs (CC, 2018 - 2020)</li> <li>• Four monthly SMSRs (CC): <ul style="list-style-type: none"> <li>○ March 2016</li> <li>○ July 2016</li> <li>○ July 2017</li> <li>○ November 2017</li> <li>○ March 2018</li> <li>○ November 2018</li> <li>○ March 2019</li> <li>○ July 2019</li> <li>○ November 2019</li> <li>○ March 2020</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• An audit of 800 Area SMP Variation 6 against EDG17 requirements has not been undertaken however a high level review of these SMP variations against the EDG 17 section 8 requirements for 'Application for SMP Variation' was undertaken: <ul style="list-style-type: none"> <li>○ Description of proposed variation (SMP section 1).</li> <li>○ 6.3 Proposed mining system and resource recovery (SMP sections 2 and 8, and Appendices 1 and 2).</li> <li>○ 6.4 Application Area (SMP section 2 and Appendix 1).</li> <li>○ 6.5 Stability of underground workings (SMP section 5).</li> <li>○ 6.6.1 &amp; 6.6.2 Characteristics and surface and sub-surface features (SMP section 4.1).</li> <li>○ 6.6.3 Areas of environmental sensitivity (SMP section 4.2).</li> <li>○ 6.7 Subsidence prediction (SMP Section 6 and Appendix 3): <ul style="list-style-type: none"> <li>▪ Method (SMP section 6.1)</li> <li>▪ results (SMP section 6.2)</li> </ul> </li> <li>○ 6.8 Community Consultation: Community consultation was not included in either 800 Area SMP Variation 6 or 900 Area ASMP Variation 5. Community consultation is referenced in EDG17 as being required early in the application process. As the SMP variations have been approved by DRG, and as predicted subsidence impacts remained less than the subsidence impact assessment criteria referenced in the original SMP application, the auditors have assessed consultation that was</li> </ul> </li> </ul>		

## Appendix A5: Area 900 Subsidence Management Plan & Area 800 Subsidence Management Plan – Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
			<p>undertaken for the original SMP application was adequate.</p> <ul style="list-style-type: none"> <li>○ 6.9 Statutory requirements: Information on statutory requirements was not included in either 800 Area SMP Variation 6 or 900 Area ASMP Variation 5. Statutory requirements is required by EDG17 if there were proposed additional or increased subsidence impacts compared to the original SMP application. As the SMP Variations have been approved by DRG, and as predicted subsidence impacts remained less than the subsidence impact assessment criteria referenced in the original SMP application, the auditors have assessed 'statutory requirements' that were included for the original SMP application were adequate.</li> <li>○ 6.10 Subsidence impacts including risk assessment (SMP section 6.6).</li> <li>○ Relevance of proposed monitoring (SMP section 7).</li> <li>• Plans triggered by SMPs have been developed and approved by DRG e.g. subsidence monitoring program for 804 to 820 panels.</li> <li>• The Clarence environmental monitoring program includes biodiversity monitoring associated with original SMPs was approved by DRG (reported in previous IEA).</li> <li>• Incident management and reporting (condition 16) has been undertaken during the period of this IEA. Refer Appendix A1 DA 504 Sch 5-5A.</li> <li>• Reports triggered by this SMP such as SMSRs (condition 17) and Annual Reviews (condition 18) have been</li> </ul>		

## Appendix A5: Area 900 Subsidence Management Plan & Area 800 Subsidence Management Plan – Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
			developed during the period of this IEA and provided to DRG.		
SMP 800 - 9	The Leaseholder must implement any plan, programme or strategy required and approved pursuant to this Approval. Note: The Leaseholder may at any time submit an amended plan programme or strategy for approval. Once approved the amended plan programme or strategy must be implemented however up until the date of approval the Leaseholder must continue to implement the previously approved plan programme or strategy.	<ul style="list-style-type: none"> <li>Environmental Monitoring Program (CC, 2017)</li> <li>Annual SMRs (CC, 2018 – 2020)</li> <li>SMSRs (CC, 2016 -2020)</li> </ul>	<ul style="list-style-type: none"> <li>The Annual SMR include incidents, subsidence and environmental monitoring results and trends as required by SMPs.</li> </ul>	Compliant	
SMP 800 - 10	Any modifications to plans, programmes or strategies already approved for the purposes of the conditions of this Approval must have regard to the matters set out in condition 8. Amended plans, programmes or strategies submitted for approval must be accompanied by all relevant supporting documentation to assist in the assessment of the amendment or modification. Note: This condition relates to plans, programmes and strategies required by the conditions of this Approval - if does not apply to variations to the SMP or the SMP Approved Plan which must be done in accordance with the requirements of the Mining Act, the conditions of title and the variation procedures identified in the SMP guidelines	<ul style="list-style-type: none"> <li>800 Area SMP Variation 6 (CC, May 2020)</li> <li>Annual SMRs (CC, 2018 – 2020)</li> </ul>	<ul style="list-style-type: none"> <li>Refer condition 1 of this Appendix A5 for variations that were approved during the period of this IEA</li> <li>Refer condition 8 of this Appendix A5 for a high level review of SMP variations against the EDG 17 section 8 requirements for 'Application for SMP Variation'.</li> <li>Annual SMR reports include variations that were approved during the year.</li> <li>800 Area SMP Variation 6 was supported by approved plans.</li> </ul>	Compliant	
<b>Directions</b>					
SMP 800 - 11	The Leaseholder must comply with any written direction given by the Director General, Director Environmental Sustainability, Director Mine Safety Operations or Principal Subsidence Engineer relating to: a- the implementation of any aspect of the SMP or an approved plan, programme or strategy; b- assessing or reviewing the adequacy, effectiveness, or coverage of any approved plan, programme or strategy or any aspect of the SMP; c- the type, timing and/or location of monitoring of baseline conditions, subsidence or subsidence impacts d- any reporting requirement under this approval e- the carrying out of works to address subsidence impacts; and		<ul style="list-style-type: none"> <li>No written directions were reported by Clarence to have been issued.</li> </ul>	Not triggered	

## Appendix A5: Area 900 Subsidence Management Plan & Area 800 Subsidence Management Plan – Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
	f- the carrying out of any studies or investigations related to subsidence or subsidence impacts and the reporting of any findings or conclusions. The obligations under this condition prevail over any other obligation under this Approval. Note: Compliance with a written direction will not operate as a defence to a breach of any obligation under this approval that occurred prior to the Direction being given				
<b>Environmental Management Plan</b>					
SMP 800 - 13	The Leaseholder must submit to the Director Environmental Sustainability for approval an Environmental Management Plan (EMP) for the panels which are the subject of this approval. This plan must address subsidence impacts on:	<ul style="list-style-type: none"> <li>• Clarence Environmental Monitoring Program (CC, 2017)</li> <li>• Annual SMR (CC, 2018 - 2020)</li> <li>• 2016 IEA (MCW Environmental, 2016)</li> <li>• Partial Extraction 900 Area Environmental Monitoring Program (CC, 2014)</li> <li>• WMP MP-2041 (CC, 2017)</li> </ul>	<ul style="list-style-type: none"> <li>• The Clarence Environmental Monitoring Program has been prepared to meet the requirements of this condition.</li> <li>• The Clarence Environmental Monitoring Program was approved by DRG on 19 June 2014 and further to revision, was approved again on 2 December 2014.</li> <li>• The Clarence Environmental Monitoring Program was varied in 2017. No evidence of consultation or approval of the 2017 Clarence Environmental Monitoring program was provided.</li> <li>• No separate environmental monitoring programs were prepared to support SMP variations during the period of this IEA. Clarence reported that separate environmental monitoring programs are only prepared for SMP variations where the SMP variation warrants additional environmental monitoring.</li> <li>• Management of items a) to e) is provided in the Clarence Environmental Management Plan and the 2017. WMP</li> <li>• Although the Clarence Environmental Monitoring Program has been developed to meet the requirements of the SMP Environmental Management Plan, the Monitoring Program does not include all of requirements of 900 Area SMP condition 13 i) to vii), consequently this condition was assessed as non-compliant.</li> <li>• The requirements of condition 13 are addressed across a number of documents, and the corresponding</li> </ul>	Non-compliant (NC-39)	Refer recommendations: <ul style="list-style-type: none"> <li>• Appendix A1 DA504 Sch 3-2 (Subsidence Management Plan): R2.</li> <li>• Appendix A1 DA504 Sch 3-5 (Water Resources Impact Assessment Criteria): R3.</li> <li>• Appendix A1 DA504 Sch 3-9 (Surface Water Monitoring): R7.</li> </ul>

**Appendix A5: Area 900 Subsidence Management Plan & Area 800 Subsidence Management Plan – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
			linking of subsidence impact assessment criteria, monitoring and TARPs was complex, this condition was assessed as non-compliant. Clarence Environmental Monitoring Program and /or WMP and /or the Western Region Aboriginal Cultural Heritage Management Plan covers the requirements of condition 13 as follows:		
	a) surface water and groundwater and dependent ecosystems		a) Section 4 of the Clarence Environmental Monitoring Program.		
	b) Newnes Plateau shrub swamps and hanging swamps including dependence on groundwater levels and quality for terrestrial and aquatic flora and fauna		b) Assumed in Section 4 of the Clarence Environmental Monitoring Program, although not clear.		
	c) Dumbano Creek;		c) Sections 5 and 7 of the Clarence Environmental Monitoring Program.		
	d) Cliffs / pagodas;		d) Section 7 of the Clarence Environmental Monitoring Program.		
	e) aboriginal archaeological sites		e) Western Region Aboriginal Cultural Heritage Management Plan (Attachment 3).		
	f) flora and fauna		f) Section 7 of the Clarence Environmental Monitoring Program.		
	g) any other significant environmental feature that may be impacted by subsidence resulting from the proposed pillar mining		g) None identified.		
	The leaseholder must not operate other than in accordance with an Environmental Management Plan (EMP) approved by the Director Environmental Sustainability. This plan must address subsidence impacts above and must include:		<ul style="list-style-type: none"> <li>The 2019 Annual SMR provided a summary of the monitoring required by the EMP. This appeared to address the monitoring requirements of the Area 900 EM Program, however a complete reconciliation of monitoring against the plan was not undertaken as part of this IEA.</li> </ul>		
	i) a pre-mining inspection of swamps in the subject area to identify existing physical characteristics of the swamps and associated terrestrial and aquatic flora and fauna;		i) Prior to the period of this IEA.		
	ii) a detailed monitoring programme		ii) Section 4 of the Clarence Environmental Monitoring program.		
	iii) trigger levels for subsidence impacts that require actions and responses;		iii) <ul style="list-style-type: none"> <li>800 Area SMP TARP.</li> <li>WMP TARP for surface water monitoring.</li> <li>WMP TARP for groundwater monitoring.</li> </ul>		



## Appendix A5: Area 900 Subsidence Management Plan & Area 800 Subsidence Management Plan – Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
	iv) the procedures that would be followed in the event that the monitoring indicates an exceedance of trigger levels		iv) <ul style="list-style-type: none"><li>800 Area SMP TARP.</li><li>WMP section 8.</li></ul>		
	v) measures to mitigate, remediate and/or compensate any identified impacts		v) 2017 WMP.		
	vi) a protocol for the notification of identified exceedances of the trigger levels		vi) <ul style="list-style-type: none"><li>800 Area Subsidence Management Plan TARP.</li><li>WMP TARP for surface water monitoring.</li><li>WMP TARP for groundwater monitoring.</li></ul>		
	vii) a contingency plan		<ul style="list-style-type: none"><li>800 Area Subsidence Management Plan TARP.</li><li>WMP TARP for surface water monitoring.</li><li>WMP TARP for groundwater monitoring.</li></ul>		
	This Plan must be prepared in consultation with relevant landholders and government agencies.				
	The Leaseholder must not cause subsidence impacts prior to the Environmental Management Plan being approved.		The Leaseholder must not cause subsidence impacts prior to the Environmental Management Plan being approved.		
	The EMP must be developed in sufficient time to allow two years data to be collected prior to extraction commencing, unless otherwise authorised by the Director Environmental Sustainability.		The EMP must be developed in sufficient time to allow two years data to be collected prior to extraction commencing, unless otherwise authorised by the Director Environmental Sustainability.		
	Note: The Plan should be submitted to the Director Environment Sustainability at least 30 days prior to the expected commencement of operation to enable sufficient time for the assessment of the plan. The Director Environmental Sustainability may require the provision of further information or a resubmission of the plan if it is considered inadequate. Complex issues or the need for additional information or a resubmission of the programme may require a longer assessment period.		Prior to the period of this IEA.		
Incident and Ongoing Management Reporting					
SMP 800 - 16	The Leaseholder must, within 24 hours of becoming aware of the occurrence, notify <ul style="list-style-type: none"><li>a) the Principal Subsidence Engineer</li><li>b) the Mine Subsidence Board</li><li>c) The Department of Water and Energy</li><li>d) Other relevant stakeholders any Government Agency with a regulatory role if they request such notification of the following</li></ul>	<ul style="list-style-type: none"><li>Annual SMRs (CC, 2018 – 2020)</li><li>ARs (CC, 2017 -2020)</li></ul>	The Annual SMRs and ARs did not report incidents: <ul style="list-style-type: none"><li>That were significant unpredicted and/or higher-than predicted subsidence and/or abnormalities in the development of subsidence.</li><li>That exceeded predicted impacts on groundwater resources and/or the</li></ul>	Not triggered	

## Appendix A5: Area 900 Subsidence Management Plan & Area 800 Subsidence Management Plan – Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
	<p>i) Any significant unpredicted and/or higher-than predicted subsidence and/or abnormalities in the development of subsidence;</p> <p>ii) Any exceedance of predicted impacts on groundwater resources and/or the natural environment that may have been caused (whether partly or wholly) by subsidence;</p> <p>iii) Any observed subsidence impacts adverse to the serviceability and/or safety of infrastructure and other built structures that may be affected by mining;</p> <p>iv) Any significant subsidence-induced cracking and ground deformations observed in any surface areas within the SMP application area</p> <p>Note: Under Condition 11, the Leaseholder can be directed to, among other things, prepare a report on an incident reported under this condition. A report on the details of the incident, including likely or known causes response action and proposed responses will generally be required for incidents that involve material property or environmental damage or have the potential to cause such damage</p>		<p>natural environment that may have been caused (whether partly or wholly) by subsidence.</p> <ul style="list-style-type: none"> <li>Where observed subsidence impacts were adverse to the serviceability and/or safety of infrastructure and other built structures that may be affected by mining.</li> <li>Where significant subsidence-induced cracking and ground deformations observed were in any surface areas within the SMP application area.</li> </ul>		
<b>Status Report</b>					
SMP 800 - 17 (a)	<p>The Leaseholder must prepare and maintain a Subsidence Management Status Report which must include but not be limited to:</p> <ul style="list-style-type: none"> <li>the current face position of the panel being extracted</li> </ul>	<ul style="list-style-type: none"> <li>Annual SMRs (CC, 2018 - 2020)</li> <li>Four monthly SMSRs (CC): <ul style="list-style-type: none"> <li>March 2016</li> <li>July 2016</li> <li>July 2017</li> <li>November 2017</li> <li>March 2018</li> <li>November 2018</li> <li>March 2019</li> <li>July 2019</li> <li>November 2019</li> <li>March 2020</li> <li>July 2020</li> </ul> </li> <li>CCC minutes (CC, 26 February 2018)</li> </ul>	<ul style="list-style-type: none"> <li>Current face position of the panel being extracted (SMSR section 2 and Attachment 1)).</li> </ul>	Compliant	
SMP 800 - 17 (b)	A summary of any subsidence management actions undertaken by the Leaseholder in the period subsequent to the last regular submission of the Status Report		<ul style="list-style-type: none"> <li>Subsidence management actions (SMSR section 3).</li> </ul>	Compliant	
SMP 800 - 17 (c)	A summary of any comments, advice and feedback from consultation with stakeholders in relation to the implementation of this Approval (including the		<ul style="list-style-type: none"> <li>Comments, advice and feedback from consultation with stakeholders (SMSR section 4</li> </ul>	Compliant	

## Appendix A5: Area 900 Subsidence Management Plan & Area 800 Subsidence Management Plan – Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
	preparation, implementation and review of plans, programmes, reports or strategies required by this approval) undertaken or received in the period subsequent to the last regular submission of the Status Report and a summary of the Leaseholder/s response to the comments, advice and feedback given by the stakeholders		references the quarterly CCC meeting) e.g. an 800 SMP Area update included intersection of a diatreme which required modification to the mine plan and SMP (CCC minutes February 2018).		
SMP 800 - 17 (d)	A summary of the observed and/or reported subsidence impacts, incidents, services difficulties, community complaints, and any other relevant information reported to the Leaseholder in the period subsequent to the last regular submission of the Status Report and a summary of the Leaseholder's response to these impact, incidents, services difficulties and complaints		<ul style="list-style-type: none"> <li>Observed and/or reported subsidence impacts, incidents, services difficulties, community complaints (SMSR section 5). No reports of observed and/or reported subsidence impacts, incidents, services difficulties, community complaints were reported in the 11 SMSRs reviewed.</li> </ul>	Compliant	
SMP 800 - 17 (e)	A summary of subsidence development based on monitoring information compared with any defined triggers and/or the predicted subsidence to facilitate early detection of potential subsidence impacts		<ul style="list-style-type: none"> <li>Summary of subsidence monitoring information including subsidence monitoring trends and cliffline and pagoda photographic monitoring (SMSR section 6).</li> <li>Summary of environmental monitoring results including photographic monitoring of Newnes Plateau Shrub Swamps, groundwater monitoring, surface water monitoring at Farmers Creek, Flora and fauna monitoring.</li> </ul>	Compliant	
SMP 800 - 17 (f)	A summary of the adequacy, quality and defectiveness of the implemented management processes based on the monitoring and consultant information summarised above; and		<ul style="list-style-type: none"> <li>A summary of the adequacy, quality and defectiveness (SMSR section 8)</li> </ul>	Compliant	
SMP 800 - 17 (g)	A statement regarding any additional and/or outstanding management actions to be undertaken or the need for early repos or emergency procedures to ensure adequate management of any potential subsidence impacts due to mining.		Proposed management actions (SMSR section 9)	Compliant	
<b>End of Year Report</b>					
SMP 800 - 18	The Leaseholder shall prepare an end of year report. This report shall be submitted to the Director Environmental Sustainability, within the first three months of the subsequent year.	<ul style="list-style-type: none"> <li>SMP 800 Area Approval (DRG, 1 November 2011)</li> <li>Annual SMR (CC, 2018-2020)</li> <li>SMP Area 800 TARP</li> <li>WMP MP-2041 (CC, 2017)</li> <li>March to June 2020 SMSR (CC, July 2020)</li> </ul>	<ul style="list-style-type: none"> <li>The Annual SMR is required to be submitted by 30 March of the following year.</li> <li>Annual SMRs were provided to DRG in March of the following year in 2017, 2018 and 2019, and the Annual SMR for 2019 was submitted on 9 April 2020 consequently this condition is assessed as non-compliant.</li> </ul>	Non-compliant (NC-40)	Refer to Appendix A5 Area 900 SMP condition 18: R26.

**Appendix A5: Area 900 Subsidence Management Plan & Area 800 Subsidence Management Plan – Compliance Assessment**

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
SMP 800 – 18 (a)	The end of year report must: a) include a summary of the subsidence and environmental monitoring results for the year;	<ul style="list-style-type: none"> <li>2019 AR (CC, 2020)</li> </ul>	<ul style="list-style-type: none"> <li>Summary of the subsidence and environmental monitoring results for the year (SMR sections 2, 3 and 4).</li> </ul>	Compliant	Refer to <ul style="list-style-type: none"> <li>Appendix A1 DA504 Sch 3-2 (Subsidence Management Plan): R2</li> <li>Appendix A1 DA504 Sch 3-5 (Water Resources Impact Assessment Criteria): R3</li> </ul>
SMP 800 - 18 (b)	Include an analysis of these monitoring results against the relevant; <ul style="list-style-type: none"> <li>impact assessment criteria;</li> <li>monitoring results from previous years; and</li> <li>predictions in the SMP;</li> </ul>		<ul style="list-style-type: none"> <li>Subsidence is assessed against impact assessment criteria and predictions as provided in the 800 Area TARP (SMR section 3.3) (compliant)</li> <li>Groundwater levels are assessed against impact assessment criteria as provided in the 2017 WMP TARP and previous annual monitoring (SMR section 4.1) (compliant)</li> <li>Flora and fauna are assessed against impact assessment criteria as described in the SMR and comparison with previous annual report (SMR sections 4.2 and 4.3) (compliant)</li> <li>Cliffline and Pagoda photographs are visually assessed.</li> <li>Upstream and downstream surface water sampling results from Farmers Creek were reported although an assessment against criteria was not available (non-compliant).</li> </ul>	Non-compliant (NC-41)	
SMP 800 - 18 (c)	Identify any trends in the monitoring results over the life of the activity, including trends in aquifers associated with aquitards and strata above and below them; and				
SMP 800 - 18 (d)	Describe what actions were taken to ensure adequate management of any potential subsidence impacts due to mining		<ul style="list-style-type: none"> <li>Subsidence results reported in 2017, 2018 and 2019 Annual SMRs are below the 100mm maximum predicted (with the exception of the older panels within the Eastern Area -refer Appendix A1 DA504 Sch 3-1 Subsidence Impact Assessment Criteria) consequently this condition was assessed as not triggered.</li> <li>Refer Appendix A1 DA504 Sch 3- 5 (Water Resources Impact Assessment Criteria) and R4. Clarence has reported on an uncharacteristic decline in groundwater levels at CLRP5 in SMSR reports in March 2020, July 2020 and the 2019 AR. The March – June 2020 SMSR (CC, July 2020) reports “<i>There was an uncharacteristic decline and fluctuation (up to 3 m) in water levels in mid-2019. Water levels continue to show a declining trend into the current</i></li> </ul>	Not triggered.	

## Appendix A5: Area 900 Subsidence Management Plan & Area 800 Subsidence Management Plan – Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
			<i>reporting period. The hydrograph response is verified by manual measurements and at this point in time the cause of the decline is unknown, but it is possibly a response to the significant rainfall deficit since mid-2016. This trend should be monitored again in the next reporting period.</i>		
<b>Access to Information</b>					
SMP 800 - 19	Within 3 months of the submission of an Annual Report (as required by Condition 18) or the approval of a plan, programme or strategy required under this Approval or the SMP (or any subsequent revision of these documents), the Leaseholder must, to the satisfaction of the Director General: Note: Relevant agencies currently include MSB, EPA, OFFICE OF WATER and DP&I.	<ul style="list-style-type: none"> <li>• SMSR (CC, July 2020)</li> <li>• Letter to Subsidence Advisory with SMSR (CC, 31 July 2020)</li> <li>• Letter to DRG with SMSR (CC, 31 July 2020)</li> <li>• Letter to Dam Safety Committee with SMSR (CC, 31 July 2020)</li> <li>• Letter to Endeavour Energy with SMSR (CC, 31 July 2020)</li> <li>• Letter to EPA with SMSR (CC, 31 July 2020)</li> <li>• Letter to Forest Corporation NSW with SMSR (CC, 31 July 2020)</li> <li>• Letter to Department of Resources and Mining with SMSR (CC, 31 July 2020)</li> <li>• Letter to Resource Regulator with SMSR (CC, 31 July 2020)</li> <li>• Letter to Water NSW with SMSR (CC, 31 July 2020)</li> </ul> CC website	<ul style="list-style-type: none"> <li>• Annual SMRs have been prepared in 2016, 2017, 2018 and 2019 and as for the SMSRs, issued to agencies.</li> <li>• The 2019 Annual SMR was available on the CC website.</li> </ul>	Compliant	
<b>Survey Marks</b>					
SMP 800 - 20	At the completion of subsidence or otherwise as required by the Land and Property Management Authority. the functionality of any survey marks affected by subsidence must be fully restored to the satisfaction of the Land and Property Management Authority		<ul style="list-style-type: none"> <li>• No survey marks have been reported to have been affected by subsidence.</li> </ul>	Not triggered	
<b>Water Supply</b>					

## Appendix A5: Area 900 Subsidence Management Plan & Area 800 Subsidence Management Plan – Compliance Assessment

No.	Requirement	Evidence	Findings	Compliance Status	Recommendation
SMP 800 - 21	In the event of interruptions to water supplies ( water quality and / or quality) due to subsidence impacts on water supply systems and or sources caused by pillar extraction, the Leaseholder must provide without delay water supplies of equivalent quality and quantity to locations convenient to those affected within the SMP Application Area until such time the affected water supply system and / or sources are restored		<ul style="list-style-type: none"> <li>No interruption to water supplies due to subsidence impacts has been reported.</li> </ul>	Not triggered	
<b>Special Condition</b>					
SMP 800 - 22	The Leaseholder must undertake a review of the adequacy of the mine layout design to ensure there is no surface expression of subsidence impacts within the Blue Mountains National Park. The review must be undertaken at mid-panel extraction of each partial pillar extraction panel in the 800 Area, with the exception of Panel 807. The results of each review must be reported to the Department within one month after completion of each review. In the required report the Leaseholder must document the measures to be implemented if the results of the review indicate a risk of surface expression of subsidence impacts within the Blue Mountains National Park.	<ul style="list-style-type: none"> <li>November to February 2018 SMSR (CC, March 2018)</li> <li>2019 Annual SMR (CC, 2020)</li> <li>Panel 808 mid panel report (CL 1621) in the Annual SMR (CC, 2020)</li> </ul>	<p>SMSR</p> <ul style="list-style-type: none"> <li>The November to February 2018 SMSR reports <i>“Detailed inspections and photographic monitoring of the area above the far inbye end of the 810 - 816 panels and the area adjacent to the National Park was undertaken throughout the reporting period. In summary, no surface expression of subsidence was noted during the inspection.”</i></li> <li>The November to February 2019 SMSR reports <i>“No impacts relating to surface subsidence were observed”</i>.</li> <li>The November to February 2020 SMSR reports <i>“Subsidence lines were inspected during the reporting period, with no impacts relating to surface subsidence having been observed”</i>.</li> </ul> <p>Annual SMR</p> <ul style="list-style-type: none"> <li>The 2017 Annual SMR reports that <i>“The Mid Panel Review for the 806A Panel was submitted on 16th August 2017 and the Mid Panel Review for the 816 Panel was submitted on 4th September 2017”</i>.</li> <li>The 2018 Annual SMR (CC, 2019) reports that <i>“The Mid Panel Review for the 819 Panel was submitted on 24th May 2018 and the Mid Panel Review for the 808 Panel was submitted on 12th December 2018”</i>.</li> <li>The 2019 Annual SMR (CC, 2020) reports that <i>“The Mid Panel Review for the 820 Panel was submitted on 27th September 2019”</i>.</li> </ul>	Compliant	

## **Appendix B**

### **Status of Recommendations (for non-compliances) from 2016 IEA**



**Appendix B: Status of Recommendations (for non-compliances) from Previous IEA (MCW Environmental, 2016)**

016 REC No.	Condition (Sch.-cond.)	2016 IEA Recommendation (for non-compliances)	Evidence	2020 IEA Findings	Status (2020)
<b>DA 504</b>					
01	3-6A	Implement measures to reduce the risk of pollution / licence exceedances from the Polishing Lagoon. (Post audit site inspection, it was reported that Clarence plans to direct the polishing lagoon water into the WTP and that this project had commenced with implementation likely in Quarter 3 of 2016).	<ul style="list-style-type: none"> <li>Site inspection (12 &amp; 13 October 2020)</li> <li>WMP MP-2041 (CC, 2017)</li> <li>Draft WMP MP-2041 (CC, 2020)</li> <li>AR (CC, 2016 - 2018)</li> </ul>	<ul style="list-style-type: none"> <li>Pit top surface water is discharged to the polishing lagoon. As the discharge from the polishing lagoon was transferred to the WTP in 2016, untreated pit top surface water is no longer discharged.</li> </ul>	Closed
02		Implement at source water pollution controls at the pit top where practicable.			Closed
03		Review the design of the grit trap and implement changes to better manage and treat dirty water generated in this area.			Closed
04		Investigate options for the long-term management and disposal of WTP sludge	<ul style="list-style-type: none"> <li>Site inspection (12 October 2020)</li> <li>Draft WMP MP-2041 (CC, 2020)</li> <li>AR (CC, 2016 - 2018)</li> <li>WTP Residual Receiving Facility Cell 1 Waste classification (GHD, 14/12/2017)</li> </ul>	<ul style="list-style-type: none"> <li>In 2017, the WTP Residuals Receiving Facility (sludge lagoon) was commissioned. Waste sludge is dewatered and subsequently stored in geofabric 'pillows' in the WTP Receiving Facility area.</li> <li>Waste characterisation of the residual sludge sediment has been undertaken and due to elevated concentrations of nickel, has been assessed as Hazardous Waste. Assessment of long-term waste disposal options is continuing.</li> <li>Refer 2020 IEA Appendix A1 DA504 Sch 3-3 (Pollution of Waters)</li> </ul>	Closed
05		Maintain sediment controls and stabilise areas of erosion in the area below Leachate Dam 2 and below REA IV.			Closed
06		Revise the WMP to reflect actual on-site water flows and management (e.g. the Clarence Water Schematic) and to reflect findings and responses to the recent assessment of water management at Clarence.			Closed

**Appendix B: Status of Recommendations (for non-compliances) from Previous IEA (MCW Environmental, 2016)**

016 REC No.	Condition (Sch.-cond.)	2016 IEA Recommendation (for non-compliances)	Evidence	2020 IEA Findings	Status (2020)
07		Further assess and implement recommendations of the independent review of Clarence's surface water management.	<ul style="list-style-type: none"> <li>WMP MP-2041 (CC, 2017)</li> <li>Draft WMP MP-2041 (CC, 2020)</li> <li>IEA (MCW Environmental, 2016)</li> <li>IEA Action Plan (CC, 2017)</li> </ul>	<ul style="list-style-type: none"> <li>An independent review of onsite surface water management reportedly informed the revised 2017 WMP.</li> </ul>	Closed
08	3-6B	Obtain evidence that the base of REA VI achieved the specified permeability standards.		<ul style="list-style-type: none"> <li>Refer 2020 IEA Appendix A1 DA 504 Sch 3-6B (Water Management Plan)</li> </ul>	Closed
09	3-20	Reshape and rehabilitate REA III promptly and effectively with local native vegetation (and in accordance with an approved rehabilitation plan).		<ul style="list-style-type: none"> <li>Refer 2020 IEA Appendix A1 DA504 Sch 3-20 (Visual Impact)</li> <li>Refer 2020 IEA Appendix A4 CCL 705 condition 13 (Rehabilitation)</li> </ul>	Closed
10		Undertake improvement works in REA IV including weed control, additional groundcover planting and drainage works. These works should be directed by suitably qualified experts in rehabilitation.			Closed
11	3-22	Undertake a compliance assessment of the new lighting installed at REA VI with AS4282.		<ul style="list-style-type: none"> <li>Refer 2020 IEA Appendix A1 DA504 Sch 3-22 (Lighting Emissions)</li> </ul>	Closed
12	3-23	Investigate ways to reduce greenhouse emissions and report on these in the AEMR		<ul style="list-style-type: none"> <li>Refer 2020 IEA Appendix A1 DA504 Sch 3-23 (Greenhouse Gas)</li> </ul>	Closed
13	5-1	Revise the Strategy following completion of this IEA and submit it to the DPE for approval.		<ul style="list-style-type: none"> <li>Refer 2020 IEA Appendix A1 DA504 Sch 5-1 (Environmental Management Strategy)</li> </ul>	Closed
14	5-5A	Ensure records are maintained to demonstrate that the DPE has been immediately notified of all incidents (including exceedances) and provided with a written report within 7 days.		<ul style="list-style-type: none"> <li>Refer 2020 IEA Appendix A1 DA504 Sch 5-5A (Incident Reporting)</li> </ul>	Closed
15		Consider revising the Incident Investigation Form to include a prompt for reporting the incident to the DPE.			Closed
16		Enter the 2 July 2015 incident into the ECD database. A reference can be included detailing where all of the supporting information can be found.		<ul style="list-style-type: none"> <li>Refer 2020 IEA section 2.3.1 (July 2015 Incident)</li> </ul>	Closed

**Appendix B: Status of Recommendations (for non-compliances) from Previous IEA (MCW Environmental, 2016)**

016 REC No.	Condition (Sch.- cond.)	2016 IEA Recommendation (for non-compliances)	Evidence	2020 IEA Findings	Status (2020)
17	5-10	Ensure a copy of the CCC meeting minutes is provided to the DPE within a month of acceptance of the minutes by the CCC.		<ul style="list-style-type: none"><li>Refer 2020 IEA Appendix A1 DA504 Sch 5-10 (Community Consultation Committee)</li></ul>	Closed
18	5-11	Ensure revised management plans are provided to Council, the relevant agencies and the CCC following approval.		<ul style="list-style-type: none"><li>Refer 2020 IEA Appendix A1 DA504 Sch 5-11 (Access to Information)</li></ul>	Closed
19	App 3 SoC	Prepare and implement an Effluent Irrigation Operational Environment Management Plan		<ul style="list-style-type: none"><li>Refer 2020 IEA Appendix A1 DA504 App 3 SoC (Effluent Irrigation)</li></ul>	Closed.
20		Include discussion of the additional surface and groundwater monitoring requirements in the next revision of the Water Management Plan.		<ul style="list-style-type: none"><li>Refer 2020 IEA Appendix A1 DA 504 Sch 3-6B (Water Management Plan)</li><li>Refer 2020 IEA Appendix A1 DA504 Sch 3-9 (Surface Water Monitoring Program)</li></ul>	Closed
21		Ensure a rapid assessment on the established cross sections within the THPSS Community is undertaken annually in summer months.		<ul style="list-style-type: none"><li>Refer 2020 IEA Appendix A1 DA504 App3 SoC (TPHSS Monitoring)</li></ul>	Closed
22		Undertake line marking in the car parking area to delineate parking spaces		<ul style="list-style-type: none"><li>Refer 2020 IEA Appendix A1 DA504 App3 SoC (Traffic and Transport)</li></ul>	Closed
Development Consent 1976					
24	7	Develop and implement a monitoring program in accordance with the Australian Drinking Water Guidelines to ensure potable water meets required standards.		<ul style="list-style-type: none"><li>Refer 2020 IEA Appendix A2 Development Consent 1976 condition 7 (Administrative: annual on-site meeting)</li></ul>	Closed
Development Consent 1993					
25	5	Reshape and rehabilitate REA III promptly and effectively with local native vegetation (and in accordance with an approved rehabilitation plan) once the stop works order has been lifted.		<ul style="list-style-type: none"><li>HRA Notification for REA III decommissioning in 2018. Works commenced in 2019 to remove fines from REA III prior to rehabilitation.</li></ul>	Closed
Development Consent 1994					
26	3	Update the Environmental Monitoring Program to include details of the flora and fauna monitoring undertaken and provide to the NPWS for consultation.		<ul style="list-style-type: none"><li>The 2017 Environmental Monitoring program includes flora and fauna monitoring. Although the results of annual flora and fauna monitoring are summarised in the ARs which are available on the CC website, there was no evidence provided that NPWS had been consulted in the preparation of the flora and fauna monitoring.</li></ul>	(NC-42) R30: Provide NPWS with the flora and fauna monitoring program for review and if required, revise the Clarence environmental monitoring program accordingly.

**Appendix B: Status of Recommendations (for non-compliances) from Previous IEA (MCW Environmental, 2016)**

016 REC No.	Condition (Sch.-cond.)	2016 IEA Recommendation (for non-compliances)	Evidence	2020 IEA Findings	Status (2020)
27	9	Confirm with the DPE whether consultation with the Soil Conservation Service is required during topsoil stripping and stockpiling associated with REA V.		<ul style="list-style-type: none"> <li>Refer 2020 IEA Appendix A2 2020 IEA 1994 Development Consent condition 9 (topsoil stripping and stockpiling)</li> </ul>	Closed
28	11	Develop a detailed rehabilitation plan for REA V and VI within 6 months of the commencement of REA V and submit to the DRE, Soil Conservation Service and Council for approval.		<ul style="list-style-type: none"> <li>Refer 2020 IEA Appendix A2 2020 IEA 1994 Development Consent condition 11 (detailed rehabilitation plan)</li> </ul>	Closed
29	12	Confirm with the DPE whether consultation with the Soil Conservation Service is required regarding the progressive rehabilitation of REA IV and REA V.		<ul style="list-style-type: none"> <li>Refer 2020 IEA Appendix A2 2020 IEA 1994 Development Consent condition 11 (consultation)</li> </ul>	Closed
<b>Environment Protection Licence 726</b>					
30	A3.1	Obtain a copy of the Original EPL Application and ensure compliance with the application.		<ul style="list-style-type: none"> <li>Refer 2020 IEA Appendix A3 EPL 726.</li> </ul>	Closed
31	O1.1	Undertake general housekeeping of the pit top, including cleaning up of minor spills, ensuring stores are appropriately bunded, cleaning out traps and pits.		<ul style="list-style-type: none"> <li>Refer 2020 IEA Appendix A3 EPL 726 O1.1 (Operating Conditions)</li> </ul>	Closed
32	O2.1	Consider whether an oil water separator is required to manage wastewater from the washdown bay.		<ul style="list-style-type: none"> <li>Refer 2020 IEA Appendix A3 EPL 726 O1.1 (Operating Conditions)</li> </ul>	Closed
33		Review and update the Electrical Engineering Management Plan and Mechanical Engineering Management Plan	<ul style="list-style-type: none"> <li>Electrical Engineering Control Plan (MP-1913, 2016)</li> <li>Mechanical Control Plan MP-1056 9 (CC, 2017))</li> </ul>	<ul style="list-style-type: none"> <li>Electrical Engineering Management Plan and Mechanical Engineering Management Plan have been updated.</li> </ul>	Closed
34	M3.1	The 'Methodology of Water Analysis' spreadsheet within the monthly monitoring results Excel workbook provided by ALS should be revised to ensure the list of test methods includes all the tests conducted as required by the EPL. This table should also include a reference to the Approved Methods prescribed by the NSW EPA and clarify or note any variations between the methods used.	<ul style="list-style-type: none"> <li>Clarence.xls (raw data for EPL monitoring reports)</li> </ul>	<ul style="list-style-type: none"> <li>Refer 2020 IEA Appendix A3 EPL 726 M3.1 (Testing Methods)</li> <li>Monitoring data for 2020 does not include ALS test methods for each analyte (which has been included in 2019 reports)</li> <li>ALS is NATA certified for EPL 726 analytes. Compliance with holding times was assessed as part of certification process</li> </ul>	Closed

**Appendix B: Status of Recommendations (for non-compliances) from Previous IEA (MCW Environmental, 2016)**

016 REC No.	Condition (Sch.-cond.)	2016 IEA Recommendation (for non-compliances)	Evidence	2020 IEA Findings	Status (2020)
		ALS should confirm and document within its analytical reports that samples are analysed within laboratory holding times.			
35	M4.2	Attach the noise monitoring results to the Annual Return or receive written confirmation from the EPA that it is satisfied with receiving the results as part of the AEMR	<ul style="list-style-type: none"> <li>ARs (CC, 2016 - 2020)</li> </ul>	<ul style="list-style-type: none"> <li>Noise monitoring results were attached to the ARs</li> </ul>	Closed
36	M5.1	Ensure the meteorological station is measuring the sigma theta and that this data is provided to Clarence		<ul style="list-style-type: none"> <li>Refer 2020 IEA Appendix A3 EPL 726 M5.1 (Weather Monitoring)</li> </ul>	Closed
37	R1.5	Obtain evidence of submission of the Annual Return within the specified timeframe from Centennial Corporate and maintain / file on site.	<ul style="list-style-type: none"> <li>EPA website</li> </ul>	<ul style="list-style-type: none"> <li>ARs were available on the CC website.</li> <li>Refer 2020 IEA Appendix A1 Sch 5-5 (Annual Reporting)</li> </ul>	Closed
38	G2.1	Install signs clearly marking licensed discharge points with the EPA identification number as close as practical to the points		<ul style="list-style-type: none"> <li>Refer 2020 IEA Appendix A3 EPL 726 G2.1 (General Conditions)</li> </ul>	Closed
<b>CCL 705</b>					
39	13	Implement recommendations made in the 2015 Rehabilitation Monitoring Report (AECOM 2016). These included: <ul style="list-style-type: none"> <li>- undertaking maintenance direct seeding to increase ground cover.</li> <li>- undertaking maintenance tube stock planting of endemic canopy species in areas where trees and shrubs are failing to establish</li> <li>- undertaking regular walkthrough of rehabilitated areas to visually monitor erosion and consider implementing remediation works as required if overall landform stability gets compromised.</li> <li>- adding / spreading organic material on the ground to enhance ground cover and organic matter due to the lack of topsoil.</li> <li>- continuing the implementation of the proactive weed control program including undertaking a regular (at least monthly) walk through of the rehabilitated areas to detect potential onset of weeds.</li> </ul>	<ul style="list-style-type: none"> <li>2019 AR (CC, 2020)</li> </ul>	<ul style="list-style-type: none"> <li>Independent rehabilitation monitoring has been undertaken throughout the period of the IEA. Reports are summarised in the AR and the report included in an Appendix.</li> <li>Refer 2020 IEA Appendix A4 CCL705 condition 13 (a) (Rehabilitation).</li> </ul>	Closed
40		Ensure continual review of rehabilitation performance by competent persons and			Closed

**Appendix B: Status of Recommendations (for non-compliances) from Previous IEA (MCW Environmental, 2016)**

016 REC No.	Condition (Sch.- cond.)	2016 IEA Recommendation (for non-compliances)	Evidence	2020 IEA Findings	Status (2020)
		regular implementation of strategies to improve rehabilitation.			
41	26	Make available a copy of the Bank guarantee to ensure compliance with the condition.		<ul style="list-style-type: none"> <li>Refer Appendix A4 2020 IEA CCL 705 condition 26 (single security extended)</li> </ul>	Closed
42	29	Seal off open borehole near leachate dam 1.	<ul style="list-style-type: none"> <li>Site inspection by E&amp;C Coordinator</li> </ul>	<ul style="list-style-type: none"> <li>Inspected by E&amp;C Coordinator after the 2020 site inspection. MCW Environmental was advised that the borehole was not visible.</li> </ul>	Closed

## **Appendix C**

### **DPIE Endorsement of IEA Auditors**





Centennial Coal Company Limited

Mr James Wearne

Group Manager Approvals

PO BOX 92

Lithgow, NSW 2790

18/09/2020

Dear Mr Wearne

**Clarence Coal Project (DA 504-00)**  
**Endorsement of Audit Team**

I refer to your letter submitted to the Department on 16 September 2020, seeking the Secretary's endorsement for an audit team to undertake the Independent Environmental Audit (**Audit**) in accordance with Schedule 5 Condition 6 of the Clarence Colliery development consent DA 504-00 (**Consent**).

Having considered the experience of MCW Environmental audit team, in accordance with Schedule 5 Condition 6 of the Consent the Secretary has agreed to the following audit team:

- Mr Michael Woolley; and
- Ms Jenny MacMahon.

Please ensure this correspondence is appended to the Independent Audit Report.

The Audit must ensure it has addressed all the Independent Environmental Audit conditions of Consent. Furthermore, the Audit is to be prepared, undertaken and finalised in accordance with AS/NZS ISO 19011 Australian/New Zealand Standard: Guidelines for quality and/or environmental management systems auditing and consider the requirements of the *Independent Audit Post Approval Requirements*. Failure to meet these requirements may require revision and resubmission.

The Department reserves the right to request an alternate auditor or audit team for future audits.

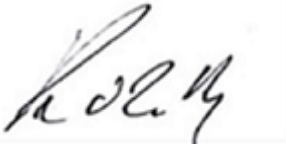
Notwithstanding the agreement for the above listed audit team for this Project, each respective project approval or consent requires a request for the agreement to the auditor or audit team be submitted to the Department, for consideration of the Secretary. Each request is reviewed and depending on the complexity of future projects, the suitability of a proposed auditor or audit team will be considered.

Within 3 months of commissioning the audit, you are required to submit a copy of the audit report to the Secretary, together with your response to any recommendations contained in the audit report and a timetable to implement the recommendations.

Prior to submitting the audit report to the Secretary, it is recommended that you review the report to ensure it complies with the relevant conditions of consent.

If you wish to discuss the matter further, please contact Jennifer Rowe on (02) 42471851.

Yours sincerely

A handwritten signature in black ink, appearing to read 'K. O'Reilly', enclosed within a thin black rectangular border.

Katrina O'Reilly  
Team Leader - Compliance  
Compliance  
As nominee of the Planning Secretary

## Appendix D

### Statement of Independence - Auditor

Statement of Independence	
Project Name	Clarence Colliery Independent Environmental Audit
Consent Number	DA 504
Description of Project	Underground mine
Project Address	Off Bells Line of Road, Newnes Junction, NSW, 2790
Proponent	Centennial Coal Pty Limited
<p>I am not related to any proponent, owner, operator or other entity involved in the delivery of the project. Such a relationship includes that of employer/employee, a business partnership, sharing a common employer, a contractual arrangement outside an Independent Audit, or that of a spouse, partner, sibling, parent, or child;</p>	
<p>I do not have any pecuniary interest in the project, proponent or related entities. Such an interest includes where there is a reasonable likelihood or expectation of financial gain (other than being reimbursed for performing the audit) or loss to the auditor, or their spouse, partner, sibling, parent, or child;</p>	
<p>I have not provided services (not including independent reviews or auditing) to the project with the result that the audit work performed by themselves or their company, except as otherwise declared to the Department prior to the audit;</p>	
<p>I am not an Environmental Representative for the project; and</p>	
<p>I will not accept any inducement, commission, gift or any other benefit from auditee organisations, their employees or any interested party, or knowingly allow colleagues to do so.</p>	
Signature	
Lead Auditor	Michael Woolley
Auditor Certification	Exemplar Global
Company	MCW Environmental Consulting Pty Ltd
Date	Expires Jan 23 2021

## Appendix E

# Register of Attendees at Opening and Closing Meetings

**Table E-1: Opening Meeting Attendees (12 October 2020)**

Attendee	Position Title
Kyle Egan	Mine Manager
Geoff Rapson	CHPP Manager
Paul Williams	Group Manager Environment
Joel Sargeant	Technical Services Manager
Karl Harrison	Mine Surveyor
Mitch Luka	HSEC Manager
Robert Setter	Environment & Community Coordinator
Isobel Standfast	Environment Graduate
Michael Woolley	Lead Auditor (MCW Environmental)
Jenny MacMahon	Auditor (MCW Environmental)

**Table E-2: Closing Meeting Attendees (30 October 2020)**

Attendee	Position Title
Kyle Egan	Mine Manager
Robert Setter	Environment & Community Coordinator
Isobel Standfast	Environment Graduate
Michael Woolley	Lead Auditor (MCW Environmental)
Jenny MacMahon	Auditor (MCW Environmental)

# Appendix F

## Regulatory Agency Consultation

**Table G-1: Agency Consultation Summary**

Agency / Community Representative	Consultation	Topics	Comments and/or section where topics are addressed in this IEA
DPIE - Compliance	Email response received on 30 October 2020	<ul style="list-style-type: none"> <li>Audit requirements</li> </ul>	<ul style="list-style-type: none"> <li>This IEA</li> </ul>
		<ul style="list-style-type: none"> <li>Monitoring, management, and mitigation to ensure compliance with criteria for noise, air quality, surface and groundwater and subsidence</li> </ul>	<ul style="list-style-type: none"> <li>Section 2</li> <li>Section 3</li> <li>Appendix A</li> </ul>
		<ul style="list-style-type: none"> <li>Review management plans</li> </ul>	<ul style="list-style-type: none"> <li>Appendix A</li> </ul>
		<ul style="list-style-type: none"> <li>Agency consultation</li> </ul>	<ul style="list-style-type: none"> <li>Appendix G</li> </ul>
		<ul style="list-style-type: none"> <li>DPIE regulatory actions taken during the IEA                             <ul style="list-style-type: none"> <li>a) 26/5/17 – Official Caution – Breach of Schedule 2 Condition 2</li> <li>b) 10/7/18 – Official Caution – Breach of Schedule 3 Condition 15</li> <li>c) 28/6/17 – Warning Letter – Breach of Schedule 3 Condition 21A</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Section 2.3.2</li> </ul>
EPA	Email response received on 11 November 2020	<ul style="list-style-type: none"> <li>No comment provided for the IEA</li> </ul>	Not applicable
DRG	Email response received on 15 November 2020		The IEA focussed on key Leases: <ul style="list-style-type: none"> <li>CCL 705</li> <li>ML 1583</li> </ul>
		Undertake an assessment of compliance against the conditions of title related to environmental management.	Appendix A4 (CCL 705, ML 1583 and condition 5 in ML 1353 and ML 1354).
		Verify that there is a current Mining Operations Plan (MOP) in place and it has been approved by the Regulator – review compliance against any conditions of approval of the MOP.	<ul style="list-style-type: none"> <li>2018 -2022 MOP Amendment A (CC, 2019) is in place.</li> <li>2018 -2022 MOP Amendment A (CC, 2019) was approved by the regulator on 27 May 2019.</li> </ul>
		Undertake a critical review of the MOP, including an assessment of its compatibility with the description of operations contained in the planning approval. In particular:	Planning Approvals: <ul style="list-style-type: none"> <li>DA 504 was granted in 2005 for the conversion of exploration into mining leases and has been modified during the period of this IEA for:</li> </ul>

Agency / Community Representative	Consultation	Topics	Comments and/or section where topics are addressed in this IEA
			<ul style="list-style-type: none"> <li>○ Supply of coal to Mt Piper (MOD 4)</li> <li>○ Increase in workforce from 300 to 44 FTE (MOD 5)</li> <li>• Development Consent 174/93 was granted in 1994 and modified during the period of the IEA (2018) for the relocation of REA V access and associated clearing.</li> <li>• IRM.GE.76 granted in 1976 and modified during the period of this IEA (2019) for decommissioning, re-profiling and rehabilitation of REA III.</li> <li>• DA504 (as modified) approves, and the 2018 -2021 MOP are Amendment A describes, operations for extraction of up to 3 Mtpa of ROM coal from the Katoomba and Lithgow seams using board and pillar; construction and operation of REA I to VI; and transport of up to 200,000 tpa of coal products by road in total.</li> <li>• A detailed review of the 2018 -2022 MOP Amendment A development and implementation was not undertaken as part of this IEA.</li> <li>• A high level review of the 2018 -2022 MOP Amendment A (Appendix A4 CCL 705 condition 2 of this IEA) identified that it was: <ul style="list-style-type: none"> <li>○ prepared in general accordance with ESG3: Mining Operations Plan Guidelines (DRG, 2013)</li> <li>○ the table of contents included sections required by ESG3 Mining Operations Plan Guidelines</li> <li>○ the requirements of CCL 705 2(4) are included in the 2018 -2022 MOP Amendment A</li> </ul> </li> <li>• The 2018 -2022 MOP was approved by DRE on 12 February 2018 and as amended on 27 May 2019.</li> <li>• The MOP reports that the rehabilitation cost estimate was prepared in accordance with the ESG1: Rehabilitation Cost Estimate Guidelines (DPIE, 2017).</li> </ul>



Agency / Community Representative	Consultation	Topics	Comments and/or section where topics are addressed in this IEA
	<p>Review the rehabilitation strategy as outlined in the MOP to determine if it is consistent with the Project Approval in terms of progressive rehabilitation schedule; and proposed final land use(s).</p> <p>Review the rehabilitation objectives and completion criteria as outlined in the MOP to determine if they have been developed in accordance with the proposed final land use(s) as outlined in the Project Approval.</p>		<ul style="list-style-type: none"> <li>Rehabilitation phases are presented on Plan 3b 2018- 2022 MOP Amendment A,</li> <li>Approval for decommissioning, re-profiling and rehabilitation of REA III was granted in 2019. Removal of fine coal from REA III is reported by Clarence to be completed within the term of the 2018 - 2022 MOP Amendment A. Rehabilitation of REA III will not commence until the removal of fine coal material from REA III is complete.</li> <li>DA504 Sch 3-29 states “...revise <i>Mining Operations Plan for the development to include detailed rehabilitation objectives and completion criteria for Reject Emplacement Areas V and VI, to the satisfaction of the Executive Director, Mineral Resources.</i>” The 2018 -2022 MOP was revised (Amendment A) to include decommissioning and rehabilitation of REA III and construction of REA V. The 2018 -2022 MOP (Amendment A) was approved by DRG in May 2019 indicating DRG was satisfied with rehabilitation objectives and completion criteria.</li> <li>DA 502 Sch 3-28 requires that a mine closure strategy is developed at least 3 years prior to the cessation mining. As the site is greater than 3 years from cessation of mining, this condition is not triggered.</li> <li>The 2018 – 2022 MOP Amendment A includes rehabilitation objectives and completion criteria with plans in Appendix A showing final rehabilitation and post mining landuse.</li> </ul>
	<p>Review the development and implementation of any rehabilitation monitoring programs to assess performance against the nominated objectives and completion criteria – verified by reviewing monitoring reports and rehabilitation inspection records.</p>		<ul style="list-style-type: none"> <li>An annual rehabilitation monitoring program has been conducted by specialists each year since 2012. During the period of the IEA, the annual monitoring report has been summarised in the AR with the full report included as an attachment. The monitoring includes Landscape Function Analysis, vegetation dynamics, habitat complexity, disturbance assessment and photographic monitoring; and provides comparison and trends to previous results; and recommendations to improve the management and performance of rehabilitated landforms.</li> <li>The 2019 AR reports that a comprehensive review of the rehabilitation status of the mine was undertaken for the preparation of the 2018 -2021 MOP.</li> </ul>

Agency / Community Representative	Consultation	Topics	Comments and/or section where topics are addressed in this IEA
			<ul style="list-style-type: none"> <li>Following consultation with DPIE and EPA to address underperforming rehabilitation on REA IV, a rehabilitation trial had commenced on REA IV with the results of the trial planned to be used to identify suitable methods for other REAs. REA IV and REA VI rehabilitation was impacted by December 2019 Gospers Mountain bushfire.</li> <li>The 2016 - 2019 ARs report that no areas of rehabilitation have been submitted for approval from DRG as complete in meeting the rehabilitation objectives or completion criteria.</li> <li>Refer to Appendix A2 MOD 035/18 condition 14.</li> </ul>
		Determine if a rehabilitation care and maintenance program has been developed and implemented based on the outcomes of monitoring program – verified by reviewing Annual Rehabilitation Programs or similar documentation.	<ul style="list-style-type: none"> <li>REA IV and REA VI rehabilitation was impacted by the December 2019 Gospers Mountain bushfire.</li> <li>Annual rehabilitation monitoring assesses the status of rehabilitation and provides recommendations for improvement.</li> <li>Refer Appendix A4 CCL705 condition 13 (a).</li> </ul>
		Confirm that mining operations are being conducted in accordance with the approved MOP (production, mining sequence etc.), including within the designated MOP approval boundary – to be verified by site plans and site inspection.	<ul style="list-style-type: none"> <li>The 2018 - 2022 MOP Amendment A (Appendix 2) includes mining plans. Mines Operations Plan 2A (surface details) provides an overlay of Lease boundaries and surface infrastructure indicating that surface infrastructure is within MOP approval boundaries. An assessment as to whether mining operations are conducted in accordance with the approved MOP was not undertaken however as part of the IEA, site inspections were undertaken and included pit top, CHPP, REA III, REA IV and stage 1 REA V (under construction).</li> </ul>
		Confirm that rehabilitation progress is consistent with the approved MOP as verified by site plans and a site inspection. This should include an evaluation against rehabilitation targets and whether the final landform is being developed in accordance with conceptual final landform in the Project Approval.	<ul style="list-style-type: none"> <li>An annual rehabilitation monitoring program has been conducted each year since 2012 with the report summarised in the AR during the period of the IEA. The full report is included as an attachment to the ARs. The monitoring includes the following components: Landscape Function Analysis, vegetation dynamics, habitat complexity, disturbance assessment and photographic monitoring; and provides comparison and trends to previous results; and recommendations to improve the management and performance of rehabilitated landforms.</li> <li>The 2018 Rehabilitation Monitoring Report (Koru Environmental, 2019) includes assessment of rehabilitation performance at six</li> </ul>

Agency / Community Representative	Consultation	Topics	Comments and/or section where topics are addressed in this IEA
			<p>rehabilitation sites and 3 analogue sites against MOP completion criteria and/or within 20% of analogue benchmarks) for:</p> <ul style="list-style-type: none"> <li>○ Erosion monitoring</li> <li>○ Groundcover protection</li> <li>○ Landscape function</li> <li>○ Vegetation community establishment</li> <li>○ Community structure</li> <li>○ Community health and resilience</li> <li>○ Habitat complexity</li> <li>○ Weeds</li> </ul> <ul style="list-style-type: none"> <li>• The report includes recommendations for corrective actions.</li> <li>• Refer Appendix A4 CCL705 condition 13 (a) (NC-35).</li> </ul>
		Based on a visual inspection, determine if there are any rehabilitation areas that appear to have failed or that have incurred an issue that may result in a delay in achieving the successful rehabilitation outcomes.	<ul style="list-style-type: none"> <li>• Following consultation with DPIE, DRG and EPA to address underperforming rehabilitation on REA IV, in 2019 a rehabilitation trial commenced on REA IV with the results of the trial planned to be used to identify suitable methods for other REAs. REA IV and REA VI rehabilitation was impacted by December 2019 Gospers Mountain bushfire.</li> <li>• The 2019 AR reports that no areas of rehabilitation have been submitted for approval from DRG as 'meeting the rehabilitation objectives or completion criteria'.</li> </ul>
		In May 2020, Clarence Colliery was issued a notice under Section 240(1)(c) of the Mining Act 1992 in relation to the operations of the tailings storage facilities and decommissioning and closure requirements. Clarence provided a report in response to the notice which nominated actions to address the identified concerns. Review the progress of implementation of these actions in relation to sampling regimes and groundwater assessments.	<ul style="list-style-type: none"> <li>• Refer section 2.3.2 and Table 2-5 MOD 035/18 condition 13 (Rehabilitation) (C-5): R21.</li> </ul>
NPWS	Email response received on 9 November 2020	<ul style="list-style-type: none"> <li>• No comment provided for the IEA</li> </ul>	Not applicable

Agency / Community Representative	Consultation	Topics	Comments and/or section where topics are addressed in this IEA
BCD	Email response received on 12 November 2020	<p>BCD request that the status of the following consent condition be checked:</p> <p>Biodiversity Offset Strategy</p> <p>12A. By the end of December 2016, the Applicant shall, in consultation with BCD, and to the satisfaction of the Planning Secretary:</p> <p>(a) provide a suitable offset to satisfactorily offset clearing 4.1 hectares of Newnes Plateau Narrowleaved Peppermint – Silver-top Ash Layered Open Forest and the loss of related biodiversity values, including for threatened species; and</p> <p>(b) make suitable arrangements to manage, protect and provide long-term security in perpetuity for this area, consistent with the relevant NSW Offsets policy.</p> <p>The Clarence offset requirement is included in Centennial's Biodiversity Offset Strategy – Western Region (28 February 2019).</p> <p>In order to offset the loss of 4.1 ha of vegetation clearing which constitutes the requirement for 204 ecosystem credits the following has been provided as an offset:</p> <ul style="list-style-type: none"> <li>• 204 ecosystem credits from HN534 - Moderate/Good Carinya Offset site.</li> </ul> <p>This offset has been accepted by BCD. The current status of the long-term security is unknown to BCD.</p> <p>Originally, the Carinya offset was to be transferred to Capertee National Park. However, on 8 November 2019 Centennial advised that the transfer was unable to proceed (Centennial's business partners were unable to commit at that stage) and that retirement of the biodiversity offset site would be progressed with the NSW Biodiversity Conservation Trust. Centennial wanted to keep open the option to transfer the land to national park following the commencement of the conservation agreement.</p> <p>It would be good to get an update of the progress of the stewardship agreement with BCT.</p>	Refer Table 2-5 DA504 Sch 3-12A (Biodiversity Offset Strategy) (NC-6): R8.

Agency / Community Representative	Consultation	Topics	Comments and/or section where topics are addressed in this IEA
DPI Water	No response received.		
Water NSW	No response received.		
Lithgow City Council	No response received.		
Community Consultation Committee	Notes from telephone discussion with Michael Woolley (9 November 2020)	<ul style="list-style-type: none"> <li>The CCC is working well. Clarence provide all of the information to the Committee as required. Site inspections have been held when requested.</li> <li>The CCC meets four times a year. A councillor and an employee of council regularly attend, as well as the community members. One of the members sadly passed away. The CCC is looking for a new person to attend meetings.</li> <li>There are no significant current issues at Clarence that have been raised by the CCC.</li> <li>The CCC Chairperson indicated that previously (during the drought) members were concerned Clarence was impacting groundwater, however, this concern has decreased since the end of the drought.</li> <li>An annual report is prepared for DPIE as per the DPIE CCC Guidelines.</li> </ul>	Noted.

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**From:** Samantha Wynn <[Samantha.Wynn@environment.nsw.gov.au](mailto:Samantha.Wynn@environment.nsw.gov.au)>  
**Sent:** Thursday, 12 November 2020 1:00 PM  
**To:** [mcwenvironmental@bigpond.com](mailto:mcwenvironmental@bigpond.com)  
**Cc:** Liz Mazzer <[Liz.Mazzer@environment.nsw.gov.au](mailto:Liz.Mazzer@environment.nsw.gov.au)>  
**Subject:** Re: Independent Environmental Audit of the Clarence Colliery - request for feedback

Hi Michael

Thank you for your email seeking input from BCD for the upcoming Clarence Colliery audit.

BCD request that the status of the following consent condition be checked:

**Biodiversity Offset Strategy**

12A. By the end of December 2016, the Applicant shall, in consultation with BCD, and to the satisfaction of the Planning Secretary:

- (a) provide a suitable offset to satisfactorily offset clearing 4.1 hectares of Newnes Plateau Narrowleaved Peppermint – Silver-top Ash Layered Open Forest and the loss of related biodiversity values, including for threatened species; and
- (b) make suitable arrangements to manage, protect and provide long-term security in perpetuity for this area, consistent with the relevant NSW Offsets policy.

The Clarence offset requirement is included in Centennial's Biodiversity Offset Strategy – Western Region (28 February 2019).

In order to offset the loss of 4.1 ha of vegetation clearing which constitutes the requirement for 204 ecosystem credits the following has been provided as an offset:

- 204 ecosystem credits from HN534 - Moderate/Good Carinya Offset site.

This offset has been accepted by BCS. The current status of the long-term security is unknown to BCS.

Originally, the Carinya offset was to be transferred to Capertee National Park. However, on 8 November 2019 Centennial advised that the transfer was unable to proceed (Centennial's business partners were unable to commit at that stage) and that retirement of the biodiversity offset site would be progressed with the NSW Biodiversity Conservation Trust. Centennial wanted to keep open the option to transfer the land to national park following the commencement of the conservation agreement.

It would be good to get an update of the progress of the stewardship agreement with BCT.

If you have any questions regarding the above please contact either Liz or I.

Regards  
Sam

**Samantha Wynn**  
Senior Team Leader Planning, North West  
Biodiversity, Conservation & Science Directorate | Department of Planning, Industry and Environment  
T 02 6883 5365 | E [samantha.wynn@environment.nsw.gov.au](mailto:samantha.wynn@environment.nsw.gov.au) M 0459 888 603  
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**Our Vision:** Together, we create thriving environments, communities and economies.

From: Jennifer Rowe <[Jennifer.Rowe@planning.nsw.gov.au](mailto:Jennifer.Rowe@planning.nsw.gov.au)>  
Date: 30 October 2020 at 11:34:01 am AEDT  
To: "mcwenvironmental@bigpond.com" <[mcwenvironmental@bigpond.com](mailto:mcwenvironmental@bigpond.com)>  
Subject: RE: Clarence Colliery Independent Environmental Audit

Hi Michael

In relation to your consultation request below on the Clarence Colliery Independent Environmental Audit the Department provides the following in response:

1. Please ensure all Independent Environmental Audit requirements outlined in Schedule 5 Conditions 6, 7 and 8 are addressed as part of the audit.
2. As per Schedule 5 Condition 6(b), the audit is to be consistent with ISO 19011:2002 – Guidelines for Quality and/or Environmental Systems Auditing, or updated versions of this guideline. However, in preparing the audit the Department would like you to also consider the Independent Audit Post Approval Requirements, dated May 2020, which can be located <https://www.planning.nsw.gov.au/-/media/Files/DPE/Other/Assess-and-regulate/About-Compliance/Independent-audit-post-approval-requirements-2020-05-19.pdf>
3. As part of the audit please address the sites monitoring, management and mitigation measures implemented to ensure compliance with the impact assessment criteria for:
  - a. Noise,
  - b. Air quality,
  - c. Surface and Groundwater, and
  - d. Subsidence.
4. Review the management plans prepared in accordance with the Consent and their status (eg review and revisions) to determine compliance with Schedule 5 Condition 13, particularly in line with the date of approval for Mod 5 on 02/10/2019.
5. Agency Consultation is required - A requirement of the independent audit is to assess whether the Project is complying with the relevant standards, performance measures, and statutory requirements. In order for an assessment of this requirement to be undertaken, the Department considers it necessary that consultation is undertaken with the relevant government agencies to ascertain that the Project is complying with the relevant approvals/licenses issued for the Project.
6. Consultation should include, but not limited to, the following agencies/departments:
  - a. EPA - NSW Environment Protection Authority
  - b. NPWS – National Parks and Wildlife Services
  - c. BCD - Biodiversity Conservation Division within DPIE (former OEH)
  - d. DRG - Division of Resources and Geoscience within DPIE
  - e. DPI Water
  - f. WaterNSW
  - g. Council – Lithgow City Council
7. The following actions have been issued by the Department:
  - a. 26/5/17 – Official Caution – Breach of Schedule 2 Condition 2
  - b. 10/7/18 – Official Caution – Breach of Schedule 3 Condition 15
  - c. 28/6/17 – Warning Letter – Breach of Schedule 3 Condition 21A

If you have any further questions please feel free to contact me on the details below.

Kind regards,  
Jennifer Rowe  
Senior Compliance Officer

Compliance | Department of Planning, Industry and Environment  
T 02 4247 1851 | M 0488 988 641 | E [jennifer.rowe@planning.nsw.gov.au](mailto:jennifer.rowe@planning.nsw.gov.au)  
PO Box 5475 | Level 2/84 Crown Street Wollongong, NSW 2500  
[www.dpie.nsw.gov.au](http://www.dpie.nsw.gov.au)



The Department of Planning, Industry and Environment acknowledges that it stands on Aboriginal land. We acknowledge the traditional custodians of the land and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

If you are submitting a compliance document or request as required under the conditions of consent or approval, please note that the Department is no longer accepting lodgement via [compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au).

The Department has recently upgraded the Major Projects Website to improve the timeliness and transparency of its post approval and compliance functions. As part of this upgrade, proponents are now requested to submit all post approval and compliance documents online, via the Major Projects Website. To do this, please refer to the instructions available [here](#).



AREQ0013574

Mr Michael Woolley  
MCW Environmental  
By email: mcwenvironmental@bigpond.com

Dear Mr Woolley

**Subject: Clarence Colliery – Independent Environmental Audit**

Thank you for your email dated 9 November 2020 requesting consultation on the independent audit to be undertaken of the Clarence Colliery.

The Clarence Colliery is covered by the mining titles listed below.

- CCL705 (1973)
- ML1583 (1992)
- ML1353 (1992)
- ML1721 (1992)
- ML1354 (1992)

The Resources Regulator requires that the following issues be addressed in independent environmental audits undertaken in accordance with a planning consent condition.

- Review relevant mining leases and exploration licences as agreed with Resources Regulator.
- Undertake an assessment of compliance against the conditions of title related to environmental management.
- Verify that there is a current Mining Operations Plan (MOP) in place and it has been approved by the Regulator – review compliance against any conditions of approval of the MOP.
- Undertake a critical review of the MOP, including an assessment of its compatibility with the description of operations contained in the planning approval. In particular:
  - Review the rehabilitation strategy as outlined in the MOP to determine if it is consistent with the Project Approval in terms of progressive rehabilitation schedule; and proposed final land use(s).
  - Review the rehabilitation objectives and completion criteria as outlined in the MOP to determine if they have been developed in accordance with the proposed final land use(s) as outlined in the Project Approval.

- Review the development and implementation of any rehabilitation monitoring programs to assess performance against the nominated objectives and completion criteria – verified by reviewing monitoring reports and rehabilitation inspection records.
- Determine if a rehabilitation care and maintenance program has been developed and implemented based on the outcomes of monitoring program – verified by reviewing Annual Rehabilitation Programs or similar documentation.
- Confirm that mining operations are being conducted in accordance with the approved MOP (production, mining sequence etc.), including within the designated MOP approval boundary – to be verified by site plans and site inspection.
- Confirm that rehabilitation progress is consistent with the approved MOP as verified by site plans and a site inspection. This should include an evaluation against rehabilitation targets and whether the final landform is being developed in accordance with conceptual final landform in the Project Approval.
- Based on a visual inspection, determine if there are any rehabilitation areas that appear to have failed or that have incurred an issue that may result in a delay in achieving the successful rehabilitation outcomes.
- In May 2020, Clarence Colliery was issued a notice under Section 240(1)(c) of the *Mining Act 1992* in relation to the operations of the tailings storage facilities and decommissioning and closure requirements. Clarence provided a report in response to the notice which nominated actions to address the identified concerns. Review the progress of implementation of these actions in relation to sampling regimes and groundwater assessments.

In addition to the above, the audit should note observations where rehabilitation procedures, practices and outcomes represent best industry practice.

It would be appreciated if a copy of the final audit report could be sent to the Regulator at [nswresourcesregulator@service-now.com](mailto:nswresourcesregulator@service-now.com) upon completion of the audit.

Yours sincerely

**Jenny Ehmsen**  
Principal Compliance Auditor

16 November 2020

## **Appendix G**

# **Environmental Incidents and Complaints**

**Table H-1: Environmental Incidents and Complaints (2016 – 2020)**

Incident Date	Env. Aspect	Evidence	CoC / EPL	Description	Action Taken by Clarence	Regulatory Action
<b>WATER QUALITY (Exceedance of EPL 726 L2.4 concentration limits at LDP 002)</b>						
13 October 2016	Water	<ul style="list-style-type: none"> <li>2016 AR (CC, 2017)</li> <li>Monthly EM Report (CC, Oct 2016)</li> </ul>	<ul style="list-style-type: none"> <li>EPL L1.1</li> <li>EPL L2.1 &amp; L2.4</li> <li>DA504 Sch 3 -3 &amp; Sch 2-11</li> </ul>	<ul style="list-style-type: none"> <li>Water concentration limit for lead was exceeded at LDP 002</li> <li>Unplanned shutdown of the WTP resulted in partially untreated water discharged from LDP 002.</li> </ul>	<ul style="list-style-type: none"> <li>WTP procedure review to discharge WTP water to the underground water storage reservoir if WTP shutdowns extend longer than one hour</li> <li>Real time water quality monitoring installed</li> </ul>	<ul style="list-style-type: none"> <li>PRP</li> </ul>
7 February 2017	Water	<ul style="list-style-type: none"> <li>2017 AR (CC, 2018)</li> <li>Monthly EM Report (CC, February 2017)</li> </ul>	<ul style="list-style-type: none"> <li>EPL L2.1 &amp; L2.4</li> </ul>	<ul style="list-style-type: none"> <li>Water concentration limit for lead was exceeded at LDP 002</li> <li>Investigations identified laboratory error as cause of exceedance</li> </ul>	<ul style="list-style-type: none"> <li>Investigations into main dam and raw water treatment water quality and WTP operations</li> </ul>	<ul style="list-style-type: none"> <li>No</li> </ul>
June, August, Sept, Oct, Nov and Dec 2017 (6)	Water	<ul style="list-style-type: none"> <li>Letter to CC (EPA, 14 August 2017)</li> <li>2017 AR (CC, 2018)</li> <li>Monthly EM Reports (CC, June, August, Sept, Oct, Nov &amp; Dec 2017)</li> </ul>	<ul style="list-style-type: none"> <li>EPL L2.1 &amp; L2.4</li> <li>DA504 Sch 2-11</li> </ul>	<ul style="list-style-type: none"> <li>Water concentration limits for cobalt, nickel and zinc were exceeded at LDP 002 on multiple occasions</li> <li>Carryover of colloidal solids from the dissolved air flotation plant and resolubilisation of metals following pH adjustment</li> </ul>	<ul style="list-style-type: none"> <li>Additional pH probes</li> <li>Training in pH probe calibration and cleaning</li> <li>Independent verification of the WTP</li> <li>Lagoon cleaning</li> <li>pH set point, acid and coagulant pre-flocculant dilution trials</li> <li>Jar testing programs</li> <li>pH probe modifications</li> <li>Three heavy duty Delta magnetic water conditioners installed</li> </ul>	<ul style="list-style-type: none"> <li>Show Cause (EPA, 7 July 2017)</li> <li>Official Caution (EPA, 14 August 2017)</li> <li>Show Cause (EPA, 17 July 2020)</li> <li>EPL variation (1552802)</li> </ul>

Incident Date	Env. Aspect	Evidence	CoC / EPL	Description	Action Taken by Clarence	Regulatory Action
Feb, April, May, June, July, August, Sept, Oct, Nov & Dec 2018 (10)	Water	<ul style="list-style-type: none"> <li>2018 AR (CC, 2019)</li> <li>Monthly EM Reports (CC, Feb, April, May, June, July, August, Sept, Oct, Nov &amp; Dec 2018)</li> </ul>	<ul style="list-style-type: none"> <li>EPL L2.1 &amp; L2.4</li> <li>DA504 Sch 2-11</li> </ul>	<ul style="list-style-type: none"> <li>Water concentration limits for cobalt, nickel and zinc were exceeded at LDP 002 on multiple occasions</li> <li>pH (8.9) exceeded upper limit of 8.5</li> <li>Variation on feed water quality, lag for pH modifications, carryover of colloidal solids from the dissolved air flotation plant and resolubilisation of metals</li> </ul>	<ul style="list-style-type: none"> <li>WTP improvements including processes, control systems, increased flocculant capture, reinstated settling pond, turbidity monitor installed at LDP 002, change in acid dosing from sulphuric acid to HCL, trials and consultant advice</li> </ul>	<ul style="list-style-type: none"> <li>Show Cause (EPA, 2018 – as reported in 2018 AR)</li> <li>Show Cause (EPA, 17 July 2020)</li> <li>EPL variations (1552802 and 1590599) inc. PRPs</li> </ul>
17 October 2018	Water	<ul style="list-style-type: none"> <li>2018 AR (CC, 2019)</li> <li>Monthly EM Report (CC, October 2018)</li> </ul>	<ul style="list-style-type: none"> <li>EPL L2.1 &amp; L2.4</li> <li>DA504 Sch 2-11</li> </ul>	<ul style="list-style-type: none"> <li>Water concentration limits for pH was exceeded at LDP 002 on 17 October 2018</li> <li>WTP process control failure</li> </ul>	<ul style="list-style-type: none"> <li>WTP improvements including installation of new dosing tanks and upgrade to plant control and automation.</li> </ul>	<ul style="list-style-type: none"> <li>Show Cause (EPA, 17 July 2020)</li> <li>EPL variations (1552802 and 1590599) inc. PRPs</li> </ul>
12 December 2018	Water	<ul style="list-style-type: none"> <li>2018 AR (CC, 2019)</li> </ul>	<ul style="list-style-type: none"> <li>EPL L2.1 &amp; L2.4</li> <li>DA504 Sch 2-11</li> </ul>	<ul style="list-style-type: none"> <li>Water concentration limits for chloride was exceeded at LDP 002 as a result of commissioning new pH dosing at the WTP (changing from sulphuric acid to hydrochloric acid)</li> </ul>	<ul style="list-style-type: none"> <li>Investigations into pH dosing</li> </ul>	<ul style="list-style-type: none"> <li>Show Cause (EPA, 17 July 2020)</li> <li>Show Cause (EPA, 5 November 2020)</li> </ul>
23 January 2019	Water	<ul style="list-style-type: none"> <li>2019 AR (CC, 2020)</li> </ul>	<ul style="list-style-type: none"> <li>EPL L2.1 &amp; L2.4</li> <li>DA504 Sch 2-11</li> </ul>	<ul style="list-style-type: none"> <li>Water concentration limits for chloride was exceeded at LDP 002 as a result of commissioning new pH dosing at the WTP (changing from sulphuric acid to hydrochloric acid)</li> </ul>	<ul style="list-style-type: none"> <li>Amendments to pH dosing</li> </ul>	<ul style="list-style-type: none"> <li>Show Cause (EPA, 17 July 2020)</li> <li>Show Cause (EPA, 5 November 2020)</li> </ul>

Incident Date	Env. Aspect	Evidence	CoC / EPL	Description	Action Taken by Clarence	Regulatory Action
April, June, July & Nov 2019 (4)	Water	<ul style="list-style-type: none"> <li>2019 AR (CC, 2020)</li> </ul>	<ul style="list-style-type: none"> <li>EPL L2.1 &amp; L2.4</li> <li>DA504 Sch 2-11</li> </ul>	<ul style="list-style-type: none"> <li>Water concentration limits for zinc (April, June, and July 2019) and cobalt (November 2019) were exceeded at LDP 002 due to variations in WTP feedwater and trails for WTP improvements</li> </ul>	<ul style="list-style-type: none"> <li>WTP trials using different polymers and flocculants</li> </ul>	<ul style="list-style-type: none"> <li>Show Cause (EPA, 17 July 2020)</li> <li>Show Cause (EPA, 5 November 2020)</li> <li>EPL variations (1552802, and 1590599) inc. PRPs</li> </ul>
Jan, Feb, April, June, July, September 2020 (6)	Water	<ul style="list-style-type: none"> <li>Monthly EM reports (CC, Jan, Feb, April, June, July)</li> </ul>	<ul style="list-style-type: none"> <li>EPL L2.1 &amp; L2.4</li> <li>DA504 Sch 2-11</li> </ul>	<ul style="list-style-type: none"> <li>Water concentration limits were exceeded at LDP 002 on multiple occasions for cobalt (Jan, Feb, April, July 2020), nickel (April 2020), zinc (Feb, April, June, July and September 2020) and chromium (April 2020)</li> </ul>	<p>An application is pending with the EPA to vary EPL 726 and PRP U1 for:</p> <ul style="list-style-type: none"> <li>A timeframe to require a Development Application and associated environmental assessments to be lodged with the relevant determining authority by 31 December 2021.</li> <li>A PRP amendment to reflect that the alternate project (to Coxs River discharge) will satisfy the outcome of ceasing discharge into the Wollangambe River via LDP002 within 24 months of the relevant approval being granted.</li> </ul>	<ul style="list-style-type: none"> <li>Show Cause (EPA, 17 July 2020)</li> <li>Show Cause (EPA, 5 November 2020)</li> <li>EPL variations (1552802 and 1590599) inc. PRPs</li> </ul>

Incident Date	Env. Aspect	Evidence	CoC / EPL	Description	Action Taken by Clarence	Regulatory Action
<b>WATER (Potential to pollute waters EPL 726 L1.1 and DA 504 Sch 3- 3)</b>						
5 August 2016	Water	<ul style="list-style-type: none"> <li>EPA Public Register</li> <li>2016 AR (CC, 2017)</li> <li>Monthly EM Report (CC, August 2016)</li> </ul>	<ul style="list-style-type: none"> <li>EPL L1.1 &amp; O1.1</li> <li>DA504 Sch 3 -3 &amp; Sch 2-11</li> </ul>	<ul style="list-style-type: none"> <li>Leachate water was seeping from LD 2 resulting in elevated metal concentrations in an unnamed tributary of the Wollangambe River</li> <li>No reported exceedances of water concentration limits at LDP 002</li> </ul>	<ul style="list-style-type: none"> <li>PIRMP activated</li> <li>Bentonite and geotextile blanket, leachate pipe integrity assessment to stop water leakage from LD 2 and monitoring program</li> </ul>	<ul style="list-style-type: none"> <li>EPL variation (1543427) inc. PRP</li> </ul>
23 August 2019	Water	<ul style="list-style-type: none"> <li>2019 AR (CC, 2020)</li> </ul>	<ul style="list-style-type: none"> <li>EPL L1.1, O1.1 &amp; O1.2</li> <li>DA5-04 Sch 2-11</li> </ul>	<ul style="list-style-type: none"> <li>A riser cap on the gravity pipeline from LD 2 to the underground borehole failed due to a pipe blockage allowing escape of water via a pipeline riser. The water did not exit the lease area and no environmental harm occurred.</li> </ul>	<ul style="list-style-type: none"> <li>Improved pipeline integrity and installation of additional monitoring and valves and reduced water inputs</li> </ul>	<ul style="list-style-type: none"> <li>EPL variation (1586943 inc. PRP)</li> </ul>
<b>WATER (Discharge volume exceeded EPL L3.1)</b>						
19 March 2017	Water	<ul style="list-style-type: none"> <li>2017 AR (CC, 2018)</li> <li>Monthly EM Report (CC, March 2017)</li> </ul>	<ul style="list-style-type: none"> <li>EPL L3.1</li> </ul>	<ul style="list-style-type: none"> <li>The daily water volume limit for 19 March 2017 was exceeded at LDP 002. Rainfall between 9.2mm (18 March 2017) and 8.8mm (19 March 2017) was recorded i.e. less than the 10mm rainfall which would be required for the maximum limit not to apply; as reported in 2017 AR (CC, 2018)</li> </ul>	<ul style="list-style-type: none"> <li>Monitor volume of extracted water</li> </ul>	<ul style="list-style-type: none"> <li>No</li> </ul>



Incident Date	Env. Aspect	Evidence	CoC / EPL	Description	Action Taken by Clarence	Regulatory Action
<b>NOISE (Exceedance of EPL L5.1 and DA 504 Sch 3-15 criteria)</b>						
December 2017	Noise	<ul style="list-style-type: none"> <li>2017 AR (CC, 2018)</li> <li>Monthly EM Report (CC, December 2017)</li> </ul>	<ul style="list-style-type: none"> <li>DA 504 Sch 3 –15</li> <li>EPL L5.1</li> </ul>	<ul style="list-style-type: none"> <li>Night-time noise limit was exceeded</li> <li>General noise continuum from conveyors and possible rotary breaker</li> <li>No complaints</li> </ul>	<ul style="list-style-type: none"> <li>Action plan</li> <li>Additional noise monitoring</li> <li>Letter to DPIE (CC, 28/09/2018) providing results of additional noise monitoring and proposed further noise assessment</li> <li>WRNMP updated by 28 September 2018</li> </ul>	<ul style="list-style-type: none"> <li>DPIE: Official Caution (10 July 2018)</li> </ul>
13 September 2018	Noise	<ul style="list-style-type: none"> <li>Letter to DPIE (CC, 28 September 2018)</li> <li>2018 AR (CC, 2019)</li> <li>Email to MCW Environmental (DPIE, 30 October 2020)</li> <li>WRNMP (CC, June 2018)</li> <li>Monthly EM Report (CC, October 2018)</li> </ul>	<ul style="list-style-type: none"> <li>DA 504 Sch 3- 15</li> <li>EPL L5.1</li> </ul>	<ul style="list-style-type: none"> <li>Exceedance of night-time noise criteria in March 2018</li> </ul>	<ul style="list-style-type: none"> <li>Action plan by 31 August 2018 (complete)</li> <li>Additional noise monitoring by 30 September 2018 (conducted on 11 September 2018)</li> <li>Results of additional noise monitoring and proposed further noise assessment provided by 31 October 2018 (complete)</li> <li>WRNMP updated by 28 September 2018 (complete)</li> <li>The 2018 AR reports that Clarence will seek an EPL amendment. No changes to EPL noise monitoring or limits have been recorded</li> </ul>	<ul style="list-style-type: none"> <li>Official Caution (DPIE, 10 July 2018)</li> </ul>

Incident Date	Env. Aspect	Evidence	CoC / EPL	Description	Action Taken by Clarence	Regulatory Action
<b>AIR QUALITY (Exceedance of DA 504 Sch 3 -13 criteria)</b>						
December 2017	Air	<ul style="list-style-type: none"> <li>Monthly EM Report (CC, December 2017)</li> </ul>	<ul style="list-style-type: none"> <li>DA 504 Sch 3-13</li> </ul>	<ul style="list-style-type: none"> <li>Dust limits were exceeded at DG3</li> </ul>	<ul style="list-style-type: none"> <li>No action reported</li> </ul>	<ul style="list-style-type: none"> <li>No</li> </ul>
<b>AIR QUALITY (Failure to monitor in accordance with EPL M2.2 and DA 504 Sch 3-13)</b>						
July 2016	Air	<ul style="list-style-type: none"> <li>2016 AR (CC, 2017)</li> <li>Monthly EM Report (CC, June 2016)</li> </ul>	<ul style="list-style-type: none"> <li>DA 504 Sch 3-13</li> <li>EPL M2.2</li> </ul>	<ul style="list-style-type: none"> <li>Dust monitoring not conducted at DG 1 as depositional bottle was stolen</li> </ul>	<ul style="list-style-type: none"> <li>Gate to prevent public access</li> </ul>	<ul style="list-style-type: none"> <li>No</li> </ul>
July 2016	Air	<ul style="list-style-type: none"> <li>2016 AR (CC, 2017)</li> </ul>	<ul style="list-style-type: none"> <li>DA 504 Sch 3-13</li> <li>EPL M2.2</li> </ul>	<ul style="list-style-type: none"> <li>Dust monitoring not conducted at DG 2 as depositional bottle was shattered due to freezing weather</li> </ul>	<ul style="list-style-type: none"> <li>Bottle replaced</li> </ul>	<ul style="list-style-type: none"> <li>No</li> </ul>
September 2016	Air	<ul style="list-style-type: none"> <li>2016 AR (CC, 2017)</li> </ul>	<ul style="list-style-type: none"> <li>DA 504 Sch 3-13</li> <li>EPL M2.2</li> </ul>	<ul style="list-style-type: none"> <li>Continuous air quality monitor was vandalised (recorded data was unrecoverable)</li> </ul>	<ul style="list-style-type: none"> <li>Security fence to prevent public access</li> </ul>	<ul style="list-style-type: none"> <li>No</li> </ul>
November 2016	Air	<ul style="list-style-type: none"> <li>Monthly EM report (CC, November 2016)</li> </ul>	<ul style="list-style-type: none"> <li>DA 504 Sch 3-13</li> </ul>	<ul style="list-style-type: none"> <li>Dust monitoring not conducted at DG 1 as depositional bottle was stolen</li> </ul>	<ul style="list-style-type: none"> <li>Security fence to prevent public access</li> </ul>	<ul style="list-style-type: none"> <li>No</li> </ul>
March 2017	Air	<ul style="list-style-type: none"> <li>2017 AR (CC, 2018)</li> <li>Monthly EM Report (CC, March 2017)</li> </ul>	<ul style="list-style-type: none"> <li>DA 504 Sch 3-13</li> <li>EPL M2.2</li> </ul>	<ul style="list-style-type: none"> <li>Dust monitoring not conducted at DG 1 as depositional bottle was broken due to vandalism</li> </ul>	<ul style="list-style-type: none"> <li>Maintenance of fence</li> </ul>	<ul style="list-style-type: none"> <li>No</li> </ul>
November 2018	Air	<ul style="list-style-type: none"> <li>2018 AR (CC, 2019)</li> <li>Monthly EM Report (CC, November 2018)</li> </ul>	<ul style="list-style-type: none"> <li>EPL M2.2</li> <li>DA 504 Sch 3-13</li> </ul>	<ul style="list-style-type: none"> <li>Dust monitoring not conducted at DG 2 as depositional bottle was broken due to vandalism</li> </ul>	<ul style="list-style-type: none"> <li>No further action</li> </ul>	<ul style="list-style-type: none"> <li>No</li> </ul>

Incident Date	Env. Aspect	Evidence	CoC / EPL	Description	Action Taken by Clarence	Regulatory Action
February 2020	Air	<ul style="list-style-type: none"> <li>Monthly EM report (CC, February 2020)</li> </ul>	<ul style="list-style-type: none"> <li>EPL M2.2</li> <li>DA 504 Sch 3-13</li> </ul>	<ul style="list-style-type: none"> <li>Dust monitoring not conducted at DG 3 as depositional bottle was broken</li> </ul>	<ul style="list-style-type: none"> <li>No further action</li> </ul>	<ul style="list-style-type: none"> <li>No</li> </ul>
<b>COMPLAINTS</b>						
5 March 2017	Admin	<ul style="list-style-type: none"> <li>Monthly EM report (CC, April 2017)</li> <li>Clarence website</li> </ul>	<ul style="list-style-type: none"> <li>DA 504 Sch 5-5B</li> </ul>	<ul style="list-style-type: none"> <li>2016 IEA report was not on Clarence website</li> </ul>	<ul style="list-style-type: none"> <li>2016 IEA and action plan were uploaded to Clarence website</li> </ul>	<ul style="list-style-type: none"> <li>No</li> </ul>
10 April 2017	Noise	<ul style="list-style-type: none"> <li>2017 AR (CC, 2018)</li> <li>Monthly EM report (CC, April 2017)</li> <li>Clarence Complaint Register (CC, August 2020)</li> </ul>	<ul style="list-style-type: none"> <li>DA 504 Sch 3-15</li> </ul>	<ul style="list-style-type: none"> <li>Noise complaint (EPA Hotline) reported a constant low hum.</li> </ul>	<ul style="list-style-type: none"> <li>No upgrades to the ventilation facility had recently occurred</li> <li>Investigations reportedly ongoing</li> <li>No further complaints</li> </ul>	<ul style="list-style-type: none"> <li>No</li> </ul>

Incident Date	Env. Aspect	Evidence	CoC / EPL	Description	Action Taken by Clarence	Regulatory Action
9 July 2018	Trucks	<ul style="list-style-type: none"> <li>Clarence Complaint Register (CC, August 2020)</li> </ul>	<ul style="list-style-type: none"> <li>N/A</li> </ul>	<ul style="list-style-type: none"> <li>Truck driving west on Bells Line of Road was over the centre line forcing the complainant to take evasive action.</li> </ul>	<ul style="list-style-type: none"> <li>No truck identification details were recorded</li> <li>It could not be determined if the truck was from a company that sources coal from Clarence or, whether the truck was undertaking haulage for a purpose unrelated to Clarence</li> </ul>	<ul style="list-style-type: none"> <li>Although the origin of the truck could not be determined a notice was distributed to all contractors and independent haulage companies reminding them of their obligation to safety and responsible driving behaviours.</li> </ul>

