Delta coal	Doc Owner:	Environmental Compliance Coordinator
	Doc No:	

MANNERING COLLIERY

Annual Review 2021

1 January 2021 – 31 December 2021

Author	Lachlan McWha – Delta Coal
Authorised by:	Lachlan McWha – Environmental Compliance Coordinator
	Pieter Van Rooyen – Technical Services Manager
	Mal Yule – Chief Executive Officer
Date:	31 March 2022

Table 1: Annual Review Title Block

Name of operation	Mannering Colliery
Name of operator	Great Southern Energy Pty Ltd trading as Delta Coal Pty Ltd
Project Approval #	Project Approval MP06_0311 (Mod 5)
Name of Project Approval holder	Great Southern Energy Pty Ltd
Titles/Mining Leases #	Consolidated Coal Lease No. 719 Consolidated Coal Lease No. 721
Name of holder of mining leases	Great Southern Energy Pty Ltd
Water License #	WAL40461/20AL217059
MOP Commencement Date	1st August 2020 – 31st December 2023
MOP Completion Date	31st December 2023
Annual Review start date	1 January 2021
Annual Review end date	31 December 2021
I, Lachlan McWha, certify that this audit report is a true and accurate record of the compliance status of Mannering Colliery for the period 1 January to 31 December 2021 and that I am authorised to make this statement on behalf of Great Southern Energy Pty Ltd (trading as Delta Coal Pty Ltd). *Note.* *a) The Annual Review is an 'environmental audit' for the purposes of section 122B(2) of the Environmental Planning and Assessment Act 1979. Section 122E provides that a person must not include false or misleading information (or provide information for inclusion in) an audit report produced to the Minister in connection with an environmental audit if the person knows that the information is false or misleading in a material respect. The maximum penalty is, in the case of a corporation, $1 million and for an individual, $250,000.* *b) The Crimes Act 1900 contains other offences relating to false and misleading information: section 192G (Intention to defraud by false or misleading statement—maximum penalty 5 years imprisonment); sections 307A, 307B and 307C (False or misleading applications/information/documents—maximum penalty 2 years imprisonment or $22,000, or both).*	
Reporting Officer	Name: Lachlan McWha Title: Environmental Compliance Coordinator Date: 31st March 2022 Signature:

Executive Summary

During the 2021 Annual Review reporting period no coal was produced from the Mannering Colliery Project Approval MP06_0311 (Modification 5) project area..

During the reporting period, 1,246,671 tonnes of coal was handled through Mannering Colliery from Chain Valley Colliery (CVC) and transported to Vales Point Power Station (VPPS) via the overland conveyor.

The last modification to Mannering Colliery's Project Approval MP06_0311 (Modification 5) was approved in June 2020. The modification allowed for an extension of approval, increase in ROM coal handling limit and change in allowed mining method (bord and pillar). In April 2021, Environmental Protection License 191 was varied, with the primary alteration being an increase in allowed coal handling volume from 1.3 million tonnes per annum (Mtpa) to 2.1 Mtpa, with coal handling volumes in alignment with Modification 5 to Project Approval MP06_0311.

A summary of the key environmental performance indicators and statement of compliance for the 2021 reporting period is provided in below.

Indicator	Value
Full time employees (at 31 December 2020)	22
ROM coal produced from site (tonnes)	0
Total product coal transferred to VPPS from site (tonnes)	1.247 million tonnes
General waste produced (tonnes)	44.63
Total waste recycled (tonnes)	14.12
Waste recycling % achieved	24%
Potable water consumed (ML)	57.16
Total water discharged from the operation (ML)	333 ML
Total number of community complaints received	38
Total number of environmental incidents for the period	5
Number of Community Consultative Committee (CCC) meetings undertaken	4
Total greenhouse gas emissions (CO_2 equivalent tonnes) Quarter 2 2019 only (Delta Coal contribution to end of 2018/2019 financial year)	91,770

1 Statement of Compliance

Summary of Non-compliances (2019 Reporting Period):

There were four reportable environmental incidents during the reporting period, and relate to water quality and air quality monitoring. These are summarised in **Table 2** and **Table 3**. This does not include the non-compliances identified in the 2016-2019 Independent Environmental Audit (**Appendix 7).**

Table 2: Statement of Compliance

Were all conditions of the relevant approval(s) complied with?	
Project Approval No. 06_0311	No
CVC and MC MOP 2020-2023	Yes
EPL191	No
CCL719	Yes
CCL721	Yes
Water Licence WAL40461/20AL217059	Yes

Table 3: Non-compliances for 2021 at Mannering Colliery

Relevant Approval	Condition No.	Condition Description (summary)	Compliance Status	Comment	Where addressed in Annual Review
EPL 191	L2.4	Volumetric Surface Water Discharge Limit	Permitted Non-Compliance with EPL 191.	Exceedance 21/03/2021 – rainfall of approximately 100 mm in 24hrs prior to exceedance, with pumping ceased 24hr prior to exceedance.	Section 11, Section 7.2
EPL 191	L2.4	Oil and Grease Concentration Limit	Non-Compliant	20/04/2021 – exceedance of oil and grease concentration limits in weekly LDP1 sample with 34mg/L detected in the sample with a limit of 10 mg/L in EPL191.	Section 11 Section 7.3
Project Approval MP06_0311	Schedule 3, Condition 16	Deposited dust monthly and annual limits	Non-Compliant	DG3 Exceedance for May-June 2021 period (16/06/2021) due to dust gauge contamination.	Section 11 Section 6.1

Relevant Approval	Condition No.	Condition Description (summary)	Compliance Status	Comment	Where addressed in Annual Review
Project Approval MP06_0311	Schedule 3, Condition 16	Deposited dust monthly and annual limits	Non-Compliant	DG3 Exceedance for November 2021 period due to dust gauge contamination.	Section 11 Section 6.1
EPL 191	L2.4	Oil and Grease Concentration Limit	Non-Compliant	24/11/2021 – exceedance of oil and grease concentration limits in weekly LDP1 sample with 22 mg/L detected in the sample with a limit of 10 mg/L in EPL191.	Section 11 Section 7.2

Compliance status key for Table 3

Risk Level	Colour Code	Description
High	Non-Compliant	Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence
Medium	Non-Compliant	Non-compliance with potential for serious environmental consequences, but is unlikely to occur; or potential for moderate environmental consequences, but is likely to occur
Low	Non-Compliant	Non-compliance with potential for moderate environmental consequences, but is unlikely to occur; or potential for low environmental consequences, but is likely to occur
Administrative non-compliance	Non-Compliant	Non-compliance which does not result in any risk of environmental harm

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2 Introduction

2.1 Background

Mannering Colliery (MC) is an underground coal mine located on the southern side of Lake Macquarie approximately 60 km south of Newcastle and 80 km north of Sydney. The pit-top is located 3 km south of the township of Mannering Park at the southern extent of Lake Macquarie, as shown on **Figure 1**.

Development of the mine (initially known as Wyee Mine) began in 1960 in conjunction with the construction of Vales Point Power Station (VPPS) and was operated by Powercoal Pty Ltd. Production commenced in 1961 with extensive mining (first workings and secondary extraction) having taken place in both the Great Northern and Fassifern Seams. Coal operations temporarily ceased on 30 June 2002 when the operation was placed on care and maintenance.

Centennial Coal acquired control of the Powercoal assets on 7 August 2002 and MC remained on care and maintenance. Wyee Mine was renamed Mannering Colliery and production was recommenced in December 2005, mining the Fassifern Seam to gain access to greater than 5 million tonnes of recoverable reserves beneath Lake Macquarie and surrounding lands.

Mannering was once again placed on care and maintenance in November 2012. In 2013 the owners of Mannering and Chain Valley Colliery (CVC) entered into an agreement with Centennial which enabled LakeCoal to operate Mannering until 2022. LakeCoal became the operator of MC effective 17 October 2013. The underground link road between CVC and Mannering was completed in October 2017.

LakeCoal was placed into Voluntary Administration on 3 October 2018. The receivers continued operation of the mines in the period 3 October 2018 to 1 April 2019. As of 1 April 2019, Great Southern Energy Pty Ltd (trading as Delta Coal) own and operate the two underground coal mines, CVC and MC. In the 2021 reporting period, mining was undertaken at CVC only, with the coal being transported underground to MC where the coal is sized and screened and sent directly to VPPS.

2.2 Mine Contacts

The Mannering Colliery contacts as at the end of the reporting period were:

Chief Executive Officer:	Mal Yule
Telephone:	02 43580 800
Email:	myule@deltacoal.com.au
Environmental Compliance Coordinator:	Lachlan McWha
Telephone:	02 4358 0875
Email:	lmcwha@deltacoal.com.au

Figure 1: Mannering Colliery Location and Regional Context

3 Approvals

3.1 Project Approval MP06_0311

MC was granted Project Approval MP06_0311 (hereafter referred to as MP06_0311) on 12 March 2008 which has since had five modifications, the most recent being modification 5 approved on 26 June 2020 (MOD 5) which permitted an extension of mining operations until December 2027 and the use of alternate bord and pillar mine designs. MOD 5 also permitted 2.1 million tonnes per annum (Mtpa) of ROM coal handling for the transfer of coal from CVC to VPPS, in accordance with CVCs approved extraction limit. MC was originally granted approval for the continued production of up to 1.1 Mtpa of run of mine (ROM) coal which was retained in MOD 5. All coal from MC is transported via a drift conveyor system to the surface and dedicated overland conveyor to VPPS for domestic energy generation.

Delta Coal is seeking to undertake consolidation of the MC and CVC consents / approvals, with an environmental and social impact assessment anticipated to be submitted in the 2022 reporting period.

Condition 8 within Schedule 5 of MP06_0311 requires the submission of an Annual Review to the satisfaction of the Planning Secretary and in accordance with the *Department of Planning and Environment (DPE), Annual Review Guideline*, 2015.

3.2 Leases

The surface areas occupied by Mannering Colliery lie within the Central Coast Council local government area (LGA), however, the leases which comprise the Mannering Colliery holding are within both the Central Coast and Lake Macquarie LGAs.

Significant changes occurred to the Colliery holding during the 2014 reporting period, which resulted in all active areas of the holding being transferred to the Chain Valley Colliery holding. The Chain Valley Colliery holding is shown on the Mine Locality Plan **Figure 2**. However, the applicable mining tenements which are contained within the Mannering Project Approval boundary, and include the surface areas of the Mannering pit top are listed in **Table 4.**

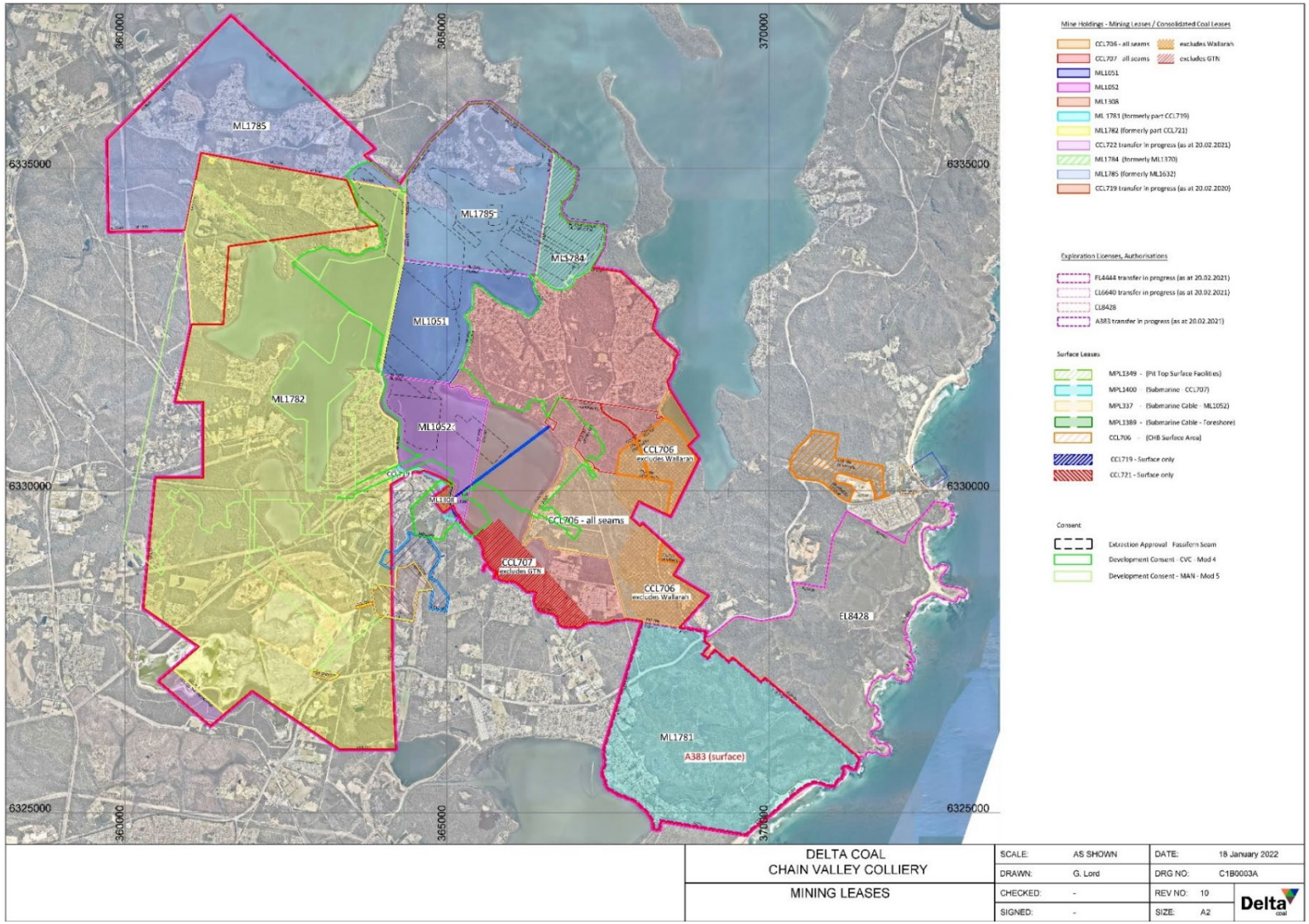
Table 4: Mining tenements

Mining Tenement	Holder	Grant date / Renewal date	Lease expiry date	Applicability
ML1781 (formerly CCL 719 - Sublease B)	Great Southern Energy	10 March 2022	3 July 2031	Sub-lease from Centennial Mannering for Mannering Colliery (subject to application to transfer to Delta Coal).
ML1782 (formerly CCL 721)	Great Southern Energy	24 January 2022	29 July 2026	Incorporates part of the approved mining area, Part sublease to Delta Coal. Includes Mannering surface facilities.

It is noted that while the CVC holding boundary now incorporates a significant portion of what was the Mannering Colliery holding, Annual Reviews for the two Collieries remain separate and relate specifically to the activities occurring within the relevant approval instrument boundaries.

All Mannering Colliery surface operational areas are owned by Sunset Power International and are operated/occupied under a commercial agreement.

Figure 2 - Delta Coal Mining Tenements



3.3 Licences

Environment Protection Licence (EPL) No. 191 issued by the Environment Protection Authority under the *Protection of the Environment Operations Act,1997* covers the Collieries activities and premises. A variation to EPL 191 was undertaken in the reporting period and granted on 14 April 2021, the purpose of the variation was to align the permitted coal handling volume from 1.3 Mtpa to 2.1 Mtpa in accordance with Modification 5 to MP06_0311 granted in June 2020.

A copy of EPL 191 is posted on the Colliery website, https://www.deltacoal.com.au/environment/mannering-colliery and is also provided in **Appendix 2**.

Monitoring results obtained in accordance with the licence conditions are made available on the Colliery website (updated monthly), under the environmental reporting page: https://www.deltacoal.com.au/environment/mannering-colliery/mannering-colliery-environmental-reports/mannering-colliery-environmental-reporting

Delta Coal also holds water licence 40461 issued under the *Water Act 1912* and permits the extraction of 450 ML per annum.

3.4 Mine Geology

The most recent mining operations at Mannering Colliery have been located within the Fassifern Seam, which is part of the Boolaroo Formation within the Newcastle Coal Measures (see **Figure 2**). Overlying the Fassifern Seam are the Great Northern, Wallarah and Vales Point Seams (and their associated conglomerates and tuffs), which are part of the Moon Island Beach Formation within the Newcastle Coal Measures. The Wallarah and Fassifern Seams have been mined at Myuna Colliery to the north-east, while the Wallarah, Fassifern and Great Northern seams have been mined at CVC to the east.

The coal resource within the Fassifern and Great Northern seams has a low sulphur content, which makes it a preferable supply for power generation. Within the Colliery holding, the Fassifern Seam lies at around 150 to 205 metres deep and mining is based on a three metre section of coal (approximate) beneath the B ply, which comprises approximately 1.0 to 1.2 metres of inferior coal left on the roof (Seedsman, 2011). The depth of cover to the Great Northern Seam is between approximately 140 and155 metres and the typical seam thickness is 2.5 metres (Seedsman, 2011).

Previous workings within both of these seams are extensive. These workings, in conjunction with various geophysical surveys in the area, provide a solid base of data regarding regional and local structural features. The area within the Colliery holding is dissected by a number of north-west striking faults and dyke zones at a regional spacing of up to two kilometres, with drilling and surface magnetometer surveys confirming the locality of these structural features (Hanson Bailey, 2007).

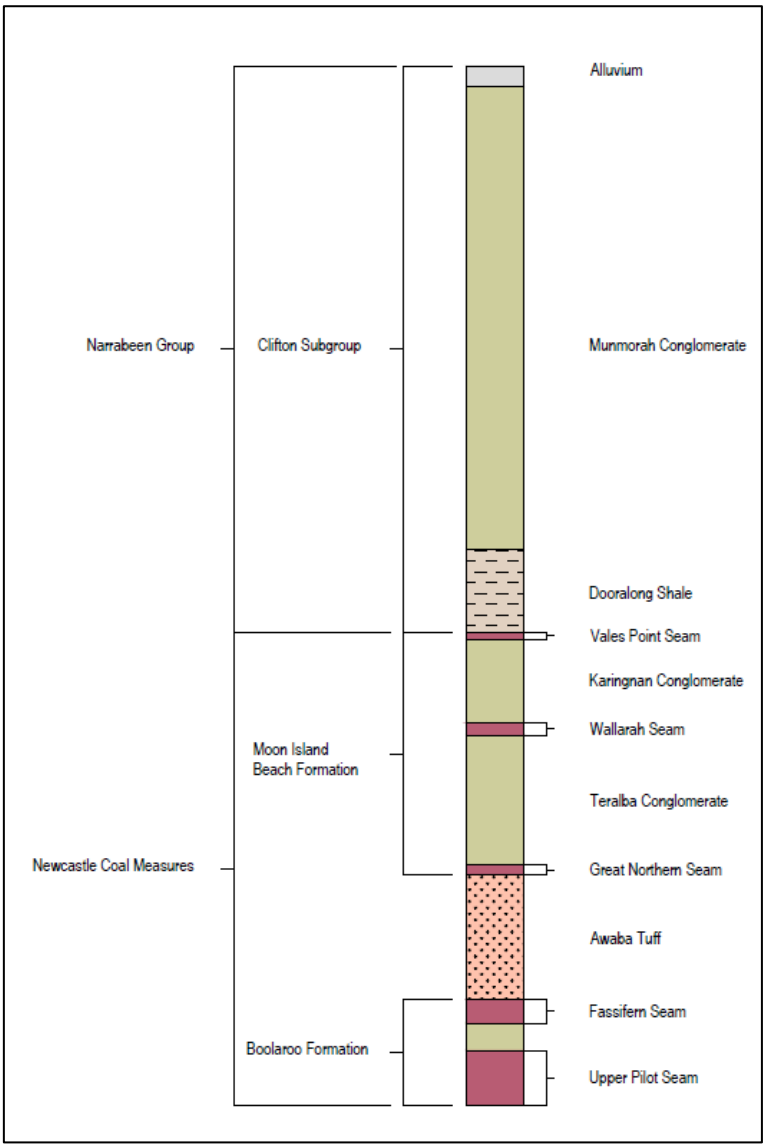
The stratigraphic sequence beneath the mine plan is comprised of three distinct units:

1. the upper Permian Newcastle Coal Measures, a sandstone/coal sequence with lesser siltstone;

2. the overlying Clifton Sub-group, which is the basal unit of the Triassic Narrabeen Group; and
3. quaternary to recent alluvial sediments.

The Great Northern Seam is separated from the Fassifern Seam within the Newcastle Coal Measure by approximately 25 to 30 metres. The strata directly below the Fassifern Seam are high strength sandstone formations, interbedded with thinner strata of other units such as shale, mudstone and coal (Hansen Bailey 2007). This interval between the Fassifern Seam and the Great Northern Seam is generally made up of two strata characterised in the lower section by the Awaba Tuff, which is the stone roof of the Fassifern Seam, and a conglomerate/coarse-grained sandstone unit in the upper section (Hansen Bailey, 2007). The roof of the Great Northern Seam is Teralba Conglomerate (Seedsman, 2011).

Figure 3 - Typical Stratigraphy at Mannering Colliery



4 Operations

4.1 Exploration

There was no exploration undertaken at Mannering Colliery during the reporting period.

4.2 Land Preparation

There was no land preparation undertaken during the reporting period, as a result the surface disturbance footprint remains unchanged.

4.3 Construction/Demolition

There were no construction or demolition works undertaken during the reporting period. General maintenance of existing infrastructure was however undertaken.

4.4 Mining

There were no mining activities undertaken at Mannering during the reporting period.

Figure 4 and **Figure 5** shows annual ROM production and coal handled Mannering Colliery between 2012 and 2021. A production summary is provided in **Table 5.**

Existing workings in the Great Northern Seam are shown on the Great Northern Seam Workings Plan and existing workings within the Fassifern Seam are shown on Fassifern Seam Workings Plan presented as **Figure 6** and **Figure 7.**

Figure 4: Annual ROM Production Levels

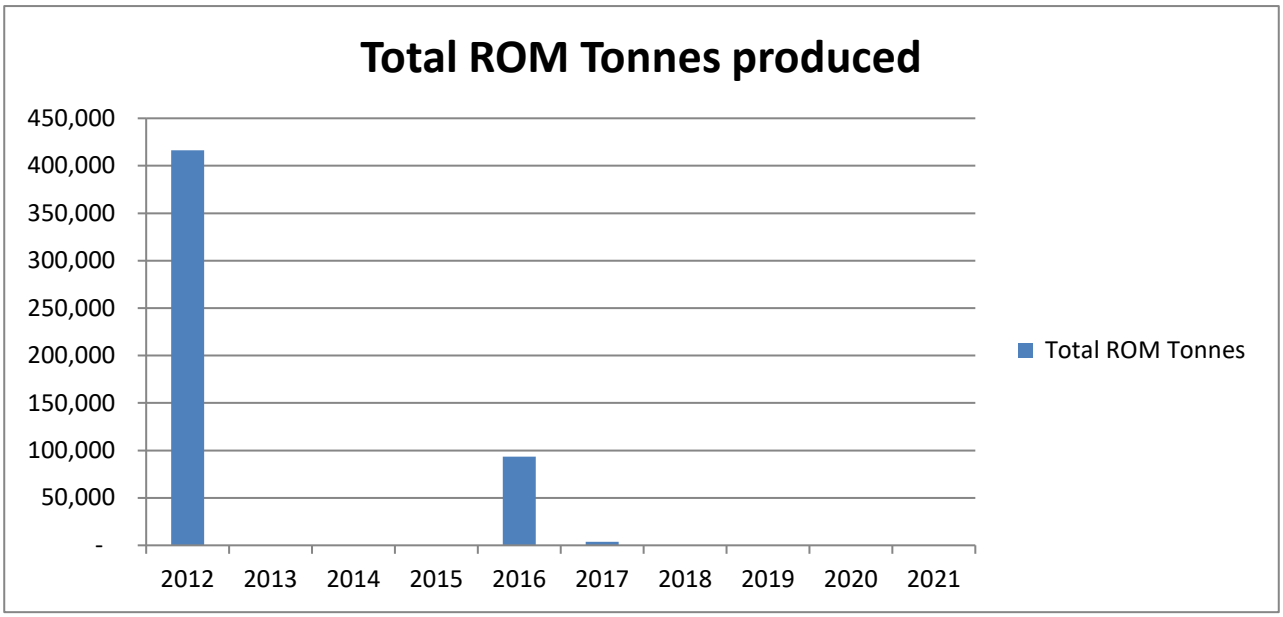


Figure 5: Annual Product Coal Handled

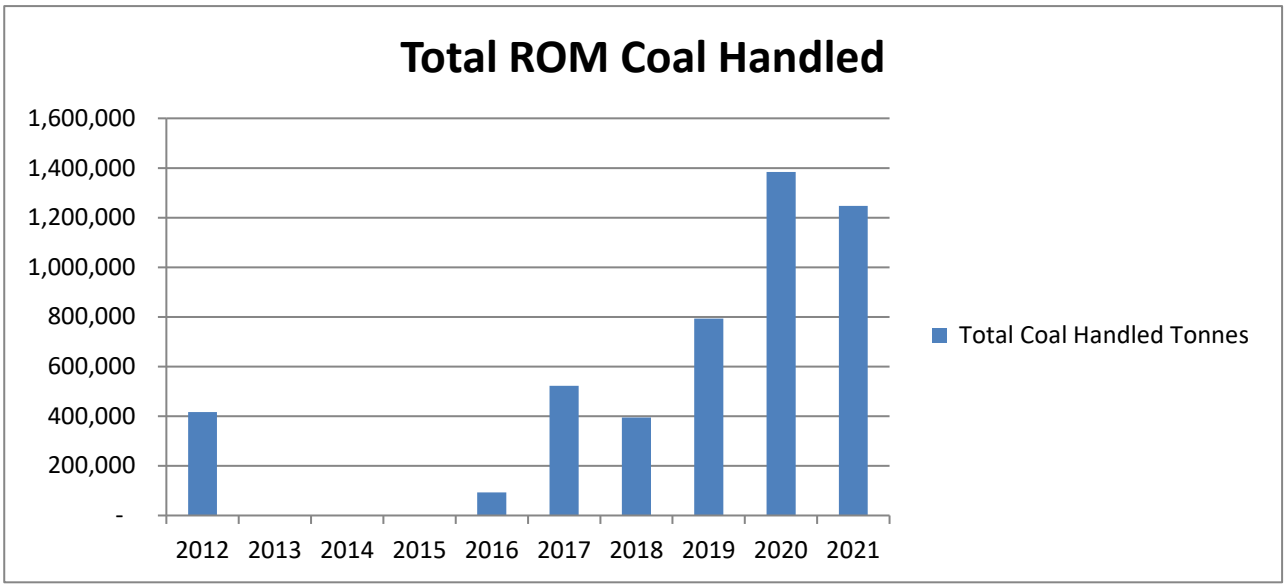


Table 5: Production Summary

Material	Approved Limit (Mt)	Previous Reporting Period (Actual)	This Reporting Period (Actual)	Next Reporting Period
Waste Rock / Overburden	N/A	N/A	N/A	N/A
ROM Coal (mined)	1.1 Mt	0.0 Mt	0.0 Mt	0.0 Mt
Saleable Product (ROM Coal Handled)	2.1 Mt	1.38 Mt	1.25 Mt	1.5 Mt
Coarse Reject	N/A	0.001	N/A^	N/A^
Fine Reject	N/A	N/A	N/A	N/A

^ *Mannering Colliery Rotary Breaker was decommissioned in 2020, as such, Mannering Colliery no longer produces coarse reject.*

All coal handled at Mannering Colliery was dispatched to VPPS via conveyor and mined from Chain Valley Colliery. During the reporting period a total of 1.247 million tonnes was dispatched to VPPS (domestic market).

Figure 6: Mannering Colliery Existing Great Northern Seam Workings

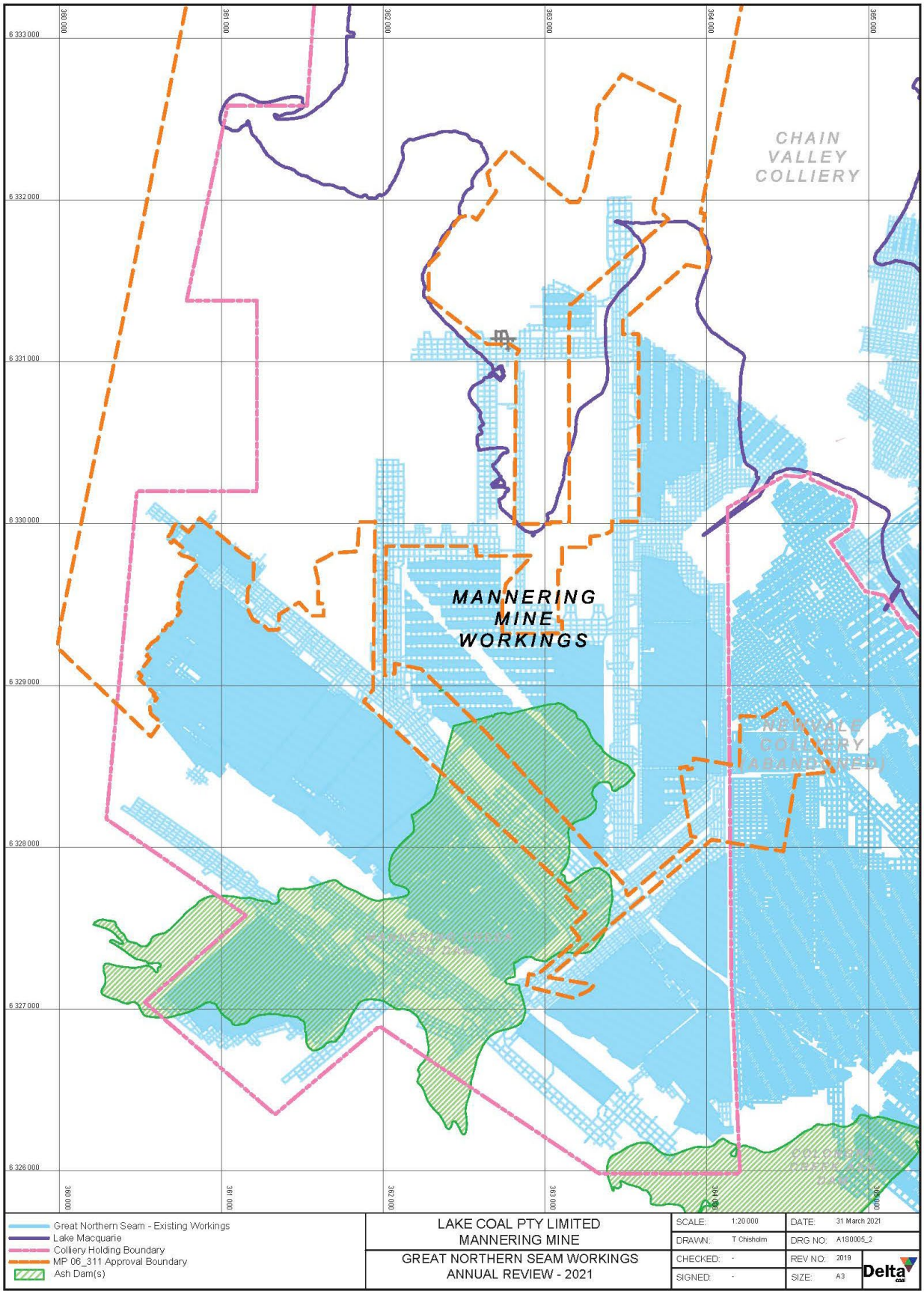
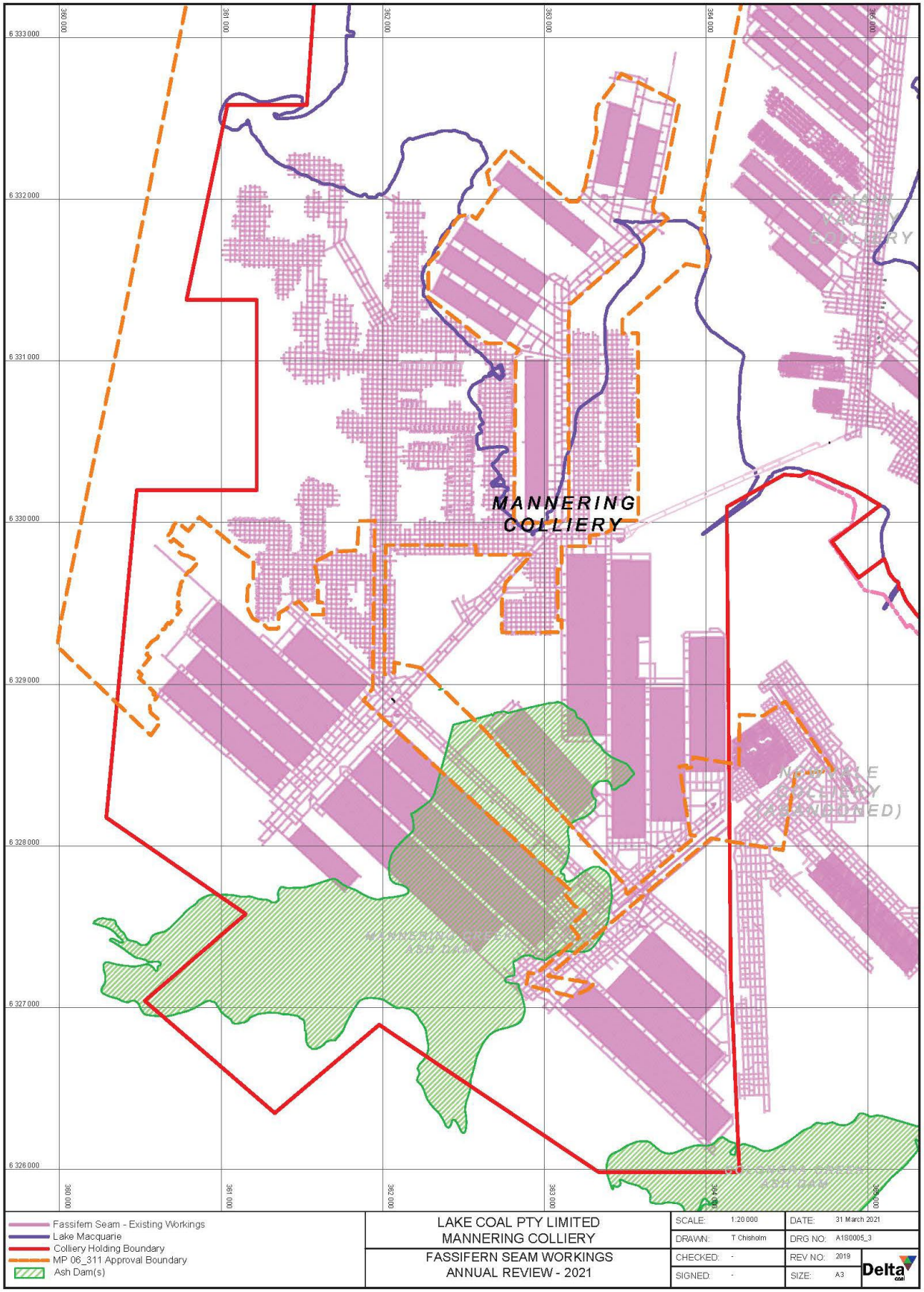


Figure 7: Mannering Colliery Existing Fassifern Seam Workings (including CVC Fassifern Workings to North-east)



4.5 Mineral Processing

ROM coal is sized underground prior to further sizing above ground at the Mannering Colliery Coal Handling and Preparation Plant (CHPP). The Mannering Colliery Rotary Breaker was decommissioned in 2020 and was substituted by the installation of additional sizers underground, a magnetic system was also installed to remove potential metal reject. Product coal (ROM) is transported from the CHPP to VPPS via an overland conveyor system.

4.6 Waste Management

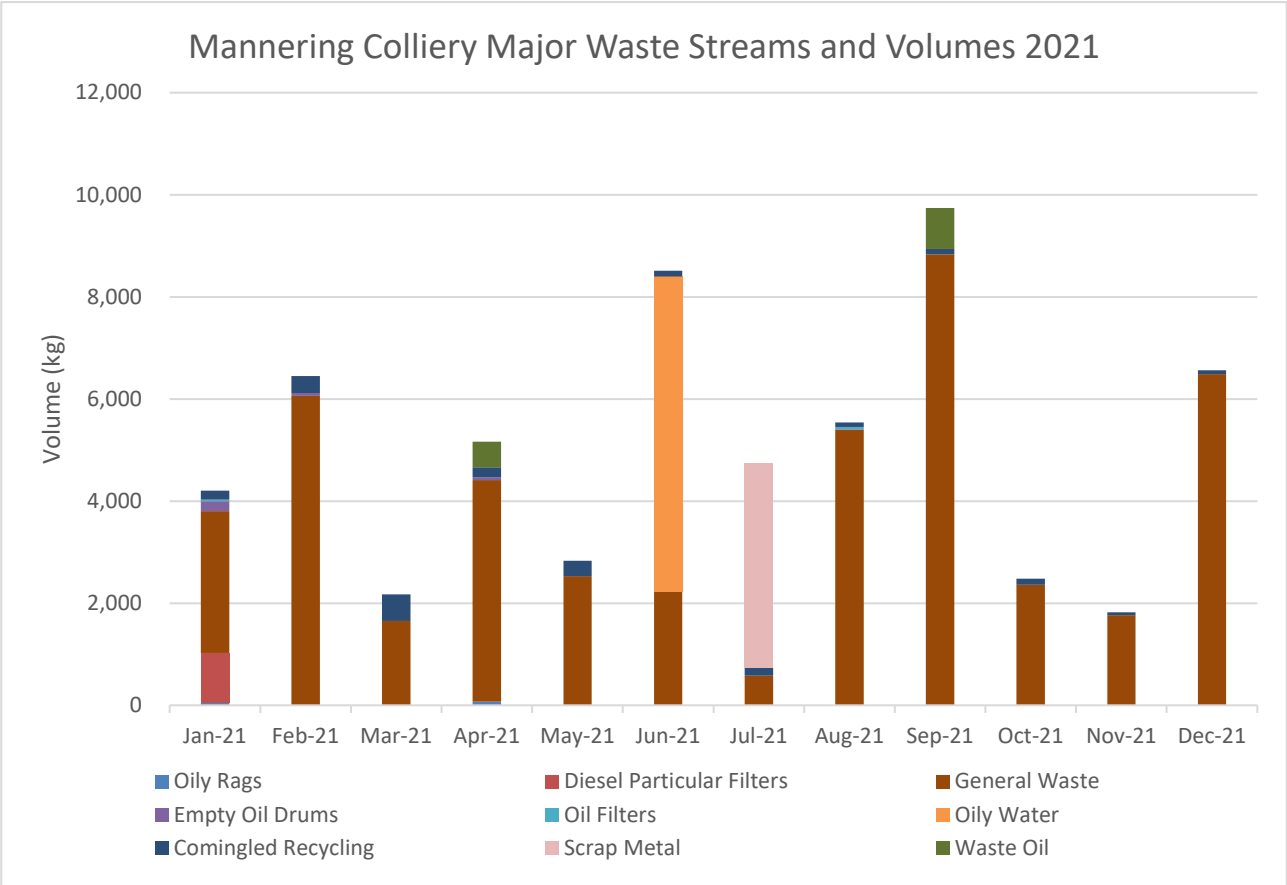
Delta Coal continued to implement a total waste management system for the site during the reporting period. The waste streams provided for in 2021 included:

- general waste – disposal (44.5 tonnes);
- oily water – recycle (6.18 tonnes);
- scrap metal – recycle (4 tonnes);
- comingled recycling – recycle (2.25 tonnes);
- waste oil – recycle (1.3 tonnes);
- diesel particulate filters – disposal (0.98 tonnes);
- empty oil drums – recycle (0.32 tonnes);
- oily rags – disposal (0.12 tonnes);
- oil filters – recycle (0.07 tonnes).

The total waste management system also involves weekly site inspections by the waste management contractor to facilitate effective waste management and continual improvement along with monthly reporting, with data from key waste streams presented in **Figure 8.** The total waste management system will continue during the next reporting period.

Sewage generated by on-site staff amenities is pumped directly from Mannering Colliery to Mannering Park Waste Water Treatment Works via a dedicated pipeline under a Trade Waste Agreement with Wyong Shire Council.

Figure 8: Waste Streams and Volumes for Mannering Colliery



4.7 Stockpiles

When operating, delivery of coal to VPPS occurs via dedicated overland conveyor directly to the power station. Stockpiling of coal at Mannering Colliery only occurs when VPPS is unable to accept coal deliveries from the mine. The stockpile has a nominal capacity of approximately 25,000 tonnes.

There were no changes to the coal stockpile area during the reporting period.

4.8 Hazardous Materials Management

A hazardous chemicals and dangerous goods register is maintained onsite to assist in management of risks to health and the environment. This register utilises an online chemicals database 'ChemAlert' which provides for ease of access to detailed information pertaining to hazardous chemicals and dangerous goods used onsite via a web portal.

There have been no significant changes made to the management of hazardous materials during the reporting period.

4.9 Other Infrastructure Management

No significant changes have been made to other infrastructure during the reporting period.

5 Actions Required from Previous Annual Review

5.1 Actions required from previous Annual Review

Delta Coal received formal acknowledgement from DPIE on 7 July 2021 that the site's 2020 Annual Review generally satisfied the project approval requirements. As identified in Table 6, there were some items required from DPIE's review and requested changes to future Annual Reviews.

Table 6: Actions required from the 2020 Annual Review

Item	Issue / Observation	Action	Status
1	Ensure heading numbering is consistent with the Department's Annual Review Guideline (October 2015)	2021 Annual Review prepared in accordance with Annual Review Guideline headings.	Completed within this Annual Review.
2	Ensure Section 10 'Independent Audit' includes an updated action plan for any outstanding recommendations from the latest IEA.	Section 10 Independent Audit in the 2021 Annual Review includes an updated action plan with outstanding actions from the 2019 Independent Environmental Audit (SLR 2019)	Completed within this Annual Review. Appendix 8: Independent Environmental Audit Action Plan
3	Updated Action Plan for the Independent Environmental Audit not provided.	Following an RFI from DPIE, Delta Coal provided and updated action plan from the Mannering Colliery Independent Environmental Audit.	Provided to DPIE for 2020 Audit via Major Projects Planning Portal on 11 August 2021. Addressed for 2021 Annual Review in item 2. . Appendix 8: Independent Environmental Audit Action Plan

5.2 Delta Coal Environmental Management System

Environmental management at Mannering is structured through the environmental management system based on the company's Environmental Policy. The site risk assessment of environmental aspects at Mannering forms the basis of environmental impact mitigation and control and will be reviewed throughout the life of the Colliery.

basis of environmental impact mitigation and control and will be reviewed throughout the life of the Colliery.

The Environmental Management Strategy provides the overview of the environmental management system which has been visually presented in **Figure 9**. Modification 5 to MP06_0311 was granted in June 2020 and allowed the combination of Chain Valley Colliery and Mannering Colliery management plans where practicable, a summary of combined environmental management plans is detailed below, as of the end of the reporting

period all combined management plans were pending approval with exception to the Environmental Management Strategy, approved in March 2021.

- Delta Coal Environmental Management Strategy (incorporating Environmental Monitoring Program);
- Delta Coal Noise Management Plan (combining the Mannering Colliery Noise Management Plan and Noise Monitoring Program and CVC Noise Management Plan);
- Delta Coal Air Quality and Greenhouse Gas Management Plan (combining CVC Air Quality Management Plan and Mannering Colliery Air Quality and Greenhouse Gas Management Plan);
- Delta Coal Heritage Management Plan (combining CVC Heritage Management Plan, Mannering Colliery Aboriginal Cultural Heritage Management Plan and Mannering Colliery Non-indigenous Management Plan); and
- Delta Coal Land Management Plan (includes Mannering Colliery Land Management and now incorporates CVC land management requirements).

Table 7 provides the status of CVC's Environmental Management Plans.

Figure 9 - Environmental Management Strategy Summary

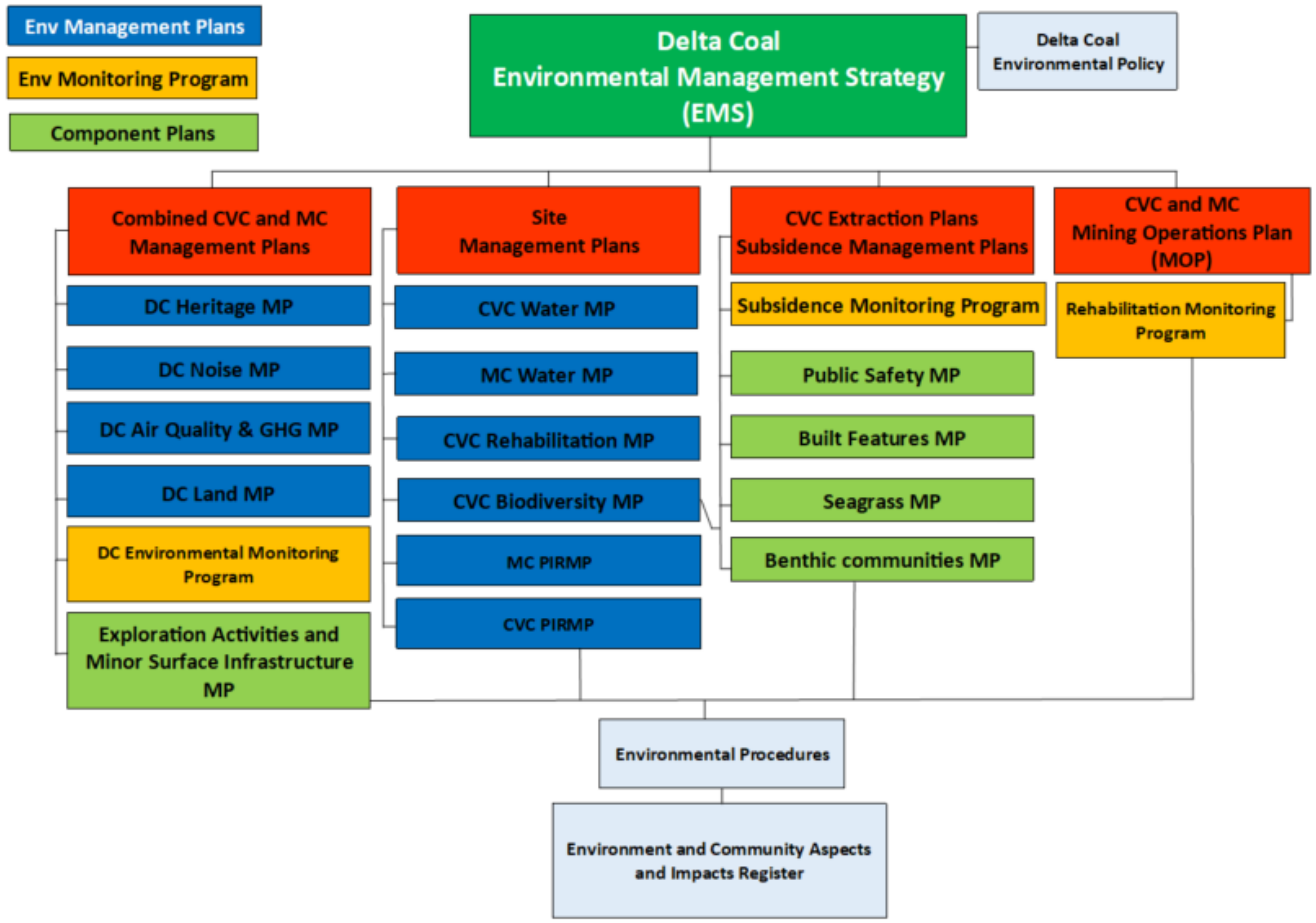


Table 7: Primary Elements of the Mannering Colliery Environmental Management System

Document Title	Reviewed	Status
Delta Coal Environment Policy	21st September 2020	Current
Delta Coal Environmental Management Strategy	March 2021	Being revised in 2022 prior to submission to DPIE for CVC MOD 4
Delta Coal Environmental Monitoring Program	N/A	Incorporated into combined Delta Coal Environmental Management Strategy
Mannering Colliery Water Management Plan	March 2020	Submission of revised Water Management Plan for Mannering Colliery anticipated in 2022 period.
Delta Coal Air Quality and Greenhouse Gas Management Plan	January 2022	Second revision of Delta Coal AQGHGMP submitted to DPIE for Planning Secretary approval on 24/01/2022 – pending approval.
Delta Coal Noise Management Plan	September 2021	Second revision of the Delta Coal NMP submitted to DPIE for Planning Secretary approval on 03/09/2021 – pending approval.
Mannering Colliery Aboriginal Cultural Heritage Management Plan	November 2019	Approved by DPIE Delta Coal Heritage Management Plan anticipated to be submitted for approval in 2022 and will replace the Aboriginal Cultural Heritage Management Plan
Mannering Colliery Non-indigenous Heritage Management Plan	November 2019	Approved by DPIE Delta Coal Heritage Management Plan anticipated to be submitted for approval in 2022 and will replace the Non-indigenous Heritage Management Plan
Land (including Bushfire) Management Plan	December 2019	Delta Coal anticipate submission of the over-arching Delta Coal Land Management Plan (including bushfire management) in 2022.
Rehabilitation Management Plan	August 2021	MOP 2020-2023 (Amendment 2) approved in August 2021.
Pollution Incident Response Management Plan	December 2021	Final
Environmental Inspection	April 2021	Final
Complaints Register	December 2021	Updated monthly on www.deltacoal.com.au

6 Environmental Performance

6.1 Air Pollution

The Mannering Colliery: Continuation of Mining Environmental Assessment by Hansen Bailey (March 2007), states the following summary of relevant predictions and trends associated with air quality, specifically depositional dust at Mannering Colliery:

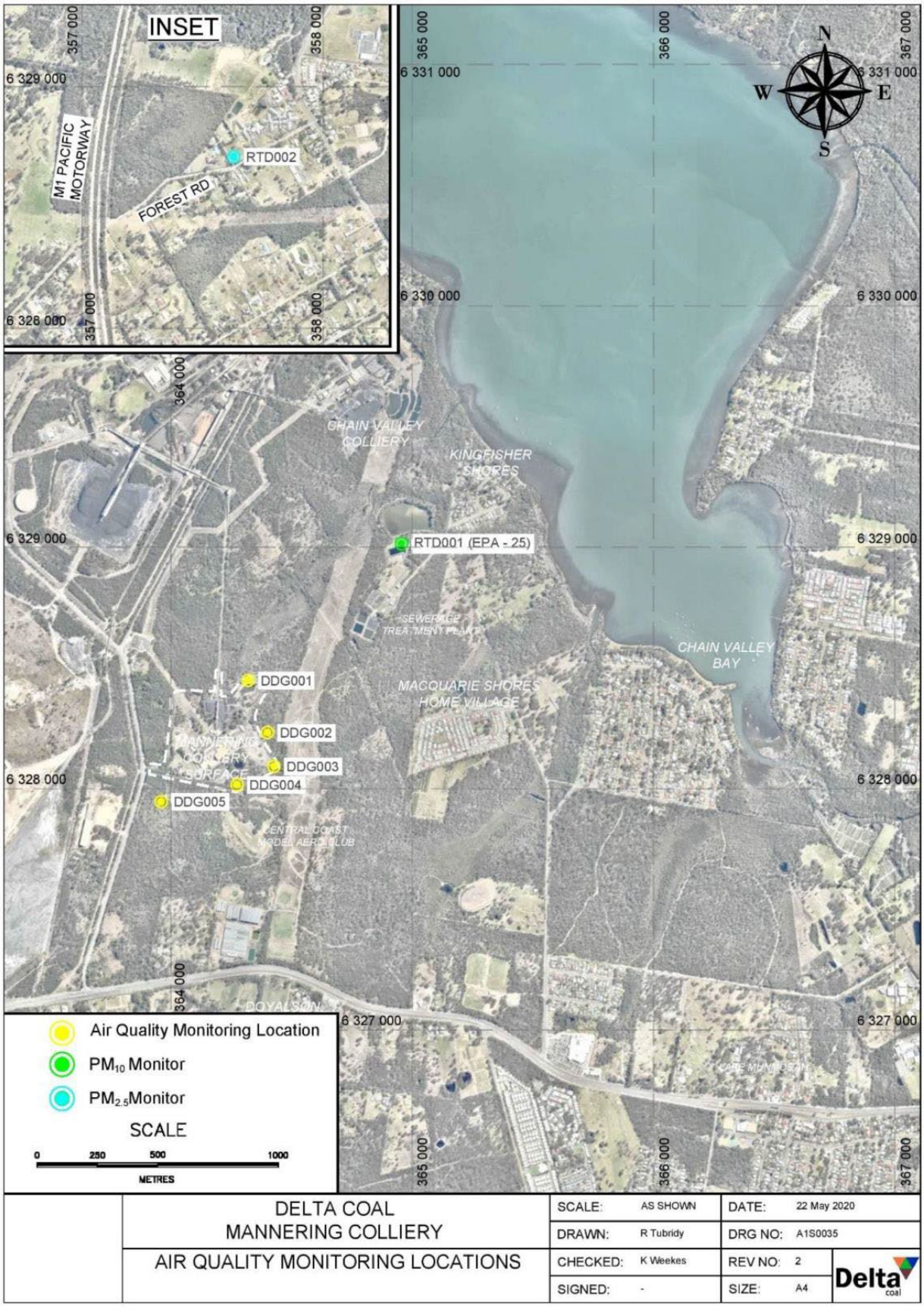
- The estimated total emissions from the mine and operation of the overland conveyor from Mannering to Vales Point Power Station will remain small, at less than 2 g/s. This level of emission will not affect the PM_{10}, TSP or deposition levels significantly at the closest residential location.
- The 24-hour PM_{10} concentrations will exceed the 50 $\mu g/m^3$ assessment criterion during periods when bushfires are contributing high concentrations of smoke to the air, or remote dust storms transport significant quantities of particulate matter into the Lake Macquarie air shed.
- Since the mine's ventilation system is already part of the existing operations and the effect of the emissions from the ventilation system will be captured in the historical monitoring data, the only new emissions (i.e TSP) will be 733 kg/y or 0.023 g/s, which is even less than the 1.5 g/s due to all sources.
- In the 2015 modification, the TSP figures presented in the 2007 assessment were contemporised and incorporated revised assumptions for the operation. The emission rate as a result of the modification, though increasing marginally, is still below the previously identified 2 g/s. As a consequence, it was concluded that this will not result in any noticeable change in the concentrations of particulate matter at sensitive receivers.
- To facilitate Modification 5 (June 2020), potential TSP emissions were modelled to consider a potential increase in coal handling at MC (assumed 20% of total produced). While increasing marginally, the emissions rate as a result of the modification was modelled to remain below 2 g/s.

In accordance with Conditions 16, Schedule 3 of MP06_0311, it must be ensured that all reasonable and feasible avoidance and mitigation measures are employed so that particulate emissions generated by Mannering Colliery do not cause exceedances of the criteria listed in **Table 8** at any residence on privately owned land. Air quality monitoring locations are presented on **Figure 10**.

Table 8: Mannering Colliery, Air Quality Criteria

Pollutant	Averaging Period	Criterion	
Particulate matter < 2.5 µm ($PM_{2.5}$)	Annual	[a, c] 8 $\mu g/m^3$	
	24-hour	[b] 25 $\mu g/m^3$	
Particulate matter < 10 µm (PM_{10})	Annual	[a, c] 25 $\mu g/m^3$	
	24-hour	[b] 50 $\mu g/m^3$	
Total suspended particulate (TSP) matter	Annual	[a, c] 90 $\mu g/m^3$	
Deposited dust	Annual	[b] 2 g/m^2/month	[a] 4 g/m^2/month

Figure 10 - Mannering Colliery Air Quality Monitoring Locations



6.1.1 Depositional Dust

To measure the effectiveness of the Mannering dust control measures, a network of dust depositional monitoring gauges has been established for surface operations and coal stockpile dust emissions. Depositional gauges are located within the Mannering perimeter, a total of 5 depositional gauges are utilised. Dust deposition gauge locations are shown on **Figure 10**.

Table 9 describes the location of dust monitoring points as outlined in EPL 191 Condition 2, P1.1.

Table 9: Depositional dust monitoring points

Site ID no.	EPA ID no.	GPS Coordinates	Location
DDG001	3	Easting 364319 Northing 6328448	North-west of final dam
DDG002	4	Easting 364399 Northing 6328232	North of hardstand area
DDG003	5	Easting 364427 Northing 6328092	North-east of hardstand area
DDG004	6	Easting 364273 Northing 6328016	East of car park
DDG005	7	Easting 363959 Northing 6327946	South of main site entry

During the reporting period monitoring was undertaken in accordance with the approved Air Quality Management Plan and EPL 191 licence conditions continued. Depositional dust monitoring results are shown in **Table 10**. The rolling annual averages for 2021 and longer term annual average results (from 2006 - 2021) are presented on **Figure 11** and **Figure 12** respectively.

With respect to the ensuing table and figures, any contaminated results would be shown in **Table 10**. However, these results would not be included within the annual averages and present as zero values in the monthly graphical results in **Figure 8**. Contamination was observed in dust gauge DG3 on two occasions, with the contamination being confirmed by the analysing laboratory and the non-compliances reported to the DPIE, NSW EPA and Resources Regulator, regulatory authorities made either no comment or noted the contamination of the gauge.

No complaints relating to dust or air pollution were received in the reporting period.

Table 10: Depositional dust results for 2019

Month	DG1 Insoluble Solids	DG2 Insoluble Solids	DG3 Insoluble Solids	DG4 Insoluble Solids	DG5 Insoluble Solids
Jan-21	0.9	0.6	0.8	0.5	0.5
Feb-21	0.5	0.5	0.5	0.6	0.8
Mar-21	0.3	0.4	0.3	0.9	0.4
Apr-21	0.4	0.3	1.2	0.7	0.4
May-21	2.1	0.4	81.9 c	0.4	0.3
Jun-21	0.6	0.5	0.4	0.3	0.1
Jul-21	0.4	0.6	0.6	0.5	0.3
Aug-21	1.1	0.9	1.5	1.4	0.8
Sep-21	0.6	0.4	3.9	0.5	0.4
Oct-21	1.0	0.8	0.8	0.6	0.5
Nov-21	0.5	0.6	1040.0 c	1.0	0.3
Dec-21	0.7	0.8	0.6	0.9	0.6
Minimum	0.3	0.3	0.3	0.3	0.1
Maximum	2.1	0.9	3.9	1.4	0.8
Annual Average	**0.8**	**0.6**	**1.1**	**0.7**	**0.5**

Contamination of dust gauge DG3 occurred twice within the 2021 period, contamination was determined from laboratory analysis and reported to the DPIE, NSW EPA and Resources Regulator upon Delta Coal becoming aware of the non-compliance. Contaminated samples have been excluded from annual average data.
Increase by 2.4g/m2/month, greater than 2g/m^2/month increase at DG3 between August -September monitoring.

Figure 11: Monthly Depositional Dust Results 2021

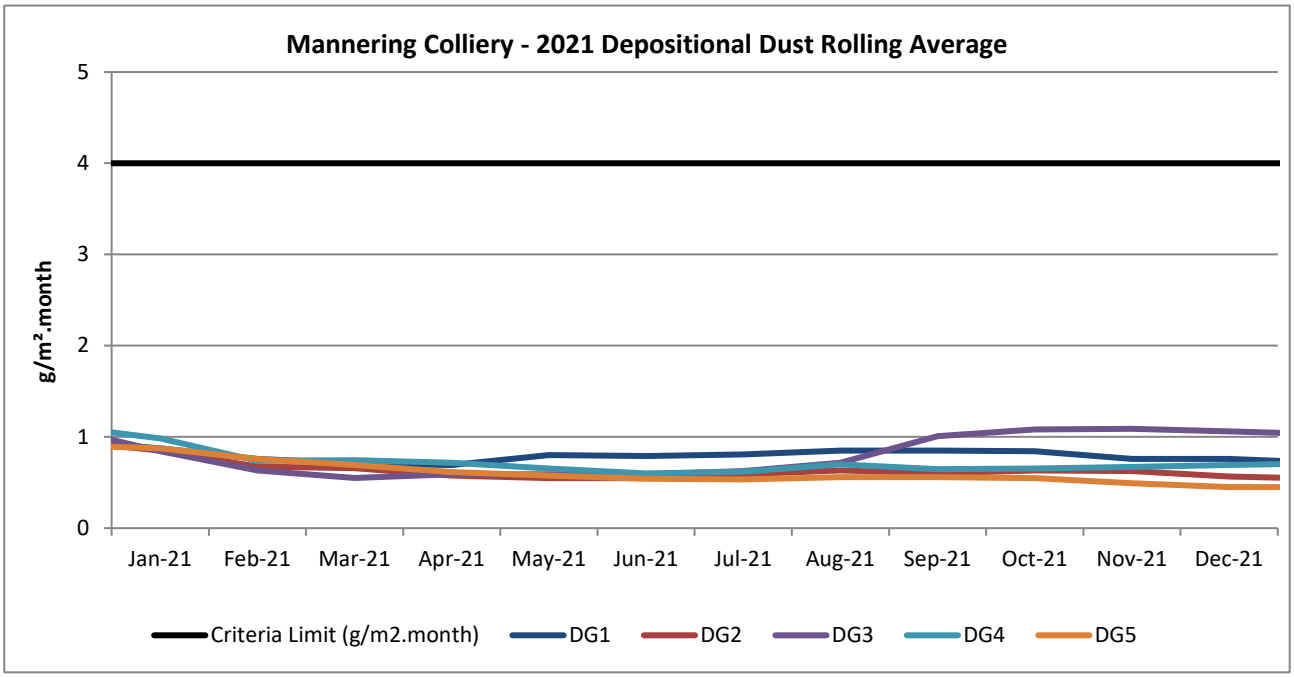
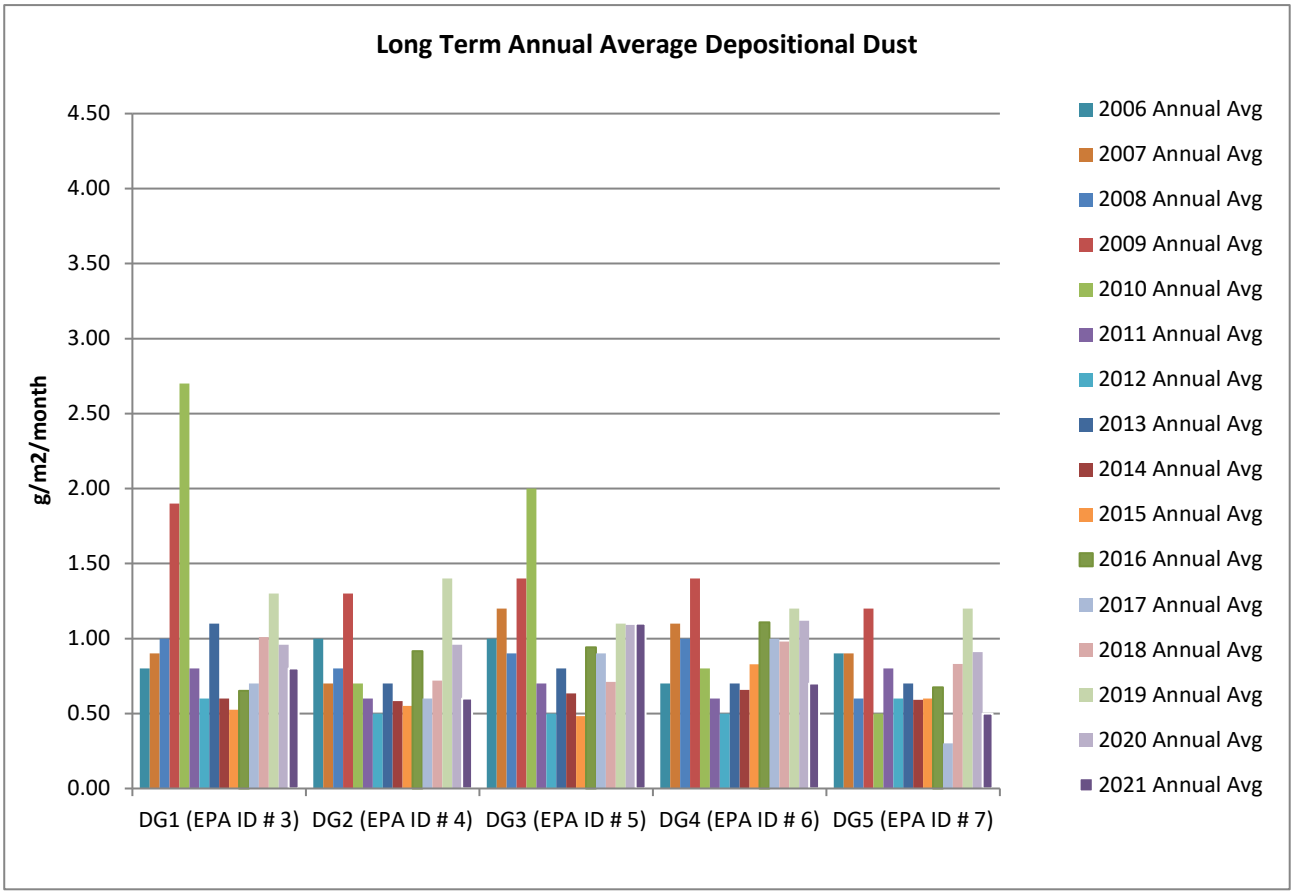


Figure 12: Rolling Annual Average Dust Depositional Results 2021



Air quality monitoring results in the 2021 reporting period show that air monitoring criteria has been met (with exception to contamination at DG3) and the recorded levels do not exceed the prescribed maximum increase in deposited dust levels of 2 g/m2/month or maximum level of 4 mg/m2/month, with average annual results below 1.1 g/m2/month at all monitoring locations.

A comparison of annual average results from 2021 compared with prior years is provided in **Figure 12**. A decrease in annual average values was observed at all locations, with 2021 depositional dust levels comparable with years the colliery was in care and maintenance with no production or coal handling undertaken at the site (2013-2015).

In comparison to the predicted trends and EA data, the AR reporting period for air quality is consistent and does not reflect any exceedances within the reporting period.

6.1.2 PM_{10}

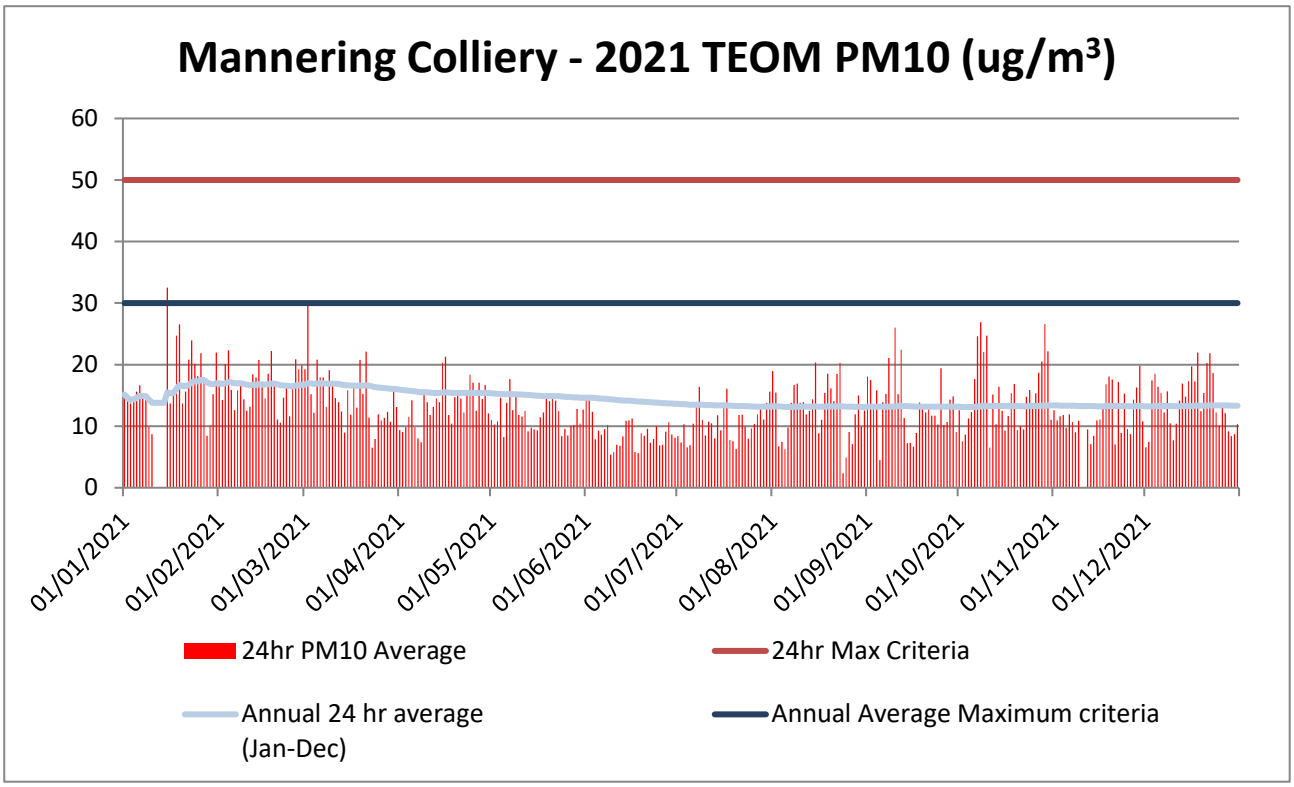
Modification 5 to MP06_0311 in June 2020 introduced the requirement to monitor PM_{10} particulate emissions for Mannering Colliery.

Delta Coal monitors PM_{10} concentrations at a real-time air quality monitor which was installed in late 2013 within the Mannering Park Wastewater treatment Plant site. The site is identified on **Figure 10** as RTD001.

Data capture from the real time monitor for the 2021 period was 98.4% with 359 days monitored of 365 available days. There were no exceedances of the EPA short-term 24hr average criteria (50 µg/m^3) during the reporting period.

The annual average criterion (25 µg/m^3) was not exceeded during the 2021 period. Daily results, the rolling average and relevant limits are shown on **Figure 13.** Daily (24-hour) results ranged from a minimum of 2.3 µg/m^3 to a maximum of 32.5 µg/m^3 during 2021. The 2021 annual average of 24hr PM_{10} results was 13.3 µg/m^3.

Figure 13 - PM_{10} Particulate Monitoring at Mannering Park Waste Water Treatment Plant



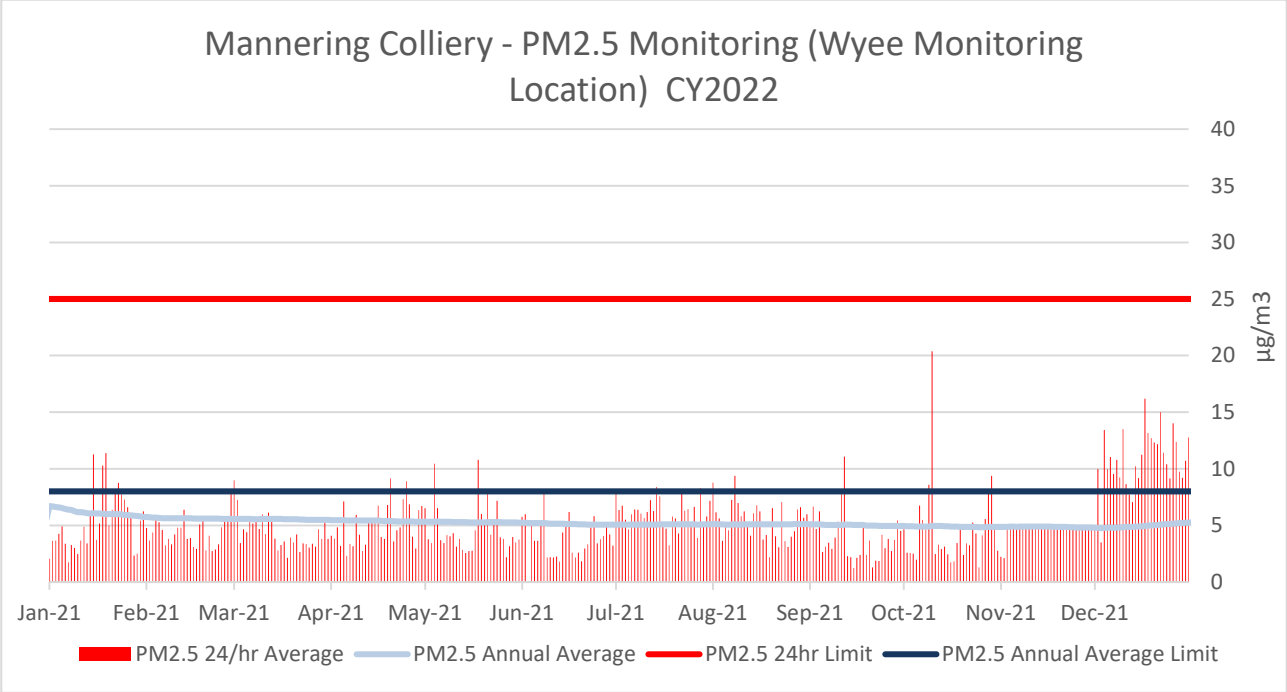
In comparison, 2020 PM_{10} results ranged from a minimum of 2.8 µg/m^3 to a maximum of 92.2 µg/m^3 and the annual average of 24hr PM_{10} results was 16.1 µg/m^3.

6.1.3 $PM_{2.5}$

In accordance with Table 3, Condition 16 of Schedule 3 MP06_0311 (MOD 5) Delta Coal commenced monitoring of $PM_{2.5}$ concentrations following the approval of Modification 5 to SSD-5465. $PM_{2.5}$ monitoring for the 2021 period utilised Delta Electricity's $PM_{2.5}$ Beta-attenuation monitor (BAM) located at Tingley Road, Wyee as shown on the inset on **Figure 10**.

Delta Coals current arrangement to monitor $PM_{2.5}$ has been proposed in the Delta Coal Air Quality and Greenhouse Gas Management Plan submitted in September 2020, with an RFI provided in August at the plan resubmitted in November 2021, the management plan is pending Planning Secretary approval at the time of preparing this Annual Review (March 2022). $PM_{2.5}$ concentrations for the 2021 reporting period have been

displayed on **Figure 14**. It is noted that in November, monitoring ceased due to technical issues with the Beta-attenuation monitor, in accordance with the Delta Coal Environmental Monitoring Program the data was substituted with annual average values.



6.2 Erosion and Sedimentation

Mining operations and significant rainfall events have the potential to cause erosion and/or generate sediment and impact on the surrounding catchment areas. These were unchanged during the reporting period and consist of:

- the exposed areas of the laydown areas, workshop and internal access tracks
- coal stockpiles and coal handling equipment areas; and
- vehicle and equipment movements.

The site includes a series of 8 silt traps. These are inspected weekly for functionality and maintenance purposes. Identified actions are provided to the relevant site personnel by the site Environment and Community Coordinator or his delegate for completion as required.

Water not managed by the clean water diversion structures enters the sediment ponds. The water draining from the hardstand catchment area reports to the sediment basin, Pond 1. Pond 1 will if required overflow into Pond 2, which then flows into Pond 3 and then Pond B prior to being discharged from site via LDP001. Total suspended solids, electrical conductivity, pH, and oil and grease concentrations are monitored weekly at LDP1 point of the final dam prior to release (refer to **Section 6.3** for results).

Runoff from the coal handling and stockpile area is contained by a sedimentation-based sump system that helps capture the coal fines prior to entering sediment Pond 1 below the stockpile. Runoff from this area can

contain a significant amount of coal fines due to the nature of the activities. This Pond along with Ponds 2 and 3 also function as primary settling ponds before discharging into Pond B.

Improvements to the existing flocculent system at Mannering Colliery were completed in June 2015 following a field trial to determine the most effective flocculent product (based on site water quality conditions). The system implemented during the 2015 reporting period consists of solid flocculent blocks, situated at four locations leading into, or within, the sediment pond system. The flocculent blocks are situated at the following four locations:

- pipeline entry of hardstand area catchment into Pond 1;
- concrete drainage channel from the coal stockpile catchment into Pond 2 (Photo 1);
- outlet of the subsurface drainage system leading into Pond 1; and
- at the outlet of the concrete pipe transferring water into the final dam (Pond B).

Photo 1. Flocculent block located adjacent the coal stockpile area.

The flocculant system was utilised throughout 2021 to manage suspended solid material.

Both volumetric flow and water quality results from the licenced discharge point continue to be reported on a monthly basis on the Delta Coal website.

6.3 Surface Water Pollution

Monitoring of surface water discharged from LDP001 is undertaken by an external contracting company with sampling occurring monthly and weekly during discharges. **Section 7** contains an overview of the monitoring

results and discusses water quality, including the pH, total suspended solids (TSS) and total oil and grease monitoring which occurs weekly during discharges.

6.4 Groundwater Pollution

Water in underground workings is generated from ground water which is released from the strata into mine workings along with process water. The collected water is pumped through an extensive goaf system that allows filtration and settlement. The water is then pumped from the mine into the surface settlement pond systems prior to discharge via EPA licensed discharge point 1 (LDP001).

No evidence of groundwater pollution and no known groundwater pollution have been identified at Mannering during the reporting period.

6.4.1 Contaminated Land

Mannering has a number of primary diesel and oil storages, which are bunded. There were no significant spills during the reporting period or reports of polluted land. A Phase One Environmental Site Assessment (ESA) has been completed which identified areas of potential contamination. Phase 2 investigations and assessment are likely to be carried out over these areas during the decommissioning stage at end of mine life. Potential areas of concern are the land surrounding the diesel storage and the surface workshop. The development of a Remedial Action Plan following the Phase 2 assessment would occur, if required, based on the results from the site assessment.

The NSW EPA requested a PFAS sampling report in 2018 and this sampling and subsequent report was provided.

6.5 Threatened Flora

In accordance with the EA (2007), Mannering's environmental footprint, specifically the surface facilities will remain unchanged and any mining activities undertaken at any point will have no noticeable surface implications. There will be no impact on existing flora or fauna within the Environmental Assessment Boundary. As such, no known impacts to threatened flora during the reporting period as a result of the Colliery's operations.

6.6 Threatened Fauna

No clearing works were undertaken during the reporting period and as a result potential to impact to threatened fauna or other native fauna was minimised.

As discussed in **Section 4.9** there were no significant changes to the existing infrastructure. The sites footprint remained unchanged during the reporting year.

6.7 Weed Management

Identification, treatment and ongoing monitoring are the key steps in managing weeds that surround the surface infrastructure area.

During the reporting period Delta Coal engaged a land-care contractor to undertake a weed control campaign across its operational areas. The main weeds targeted included Bamboo, Lantana, Bitou Bush, and Pampas Grass. See **Appendix 3** for the Weed Action Plan. Delta Coal will be continuing the weed control program in the 2022 reporting period.

6.8 Blasting

There was no surface blasting undertaken during the reporting period. From time to time, small amounts of explosives are used underground to remove geological intrusions into the coal seam to create overcasts or inter-seam shafts. This blasting is imperceptible from an environmental impact point of view.

6.9 Operational Noise

The current Noise Management Plan for Mannering Colliery was revised and approved in November 2019. Delta Coal submitted a revised Noise Management Plan in 2020 for consultation and DPIE approval, however had not been approved at the end of the 2021 reporting period. Noise monitoring is currently undertaken on a monthly basis, which increased from quarterly in November 2019. Noise monitoring results have been compiled in **Appendix 4**

Noise monitoring locations are shown on **Figure 11**, and criteria are detailed in **Table 11**.

Table 11: Noise Monitoring Locations and Criteria for Mannering Colliery

Location	Coordinates	Day LAeq(15 min)	Evening LAeq(15 min)	Night LAeq(15 min)	Night LA1(1 min)
RA1	364646E 6327221N	40	40	40	49
RA2	365164E 6328332N	40[1]	40[1]	40[1]	45[1]
RA3	365069E 6328953N	39	39	39	49

[1] Note: Criteria for receivers represented by monitoring location RA2 were amended (reduced) with Modification 5 to MP06_0311 in June 2020, criteria adopted for monitoring location RA2 were updated within the revised Delta Coal Noise Management Plan and adopted immediately. Noise limits were reduced by 5 dB(A) for LA_{eq} all periods and 2 dB(A) for $LA_{1\ min}$ limits.

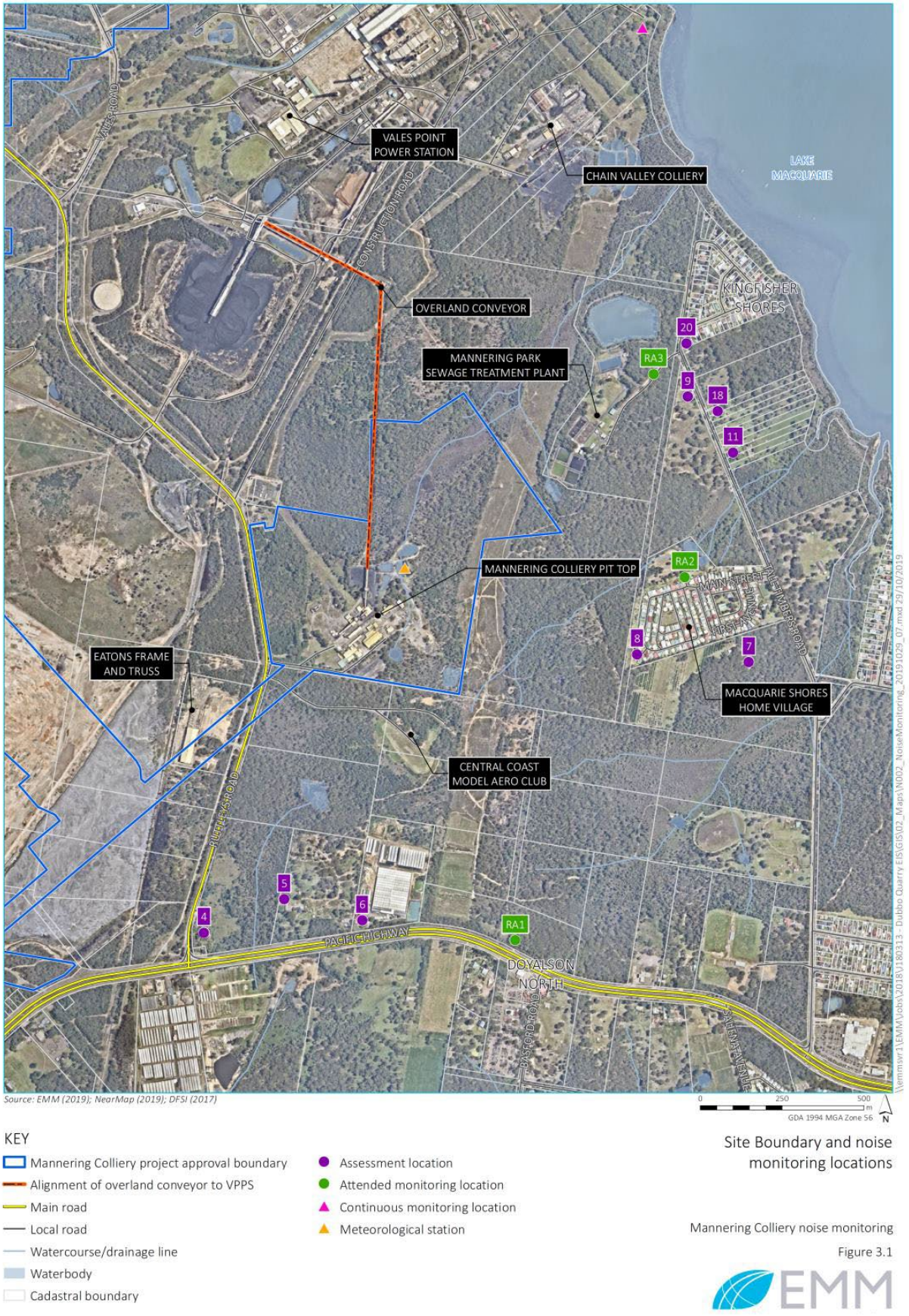
There were 38 community complaints received relating to noise during the reporting period. Further details on complaints are provided in **Section 9** and **Appendix 6**.

Noise emissions from Mannering Colliery are currently managed in accordance with the approved Noise Monitoring Program. In summary, within the Annual Review reporting period, noise from Mannering was found to be compliant at the three noise monitoring locations, during all periods.

Noise monitoring results based on monitoring during the AR reporting period and the EA, generally reflect that Mannering Colliery is not the dominant source of environmental noise within the vicinity. In accordance with the Hanson Bailey (2007) report within the EA, and based on environmental assessment and historical noise levels it is considered that Mannering Colliery is operating within acceptable noise emissions.

In accordance with Condition 3(d)i of Schedule 3 MP06_0311, Delta Coal installed an unattended directional noise logger in February 2020 at Short Street, within Macquarie Shores Home Village adjacent noise monitoring location RA2. The logger has remained in operation throughout the remainder of the reporting period and has real-time warning and alarming systems to assist in determining real-time noise emissions of Mannering Colliery. The logger is calibrated on a monthly basis and unattended noise monitoring results are compared with attended noise monitoring results to indicate the accuracy of the logger data.

Figure 14: Noise Monitoring Locations for Mannering Colliery



6.10 Noise Mitigation Projects

Noise monitoring at the site is undertaken on a monthly basis in accordance with the requirements of the site MP06_0311 and the site's Noise Monitoring Plan.

In December 2021 Delta Coal undertook maintenance of crushing hammers within the CHPP for the purpose of reducing start-up, stopping and operational noise.

Delta Coal undertook significant noise mitigation projects in the 2020 period including the decommissioning of the rotary breaker (identified as the dominant noise from site) and enclosure of all openings in the CHPP. Noise modelling undertaken following the decommissioning of the rotary breaker indicated a worst-case emission of 39 dB(A) from Mannering Colliery at the RA2 monitoring location.

In 2019 DPIE-Compliance initiated Delta Coal to conduct a Noise Compliance Report with a noise monitoring methodology targeting the night-time period between midnight and 6am whilst the Mannering Coal Plant is running. In order for the noise monitoring period to capture appropriate operational conditions, the coal processing plant was operated during the midnight and 6am period on this night, with the conclusions considering the operation to be generally compliant with consented noise limits at the time. In order for the noise monitoring period to capture appropriate operational conditions, the coal processing plant

6.11 Visual, Stray Light

Mannering Colliery undertook an external lighting audit during the 2019 reporting period following a recommendation from the independent environmental audit. The lighting audit concluded that all lighting at Mannering Colliery complies with the Australian Standard 4282 – Control of Obtrusive Lighting Effects of outdoor lighting.

In accordance with the standard no lights are directed offsite or installed to shine above the horizontal. In addition, the nearest residents to the site are approximately 800 m from the site. No lighting or visual amenity complaints were received during the reporting period and no additional lighting was installed during the report period.

6.12 Heritage

As there have been changes to the operational areas on site during the reporting period and there are no identified Aboriginal sites within the pit top areas, there has been no potential for activities at Mannering Colliery to negatively impact on Aboriginal sites during the reporting period.

The Aboriginal Cultural Heritage Management Plan (ACHMP) was updated and approved in November 2019 and was completed in consultation with Aboriginal stakeholders and relevant government agencies.

The Non-Indigenous Cultural Heritage Management Plan (NICHMP) was updated and approved in November 2019. It identifies that there are no items of cultural significance within the pit top area. However, according to

the environmental assessment within the EA (Hanson Bailey 2007), the following items have been identified of heritage significance within the Project Approval area:

- Morisset Hospital Precinct (listed under the NSW *Heritage Act* and Lake Macquarie City Council LEP); and
- Eaton's Bulk Store (listed under the Wyong Shire Council LEP).

There were no activities undertaken on site that had the potential for impact to either of these heritage features.

Delta Coal intends to submit an updated Heritage Management Plan encompassing Mannering Colliery and Chain Valley Colliery in the 2022 reporting period.

6.13 Spontaneous Combustion

Current stockpiling of coal is minimal, therefore reducing the risk of spontaneous combustion occurring within the pit top area.

Underground controls to mitigate risk of spontaneous combustion include:

- Spontaneous combustion is considered at the mine design phase.
- The mine has developed Trigger Action Response Plans to identify and manage any deviation from normal operating conditions with respect to indicators of spontaneous combustion.
- The mine monitors gases using a multipoint tube bundle gas analysis system.
- The mine conducts regular underground inspections by Mining Officials.
- A self-heating event was identified and has been managed at Mannering Colliery over the prior years.

The risk potential for spontaneous combustion associated with the coal stockpiles is assessed to be low. This determination was based on the following:

- the coal on the stockpile is assumed to be Fassifern Seam coal, since this is the only coal mined at the colliery since the early 1980's. The Fassifern Seam has a medium intrinsic spontaneous combustion reactivity based on R70 self-heating rate testing from the neighbouring Chain Valley Mine (around 3km distance - UniQuest Project No: 00293 Report – August 2012, attached);
- the stockpiles have been in-situ for at least 3 years with no known reports or signs of spontaneous combustion;
- the stockpile is and will continue to be regularly inspected; and
- temperature probing of the stockpile undertaken during the reporting period indicated a maximum temperature of less than 25 degrees C. The stockpiled coal has very high moisture content since most stockpiles are water saturated under the surface. These two factors, when combined, significantly reduce the likelihood of the coal self-heating to the point of thermal runaway.

6.14 Bushfire

The pit top area contains vegetation which is considered to be bushfire prone land (Category 1) as shown on **Figure 15**. **Figure 16** shows the approved APZ area.

As required by the Land Management Plan for Mannering, regular inspections were undertaken to ensure bushfire risk is managed appropriately. Delta Coal has, and will continue to, implement appropriate controls to assist in the management of bushfires that threaten the Operation.

In the 2021 reporting period there were no instances of bushfire in the immediate vicinity of the site.

Figure 15 - Bushfire Prone Land Map for Mannering Colliery and Surrounds (Source: ePlanning Spatial Viewer – Bushfire Prone Land Non-EPI, accessed 23/03/2022)

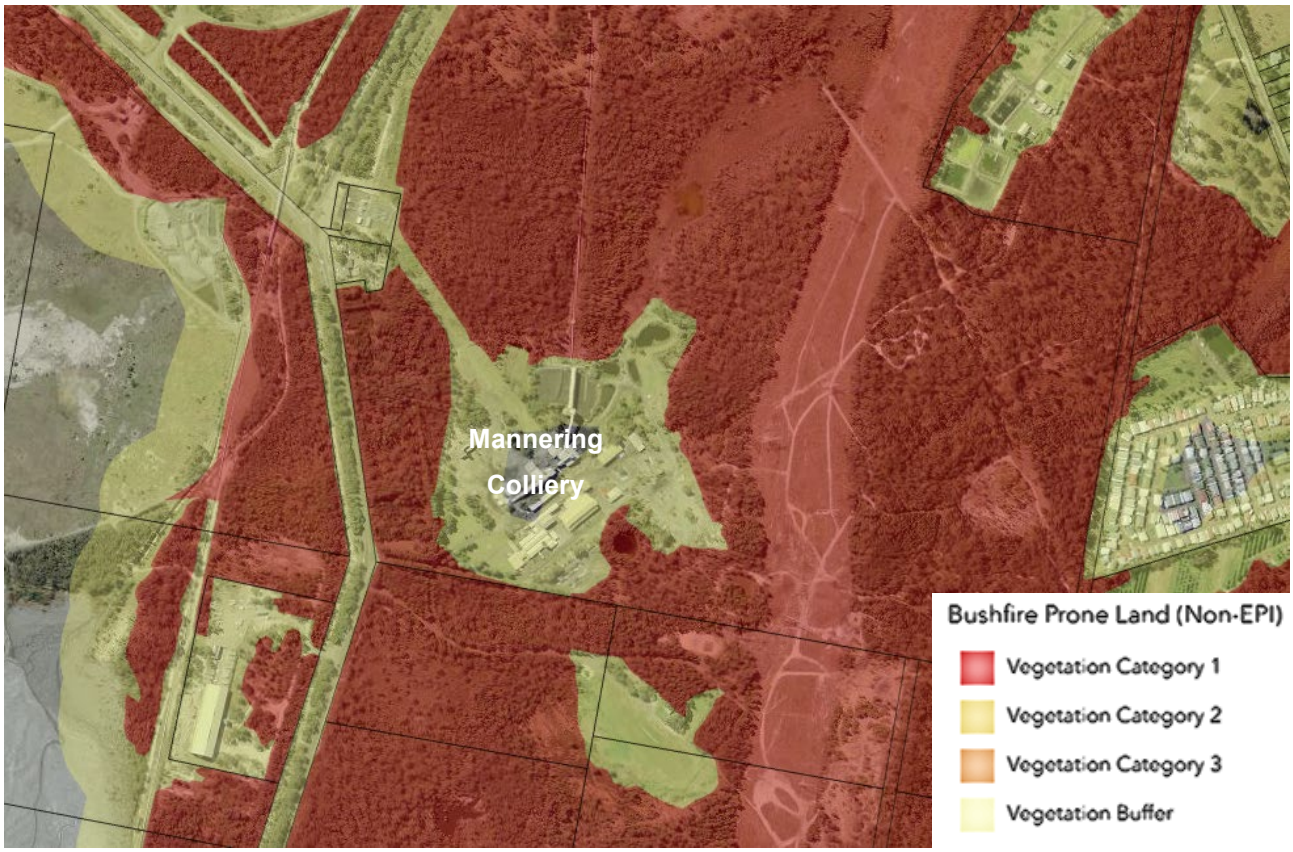
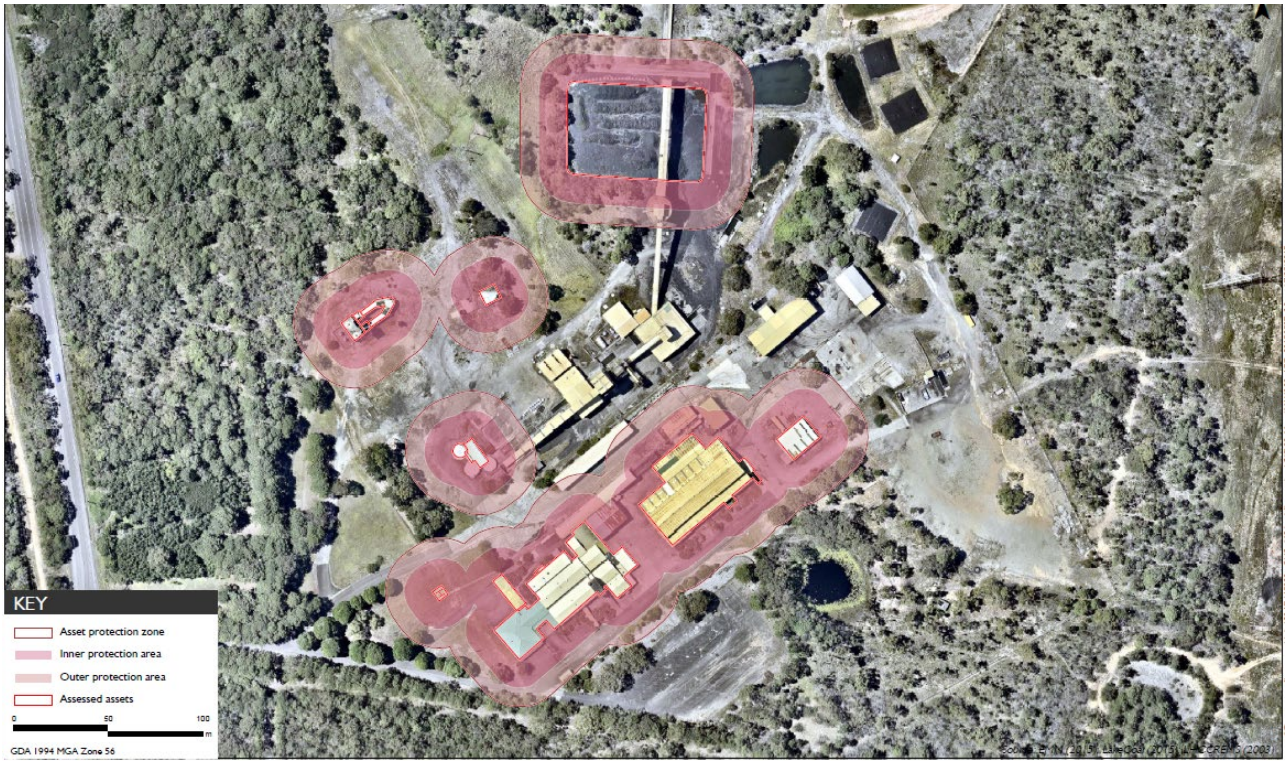


Figure 16: Approved APZ's for Mannering Colliery (SSD-5465 Mod 5)



6.15 Mine Subsidence

Previous subsidence calculations by Centennial Coal using Bord and Pillar mining methods on the approved project lease area give a subsidence figure of <20 mm of cumulative subsidence on the surface. At the commencement of mining operations associated with the link road project between CVC and MC, a subsidence monitoring program was implemented. Due to the sensitive nature of the infrastructure being undermined (i.e. VPPS), subsidence monitoring was undertaken on a weekly basis within a 250 m radius of the mining activity. At the completion of mining, the frequency of subsidence monitoring at MC was reduced to an annual survey. Monitoring results have been presented in the Delta Coal Annual Subsidence Report 2021 (**Appendix 5**) and indicate <20 mm subsidence recorded to date. A small number of monitoring points have recorded values to >20mm movement since the baseline surveys, these appear to be damaged/disturbed and located in areas where vehicle & pedestrian traffic paths are present.

There was no mining undertaken at Mannering Colliery during 2021.

6.16 Hydrocarbon Contamination

All hydrocarbon materials are stored within a dedicated bunded store building, with emergency spill stations located adjacent to the area. Spill stations are checked weekly to ensure they remain adequately stocked and serviced as required by an external contractor.

Training for spill response is provided within the site induction program, which is a prerequisite before undertaking work at Delta Cal sites. Mannering Colliery also has a Pollution Incident Response Management

Plan in place as well as a duty card for pollution event first responders, to manage and respond accordingly to pollution incidents. The Pollution Incident Response Management Plan was tested and reviewed during the reporting period.

There were no incidents of hydrocarbon contamination, or any significant spills which occurred during the reporting period.

6.17 Methane Drainage and Greenhouse Gases

Methane levels in the Fassifern seam are a relatively low-level content such that no pre or post methane drainage is required to maintain safe levels underground. All methane liberated in the mine enters the main ventilation air and is ventilated via the main fans.

The Mannering Colliery main fans continued to run during the reporting period, albeit at a lower flow than would usually be the case if production was occurring. Monthly ventilation surveys, which document methane concentrations and mine ventilation flow also continued throughout the reporting period.

Methane emissions, and other greenhouse gas emissions, from the Colliery are reported annually to the Clean Energy Regulator in accordance with the *National Greenhouse and Energy Reporting Act 2007* (NGER Act). The emissions from the most recent reporting under the NGER Act are presented in **Table 13**. Note that the data from **Table 13** is presented through to the end of the 2020 financial year format as per NGER Act reporting requirements.

Table 12: Mannering Colliery Greenhouse Gas Emissions 1 July 2020 – 30 June 2021 NGER Reporting Period

Mannering GHG Emissions	
Total (Scope 1 and 2)	91,770 tonnes CO_2-e

6.18 Public Safety

Public safety is primarily a concern around the surface facilities at Mannering Colliery. There is one sealed access road into the area which has chain mesh and barbed wire security fencing and a set of lockable gates. The gates can be closed should the need arise to stop access to the site. These gates may be closed and locked at times of when there is no expected traffic, such as during the night time period but would otherwise remain open for deliveries, employee and authorised visitor access.

A security firm is engaged to undertake scheduled site security checks and remote alarm monitoring and reporting. The security checks are random, but generally undertaken at times of higher unauthorised access risk such as nights, public holidays and weekends.

Public access will be monitored and managed during operation of the mine through the standard incident reporting process which would include reporting of unauthorised access.

A visitor login system onsite ensures that authorised visiting members of the public are assigned a site contact and that upon login the site contact is notified immediately by email of the visitors' presence onsite.

During the reporting period there were no public safety incidents of injury to the public as a result of Delta Coal's operations.

During 2021 a security presence and patrols were maintained while Mannering Colliery was operating.

6.19 Other Issues and Risks

There were no other environmental issues or risks encountered during the reporting period.

6.20 Summary of Environmental Performance

In summary, environmental performance during the reporting period for Mannering is detailed in **Table 16**.

Table 13: Environmental Performance

Aspect	Approved criteria/ EIS prediction	Performance during the reporting period	Trend/ key management implications	Implemented/ proposed management actions
Noise	Section 7.5 Acoustics (EA, Hanson Bailey 2007)	During the 2021 reporting period, there were no exceedances of noise criteria.	Main trend 2021: Noise monitoring results based on monitoring during the AR reporting period and the EA, generally reflect that Mannering Colliery is not the dominant source of environmental noise within the vicinity. Vales Point Power Station is audible to receivers to the north and the Pacific Highway is also audible from the south.	The noise management plan will continue to be implemented to avoid any future exceedances.
Blasting	N/A	N/A	N/A	N/A
Air Quality	Section 7.7 Air Quality *(EA, Hanson Bailey 2007)*	In accordance with approved criteria and EIS predictions	Main trend (depositional dust results 2021): Based on modelling in the EA, total dust emissions from Mannering are expected to be minor, at less than 2 grams/m^2/month. The depositional dust results for 2021 reflect this, remaining minor at most locations for the reporting period.	The air quality monitoring program, in accordance with the approved management plan, were implemented throughout the reporting period. Results are detailed in **Section 6.1**. Management of air quality will continue to be monitored in an effective manner.
Biodiversity	Section 7.12 Flora & Fauna	In accordance with approved criteria and	N/A	N/A

	(EA, Hanson Bailey 2007)	EIS predictions/surveys. No predicted impact of biodiversity items was identified.		
Heritage	Section 7.13 and 7.14 (EA, Hanson Bailey 2007)	In accordance with approved criteria and EIS predictions/surveys. No impact of aboriginal or non-aboriginal heritage items was identified.	N/A	N/A

7 Water Management

7.1 Licenced Mine Dewatering

Delta Coal holds a water access license WAL40461 under the *Water Act, 1912*, which permits the industrial dewatering of groundwater up to volume of 450 megalitres (ML) per year. The following details groundwater extraction volumes during the reporting period.

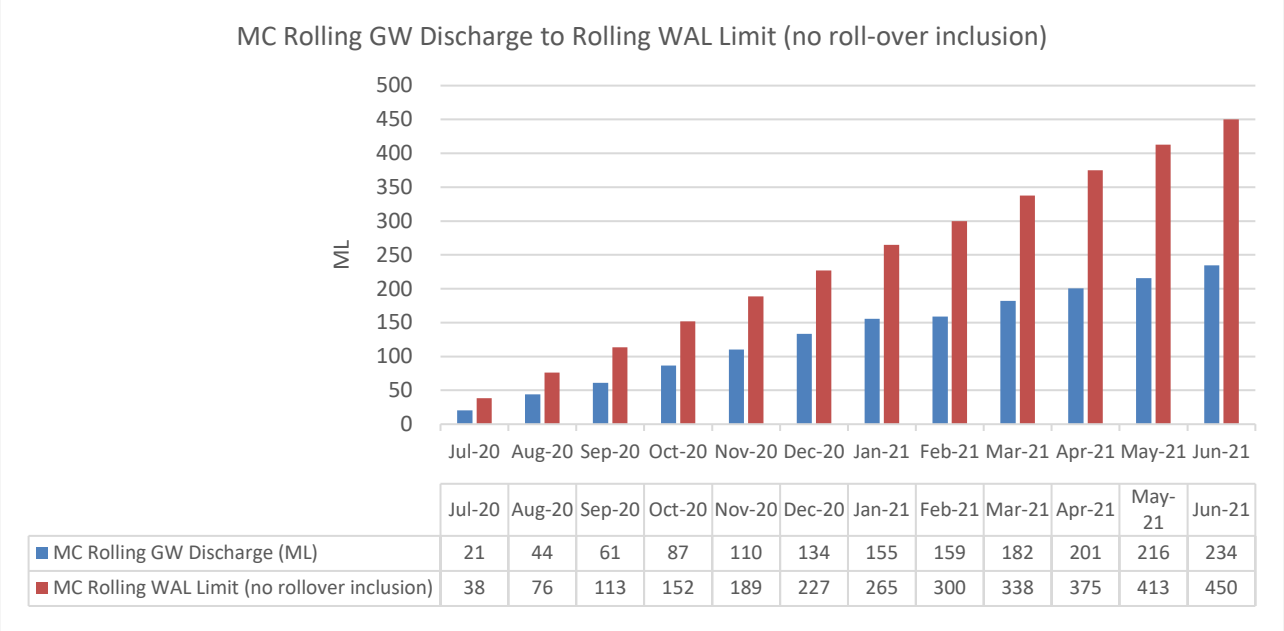
During the 2021 reporting period, an average of 722 kL of mine water was extracted per day from within the mine workings, before being pumped to the Mannering surface facilities, where it is discharged into sediment dams prior to being discharged into Lake Macquarie under the NSW Environment Protection Authority (EPA) Environment Protection Licence (EPL) No.191 as detailed in **Section 7.2**.

Delta Coal operated well within the groundwater extraction limits prescribed by WAL40461, utilising well under the licensed extraction volume. Groundwater extraction data is summarised in **Table 14** and **Figure 17**.

Table 14: Mannering Colliery Water Take - 2021 Reporting Period

Water Access Licence	Water sharing plan, source and management zone (as applicable)	Entitlement	Passive Take / inflows	Active pumping	TOTAL
WAL40461	Sydney Basin-North Coast Groundwater Source	450 ML	N/A	246 ML	246 ML

Figure 17 - Mannering Colliery Groundwater Extraction Volume and Water Access License Limits (WAL reporting period FY20-21)



	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
MC Rolling GW Discharge (ML)	21	44	61	87	110	134	155	159	182	201	216	234
MC Rolling WAL Limit (no rollover inclusion)	38	76	113	152	189	227	265	300	338	375	413	450

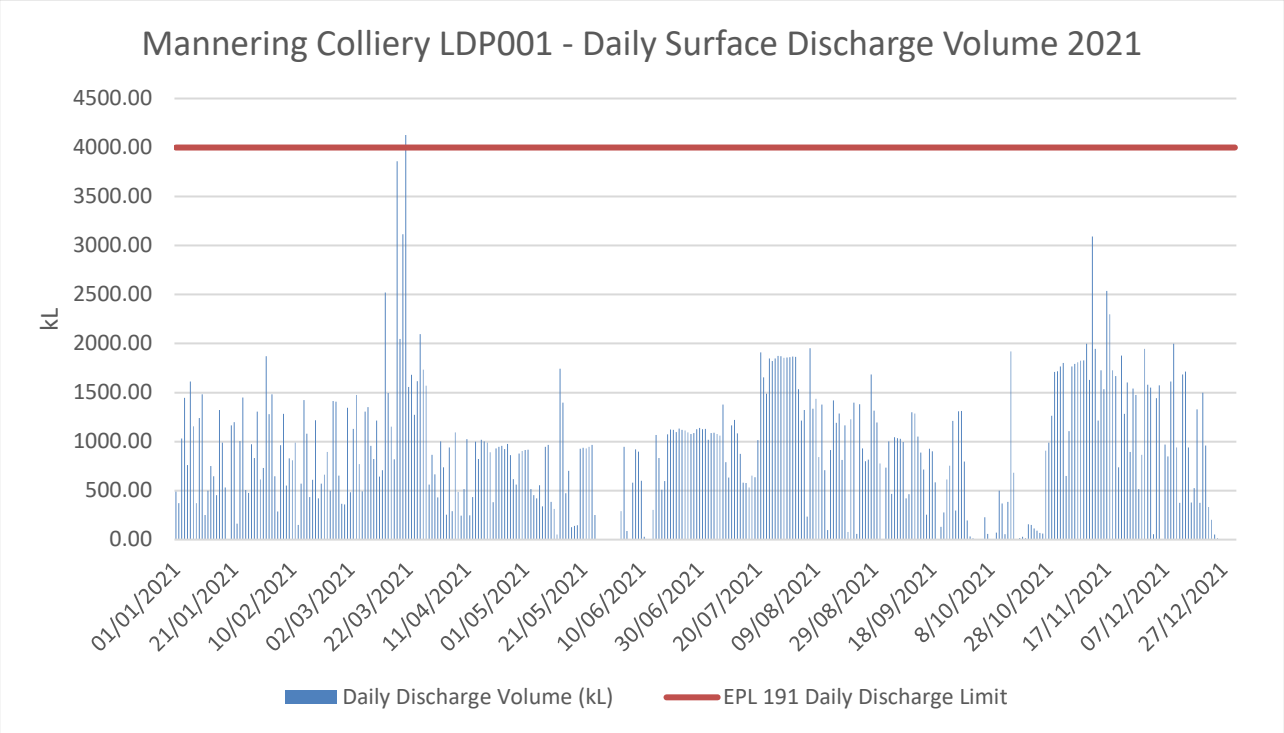
7.2 Licenced discharge under EPL 191

Delta Coal holds EPL 191, which licences the discharge of up to 4,000 kL per day from the site. Discharge is monitored via a real-time flow meter at the outlet pipe.

During the 2021 reporting period the daily average discharges were 912 kL with a maximum of 4,127 kL and a minimum of 0 kL. The total volume discharged over the reporting period was 333 ML.

Figure 18 presents the daily discharge data during the reporting period, daily discharge volumes are also reported in the monthly reports on the Delta Coal website. During March and April the main underground pump to the surface was not working hence the absence of groundwater extraction during this period.

Figure 18 - Mannering Colliery Surface Discharge Volumes - 2021



The *Mannering Colliery: Continuation of Mining Environmental Assessment* by Hansen Bailey (March 2007), states the following summary of relevant predictions and trends associated with water management at Mannering Colliery;

- The critical issue for the water management system will be its ability to continue to control and discharge excess water which may be generated during mining. The water balance for the Project has been assessed for the maximum coal production of 1.1 Mtpa which will correspond to the maximum surplus water inflow;
- The mine water surplus predicted to occur is approximately 660 ML/annum, in a year of high rainfall which corresponds to an average daily discharge volume of approximately 1.7 ML.

- Mannering's EPL 191 licenses discharge up to 4 ML per day and will be required to be maintained due to the variability of daily discharge volumes from site.
- The estimated maximum inflow from the Fassifern Seam will increase from the current 0.76 ML/day to about 1.03 ML/day. The total volume of water inflow from both the Great Northern and Fassifern Seams will increase from the current 1.14 ML/day to 1.41 ML/day which equates to approximately 515 ML/annum.
- Mannering's EPL 191 permits a discharge of 4 ML/day and based on the above analysis it is concluded that the Project will not result in this licensed discharge volume being exceeded, under normal climatic conditions.

Based on these predictions (**Table 15**) and trend analysis data, Mannering Colliery has been operating within the licenses levels and conditions.

Table 15: Predicted Water Generation (Environmental Assessment, Hansen Bailey, 2007)

Water supply sources	Annual water volume (ML)		
	Dry year (10th percentile rainfall)	Average year (Average rainfall)	Wet year (90th percentile rainfall)
Surface water run-off	55	80	105
Process mine water	40	40	40
Groundwater inflow	515	515	515
Total surplus	610	635	660

As evident in **Figure 18**, there was one volumetric exceedance of the site's discharge limits during the reporting period, 4,127 kL on the 21/03/2021. It is noted that over 100mm/24hrs of rain was received on the 21 March 2021 and that groundwater de-watering had ceased prior to the event on 18 March 2021. In accordance with Condition L3.2 of EPL 191 '*Exceedance of the volume limit for Point 1 is permitted only if the discharge from Point 1 occurs solely as a result of rainfall at the premises exceeding 10mm during the 24 hours immediately prior to the commencement of discharge',* Delta Coal considers that Condition L3.2 was applicable for volumetric discharge greater than 4,000 kL on 21 March 2021.

Extensive mining has occurred for about 60 years at Mannering Colliery. Mining operations have led to current depressurisation of both seams with the potentiometric surface declining to the base of the seams, where coal has been extracted. According to the EA (*Hanson Bailey, 2007)*, current on-going mining in the area suggests that at a regional level the piezometric surface/groundwater level will remain depressed into the future.

7.3 Water Quality

In accordance with EPL191, water quality monitoring was conducted at a weekly interval, with an extended analysis undertaken once per month for metals/metalloids and major nutrients (potassium, nitrogen and phosphorus). Water quality criteria as per condition L2.4 of EPL 191 are detailed in **Table 16**.

Table 16: Water quality limits from EPL 191

Pollutant	Concentration limit
pH	pH range 6.5 to 8.5
Total suspended solids (TSS)	50 mg/L
Oil & grease	10 mg/L

Weekly water quality monitoring results for pH, total suspended solids (TSS) and oil and grease along with associated limits at the licenced discharge point 1 (LDP001) are shown in **Figure 18**, **Figure 19** and **Figure 20**.

Figure 19 - Mannering Colliery LDP001, pH Monitoring 2021

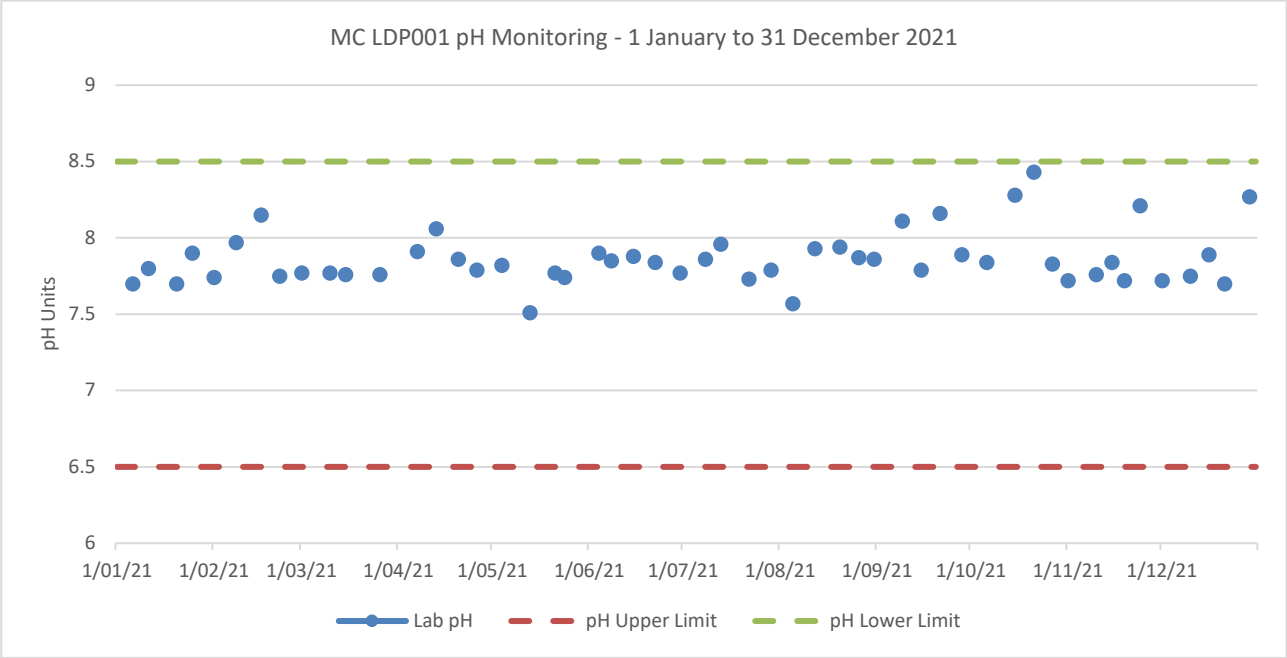
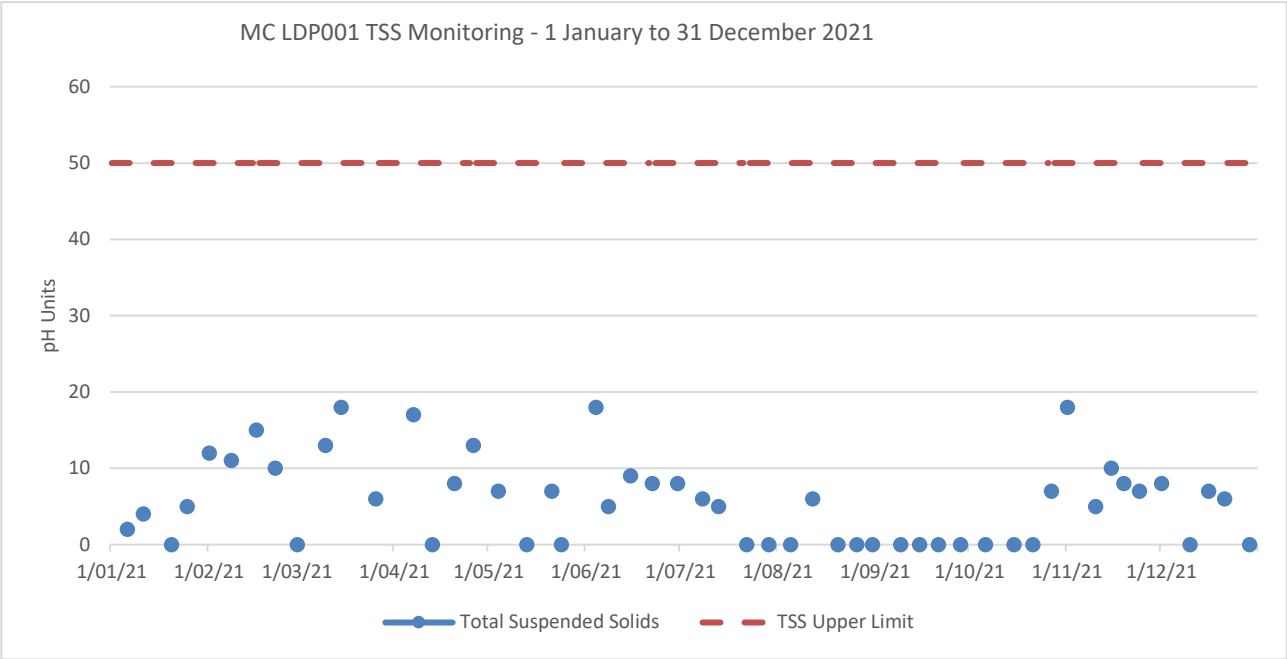
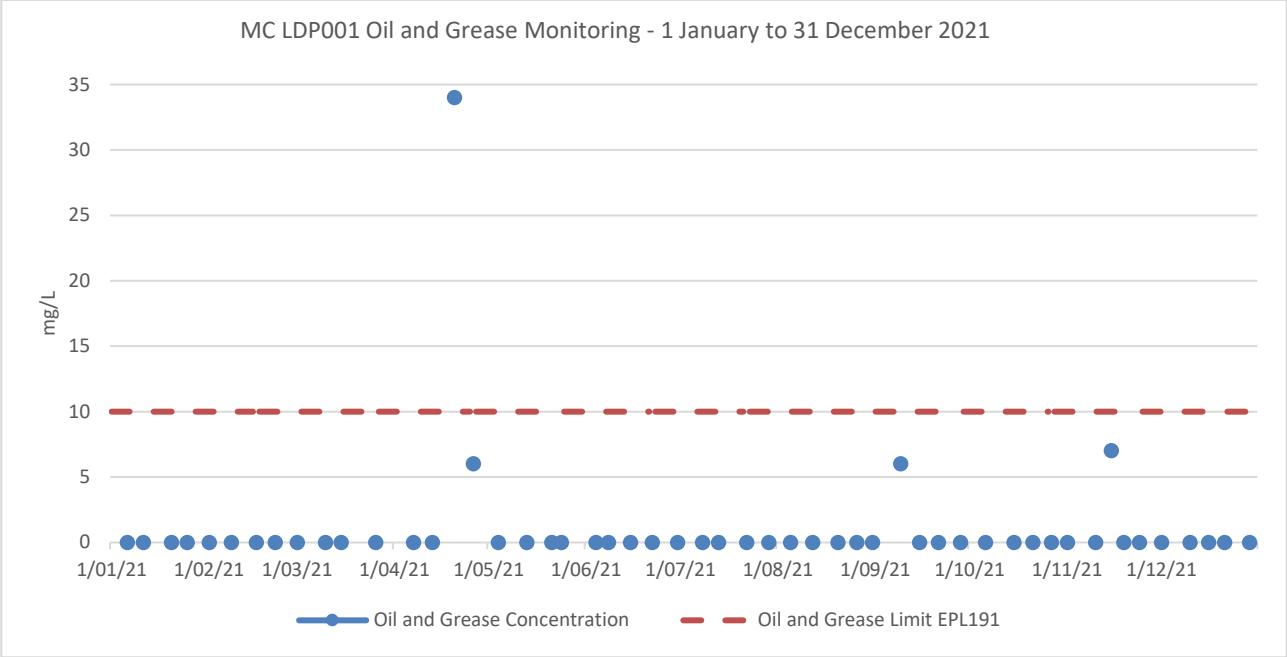


Figure 20: Mannering Colliery LDP001, Total Suspended Solids Monitoring 2021



Note: where concentrations where less than the limit of detection (5 mg/L) the values in **Figure 20** is expressed as zero.

Figure 21: Total suspended solids monitoring results at LDP001



Note that all oil and grease results less than the laboratory reporting limit of <5 mg/L were recorded as a zero result in **Figure 21**. There was one oil and grease result above the EPL 191 limit recorded during the reporting period 20 April 2021 with a result of 34 mg/L, exceeding the 10 mg/L limit. Details pertaining to the non-compliance are detailed in **Section 11,** in summary further analysis of the exceeding sample for recoverable hydrocarbons did not identify that the exceedance was based on petroleum hydrocarbon presence (total

recoverable hydrocarbon results less than limit of detection for each hydrocarbon fraction between 20µg/L and 200µg/L.

The EA by Hanson Bailey 2007, does not detail any exact monitoring data to compare, however it outlines that random sampling of surface water quality was undertaken in November 2006 at LDP001 and relevant sites in Lake Macquarie. The EC level in Lake Macquarie recorded at the time indicated that it is more saline than the mine water discharged upstream at LDP001, with a recording of 24,900 uS/cm at the discharge point in comparison to 39,000 uS/cm at Lake Macquarie. From this result, it was predicted that water from Mannering is of higher quality, has lower salinity levels than downstream waters and generally has no predicted significant adverse impacts on either downstream or natural environments.

In accordance with the EPL 191, Mannering will continue to discharge off-site regularly and monitor results.

7.4 Long Term Water Quality

To assess any long term trends in both water quality and quantity, seven years of data is presented for the Downstream and LDP001 monitoring locations for pH (**Figure 22**), total suspended solids (**Figure 23**) and oil and grease (**Figure 24**).

From the below figures it is evident that despite one TSS result over 50 mg/L and one elevated result for pH at LDP001, there are no significant trends or changes in the water quality parameters. The source of the one elevated result for oil and grease at the downstream monitoring location is not known.

Figure 22 - Mannering Colliery LDP1 and Downstream Monitoring Long-Term pH (monthly sampling)

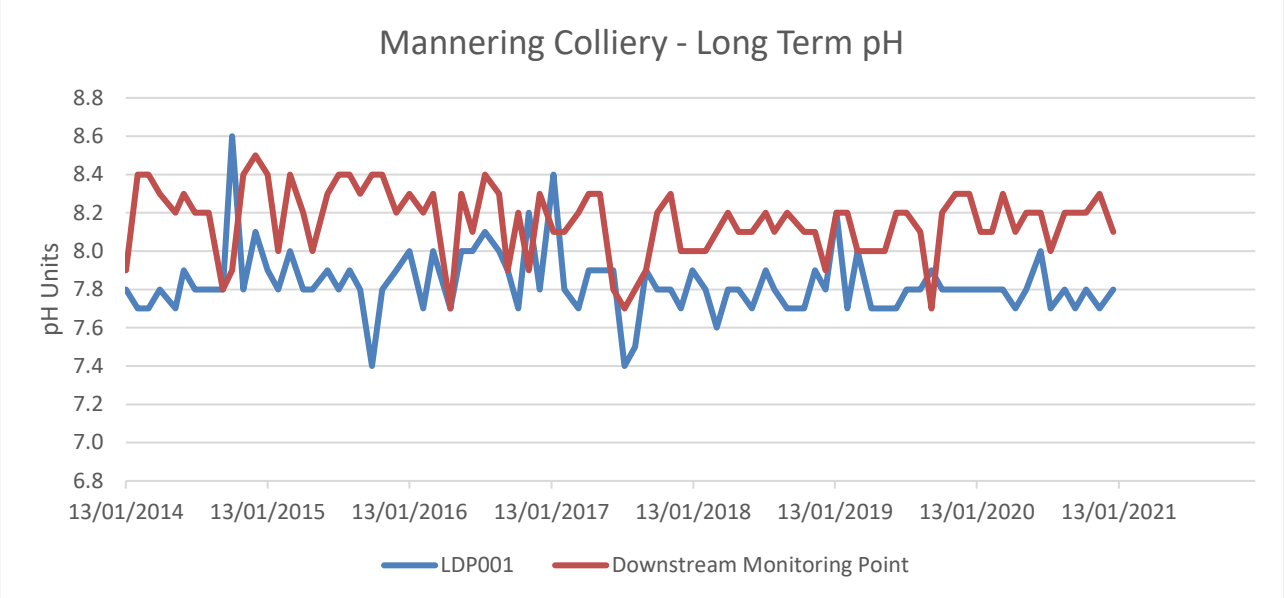


Figure 23: Mannering Colliery LDP1 and Downstream Monitoring Long-Term TSS (monthly sampling)

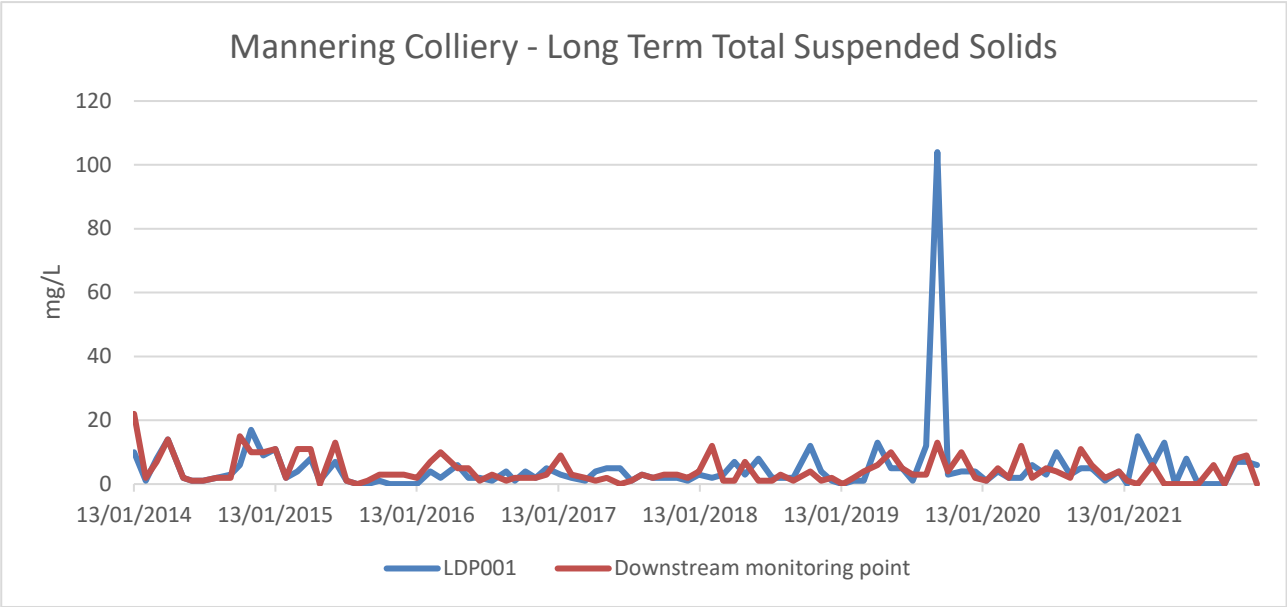
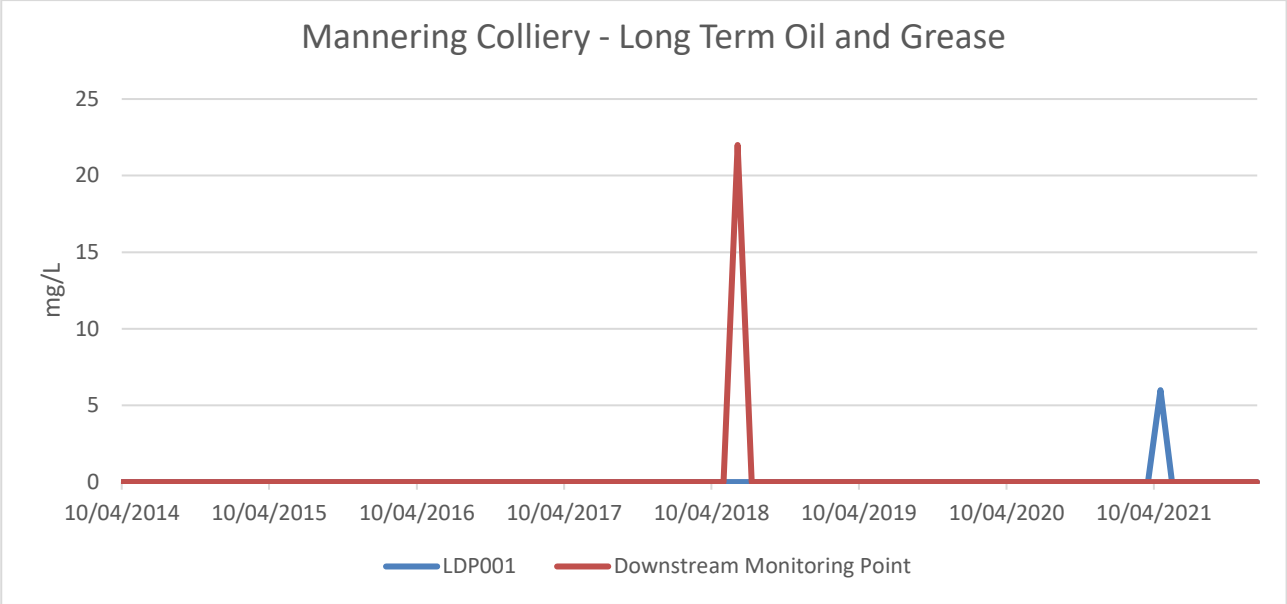


Figure 24: Mannering Colliery LDP1 and Downstream Monitoring Long-Term Oil & Grease (monthly sampling)



It is noted that weekly sampling of LDP1 was undertaken during the monitoring period, however, monthly sampling is undertaken of the downstream monitoring location. For the purpose of analysing long term trends in data monthly results have been presented in **Figures 22, 23** and **Figure 24**.

7.5 Stream monitoring

As detailed in the Water Management Plan (WMP) for Mannering Colliery, monitoring of the channel stability and potential erosion and scour impact to the unnamed creek downstream of LDP1 is required. The monitoring inspections involve undertaking a visual assessment and photographs of the creek on a quarterly basis to

identify any potential instabilities that may form as a result of operations. The results of the visual inspection of watercourse stability are recorded on a proforma field inspection sheet.

Monitoring has been undertaken at four locations along the unnamed creek since 2014, which also receives discharge from Chain Valley Colliery and the Mannering Park Sewage Treatment Plant downstream of Mannering Colliery and the Mannering Colliery downstream monitoring location. There has been no noticeable degradation of stream and riparian health during the reporting period.

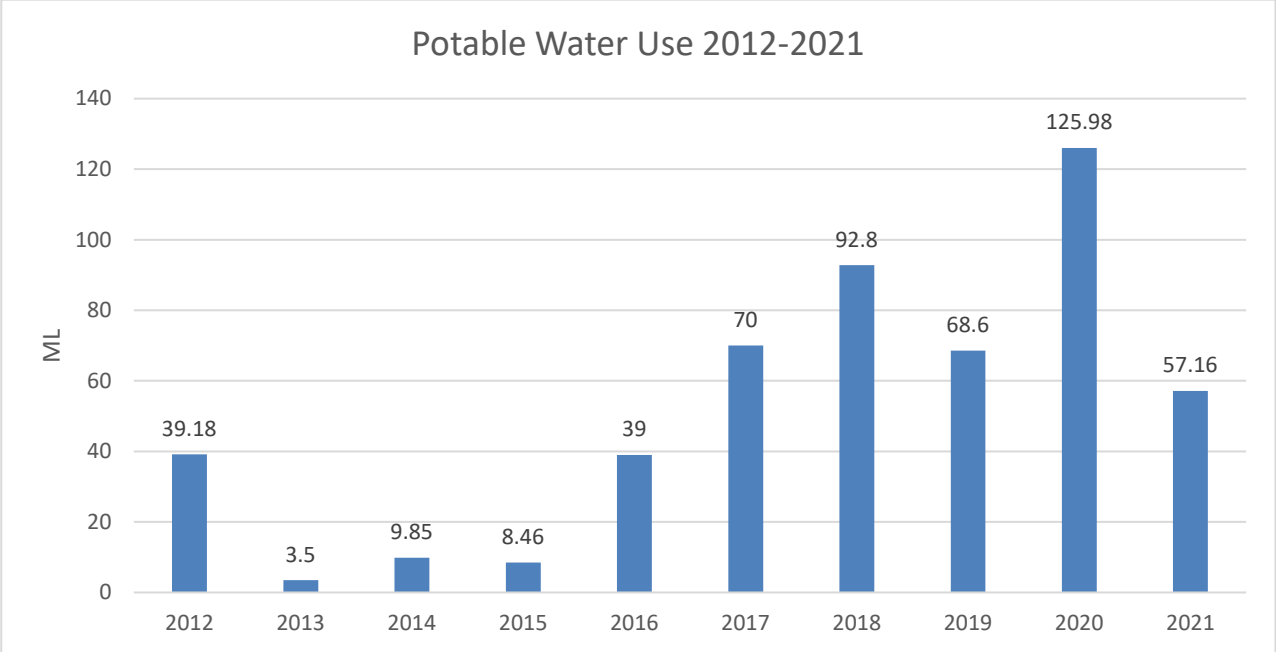
The triggers and responses to any instabilities identified as a part of the monitoring program are provided in the Mannering Colliery Water Management Plan.

7.6 Potable Water Use

Potable water use during the reporting period was 57 ML, which was a decrease on the previous reporting period of 126 ML. it is noted that slightly less coal handling took place, and that due to a connection of Mannering Colliery and Chain Valley Colliery water supplies underground in 2017, Mannering Colliery water supply was utilised to boost pressure in the CVC underground water supply. Following the cessation of Miniwall mining at Chain Valley Colliery in August 2021, a significant reduction in Mannering Colliery potable water usage was observed.

Potable water usage from 2012 to 2021 at Mannering is detailed in **Figure 25**.

Figure 25 - Mannering Colliery Long Term Potable Water Usage



7.7 Surface Water Management

The site surface water management system comprises both clean and dirty water catchments. A number of water management diversions direct clean water around the site to avoid increased hydraulic load on the sedimentation dams that treat the site dirty water prior to discharge.

Clean water from areas unaffected by the operational activities and water that runs onto the site area due to the contours of the surrounding land, i.e. primarily areas to the south and east, are diverted through clean water management structures (such as diversion drains and culverts under roads), enabling the water to ultimately report to Pond 1. The clean water flow paths are shown on **Figure 26**.

The dirty water management system comprises a number of both surface and subsurface management structures to control the flow of water and ultimately direct the dirty water into the site sediment dams. **Figure 26** shows the dirty water flow paths.

The sediment dam system comprises a total of four main dams, labelled Pond 1, Pond 2, Pond 3 and Dam B, as shown on **Figure 26**. References to “Pond” and “Dam” are used interchangeably and refer to the same water management structures.

As shown on **Figure 26**, water from the dirty water catchments enters into Pond 1 or Pond 2, when both these dams are full water overflows into Pond 3. Once Pond 3 reaches capacity it subsequently over flows into Pond B. Finally, when Pond B reaches capacity, it overflows out LDP001.

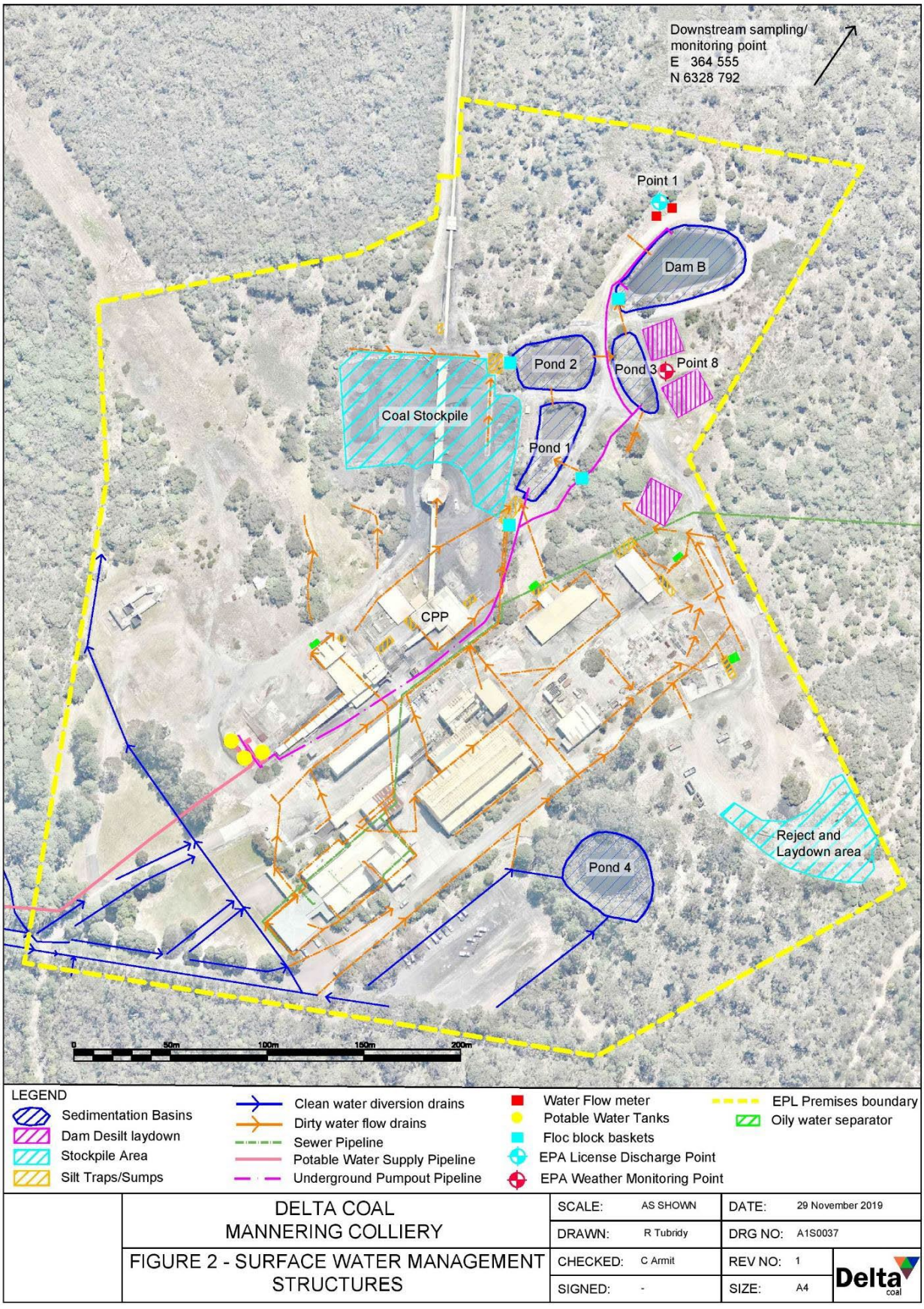
A series of interconnecting pipes and valves also allows Pond 2 to be drained into Pond 3, Pond 3 to be drained into Pond B and Pond B to be discharged via LDP001. These valves are generally kept shut to maximise storage capacity of the dams, but are opened after rainfall events, once water quality is suitable for discharge, to minimise water the volume of water stored and again increase storage capacity of the dams for the next rainfall event.

Water underground is derived from two sources: excess process water which is generated from mining operations and ground water which is released from the strata into underground mine workings. The collected water is pumped through an extensive goaf system that allows filtration and settlement.

The mine water discharge line consists of the main pump, flow meter, turbidity meter, valves and outlets. The mine water can be directed to pond 1, 3, B or LDP001. Under normal operation the mine water will be directed to LDP 1 to maintain capacity in the sediment dams for rainfall events.

Management of the 4 interconnected ponds is undertaken via weekly inspections and management as required following rainfall events. The intent of this active management is to maintain dams at their lowest possible levels whilst adhering to water quality criteria at the discharge point (LDP001).

Figure 26 - Surface Water Management Structures



8 Rehabilitation

8.1 Buildings

Mannering Colliery surface infrastructure comprises:

- mine entry / exit for personnel and materials (1:3.5 Decline) including a winch house;
- coal conveyor drift;
- limited coal-handling facilities for breaking, crushing, sizing and storing product;
- coal stockpile and reclaiming system;
- overland conveyor systems;
- administration and bathroom facilities;
- workshop facilities;
- pollution control apparatus and structures;
- enclosed and bulk open material and equipment stores facilities;
- mine ventilation;
- air compressors; and
- internal roads and car parking facilities.

The total area of effect of the Mannering surface infrastructure is approximately 13.2 hectares.

8.2 Rehabilitation of Disturbed Land

There was no significant rehabilitation works on disturbed lands during the reporting period (**Table 17** and **Table 18**), which relates to the fixed nature of the surface infrastructure and that upon recommencement of mining activities all existing infrastructure and lay down areas will again be required for use.

Table 17: Summary of rehabilitation at Mannering Colliery

	This period (2021)	Next period (2022)
A. Total mine footprint (managed by Delta Coal)	Approximately 13.2	Approximately 13.2
B Total active disturbance	13.2	13.2
C. Land being prepared for rehabilitation	Nil	Nil
D Land under active rehabilitation	Nil	Nil
E Completed rehabilitation	Nil	Nil

Table 18: Maintenance activities on rehabilitated land at Mannering Colliery

	Area Treated (Ha)		
Nature of Treatment	**This period (2021)**	**Next period (2022)**	**Comment/Control Strategies/Treatment Detail**
Additional erosion control works (drains re-contouring, rock protection)	0	0	No additional works required.
Re-covering (further topsoil, subsoil sealing etc.)	0	0	N/A
Soil treatment (fertiliser, lime, gypsum etc.)	0	0	N/A
Treatment/management (grazing, cropping, slashing etc.)	0	0	N/A
Re-seeding/replanting (species density, season etc.)	0	0	N/A
Adversely affected by weeds (type and treatment)	13.2	13.2	Ongoing implementation of a weed control program developed in 2019 was undertaken during the 2021 reporting period. Ongoing weed treatment works in accordance with the Weed Action Plan are planned for the next reporting period.
Feral animal control (additional fencing, trapping, baiting etc.)	0	13.2	No feral animal control undertaken during the reporting period. There is none currently planned to be undertaken in the next reporting period.

8.3 Rehabilitation Trials and Research

No rehabilitation trials or research was undertaken during the reporting period.

8.4 Further Development of the Final Rehabilitation Plan

Further development of the rehabilitation and closure criteria occurred during the development of a new Mining Operations Plan 2020-2023 (Amendment 2), consistent with the September 2013 MOP guidelines, which was approved by the Department in April 2021. A rehabilitation monitoring program was submitted to DRE in Quarter 2 2019 and baseline monitoring conducted during Quarter 3 2019. The MOP for 2020-2023 for Delta Coal operations noted that during the proposed period of mining at CVC and handling at Mannering Colliery there are no further planned rehabilitation of the sites, with rehabilitation monitoring to commence at the closure of the mines.

Delta Coal intends to undertake a rehabilitation risk assessment and preparation of a rehabilitation management plan within the next reporting period to substitute the MOP, as required under existing mining lease conditions in July 2022.

8.5 Other Infrastructure

There was no other rehabilitation works completed during the reporting period.

9 Community

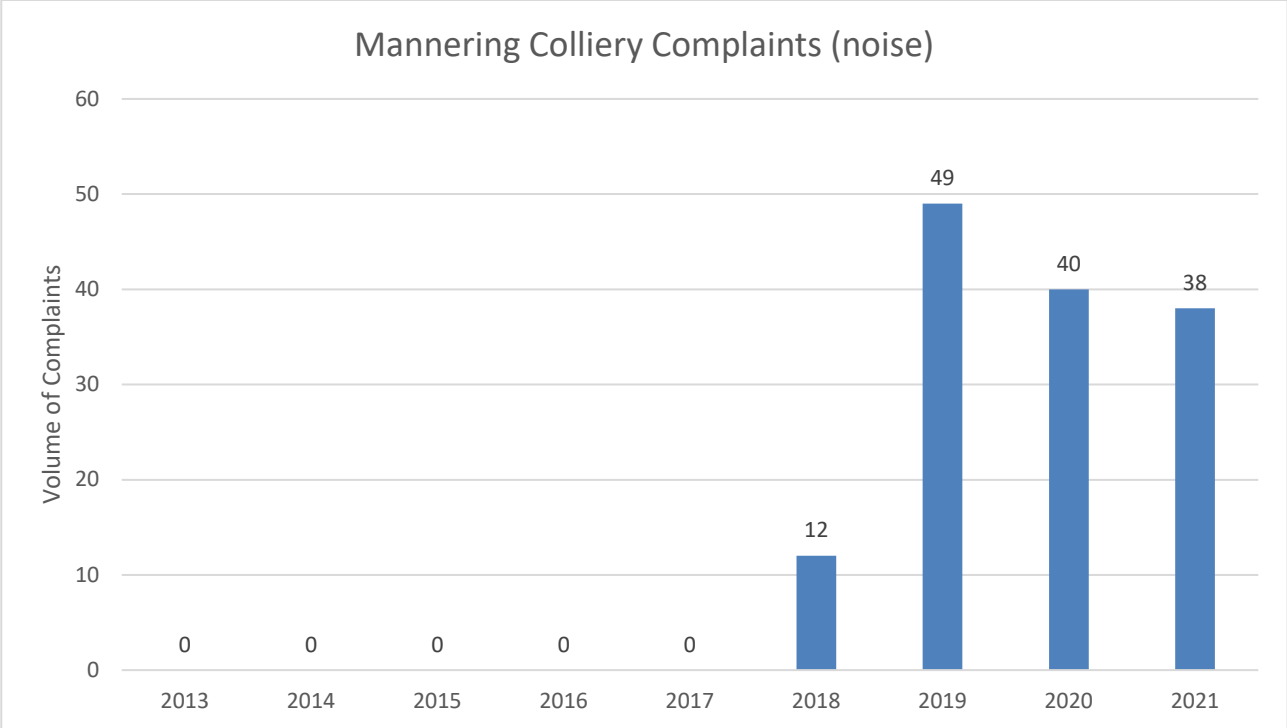
9.1 Community Complaints

There were 38 community complaints received during the reporting period which all related to noise experienced at Macquarie Shores Home Village and sourced from a singular complainant (whom notes they represent some neighbours). A copy of the complaints register is provided on the Delta Coal website and is reproduced in **Appendix 6**. In consideration of complaints sourcing from Macquarie Shores Home Village, the approved noise contributions from Mannering Colliery were reduced in Modification 5 to MP06_0311 (June 2020).

A Noise Compliance Report was completed in 2019 following a spike in complaints, which indicated that Mannering Colliery was generally compliant with its consented noise limits at the nearest residential receivers. Additional modelling undertaken by EMM, including attended monitoring and the installation of a noise logger, of Mannering Colliery's noise impact at Macquarie Shores Home Village was undertaken in October 2020 following decommissioning of the rotary breaker and installation of noise attenuation. The modelling projected that Mannering Colliery's site noise contribution at Macquarie Shores Home Village in a worst-case noise enhancing meteorological conditions would be 39 dB(A).

The volume of noise complaints received in 2021 compared to prior years are detailed in **Figure 27**.

Figure 27 - Mannering Colliery Noise Complaints



9.2 Community Liaison

The Chain Valley Colliery and Mannering Colliery combined Community Consultative Committee (CCC) continued to operate in accordance with the *Community Consultative Guidelines for State Significant Development* (January 2019) during the reporting period.

There were four CCC meetings held during the reporting period on the 17 February 2021, 19 May 2021, 18 August 2021 and 17 November 2021. Minutes for each of the committee meetings are available on the Delta Coal website https://www.deltacoal.com.au/community/community-consultative-committee.

In addition, the Delta Coal website was updated on a monthly basis with monitoring data, management plans, reports, audits and complaint details among other items.

The community hotline number (**1800 687 260**) also remained in place during the reporting period and is displayed prominently and permanently on the website.

9.3 Community Support / Engagement

Delta Coal is committed to supporting and engaging with the local communities which surround its operations. While Delta Coal provides a monetary offsets associated with its Voluntary Planning Agreement under its operating approvals, they also support the local community through a variety of additional avenues. This support is provided through in kind support, cash donations, staff time, and charitable donations.

The Delta Coal Community funding program was established as a joint initiative between Delta Coal and Central Coast Council to provide funding for organisations to deliver projects that improve community infrastructure and services in the following communities:

- Summerland Point
- Gwandalan
- Chain Valley Bay; and
- Mannering Park.

The VPA is subject to indexation and in the 2021 reporting period was $0.041 per tonne of ROM coal sold, which started at $0.035 in 2017. In the 2021 reporting period, Delta Coal generated and paid $52,360 to the Central Coast Council, Voluntary Planning Agreement. Correspondence with the Central Coast Council in November 2021 indicated the successful projects/application that have been finalised from the years community grant funding program were:

- Mannering Park Tidy Towns Group Inc- Hedging for an Easier Cut
- Manno Mens Shed Inc- Dust Extraction Unity Supply and Install

10 Independent Audit

An independent environmental audit (IEA) was undertaken by SLR in 2019. The updated Response to Audit Recommendations was submitted to DPIE on 25 June 2019 and accepted on 21 October 2019. An update was provided to DPIE on 31 December 2019. The IEA is provided in **Appendix 7** and a current IEA Action Plan has been provided as **Appendix 8**.

Throughout the 2019-2021 period, Delta Coal have completed recommendations from the 2019 IEA that were achievable (i.e. not ongoing recommendations).

10.1 Key Audit Outcomes

Actions immediately relating to the Annual Review have been included in **Table 19**.

Table 19: Key Audit Outcomes

Item	Issue/Observation	Action	Status
MP06_0311			
1	Surface Water	REC13: Include results of the visual assessment of the unnamed creek in Annual Reviews. Include a reference again previous results.	See **Section 7.5**
2	Surface Water	REC 15: Include analysis results from monitoring undertaken at the "Downstream" monitoring location in Annual Reviews.	See **Section 7.2**
3	Environmental Performance	REC 29: Ensure Annual Reviews are submitted to DPE by 31 March.	This document
4	Environmental Performance	REC 30: Future Annual Reviews should clearly state noise and water quality performance criteria, and provide monitoring results against these.	See **Section 6.9** and **Appendix 4** for noise monitoring criteria and results. See **Section 7** for water monitoring criteria and results
5	Environmental Performance	REC 31: Include in future Annual Reviews: - Requirements of plans/programs required under PA 06_0311 for noise and water quality; - The monitoring results of previous years, for noise and water; - The relevant predictions in environmental assessments for air quality noise and water; - Trends in the monitoring data for air quality, noise and water, over the life of the project; and - Discrepancies between the predicted impacts in the EAs for air quality, noise and water, and actual impacts of the project.	See **Section 5.9** and **Appendix 5** for noise monitoring criteria and results See **Section 7** for water monitoring criteria and results See **Section 6.1** for air quality monitoring results

Item	Issue/Observation	Action	Status
6	Environmental Performance	REC 32: The Annual Reviews are set out differently to the DPE Annual Review Guidelines (2015). Ensure table of contents matches the guidelines	See Table of Contents. These are in accordance with the DPE Annual Review Guidelines
7	Environmental Performance	REC 33: IEA Actions Plans should be included in every Annual Review going forward.	See **Appendix 8**
8	Revision of strategies, plans and programs	REC 34: Include statement in future Annual Reviews stating that Management Plans have been reviewed and state which management plans will or will not be updated within 3 months.	See **Section 5.2**
CCL721			
9	Condition 5	REC 48: Report against compliance with the MOP in future Annual Reviews.	See Executive Summary, **Section 8** and **Section 11**
CCL719			
10	Condition 3	REC 51: Prepare Annual Rehabilitation Reports.	See **Section 8**. Annual Rehabilitation report is only required when significant rehabilitation is completed.
11	Condition 3	REC 52: Include in Annual Reviews any non-compliance with the MOP, during the reporting period.	See Executive Summary and **Section 11**
Additional recommendations			
12	Subsidence	REC 61: A separate subsidence impact assessment report should be prepared annually and appended to the Annual Review. This report should be prepared or peer reviewed by a subsidence specialist. This should assess subsidence performance measures from the Project Approval.	See **Appendix 5.**

10.2 Action Plan

The IEA Action Plan has been provided in **Appendix 8**.

10.3 Future Audit

The next Independent Environmental Compliance Audit is scheduled to commence in Quarter 2 2022, Delta Coal has commissioned an audit team endorsed by the Planning Secretary to undertake the 2022 IEA.

An updated table of compliance with the 2019 Independent Environmental Audit will be completed as part of that audit.

11 Incidents and Non-compliances During the Reporting Period

All non-compliances and exceedances, and reportable incidents relating to the site's licences and approvals are summarised below in **Table 20.**

Table 20: Summary of reportable incidents/non-compliances for 2019

Date	Description of Non-compliance	Approval/ Condition /Clause	Actions taken to address Non-compliance
21/03/2021	Incident - Volumetric Discharge Exceedance	EPL 191, L3.1 and L3.2	Condition L3.2 of EPL 191 stipulates that "Exceedance of the volume limit for Point 1 (LDP1) is permitted only if the discharge from Point 1 occurs solely as a result of rainfall at the premises exceeding 10mm during the 24 hours immediately prior to the commencement of discharge". Mine dewatering at MC had ceased on the 18/03/2021, with the exceedance occurring on the 21/03/2021. The exceedance was reported to the EPA, DPIE and Resources Regulator even though being considered permitted under EPL 191.
20/04/2021	Incident - Oil and Grease Exceedance	EPL 191, L2.4 Exceedance at LDP1	At the time of sampling no hydrocarbon slicks, sheens or odours were observed within sampled discharge or on the Mannering Colliery ponds. Further petroleum hydrocarbon analysis indicated a non-petroleum source, notably the analysis classifies anything dissolvable by hexane as oil and grease, including natural fatty acids and lipids. Consideration was given to potential on site sources, with the most likely source being a long-wall emulsion fluid that comprises a fatty acid and water mixture. Following investigations underground workers did identify some leaks and spills had occurred underground which could have potentially been transported to Mannering Colliery within mined coal material. The incident was reported to the NSW EPA and DPIE and actions to prevent the exceedance include increased frequency in emulsion fluid usage (i.e. uncharacteristic usage may indicate a leak or spill) and improved turn-around time of sample analysis from laboratories to 2 day turn-around times to improve Delta Coals ability to respond in a timely manner to such incidents.
13/06/2021	Incident - Technical Exceedance of Depositional Dust limits	MP06_0311 Schedule 3, Condition 16. DDG003 exceeded the maximum value in depositional dust	The DPIE, NSW EPA and Resources Regulator were notified of the exceedance. It was noted the gauge was subject to contamination by extraneous material unrelated to site operations. Laboratory analysis identified that approximately 40% of the gauge content was sand and another 40% was Polysaccharide Slime (biological). The Exceedance and contamination of the

Date	Description of Non-compliance	Approval/ Condition /Clause	Actions taken to address Non-compliance
		for a monthly reading (4 g/m2/month).	gauge was noted by DPIE with no further comments or actions being taken.
23/11/2021	Incident - Technical Exceedance of Depositional Dust limits	MP06_0311 Schedule 3, Condition 16. DDG003 exceeded the maximum value in depositional dust for a monthly reading (4 g/m2/month).	The DPIE, NSW EPA and Resources Regulator were notified of the exceedance. It was noted the gauge was subject to contamination by extraneous material unrelated to site operations. Laboratory analysis identified that approximately 50% of the gauge content was dirt and another 40% was sand, 5% insects and 5% coal. The Exceedance and contamination of the gauge was noted by DPIE with no further comments or actions being taken.
24/11/2021	Incident - Oil and Grease Exceedance	EPL 191, L2.4 Exceedance of oil and grease limits (10 mg/L). Oil and grease concentration of 22 mg/L identified in Mannering Colliery LDP 1 weekly sampling.	The exact cause of the exceedance was unable to be identified, however considering laboratory analytical results and field observations, it is considered that the elevated results were not from a petrogenic source. In consideration of significant pollen collection on the surface of Pond B, it is considered plausible that lipids and other organic fats/acids were dissolved in the HEM analysis which contributed to total oil and grease concentrations. It is noted that the initial result of 22 mg/L was not repeatable utilising a duplicate oil and grease sample (reporting 7 mg/L), indicating the source at the site to be heterogenous. A sample collected on the 19/11/2021 indicated that oil and grease was no longer detectable. No impacts were identified from the oil and grease exceedance at the discharge point or further downstream. The exceedance was reported to the NSW EPA, NSW DPIE and NSW Resources Regulator.

12 Activities to be completed in the next reporting period

12.1 Activities update from 2021 Reporting Period

A summary of the activities that were proposed to be undertaken during the 2021 reporting period and current status is provided in **Table 21.**

Table 21: Update on activities to be undertaken in the 2021 reporting period

Activity Proposed	Status Update	31 December 2021 Update, percentage complete
Desilting of surface sedimentation dams	Final Pond B and Pond 2 Desilted in January and February 2021.	100%
Ongoing implementation of Weed Action Plan and weed management	Weed management undertaken by Total Earth Care and Fluren Pty Ltd in 2021 reporting period at regular intervals and in reference to the weed action plan.	100%
Submission of Consent Consolidation with CVC	EIS and SIA preparation was ongoing throughout the 2021 and is proposed for submission in 2022.	75%

12.2 Activities Proposed for 2022 Reporting Period

A summary of the activities that are proposed to be undertaken during 2022 are detailed in **Table 22**.

Table 22: Activities to be undertaken in 2022

Activity Proposed
Desilting of Ponds 1 and 3
Ongoing weed management in accordance with the Weed Action Plan.
Surface clean-up and scrap metal removal projects, removal of redundant stock and equipment stored on site.

13 References

Documents used in the preparation of this report are detailed in **Table 28**.

Table 23: References

Reference	Title
Legislation and Regulations	Environment Protection Licence (EPL) 191 Mining Act 1992 National Greenhouse and Energy Reporting Act 2007 Project Approval MP06_0311 (as modified) Protection of the Environment Operations Act, 1997 Environmental Planning & Assessment Act, 1979
External documents	Hanson Bailey 2007, Centennial Coal Company Limited: Mannering Colliery Continuation of Mining: Environmental Assessment, March 2007. NSW DPIE (January 2019) Community Consultative Guidelines for State Significant Development Total Earth Care Pty Ltd (January 2020) Weed Action Plan Chain Valley Colliery, Mannering Colliery and Summerland Point Ventilation Shaft

Acronyms / Definitions

AEMR Annual Environmental Management Report, now known as the Annual Review

Annual Review The annual environmental report compiled for Mannering, the Annual Review also fulfils the requirement for an Annual Environmental Report or an Annual Environmental Management Report required by mining leases.

CCC Community Consultative Committee

CVC Chain Valley Colliery

DP&E Department of Planning & Environment (former)

DPIE Department of Planning, Industry and Environment

EA Environmental Assessment

EMS	Environmental Management System
EPA	NSW Environment Protection Authority
EP&A Act	Environmental Planning and Assessment Act 1979
EPL	Environmental Protection License
kL	Kilolitre
LDP1	Licenced Discharge Point 1 (per EPL 191)
Mannering	Mannering Colliery
NGER	National Greenhouse and Energy Reporting
NSW	New South Wales
OEH	NSW Office of Environment and Heritage (former)
PA 06_0311	Project approval MP 06_0311, as modified, issued under Section 75J of the Environmental *Planning and Assessment Act 1979* for the Mannering Colliery Extension of Mine Project
POEO Act	Protection of the Environment Operations Act 1997
ROM	Run of mine
t - CO_2-e	Tonnes of carbon dioxide equivalent
The website	The website of Delta Coal - Mannering Colliery, which is www.deltacoal.com.au
VPPS	Vales Point Power Station

Appendices

Appendix 1: Project Approval

Project Approval

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

I approve the project application referred to in Schedule 1, subject to the conditions in Schedules 2 to 5.

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

Project Approval signed by Frank Sartor on 12 March 2008

Frank Sartor MP
Minister for Planning

Sydney 2008

SCHEDULE 1

Application No:	06_0311
Proponent:	Great Southern Energy Pty Limited
Approval Authority:	Minister for Planning
Land:	See Appendix 1
Project:	Mannering Colliery – Continuation of Mining Project

Red text represents Modification 1 of October 2012 (06_0311 MOD 1)
Blue text represents Modification 2 of November 2014 (06_0311 MOD 2)
Green text represents Modification 3 of December 2015 (06_0311 MOD 3)
Orange text represents Modification 4 of August 2016 (06_0311 MOD 4)
Purple text represents Modification 5 of June 2020 (06_0311 MOD 5)

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DEFINITIONS

Aboriginal Object / Place	Has the same meaning as the definition of the term in section 5 of the NP&W Act
Annual review	The review required by condition 8 of Schedule 5
Applicant	Great Southern Energy Pty Limited, or any person carrying out development under this consent
Affected councils	Central Coast Council and Lake Macquarie City Council
APZs	The asset protection zones shown in Figure 4 in Appendix 2
BCA	Building Code of Australia
BCD	Biodiversity and Conservation Division within the Department
Built features	Includes any building or work erected or constructed on land, and includes dwellings and infrastructure such as any formed road, street, path, walk, or driveway; and any pipeline, water, sewer, telephone, gas or other service main
Calendar year	A period of 12 months from 1 January to 31 December
CCC	Community Consultative Committee
CC Council	Central Coast Council
Conditions of this consent	Conditions contained in Schedules 2 to 5 inclusive
Day	The period from 7 am to 6 pm on Monday to Saturday, and 8 am to 6 pm on Sundays and Public Holidays
Department	Department of Planning, Industry and Environment
DPIE Water	Water Group within the Department
EA	Environmental Assessment titled *Mannering Colliery Environmental Assessment*, dated March 2007, including the response to submissions, dated 27 July 2007
EA (Mod 1)	Environmental Assessment titled *Mannering Colliery – Extension of Mine Project Section 75W Modification to Project Approval 06_0311*, as modified by the associated response to submissions dated 4 September 2012
EA (Mod 2)	Environmental Assessment titled *'Mannering Colliery – Modification 2, Environmental Assessment, Section 75W Modification to MP 06_0311'* dated April 2014, as modified by the associated response to submissions dated 15 September 2014
EA (Mod 3)	Environmental Assessment titled *'Mannering Colliery – Modification 3 Environmental Assessment, Section 75W Modification to MP 06_0311'* dated June 2015, including the associated Response to Submissions dated September 2015
EA (Mod 4)	Environmental Assessment titled *'Administrative modification to MP06_0311 – Environmental Assessment'* dated 25 July 2016
Environment	Includes all aspects of the surroundings of humans, whether affecting any human as an individual or in his or her social groupings
EPA	NSW Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000*
EPBC Act	Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*
EPL	Environment Protection Licence issued under the *Protection of the Environment Operations Act 1997*
Evening	The period from 6pm to 10pm
Feasible	Means what is possible and practical in the circumstances
First workings	The extraction of coal by bord and pillar mining methods (including herringbone pattern workings) and from main headings, gateroads and cut-throughs and the like, provided that such workings are long-term stable and do not generate more than 20 mm of vertical subsidence at the surface
Heritage item	An Aboriginal object, an Aboriginal place, or a place, building, work, relic, moveable object, tree, or precinct of heritage significance, that is listed under any of the following: • the State Heritage Register under the *Heritage Act 1977;* • a state agency heritage and conservation register under section 170 of the *Heritage Act 1977*; • a Local Environmental Plan under the EP&A Act; • the World Heritage List; • the National Heritage List or Commonwealth Heritage List under the EPBC Act; or

	• anything identified as a heritage item under the conditions of this consent.
Incident	An occurrence or set of circumstances that causes or threatens to cause material harm that may or may not be or cause a non-compliance
Land	Has the same meaning as the definition of the term in section 1.4 of the EP&A Act, except where the term is used in the noise and air quality conditions in Schedules 3 and 4 of this consent where it is defined to mean the whole of a lot, or contiguous lots owned by the same landowner, in a current plan registered at NSW Land Registry Services at the date of this consent
Material harm	Is harm to the environment that: • involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial; or • results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment)
Minimise	Implement all reasonable and feasible mitigation measures to reduce the impacts of the development
Mining operations	The carrying out of underground mining, including the extraction, processing, stockpiling and transportation of coal on the site and the emplacement of coarse/fine reject material resulting from underground mining
Minister	The Minister for Planning and Public Spaces, or delegate
Minor	Not very large, important or serious
Modification 1	The modification to the development as described in EA (Mod 1)
Modification 2	The modification to the development as described in EA (Mod 2)
Modification 3	The modification to the development as described in EA (Mod 3)
Modification 4	The modification to the development as described in EA (Mod 4)
Modification 5	The modification to the development as described in SEE (Mod 5)
Negligible	Small and unimportant, such as to be not worth considering
Night	The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
NP&W Act	*National Parks and Wildlife Act 1974*
NPfI	Noise Policy for Industry (EPA, 2017)
Planning Secretary	Planning Secretary under the EP&A Act, or nominee
Privately-owned land	Land that is not owned by a public agency, Delta Electricity (or its subsidiary) or a mining company (or its subsidiary)
Reasonable	Reasonable relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements
Registered Aboriginal Parties	As described in the *National Parks and Wildlife Regulation 2009*
Rehabilitation	The restoration of land disturbed by the development to a good condition, to ensure it is safe, stable and non-polluting
RFS	NSW Rural Fire Service
ROM	Run-of-mine
RR	Regional NSW - Resources Regulator
SA NSW	Subsidence Advisory NSW
Second workings	Extraction of coal by longwall, miniwall, pillar extraction, pillar splitting or pillar reduction methods, and inclusive of any first workings methods that would generate more than 20 mm of vertical subsidence at the surface
SEE (Mod 5)	Statement of Environmental Effects titled '*Statement of Environmental Effects, Mannering Colliery – Modification 5*' dated May 2019, prepared by EMM Consulting, and the associated Response to Submissions dated August 2019, prepared by EMM Consulting.
Site	Land referred to in Appendix 1
SMP	Subsidence Management Plan
Statement of Commitments	The Statement of Commitments in Appendix 3
Subsidence	Subsidence of the land surface caused by underground coal mining
TfNSW	Transport for NSW

SCHEDULE 2
ADMINISTRATIVE CONDITIONS

Obligation to Minimise Harm to the Environment

1. In addition to meeting the specific performance measures and criteria established under this development, the Applicant must implement all reasonable and feasible measures to prevent, and if prevention is not reasonable and feasible, minimise, any material harm to the environment that may result from the construction and operation of the development, and any rehabilitation required under this consent.

Terms of Approval

2. The development may only be carried out:
   (a) in compliance with the conditions of this consent;
   (b) in accordance with the statement of commitments in Appendix 3;
   (c) in accordance with the approved mine plan in Appendix 2;
   (d) in accordance with all written directions of the Planning Secretary; and
   (e) generally in accordance with the EA, EA (Mod 1), EA (Mod 2), EA (Mod 3), EA (Mod 4) and SEE (Mod 5).

3. Consistent with the requirements in this consent, the Planning Secretary may make written directions to the Applicant in relation to:
   (a) the content of any strategy, study, system, plan, program, review, audit, notification, report or correspondence submitted under or otherwise made in relation to this consent, including those that are required to be, and have been, approved by the Planning Secretary; and
   (b) the implementation of any actions or measures contained in any such document referred to in condition 3(a).

4. The conditions of this consent and directions of the Planning Secretary prevail to the extent of any inconsistency, ambiguity or conflict between them and a document/s listed in condition 2(e). In the event of an inconsistency, ambiguity or conflict between any of the document/s listed in condition 2(e), the most recent document prevails to the extent of the inconsistency, ambiguity or conflict.

Limits on Consent

5. Mining operations may take place until 31 December 2027.

   Note: Under this consent, the Applicant is required to rehabilitate the site to the satisfaction of the Planning Secretary and RR. Consequently, this consent will continue to apply in all other respects other than the right to conduct mining operations until the site has been rehabilitated to a satisfactory standard.

6. The Applicant must not extract more than 1.1 million tonnes of ROM coal a year from the site.

6A. The Applicant must not transport more than 2.1 million tonnes of ROM coal a year from the site.

7. The Applicant must ensure all coal produced and/or received on the site is transported by overland conveyor to Vales Point Power Station.

8. Deleted.

Structural Adequacy

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

   Notes:
   - *Under Part 6 of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for any proposed building works.*
   - *Part 8 of the EP&A Regulation sets out the requirements for the certification of the development.*
   - *Under section 21 of the Coal Mine Subsidence Compensation Act 2017, the Applicant is required to obtain the Chief Executive of SANSW's approval before carrying out certain development in a Mine Subsidence District.*

Demolition

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

Operation of Plant and Equipment

11. All plant and equipment used on site, or to monitor the performance of the development must be:
    (a) maintained in a proper and efficient condition; and
    (b) operated in a proper and efficient manner.

Community Enhancement Program

12. The Applicant must pay the affected councils $0.02 for each tonne of ROM coal produced by the development for the purpose of improving water quality in the Lake Macquarie catchment. This payment must be:
    (a) shared equally by the affected councils;
    (b) made by the end of March 2009, and at yearly intervals thereafter;
    (c) calculated on the ROM coal produced in the previous calendar year; and
    (d) subject to indexation by the Implicit Price Deflator, as published by the Australian Bureau of Statistics.

Community Consultative Committee

13. A Community Consultative Committee (CCC) must be established for the development in accordance with the Department's *Community Consultative Committee Guidelines: State Significant Developments* (2019). The CCC must continue to operate during the life of the development, or other timeframe agreed by the Planning Secretary.

    Notes:
    - *The CCC is an advisory committee only.*
    - *In accordance with the Guidelines, the Committee should comprise an independent chair and appropriate representation from the Applicant, affected Councils and the local community.*

14. With the approval of the Planning Secretary, the Applicant may combine the CCC required by this development with any similar CCC required by a consent or approval for any adjoining mine subject to common, shared or related ownership or management.

Evidence of Consultation

15. Where conditions of this consent require consultation with an identified party, the Applicant must:
    (a) consult with the relevant party prior to submitting the subject document;
    (b) provide details of the consultation undertaken including:
        i. the outcome of that consultation, matters resolved and unresolved; and
        ii. details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved.

Staging, Combining and Updating Strategies, Plans or Programs

16. With the approval of the Planning Secretary, the Applicant may:
    (a) prepare and submit any strategy, plan or program required by this consent on a staged basis (if a clear description is provided as to the specific stage and scope of the development to which the strategy, plan or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan or program);
    (b) combine any strategy, plan or program required by this consent (if a clear relationship is demonstrated between the strategies, plans or programs that are proposed to be combined);
    (c) update any strategy, plan or program required by this consent (to ensure the strategies, plans and programs required under this consent are updated on a regular basis and incorporate additional measures or amendments to improve the environmental performance of the development); and

(d) combine any strategy, plan or program required by this consent with any similar strategy, plan or program required by an adjoining mining consent or approval, in common ownership or management.

17. If the Planning Secretary agrees, a strategy, plan or program may be staged or updated without consultation being undertaken with all parties required to be consulted in the relevant condition in this consent.

18. If the Planning Secretary agrees, a strategy, plan or program may be staged without addressing particular requirements of the relevant condition of this consent if those requirements are not applicable to the particular stage.

Application of Existing Strategies, Plans or Programs

19. The Applicant must continue to apply existing management strategies, plans or monitoring programs approved prior to the approval of Modification 5, until the approval of a similar plan, strategy or program following the approval of Modification 5.

Protection of Public Infrastructure

20. Unless the Applicant and the applicable authority agree otherwise, the Applicant must:
(a) repair, or pay the full costs associated with repairing, any public infrastructure[a] that is damaged by carrying out the development; and
(b) relocate, or pay the full costs associated with relocating, any public infrastructure[a] that needs to be relocated as a result of the development.

[a] *This condition does not apply to any damage to roads caused as a result of general road usage or to damage that has been compensated under the Mining Act 1992.*

Compliance

21. The Applicant must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the development.

Applicability of Guidelines

22. References in the conditions of this consent to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Standards or policies in the form they are in as at the date of inclusion (or later update) in the condition.

23. However, consistent with the conditions of this consent and without altering any limits or criteria in this consent, the Planning Secretary may, in respect of ongoing monitoring and management obligations, agree to or require compliance with an updated or revised version of such a guideline, protocol, Standard or policy, or a replacement of them.

SCHEDULE 3
SPECIFIC ENVIRONMENTAL CONDITIONS

NOISE

Construction Noise

1. The Applicant must ensure that the noise generated by any construction work is managed in accordance with the requirements outlined in the *Interim Construction Noise Guideline* (DECC, 2009).

Operational Noise Criteria

2. Except for the carrying out of construction works, the Applicant must ensure that the noise generated by the development does not exceed the criteria in Table 1 at any residence[a] on privately-owned land.

***Table 1**: Operational noise criteria dB(A)*

Noise Assessment Location	***Day*** $L_{Aeq\ (15\ min)}$	***Evening*** $L_{Aeq\ (15\ min)}$	***Night*** $L_{Aeq\ (15\ min)}$	***Night*** $L_{A1\ (1\ min)}$
4 – di Rocco	40	36	36	46
5 - Keighran	40	39	39	49
6 – Swan	40	37	37	47
7 – Druitt	40	35	35	45
8 – Macquarie Shores Home Village	42	42	42	47
9 - Jeans	40	37	37	47
11 - Jeans	40	36	36	46
18 - Jeans	40	36	36	46
20 – Knight and all other privately-owned residences	40	36	36	46

[a] *The Noise Assessment Locations referred to in Table 1 are shown in Appendix 4.*

Noise generated by the development must be monitored and measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the *NSW Noise Policy for Industry* (EPA, 2017).

3. The noise criteria in Table 1 do not apply if the Applicant has an agreement with the owner/s of the relevant residence or land to exceed the noise criteria, and the Applicant has advised the Department in writing of the terms of this agreement.

Noise Operating Conditions

3A. The Applicant must:

(a) take all reasonable steps to minimise noise from construction and operational activities, including low frequency noise and other audible characteristics, associated with the development;

(b) implement reasonable and feasible noise attenuation measures on all plant and equipment that will operate in noise sensitive areas;

(c) operate a comprehensive noise management system commensurate with the risk of impact;

(d) take all reasonable steps to minimise the noise impacts of the development during noise-enhancing meteorological conditions when the noise criteria in this consent do not apply (see NPfI);

(e) carry out regular attended noise monitoring (at least once a month, unless otherwise agreed by the Planning Secretary) to determine whether the development is complying with the relevant conditions of this consent;

(f) regularly assess the noise monitoring data and modify or stop operations on the site to ensure compliance with the relevant conditions of this consent; and
(g) implement reasonable and feasible measures to further enclose the structure housing the coal crusher in order to further mitigate noise from operational activites.

3B. The Applicant must decommission the surface rotary breaker identified in the Statement of Commitments at Appendix 3, within 3 months of approval of Modification 5.

Noise Management Plan

3C. The Applicant must prepare a Noise Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:
(a) be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary;
(b) describe the measures to be implemented to ensure:
i. compliance with the noise criteria and operating conditions in this consent;
ii. best practice management is being employed; and
iii. noise impacts of the development are minimised during noise-enhancing meteorological conditions when the noise criteria in this consent do not apply (see NPfI);
(c) describe the noise management system in detail; and
(d) include a monitoring program that:
i. uses a combination of real-time and supplementary attended monitoring to evaluate the performance of the development;
ii. monitors noise at the nearest and/or most affected residences;
iii. includes a program to calibrate and validate the real-time noise monitoring results with the attended monitoring results over time;
iv. adequately supports the noise management system;
v. includes a protocol for distinguishing noise emissions of the development from any neighbouring developments; and
vi. includes a protocol for identifying any noise-related exceedance, incident or non-compliance and for notifying the Department and relevant stakeholders of any such event.

The Applicant must implement the Noise Management Plan as approved by the Planning Secretary.

SUBSIDENCE

4. The Applicant must limit its coal extraction methods on the site to first workings only, and must not undertake second workings.

5. Deleted.

SOIL AND WATER

Discharge

6. The Applicant must only discharge water from the site as expressly provided for by its EPL.

7. The Applicant must investigate, assess and report on the ecological interactions of minewater discharged from the site with the aquatic ecology of the unnamed creek and wetlands (and associated vegetation) between the minewater discharge point/s and Lake Macquarie. This report must:
(a) be prepared in consultation with EPA by suitably qualified expert/s whose appointment/s have been approved by the Planning Secretary;
(b) be submitted to the Planning Secretary by the end of March 2009; and
(c) assess the probable alterations in the local ecology attributable to previous and proposed minewater discharges and any future cessation of minewater discharge flows.

Water Management Plan

8. The Applicant must prepare a Water Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:
(a) be prepared in consultation with DPIE Water by suitably qualified expert/s whose appointment/s have been approved by the Planning Secretary;
(b) be submitted the Planning Secretary by the end of March 2009; and
(c) include a:
- Site Water Balance;

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

The Applicant must implement the Water Management Plan approved by the Planning Secretary.

Site Water Balance

9. The Site Water Balance must:
   (a) include details of:
      - sources and security of water supply;
      - water use on site;
      - water management on site; and
   (b) investigate, assess and report on measures to minimise water use by the development, particularly potable water from the Wyong Shire town water supply.

Erosion and Sediment Control

10. The Erosion and Sediment Control Plan must:
   (a) be consistent with the requirements of *Managing Urban Stormwater: Soils and Construction* (Landcom 2004, or its latest version);
   (b) identify activities that could cause soil erosion and generate sediment;
   (c) describe measures to minimise soil erosion and the potential for transport of sediment from the site;
   (d) describe the location, function, and capacity of erosion and sediment control structures; and
   (e) describe what measures would be implemented to monitor and maintain the structures over time.

Surface Water Monitoring Program

11. The Surface Water Monitoring Plan must include:
   (a) detailed baseline data on surface water flows and quality in creeks and other waterbodies that could be affected by the development;
   (b) surface water impact assessment criteria;
   (c) a program to monitor the impact of the development on surface water flows and quality; and
   (d) procedures for reporting the results of this monitoring.

Groundwater Monitoring Program

12. The Groundwater Monitoring Program must include:
   (a) detailed baseline data to benchmark the natural variation in groundwater levels, yield and quality;
   (b) groundwater impact assessment criteria;
   (c) a program to monitor the impact of the development on groundwater levels, yield and quality; and
   (d) procedures for reporting the results of this monitoring.

REHABILITATION

13. The Applicant must rehabilitate the site in accordance with the conditions imposed on the mining lease(s) associated with the development under the *Mining Act 1992*. Rehabilitation must be generally consistent with the proposed rehabilitation described in the EA and the Statement of Commitments, and comply with the objectives in Table 2.

Table 2: Rehabilitation Objectives

Feature	***Objective***
Mine site (as a whole of the disturbed land and water)	Safe, stable and non-polluting, fit for the purpose of the intended post-mining land use(s).
Surface Infrastructure	To be decommissioned and removed, unless the RR agrees otherwise.
Portals and ventilation shafts	To be decommissioned and made safe and stable.
Other land affected by the development	Restore ecosystem function, including maintaining or establishing self-sustaining ecosystems comprised of: • local native plant species (unless the RR agrees otherwise); and • a landform consistent with the surrounding environment.
Built features damaged by mining operations	Repair to pre-mining condition or equivalent unless: • the owner agrees otherwise; or

	• the damage is fully restored, repaired or compensated under the *Mine Subsidence Compensation Act 1961.*
Community	Ensure public safety.

13A. The Applicant must carry out all surface disturbing activities in a manner that, as far as practicable, minimises potential for dust emissions and must carry out rehabilitation of disturbed areas progressively, that is, as soon as reasonably practicable following disturbance.

Land Management Plan

14. The Applicant must prepare a detailed Land Management Plan for the site to the satisfaction of the Planning Secretary. This plan must:
    (a) be submitted to the Planning Secretary by the end of September 2008;
    (b) be prepared by suitably qualified expert/s whose appointment/s have been endorsed by the Planning Secretary;
    (c) be prepared in consultation with RR, BCD and affected councils; and
    (d) include measures to:
        - minimise visual impacts;
        - control weeds, feral pests and access; and
        - manage bushfires; and
    (e) provide details of who is responsible for monitoring, reviewing and implementing the plan.

    Prior to the end of April 2016, the Applicant must revise the Land Management Plan to incorporate the measures required to implement its commitments described in new row 2 of the Terrestrial Ecology section of its Statement of Commitments, and submit it to the Planning Secretary for approval.

    The Applicant must implement the Land Management Plan approved by the Planning Secretary.

14A. The Applicant must implement its preferred option of the three options set out in new row 2 of the Terrestrial Ecology section of its Statement of Commitments by 1 December 2016, following consultation with BCD and to the satisfaction of the Planning Secretary.

Rehabilitation Management Plan

15. The Applicant must prepare a Rehabilitation Management Plan for the site in accordance with the conditions imposed on the mining lease(s) associated with the development under the *Mining Act 1992*. This plan must:
    (a) be submitted within 3 months of approval of Modification 2 to the RR prior to carrying out any disturbing activities of the development, unless otherwise agreed by the Planning Secretary;
    (b) be prepared in accordance with RR guidelines and in consultation with the Department, BCD, EPA, DPIE Water, affected councils and the mine's CCC;
    (c) incorporate and be consistent with the rehabilitation objectives in the EA, Statement of Commitments and Table 2 above;
    (d) integrate and build on, to the maximum extent practicable, the other management plans required under this consent; and
    (e) address all aspects of mine closure and rehabilitation, including post-mining land use domains, rehabilitation objectives, completion criteria and rehabilitation monitoring and management.

    Note: The approved Mining Operations Plan (which will become the REMP once the Mining Act Amendments have commenced) required as a condition of the Mining Lease(s) issued in relation to this development, will satisfy the requirements of this condition for a Rehabilitation Plan.

AIR QUALITY

Impact Assessment Criteria

16. The Applicant must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the development do not cause exceedances of the criteria listed in Table 3 at any residence on privately-owned land.

***Table 3**: Air quality criteria*

Pollutant	***Averaging period***	***Criterion***	
Particulate matter < 2.5 µm ($PM_{2.5}$)	Annual	[a, c] 8 µg/m^3	
	24 hour	[b] 25 µg/m^3	
Particulate matter < 10 µm (PM_{10})	Annual	[a, c] 25 µg/m^3	
	24 hour	[b] 50 µg/m^3	
Total suspended particulate (TSP) matter	Annual	[a, c] 90 µg/m^3	
[d] Deposited dust	Annual	[b] 2 g/m^2/month	[a] 4 g/m^2/month

***Notes**:*
[a] Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources).
[b] Incremental impact (i.e. incremental increase in concentrations due to the development on its own).
[c] Excludes extraordinary events such as bushfires, prescribed burning, dust storms, fire incidents or any other activity agreed by the Planning Secretary.
[d] Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method.

16A. The air quality criteria in Table 3 do not apply if the Applicant has an agreement with the owner/s of the relevant residence or land to exceed the air quality criteria, and the Applicant has advised the Department in writing of the terms of this agreement.

Air Quality and Greenhouse Gas Management Plan

17. The Applicant must prepare an Air Quality and Greenhouse Gas Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:
    (a) be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary;
    (b) describe the measures to be implemented to ensure:
        i. capture and flaring of methane produced by underground coal mining;
        ii. compliance with the air quality criteria and operating conditions in this consent;
        iii. best practice management is being employed (including in respect of minimisation of greenhouse gas emissions from the site and energy efficiency); and
        iv. the air quality impacts of the development are minimised during adverse meteorological conditions and extraordinary events;
    (c) describe the air quality management system in detail; and
    (d) include an air quality monitoring program, undertaken in accordance with the *Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales* (DEC, 2007), that:
        i. uses monitors to evaluate the performance of the development against the air quality criteria in this consent and to guide day to day planning of operations;
        ii. adequately supports the air quality management system; and
        iii. includes a protocol for identifying an air quality incident and notifying the Department and relevant stakeholders of any such incident.

***Note:** "Methane produced by underground coal mining" does not include methane within mine ventilation air.*

17A. The Applicant must implement the Air Quality and Greenhouse Gas Management Plan as approved by the Planning Secretary.

METEOROLOGICAL MONITORING

17B. For the life of the development, the Applicant must ensure that there is a suitable meteorological station operating in the vicinity of the site that:

(a) complies with the requirements in the *Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales* (DEC, 2007); and

(b) is capable of measuring meteorological conditions in accordance with the *NSW Noise Policy for Industry* (EPA, 2017), unless a suitable alternative is approved by the Planning Secretary following consultation with the EPA.

HERITAGE

Protection of Aboriginal Heritage

18. The Applicant must ensure that the development does not cause any direct or indirect impact on any identified heritage item located outside the approved disturbance area, beyond those predicted in the documents listed in condition 2(e) of Schedule 2.

Heritage Management Plan

18A. The Applicant must prepare a Heritage Management Plan for the development to the satisfaction of the Planning Secretary. This Plan must:

(a) be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Planning Secretary;

(b) be prepared in consultation with BCD and Registered Aboriginal Parties;

(c) include consideration of the Aboriginal and non-Aboriginal cultural context and significance of the site;

(d) describe the procedures and management measures to be implemented on the site or within any offset area to:

i. ensure all workers receive suitable Aboriginal cultural heritage inductions prior to carrying out any activities which may cause impacts to Aboriginal objects or Aboriginal places, and that suitable records are kept of these inductions;

ii. protect, monitor and manage identified non-Aboriginal heritage, Aboriginal objects and Aboriginal places (including any proposed archaeological investigations of potential subsurface objects and salvage of objects within the approved disturbance area) in accordance with the commitments made in the document/s listed in condition 2(e) of Schedule 2;

iii. protect non-Aboriginal heritage, Aboriginal objects and Aboriginal places located outside the approved disturbance area from impacts of the development;

iv. manage the discovery of suspected human remains and any new Aboriginal objects or Aboriginal places, including provisions for burials, over the life of the development;

v. maintain and manage reasonable access for relevant Aboriginal stakeholders to Aboriginal objects and Aboriginal places (outside of the approved disturbance area); and

vi. facilitate ongoing consultation and involvement of Registered Aboriginal Parties in the conservation and management of Aboriginal cultural heritage on the site; and

(e) include a strategy for the care, control and storage of Aboriginal objects salvaged on site, both during the life of the development and in the long term.

The Applicant must implement the Heritage Management Plan approved by the Planning Secretary.

VISUAL

19. The Applicant must:

(a) ensure no outdoor lights shine above the horizontal;

(b) ensure that all external lighting associated with the development complies with *Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting*;

(c) take all practicable measures to mitigate off-site lighting impacts from the development; and

(d) minimise the visual impacts of the development,

to the satisfaction of the Planning Secretary.

TRANSPORT

Monitoring of Coal Transport

20. The Applicant must keep records of the amount of coal transported from the site each year, and include these records in the Annual Review.

Ruttleys Road Intersection

21. The Applicant must:
    (a) complete a road safety audit of the intersection of Ruttleys Road and Mannering Colliery Access Road by the end of March 2009;
    (b) provide copies of this audit to TfNSW, Central Coast Council and the Planning Secretary within one month of its completion; and
    (c) within 3 months of approval of Modification 2, install additional sections of guardrail (safety barrier) on the eastern side of Ruttleys Road between the Mannering Colliery access road and existing sections of guardrail further to the north;
    (d) be responsible for the maintenance and upkeep of the pavement of the Ruttleys Road/Mannering Colliery access road intersection whilst the site is used for mining purposes or until the intersection is upgraded to a Type CHR intersection treatment; and
    (e) prior to the number of workers (direct employees and contractors) at Mannering Colliery exceeding 70, the Applicant must upgrade the Ruttleys Road/Mannering Colliery access road intersection to a Type CHR treatment in accordance with Construction Certificate SCC/69/2011 issued by Central Coast Council, or later updated versions of this Construction Certificate;
    to the satisfaction of the Planning Secretary.

BUSHFIRE MANAGEMENT

22. The Applicant must:
    (a) ensure that the development:
        - provides for asset protection in accordance with the relevant requirements in the *Planning for Bushfire Protection* (RFS, 2006) guideline; and
        - ensure that there is suitable equipment to respond to any fires on the site; and
    (b) assist the RFS and emergency services to the extent practicable if there is a fire in the vicinity of the site.

WASTE

23. The Applicant must:
    (a) monitor the amount of waste generated by the development;
    (b) investigate ways to minimise waste generated by the development;
    (c) implement reasonable and feasible measures to minimise waste generated by the development; and
    (d) report on waste management and minimisation in the Annual Review,
    to the satisfaction of the Planning Secretary.

EXPLORATION ACTIVITIES AND SURFACE INFRASTRUCTURE

Exploration Activities and Minor Surface Infrastructure Management Plan

24. Prior to carrying out exploration activities on the site under this consent that would cause temporary surface disturbance, or exploration activities within the waters or lake bed of Lake Macquarie, or the construction and/or upgrade of minor surface infrastructure on the site, the Applicant must prepare an Exploration Activities and Minor Surface Infrastructure Management Plan for the development to the satisfaction of the Planning Secretary. This Plan must:
    (a) be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary;
    (b) be prepared in consultation with RR, NSW Maritime Division of TfNSW, NSW Fisheries and BCD;
    (c) include a description of the measures to be implemented for:
        i. managing exploration activities;
        ii. managing construction and operation of minor surface infrastructure and associated access tracks;
        iii. consulting with and if necessary compensating affected landowners;

iv. assessing noise, air quality, traffic, biodiversity, heritage, public safety and other impacts;
v. beneficial re-use or flaring of drained hydrocarbon gases, wherever practicable;
vi. avoiding significant impacts and minimisation of impacts generally;
vii. avoiding or minimising impacts on threatened species, populations or their habitats and EECs;
viii. minimising clearance and disturbance of native vegetation (including seagrasses);
ix. minimising and managing erosion and sedimentation; and
x. rehabilitating disturbed areas.

Note: *Consultation with NSW Maritime Division of TfNSW and NSW Fisheries is not required for land-based exploration activities and minor surface infrastructure.*

The Applicant must implement the Exploration Activities and Minor Surface Infrastructure Management Plan as approved by the Planning Secretary.

SCHEDULE 4
ADDITIONAL PROCEDURES

INDEPENDENT REVIEW

1. If a landowner considers the development to be exceeding the impact assessment criteria in schedule 3, then he/she may ask the Planning Secretary 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 must within 2 months of the Planning Secretary's decision:
   (a) consult with the landowner to determine his/her concerns;
   (b) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Planning Secretary, to conduct monitoring on the land, to:
   - determine whether the development is complying with the relevant impact assessment criteria in schedule 3; and
   - identify the source(s) and scale of any impact on the land, and the development's contribution to this impact; and
   - give the Planning Secretary and landowner a copy of the independent review.

2. If the independent review determines that the development is complying with the relevant impact assessment criteria in schedule 3, then the Applicant may discontinue the independent review with the approval of the Planning Secretary.

3. If the independent review determines that the development is not complying with the relevant impact assessment criteria in schedule 3, and that the development is primarily responsible for this non-compliance, then the Applicant must:
   (a) take all reasonable and feasible measures, in consultation with the landowner, to ensure that the development complies with the relevant criteria; and
   (b) conduct further monitoring to determine whether these measures ensure compliance.

   If the additional monitoring referred to above subsequently determines that the development is complying with the relevant criteria in schedule 3, or the Applicant and landowner enter into a negotiated agreement to allow these exceedances, then the Applicant may discontinue the independent review with the approval of the Planning Secretary.

4. If the independent review determines that the relevant criteria in schedule 3 are being exceeded, but that more than one development is responsible for this non-compliance, then the Applicant must, together with the relevant development/s:
   (a) take all reasonable and feasible measures, in consultation with the landowner, to ensure that the relevant criteria are complied with; and
   (b) conduct further monitoring to determine whether these measures ensure compliance; or
   (c) secure a written agreement with the landowner and other relevant developments to allow exceedances of the criteria in schedule 3,
   to the satisfaction of the Planning Secretary.

   If the additional monitoring referred to above subsequently determines that the developments are complying with the relevant criteria in schedule 3, then the Applicant may discontinue the independent review with the approval of the Planning Secretary.

5. If the landowner disputes the results of the independent review, either the Applicant or the landowner may refer the matter to the Planning Secretary for resolution.

   If the matter cannot be resolved within 21 days, the Planning Secretary shall refer the matter to an Independent Dispute Resolution Process.

SCHEDULE 5
ENVIRONMENTAL MANAGEMENT, MONITORING, AUDITING AND REPORTING

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

1. The Applicant must prepare an Environmental Management Strategy for the development to the satisfaction of the Planning Secretary. This strategy must:
   (a) provide the strategic framework for environmental management of the development;
   (b) identify the statutory approvals that apply to the development;
   (c) set out the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;
   (d) set out the procedures to be implemented to:
      - keep the local community and relevant agencies informed about the operation and environmental performance of the development;
      - receive record, handle and respond to complaints;
      - resolve any disputes that may arise during the course of the development;
      - respond to any non-compliance and any incident; and
      - respond to emergencies; and
   (e) include:
      - references to any strategies, plans and programs approved under the conditions of this consent; and
      - a clear plan depicting all the monitoring to be carried out under the conditions of this consent.

   The Applicant must implement the Environmental Management Strategy as approved by the Planning Secretary.

Adaptive Management

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

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

Management Plan Requirements

3. Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:
   (a) a summary of relevant background or baseline data;
   (b) details of:
      - the relevant statutory requirements (including any relevant approval, licence or lease conditions);
      - any relevant limits or performance measures and criteria; and
      - the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;
   (c) any relevant commitments or recommendations identified in the document/s listed in condition 2(e) of Schedule 2;
   (d) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;
   (e) a program to monitor and report on the:
      - impacts and environmental performance of the development; and

- effectiveness of the management measures set out pursuant to condition 2(e) of Schedule 2;

(f) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;

(g) a program to investigate and implement ways to improve the environmental performance of the development over time;

(h) a protocol for managing and reporting any:

- incident, non-compliance or exceedance of any impact assessment criterion or performance criterion;
- complaint; or
- failure to comply with other statutory requirements;

(i) public sources of information and data to assist stakeholders in understanding environmental impacts of the development; and

(j) a protocol for periodic review of the plan.

Note: *The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.*

4. The Applicant must ensure that management plans prepared for the development are consistent with the conditions of this consent and any EPL issued for the site.

REVISION OF STRATEGIES, PLANS AND PROGRAMS

5. Within three months of:

(a) the submission of an incident report under condition 6;

(b) the submission of an Annual Review under condition 8;

(c) the submission of an Independent Environmental Audit under condition 9; or

(d) the approval of any modification of the conditions of this consent (unless the conditions require otherwise),

the suitability of existing strategies, plans and programs required under this consent must be reviewed by the Applicant.

If necessary, to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary for approval within six weeks of the review.

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

REPORTING AND AUDITING

Incident Notification

6. The Applicant must immediately notify the Department and any other relevant agencies immediately after it becomes aware of an incident. The notification must be in writing to compliance@planning.nsw.gov.au and identify the development (including the development application number and name) and set out the location and nature of the incident.

Non-Compliance Notification

7. Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the non-compliance. The notification must be in writing to compliance@planning.nsw.gov.au and identify the development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, why it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

Note*: A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.*

Annual Review

8. By the end of March in each year after the commencement of the development, or other timeframe agreed by the Planning Secretary, a report must be submitted to the Department reviewing the environmental performance of the development, to the satisfaction of the Planning Secretary. This review must:

(a) describe the development (including any rehabilitation) that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current financial/calendar year;
(b) include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar year, including a comparison of these results against the:
- relevant statutory requirements, limits or performance measures/criteria;
- requirements of any plan or program required under this consent;
- monitoring results of previous years; and
- relevant predictions in the document/s listed in condition 2(e) of Schedule 2;

(c) identify any non-compliance or incident which occurred in the previous calendar year, and describe what actions were (or are being) taken to rectify the non-compliance and avoid reoccurrence;
(d) evaluate and report on:
- the effectiveness of the noise and air quality management systems; and
- compliance with the performance measures, criteria and operating conditions of this consent;

(e) identify any trends in the monitoring data over the life of the development;
(f) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and
(g) describe what measures will be implemented over the next calendar year to improve the environmental performance of the development.

Copies of the Annual Review must be submitted to the affected Councils and made available to the CCC and any interested person upon request.

Independent Environmental Audit

9. By the end of February 2022, and every three years after, unless the Planning Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the development. The audit must:
(a) led by a suitably qualified, experienced and independent auditor whose appointment has been endorsed by the Planning Secretary;
(b) be led and conducted by a suitably qualified, experienced and independent team of experts (including any be expert in field/s specified by the Planning Secretary) whose appointment has been endorsed by the Planning Secretary;
(c) be carried out in consultation with the relevant agencies and the CCC;
(d) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent, water licences and mining leases for the development (including any assessment, strategy, plan or program required under these approvals);
(e) review the adequacy of any approved strategy, plan or program required under the abovementioned approvals and this consent;
(f) recommend appropriate measures or actions to improve the environmental performance of the development and any assessment, strategy, plan or program required under the abovementioned approvals and this consent; and
(g) be conducted and reported to the satisfaction of the Planning Secretary.

10. Within three months of commencing an Independent Environmental Audit, or other timeframe agreed by the Planning Secretary, the Applicant must submit a copy of the audit report to the Planning Secretary, and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report, and a timetable for the implementation of the recommendations. The recommendations must be implemented to the satisfaction of the Planning Secretary.

Monitoring and Environmental Audits

11. Any condition of this consent that requires the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of Part 9 of the EP&A Act. This includes conditions in respect of incident notification, reporting and response, non-compliance notification, compliance report and independent audit.

For the purposes of the condition, as set out in the EP&A Act, “monitoring” is monitoring of the development to provide data on compliance with the consent or on the environmental impact of the development, and an “environmental audit” is a periodic or particular documented evaluation of the

development to provide information on compliance with the consent or the environmental management or impact of the development.

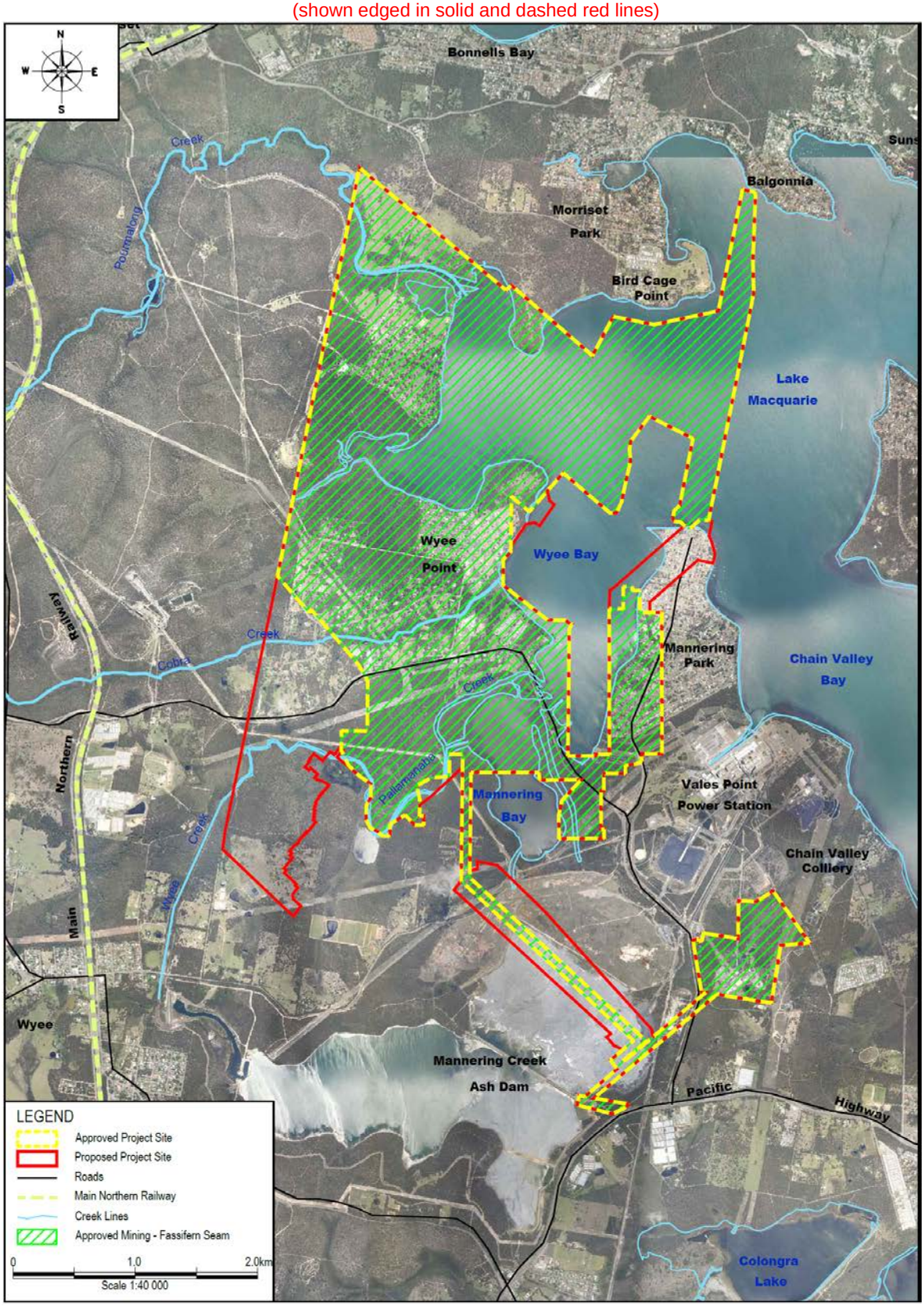
12. Noise and/or air quality monitoring under this consent may be undertaken at suitable representative monitoring locations instead of at privately-owned residences or other locations listed in Schedule 3, providing that these representative monitoring locations are set out in the respective management plan/s.

ACCESS TO INFORMATION

13. Until the completion of all rehabilitation required under this consent, the Applicant must:
    (a) make the following information and documents (as they are obtained, approved or as otherwise stipulated within the conditions of this consent) publicly available on its website:
        - the documents referred to in condition 2(e) of Schedule 2 of this consent;
        - all current statutory approvals for the development;
        - all approved strategies, plans and programs required under the conditions of this consent;
        - the proposed staging plans for the development if the construction, operation or decommissioning of the development is to be staged;
        - minutes of CCC meetings;
        - regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this consent;
        - a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;
        - a summary of the current progress of the development;
        - contact details to enquire about the development or to make a complaint;
        - a complaints register, updated monthly;
        - the Annual Reviews of the development;
        - audit reports prepared as part of any Independent Environmental Audit of the development and the Applicant's response to the recommendations in any audit report; and
        - any other matter required by the Planning Secretary; and
    (b) keep such information up to date, to the satisfaction of the Planning Secretary.

APPENDIX 1: DEVELOPMENT LAND

Mannering Colliery – Land to which the Development Consent applies
(shown edged in solid and dashed red lines)



APPENDIX 2: DEVELOPMENT MAPS

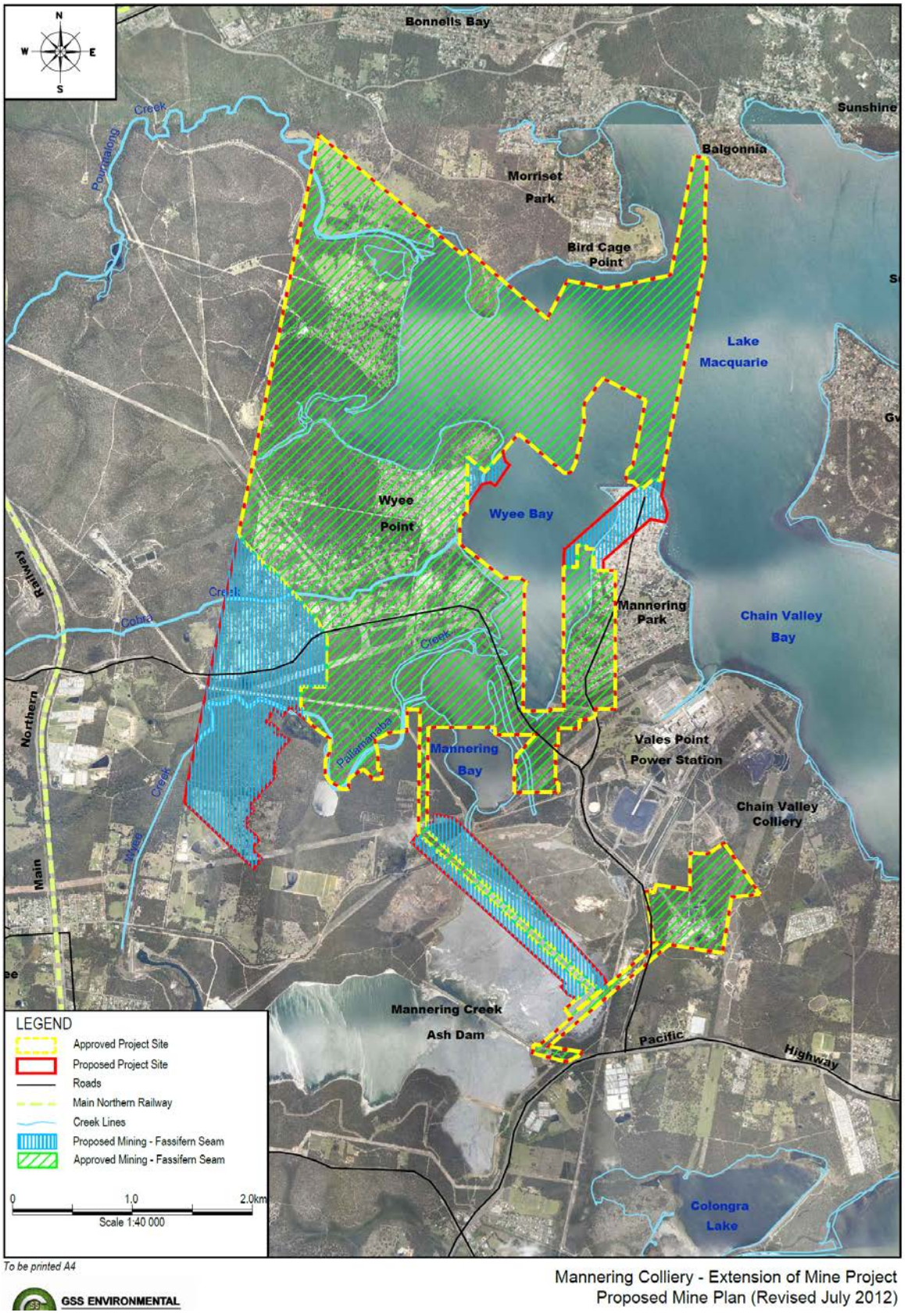


***Figure 1**: Revised Mine Plan for Fassifern Seam*

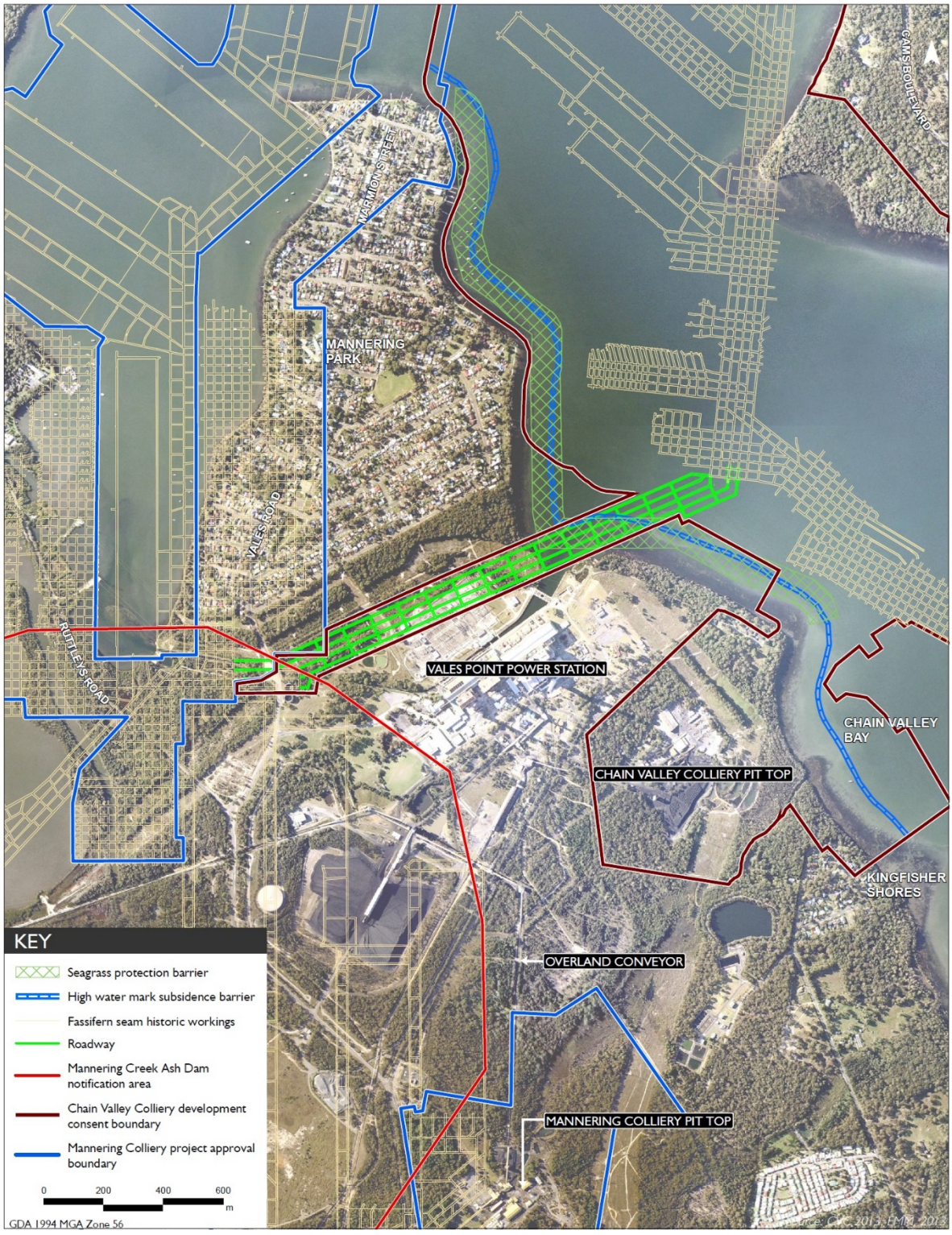
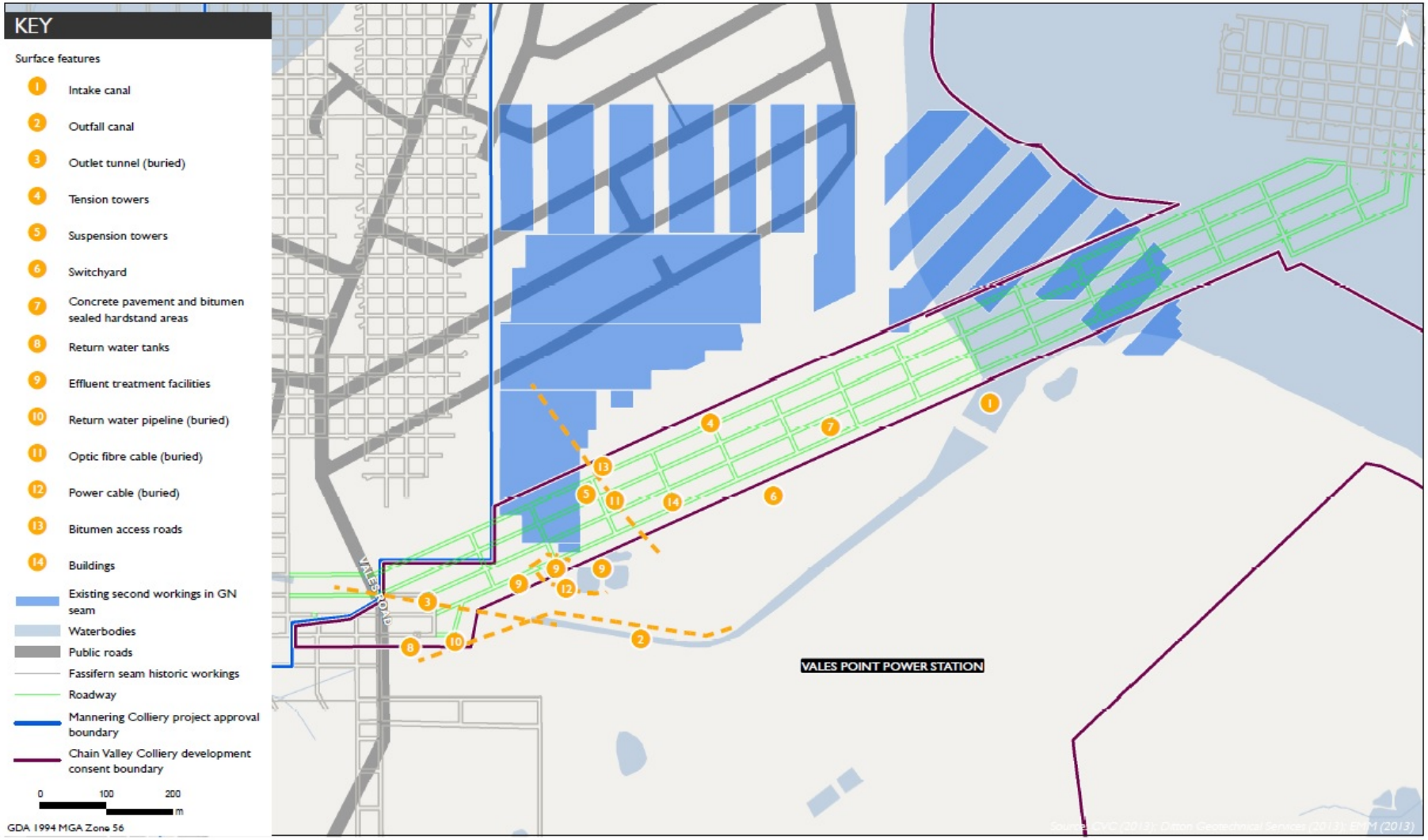


Figure 2: *Location of the underground linkage to Chain Valley Colliery*



EMM

Figure 3: *Location of the underground link and surface infrastructure*

Figure 4. *Location of asset protection zones*

APPENDIX 3: STATEMENT OF COMMITMENTS

Revised Statement of Commitments (April 2020)

Revised Statement of Commitments

Subsidence
Mining to be limited to bord-and-pillar methods where coal recovery is limited to first workings only.
Monitoring of the existing subsidence monitoring marks will continue and additional subsidence monitoring marks will be installed above the proposed mining areas to measure the subsidence and verify that subsidence is within the predicted levels.
If it is identified that subsidence levels are greater than the predicted maximum of 20 millimetres, the RR will be consulted to determine appropriate management and mitigation actions.
Water Management
Great Southern Energy Pty Limited will undertake a review of the existing site water management system in consultation with the EPA.
The water level within the sediment pond system will be monitored and kept at a relatively low operating level, such that the ponds can provide a detention function in a significant rainfall event.
A visual assessment of the unnamed creek will be undertaken every 6 months to monitor stability and erosion.
Where practicable, underground water levels will be recorded to monitor changes in the level of water stored in underground depressions and to verify that the rate of extraction is sufficient.
The extraction of underground water from the mine workings will be undertaken in accordance with the Water Access Licence (WAL40461) issued under the Water Management Act 2000.
To enable on-going assessment of the quality of water discharged, the existing monitoring program will be maintained for the life of the Development with the following enhancements: • An assessment of the surrounding catchments summarising land uses and other background information to characterise an appropriate water quality; and • Annual monitoring of heavy metals at the monitoring location identified as 'Downstream'.
Terrestrial Ecology
The following measures to manage the impacts of vegetation clearing/disturbance associated with the APZ requirements will be ongoing: • weed management; • large trees will be retained as a priority where possible; • felled trees will be relocated adjacent to the APZs to create additional fauna habitat; • any injured fauna will be taken to the nearest veterinary hospital for treatment before release; and • an ecologist will complete a pre-disturbance survey to determine important components of the Swamp Oak Floodplain Forest EEC for retention in the APZs.
LakeCoal will investigate the following options for biodiversity offsets: • provide $10,000 of funding, which is equivalent to the biodiversity being lost (ie 5 credits x $2,000 per credit) to existing environmental programs at the site which benefits the Swamp Oak Floodplain Forest EEC; or • consult with BCD to identify a suitable conservation program and provide $10,000 of funding; or

• purchase and retire 5 credits on the Biobanking register. These options will be considered by the Applicant in consultation with BCD and will reflect BCD's 'Approved BioBanking Assessment Methodology 2014'. The option that achieves the greatest benefit to the biodiversity impacted by the proposed modification will be selected.
If monitoring indicates that mine-induced subsidence levels exceed 20 millimetres, a review will be undertaken to identify any potential impacts to terrestrial ecology.
Aquatic Ecology
If monitoring indicates that mine-induced subsidence levels exceed 20 millimetres, a review will be undertaken to identify any potential impacts to aquatic ecology.
Aboriginal Heritage
Activities will continue to be managed in accordance with the Colliery's Aboriginal Cultural Heritage Management plan (ACHMP).
If monitoring indicates that mine-induced subsidence levels exceed 20 millimetres, a review will be undertaken to identify any potential impacts to cultural heritage in consultation with BCD.
All relevant Mannering staff and contractors will be made aware of their statutory obligations for Aboriginal cultural heritage under the NP&W Act as part of the existing mine induction process.
An Aboriginal Cultural Heritage Management Plan (ACHMP) will be developed and implemented for the identified Aboriginal heritage items within the Development Site in consultation with the relevant Aboriginal stakeholders. If additional sites are identified they will be assessed for cultural significance and be incorporated into the ACHMP.
In the unlikely event that skeletal remains are identified, the NSW Police Coroner will be contacted to determine if the material is of Aboriginal origin. If determined to be Aboriginal, contact will be made with the BCD, a suitably qualified archaeologist and representatives of the relevant Aboriginal stakeholder groups to determine an action plan for the management of the skeletal remains and formulate management recommendations if required.
European Heritage
If monitoring indicates that mine-induced subsidence levels exceed 20 millimetres, a review will be undertaken to identify any potential impacts to non-indigenous heritage.
All relevant Mannering staff and contractors will be made aware of their statutory obligations for European cultural heritage under the Heritage Act 1977 as part of the existing mine induction process.
If, during the course of development works, significant non-indigenous cultural heritage material is uncovered within the Development Site, the Heritage Branch of BCD will be notified and any required monitoring or management strategies instigated.
Air Quality
A review of dust management strategies and mitigation measures will be undertaken against the best practice dust mitigation measures identified in the NSW Coal Mining Benchmarking Study: International Best Practice Measures to Prevent and/or Minimise Emissions of Particulate Matter from Coal Mining (Katestone Environmental Pty Ltd 2011), which was prepared for BCD. The review will identify any additional dust management practices that are reasonable and feasible for implementation at Mannering Colliery and will be undertaken generally in accordance with any requirements of a pollution reduction program that may be imposed by the EPA on the Manning Colliery EPL in the future.
Traffic

Great Southern Energy Pty Limited will upgrade the Ruttleys Road - Mannering Colliery Access Road intersection to improve safety and operational efficiency.
Socio-Economic
Great Southern Energy Pty Limited is committed to on-going community consultation and will continue to engage the community for the purposes of providing information relating to on-going operations and the development of the Colliery.
Rehabilitation
Rehabilitation will be undertaken in accordance with the Colliery's Rehabilitation Management Plan, which will be updated to include any changes as a result of any modification.
The Rehabilitation Management Plan will be amended to reflect any modification and will include integrated rehabilitation and environmental management.
Monitoring
The Environmental Monitoring Program will be reviewed and updated, as required, to incorporate the commitments made in the Environmental Assessment and any additional consent conditions.
Commitments for Modification 5
Great Southern Energy Pty Limited will undertake environmental management incorporating the requirements of any modification and in accordance with the existing environmental management processes of the various approvals, licences and management plans that apply to the development.
Great Southern Energy Pty Limited will apply to the EPA for a variation to EPL No. 191 to reflect the increase in the rate of ROM coal throughput from 1.3 to 2.1 Mtpa.
Great Southern Energy Pty Limited will commission a suitably qualified geotechnical engineer to undertake detailed geotechnical assessments as part of the Colliery's detailed mine plan design process.
Great Southern Energy Pty Limited will decommission the surface rotary breaker to reduce noise emissions.

APPENDIX 4: NOISE ASSESSMENT LOCATIONS

Private Property Surrounding Mannering
(Location of ID numbers are shown on following figure)

ID	Owner	ID	Owner	ID	Owner
1	Energy Australia	**27**	H Gleeson	**53**	H & J Beukers
2	Alcevski Investments	**28**	C Stead & M Garner	**54**	A Taylor-Stewart
3	Eaton & Sons Pty Ltd	**29**	A O'Keefe	**55**	G Kettles
4	O & J di Rocco	**30**	P Groen	**56**	R & E Brokenshire
5	A & M Keighran	**31**	M Parkin	**57**	B & S Fowler
6	Swan HydroPonics Pty Ltd	**32**	I Maclaren	**58**	B Sneddon
7	R Druitt	**33**	P Kranz	**59**	J & P Hanson
8	Macquarie Shores Home Village	**34**	T & V Wilding	**60**	L Crook & L Kelly
9	L F Jeans	**35**	G Williams	**61**	P & G Becker
10	L & J Jeans	**36**	P & C Byrnes	**62**	B Clover & R Alaban
11	L & J Jeans	**37**	G Holmes	**63**	T & O Becker
12	L & J Jeans	**38**	R & B Croucher	**64**	R Harris & D Kingsford
13	L & J Jeans	**39**	R & C Calvert	**65**	N Singleton
14	L & J Jeans	**40**	T & D Stolz	**66**	M Smith
15	L & J Jeans	**41**	A & S Whitbread	**67**	D & B Johnston
16	L & J Jeans	**42**	B Kelly	**68**	R & B Amos
17	L & J Jeans	**43**	L Preston	**69**	H & C Strand
18	L & J Jeans	**44**	G Bain	**70**	PhystonPty Ltd
19	L & J Jeans	**45**	C Clarke	**71**	R Howland
20	E & K Knight	**46**	W Carpenter	**72**	R & D Shannon
21	Jonita Homes Pty Ltd	**47**	S Mackay	**73**	P & B Williams
22	W & D Buchmasser	**48**	R Allen	**74**	P Batten
23	P McKee	**49**	S Jopp	**75**	G & A Dyer
24	J Farrell	**50**	P & M Davie	**76**	S Harrison & N Robertson
25	P Kretchmer & E Castle	**51**	D Olsen		
26	A Mearns	**52**	D Poulson & K Toope		

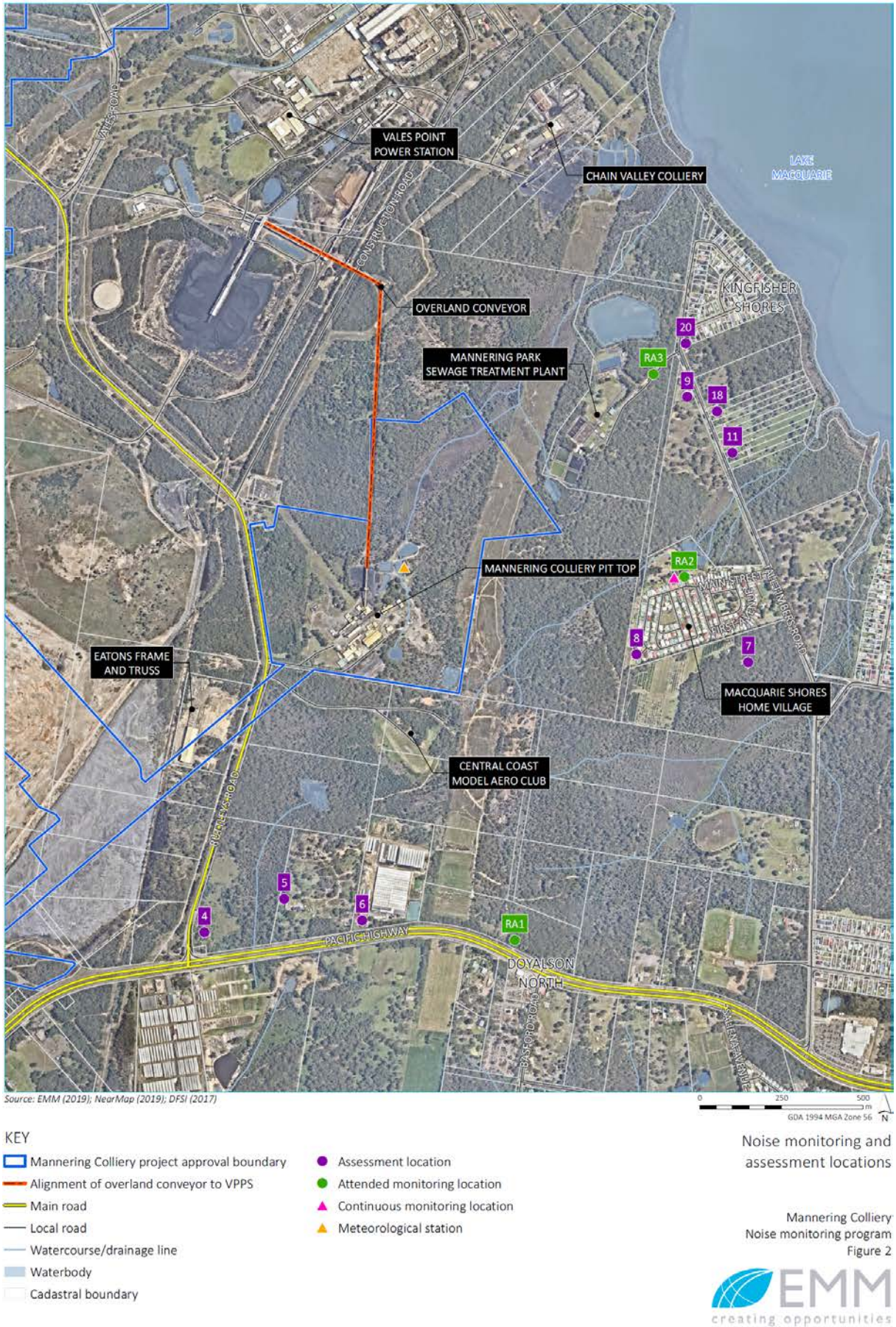
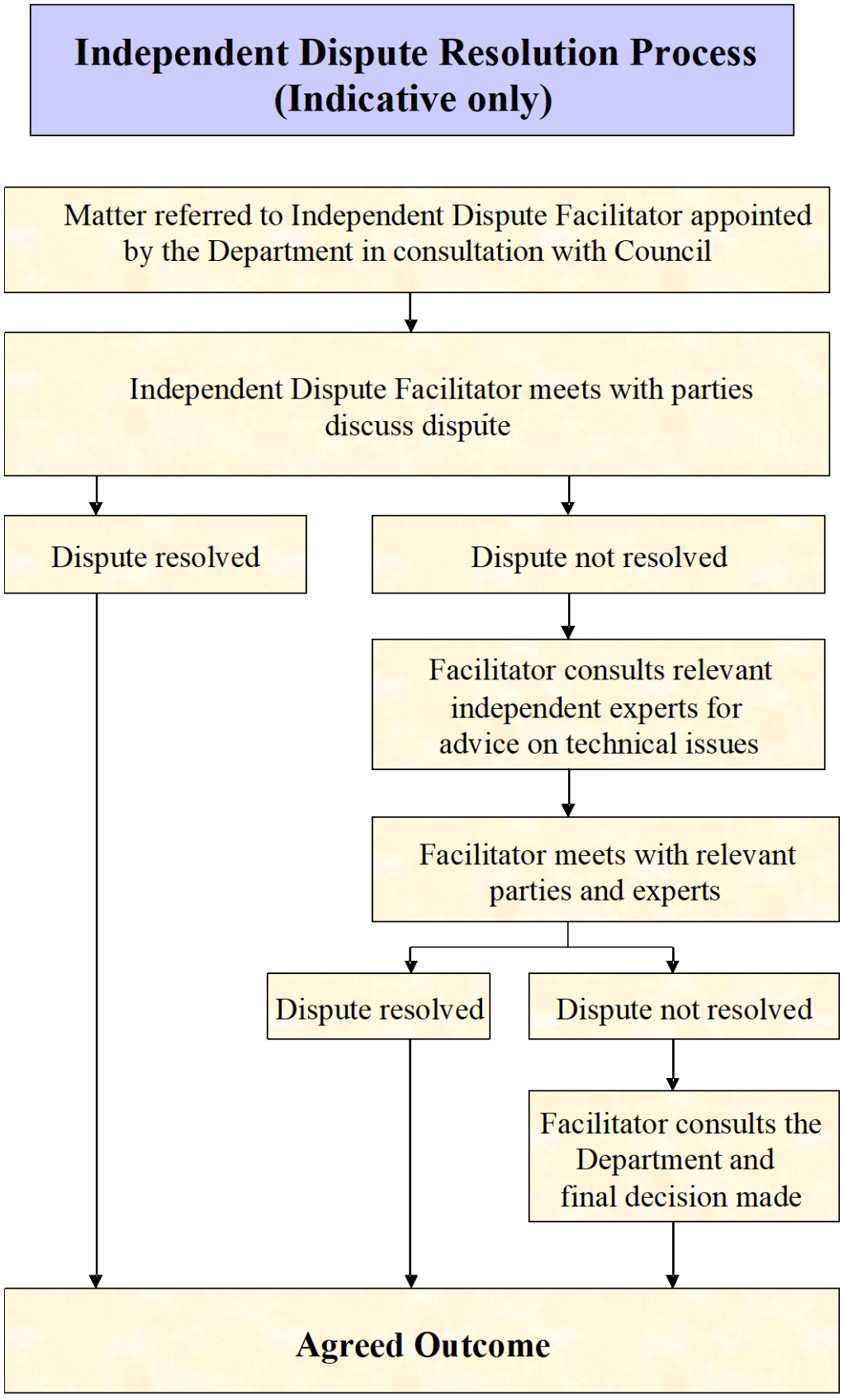


***Figure 5**: Noise monitoring locations*

APPENDIX 5: INDEPENDENT DISPUTE RESOLUTION



Appendix 2: Environment Protection Licence 191

Environment Protection Licence

Licence - 191

Licence Details	
Number:	191
Anniversary Date:	01-January

Licensee

GREAT SOUTHERN ENERGY PTY LTD

PO BOX 7115

MANNERING PARK NSW 2259

Premises

MANNERING COLLIERY

RUTLEYS ROAD

DOYALSON NSW 2262

Scheduled Activity

Coal works

Mining for coal

Fee Based Activity	Scale
Coal works	> 2000000-5000000 T annual handing capacity
Mining for coal	> 500000-2000000 T annual production capacity

Region

Metropolitan North - Newcastle

Ground Floor, NSW Govt Offices, 117 Bull Street

NEWCASTLE WEST NSW 2302

Phone: (02) 4908 6800

Fax: (02) 4908 6810

PO Box 488G

NEWCASTLE NSW 2300

Environment Protection Licence

Licence - 191

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Information about this licence

Dictionary

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

Responsibilities of licensee

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

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

Variation of licence conditions

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

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

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

Duration of licence

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

Licence review

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

Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

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

Environment Protection Licence

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

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

Transfer of licence

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

Public register and access to monitoring data

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

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

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

This licence is issued to:

GREAT SOUTHERN ENERGY PTY LTD
PO BOX 7115
MANNERING PARK NSW 2259

subject to the conditions which follow.

Environment Protection Licence

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1 Administrative Conditions

A1 What the licence authorises and regulates

A1.1 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

Scheduled Activity	Fee Based Activity	Scale
Coal works	Coal works	> 2000000 - 5000000 T annual handing capacity
Mining for coal	Mining for coal	> 500000 - 2000000 T annual production capacity

A1.2 The licensee must not:
(a) Produce by mining activities more than 1.1 million tonnes of coal within any 12 month period.
(b) Undertake coal works of more than 2.1 million tonnes within any 12 month period, where ROM coal handled on the premises may be made up of coal produced by mining activities from both the Mannering premises as defined in this licence or Chain Valley premises as defined in Environment Protection Licence number 1770.

Note: These limits on the scale of the fee based activities are based on project Approval 06_0311 MOD5 granted under the *Environmental Planning and Assessment Act 1979* which limits extraction to 1.1 million tonnes of run of mine (ROM) coal per year and its modifications, the most recent of which is dated 5 June 2020.

A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
MANNERING COLLIERY
RUTLEYS ROAD
DOYALSON
NSW 2262
SURFACE EXTENTS AND MONITORING POSITIONS DESCRIBED BY PLAN OF PREMISES TITLED "MANNERING COLLIERY EPL 191 SURFACE EXTENTS AND ENVIRONMENTAL MONITORING PLAN (A1S0012_1)" AND, " MANNERING COLLIERY EPL 191 SURFACE AND UNDERGROUND EXTENTS PREMISES PLAN (A1S0012_2), EPA REFERENCE DOC19/993639. THESE PLANS ARE HELD ON FILE EF19/15097.

Environment Protection Licence

A3 Information supplied to the EPA

A3.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:
a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and
b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

2 Discharges to Air and Water and Applications to Land

P1 Location of monitoring/discharge points and areas

P1.1 The following points referred to in the table 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.

Air

EPA identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
3	Dust monitoring		Dust deposition gauge identified as point 3 on plan titled "Delta Coal Mannering Colliery, EPL 191, Surface Extents & Environmental Monitoring Locations drawing No: A180012_02, Dated 1 November 2019" EPA Reference Doc 19/993639.
4	Dust monitoring		Dust deposition gauge identified as point 4 on plan titled "Delta Coal Mannering Colliery, EPL 191, Surface Extents & Environmental Monitoring Locations drawing No: A180012_02, Dated 1 November 2019" EPA Reference Doc 19/993639.
5	Dust monitoring		Dust deposition gauge identified as point 5 on plan titled "Delta Coal Mannering Colliery, EPL 191, Surface Extents & Environmental Monitoring Locations drawing No: A180012_02, Dated 1 November 2019" EPA Reference Doc 19/993639.
6	Dust monitoring		Dust deposition gauge identified as point 6 on plan titled "Delta Coal Mannering Colliery, EPL 191, Surface Extents & Environmental Monitoring Locations drawing No: A180012_02, Dated 1 November 2019" EPA Reference Doc 19/993639.

7	Dust monitoring	Dust deposition gauge identified as point 7 on plan titled "Delta Coal Mannering Colliery, EPL 191, Surface Extents & Environmental Monitoring Locations drawing No: A180012_02, Dated 1 November 2019" EPA Reference Doc 19/993639.

P1.2 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.

Water and land

EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
1	Discharge to waters Discharge quality monitoring	Discharge to waters Discharge quality monitoring	Discharge Point 1 (surface and groundwater) identified as point 1 on plan titled "Delta Coal Mannering Colliery, EPL 191, Surface Extents & Environmental Monitoring Locations", Drawing No:A180012_02, dated 1 November 2019, EPA Reference Doc19/993639.

P1.3 The following points referred to in the table below are identified in this licence for the purposes of weather and/or noise monitoring and/or setting limits for the emission of noise from the premises.

Noise/Weather

EPA identification no.	Type of monitoring point	Location description
8	Meteorological Station	As identified as point 8 in "Delta Coal Mannering Colliery, EPL 191, Surface Extents & Environmental Monitoring Locations, Drawing No: A180012_02, Dated 1 November 2019" EPA Reference Doc19/993639.

3 Limit Conditions

L1 Pollution of waters

L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

Environment Protection Licence

L2 Concentration limits

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

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

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

L2.4 Water and/or Land Concentration Limits

POINT 1

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

L3 Volume and mass limits

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

Point	Unit of Measure	Volume/Mass Limit
1	kilolitres per day	4000

L3.2 Exceedance of the volume limit for Point 1 is permitted only if the discharge from Point 1 occurs solely as a result of rainfall at the premises exceeding 10mm during the 24 hours immediately prior to the commencement of discharge

L4 Waste

Environment Protection Licence

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

Code	Waste	Description	Activity	Other Limits
NA	Waste	Any other waste received on the premises for storage, treatment, processing, sorting or disposal and which receipt is not a scheduled activity under Schedule 1 of the POEO Act, as in force from time to time.		
NA	General or Specific exempted waste	Waste that meets all the conditions of a resource recovery exemption under Clause 51A of the Protection of the Environment Operations (Waste) Regulation 2014	As specified in each particular resource recovery exemption	N/A

L4.2 The licensee must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by the licence.

L4.3 This condition only applies to the storage, treatment, processing, reprocessing or disposal of waste at the premises if it requires an environment protection licence.

L5 Noise limits

Note: Noise limits are not specified as a condition of this licence. Noise limits are prescribed with the conditions of Project Approval 06_0311 granted under the *Environmental Planning and Assessment Act 1979.* Under the *Environmental Planning and Assessment Act 1979* the Department of Planning is the appropriate authority in respect of the administration and regulation of the Project Approval.

4 Operating Conditions

O1 Activities must be carried out in a competent manner

O1.1 Licensed activities must be carried out in a competent manner.

This includes:
a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

O2 Maintenance of plant and equipment

O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:
a) must be maintained in a proper and efficient condition; and
b) must be operated in a proper and efficient manner.

O3 Dust

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

O3.2 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.

O3.3 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.

O3.4 The tailgates of all haulage trucks leaving the premises must be securely fixed prior to loading or immediately after unloading to prevent loss of materials.

O3.5 Coal stockpiles must be maintained in a condition that will minimise the generation and emission of dust on the premises.

O4 Emergency response

Note: The licensee must maintain, and implement as necessary, a current Pollution Incident Response Management Plan (PIRMP) for the premises. The PIRMP must be developed in accordance with the requirements in Part 5.7A of the Protection of the Environment Operations (POEO) Act 1997 and POEO regulations. The licensee must keep the incident response plan on the premises at all times. The incident response plan must document systems and procedures to deal with all types of incidents (e.g. spills, explosions or fire) that may occur at the premises or that may be associated with activities that occur at the premises and which are likely to cause harm to the environment. The PIRMP must be tested at least annually or following a pollution incident.

O5 Processes and management

O5.1 All above ground tanks containing material that is likely to cause environmental harm must be bunded or have an alternative spill containment system in place.

O5.2 Bunds must:
a) have walls and floors constructed of impervious materials;
b) be of sufficient capacity to contain 110% of the volume of the tank (or 110% volume of the largest tank where a group of tanks are installed);
c) have floors graded to a collection sump; and
d) not have a drain valve incorporated in the bund structure,

or be constructed and operated in a manner that achieves the same environmental outcome.

O6 Other operating conditions

O6.1 The licensee must ensure that activities are conducted in an environmentally satisfactory manner. So as to minimise and prevent the pollution of air and water the licensee must:
(a) Ensure that vehicles or containers prior to leaving the premises are clean and sealed in a manner that will not cause materials or wastes used in conducting the activities at the premises to be tracked, thrown from, blown, fall, or cast from any vehicle or container onto a public road.
(b) The licensee must have in place and implement procedures to ensure that vehicles and containers exiting the premises are in a condition to ensure that materials are not tracked, thrown, blown, fall or cast onto a public road.

5 Monitoring and Recording Conditions

M1 Monitoring records

M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.

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

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:
a) the date(s) on which the sample was taken;
b) the time(s) at which the sample was collected;
c) the point at which the sample was taken; and
d) the name of the person who collected the sample.

M2 Requirement to monitor concentration of pollutants discharged

M2.1 For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:

M2.2 Air Monitoring Requirements

Environment Protection Licence

POINT 3,4,5,6,7

Pollutant	Units of measure	Frequency	Sampling Method
Particulates - Deposited Matter	grams per square metre per month	Monthly	AM-19

M2.3 Water and/ or Land Monitoring Requirements

POINT 1

Pollutant	Units of measure	Frequency	Sampling Method
Aluminium (dissolved)	micrograms per litre	Monthly during discharge	Grab sample
Aluminium (total)	micrograms per litre	Monthly during discharge	Grab sample
Antimony	micrograms per litre	Monthly during discharge	Grab sample
Arsenic (dissolved)	micrograms per litre	Monthly during discharge	Grab sample
Arsenic (total)	micrograms per litre	Monthly during discharge	Grab sample
Barium	micrograms per litre	Monthly during discharge	Grab sample
Beryllium (dissolved)	micrograms per litre	Monthly during discharge	Grab sample
Beryllium (total)	micrograms per litre	Monthly during discharge	Grab sample
Boron	micrograms per litre	Monthly during discharge	Grab sample
Cadmium (dissolved)	micrograms per litre	Monthly during discharge	Grab sample
Cadmium (total)	micrograms per litre	Monthly during discharge	Grab sample
Calcium	micrograms per litre	Monthly during discharge	Grab sample
Chromium (dissolved)	micrograms per litre	Monthly during discharge	Grab sample
Chromium (total)	micrograms per litre	Monthly during discharge	Grab sample
Cobalt (dissolved)	micrograms per litre	Monthly during discharge	Grab sample
Cobalt (total)	micrograms per litre	Monthly during discharge	Grab sample
Conductivity	microsiemens per centimetre	Weekly during any discharge	Grab sample
Copper (dissolved)	micrograms per litre	Monthly during discharge	Grab sample

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Copper (total)	micrograms per litre	Monthly during discharge	Grab sample
Iron	micrograms per litre	Monthly during discharge	Grab sample
Lead (dissolved)	micrograms per litre	Monthly during discharge	Grab sample
Lead (total)	micrograms per litre	Monthly during discharge	Grab sample
Lithium	micrograms per litre	Monthly during discharge	Grab sample
Magnesium	micrograms per litre	Monthly during discharge	Grab sample
Manganese (dissolved)	micrograms per litre	Monthly during discharge	Grab sample
Mercury (dissolved)	micrograms per litre	Monthly during discharge	Grab sample
Mercury (total)	micrograms per litre	Monthly during discharge	Grab sample
Molybdenum (dissolved)	micrograms per litre	Monthly during discharge	Grab sample
Molybdenum (total)	micrograms per litre	Monthly during discharge	Grab sample
Nickel (dissolved)	micrograms per litre	Monthly during discharge	Grab sample
Nickel (total)	micrograms per litre	Monthly during discharge	Grab sample
Nitrogen (ammonia)	micrograms per litre	Monthly during discharge	Grab sample
Oil and Grease	milligrams per litre	Weekly during any discharge	Grab sample
pH	pH	Weekly during any discharge	Grab sample
Phosphorus	micrograms per litre	Monthly during discharge	Grab sample
Potassium	micrograms per litre	Monthly during discharge	Grab sample
Selenium (dissolved)	micrograms per litre	Monthly during discharge	Grab sample
Selenium (total)	micrograms per litre	Monthly during discharge	Grab sample
Silica	micrograms per litre	Monthly during discharge	Grab sample
Silver (dissolved)	micrograms per litre	Monthly during discharge	Grab sample
Silver (total)	micrograms per litre	Monthly during discharge	Grab sample
Sulfur	micrograms per litre	Monthly during discharge	Grab sample
Tin	micrograms per litre	Monthly during discharge	Grab sample
Titanium	micrograms per litre	Monthly during discharge	Grab sample
Total suspended solids	milligrams per litre	Weekly during any discharge	Grab sample

Vanadium (dissolved)	micrograms per litre	Monthly during discharge	Grab sample
Vanadium (total)	micrograms per litre	Monthly during discharge	Grab sample
Zinc (dissolved)	micrograms per litre	Monthly during discharge	Grab sample
Zinc (total)	micrograms per litre	Monthly during discharge	Grab sample

M3 Testing methods - concentration limits

M3.1 Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with:
a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or
b) if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or
c) if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.

Note: The *Protection of the Environment Operations (Clean Air) Regulation 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".

M3.2 Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.

M4 Weather monitoring

M4.1 The licensee may use the meteorological station established at Vales Point Power Station provided the licensee has authority from Sunset Power International Pty Ltd to access data from the Vales Point Power Station at all times. However, if this station is not available at any time then condition M4.2 applies.

M4.2 At the point(s) identified below, the licensee must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1 of the table below, using the corresponding sampling method, units of measure, averaging period and sampling frequency, specified opposite in the Columns 2, 3, 4 and 5 respectively.

Environment Protection Licence

Licence - 191

POINT 8

Parameter	Sampling method	Units of measure	Averaging period	Frequency
Rainfall	AM-4	millimetres	24 hours	Continuous
Wind Direction at 10 metres	AM-2 & AM-4	Degrees	1 hour	Continuous

M5 Recording of pollution complaints

M5.1 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.

M5.2 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.

M5.3 The record of a complaint must be kept for at least 4 years after the complaint was made.

M5.4 The record must be produced to any authorised officer of the EPA who asks to see them.

M6 Telephone complaints line

M6.1 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.

M6.2 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.

M6.3 The preceding two conditions do not apply until 3 months after: the date of the issue of this licence.

M6.4 The licensee must nominate a representative of the company that is available at all times and is capable of providing immediate assistance or response during emergencies or any other incidents at the premises. The name of the nominated representative and their contact details, including a telephone number, must be current at all times.

M7 Requirement to monitor volume or mass

M7.1 For each discharge point or utilisation area specified below, the licensee must monitor:

a) the volume of liquids discharged to water or applied to the area;
b) the mass of solids applied to the area;
c) the mass of pollutants emitted to the air;
at the frequency and using the method and units of measure, specified below.

POINT 1

Frequency	Unit of Measure	Sampling Method
Continuous during discharge	kilolitres per day	In line instrumentation

6 Reporting Conditions

R1 Annual return documents

R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:

1. a Statement of Compliance,
2. a Monitoring and Complaints Summary,
3. a Statement of Compliance - Licence Conditions,
4. a Statement of Compliance - Load based Fee,
5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan,
6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and
7. a Statement of Compliance - Environmental Management Systems and Practices.

At the end of each reporting period, the EPA will provide to the licensee notification that the Annual Return is due.

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

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

R1.3 Where this licence is transferred from the licensee to a new licensee:
a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

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

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.

Environment Protection Licence

R1.5 The Annual Return for the reporting period must be supplied to the EPA via eConnect *EPA* or by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

R1.6 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.

R1.7 Within the Annual Return, the Statements 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.

R2 Notification of environmental harm

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.

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

R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.

R3 Written report

R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:
a) where this licence applies to premises, an event has occurred at the premises; or
b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence,
and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.

R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.

R3.3 The request may require a report which includes any or all of the following information:
a) the cause, time and duration of the event;
b) the type, volume and concentration of every pollutant discharged as a result of the event;
c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
g) any other relevant matters.

R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

7 General Conditions

G1 Copy of licence kept at the premises or plant

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

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

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

G2 Other general conditions

G2.1 **Completed Programs**

Program	Description	Completed Date
PRP 1 - Assessment of Potential Impacts of Metals	The licensee must conduct an assessment of metals detected in wastewater discharges from the mine in accordance with the ANZECC water quality guidelines.. To obtain a greater understanding of the type and concentration of metals discharged in mine water and entering the receiving waters. To limit the concentration of metals discharged in mine water within ANZECC guidelines.	26-June-2013
Coal Mine Particulate Matter Control Best Practice	Requires licensee to conduct a site specific Best Management Practice (BMP) determination to identify ways to reduce particle emissions.	19-September-2012
Coal Handling and Preparation Plant Commissioning Water Quality Monitoring Study	CHPP commissioning water quality monitoring study	12-October-2016

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Dictionary

General Dictionary

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

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

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

Ms Debbie Maddison

Environment Protection Authority

(By Delegation)

Date of this edition: 06-April-2000

Environment Protection Licence

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End Notes

1	Licence varied by notice V/M upgrade, issued on 10-Jul-2000, which came into effect on 10-Jul-2000.
2	Licence varied by notice 1005801, issued on 13-Aug-2001, which came into effect on 07-Sep-2001.
3	Licence varied by Change of contact details, issued on 16-Apr-2002, which came into effect on 16-Apr-2002.
4	Licence transferred through application 141582, approved on 21-Nov-2002, which came into effect on 07-Aug-2002.
5	Licence varied by notice 1024680, issued on 04-Feb-2003, which came into effect on 06-Feb-2003.
6	Licence varied by notice 1043601, issued on 14-Jan-2005, which came into effect on 08-Feb-2005.
7	Licence varied by notice 1055208, issued on 01-Mar-2006, which came into effect on 26-Mar-2006.
8	Condition A1.3 Not applicable varied by notice issued on <issue date> which came into effect on <effective date>
9	Licence varied by notice 1105215, issued on 23-Feb-2011, which came into effect on 23-Feb-2011.
10	Licence varied by notice 1502466 issued on 21-Dec-2011
11	Licence transferred through application 1517779 approved on 29-Oct-2013 , which came into effect on 17-Oct-2013
12	Licence varied by notice 1527523 issued on 13-May-2015
13	Licence varied by notice 1551540 issued on 12-May-2017
14	Licence transferred through application 1578020 approved on 01-Apr-2019 , which came into effect on 01-Apr-2019
15	Licence varied by notice 1587330 issued on 25-Nov-2019
16	Licence varied by notice 1606232 issued on 09-Apr-2021

Appendix 3: Weed Action Plan

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Weed Action Plan

Chain Valley Colliery, Mannering Colliery and Summerland Point Ventilation Shaft

Total Earth Care Pty Ltd

January 20

total earth care

Weed Action Plan

Chain Valley Colliery, Mannering Colliery and Summerland Point Ventilation Shaft

January 20

Quality Control	© Total Earth Care Pty Ltd 2019		
Revision/Version No.	Final	**Date of revision**	17 January 2020
Prepared by:	G Teear		
Approved by	G Barron, W Thurston		
Prepared for:	Delta Coal		
TEC Job No.	C11483		

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1 INTRODUCTION

1.1 Background

Total Earth Care (TEC) has been commissioned by Delta Coal to prepare this update for the Weed Action Plan for the three (3) Delta Coal sites: Chain Valley Colliery, Mannering Colliery and Summerland Point Ventilation Shaft. The site is within the Central Coast LGA (formerly Wyong LGA).

A Weed Action Plan was developed for Lake Coal in 2016 to guide weed management of the aforementioned sites in a consolidated report. The sites are now managed by Delta Coal and an updated Weed Action Plan is required to assess the current weed densities on the site and provide relevant management actions that will assist in the development of updated Biodiversity Management Plans for each site. The Weed Action Plan will guide on ground weed management and assist in tracking the progress of since the previous Weed Action Plan developed in 2016.

1.2 Subject Sites and Study Area

The “Study Area” has been defined as each of the three (3) sites: Chain Valley Colliery, Mannering Colliery and Summerland Point Ventilation Shaft. Management Zones have previously been defined for these sites. Please see the Maps 1 to 3 below which indicate the boundaries of the Project Area and the existing management zones.

All three (3) sites fall within the Local Land Services Greater Sydney Region, bordering on the Hunter Region.

1.3 Goals and Objectives

The objectives of this management program are to:

- Describe the existing flora and fauna within the subject site based on current survey effort and database searches of the subject site and surveys of the wider study area.
- Provide ground-truthed weed density maps, highlighting priority weeds under the *NSW Biosecurity Act 2015.*
- Report any threats to Endangered Ecological Communities.
- Provide a program for ongoing weed management and/or eradication.

Title: Chain Valley Colliery: Subject Site & Survey Effort

Map No: 1

Site: Chain Valley Colliery

Client: Delta Coal

Date: November 2019

Project No: 11483

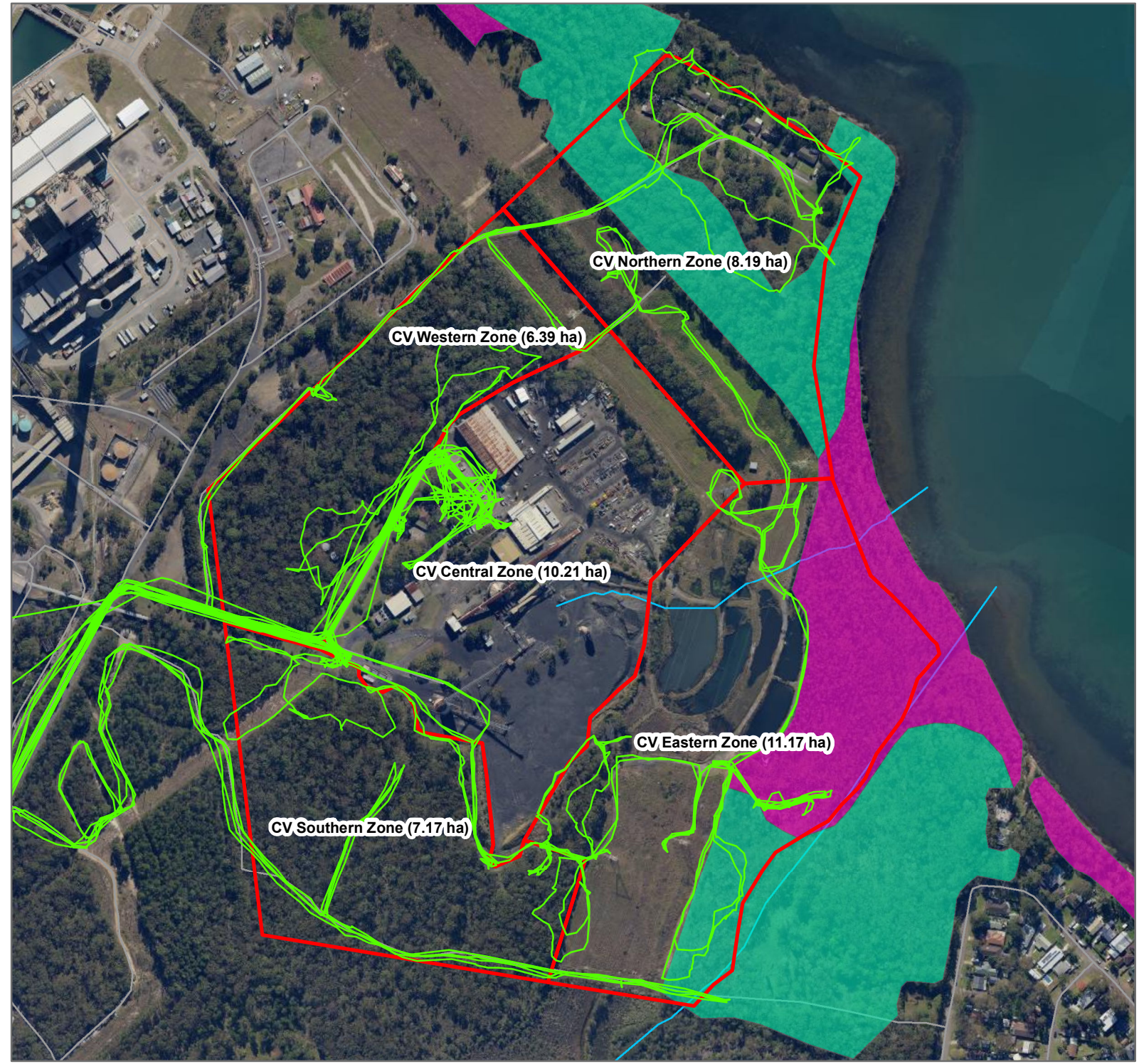
Author: G Barron

Legend

- Management Zones
- Road
- Creek
- Survey Effort

EEC under BC Act 2016

- Swamp Oak Floodplain Forest
- Swamp Sclerophyll Forest on Coastal Floodplains EEC



0 50 100 200 Meters

N

Data Source:
Total Earth Care
Nearmap
Wyong ELA 2016 v2

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Title: Mannering Colliery:
Subject Site & Survey Effort

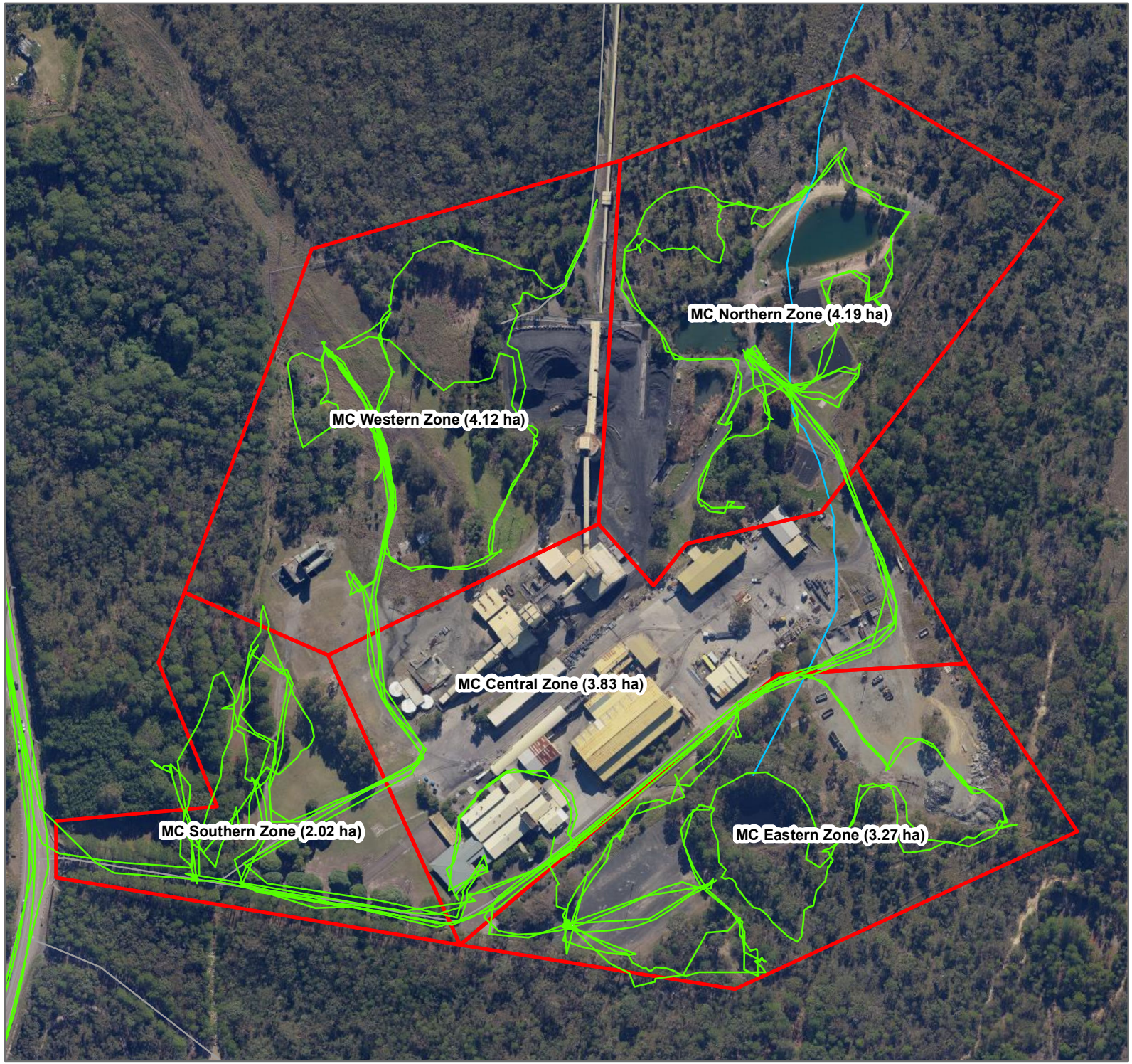
Map No: 2
Site: Mannering Colliery
Client: Delta Coal
Date: November 2019
Project No: 11483
Author: G Barron

Legend

- Management Zones
- Road
- Creek
- Survey Effort

0 25 50 100 Meters

N



Data Source:
Total Earth Care
Nearmap

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Title: **Summerland Point Ventilation Shaft: Subject Site, EECs & Survey Effort**

Map No: 3

Site: Summerland Point Ventilation Shaft

Client: Delta Coal

Date: November 2019

Project No: 11483

Author: G Barron

Legend

- Summerland Point
- Road
- Creek
- Survey Effort

EEC under BC Act 2016

- Subtropical Coastal Floodplain Forest of the New South Wales North Coast Bioregion
- Swamp Sclerophyll Forest on Coastal Floodplains EEC

0 25 50 100 Meters

N

Data Source:
Total Earth Care
SIX Maps
Wyong ELA 2016 v2

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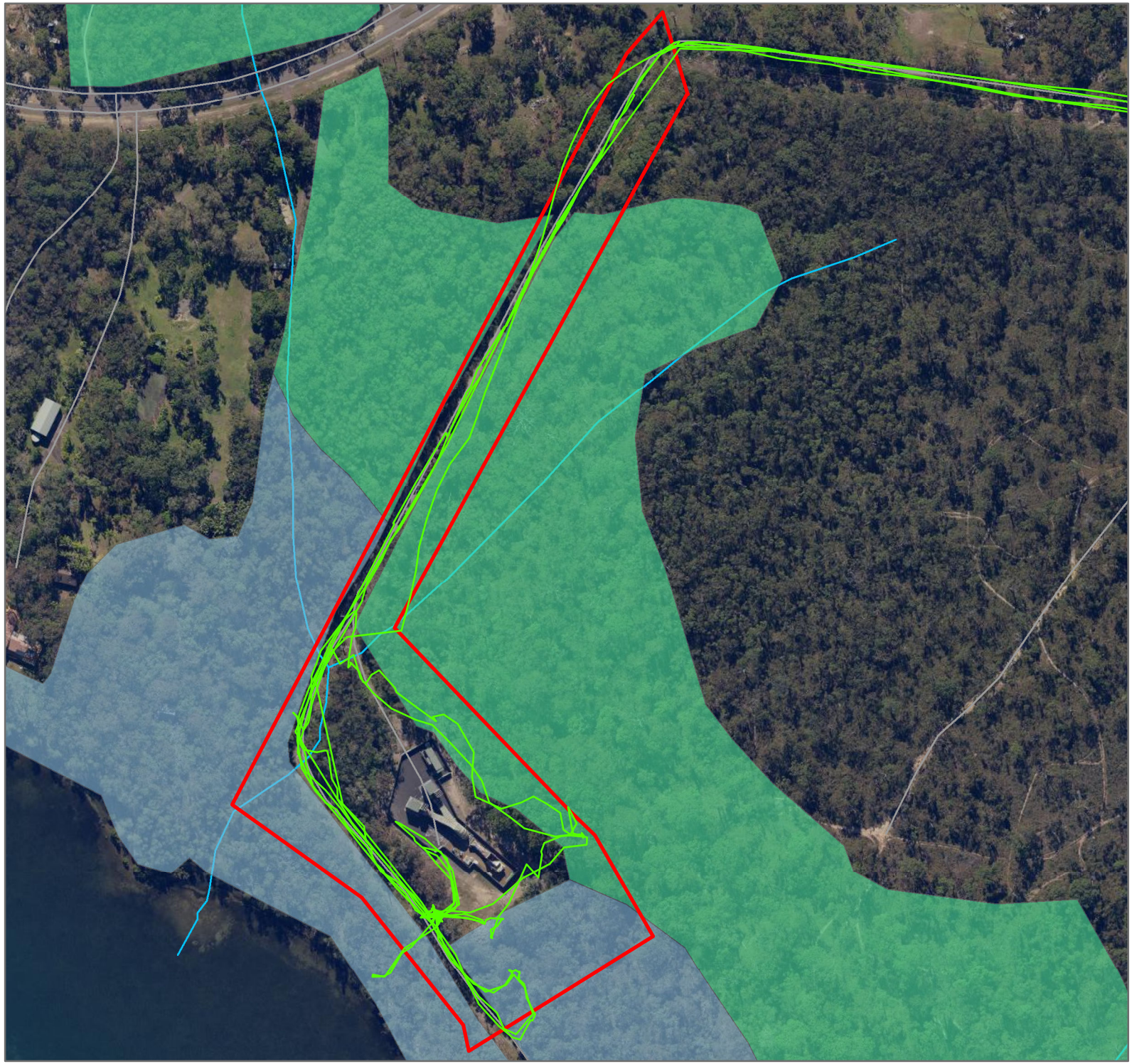

1.4 Relevant Legislation and Strategies

This Weed Action Plan will be written in accordance with:

1 Commonwealth laws including:
   a. *Environment Protection and Biodiversity Conservation Act 1999*
2 NSW laws including:
   a. *Biodiversity Conservation Act 2016*
   b. *Biosecurity Act 2015*
3 Local laws LGA:
   a. *Wyong Local Environment Plan 2013*
   b. *Wyong Development Control Plan 2013*
4 Weed Strategies
   a. *Australian Weeds Strategy 2017-2027*
   b. *Greater Sydney Regional Strategic Management Plan*

1.4.1 NSW Biosecurity Act 2015 – Weeds

The NSW *Biosecurity Act 2015*, repealed the NSW *Noxious Weeds Act 1993* on the 1st of July 2017.

The purpose of the NSW *Biosecurity Act 2015* is to provide framework for risk-based prevention, elimination and minimisation of biosecurity risks. These include pests, diseases, contaminants, non-indigenous animals, bees, weeds and other biosecurity matter. One of the main objectives of the Biosecurity Act 2015 is to promote biosecurity issues as a shared responsibility between government, industry, and communities, i.e. private and public land managers have the same obligations under the Act. Local Council is the control authority who enforces this Act. A State Weeds Committee has been established, as well as eleven (11) Regional Weeds Committees who will provide guidance and facilitate community and stake holder input into weed management.

Under the *Biosecurity Act 2015*, the definition of a weed is a plant that is a pest, and the definition of a pest is a plant or animal (other than a human) that has an adverse effect on, or is suspected of having an adverse effect on, the environment, the economy or the community.

Schedule 1 describes the special provisions relating to weeds. Under this Schedule, land occupiers have a duty to:

- control weeds on roads which bound their occupied land;
- control aquatic weeds along a watercourse, river, or inland water which bound their occupied land; and
- control weeds on land extended from their occupied land if that land is an irrigation area forming any part of a public road, public reserve or public channel, or watercourse, river or inland water.

Regional Strategic Weed Management Plans have been developed which describe the land occupier's expectations for managing weeds and form the basis for an enforceable general biosecurity duty. The three (3) Delta Coal sites fall within the Greater Sydney Local Land Services area, therefore the *Greater Sydney Regional Strategic Management Plan* applies to these sites.

1.4.2 Australian Weeds Strategy – Weeds of National Significance (WoNS)

Australian Weeds Strategy provides a national framework for addressing weed issues. It lists thirty-two (32) weed species or genera that are required to be managed under state legislation. These are Weeds of National Significance (WoNS). Five (5) of these have been identified on site and are listed in Section 3 of this management plan.

1.4.3 NSW Biodiversity Conservation Act 2016

The NSW *Biodiversity Conservation Act 2016* (BC Act), with associated regulations and maps, repealed the *Threatened Species Conservation Act 1995* on the 25th of August 2017. The BC Act is now the key piece of legislation protecting threatened species, populations and ecological communities within NSW.

There are a number of Endangered Ecological Communities (EEC) mapped on the Delta Coal sites (ELA 2016). These include;

- *Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions;*
- *Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions*; and

- *Subtropical Coastal Floodplain Forest of the New South Wales North Coast Bioregion.*

Refer to Maps 1, 2 and 3 for mapped EECs. The Mannering Colliery does not contain any EECs.

One aim of the BC Act is to eliminate or manage certain Key Threatening Processes (KTPs) that threaten the survival or evolutionary development of threatened species, populations and ecological communities.

KTPs listed by the BC Act are identified as having significant impacts on the conservation of native flora and fauna. There are currently thirty-seven (37) KTPs listed under the BC Act including:

i. Invasion and establishment of exotic vines and scramblers.
ii. Invasion, establishment and spread of *Lantana camara*.
iii. Invasion of native plant communities by *Chrysanthemoides monilifera* (Bitou Bush and Boneseed).
iv. Invasion of native plant communities by exotic perennial grasses.
v. Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants.

2 METHODS

2.1 Desktop Research

A preliminary desktop study was conducted to assess the previously mapped weed locations (Kleinfelder 2016) and existing plant community types using the Wyong ELA 2016 PCT (ELA, 2016) mapping.

2.2 Site Survey

A site survey was conducted over two (2) days on the 15th and 16th October 2019. Weather conditions were clear with maximum temperatures of approximately 25˚C on the 15th and 24˚C on the 16th. See Maps 1, 2 and 3 for survey effort.

A general weed survey was conducted using random meanders. Edges of bushland, creek lines, disturbed areas and any other areas likely to contain weeds were targeted as were areas where weeds were previously identified in the 2016 Weed Action Plan.

- The identification of native and exotic plant species according to *Field Guide to the Native Plants of Sydney* (Robinson, 2003), Flora of NSW, Volumes 1-4 (Harden 1992, 1993, 2000, 2002), *Weeds of the south-east: an identification guide for Australia* (Richardson et al, 2006) and PlantNET (2019), with reference to recent taxonomic changes;

Any “weed infestations” found during survey were recorded using a hand held GPS. Weed infestations are defined as:

- Areas where weeds make up >80% percentage foliage cover.
- Weeds of national significance
- Priority weeds and other weeds of regional concern as listed in the Greater Sydney Regional Strategic Weed Management Plan

Any WoNS and/or any priority weeds for the Greater Sydney Region which were identified on site, are listed in Appendix A which includes their biosecurity status under the *Biosecurity Act 2015*.

2.3 Weed Density Mapping

Weed density maps were developed for each zone. All weeds present were considered when determining the weed densities for each area.

GPS locations were mapped to provide clear locations for WoNS, significant weed infestation and Priority Weeds.

2.4 Priorities

The priorities of targeted weed work detailed in Section 4 - Management Zones, were determined by the species listing and the landholder’s obligations under the *Biosecurity Act 2015* and the Greater Sydney Regional Strategic Weed Management Plan. Species listed as WoNS are considered a high priority. Other weeds that were deemed to have the potential to significantly impact biodiversity were also included as Priority Weeds.

Priority areas were determined by the resilience and condition of existing bushland and the location of weed infestations. Infestation or small outbreaks of weeds in high quality, undisturbed or resilient bushland are considered a high priority to conserve the existing biodiversity values and to prevent further spread which could become more costly to address in the future. Infestations along property boundaries, creek lines and waterways are considered high priority as weeds are more susceptible to spread onto neighbouring properties downstream or across boundary edges.

2.5 Limitations

The diurnal field survey was conducted over two (2) days during October 2019. Random meanders were conducted across the site and targeted searches for weeds along creek line, bushland edges and disturbed areas where weeds are likely to occur. Some areas were not searched due to access issues and time constraints. The central zones mainly consist of infrastructure and planted species and were not surveyed for this report.

When reviewing maps please note that the hand-held GPS equipment used is only accurate to 3 metres.

3 RESULTS

The weed survey identified thirty-six (36) weed species under the *Biosecurity Act 2015.* These are listed in Appendix A along with the land holder's obligations under the Act. Of these, five (5) are WoNS. These are:

- Asparagus Fern (*Asparagus aethiopicus*)
- Bitou Bush (*Chrysanthemoides monilifera subsp rotundata*)
- Lantana (*Lantana camara*)
- Blackberry (*Rubus fruticosus* aggregate)
- Fireweed (*Senecio madagascariensis*)

Bitou Bush, Lantana and Fireweed are also listed as State Priority Weeds. Six (6) weeds are listed as Priority Weeds under the Greater Sydney Regional Strategic Weed Management Plan. These include Giant Reed (*Arundo donax*), Pampas Grass (*Cortaderia jubata*) and the above mentioned WoNS.

Weeds are mostly contained to disturbed areas, bushland edges, tracks and riparian areas across all three (3) sites. There are some small outbreaks within large resilient bushland areas which have been prioritised within this Plan. Many of these have been treated as part of primary bush regeneration efforts and require follow up treatment of new shoots.

Two (2) areas with two (2) to three (3) individual orchids of the genus Microtis were identified. One (1) area is located in the easement of the eastern zone of Chain Valley Colliery and another along the disturbed edges of the eastern zone at Mannering Colliery. These have been mapped in Map 7 and Map 11.

The current condition, locations of weed infestation and weed densities have been discussed in detail within Section 4 - Management Zones.

4 MANAGEMENT ZONES

TEC have based the management zones on those created for the 2016 Weed Action Plan (Kleinfelder, 2016). The boundaries have been adjusted slightly to follow existing structural boundaries such as roads, tracks, clearings, easements and fences to allow for clearer delineation of management zones during on ground works.

The Central Zone of both the Chain Valley Colliery and Mannering Park Colliery are entirely disturbed and contain the site infrastructure. The zones are mostly void of native vegetation except for remnant canopy trees and planted native and ornamental species, as such these zones were not included in the weed survey.

4.1 Chain Valley Colliery

The Chain Valley Colliery site is made up of the following EECs:

- *Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions;* and
- *Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions*

See Map 1 for EEC locations.

Chain Valley Colliery contains high quality resilient bushland in most zones. Managing weed outbreaks in these areas is a high priority to prevent degradation and further encroachment on bushland areas. Most weed outbreaks occur in the disturbed areas including cleared easements, easement edges, along tracks, creek lines and dam edges. These outbreaks are small and in their early stages of growth and therefore should be targeted before they progress any further. Bush regeneration efforts targeting Lantana and Pampas Grass (*Cortaderia selloana*) are evident throughout the site but now require follow up treatment. The following maps and tables provide further details on each management zone including priority weeds and management issues.

Figure 1. Eastern Zone of Chain Valley Colliery along creek line.

Figure 2. Treated Lantana and Blackberry in Northern Zone of Chain Valley Colliery near cottages.

Figure 3. Fishbone Fern and Crofton Weed in Western Zone Area B of Chain Valley Colliery along drainage area.

4.1.1 Chain Valley Colliery – Northern Zone

Table 1. Chain Valley Colliery – Northern Zone Area Descriptions

Description	This zone is approximately 8.2 ha and includes cleared powerline easements and modified areas surrounding the cottages and bushland. **Area A – <5% weed cover** The most resilient area of the zone with low weed densities. Some weed encroachments on the edges of the bushland. A small area of treated Lantana and Blackberry is located to the south-east of this zone. **Area B – 5-25% weed cover** Highest weed densities are found along the edge of the bushland and species present include Blackberry, Asparagus Fern, Fishbone Fern (*Nephrolepis cordifolia*), *Monstera deliciosa* and *Senna pendula var. glabrata.* **Area C – 25-50% weed cover** Dense area of Blackberry, Lantana, Ochna serrulata, Wild Tobacco (*Solanum mauritianum)* and herbaceous weeds. Evidence of Blackberry and Pampas Grass being treated. Appears to have been the focus area of Bush Regeneration efforts. **Area D – 5-25% weed cover** Mostly ornamental exotic plant species in front of houses. **Area E – 5-25% weed cover** Dense patch of *Monstera deliciosa*. **Area F – 5-25% weed cover** Patch of Camphor Laurel (*Cinnamomum camphora*) and Coral trees (*Erythrina x sykesii*) including several saplings. **Area G – 5-25% weed cover** Bushland strip between powerline easements containing scattered small outbreaks of weeds including *Senna pendula var. glabrata* and Lantana. **Area H – 5-25% weed cover** Powerline easement with scattered Fireweed and Purple Top (*Verbena bonariensis*).
Priority Weeds	Lantana, Blackberry, Pampas Grass and Asparagus Fern
Priority Areas	Area A and B has the most resilience and is connected to larger tracts of bushland. Weeds should be controlled to prevent further spread.
Key Management Issues	• Follow up treatment of Lantana, Blackberry, *Senna pendula var. glabrata* in Areas A and C. • Primary treatment of Asparagus Fern particularly along edges in Area B. • Primary treatment of *Senna pendula var. glabrata* and *Monstera deliciosa,* and untreated areas of Lantana and Pampas Grass.
Notes	Access to this zone via dirt road from near CVC site entry. Key required. Caution to be taken driving around cottages due to rubbish and debris hidden by long grass.

Title: Chain Valley Northern Zone Weed Density

Map No: 4

Site: Chain Valley Colliery

Client: Delta Coal

Date: November 2019

Project No: 11483

Author: G Barron

Road

Management Zones

Weed Density

- < 5%
- 5 - 25%
- 25 - 50%

Key Points

- Blackberry
- Blackberry & Lantana camara - treated
- Blackberry, Lantana camara & Pampas Grass - treated
- Blackberry, Lantana camara, Senna pendula var. glabrata & Wild Tobacco
- Camphor Laurel
- Coral Tree
- Coral Tree - treated
- Coral Tree, Lantana camara & Senna pendula var. glabrata
- Coral Tree, Ochna serrulata & Senna pendula var. glabrata
- Lantana camara
- Lantana camara & Senna pendula var. glabrata
- Lantana camara - treated

0 20 40 80 Meters

N

Data Source:
Total Earth Care
Nearmap

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4.1.2 Chain Valley Colliery – Western Zone

Table 2. Chain Valley Colliery – Western Zone Area Descriptions

Description	This zone is approximate 6.4 ha of highly resilient bushland with predominantly low weed densities. Evidence throughout of bush regeneration efforts. **Area A – <5% weed cover** Highly resilient bushland with a very low weed density. Scattered outbreaks of Blackberry and Lantana on the side of the road that runs along the north-west boundary. All identified scattered Lantana thickets in the south-east part of the area have been treated. Some juvenile Lantana coming up in these treated areas. **Area B – 5-25% weed cover** Damp drainage areas in some places have encourage weed growth. Lantana, Crofton Weed, Asparagus Fern, Fishbone Fern and herbaceous weed species scattered throughout this zones (see Figure 3). All identified Lantana patches have been treated. Some juvenile Lantana coming up in these treated areas. Pampas Grass and some Fishbone Fern has been treated but requiring follow up treatment.
Priority Weeds	Lantana, Blackberry, Pampas Grass, Asparagus Fern and Crofton Weed.
Priority Areas	Both Area A and B. The surrounding bushland is highly resilient and further weed outbreaks should be prevented.
Key Management Issues	• Follow up treatment of Lantana and Pampas Grass. • Primary treatment of Crofton Weed and Fishbone Fern. • Hand weeding and spraying. • Priority zone. Edges and tracks should be monitored regularly.
Notes	Access to the track along the north-west boundary of this zone via dirt road from near CVC site entry. Key required.

Title: Chain Valley Western Zone Weed Density

Map No: 5

Site: Chain Valley Colliery

Client: Delta Coal

Date: November 2019

Project No: 11483

Author: G Barron

Road

Management Zones

Weed Density

- < 5%
- 5 - 25%
- 25 - 50%

Key Points

- Asparagus Fern
- Blackberry & Fireweed
- Crofton Weed
- Crofton Weed & Lantana camara
- Lantana camara
- Lantana camara - treated
- Pampas Grass & Lantana camara - treated and Asparagus Fern & Crofton Weed
- Senna pendula var. glabrata

0 20 40 80 Meters

N

Data Source:
Total Earth Care
Nearmap

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4.1.3 Chain Valley Colliery – Southern Zone

Table 3. Chain Valley Colliery – Southern Zone Area Descriptions

Description	This zone is approximate 7.2 ha of highly resilient and mostly undisturbed bushland with predominantly low weed densities. **Area A – 5-25% weed cover** Scattered small outbreaks of *Senna pendula var. glabrata*, Blackberry, Bitou Bush, Ochna and Lantana, Lantana has been treated but some small shoots are coming up. Most weeds are along the track edge to the north and the eastern boundary of the bush and powerline easement. **Area B – <5% weed cover** Highly resilient bushland. Some *Pinus radiata* saplings coming up adjacent to the track that runs along the southern part of the area. **Area C – 5-25% weed cover** Powerline easement containing scattered *Pinus radiata* saplings, herbaceous weeds and Oleander. **Area D – <5% weed cover** Resilient bushland with scattered *Pinus radiata* saplings along easement edge. **Area E – 5-25% weed cover** Mostly managed lawn along driveway. Scattered *Pinus radiata* saplings, African Lovegrass (*Eragrostis curvula*) and Oleander (*Nerium oleander*) on bushland edges. **Area F – 25-50% weed cover** Disturbed bushland edges with scattered small outbreaks of Bitou Bush, Lantana, Pampas Grass, Banana Trees and African Love Grass. Most Pampas Grass in this area has been treated.
Priority Weeds	Lantana, Pampas Grass, Bitou Bush and *Pinus radiata* saplings
Priority Areas	Area B is highly resilient and has very few weed outbreaks. All other areas of this management zone should be managed to prevent further spread of weeds into Area B.
Key Management Issues	• Follow up treatment of Pampas Grass • Follow up and primary treatment of Lantana. Small shoots can be hand pulled. • Primary treatment of Bitou Bush. Most can be hand pulled. • Primary treatment of *Pinus radiata* saplings particularly along the track in Area B. This is a highly resilient area and invasion of Pines in this area should be prevented. • High priority zone. Monitor tracks for any weed out breaks.
Notes	Access to the track within this zone is via a locked gate or through powerline easement.

Title: Chain Valley Southern Zone Weed Density

Map No: 6

Site: Chain Valley Colliery

Client: Delta Coal

Date: November 2019

Project No: 11483

Author: G Barron

Road

Management Zones

Weed Density

- < 5%
- 5 - 25%
- 25 - 50%

Key points

- African Lovegrass & Pampas Grass
- African Lovegrass & Pinus radiata
- Asparagus Fern & Lantana camara
- Asparagus Fern, Senna pendula var. glabrata & Bitou Bush
- Bitou Bush
- Bitou Bush & Lantana camara
- Bitou Bush & Senna pendula var. glabrata
- Bitou Bush - removed
- Lantana camara
- Lantana camara & Senna pendula var. glabrata
- Lantana camara (treated), African Lovegrass & Bitou Bush
- Lantana camara - treated
- Ochna serrulata
- Ochna serrulata & Senna pendula var. glabrata
- Pamas Grass (treated) & Lantana camara
- Pampas Grass (treated)
- Pinus radiata
- Senna pendula var. glabrata
- Senna pendula var. glabrata - removed

0 15 30 60 Meters

N

Data Source:
Total Earth Care
Nearmap

total earth care

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4.1.4 Chain Valley Colliery – Eastern Zone

Table 4. Chain Valley Colliery – Eastern Zone Area Descriptions

Description	This zone is approximate 11.17 ha of bushland cleared powerline easements and sediment ponds. These ponds consistently discharge across the bushland in Area H and into the lake.to the north-east. **Area A – <5% weed cover** Small occurrences of Caster Oil and Lantana on dam walls. Scattered occurrences of *Senna pendula var. glabrata* and Narrow-leafed Cotton Bush (*Gomphocarpus fruticosus*) in the easements to the north. **Area B – 5-25% weed cover** Small amounts of scattered Whiskey Grass (*Andropogon virginicus*), Pampas Grass and Bitou Bush on easement edges and damp areas. **Area C – <5% weed cover** Small amounts of scattered Whiskey Grass, Pampas Grass, Bitou Bush and other herbaceous weeds on easement edges. **Area D – 5-25% weed cover** Encroachments of weeds from the track to the south of the area and the easement edges. Scattered small outbreaks of Asparagus Fern, *Senna pendula var. glabrata*, Lantana, African Love Grass, Blackberry Nightshade and Bitou Bush. A small Lantana thicket has been treated. **Area E – 5-25% weed cover** Dense areas of Pampas Grass in this area and across property boundary. Scattered occurrences of Crofton Weed, Lantana and Bitou Bush. **Area F – 5-25% weed cover** Cleared powerline easement containing scattered Whiskey Grass, Cotton Bush, Fireweed and herbaceous weeds. Small lantana thicket and Pampas Grass under powerline pylon. **Area G – 25-50% weed cover** Dense stand of Wild Tobacco. Asparagus Fern starting to come up. Scattered small occurrences of Bitou Bush, Lantana, Ginger Lily, Ochna, Inkweed, Crofton and *Senna pendula var. glabrata*. Large stands of Lantana have been treated. Coral trees, Fishbone Fern, *Monstera deliciosa*, *Senna pendula var. glabrata* and Ginger Lily along creek line in southern corner. **Area H – <5% weed cover** Parts of this area have been recently burnt and are coming up with early successional native species such as *Dodonaea triquetra.* Track edges south-east of the dam have scattered small occurrences of Bitou Bush, Asparagus Fern, Lantana, Crofton Weed and Fireweed. Some sporadic occurrences of Lantana, Bitou Bush and *Senna pendula var. glabrata* along the edges of the easement in the north of this area.
Priority Weeds	Lantana, Asparagus Fern, Bitou Bush, Pampas Grass and *Senna pendula var. glabrata*.
Priority Areas	Area G along creek line should be targeted to prevent weed propagules travelling downstream. Area H is mostly resilient bushland that has been mapped as two EECs (see Map 1).

Key Management Issues	• Prioritise treating weeds in the southern half of this zone. • Follow up treatment of Lantana. Small shoots can be hand pulled. • Primary treatment of Bitou Bush, Asparagus Fern, *Senna pendula var. glabrata* and Pampas Grass along track and easement edges.
Notes	Vehicle access via the tracks near the sediment ponds and via the track through the south-west corner of the zone.

Title: Chain Valley Eastern Zone Weed Density

Map No: 7

Site: Chain Valley Colliery

Client: Delta Coal

Date: November 2019

Project No: 11483

Author: G Barron

Road

Creek

Management Zones

Weed Density

< 5%

5 - 25%

25 - 50%

Key Points

- Asparagus Fern
- Asparagus Fern, Crofton Weed, Lantana Camara, Ochna serrulata, Senna pendula var. glabrata & Wild Tobacco
- Bitou Bush
- Bitou Bush & Lantana camara
- Bitou Bush & Senna pendula var. glabrata
- Fireweed, Crofton Weed & Asparagus Fern
- Orchid - Microtis sp.
- Pampas Grass
- Pampas Grass, Lantana camara & Fireweed

0 25 50 100 Meters

N

Data Source:
Total Earth Care
SIX Maps

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4.2 Mannering Colliery

Mannering Colliery has more disturbed areas and fewer large tracts of undisturbed bushland then the Chain Valley Colliery. However, the site is surrounded by bushland and therefore it is imperative that weeds are prevented from spreading into neighbouring resilient areas. Most outbreaks are small and should be targeted before they progress any further. Bush regeneration efforts targeting Lantana and Pampas Grass are evident throughout the site but now require follow up treatment. This site does not contain any EECs.

The following maps and tables provide further details on each management zone including priority weeds, priority areas and management issues.

Figure 4. Resilient bushland in Eastern Zone Area D of Mannering Colliery.

Figure 5. Bamboo and Crofton Weed in Western Zone Area F of Mannering Colliery.

Figure 6. Crofton Weed and *Juncus acutus* in wetland area of Northern Zone Area B of Mannering Colliery.

4.2.1 Mannering Colliery – Northern Zone

Table 5. Mannering Colliery – Northern Zone Area Descriptions

Description	This zone is approximate 4.24 ha and consists of four (4) dams, access tracks and some patches of disturbed bushland. Water is discharged from the ponds across Area A, B and G. **Area A – 5-25% weed cover** *Pinus radiata* saplings, Whiskey Grass and Fireweed along track edges. Treated *Acacia saligna.* Dense stands of *Juncus acutus* in low lying areas. **Area B – 50-75% weed cover** Dense area of weeds including Lantana, Bitou Bush, Crofton Weed, Pampas Grass, Senna and *Juncus acutus.* Lantana and some Pampas Grass has been treated. **Area C – 25-50% weed cover** High density of herbaceous weeds. *Acacia saligna* present, most of which has been treated. *Juncus acutus* present. Pampas Grass present most of which has been treated. Whiskey Grass along track edges. **Area D – 25-50% weed cover** High density of herbaceous weeds across disturbed area. **Area E – 5-25% weed cover** Hydrocotyl is scattered along the dam edges and Typha within the dam. **Area F – 5-25% weed cover** Typha within the dam. **Area G – 5-25% weed cover** The edges of Area G contains *Pinus radiata* saplings. Within the low lying damp wetland areas Large stands of Lantana and Pampas Grass have been treated. **Area H – <5% weed cover** Limited access due to fencing. Scattered Crofton Weed, Lantana, Bitou Bush, Camphor Laurel trees and mature and sapling *Pinus radiata.* A Resource Regulator identified Coolatai Grass (*Hyparrhenia hirta*) present on the western wall of the largest dam. EMM consultants confirmed the species ID. **Area I – <5% weed cover** Mostly disturbed and cleared areas. Herbaceous weeds, Whiskey Grass and Fireweed along track edges. **Area J – 50-75% weed cover** Dense and scattered stands of Bitou Bush, Lantana, Crofton and Senna. Lantana has been treated but new young shoots are coming up. Large and sapling *Pinus radiata* present. Scattered herbaceous weeds including *Bidens pilosa*, Fleabane (*Conyza sp.*) and Purple Top.
Priority Weeds	Lantana, Bitou Bush, Pampas Grass, Crofton Weed, Fireweed, Senna, *Pinus radiata, Juncus acutus, Coolatai Grass* and Senna
Priority Areas	Area J to follow up from primary weed treatment in this area. Area B to follow up primary treatment of Lantana and Pampas Grass and prevent propagules form spreading downstream.

Key Management Issues	• Follow up treatment of Lantana. Young, small shoots can be hand pulled. • Follow up treatment for Pampas Grass and Crofton Weed using cut/paint, hand removal and spraying. • Primary treatment of *Juncus acutus* • Hand pull Fireweed opportunistically. • Prioritise areas A, E, G and J.
Notes	Easy vehicle access to most areas. No obvious access to Area H due to fence.

Title: Mannering Colliery
Northern Zone Weed Density

Map No: 8
Site: Mannering Colliery
Client: Delta Coal
Date: November 2019
Project No: 11483
Author: G Barron

Management Zones
Road
Creek

Weed Density
< 5%
5 - 25%
25 - 50%
50 - 75%

Key Points
- Acacia saligna
- Acacia saligna (treated) & Juncus acutus
- Acacia saligna, Bitou Bush & Crofton Weed,
- Bitou Bush
- Bitou Bush & Crofton Weed
- Bitou Bush & Lantana camara
- Bitou Bush - removed
- Coolatai Grass
- Crofton Weed & Senna pendula var. glabrata
- Crofton Weed, Juncus acutus & Pampas Grass (treated)
- Fireweed
- Juncus acutus
- Lantana camara
- Lantana camara - treated
- Pampas Grass - treated
- Pinus radiata
- Senna pendula var. glabrata

0 15 30 60 Meters

N

Data Source:
Total Earth Care
Nearmap

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4.2.2 Mannering Colliery – Western Zone

Table 6. Mannering Colliery – Western Zone Area Descriptions

Description	This zone is approximately 4.12 ha including cleared powerline easements, a dam, and disturbed patches of remnant bushland some of which connect to greater bushland extents. **Area A – 5-25% weed cover** Scattered herbaceous weeds and exotic grasses. Small scattered patches of Asparagus Fern. **Area B – 5-25% weed cover** Powerline easements mostly consisting of exotic grasses, some Lantana patches, *Senna pendula var. glabrata* and Fireweed, particularly closer to the dam edges. **Area C – 5-25% weed cover** Small scattered outbreaks of Crofton Weed, Pampas Grass, Bitou Bush, Whiskey Grass and African Love Grass throughout this area. **Area D – 25-50% weed cover** Scattered outbreaks of Lantana, Crofton Weed, Bitou Bush, Whiskey Grass and herbaceous weeds. Lantana thickets have been treated. New shoots are coming requiring treatment. **Area E – <5% weed cover** Isolated patch of vegetation containing a small thicket of Lantana. **Area F – 25-50% weed cover** Lantana, Crofton Weed, Bitou Bush, and a large outbreak of Bamboo are dominating this area. **Area G – 5-25% weed cover** A fence divides this area from the rest of the western zone. A large area of Lantana is located in the northern part of this area.
Priority Weeds	Asparagus Fern, Lantana, Senna, Crofton Weed, Bitou Bush and Bamboo.
Priority Areas	Areas C, F and G are a priority within this zone due to their proximity to remnant bushland and potential for WoNS and Priority Weeds under the Biosecurity Act to spread.
Key Management Issues	• Follow up and primary treatment of Lantana. • Primary treatment of Bamboo, Crofton Weed, Asparagus Fern. • Opportunistic hand pulling of Fireweed.
Notes	Easy vehicle access to most areas. Area G is separated from the rest of the zone by a fence so vehicle access is limited. On foot access is possible by following the fence from the main driveway entrance to the south.

Title: Mannering Colliery
Western Zone Weed Density

Map No: 9
Site: Mannering Colliery
Client: Delta Coal
Date: November 2019
Project No: 11483
Author: G Barron

Management Zones
Road
Creek

Weed Density
< 5%
5 - 25%
25 - 50%
50 - 75%

Key Points
- African Lovegrass & Bitou Bush
- Asparagus Fern
- Bamboo
- Bamboo, Lantana camara & Pampas Grass
- Bitou Bush
- Bitou Bush & Lantana camara
- Crofton Weed
- Crofton Weed & Pampas Grass
- Crofton Weed, Fireweed, Lantana camara & Senna pendula var. glabrata
- Crofton Weed, Lantana camara & Senna pendula var. glabrata
- Lantana camara
- Lantana camara - treated
- Pinus radiata
- Senna pendula var. glabrata

0 12.5 25 50 Meters

N

Data Source:
Total Earth Care
Nearmap

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4.2.3 Mannering Colliery – Southern Zone

Table 7. Mannering Colliery – Southern Zone Area Descriptions

Description	This zone is approximately 2.02 ha. It is mostly dominated by mature *Pinus radiata* and Bamboo. This zone is a low priority due to the lack of remnant bushland and the extent of the pine forest. **Area A – 50-75% weed cover** Mature and sapling *Pinus radiata* lining the driveways. **Area B – 25-50% weed cover** High densities of mature *Pinus radiata* and Bamboo on western side of fence. Other exotic ornamental species including Oleander and Agave. Camphor Laurel trees on western side of fence. Whiskey Grass and Fireweed across managed lawn. Low priority area as dominated by *Pinus radiata.* **Area C – 5-25% weed cover** Mostly herbaceous weeds and exotic grasses.
Priority Weeds	Bamboo, Fireweed, Camphor Laurel trees.
Priority Areas	All areas within this zone are low priority. Other zones of the Mannering Colliery are to be prioritised over this one.
Key Management Issues	• Primary treatment of Fireweed and *Pinus radiata* saplings in Area C
Notes	Fence divides Area B. Western side of Area B can be accessed from southern end near driveway.

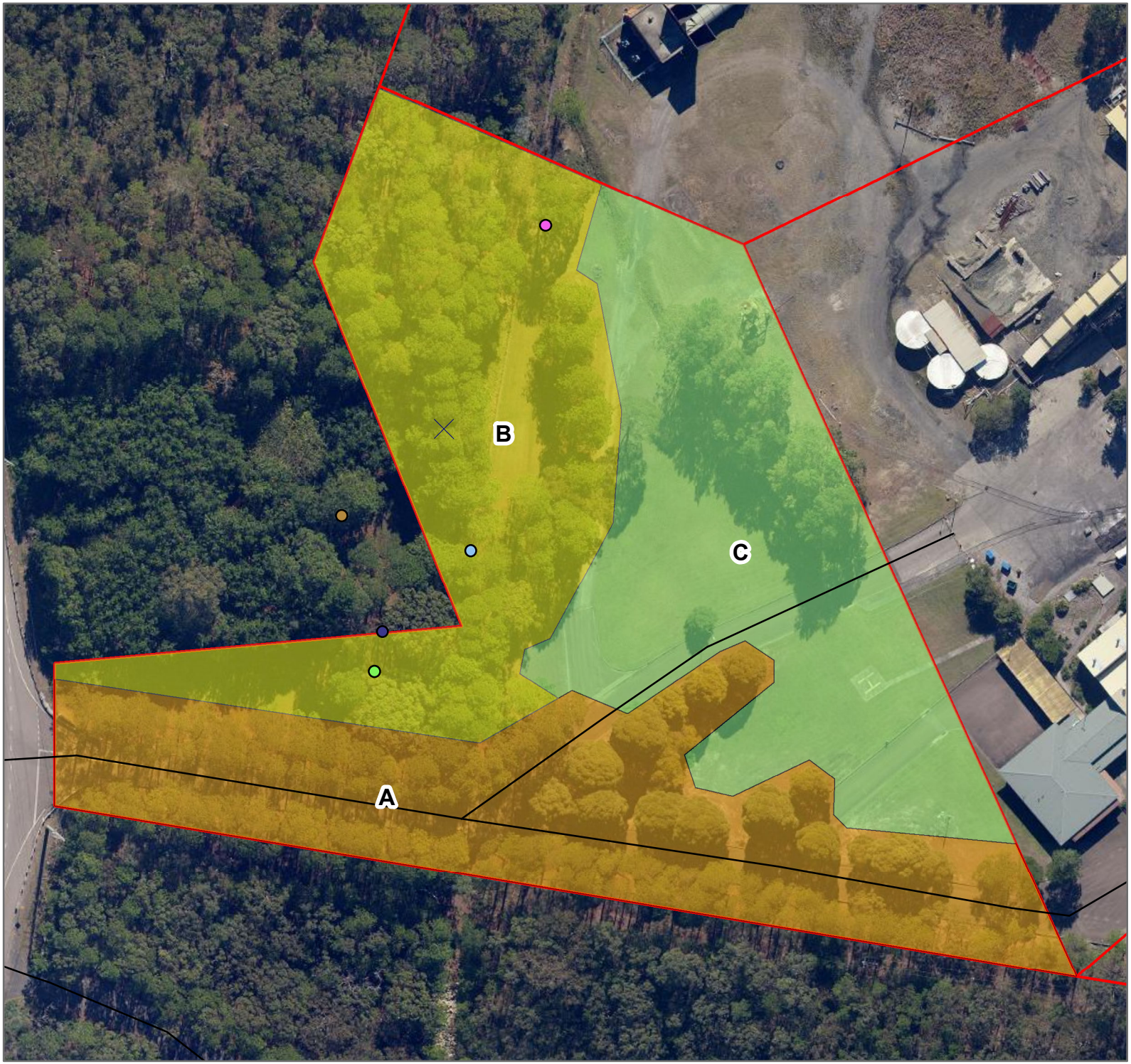
Title: Mannering Colliery
Southern Zone Weed Density

Map No: 10
Site: Mannering Colliery
Client: Delta Coal
Date: November 2019
Project No: 11483
Author: G Barron

Management Zones
Road
Creek

Weed Density
< 5%
5 - 25%
25 - 50%
50 - 75%

Key points
African Lovegrass
Bamboo
Bamboo & Coral Tree
Fireweed
Senna pendula var. glabrata



0 10 20 40 Meters

N

Data Source:
Total Earth Care
Nearmap

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4.2.4 Mannering Colliery – Eastern Zone

Table 8. Mannering Colliery – Eastern Zone Area Descriptions

Description	This zone is approximately 3.29 ha. This zone contains a carpark, cleared stockpile areas and dam, all bordered by bushland. The bushland is contiguous with adjacent bushland beyond the property boundary to the south. Weeds are generally confined to the bushland edges and disturbed areas. **Area A – 5-25% weed cover** Mostly planted ornamental exotics and some natives. Herbaceous weeds, exotic grasses and Fireweed across lawn. **Area B – 25-50% weed cover** Scattered herbaceous weeds, exotic and weedy grasses around edges of disturbed area. **Area C – 5-25% weed cover** Small area of weed encroachment including Crofton Weed. Evidence of treated Pampas Grass. Small outbreaks of Crofton Weed and Lantana present. **Area D – <5% weed cover** Mostly weed free bushland with some *Pinus radiata* saplings and African Lovegrass in the south-west corner of the area. **Area E – 25-50% weed cover** Dominated by mature and sapling *Pinus radiata.*
Priority Weeds	Crofton Weed, Lantana, Pampas Grass, *Pinus radiata* and Fireweed.
Priority Areas	Area C and D. These areas are highly resilient and connected to bushland to the south.
Key Management Issues	• Follow up treatment of Pampas Grass. • Primary treatment of Lantana and Crofton Weed.
Notes	Site easily accessible.

Title: Mannering Colliery
Eastern Zone Weed Density

Map No: 11
Site: Mannering Colliery
Client: Delta Coal
Date: November 2019
Project No: 11483
Author: G Barron

Management Zones
Road
Creek

Weed Density
< 5%
5 - 25%
25 - 50%
50 - 75%

Key Points
- Acacia saligna
- African Lovegrass
- African Lovegrass & Senna pendula var. glabrata
- Bitou Bush
- Crofton Weed
- Fireweed
- Lantana camara
- Orchid - Microtis sp.
- Pampas Grass
- Pinus radiata
- Senna pendula var. glabrata

0 15 30 60 Meters

N

Data Source:
Total Earth Care
Nearmap

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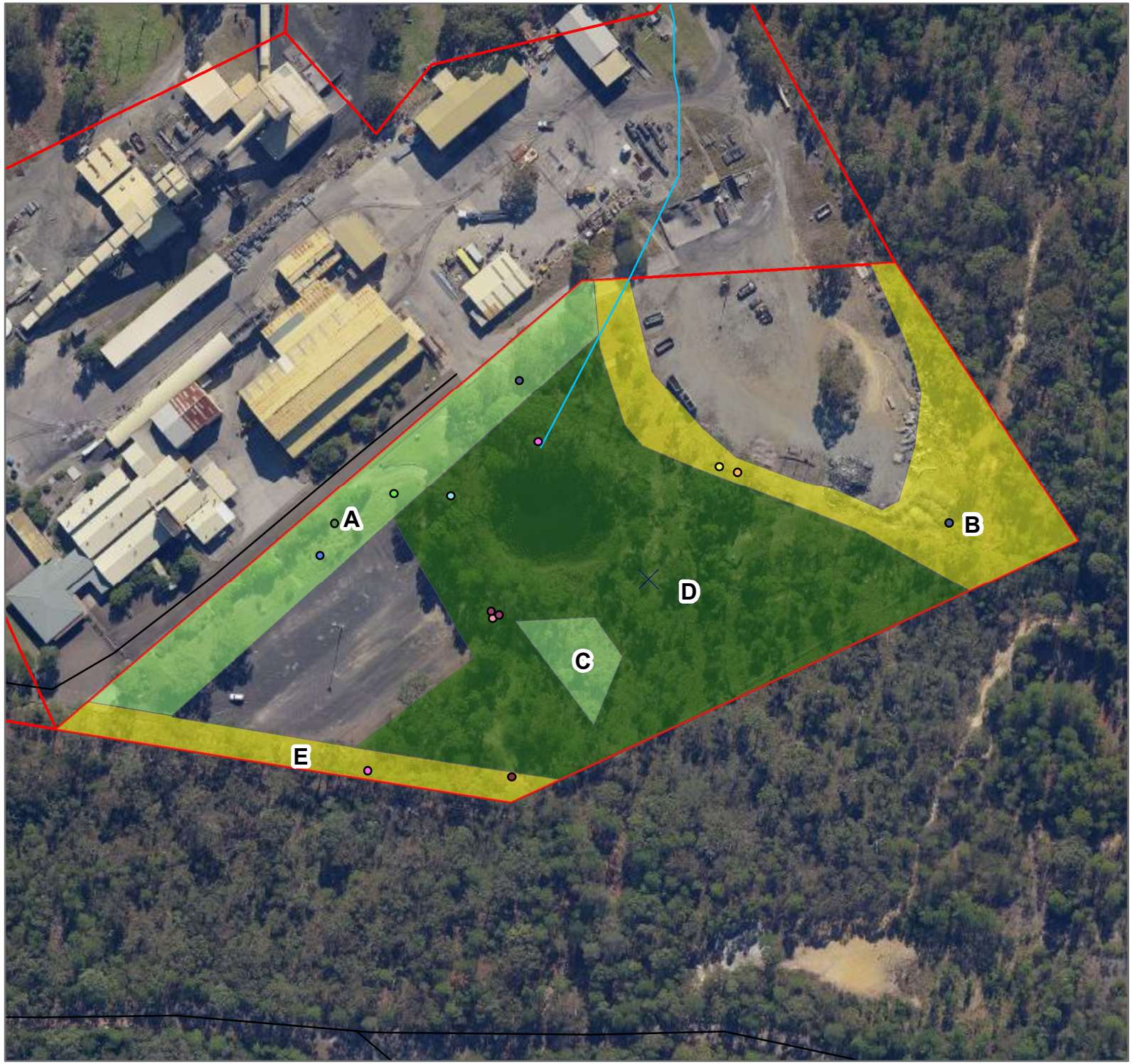

4.3 Summerland Point Ventilation Shaft

The Summerland Point Ventilation Shaft site is made up of the following EECs:

- *Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions;* and
- *Subtropical Coastal Floodplain Forest of the New South Wales North Coast Bioregions.*

See Map 3 for EEC locations.

The site contains an unsealed road that provides access to a cleared area where the ventilation shaft infrastructure sits. The areas surrounding the ventilation shaft have been cleared and contain most of the weed species identified on the site. The site is surrounded by highly resilient bushland. Areas along the unsealed road have also been subject to some weed invasion.

Figure 7. Giant Reed within bushland at the Summerland Ventilation Shaft site. .

Figure 8. Unsealed road and easement within the Summerland Ventilation Shaft site.

Figure 9. Vegetation adjacent to road on the Summerland Ventilation Shaft site.

Table 9. Summerland Point Ventilation Shaft – Area Descriptions

Description	This zone is approximately 3.73 ha. This zone contains an unsealed road, a cleared area for the ventilation shaft infrastructure and remnant adjacent bushland. Weeds are generally confined to the bushland edges and disturbed areas. **Area A – 5-25% weed cover** Mostly bushland and road edges effected by weeds. Lantana thickets have been treated but required follow up treatment. Scattered small shoots of Lantana and Bitou Bush andherbaceous weeds.
Priority Weeds	Lantana, Giant Reed, Bitou Bush
Priority areas	Entire site – small weeds outbreaks on edges of highly resilient bushland must be targeted to prevent further spread.
Key Management Issues	• Follow up treatment of Lantana and Bitou Bush. Small shoots can be hand pulled. • Primary treatment of a small area of Giant Reed. • Monitor bushland edges and road edges for new outbreaks.
Notes	Easy vehicle access. Key required. Red-bellied black snake observed on site.

Title: Summerland Point Ventilation Shaft Weed Density

Map No: 12

Site: Summerland Point Ventilation Shaft

Client: Delta Coal

Date: November 2019

Project No: 11483
Author: G Barron

Summerland Point

Road

Creek

Weed Density

5 - 25%

Key Points

- Arundo donax & Lantana camara
- Bitou Bush
- Bitou Bush - removed
- Crofton Weed
- Fireweed
- Lantana camara
- Lantana camara & Senna pendula var. glabrata
- Lantana camara (treated) & Senna pendula var. glabrata
- Lantana camara - treated
- Senna pendula var. glabrata

0 25 50 100 Meters

N

Data Source:
Total Earth Care
SIX Maps

total earth care

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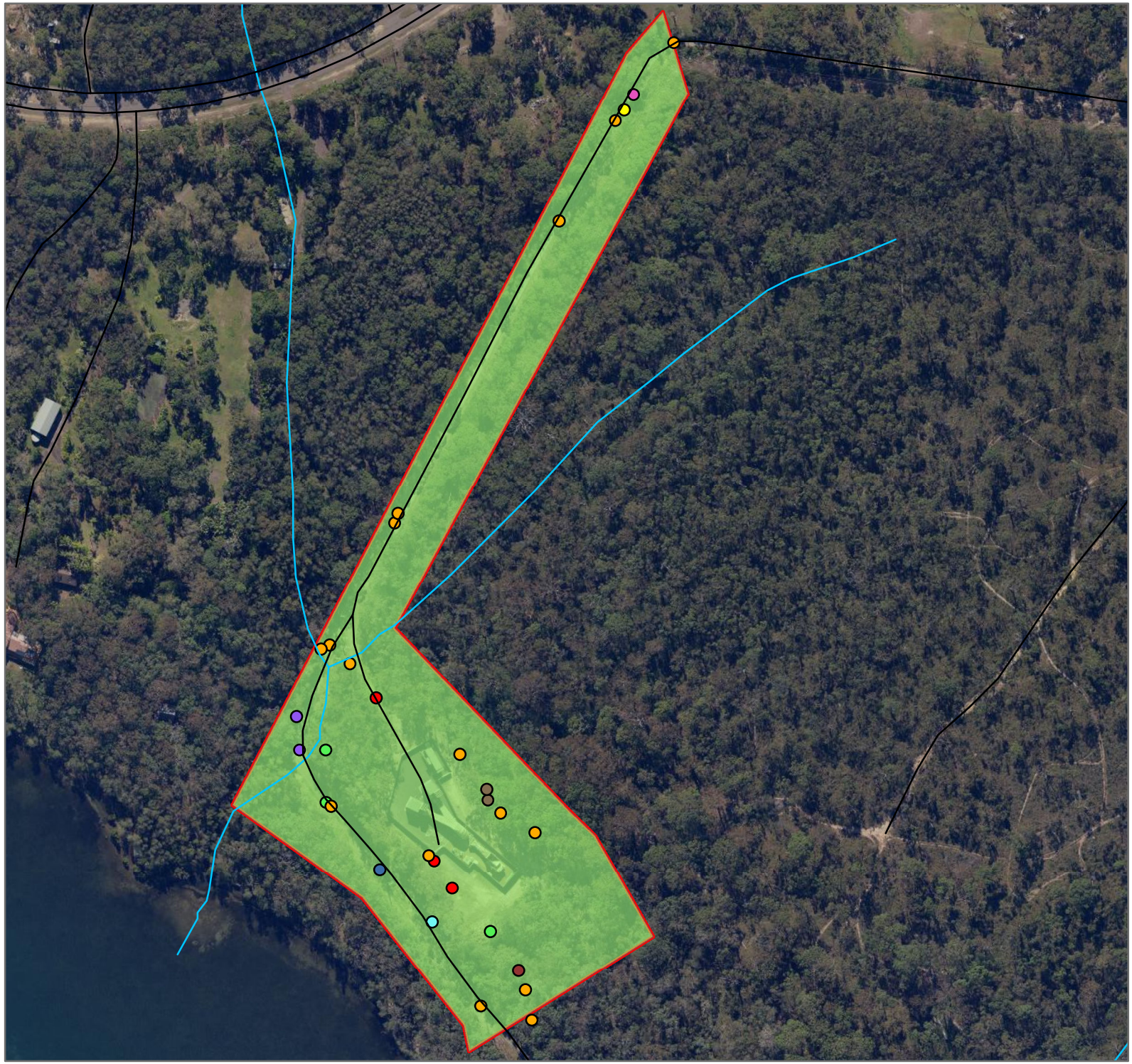

5 WEED MANAGEMENT

Species specific recommended weeding techniques including recommended herbicides and ratios are included Appendix B.

Weed recruitment and outbreaks are often triggered by disturbance or clearing. Weed management is a form of disturbance that can trigger additional recruitment of weeds as areas are cleared. Therefore secondary treatment is essential to successful weeding and bush regeneration methods.

All weeding management actions on these sites must be carried out by trained bush regenerators. Bush Regeneration contractors must comply with the *Pesticides Act 1999 and the Pesticides Regulation 2017.*

7 MONITORING GUIDELINES

Monitoring is required to assess the outcomes of the weed management work and help determine if management strategies should be amended. Monitoring should be completed every six (6) months by a qualified ecologist or bush regeneration supervisor using the following methods:

- Assessment of weed control works, native regeneration and revegetation success via permanent repeatable photographic monitoring points; and
- Mapping of weed density per zone to assess the progress of the work. The mapping included in this report can assist in the development of baseline data.

Monitoring reports must include:

- Details of the work carried out including weed management techniques and herbicide used;
- Photo monitoring points – baseline and follow up photos; and
- Recommendations for corrective measures and/or specific vegetation management required.

8 BIBLIOGRAPHY

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Appendix A. Weed Species listed as a Biosecurity Risk

Table 10. Categories of Management under the Greater Sydney Regional Strategic Weed Management Plan 2017-2022 under the NSW Biosecurity Act 2015

Category	Management Action
Prevention (Prevent)	To prevent the weed species arriving and establishing in the Region.
Eradication (Eliminate)	To permanently remove the species and its propagules from the Region, OR to destroy infestations to reduce the extent of the weed in the region with the aim of local eradication.
Containment (Minimise)	To prevent the ongoing spread of the species in all or part of the Region.
Asset Protection (Manage)	To prevent the spread of weeds to key sites/ assets of high economic, environmental and social value, or to reduce their impact on these sites if spread.
GBD (General Biosecurity Duty)	All plants are regulated with a general biosecurity duty to prevent, eliminate or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated or minimised, so far as is reasonably practicable."
RRM (Regional Recommended Measure)	Specific details for each species included in table.
PoD (Prohibition on Dealings)	Must not be imported into the State or sold.
B Zone (Biosecurity Zone)	Specific details for each species included in table.
PM (Prohibited Matter)	A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries.

Table 11. Weeds under the Biosecurity Act recorded within the subject site listed as State or Regional Priority Weeds in the Greater Sydney Regional Strategic Weed Management Plan 2017-2022

Common Name	Botanical Name	WONS	State Priority Weed-Mgmt. Actions	Regional Priority Weeds-Mgmt. Actions	Other Regional Weeds-Asset/value at risk	Duties for Priority Weeds of Greater Sydney
Golden Wreath Wattle	*Acacia saligna*				Environment	
Crofton Weed	*Ageratina adenophora*				Environment, Agriculture	
Scarlet Pimpernel	*Anagallis arvensis*					
Whisky Grass	*Andropogon virginicus*				Environment	
Giant Reed	*Arundo donax*			Asset Protection		RRM; Land managers should mitigate the risk of new weeds being introduced to their land. The plant should not be bought, sold, grown, carried or released into the environment.
Asparagus Fern	*Asparagus aethiopicus*	Yes				PoD
Cobblers Pegs	*Bidens pilosa*					
Buffalo Grass	*Bouteloua dactyloides*					
Bitou Bush	*Chrysanthemoides monilifera subsp rotundata*	Yes	Containment			PoD, B Zone; The Bitou Bush Biosecurity Zone is established for all land within the State except land within 10 kilometres of the mean high water mark of the Pacific Ocean between Cape Byron in the north and Point Perpendicular in the south.
Camphor Laurel	*Cinnamomum camphora*				Environment, Agriculture, Human health	

Common Name	Botanical Name	WONS	State Priority Weed-Mgmt. Actions	Regional Priority Weeds-Mgmt. Actions	Other Regional Weeds-Asset/value at risk	Duties for Priority Weeds of Greater Sydney
Spear Thistle	*Cirsium vulgare*					
Fleabane	*Conyza bonariensis*					
Pampas Grass	*Cortaderia jubata*			Asset Protection		RRM: Land managers mitigate the risk of the plant being introduced to their land. Land managers prevent spread from their land where feasible. Land managers reduce the impact on priority assets. The plant should not be bought, sold, grown, carried or released into the environment. This Regional Recommended Measure applies to Cortaderia jubata (pink pampas grass)
Panic Veldgrass	*Ehrharta erecta*					
African Lovegrass	*Eragrostis curvula*				Environment	
Coral Tree, Common Coral Tree	*Erythrina x sykesii*				Environment	
Fennel	*Foeniculum vulgare*					
Narrow-Leaf Cotton Bush / Swan Plant	*Gomphocarpus fruticosus*					
Ginger Lily	*Hedychium gardnerianum*				Environment	
Pennywort	*Hydrocotyle bonariensis*					
Coolatai Grass	*Hyparrhenia hirta*				Environment, Agriculture	
Spiny Rush, Spike Rush, Sharp Rush	*Juncus acutus*				Environment	

Common Name	Botanical Name	WONS	State Priority Weed-Mgmt. Actions	Regional Priority Weeds-Mgmt. Actions	Other Regional Weeds-Asset/value at risk	Duties for Priority Weeds of Greater Sydney
Lantana	*Lantana camara*	Yes	Asset Protection			PoD
Fishbone Fern	*Nephrolepis cordifolia*				Environment	
Ochna	*Ochna serrulata*				Environment	
Bamboo, Black Bamboo, Rhizomatous Bamboo,	*Phyllostachys nigra*				Environment	
Inkweed	*Phytolacca octandra*					
Radiata Pine, Pine Wildings	*Pinus radiata*				Environment	
Plantain	*Plantago lanceolata*					
Castor Oil Plant	*Ricinus communis*					
Blackberry	*Rubus fruticosus aggregate*	Yes				PoD; All species in the Rubus fruiticosus species aggregate have this requirement, except for the varietals Black Satin, Chehalem, Chester Thornless, Dirksen Thornless, Loch Ness, Murrindindi, Silvan, Smooth Stem, and Thornfree
Fireweed	*Senecio madagascariensis*	Yes	Asset Protection			PoD
Senna / Cassia	*Senna pendula*				Environment	
Paddy's Lucerne	*Sida rhombifolia*					
Tobacco Bush/ Wild Tobacco	*Solanum mauritianum*				Environment, Agriculture	

Common Name	Botanical Name	WONS	State Priority Weed-Mgmt. Actions	Regional Priority Weeds-Mgmt. Actions	Other Regional Weeds-Asset/value at risk	Duties for Priority Weeds of Greater Sydney
Blackberry Night Shade	*Solanum nigrum*					
Purpletop	*Verbena bonarensis*					

Appendix B. Species Specific Weeding Techniques

Common Name	Botanical Name	Weeding Technique	Recommended Timing for Treatment	Herbicide Application	Herbicide Group	Ratio
Golden Wreath Wattle	*Acacia saligna*	Chainsaw and paint with neat Glyphosate.	All year round	Glyphosate 360g/L	M	Neat
Crofton Weed	*Ageratina adenophora*	Hand removal, brush cut and foliar sprayed with Glyphosate	All year round	Glyphosate 360g/L	M	1/100
Scarlet Pimpernel	*Anagallis arvensis*	Hand removal, spot spraying with Glyphosate.	All year round	Glyphosate 360g/L	M	1/100
Whisky Grass	*Andropogon virginicus*	Remove seed and crown out with knife or spot spray	Prior to flowering in March to May	Glyphosate 360g/L	M	1/100
Giant Reed	*Arundo donax*	Cut and paint with neat Glyphosate.	All year round	Glyphosate 360g/L	M	Neat
Asparagus Fern	*Asparagus aethiopicus*	Small single specimens to be crowned or Sprayed with Glyphosate/metsulfuron methyl	All year round	Glyphosate 360g/L & Metsulfuron-Methyl 600 g/kg	M & B	1/100 & 1g/10L
Cobblers Pegs	*Bidens pilosa*	Foliar spraying using Glyphosate, hand pulled and brush cut	All year round	Glyphosate 360g/L	M	1/100
Buffalo Grass	*Bouteloua dactyloides*	Hand removal, brush cut and foliar sprayed with Glyphosate	All year round	Glyphosate 360g/L	M	1/100
Bitou Bush	*Chrysanthemoides monilifera subsp rotundata*	Small single specimens hand pulled or larger shrubs cut and painted with neat Glyphosate	All year round	Glyphosate 360g/L	M	Neat
Camphor Laurel	*Cinnamomum camphora*	Scrape and paint or drill and fill with neat Glyphosate	All year round	Glyphosate 360g/L	M	Neat
Spear Thistle	*Cirsium vulgare*	Foliar spraying with Glyphosate, hand pulled and brush cut	All year round	Glyphosate 360g/L	M	1/100
Fleabane	*Conyza bonariensis*	Foliar spraying with Glyphosate, hand pulled and brush cut	All year round	Glyphosate 360g/L	M	1/100
Pampas Grass	*Cortaderia jubata*	Foliar spraying or cut/paint with Glyphosate or hand removed.	Prior to flowering in March to May	Glyphosate 360g/L	M	1/100 & Neat
Panic Veldgrass	*Ehrharta erecta*	Foliar spraying with Glyphosate	All year round	Glyphosate 360g/L	M	1/100

Common Name	Botanical Name	Weeding Technique	Recommended Timing for Treatment	Herbicide Application	Herbicide Group	Ratio
African Lovegrass	*Eragrostis curvula*	Hand pulled or brush cut and foliar sprayed with Glyphosate	All year round	Glyphosate 360g/L	M	1/100
Coral Tree, Common Coral Tree	*Erythrina x sykesii*	<80mm cut & painted; >80mm will be drilled/frilled with neat Glyphosate	All year round	Glyphosate 360g/L	M	Neat
Fennel	*Foeniculum vulgare*	Foliar spraying with Glyphosate, hand pulled and brush cut	All year round	Glyphosate 360g/L	M	1/100
Narrow-Leaf Cotton Bush / Swan Plant	*Gomphocarpus fruticosus*	Foliar spraying with Glyphosate, hand pulled and brush cut	All year round	Glyphosate 360g/L	M	1/100 & Neat
Ginger Lily	*Hedychium gardnerianum*	Physical removal. Large stands cut and painted with Glyphosate/Metsulfuron-Methyl.	All year round	Glyphosate 360g/L & Metsulfuron-Methyl 600 g/kg	M & B	Neat
Pennywort	*Hydrocotyle bonariensis*	Hand pulled or spot sprayed with Dicamba	All year round			
Coolatai Grass	*Hyparrhenia hirta*	Hand pulled or brush cut and foliar sprayed with Glyphosate. Up to three applications of Glyphosate in the same growing season will be required.	All year round	Glyphosate 360g/L	M	200ml/10l
Spiny Rush, Spike Rush, Sharp Rush	*Juncus acutus*	Juvenile single specimens to be dug out. Large infestations foliar spraying with Glyphosate.	All year round	Glyphosate 360g/L	M	1/100
Lantana	*Lantana camara*	Cut and paint, sprayed or splattered with Glyphosate. Hand pull small shoots.	All year round	Glyphosate 360g/L	M	Neat
Fishbone Fern	*Nephrolepis cordifolia*	Hand removal. Brush cut then sprayed with Glyphosate.	All year round	Glyphosate 360g/L	M	1/100
Ochna	*Ochna serrulata*	Double side scrape and paint all stems to 75% coverage.	All year round	Glyphosate 360g/L	M	Neat
Bamboo, Black Bamboo, Rhizomatous Bamboo,	*Phyllostachys nigra*	Chainsaw/cut close to base. Allow new shoots to return. Cut and paint new shoots with neat Glyphosate.	All year round	Glyphosate 360g/L	M	Neat
Inkweed	*Phytolacca octandra*	Foliar spraying with Glyphosate, hand pulled and brush cut	All year round	Glyphosate 360g/L	M	1/100
Radiata Pine, Pine Wildings	*Pinus radiata*	<80mm cut & painted; >80mm will be drilled/frilled with neat Glyphosate	All year round	Glyphosate 360g/L	M	Neat

Common Name	Botanical Name	Weeding Technique	Recommended Timing for Treatment	Herbicide Application	Herbicide Group	Ratio
Plantain	*Plantago lanceolata*	Foliar spraying with Glyphosate	All year round	Glyphosate 360g/L	M	1/100
Castor Oil Plant	*Ricinus communis*	Hand pulled and cut & painted with neat Glyphosate	All year round	Glyphosate 360g/L	M	Neat
Blackberry	*Rubus fruticosus aggregate*	Brush cut, crowned and scraped & painted with neat Glyphosate	Between flowering and fruiting from November to January	Glyphosate 360g/L	M	Neat
Fireweed	*Senecio madagascariensis*	Foliar spraying with Glyphosate, hand pulled and brush cut	All year round	Glyphosate 360g/L	M	1/100
Senna / Cassia	*Senna pendula*	Small individuals hand removed, larger plants cut and painted with neat Glyphosate	All year round	Glyphosate 360g/L	M	Neat
Paddy's Lucerne	*Sida rhombifolia*	Foliar spraying with Glyphosate, hand pulled and brush cut	All year round	Glyphosate 360g/L	M	1/100
Tobacco Bush/ Wild Tobacco	*Solanum mauritianum*	Cut & paint with Glyphosate	All year round	Glyphosate 360g/L	M	Neat
Blackberry Night Shade	*Solanum nigrum*	Foliar spraying with Glyphosate, hand pulled and brush cut	All year round	Glyphosate 360g/L	M	1/100
Purpletop	*Verbena bonarensis*	Foliar spraying with Glyphosate, hand pulled and brush cut	All year round	Glyphosate 360g/L	M	1/100

Appendix 4: Noise Monitoring Results

Table 4.1 Mannering Colliery attended noise monitoring results – January 2021

Location	Date	Start time	Total noise levels, dB							Site contributions, dB			Noise criteria (NMP), dB		Meteorological conditions[3] Criteria apply? (Y/N)	Exceedance, dB	Comments
			L_{Amin}	L_{A90}	L_{Aeq}	L_{A10}	L_{A1}	L_{Amax}	L_{Ceq}	Mod. factor[1]	L_{Aeq}	L_{Amax}[2]	L_{Aeq}	L_{Amax}[2]			
RA1	22/1	20:51 (Eve.)	43	55	65	69	74	81	71	N/A	IA	N/A	36	N/A	1.2 m/s @ 43° F class stability Y	Nil	**MC inaudible.** Traffic on the Pacific Highway consistently audible (dominant). VPPS hum audible during lulls in traffic. Insects consistently audible.
RA2	22/1	21:15 (Eve.)	41	43	45	47	49	55	62	N/A	IA	N/A	40	N/A	1.3 m/s @ 21° F class stability Y	Nil	**MC inaudible.** VPPS hum consistently audible (dominant). Insects and frogs consistently audible. Occasional local traffic and distant traffic on Tall Timbers Road. Bird audible once.
RA3	22/1	21:36 (Eve.)	42	45	49	54	55	56	65	N/A	IA	N/A	39	N/A	1.2 m/s @ 28° F class stability Y	Nil	**MC inaudible.** VPPS hum consistently audible (dominant). Insects consistently audible.
RA3	22/1	22:00 (Night)	41	44	52	57	58	68	65	N/A	IA	IA	39	49	1.2 m/s @ 16° F class stability Y	Nil	**MC inaudible.** VPPS hum consistently audible (dominant). Insects consistently audible. Traffic on Tall Timbers Road. Dog barking briefly audible.
RA2	22/1	22:30 (Night)	39	40	42	43	44	63	61	N/A	IA	IA	40	45	2.1 m/s @ 31° F class stability N	N/A	**MC inaudible.** VPPS hum consistently audible. Insects and frogs consistently audible. Fruit bats in trees frequently audible.
RA1	22/1	22:55 (Night)	38	41	62	66	72	84	70	N/A	IA	IA	36	46	0.7 m/s @ 16° F class stability Y	Nil	**MC inaudible.** Traffic on the Pacific Highway consistently audible (dominant). VPPS hum audible during lulls in traffic. Insects consistently audible.

Notes: 1. Modifying factor in accordance with Fact sheet C of the NPfI (refer to Section 2.2).
2. For assessment purposes the L_{Amax} and the $L_{A1,1\ minute}$ are interchangeable.
3. Meteorological data were taken as an average over 15 minutes from Mannering Colliery's weather station (Refer to Section 5.1).
4. IA = inaudible.
5. N/A = not applicable.

Table 4.1 Mannering Colliery attended noise monitoring results – February 2021

Location	Date	Start time	Total noise levels, dB							Site contributions, dB			Noise criteria (NMP), dB		Meteorological conditions[3] Criteria apply? (Y/N)	Exceedance, dB	Comments
			L_{Amin}	L_{A90}	L_{Aeq}	L_{A10}	L_{A1}	L_{Amax}	L_{Ceq}	Mod. factor[1]	L_{Aeq}	L_{Amax}[2]	L_{Aeq}	L_{Amax}[2]			
RA1	12/2	21:03 (Eve.)	41	50	64	68	72	78	69	N/A	IA	N/A	36	N/A	0.5 m/s @ 63° F class stability Y	Nil	**MC inaudible.** Traffic on the Pacific Highway consistently audible. VPPS hum audible during lulls in traffic. Insects consistently audible.
RA3	12/2	21:23 (Eve.)	42	46	49	50	53	59	67	N/A	IA	N/A	39	N/A	1.3 m/s @ 55° E class stability Y	Nil	**MC inaudible.** VPPS hum consistently audible. Insects consistently audible (dominant). Traffic on Tall Timbers Road. Dog barking briefly audible.
RA2	12/2	21:45 (Eve.)	40	42	43	45	46	55	65	N/A	IA	N/A	40	N/A	1.4 m/s @ 49° E class stability Y	Nil	**MC inaudible.** VPPS hum consistently audible (dominant). Insects and frogs consistently audible. Occasional distant traffic on Tall Timbers Road. Distant dog barking briefly audible.
RA2	12/2	22:15 (Night)	40	42	44	45	47	60	65	N/A	IA	IA	40	45	1.3 m/s @ 47° E class stability Y	Nil	**MC inaudible.** VPPS hum consistently audible. Insects and frogs consistently audible. Traffic on Tall Timbers Road.
RA3	12/2	22:37 (Night)	38	39	41	42	45	54	66	N/A	IA	IA	39	49	1.3 m/s @ 46° F class stability Y	Nil	**MC inaudible.** VPPS hum consistently audible (dominant). Insects consistently audible. Traffic on Tall Timbers Road.
RA1	12/2	23:00 (Night)	37	40	60	64	69	72	65	N/A	IA	IA	36	46	0.6 m/s @ 41° F class stability Y	Nil	**MC inaudible.** Traffic on the Pacific Highway consistently audible. Hum from nearby petrol station and VPPS audible during lulls in traffic. Insects consistently audible.

Notes:
1. Modifying factor in accordance with Fact sheet C of the NPfI (refer to Section 2.2).
2. For assessment purposes the L_{Amax} and the $L_{A1,1\ minute}$ are interchangeable.
3. Meteorological data were taken as an average over 15 minutes from Mannering Colliery's weather station (Refer to Section 5.1).
4. IA = inaudible.
5. N/A = not applicable.

Table 4.1 Mannering Colliery attended noise monitoring results – March 2021

Location	Date	Start time	Total noise levels, dB							Site contributions, dB			Noise criteria (NMP), dB		Meteorological conditions[3] Criteria apply? (Y/N)	Exceedance, dB	Comments
			L_{Amin}	L_{A90}	L_{Aeq}	L_{A10}	L_{A1}	L_{Amax}	L_{Ceq}	Mod. factor[1]	L_{Aeq}	L_{Amax}[2]	L_{Aeq}	L_{Amax}[2]			
RA3	24/3	18:44 (Eve.)	41	42	45	47	53	60	67	N/A	IA	N/A	39	N/A	0.9 m/s @ 316° F class stability Y	Nil	**MC inaudible.** VPPS hum and nearby pumping station consistently audible. Bird noise frequently audible. Wind in foliage and traffic on Tall Timbers Road occasionally audible.
RA1	24/3	19:26 (Eve.)	47	53	64	66	73	79	73	N/A	IA	N/A	36	N/A	1.0 m/s @ 315° F class stability Y	Nil	**MC inaudible.** Traffic on the Pacific Highway, insects and frogs consistently audible.
RA2	24/3	21:00 (Eve.)	46	48	49	49	50	60	66	N/A	<40	N/A	40	N/A	0.7 m/s @ 336° E class stability Y	Nil	**MC plant noise occasionally audible.** VPPS hum consistently audible. Insects and frogs consistently audible. Distant traffic audible on occasion.
RA1	24/3	22:21 (Night)	43	48	63	67	72	75	68	N/A	IA	IA	36	46	0.5 m/s @ 29° F class stability Y	Nil	**MC inaudible.** VPPS hum and hum from nearby petrol station just audible during traffic lulls. Insects consistently audible. Traffic on the Pacific Highway consistently audible.
RA3	24/3	22:42 (Night)	45	46	47	49	50	58	68	N/A	IA	IA	39	49	0.6 m/s @ 323° E class stability Y	Nil	**MC inaudible.** VPPS hum and insects consistently audible.
RA2	25/3	02:00 (Night)	40	42	43	44	45	51	66	N/A	<40	<40	40	45	0.9 m/s @ 269° E class stability Y	Nil	**MC plant noise occasionally audible.** CVC forklift occasionally audible. VPPS hum, insects and frogs consistently audible.

Notes:
1. Modifying factor in accordance with Fact sheet C of the NPfI (refer to Section 2.2).
2. For assessment purposes the L_{Amax} and the $L_{A1,1\ minute}$ are interchangeable.
3. Meteorological data were taken as an average over 15 minutes from Mannering Colliery's weather station (refer to Section 5.1).
4. IA = inaudible.
5. N/A = not applicable.

Table 4.1 Mannering Colliery attended noise monitoring results – April 2021

Location	Date	Start time	Total noise levels, dB							Site contributions, dB			Noise criteria (NMP), dB		Meteorological conditions[3] Criteria apply? (Y/N)	Exceedance, dB	Comments
			L_{Amin}	L_{A90}	L_{Aeq}	L_{A10}	L_{A1}	L_{Amax}	L_{Ceq}	Mod. factor[1]	L_{Aeq}	L_{Amax}[2]	L_{Aeq}	L_{Amax}[2]			
RA1	19/4	21:00 (Eve.)	38	47	63	67	70	83	68	N/A	IA	N/A	36	N/A	1.7 m/s @ 5° F class stability	Nil	**MC inaudible.** Traffic on the Pacific Highway consistently audible. VPPS hum audible during lulls in traffic.
RA3	19/4	21:20 (Eve.)	37	39	41	42	47	52	63	N/A	IA	N/A	39	N/A	1.2 m/s @ 3° F class stability	Nil	**MC inaudible.** VPPS hum consistently audible (dominant). Insects consistently audible. Traffic on Tall Timbers Road. Dog barking briefly audible. Wind in foliage briefly audible.
RA2	19/4	21:45 (Eve.)	35	38	40	42	46	50	60	N/A	IA	N/A	40	N/A	1.6 m/s @ 17° F class stability	Nil	**MC inaudible.** VPPS hum consistently audible (dominant). Insects and frogs consistently audible. Occasional distant traffic on Tall Timbers Road. Local traffic briefly audible. Birds briefly audible.
RA3	19/4	22:12 (Night)	38	39	41	43	45	55	64	N/A	IA	IA	39	49	1.3 m/s @ 8° E class stability	Nil	**MC inaudible.** VPPS hum consistently audible (dominant). Insects consistently audible. Aircraft noise and wind in foliage occasionally audible.
RA1	19/4	22:40 (Night)	37	40	60	64	70	79	66	N/A	IA	IA	36	46	0.8 m/s @ 346° F class stability	Nil	**MC inaudible.** Traffic on the Pacific Highway consistently audible. VPPS hum consistently audible. Hum from nearby petrol station audible during lulls in traffic. Insects consistently audible.
RA2	20/4	0:00 (Night)	37	39	40	41	43	53	63	N/A	IA	IA	40	45	0.5 m/s @ 314° F class stability	Nil	**MC inaudible.** VPPS hum consistently audible (dominant). Insects and frogs consistently audible. Distant traffic and birds occasionally audible.

Notes:
1. Modifying factor in accordance with Fact sheet C of the NPfI (refer to Section 2.2).
2. For assessment purposes the L_{Amax} and the $L_{A1,1\ minute}$ are interchangeable.
3. Meteorological data were taken as an average over 15 minutes from Mannering Colliery's weather station (refer to Section 5.1).
4. IA = inaudible.
5. N/A = not applicable.

Table 4.1 Mannering Colliery attended noise monitoring results – May 2021

Location	Date	Start time	Total noise levels, dB							Site contributions, dB			Meteorological conditions[3] (Very noise-enhancing?)	Noise limits[4], dB		Exceedance, dB	Comments
			L_{Amin}	L_{A90}	L_{Aeq}	L_{A10}	L_{A1}	L_{Amax}	L_{Ceq}	Mod. factor[1]	L_{Aeq}	L_{Amax}[2]		L_{Aeq}	L_{Amax}[2]		
RA1	24/5	21:00 (Eve.)	41	47	62	66	72	79	68	N/A	IA	N/A	0.7 m/s @ 255° F class stability (No)	36	N/A	Nil	**MC inaudible.** Traffic on the Pacific Highway consistently audible. VPPS hum audible during lulls in traffic.
RA3	24/5	21:21 (Eve.)	38	40	42	43	44	60	63	N/A	≤35	N/A	0.5 m/s @ 247° F class stability (No)	39	N/A	Nil	**MC CHP noise audible**. VPPS hum consistently audible (dominant). Insects consistently audible.
RA2	24/5	21:45 (Eve.)	37	40	40	41	42	49	59	N/A	<36	N/A	0.2 m/s @ 167° E class stability (No)	40	N/A	Nil	**MC CHP noise consistently audible.** VPPS hum consistently audible (mostly dominant). Distant traffic and birds occasionally audible.
RA1	24/5	22:13 (Night)	37	40	59	64	69	74	64	N/A	IA	IA	0.2 m/s @ 343° F class stability (No)	36	46	Nil	**MC inaudible.** Traffic on the Pacific Highway consistently audible. VPPS hum audible during lulls in traffic. Hum from nearby petrol station audible during lulls in traffic.
RA3	24/5	22:36 (Night)	38	39	40	41	45	54	62	N/A	≤32	≤32	0.2 m/s @ 158° F class stability (No)	39	49	Nil	**MC CHP noise just audible.** VPPS hum consistently audible (dominant). Insects consistently audible.
RA2	25/5	0:15 (Night)	38	41	42	42	44	57	59	N/A	IA	IA	0.6 m/s @ 259° D class stability (No)	40	45	Nil	**MC inaudible.** VPPS hum consistently audible (dominant). Distant traffic and birds occasionally audible.

Notes:
1. Modifying factor in accordance with Fact sheet C of the NPfI (refer to Section 2.4).
2. For assessment purposes the L_{Amax} and the $L_{A1,1\ minute}$ are interchangeable.
3. Meteorological data were taken as an average over 15 minutes from Mannering Colliery's weather station (refer to Section 5.1).
4. As per the revised NMP.
5. IA = inaudible.
6. N/A = not applicable.

Table 4.1 Mannering Colliery attended noise monitoring results – June 2021

Location	Date	Start time	Total noise levels, dB							Site contributions, dB			Meteorological conditions[3] (Very noise-enhancing?)	Noise limits[4], dB		Exceedance, dB	Comments
			L_{Amin}	L_{A90}	L_{Aeq}	L_{A10}	L_{A1}	L_{Amax}	L_{Ceq}	Mod. factor[1]	L_{Aeq}	L_{Amax}[2]		L_{Aeq}	L_{Amax}[2]		
RA1	15/6	19:41 (Eve.)	40	49	61	65	70	74	68	N/A	IA	N/A	0.5 m/s @ 234° E class stability (No)	36	N/A	Nil	**MC inaudible.** Traffic passbys, insects and frogs consistently audible.
RA2	15/6	21:00 (Eve.)	36	38	40	41	43	59	61	N/A	37	N/A	0.4 m/s @ 286° F class stability (No)	40	N/A	Nil	**MC CHPP noise consistently audible.** VPPS hum consistently audible. Birds occasionally audible. Occasional noise from distant traffic.
RA3	15/6	21:20 (Eve.)	37	39	42	43	49	56	62	N/A	<36	N/A	0.4 m/s @ 216° F class stability (No)	39	N/A	Nil	**MC CHPP noise just audible.** VPPS hum consistently audible. Occasional noise from traffic and dog barking.
RA3	15/6	22:00 (Night)	40	42	43	44	48	53	63	N/A	≤36	36	0.5 m/s @ 253° D class stability (No)	39	49	Nil	**MC CHPP noise just audible.** CVC alarm sound just audible briefly. VPPS hum consistently audible. Occasional noise from traffic and dog barking.
RA1	15/6	22:44 (Night)	39	40	57	61	68	74	63	N/A	IA	IA	0.4 m/s @ 204° F class stability (No)	36	46	Nil	**MC inaudible.** Traffic on the Pacific Highway and hum from nearby petrol station consistently audible.
RA2	16/6	1:45 (Night)	39	40	41	42	44	55	62	N/A	38	41	0.3 m/s @ 168° F class stability (No)	40	45	Nil	**MC CHPP and overland conveyor noise consistently audible.** VPPS hum consistently audible. Birds and fruit bats frequently audible. Noise from plane flying above audible once.

Notes:
1. Modifying factor in accordance with Fact sheet C of the NPfI (refer to Section 2.4).
2. For assessment purposes the L_{Amax} and the $L_{A1,1\ minute}$ are interchangeable.
3. Meteorological data were taken as an average over 15 minutes from Mannering Colliery's weather station (refer to Section 5.1).
4. As per the revised NMP (pending DPIE approval).
5. IA = inaudible.
6. N/A = not applicable.

Table 4.1 Mannering Colliery attended noise monitoring results – July 2021

Location	Date	Start time	Total noise levels, dB							Site contributions, dB			Meteorological conditions[3] (Very noise-enhancing?)	Noise limits[4], dB		Exceedance, dB	Comments
			L_{Amin}	L_{A90}	L_{Aeq}	L_{A10}	L_{A1}	L_{Amax}	L_{Ceq}	Mod. factor[1]	L_{Aeq}	L_{Amax}[2]		L_{Aeq}	L_{Amax}[2]		
RA2	27/7	3:00 (Night)	38	40	41	42	44	58	63	N/A	<39	<39	0.3 m/s @ 232° F class stability (No)	40	45	Nil	**MC CHP noise just audible to inaudible**. VPPS hum consistently audible (dominant). Distant traffic and birds occasionally audible.
RA3	27/7	3:30 (Night)	41	43	45	47	50	59	65	N/A	<39	<39	0.8 m/s @ 342° F class stability (No)	39	49	Nil	**MC CHP noise just audible to inaudible**. VPPS hum consistently audible (dominant). Birds occasionally audible.
RA2	27/7	4:00 (Night)	39	41	43	45	48	63	64	N/A	<40	<40	1.0 m/s @ 1° E class stability (No)	40	45	Nil	**MC CHP noise audible, although inaudible at times**. VPPS hum consistently audible (dominant). Distant traffic and birds occasionally audible.
RA1	27/7	4:34 (Night)	41	48	59	64	69	76	67	N/A	IA	IA	0.9 m/s @ 344° E class stability (No)	36	46	Nil	**MC inaudible**. Traffic on the Pacific Highway consistently audible. VPPS hum audible during lulls in traffic. Patrons at nearby petrol station audible during lulls in traffic.
RA2	27/7	5:00 (Night)	39	41	43	45	48	60	64	N/A	<40	<40	1.3 m/s @ 334° E class stability (No)	40	45	Nil	**MC CHP noise audible, although inaudible at times**. VPPS hum consistently audible (dominant). Local traffic, distant traffic and birds occasionally audible.
RA2	27/7	6:00 (Night)	37	39	49	46	63	69	63	N/A	<39	<39	1.7 m/s @ 342° E class stability (No)	40	45	Nil	**MC CHP noise audible, although inaudible at times**. VPPS hum consistently audible (dominant). Local traffic, distant traffic and birds occasionally audible.
RA1	27/7	20:52 (Eve.)	38	39	56	61	67	75	64	N/A	<36	N/A	1.6 m/s @ 18° F class stability (No)	36	N/A	Nil	**MC CHP noise just audible during lulls in traffic**. VPPS hum audible during lulls in traffic. Traffic on the Pacific Highway frequently audible. Wind in foliage occasionally audible.
RA2	27/7	21:15 (Eve.)	38	40	42	43	45	48	62	N/A	IA	N/A	1.7 m/s @ 31° F class stability (No)	40	N/A	Nil	**MC inaudible**. VPPS hum consistently audible (dominant). Distant traffic, wind in foliage and birds occasionally audible.

Table 4.1 Mannering Colliery attended noise monitoring results – July 2021

Location	Date	Start time	Total noise levels, dB							Site contributions, dB			Meteorological conditions[3] (Very noise-enhancing?)	Noise limits[4], dB		Exceedance, dB	Comments
			L_{Amin}	L_{A90}	L_{Aeq}	L_{A10}	L_{A1}	L_{Amax}	L_{Ceq}	Mod. factor[1]	L_{Aeq}	L_{Amax}[2]		L_{Aeq}	L_{Amax}[2]		
RA3	27/7	21:43 (Eve.)	39	41	43	44	46	58	65	N/A	IA	N/A	0.8 m/s @ 21° F class stability (No)	39	N/A	Nil	**MC inaudible**. VPPS hum consistently audible (dominant). Insects just audible. Distant traffic, wind in foliage, dog barking and birds occasionally audible.

Notes:
1. Modifying factor in accordance with Fact sheet C of the NPfI (refer to Section 2.4).
2. For assessment purposes the L_{Amax} and the $L_{A1,1\ minute}$ are interchangeable.
3. Meteorological data were taken as an average over 15 minutes from Mannering Colliery's weather station (refer to Section 5.1).
4. As per the revised NMP (pending DPIE approval).
5. IA = inaudible.
6. N/A = not applicable.

Table 4.1 Mannering Colliery attended noise monitoring results – August 2021

Location	Date	Start time	Total noise levels, dB							Site contributions, dB			Meteorological conditions[3] (Very noise-enhancing?)	Noise limits[4], dB		Exceedance, dB	Comments
			L_{Amin}	L_{A90}	L_{Aeq}	L_{A10}	L_{A1}	L_{Amax}	L_{Ceq}	Mod. factor[1]	L_{Aeq}	L_{Amax}[2]		L_{Aeq}	L_{Amax}[2]		
RA2	30/8	3:00 (Night)	39	40	42	43	45	65	63	N/A	39	40	0.8 m/s @ 234° F class stability (No)	40	45	Nil	**MC CHP noise consistently audible.** VPPS hum consistently audible. Insects and birds frequently audible. Distant traffic occasionally audible.
RA3	30/8	3:30 (Night)	43	45	46	47	48	62	68	N/A	<39	<39	1.2 m/s @ 251° F class stability (No)	39	49	Nil	**MC CHP noise just audible to inaudible.** VPPS hum consistently audible (dominant). Insects and frogs consistently audible. Distant traffic audible. CVC drift alarm briefly audible.
RA2	30/8	4:00 (Night)	38	40	42	43	45	66	63	N/A	<39	<39	1.5 m/s @ 257° E class stability (No)	40	45	Nil	**MC CHP noise just audible to inaudible.** Delta overland conveyor to VPPS audible. VPPS hum consistently audible. Distant traffic consistently audible. Birds and ducks occasionally audible.
RA1	30/8	4:27 (Night)	37	42	60	64	69	79	71	N/A	IA	IA	1.3 m/s @ 259° E class stability (No)	36	46	Nil	**MC inaudible.** Traffic on the Pacific Highway consistently audible. VPPS hum and nearby petrol station audible during lulls in traffic. Insects just audible.
RA2	30/8	5:00 (Night)	40	42	44	45	47	66	64	N/A	<39	<39	0.9 m/s @ 272° F class stability (No)	40	45	Nil	**MC CHP noise just audible to inaudible.** Delta overland conveyor to VPPS occasionally audible. VPPS hum consistently audible (dominant). Distant traffic consistently audible. Insects, frogs and birds occasionally audible.
RA2	30/8	6:00 (Night)	40	43	46	48	53	62	64	N/A	IA	IA	0.5 m/s @ 269° F class stability (No)	40	45	Nil	**MC CHP noise inaudible.** Delta overland conveyor to VPPS occasionally audible. VPPS hum consistently audible (dominant). Distant traffic consistently audible. Birds consistently audible. Nearby resident briefly talking.

Table 4.1 Mannering Colliery attended noise monitoring results – August 2021

Location	Date	Start time	Total noise levels, dB							Site contributions, dB			Meteorological conditions[3] (Very noise-enhancing?)	Noise limits[4], dB		Exceedance, dB	Comments
			L_{Amin}	L_{A90}	L_{Aeq}	L_{A10}	L_{A1}	L_{Amax}	L_{Ceq}	Mod. factor[1]	L_{Aeq}	L_{Amax}[2]		L_{Aeq}	L_{Amax}[2]		
RA2	30/8	20:30 (Eve.)	36	38	40	41	44	67	62	N/A	IA	N/A	0.3 m/s @ 324° F class stability (No)	40	N/A	Nil	**MC inaudible.** Delta overland conveyor to VPPS just audible at the end of the measurement period. VPPS hum consistently audible (dominant). Distant traffic occasionally audible. Insects and frogs frequently audible.
RA3	30/8	21:01 (Eve.)	39	41	42	43	44	51	64	N/A	<35	N/A	0.7 m/s @ 6° F class stability (No)	39	N/A	Nil	**MC CHP noise just audible to inaudible.** VPPS hum consistently audible (dominant). Insects and frogs consistently audible.
RA1	30/8	21:36 (Eve.)	37	39	57	59	68	83	65	N/A	≤36	N/A	0.3 m/s @ 233° F class stability (No)	36	N/A	Nil	**MC CHP noise audible during lulls in traffic.** Traffic on the Pacific Highway almost constant. VPPS hum and nearby petrol station audible during lulls in traffic.

Notes:
1. Modifying factor in accordance with Fact sheet C of the NPfI (refer to Section 2.4).
2. For assessment purposes the L_{Amax} and the $L_{A1,1\ minute}$ are interchangeable.
3. Meteorological data were taken as an average over 15 minutes from Mannering Colliery's weather station (refer to Section 5.1).
4. As per the revised NMP (pending DPIE approval).
5. IA = inaudible.
6. N/A = not applicable.

Table 4.1 Mannering Colliery attended noise monitoring results – September 2021

Location	Date	Start time	Total noise levels, dB							Site contributions, dB			Meteorological conditions[3] (Very noise-enhancing?)	Noise limits[4], dB		Exceedance, dB	Comments
			L_{Amin}	L_{A90}	L_{Aeq}	L_{A10}	L_{A1}	L_{Amax}	L_{Ceq}	Mod. factor[1]	L_{Aeq}	L_{Amax}[2]		L_{Aeq}	L_{Amax}[2]		
RA2	23/9	3:00 (Night)	40	42	44	45	46	56	60	N/A	<40	<40	0.3 m/s @ 179° F class stability (No)	40	45	Nil	**MC CHP noise consistently audible**. VPPS hum consistently audible (dominant most of the time). Distant traffic audible on one occasion.
RA3	23/9	3:30 (Night)	39	41	43	44	46	54	63	N/A	<39	≤39	0.3 m/s @ 234° E class stability (No)	39	49	Nil	**MC CHP noise audible, although inaudible at the end of the measurement period.** VPPS hum consistently audible (dominant). CVC forklift occasionally audible. Distant traffic audible on one occasion. Birds occasionally audible.
RA2	23/9	4:00 (Night)	38	41	45	46	55	62	60	N/A	≤40	43	0.2 m/s @ 153° F class stability (No)	40	45	Nil	**MC CHP noise consistently audible**. VPPS hum consistently audible (dominant most of the time). Distant traffic audible on one occasion. Birds occasionally audible.
RA1	23/9	4:30 (Night)	39	44	56	61	65	68	63	N/A	IA	IA	0.3 m/s @ 10° F class stability (No)	36	46	Nil	**MC inaudible**. Traffic on the Pacific Highway consistently audible. Noise from nearby petrol station occasionally audible.
RA2	23/9	5:00 (Night)	38	41	50	54	61	65	60	N/A	≤38	45	0.7 m/s @ 333° F class stability (No)	40	45	Nil	**MC CHP noise audible to inaudible.** VPPS hum consistently audible (dominant). Distant traffic audible on occasion. Birds frequently audible.
RA2	23/9	6:00 (Night)	38	40	44	45	52	67	59	N/A	IA	IA	0.2 m/s @ 318° F class stability (No)	40	45	Nil	**MC inaudible**. VPPS hum consistently audible (dominant). Alarm sound briefly audible from the south-west (unrelated to Delta Coal). Distant traffic consistently audible. Birds and insects consistently audible.
RA1	23/9	18:36 (Eve.)	43	47	60	64	69	75	68	N/A	IA	N/A	0.6 m/s @ 35° F class stability (No)	36	N/A	Nil	**MC inaudible**. Insects and frogs consistently audible. Traffic on the Pacific Highway consistently audible. Bird noise occasionally audible. Noise from nearby business frequently audible.

Table 4.1 Mannering Colliery attended noise monitoring results – September 2021

Location	Date	Start time	Total noise levels, dB							Site contributions, dB			Meteorological conditions[3] (Very noise-enhancing?)	Noise limits[4], dB		Exceedance, dB	Comments
			L_{Amin}	L_{A90}	L_{Aeq}	L_{A10}	L_{A1}	L_{Amax}	L_{Ceq}	Mod. factor[1]	L_{Aeq}	L_{Amax}[2]		L_{Aeq}	L_{Amax}[2]		
RA3	23/9	18:56 (Eve.)	39	41	43	44	50	59	63	N/A	IA	N/A	0.4 m/s @ 24° F class stability (No)	39	N/A	Nil	**MC inaudible.** Insects and frogs consistently audible. VPPS hum consistently audible. Traffic on Tall Timbers Road occasionally audible. Nearby animals occasionally audible.
RA2	23/9	19:30 (Eve.)	39	40	42	44	45	48	59	N/A	IA	N/A	0.4 m/s @ 20° F class stability (No)	40	N/A	Nil	**MC inaudible**. VPPS hum consistently audible (dominant). Distant traffic occasionally audible. Noise from nearby air-conditioning unit just audible. Residents talking nearby.
RA2	23/9	19:45 (Eve.)	36	38	41	43	45	54	59	N/A	IA	N/A	0.6 m/s @ 236° F class stability (No)	40	N/A	Nil	**MC inaudible**. VPPS hum consistently audible (dominant). Local and distant traffic occasionally audible. Noise from nearby air-conditioning unit just audible. Residents talking nearby.

Notes:
1. Modifying factor in accordance with Fact sheet C of the NPfI (refer to Section 2.4).
2. For assessment purposes the L_{Amax} and the $L_{A1,1\ minute}$ are interchangeable.
3. Meteorological data were taken as an average over 15 minutes from Mannering Colliery's weather station (refer to Section 5.1).
4. As per the revised NMP (pending DPIE approval).
5. IA = inaudible.
6. N/A = not applicable.

Table 4.1 Mannering Colliery attended noise monitoring results – October 2021

Location	Date	Start time	Total noise levels, dB							Site contributions, dB			Meteorological conditions[3] Very noise-enhancing?	Noise limits[4], dB		Exceedance, dB	Comments
			L_{Amin}	L_{A90}	L_{Aeq}	L_{A10}	L_{A1}	L_{Amax}	L_{Ceq}	Mod. factor[1]	L_{Aeq}	L_{Amax}[2]		L_{Aeq}	L_{Amax}[2]		
RA3	18/10	20:50 (Eve.)	37	39	57	41	45	40	64	N/A	IA	N/A	0.3 m/s @ 53° SC F No	39	N/A	Nil	**MC inaudible.** VPPS hum consistently audible (dominant). Insects and frogs consistently audible. Birds and distant traffic occasionally audible.
RA2	18/10	21:15 (Eve.)	35	37	59	43	46	41	61	N/A	IA	N/A	0.6 m/s @ 215° SC F No	40	N/A	Nil	**MC inaudible.** VPPS hum consistently audible (dominant). Insects and frogs consistently audible. Distant traffic, birds and dog barking occasionally audible.
RA1	18/10	21:42 (Eve.)	38	41	74	57	65	54	67	N/A	<36	N/A	0.6 m/s @ 229° SC E No	36	N/A	Nil	**MC CHP noise audible during lulls in traffic.** Traffic on the Pacific Highway consistently audible. VPPS hum audible during lulls in traffic. Insects consistently audible.
RA1	18/10	22:00 (Night)	36	40	70	57	62	53	63	N/A	<36	<36	0.7 m/s @ 220° SC F No	36	46	Nil	**MC CHP noise audible during lulls in traffic.** Traffic on the Pacific Highway consistently audible. VPPS hum audible during lulls in traffic. Insects consistently audible.
RA3	18/10	22:22 (Night)	39	40	50	42	45	41	65	N/A	IA	IA	0.4 m/s @ 276° SC F No	39	49	Nil	**MC inaudible.** VPPS hum consistently audible (dominant). Insects and frogs consistently audible.
RA2	18/10	22:45 (Night)	37	38	45	40	42	39	63	N/A	<30	<38	0.5 m/s @ 3° SC D No	40	45	Nil	**MC CHP noise audible on occasions.** VPPS hum consistently audible (dominant). YE1 overland conveyor audible. Insects and frogs consistently audible. Distant traffic occasionally audible.

Notes:
1. Modifying factor in accordance with Fact sheet C of the NPfI (refer to Section 2.4).
2. For assessment purposes the L_{Amax} and the $L_{A1,1\ minute}$ are interchangeable.
3. Meteorological data including wind speed, wind direction and stability category (SC) were taken as an average over 15 minutes from Mannering Colliery weather station (refer to Section 3.3).
4. As per the revised NMP (pending DPIE approval).
5. IA = inaudible.
6. N/A = not applicable.

Table 4.1 Mannering Colliery attended noise monitoring results – November 2021

Location	Date	Start time	Total noise levels, dB							Site contributions, dB			Meteorological conditions[3] Very noise-enhancing?	Noise limits[4], dB		Exceedance, dB	Comments
			L_{Amin}	L_{A90}	L_{Aeq}	L_{A10}	L_{A1}	L_{Amax}	L_{Ceq}	Mod. factor[1]	L_{Aeq}	L_{Amax}[2]		L_{Aeq}	L_{Amax}[2]		
RA1	8/11	20:56 (Eve.)	35	40	60	65	70	77	68	N/A	IA	N/A	0.9 m/s @ 183° SC F No	36	N/A	Nil	**MC inaudible.** Traffic on the Pacific Highway consistently audible. Hum from nearby petrol station consistently audible. Insects consistently audible.
RA3	8/11	21:17 (Eve.)	36	38	39	40	45	59	59	N/A	≤35	N/A	0.9 m/s @ 180° SC F No	39	N/A	Nil	**MC CHP noise consistently audible.** VPPS hum consistently audible (dominant). Insects consistently audible. Distant traffic occasionally audible.
RA2	8/11	21:45 (Eve.)	31	33	34	35	37	53	54	N/A	≤30	N/A	1.1 m/s @ 178° SC F No	40	N/A	Nil	**MC CHP noise consistently audible.** Insects consistently audible. Distant traffic frequently audible. Noise from nearby residence briefly audible.
RA1	8/11	22:06 (Night)	34	40	59	64	69	74	65	N/A	IA	IA	1.2 m/s @ 182° SC F No	36	46	Nil	**MC inaudible.** Traffic on the Pacific Highway consistently audible. Insects consistently audible.
RA3	8/11	22:26 (Night)	36	38	39	40	41	65	61	N/A	≤35	36	0.7 m/s @ 223° SC F No	39	49	Nil	**MC CHP noise consistently audible.** VPPS hum consistently audible (dominant). Insects consistently audible.
RA2	8/11	22:45 (Night)	32	34	36	37	38	61	58	N/A	33	37	0.9 m/s @ 259° SC F No	40	45	Nil	**MC CHP noise consistently audible.** VPPS hum just audible. Insects consistently audible. Distant traffic occasionally audible.

Notes:
1. Modifying factor in accordance with Fact sheet C of the NPfI (refer to Section 2.4).
2. For assessment purposes the L_{Amax} and the $L_{A1,1\ minute}$ are interchangeable.
3. Meteorological data including wind speed, wind direction and stability category (SC) were taken as an average over 15 minutes from Mannering Colliery weather station (refer to Section 3.3).
4. As per the revised NMP (pending DPIE approval).
5. IA = inaudible.
6. N/A = not applicable.

Table 4.1 Mannering Colliery attended noise monitoring results – December 2021

Location	Date	Start time	Total noise levels, dB							Site contributions, dB			Meteorological conditions[3] Very noise-enhancing?	Noise limits[4], dB		Exceedance, dB	Comments
			L_{Amin}	L_{A90}	L_{Aeq}	L_{A10}	L_{A1}	L_{Amax}	L_{Ceq}	Mod. factor[1]	L_{Aeq}	L_{Amax}[2]		L_{Aeq}	L_{Amax}[2]		
RA3	6/12	19:18 (Eve.)	34	36	40	42	48	56	59	N/A	IA	N/A	1.0 m/s @ 59° SC F No	39	N/A	Nil	**MC inaudible**. VPPS hum consistently audible. Insects and frogs consistently audible. Bird noise frequently audible. Distant traffic and aircraft noise occasionally audible.
RA1	6/12	20:23 (Eve.)	40	45	56	60	65	70	66	N/A	IA	N/A	0.8 m/s @ 50° SC F No	36	N/A	Nil	**MC inaudible**. VPPS hum consistently audible (between breaks in traffic). Insects and frogs consistently audible. Traffic on the Pacific Highway consistently audible. Bird noise occasionally audible.
RA2	6/12	20:45 (Eve.)	38	40	42	43	46	63	58	N/A	IA	N/A	1.6 m/s @ 57° SC F No	40	N/A	Nil	**MC inaudible**. VPPS hum consistently audible. Insects and frogs consistently audible. Distant traffic occasionally audible.
RA2	6/12	21:52 (Eve.)	34	36	42	40	54	63	62	N/A	IA	N/A	1.7 m/s @ 32° SC F No	40	N/A	Nil	**MC inaudible**. VPPS hum consistently audible. Insects and frogs consistently audible. Distant traffic occasionally audible. Helicopter flying above audible on one occasion.
RA3	6/12	22:11 (Night)	40	42	43	44	47	57	62	N/A	IA	IA	1.2 m/s @ 37° SC F No	39	49	Nil	**MC inaudible**. Hammering noise from CVC (≤45 dB LAmax) audible on occasion. VPPS hum consistently audible. Insects consistently audible. Distant traffic occasionally audible.
RA1	6/12	23:30 (Night)	35	37	60	62	69	88	66	N/A	<35	<35	1.9 m/s @ 39° SC F No	36	46	Nil	**MC CHP noise just audible during traffic lulls**. VPPS hum consistently audible. Hum from nearby petrol station consistently audible. Insects consistently audible. Traffic noise on the Pacific Highway audible and almost constant.
RA2	8/12	1:45 (Night)	36	38	39	40	42	50	62	N/A	≤35	38	0.2 m/s @ °198 SC F No	40	45	Nil	**MC CHP noise consistently audible**. VPPS hum consistently audible. Insects and frogs consistently audible. Distant traffic and birds occasionally audible.

Notes: 1. Modifying factor in accordance with Fact sheet C of the NPfI (refer to Section 2.4).
2. For assessment purposes the L_{Amax} and the $L_{A1,1\ minute}$ are interchangeable.
3. Meteorological data including wind speed, wind direction and stability category (SC) were taken as an average over 15 minutes from Mannering Colliery weather station (refer to Section 3.3).
4. As per the revised NMP (pending DPIE approval).
5. IA = inaudible.
6. N/A = not applicable.

Appendix 5: Annual Subsidence Report

SITE:	Chain Valley Colliery and Mannering Colliery
Department:	Technical Services
REPORT TITLE:	2021 Annual Subsidence Report
Prepared by:	Lachlan McWha
Report Date:	31st March 2022
Distribution:	Department of Planning, Industry and Environment NSW Resources Regulator NSW EPA

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1 Introduction

1.1 Background

Chain Valley Colliery (CVC) and Mannering Colliery (MC) are underground coal mines on the southern side of Lake Macquarie, approximately 60 kilometres (km) south of Newcastle and 80 km north of Sydney.

CVC operates under Development Consent SSD-5465, as modified, which was originally granted on 23 December 2013 by the then Minister for Planning and Infrastructure under Part 4, Division 4.1 of the NSW Environmental Planning and Assessment Act 1979 (EP&A Act), which relates to State significant development (SSD). The consent permits underground bord and pillar mining as well as Miniwall mining in the Fassifern Seam at a maximum rate of 2.1 million tonnes per annum (Mtpa) of run-of-mine (ROM) coal, with all secondary extraction confined to areas under the Lake Macquarie water body.

MC was granted Project Approval (MP06_0311) under Part 3A of the EP&A Act on 12 March 2008 and, as modified, permits the extraction of up to 1.1 Mtpa of ROM coal until 30 June 2022. It also permits the handling of up to 2.1 Mtpa ROM coal with that coal transported via a dedicated overland conveyor to Delta Electricity's Vales Point Power Station (VPPS) for domestic energy generation.

1.2 Purpose

This Annual Subsidence Report (ASR) provides an overview of subsidence monitoring data and management performance for CVC and MC in the 2021 calendar year and has been prepared as an appendix to the Chain Valley Colliery and Mannering Colliery Annual reviews. Subsidence at CVC and MC is documented, regulated, controlled and measured consistent with the relevant conditions of SSD-5465 and MP06_0311. In addition, this ASR:

- provides data to assist with the management of the risks associated with subsidence at CVC and MC
- compares observed subsidence against predictions in CVC's and MC's environmental assessment and approval documentation and summarises the results of subsidence monitoring activities performed in 2021.

1.3 Scope

This ASR relates specifically to underground mining undertaken at CVC and MC in the period 1 January 2021 to 31 December 2021. Within this period, no mining was undertaken at MC. First workings and secondary extraction were undertaken at CVC and included:

First Workings:

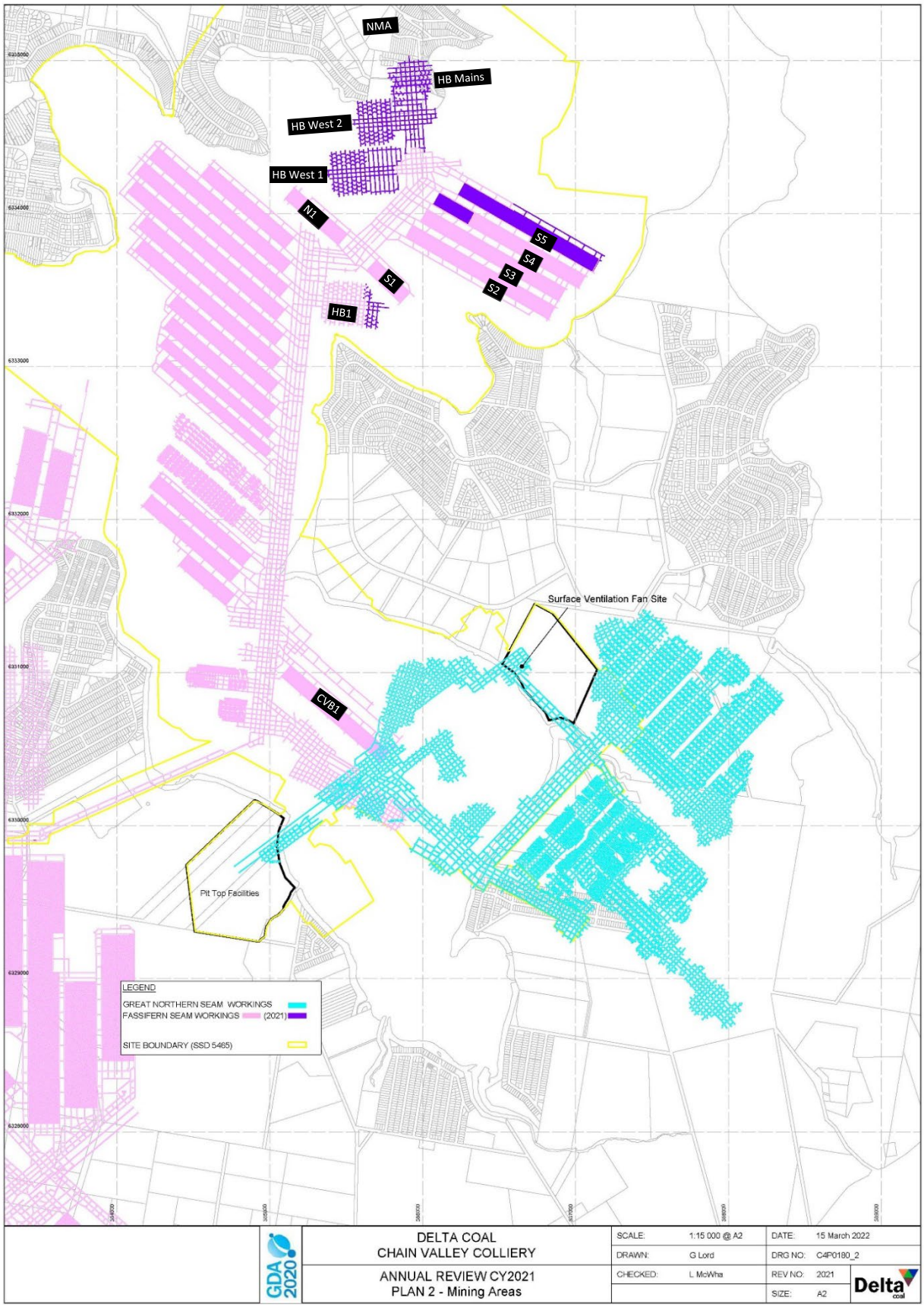
- 661,471 tonnes of ROM coal from development drivage and bord and pillar first workings which occurred in HB1, HB Mains, HB West 1, HB West 2, tailgate S5

Secondary Extraction

- 661,471 tonnes of ROM coal from Miniwall S4 and Miniwall S5 (completed in August 2021).

Mining areas in 2021 are shown in **Figure 1**.

Figure 1 - CVC Fassifern Workings (dark purple represents 2021 extraction)



1.4 Approval and Legislative Requirements

1.4.1 Chain Valley Colliery

In addition to carrying out the works in accordance with the conditions of SSD-5465, as modified (Schedule 2, condition 2A), DC carries out works generally in accordance with the Environmental Impact Statement (EIS); Statement of Environmental Effects (SEE) (Mod 1); SEE (Mod 2); SEE (Mod 3); SEE (Mod 4) project layout plans and Statement of Commitments. Within the 2021 reporting period, Chain Valley Colliery's development consent was modified (Mod 4) to include an extension of the northern consent boundary, allowing mining in the Northern Mining Area (NMA).

An ecological and archaeological assessment was conducted in August 2019 and a Conservation Risk Assessment Approval from National Parks and Wildlife Service (NPWS) Miniwall S4 and S5 was granted in October 2019 to allow access and foreshore subsidence monitoring activities for Miniwalls S4 and S5.

In 2021 Delta Coal sought land-owner consent for the installation and routine monitoring of surveying pins at foreshore properties in the NMA including the suburbs of Brightwaters, Mirrabooka and Sunshine. In addition to foreshore properties, where the land-owner was Lake Macquarie City Council or crown land (operated by Council) an ecological and archaeological Conservation Risk Assessment (CRA) was undertaken of the proposed monitoring point installation locations and submitted to Council. Foreshore properties are modelled to experience negligible subsidence (<20 mm) from first workings mining only.

Subsidence monitoring is undertaken in accordance with Chain Valley Colliery's approved Subsidence Monitoring Programs (SMP):

- Chain Valley Colliery, Subsidence Monitoring Program, Northern Mining Area First Workings and Lake Macquarie Extraction, August 2021 (forms part of the approved CVC Mining Operations Plan 2020-2023 Amendment 2)
- Chain Valley Colliery, Subsidence Monitoring Program, Miniwall S5 and Northern Mining Area Pillar Extraction, November 2020 (forms part of the approved CVC MWS5 and NMA Extraction Plan).

1.4.2 Mannering Colliery

In accordance with Schedule 2, Condition 2 and 2A of MP06_0311 (as modified), in addition to carrying out the works in accordance with the conditions of MP06_0311, DC carries out works generally in accordance with the Environmental Assessment (EA); EA (Mod 1); EA (Mod 2); EA (Mod 3); EA (Mod 4); SEE (Mod 5); project layout plans and Statement of Commitments.

1.5 Stakeholder Engagement

Delta Coal has consulted with the local community via the CVC and MC Community Consultative Committee (CCC) on subsidence results at the four quarterly meetings undertaken in 2021. This report is appended to the 2021 Mannering Colliery and Chain Valley Colliery Annual Reviews and will be provided to the CCC and applicable stakeholders as well as being made publicly available on the Delta Coal website.

1.6 Supporting Documentation

This ASR has included a review of relevant sections of the following documentation:

- March 2021, Lake Macquarie Benthos Survey Report No. 19. Report prepared by J.H. & E.S. Laxton – Environmental Consultants P/L for Delta Coal
- June 2021, Seagrass Survey of Chain Valley Bay, Summerland Point, Bardens Bay and Crangan Bay, Lake Macquarie, NSW (Results for 2008 to 2021). Report prepared by J.H. & E.S. Laxton – Environmental Consultants P/L for Delta Coal
- E. Laxton, September 2021, *Lake Macquarie Benthos Survey Report No. 20*. Report prepared by J.H. & E.S. Laxton – Environmental Consultants P/L for Delta Coal
- August 2020, Daly Smith Pelican Rock Navigational Marker (final proposed monitoring)
- 2021 Benthic Communities Management Plan, Delta Coal
- 2021 Seagrass Management Plan, Delta Coal
- 2021 Subsidence Monitoring Program, Delta Coal (Extraction Plan Miniwall S5 and Northern Pillar Extraction)
- 2021 Subsidence Monitoring Program, Delta Coal (Northern Mining Area First Workings and Lake Macquarie Pillar Extraction)
- Subsidence Monitoring TARP (Delta Coal Extraction Plan and Mining Operations Plan)
- 2021 Built Features Management Plan, Delta Coal
- 2021 Public Safety Management Plan, Delta Coal
- March 2021, Daly Smith Bathymetric Survey (S2 – S5)
- March 2021, Daly Smith Bathymetric Survey (Chain Valley Bay [MW-CVB1])
- September 2021, Daly Smith Bathymetric Survey (S2 – S5)
- Daly Smith Foreshore Surveys
- Feb, May, August, November Delta Coal Quarterly Combined CCC Chain Valley Colliery and Mannering Colliery Community Consultative Committee Meeting minutes and presentations.

- April 2020, Benthic Communities Monitoring Statistical Analysis Report prepared by EMM Consulting for Delta Coal

2 Monitoring and Comparison

2.1 Chain Valley Colliery

2.1.1 Monitoring Overview

As detailed in Section 1.4.1, CVC has a two actively approved *Subsidence Monitoring Programs,* with one program addressing Miniwall S5 and pillar extraction in Lake Macquarie and the other addressing first-workings in the Northern Mining Area and Pillar Extraction in Lake Macquarie. The purpose of these programs is to:

- define the subsidence monitoring scope;
- outline subsidence predictions
- outline the methodology to be used to monitor subsidence impacts
- identify subsidence monitoring locations
- identify reporting requirements
- analyse the relationship between predicted and resulting subsidence effects and
- identify the requirements for incident or exceedances reporting.
- Subsidence monitoring at MC is restricted to an annual survey to assess potential subsidence impacts associated with the link road project. Annual surveys assess potential impacts at a number of monitoring locations within proximity of VPPS including:
- early warning line one;
- early warning line two;
- TransGrid fence line;
- VPPS foreshore line and
- sewage treatment plant.

2.1.2 Scope of Subsidence Monitoring

2.1.2.1 Shoreline (High Water Mark)

The shoreline of Lake Macquarie is protected under Mining Lease Conditions requiring Ministerial Approval to carry out mining operations within the HighWater Mark Subsidence Barrier (HWMSB). The HWMSB is defined in the seam by a line defined by an angle of draw of 35° drawn lakeward from the high-

water level of Lake Macquarie, and on the land side, a line drawn from the 2.44 m contour at 35° towards the land.

In accordance with Condition 1, Schedule 4 of SSD-5465, vertical subsidence within the HWMSB is limited to a maximum subsidence (S_{max}) of 20 mm.

A key objective of the mine design at CVC is to minimise vertical subsidence within the HWMSB and prevent >20mm subsidence above the high-water mark. To ensure effectiveness of the mine design, monitoring of the shoreline is carried out at fixed reference marks surveyed at regular intervals.

2.1.2.2 Seagrass

Seagrass distribution within estuaries is naturally influenced by light penetration, depth, salinity, nutrient status, bed stability, wave energy, estuary type and the evolutionary stage of the estuary.

Condition 2, Schedule 4 of SSD-5465 specifies negligible environmental impacts on the species of seagrass found within the current area of mining operations as a condition of approval. Surveys of the seagrass extents are undertaken in order to monitor impacts on the seagrass population.

Delta Coal's *Seagrass Management Plan* (2021) outlines the methodology used to determine changes to composition and quantity of seagrass populations in Lake Macquarie as a result of mining activities at CVC.

Subsidence monitoring of the lakebed is undertaken via bathymetric survey over CVC's current mining area in order to validate subsidence predictions.

2.1.2.3 Benthic Communities

Lake Macquarie is inhabited by a diverse number of marine organisms.

Condition 2, Schedule 4 of SSD-5465 specifies minor environmental consequences on benthic communities, including minor changes to species composition and/or distribution as a condition of approval. Regular surveys of the lake bed are undertaken in order to monitor variations in the composition and density of benthos due to mining, environmental and/or other seasonal factors.

Delta Coal's *Benthic Communities Management Plan* (Delta Coal 2021) outlines the methodology used to determine changes to species diversity and abundance.

Subsidence monitoring of the lakebed is undertaken via bathymetric survey over CVC's current mining area in order to validate subsidence predictions and to determine approximate levels of subsidence on specific benthic sample locations.

2.1.2.4 Threatened Species and endangered populations

Condition 2, Schedule 4 of SSD-5465 specifies negligible environmental consequences on threatened or endangered populations as a condition of approval.

Subsidence monitoring of the lakebed is undertaken via bathymetric survey over CVC's current mining area in order to validate subsidence predictions and to determine approximate levels of subsidence are within limits.

2.1.3 Methods of Subsidence Monitoring

2.1.3.1 Overview

Subsidence monitoring at CVC includes a combination of bathymetric surveys and foreshore level monitoring. Results can be used to validate model outcomes; enable early detection of subsidence trending to increased impact levels over that predicted; and allow early application of containment, adaptive and contingency measures to prevent impacts outside approved (particularly increased impacts to the foreshore).

2.1.3.2 Bathymetric Surveys

Previous mine operators, LakeCoal, commissioned Astute Surveying in 2012 to undertake a bathymetric survey over the areas of current and proposed workings at CVC. The primary purpose of this survey was to obtain accurate baseline data for future subsidence assessments and to enable comparison with the bathymetric data provided by NSW Office of Environment and Heritage (OEH) in 2010.

The multi-beam echo sounder used during bathymetric surveys for CVC captures data at approximately ±0.1 m resolution. The survey vessel captures a swathe of data (down to sub-metre resolution), which is used to produce a 10 m x 10 m grid. In addition, the dynamic nature of lake bed sediment movement and change has and will affect the depth of the lake bed over time. As a result, the collected data is not considered as accurate as land-based surveys and should be viewed in consideration of these constraints.

Since 2012, bathymetric surveys have been completed on at least an annual basis with ongoing surveys providing accurate details of the lake depth within CVC's mining areas. Future surveys can also utilise the data that has been collected to monitor subsidence levels as a result of future mining activities.

From 2013 to 2018 these surveys were carried out on an annual basis over the mining area and the results compared to the original survey. During the 2017 survey it was identified that the site had exceeded vertical subsidence predictions over the MW7-12 mining area by approximately 370mm. LakeCoal notified the relevant authorities of the exceedance and submitted an incident report on 11 November 2017.

Subsidence associated with MW7-12 has proven to have stabilised since, with no discernible affect identified within seagrass and benthic communities monitoring.

In September 2020, monitoring of subsidence results for Miniwalls S4 was required to be undertaken on a monthly basis to substitute monthly foreshore monitoring as land access adjacent Miniwall S4 was not achievable.

Table 1 - Chain Valley Colliery Secondary Extraction Subsidence Monitoring Commitments

Secondary Extraction Panel	Approved S_{max}(mm)	Predicted S_{max} (mm)	Measured S_{max} (mm)	Extraction Completion date	Post Extraction Bathymetric Scanning Commitment
CVB1	760	440	500-550	December 2017	Annual for 3 years unless TARP triggered
Miniwall S1	780	420	<200	September 2018	Annual for 3 years unless TARP triggered
Miniwall N1	780	410	<200	February 2019	Annual for 3 years unless TARP triggered
Miniwall S2	780	300	350-450	March 2020	Annual for 3 years unless TARP triggered
Miniwall S3	780	300	350-450	July 2020	Annual for 3 years unless TARP triggered
Miniwall S4	780	300	350-450	February 2021	Annual for 3 years unless TARP triggered
Miniwall S5	780	500	350-450	August 2021	Annual for 3 years unless TARP triggered
NMA Pillar Extraction	780	500	n/a	Not commenced in 2021.	Annual for 3 years unless TARP triggered

Monitoring will continue in accordance with the approved *Miniwall S5 and Northern Pillar Extraction Plan* and the 2020-2023 Mining Operations Plan (Amendment 2) in the 2022 period.

As all of Chain Valley Colliery's secondary extraction is located beneath the lakebed bathymetric surveys are used to determine the levels of subsidence that are seen across its mining areas. A baseline bathymetric survey of Domains 1 and 2 was commissioned by LakeCoal in March 2012, the baseline survey

was compared to a bathymetric survey of Lake Macquarie undertaken by OEH in 2010, to determine the subsidence which had occurred between the periods.

2.1.4 Bathymetric Monitoring

Bathymetric scans undertaken in the 2021 reporting period have been provided as **Figure 2** to **Figure 6** and includes:

- MWS2 – MWS4 (monthly survey to substitute foreshore surveying) undertaken in January 2021
- CVB1 (final scan following 3 years since completion of extraction) undertaken in March 2021
- MWS2 – MWS4 (completion of extraction survey for MWS4) undertaken in March 2021
- MWN1, MWS1, MWS2, MWS3, MWS4, MWS5, NMA First Workings (annual survey and completion of extraction survey for MWS5) undertaken in September 2021.

Figure 2 presents Bathymetric surveys over the Chain Valley bay mining area which have indicated subsidence of up to 500-550 mm directly over the extracted area. An increased angle of draw of surface subsidence has been detected, however, measured subsidence is within modelled predictions.

Figure 3 compares the difference between April 2020 and March 2021 bathymetric scanning of the CVB1 area indicating nil change in detected subsidence.

Figure 4 presents subsidence between Miniwalls MWS2-MWS4 and the Lake Macquarie foreshore, as required to substitute foreshore monitoring, with negligible subsidence observed to the foreshore and seagrass protection zone.

Figure 5 presents observed subsidence following completion of extraction in MWS4, with detected subsidence within modelled predictions.

Figure 6 depicts subsidence over Miniwalls N1, S1, S2, S3, S4, S5 as well as first workings in the NMA. The S_{max} for Miniwall panels S2 – S5 was measured at 350-450 mm in line with predicted subsidence of approximately 400 mm.

Within **Figure 6** there appears to be a measured difference of ~300mm in the lake bed over the mains area to the N/East of the page compared to the baseline. This appears unrelated to mining, given nil extraction in this area, with the roadways accessible and in good condition as per routine inspections. Rock head surveys in this area indicated the silt/sediments are in the order of 20m thick, and there may be gradual changes to the lake bed over time relating to sediment movement.

Figure 2 - Chain Valley Bay (MW-CVB1) Bathymetric Monitoring, March 2021

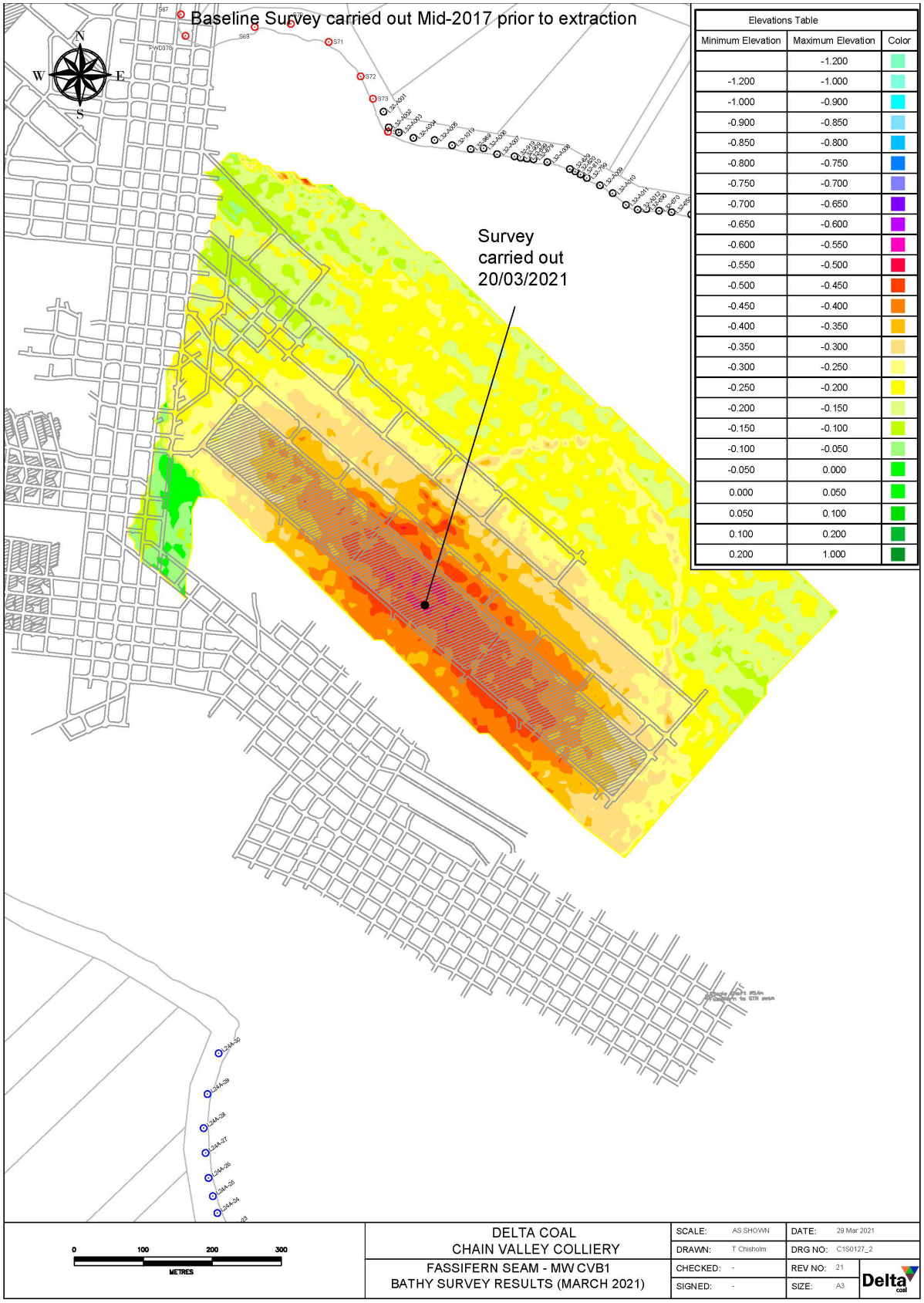


Figure 3 – CVB1 Subsidence Difference, April 2020 to March 2021

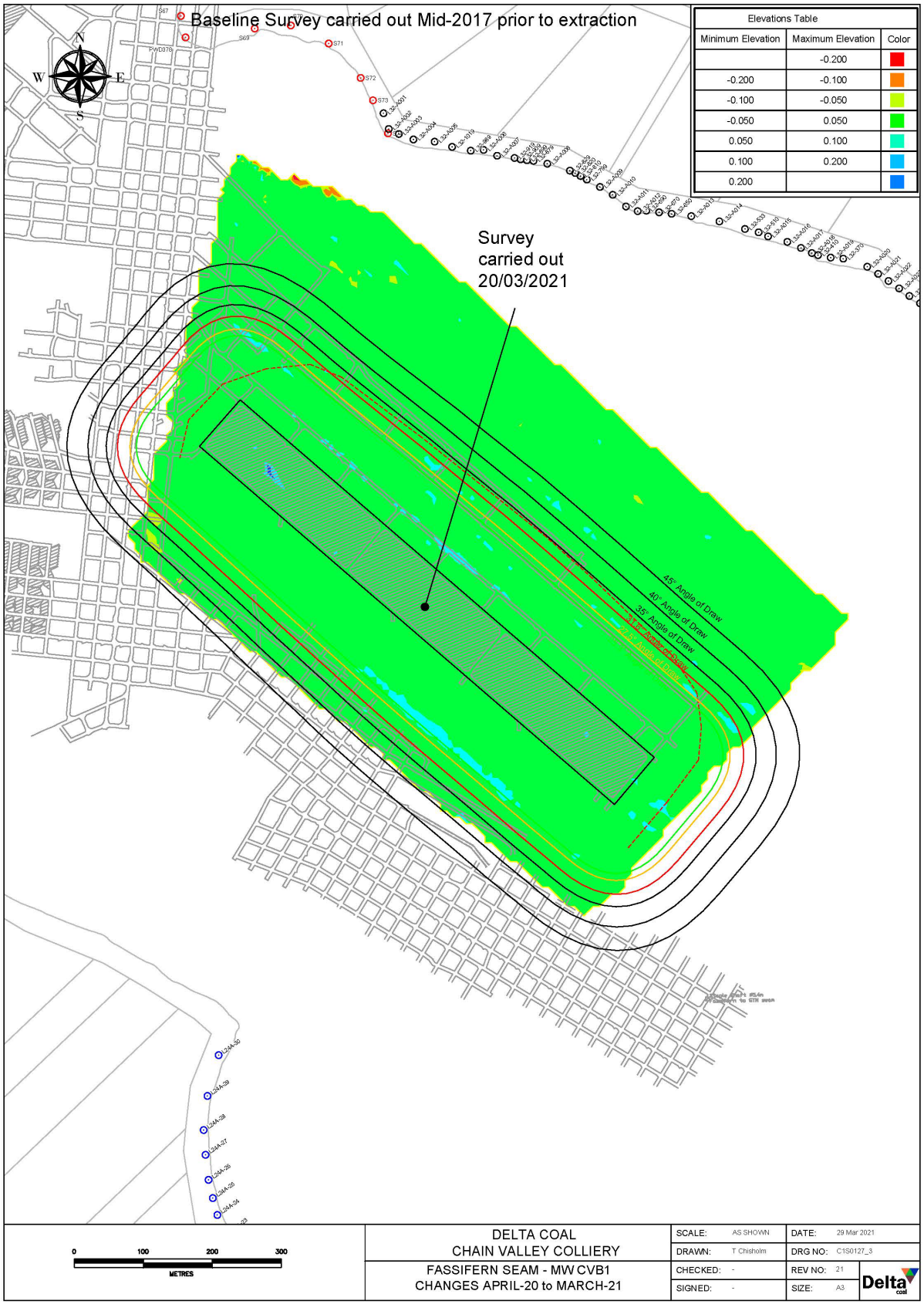


Figure 4 - Miniwalls S2 -S4 Foreshore Bathymetric Monitoring, January 2021

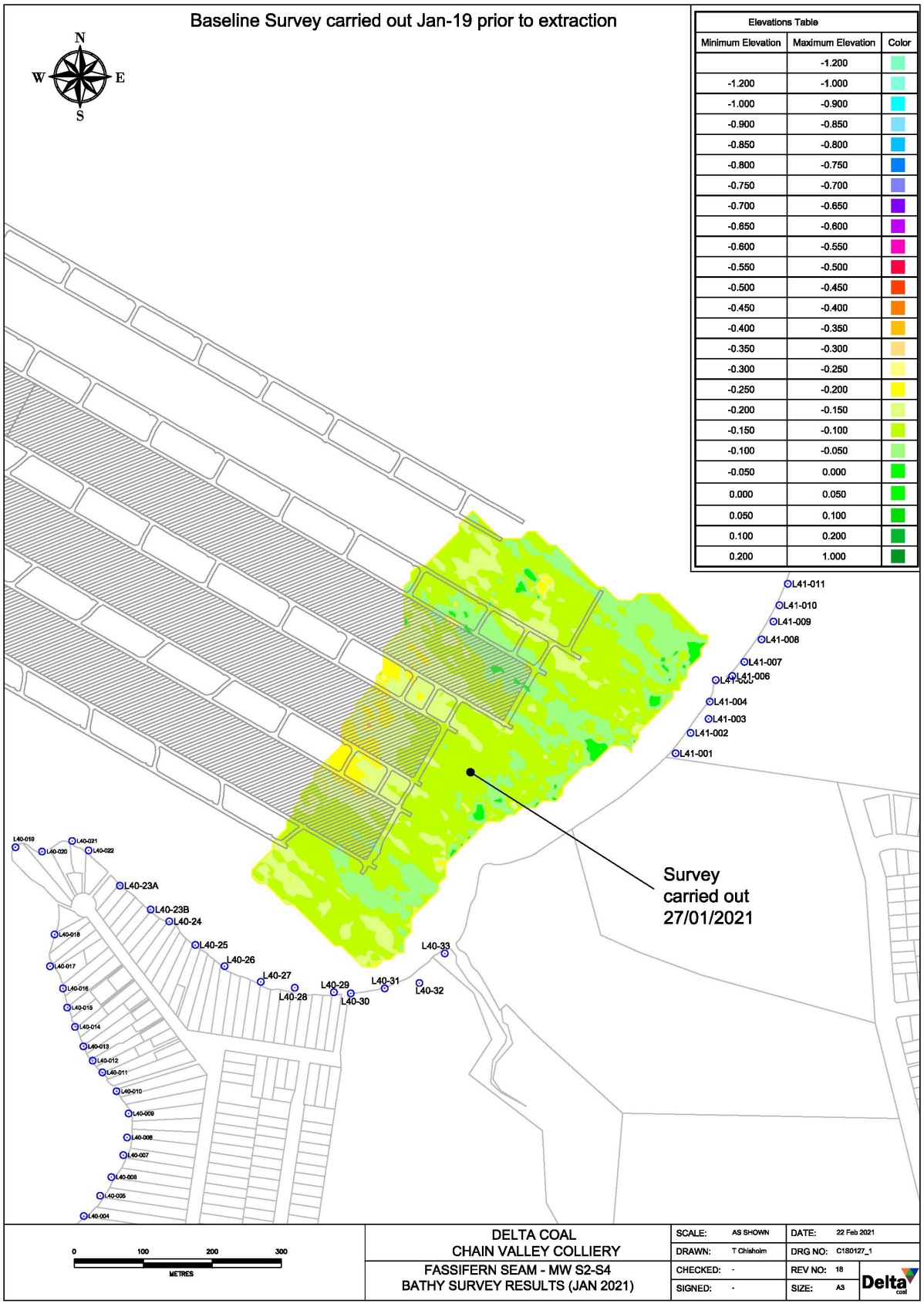


Figure 5 - Miniwalls S2-S4 Bathymetric Monitoring, March 2021

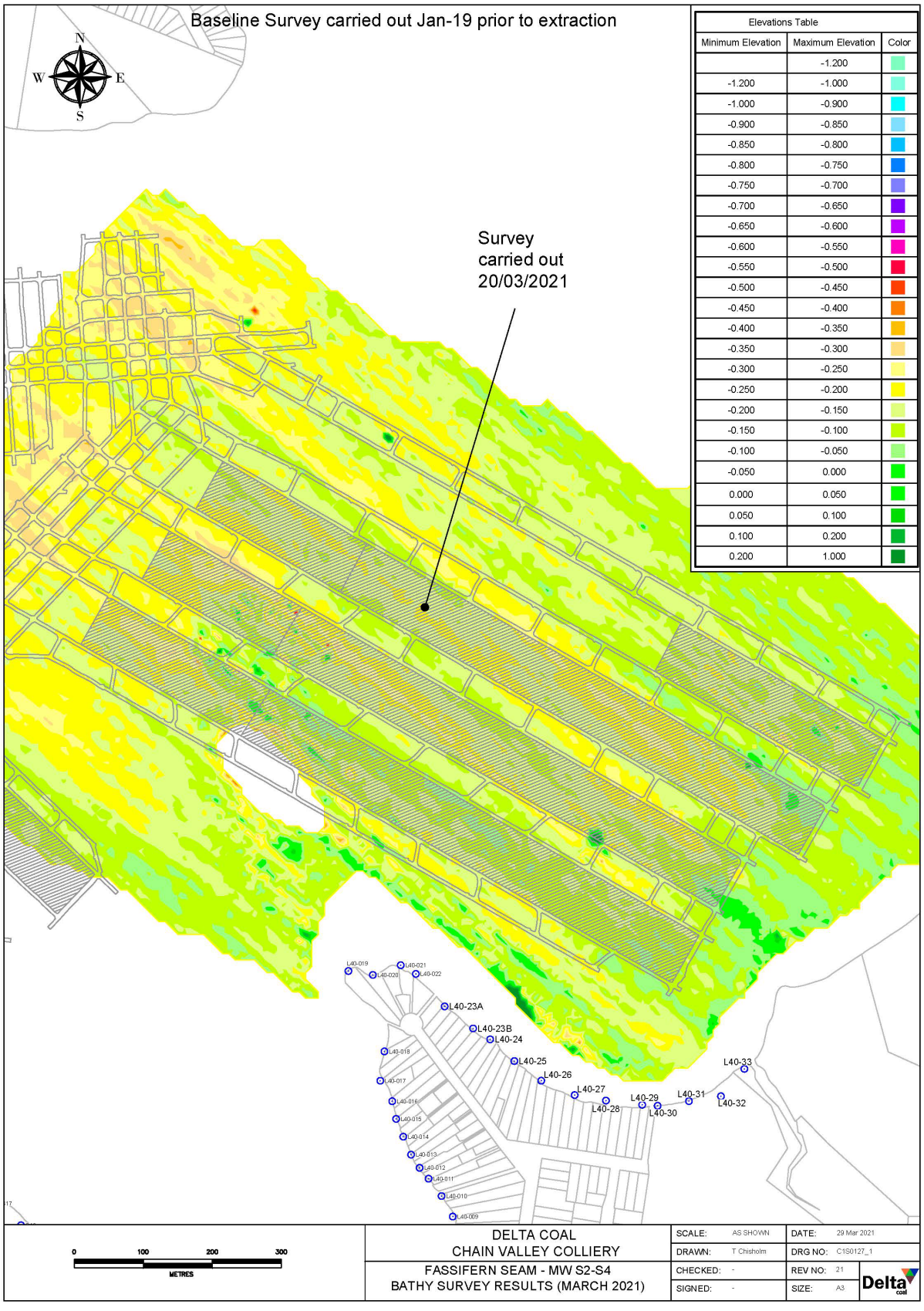
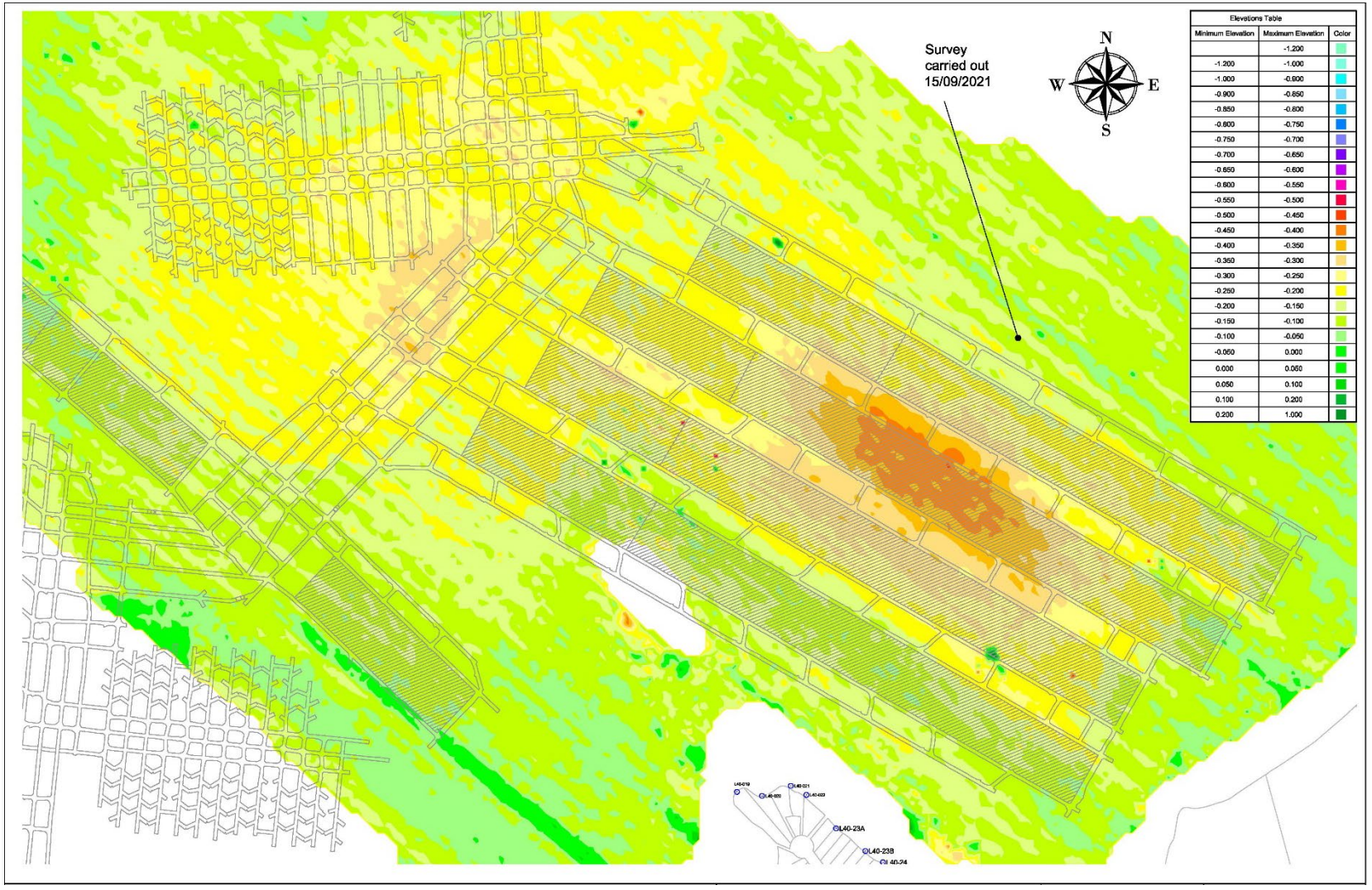


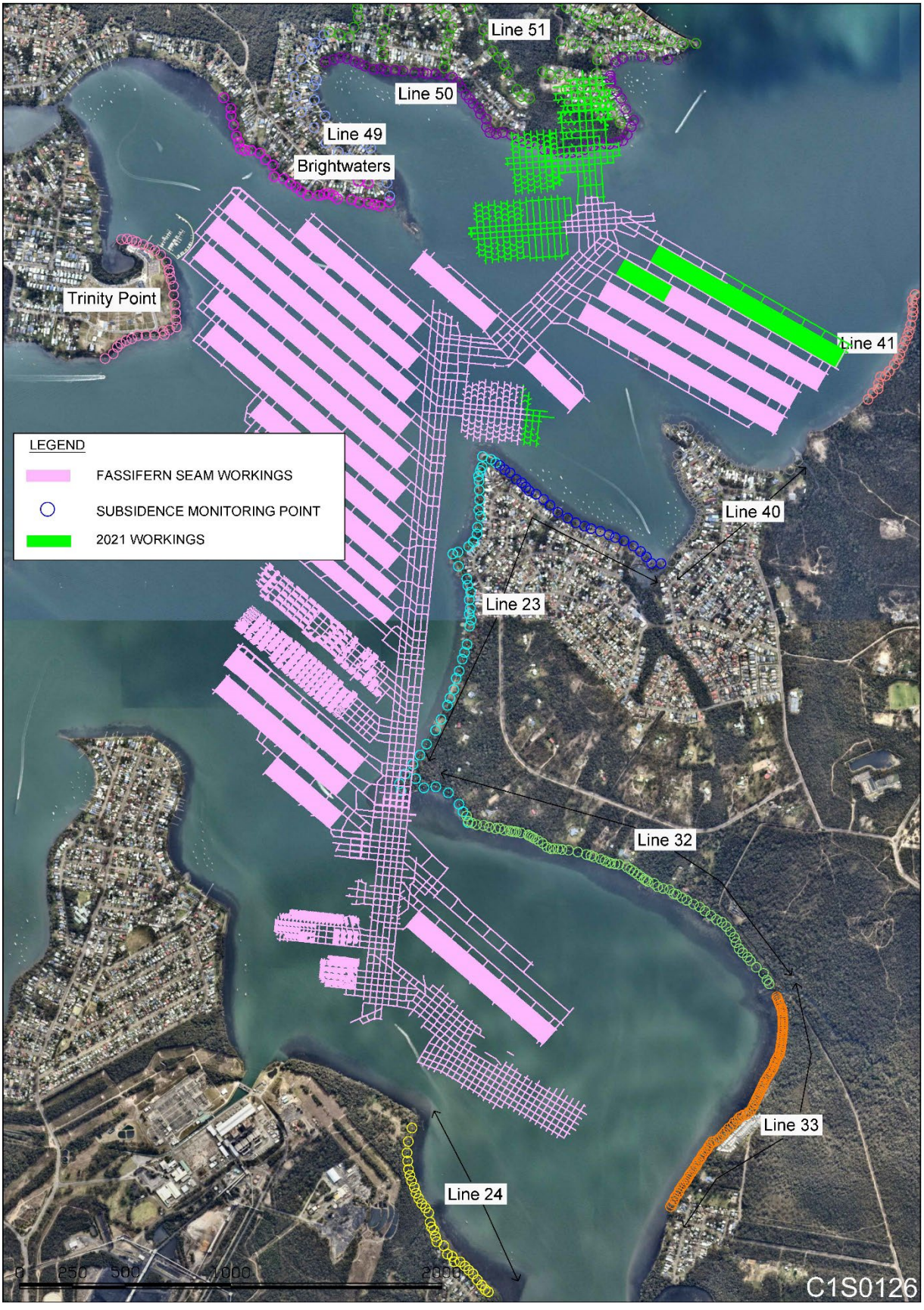
Figure 6 - Miniwalls N1, S1, S2, S3, S4, S5 and NMA first workings Bathymetric Scan - September 2021



2.1.5 Foreshore Monitoring

Delta Coal completes subsidence monitoring around Trinity Point, Brightwaters, Mirrabooka, Sunshine Frying Pan Bay, Summerland Point, Chain Valley Bay (**Figure 7**). Monitoring points occur along the foreshore at approximately 20 m – 30 m intervals where practicable / achievable. The results are issued to the Resources Regulator within 14 days of survey. In addition, observations are made where required to report on visual impacts or changes to public safety risk. A Subsidence Inspection Proforma is completed with each survey. The proforma includes visual inspection of steep slopes, boulder or tree instability, ponding and other potential effects of mine subsidence. Annual foreshore surveying was undertaken in January and February 2022.

Figure 7 - Foreshore Subsidence Monitoring Points



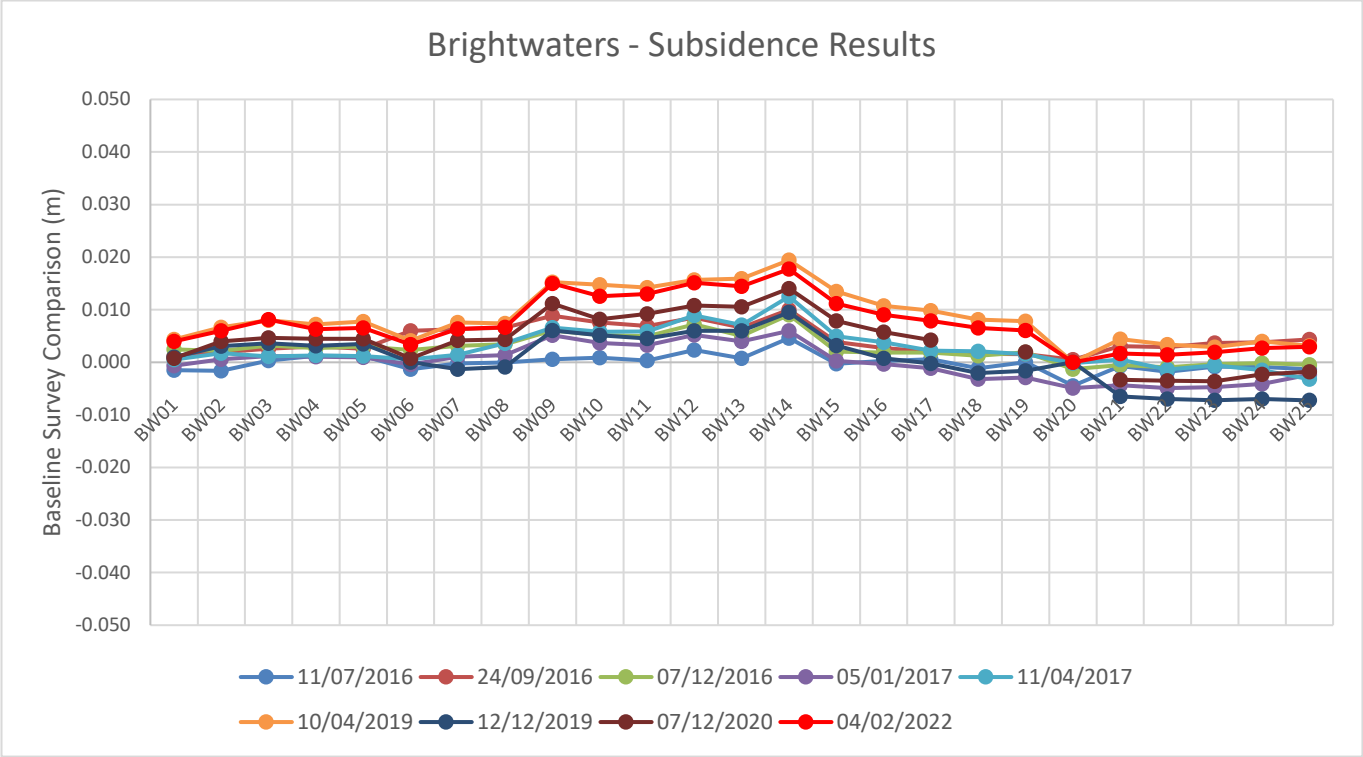
2.1.5.1 Morisset Peninsula Line 49, 50 and 51

Foreshore monitoring lines 49, 50 and 51 where installed in 2021 for the purpose of monitoring potential subsidence associated with future northern mining area workings. An annual survey for areas of extraction is scheduled in 2022.

2.1.5.2 Brightwaters

Monitoring points were installed along the Brightwaters peninsula in June 2016 to monitor the effects of Miniwall 11 and 12 extraction. Results for the reporting period are shown in **Figure 8**. Nil subsidence movement has been detected along the monitoring line.

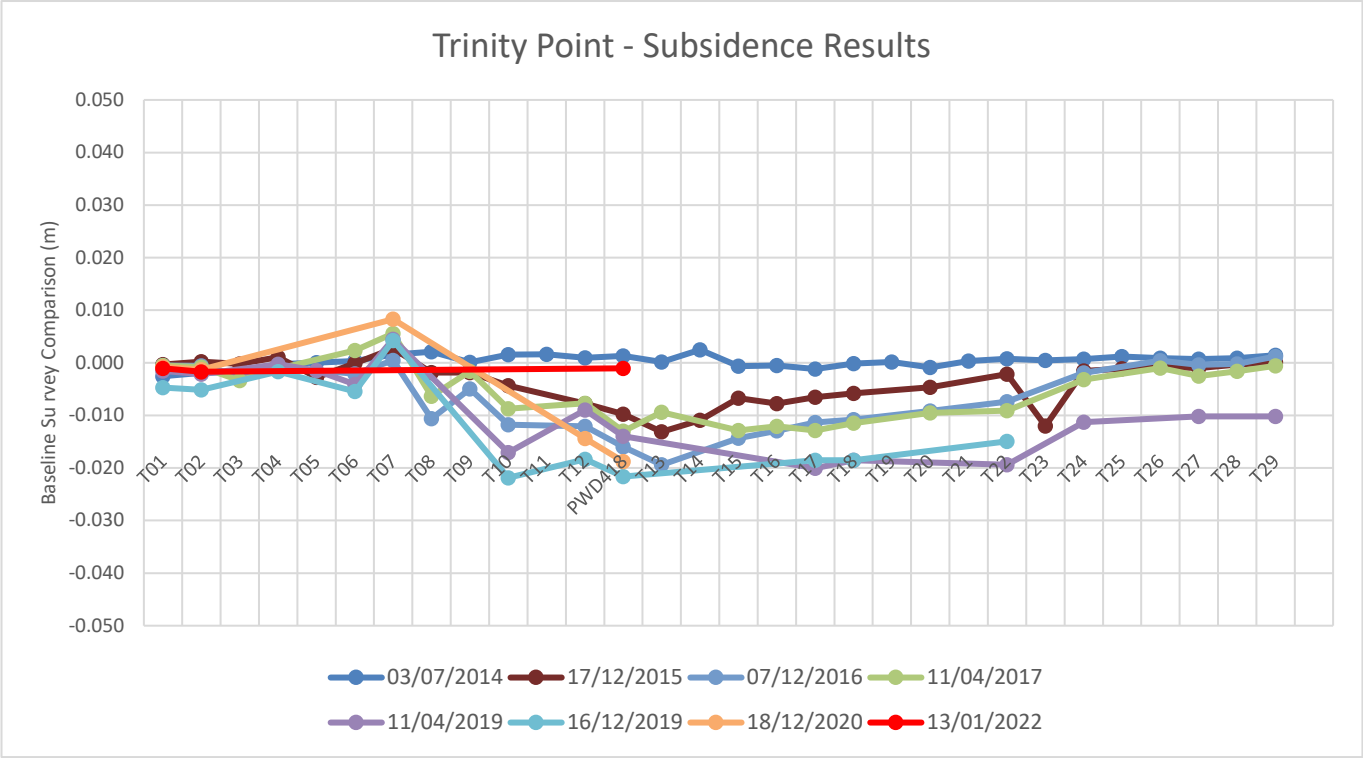
Figure 8 - Brightwaters Subsidence Results



2.1.5.3 Trinity Point

Figure 9 shows the subsidence monitoring results for the reporting period at Trinity Point. Monitoring points were installed in the area in 2014 for shoreline monitoring during extraction of Miniwalls 7-12 panels. A number of marks have been disturbed / destroyed due to development / construction works along the foreshore in the area, this was particularly obvious in the 04/02/2022 survey where only 3 marks where able to be identified, however nil movement attributable to subsidence has been detected.

Figure 9 - Trinity Point Subsidence Results



2.1.5.4 Summerland Point, Lines 32, 23, 40 and 41

The foreshore along Summerland Point has been monitored since 1994, after secondary extraction was undertaken in the Wallarah beneath the south-western point (corresponding to mark S63 – 74 of Line 23). Approximately 130mm to 150mm of subsidence was measured (Point S71 - Line 23) since 1994, surveying in 2022 indicated stability of the workings, observable from 2008 datasets to current. In general, suspected ground-swelling was observed in foreshore monitoring undertaken on 18/01/2022.

Figure 10 - Line 32 Subsidence Monitoring Results

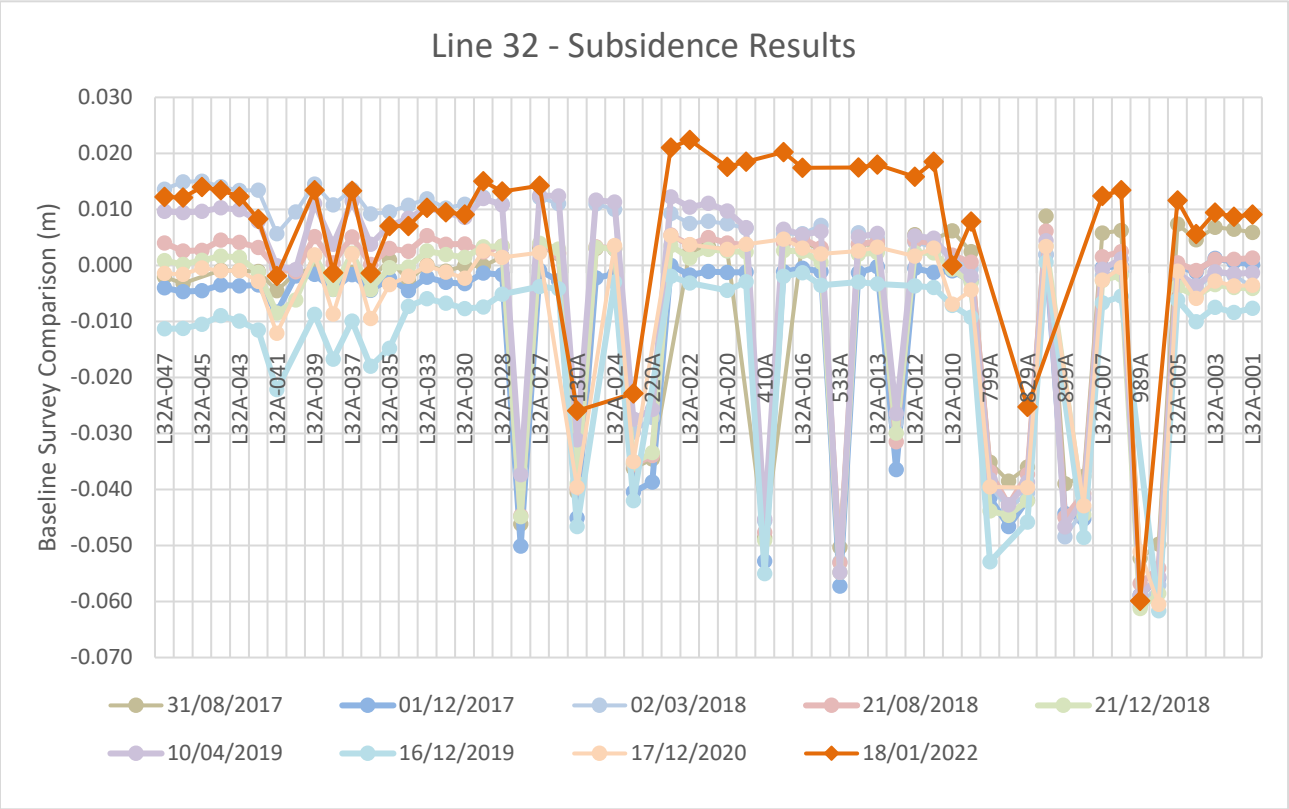
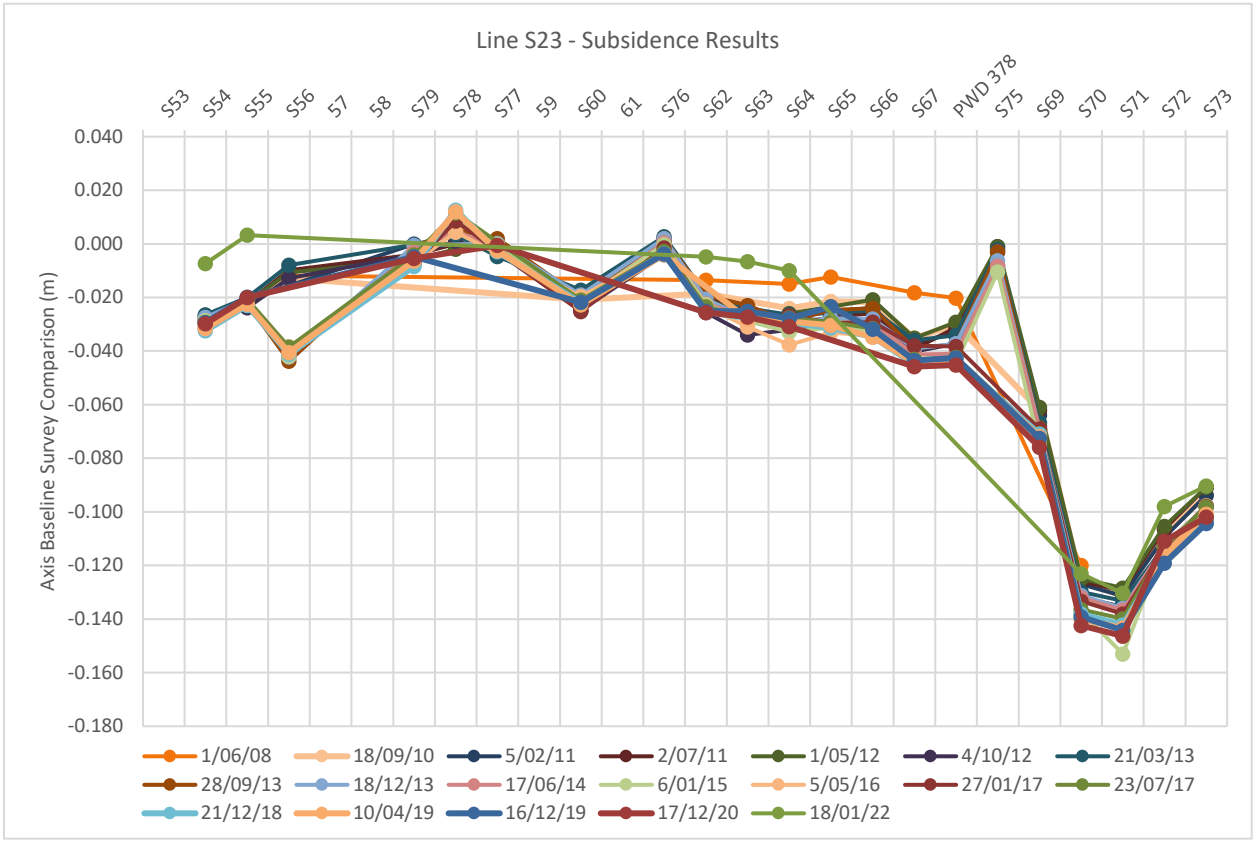
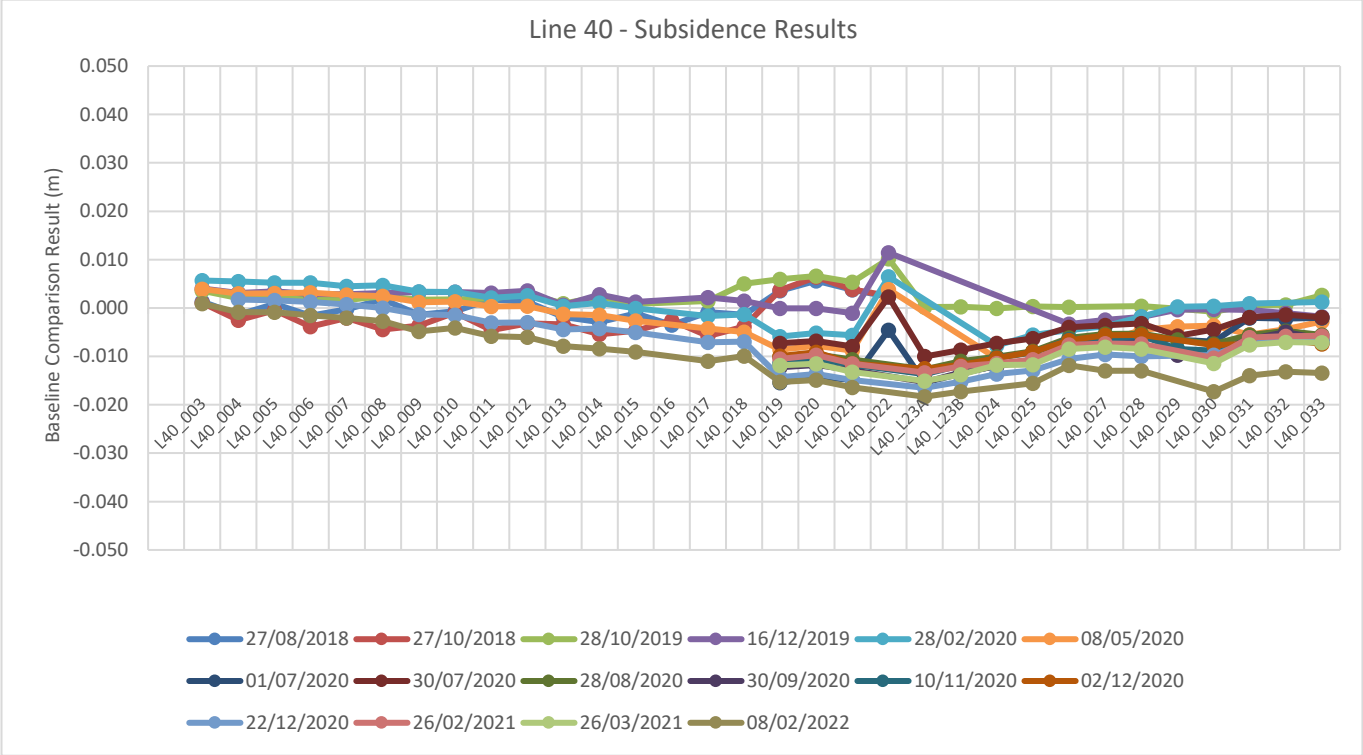


Figure 11 - Summerland Point, Line 23 Subsidence Results



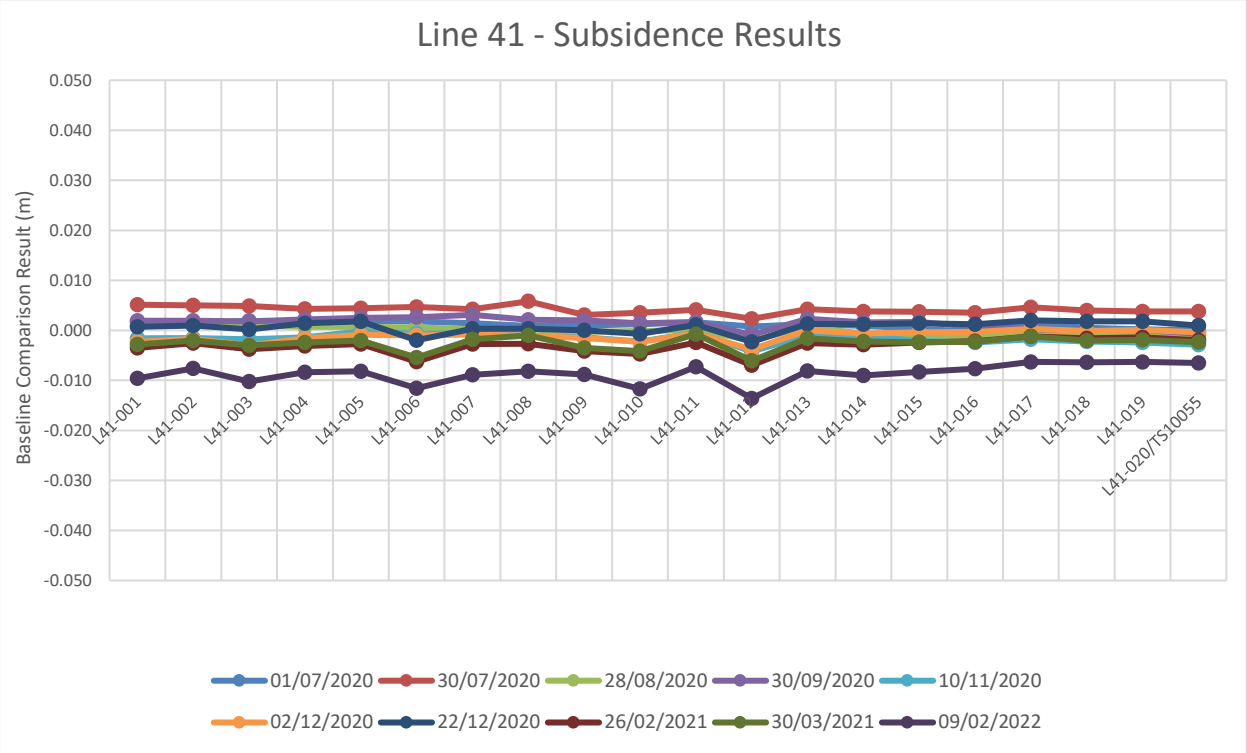
Monitoring points along Line 40 were established in 2018 to monitor the shoreline adjacent to Miniwall S1. This line was extended in 2019 as part of the subsidence monitoring program for Miniwalls S2 and S3. Minor ground movement along the line is limited to ±5mm and appears seasonal, subsidence appears to be limited to negligible subsidence (<20mm). **Figure 12** shows the reporting period subsidence results for Line 40. Monitoring of Line 40 was undertaken monthly during MWS2 – MWS4 extraction.

Figure 12 - Line 40 Subsidence Results



Line 41 was established in July 2020 to monitor the shoreline adjacent Miniwall S4. Monitoring was undertaken monthly during extraction and as part of annual monitoring, surveying has indicated to date nil to negligible subsidence (<20mm). Line 41 subsidence monitoring results are shown on **Figure 13**.

Figure 13 - Line 41 Subsidence Monitoring Results



2.1.5.5 Chain Valley Bay, Lines 24 and 33A

Surveys of the existing monitoring points (many of which had experienced 40-60mm of subsidence) were ongoing during the reporting period, and where required additional monitoring locations were installed. Similarly to the Summerland Point monitoring, many of the historically monitored subsidence marks have experienced greater than negligible subsidence (20mm), however no additional subsidence movement was detected during the miniwall extraction in CVB. **Figure 14** and **Figure 15** show the subsidence monitoring results for the reporting period.

Monitoring results for Line 24 shows potential minor changes in level in the reporting period from points L24A-03 to L24A-17, however any identified vertical movement was negligible (< 20mm). No additional subsidence was observed at Line 33A within the reporting period.

As the area where Line 33A monitoring marks are located is along a public reserve where regular slashing / brushcutting activities are carried out, a number of monitoring points have been disturbed / moved over time. Where this type of movement occurs, the new RL point is adopted and monitoring continues (i.e. Point 62A).

Figure 14 - Line 24 Subsidence Results

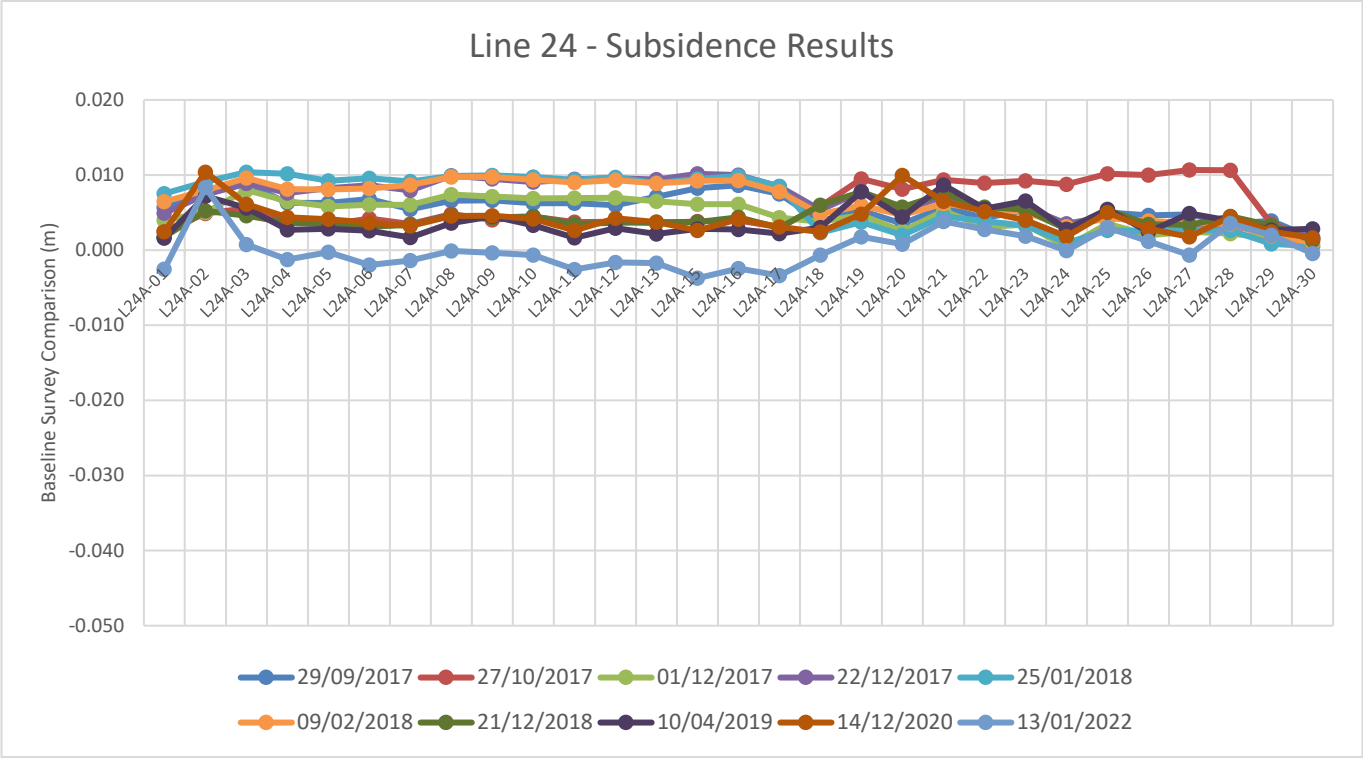
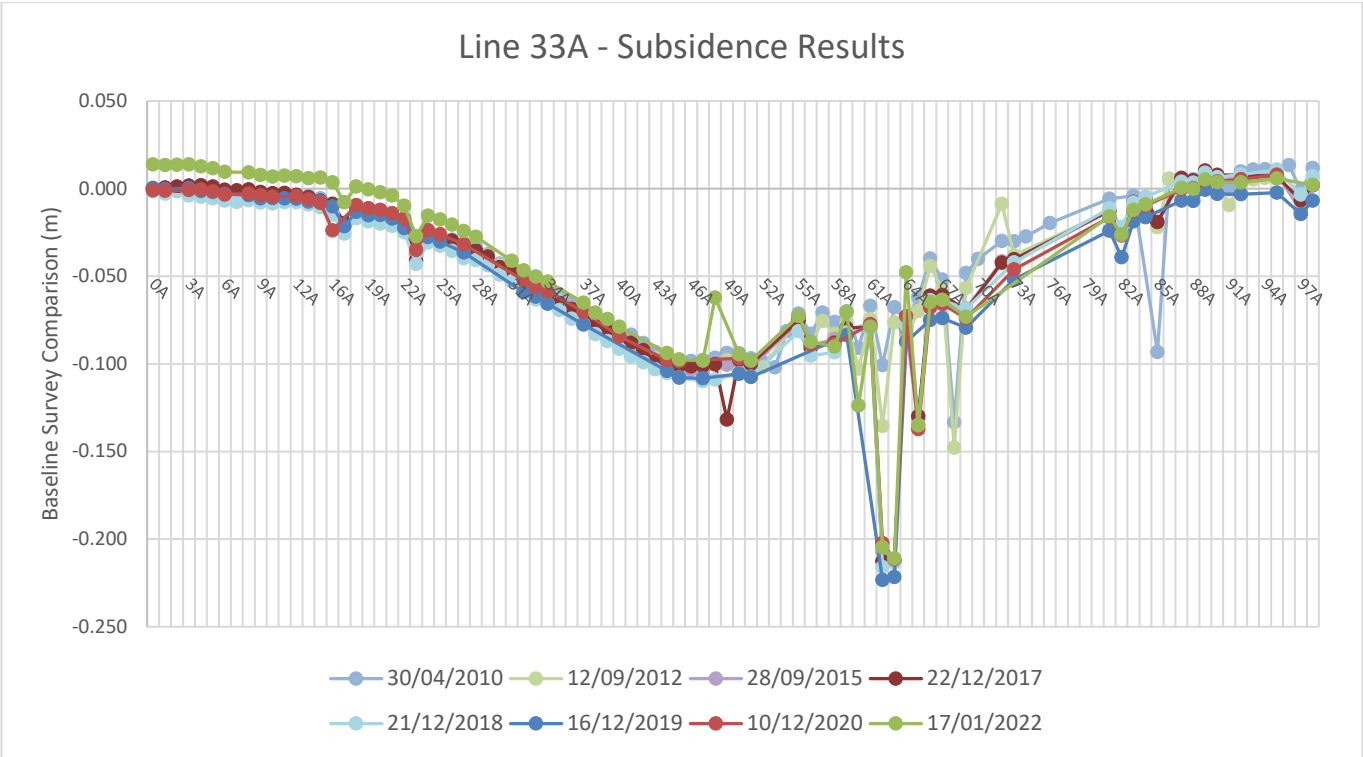


Figure 15 - Line 33A Subsidence Results



2.1.6 Timing of Subsidence Monitoring

Timing of subsidence monitoring at CVC is defined in approved extraction plans and is summarised in **Table 2**. CVC has also made subsidence monitoring commitments to first-workings associated with the 2020-2023 Mining Operations Plan (Amendment 2), also presented in **Table 2**.

Table 2 - Frequency of Subsidence Monitoring for Secondary Extraction

Type of monitoring	Pre-extraction requirements	During extraction requirements	Post extraction requirements
Secondary Extraction			
Bathymetric surveys	Single baseline survey prior to extraction	End of panel (of relevance to S2, S3, S4 and S5) Annual surveys over areas of pillar extraction (not commenced)	Annual for three years unless TARP triggered
Foreshore monitoring	Baseline survey prior to commencement of extraction	Monthly intervals	Annual for three years unless TARP triggered
Pelican Rock Navigation Marker	Baseline RL and tilt measurements	End of panel (of relevance to S2 and S3)	Visual inspection and confirmation from RMS of nil impacts
Seagrass survey points	Survey of concrete monitoring points during regular seagrass monitoring		
First Workings			
Terrestrial based subsidence monitoring (foreshore)	Baseline prior to extraction	Annual surveys during extraction unless TARP triggered	Annual surveys ongoing unless TARP triggered
Terrestrial based subsidence monitoring (along main roads in suburbs of Brightwaters, Mirrabooka and Sunshine)	Baseline prior to extraction	Annual surveys during extraction unless TARP triggered	Annual surveys ongoing unless TARP triggered

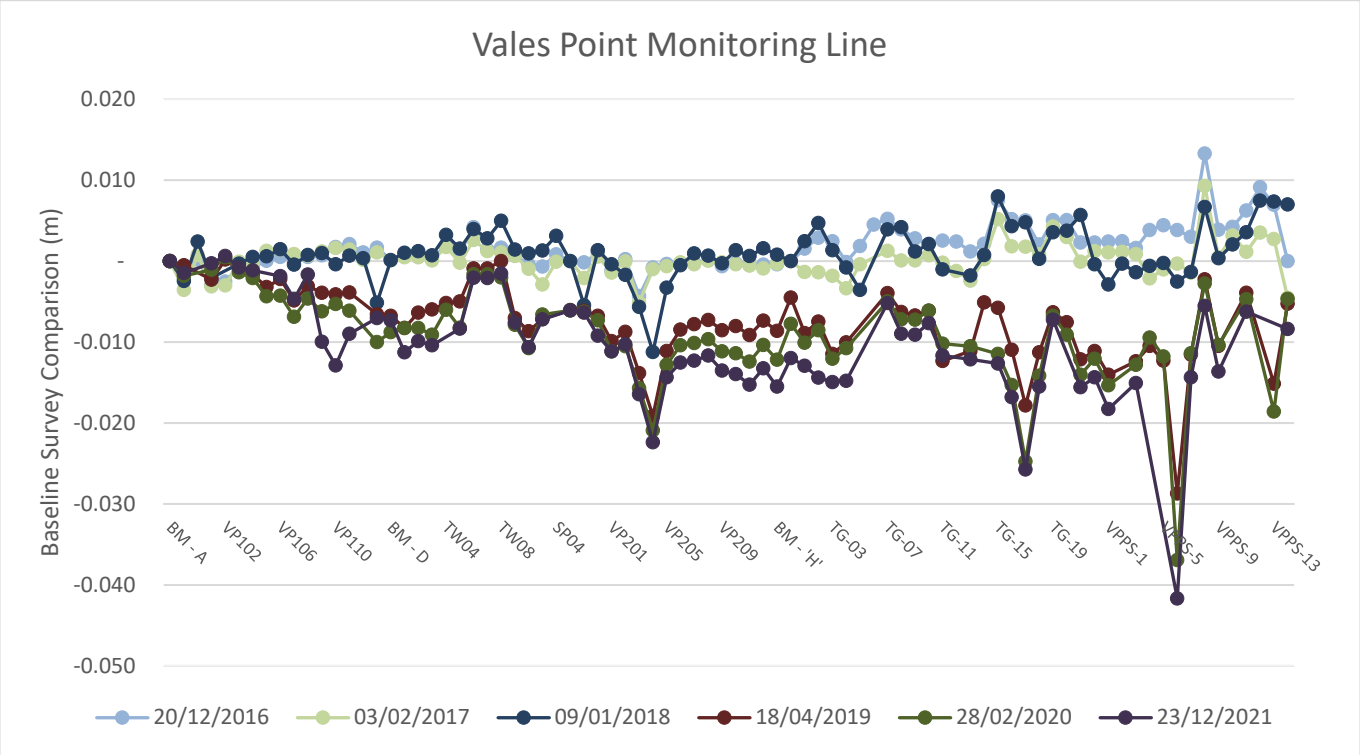
2.2 Mannering Colliery

2.2.1 Monitoring Overview

At the commencement of mining operations associated with the link road project between CVC and MC, a subsidence monitoring program was implemented. Due to the sensitive nature of the infrastructure being undermined (ie VPPS), subsidence monitoring was undertaken on a weekly basis within a 250 m radius of the mining activity. At the completion of mining, the frequency of subsidence monitoring of the link road development was reduced to an annual survey. Monitoring results have been presented in **Figure 16** and indicate <30 mm subsidence recorded to date, with anomalous readings recorded at monitoring point VPPS-6 from 18/04/2019.

There was no mining undertaken at Mannering Colliery during 2020. Mining is approved in the Mannering Colliery project Approval (MP06_0311) but is not approved in the combined CVC and MC 2020-2023 Mining Operations Plan.

Figure 16 - Vales Point Power Station Subsidence Results



3 Impacts to Built Features from 2021 Mining Activities

3.1 Chain Valley Colliery

3.1.1 Pelican Rock Navigational Marker

No built features have been identified as requiring direct subsidence management from mining activities undertaken at CVC during 2021.

All secondary extraction activities at CVC during 2021 occurred beneath Lake Macquarie and had no subsidence impacts on surface facilities or infrastructure. First-workings were undertaken beneath the Morisset Peninsula within the NNMA with no subsidence impacts to surface facilities or infrastructure reported to date.

As described in CVC's Subsidence Monitoring Program, Pelican Rock Navigation Marker is expected to be impacted by approximately 130 mm of subsidence from mining within Miniwall panels S2 and S3.

NSW Roads and Maritime Services (RMS) has indicated a functional impact on the marker is likely to occur at 500 mm of subsidence and 5° or 87 mm/m of tilt.

A survey for RL and tilt was conducted on 10 July 2019 by Daly Smith Surveyors prior to mining and measured Pelican Rock Navigation Marker was 1.14 mm Australian Height Datum (AHD) and the navigational pole was vertical.

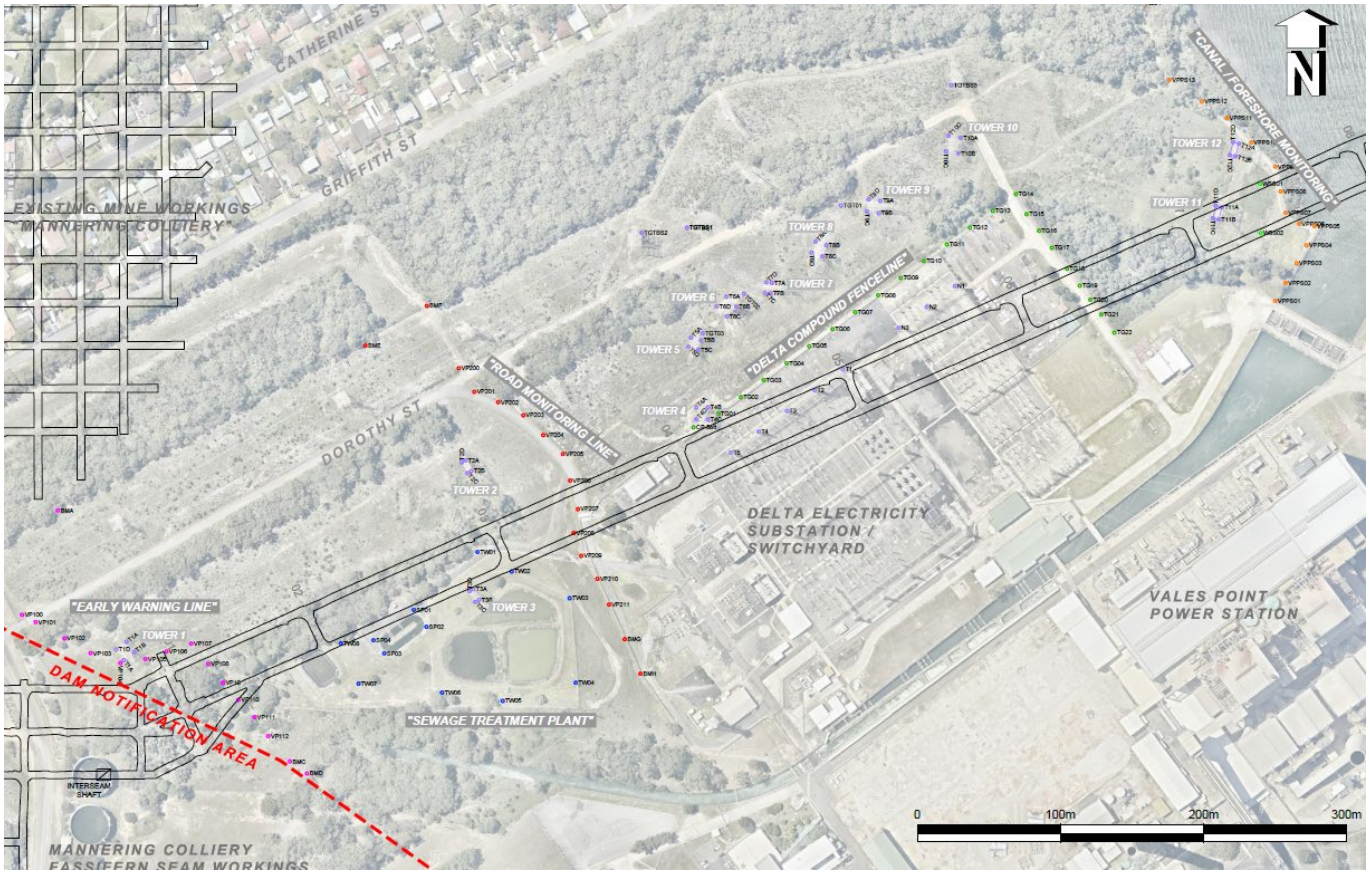
The following surveys were undertaken by Daly Smith after Miniwall S2 extraction in March 2020 recording the level at 1.13 m AHD and following Miniwall S3 extraction in August 2020 recording the height at 1.11 m AHD. The August 2020 measurement of the Pelican Rock Navigational Marker commented that the pole was found to be vertical and its metal base to be level. A final survey was undertaken on the 25th June 2021, after the completion of MWS4 recording the level at 1.10 mAHD. No further monitoring of the marker is considered to be required following the completion of Miniwall S4 extraction indicated approximately 300 mm of subsidence, within a range not considered to have an effect of the functionality of the marker.

3.2 Mannering Colliery

No mining extraction activities occurred at MC during 2020. There were no built features identified as requiring direct subsidence management as a result of MC former workings during 2021.

No discernible subsidence impact from the Linkage Road Project workings was observed in 2021.

Figure 17 – Vales Point Power Station Monitoring Locations



4 Impacts to Natural Features

4.1 Chain Valley Colliery

Subsidence impact performance measures to natural and heritage features are detailed in SSD-5465 Modification 4, Table 6 as below.

Biodiversity	
Threatened species or endangered populations	Negligible environmental consequences
Seagrass beds	Negligible environmental consequences including: • *negligible* change in the size and distribution of seagrass beds; • *negligible* change in the functioning of seagrass beds; and • *negligible* change to the composition or distribution of seagrass species within seagrass beds.
Benthic communities	Minor environmental consequences, including minor changes to species composition and/or distribution.

4.1.1 Seagrass Bed Monitoring

Annual seagrass bed monitoring was undertaken in June 2021 as per the approved Seagrass Management Plan. The Seagrass monitoring report is publicly available at www.deltacoal.com.au. **Table 3** is taken from the report and displays compliance to the subsidence impact performance measures table for 2021.

Table 3 - Seagrass Monitoring Compliance

Condition from SSD5465 - Mod 3	Compliance Status and Comments
Schedule 4 Environmental Conditions - underground mining Performance Measures - Natural Environment Biodiversity - Benthic Communities. Subsidence Impact Performance Measure - Minor environmental consequences, including minor changes composition and/or distribution.	Compliant - See section 16 - Conclusions
Measurements undertaken by generally accepted methods.	Compliant - See section 4 and 5
Measurements Methods fully described.	Compliant - See section 4 and 5

4.1.2 Benthic Communities Monitoring

Benthic monitoring was undertaken in March 2021 and September 2021. The Benthic Communities reports are publicly available at www.deltacoal.com.au. The below table is taken from the September 2021 report and displays compliance to the subsidence impact performance measures table for 2020.

The results from the September 2021 benthic communities monitoring show compliance to SSD5465 (Mod 4) with respect to the Subsidence Impact Performance Measures for Benthic communities, which display nil to minor environmental consequences due to underground mining.

Table 4 - Benthic Communities Compliance

Conditions from SSD-5465 – Mod 4	Compliance Status and Comments
Schedule 4 Environmental Conditions – underground mining Performance Measures – Natural Environment Biodiversity – Benthic Communities Subsidence Impact Performance Measure – Minor environmental consequences, including minor changes composition and/or distribution.	Compliant – See section 16 - Conclusions
Measurements undertaken by generally accepted methods. Measures Methods fully described.	Compliant – See section 4 and 5 Compliant – See section 4 and 5

In April 2020, EMM Consulting Pty Ltd were engaged by Delta Coal to undertaken statistical analysis of Benthic communities datasets recorded to date. The report concluded the following:

“Importantly, the statistical analysis of CVC’s benthic monitoring data, primarily undertaken for the period September 2016 to March 2020, has not identified any statistical differences between the benthic assemblages evident at sites designated as Impact, Reference and Control. The reported changes in bed levels associated with CVC underground working also do not correlate with detectable changes in the benthic communities above.

In conclusion, the results of statistical analysis of CVC’s benthic monitoring data indicate that no exceedance of the BCMP (CVC 2019) subsidence impact performance measure of “minor environmental consequences, including minor changes to species composition and/or distribution” has occurred. Consequently, CVC is not required to implement any additional investigations of benthic communities within the project study area at this time and should continue the routine monitoring of benthic assemblages.”

The report also recommended the reduction in frequency of Benthic communities monitoring for CVC from 6-monthly to annually.

5 Adaptive Management – Subsidence Management Trigger Action Response Plan (TARP) Implementation and Remediation

5.1 Chain Valley Colliery

Adaptive management includes monitoring subsidence impacts and subsidence effects and, based on the results, modifying the mining plan as mining proceeds to ensure that the effects, impacts and/or associated environmental consequences remain within predicted and designated ranges and in compliance with the conditions of this consent. The subsidence Monitoring TARPs for Miniwall S5 and Northern Pillar Extraction has been provided as **Figure 18**.

Triggers and performance indicators (including measured subsidence and inspections for environmental impact) are provided across a number of different management plans at CVC and include specific information regarding:

- subsidence monitoring requirements (including baseline monitoring)
- remediation
- adaptive management techniques and
- contingency plans.

A summary of these is provided in CVC's Subsidence Management TARP which aims to consolidate all subsidence management requirements into a central location, triggering a response or set of responses commensurate with the nature of the measurement or the impact that has been identified.

CVC's Subsidence Management TARP was not triggered in 2021.

There was no subsidence related remediation activities undertaken during 2021 as a result of mining activities at CVC.

5.2 Mannering Colliery

There is no subsidence management TARP at MC.

There was no subsidence related remediation activities undertaken during 2021 as associated with Mannering Colliery.

Figure 18 - CVC Subsidence Management TARP

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CHAIN VALLEY COLLIERY- SUBSIDENCE MANAGEMENT TRIGGER ACTION RESPONSE PLAN (TARP 00136)

SUBSIDENCE MANAGEMENT NORTHERN MINING AREA DOMAIN (S5 and Northern Pillar Area)

	DETAILED PERFORMANCE INDICATORS	MONITORING REQUIREMENTS	CONTAINMENT / REMEDIATION MEASURES	ADAPTIVE MANAGEMENT MEASURES	CONTINGENCY PLANS
SUBSIDENCE PARAMETERS (Bathymetric Survey)	**Normal** Subsidence ≤ 500mm	As per Subsidence Monitoring (SM) Program			
	Trigger Level 1 Subsidence > 500mm to ≤ 780mm	6 monthly surveys until subsidence stabilises, then as per SM Program		Update subsidence predictions based on monitoring data Identify controlling mechanisms Review potential change in impact on natural and built features & update management plans if required	Review ability to limit further increases based on understood mechanisms including; Extraction heights, panel widths, panel recovery
	Trigger Level 2 Subsidence >780mm	6 monthly until subsidence stabilises then as per SM Program	Review if increase likely to create impact at foreshore/seagrass or exceed final subsidence prediction Notify immediately DPIE if incident and within 7 days for non-compliance Notify RR, BCD, affected landholders or infrastructure owner	Implement further controls as applicable from review Update subsidence predictions based on monitoring data Update impact assessment on natural and built features	Immediately review mine plan including panel width, pillar widths, extraction height and panel length Consult with DPIE and RR Review and update Extraction Plan
SUBSIDENCE PARAMETERS (Foreshore / Land Based Survey over minimum of 2 adjacent pegs)	**Normal** <20mm recorded movement	Monitoring as per SM Program			
	Trigger Level 1 <20mm recorded movement with slow (3-5mm/month) creep	Validate increase with additional monthy survey/s then as per SM program		Update subsidence predictions based on monitoring data Identify controlling mechanisms Review potential change in impact on natural and built features & update management plans if reqd	
	Trigger Level 2 >20mm recorded movement (assoicated with mining)	Implement Ecological Monitoring program for HWMSB exceedance Increase frequency of subsidence parameter monitoring to until rates stabilises. Then as per SM program	**Cease extraction in panel in question until review conducted in consultation with DPIE and DRE** Notify immediately DPIE if incident and within 7 days for non-compliance Notify RR, OEH, affected landholders or infrastructure owner	Investigate cause of exceedance (ie validate impact due to FAS extraction or not). Update subsidence predictions based on monitoring data Update impact assessment on natural and built features	Provide offsets for any ecological communities or threatened species in the HWMSB if impacts detected Immediately review mine plan including panel width, pillar widths, extraction height in consultation. Consult with DPIE and RR Review and update Extraction Plan
BUILT FEATURES	**Normal** No damage requiring remediation	Monitoring as per Subsidence Monitoring Program RMS routine monitoring navigation markers			
	Trigger Level 1 Subsidence parameters exceeded such that Fassifern workings indicated to have potential impact on foreshore Private bore capacity reduced	Monitoring as per BFMP (Built Feature Management Plan)	Review navigational marker freeboard and notify Transport for NSW if impacted Notify immediately DPIE if incident and within 7 days for non-compliance Notify RR and potentially affected landholders or infrastructure owner. Provide temporary water if required.		Develop BFMP in conjunction with owner for built features surrounding potential impact area
	Trigger Level 2 Impact to built feature	Monitoring as per BFMP	**Cease extraction in panel in question until review conducted in consultation with DPIE and RR** Assist owner with information to aid in Subsidence Advisory NSW claim in accordance with BFMP	Update impact assessment based on observed damage	Immediately review mine plan including panel width, pillar widths Consult with DPIE and RR Review and update Extraction Plan

Revision 4 - 10/08/2021

CHAIN VALLEY COLLIERY- SUBSIDENCE MANAGEMENT TRIGGER ACTION RESPONSE PLAN (TARP 00136)

SUBSIDENCE MANAGEMENT NORTHERN MINING AREA DOMAIN (S5 and Northern Pillar Area)

		DETAILED PERFORMANCE INDICATORS	MONITORING REQUIREMENTS	CONTAINMENT / REMEDIATION MEASURES	ADAPTIVE MANAGEMENT MEASURES	CONTINGENCY PLANS
Triggers	PUBLIC SAFETY (Foreshore / Land Based areas and steep slopes)	**Normal** No impact	Monitoring as per SM Program and Public Safety MP			
		Trigger Level 1 Subsidence parameters exceeded such that Fassifern workings indicated to have potential impact on foreshore / land based areas	Increase visual inspection of foreshore to daily until public safety risk quantified as low Inspect Foreshore / Land Based areas in vicinity of steep slopes and retaining walls for signs of movement ASAP. Implement TARP as required.		Review potential of flooding and drainage impacts about foreshore or Land Based areasor stability concerns at steep slopes/ retaining walls. Undertake appropriate risk assessments	
		Trigger Level 2 Area around foreshore or other land based areas becomes unstable or shows signs of mining induced impact Flooding or drainage impacts considered likely as result of Fassifern extraction	Visual inspections frequency to be commensurate with level of risk (ie increase until controls put in place) Inspect Foreshore / Land Based areas in vicinity of other steep slopes and retaining walls for signs of movement ASAP. Implement TARP as required.	**Cease extraction in panel in question until review conducted in consultation with DPIE and RR** Immediately implement temporary safety controls (barricades and signage available from mine site). Arrange for assistance and stay at site if immediate risk to public exists Inform ECC as to result of inspection Geotechnical Engineer to inspect area immediately. Notify LMCC and Transport for NSW Notify BCD, DPIE and RR	Implement longer term safety controls	Foreshore / Land based area stabilisation of unsafe areas in consultation with LMCC/CC Council and RR as soon as possible Flooding and drainage rectification works in consultation with infrastructure owner as soon as possible
	BENTHIC COMMUNITIES	**Normal** ANOVA/ANOSIM >5%	Monitoring as per Benthic MP			
		Trigger Level 1 ANOVA/ANOSIM level is approaching 5%	Liaise with monitoring consultant & undertake internal review to determine if impacts are related to mining Arrange a peer review of the monitoring results and statistical analysis			
		Trigger Level 2 ANOVA/ANOSIM <5%	Undertake follow up monitoring at affected sites to obtain confirmation of impacts. Incident Report to be completed and distributed to relevant agencies	Notify DPIE-Fisheries, LMCC and DPIE Notify immediately DPIE if incident and within 7 days for non-compliance	Consult with relevant authorities about monitoring and management controls	Consult with relevant authorities to identify if offsets are required and how these are to be implemented.
	SEAGRASS	**Normal** Negligible impact	Monitoring as per Seagrass MP			
		Trigger Level 1 Approaching 20% decline in condition Approaching 20mm of additional mine induced subsidence within mapped seagrass	Liaise with monitoring consultant & undertake internal review to determine if impacts are related to mining		Review if variation is within broader background variation range for the site.	
		Trigger Level 2 >20% decline in conditions from year baseline survey >150mm of additional mine induced subsidence at survey location	Incident Report to be completed and distributed to relevant agencies	Notify immediately DPIE if incident and within 7 days for non-compliance Notify DPIE-Fisheries and LMCC	Consult with relevant authorities about monitoring and management controls	Consult with relevant authorities to identify if offsets are required and how these are to be implemented.
	THREATENED SPECIES AND ENDANGERED POPULATIONS	**Normal** Negligible environmental consequences	Monitoring as per Subsidence Monitoring Program, Benthic Communities Management Plan and Seagrass Management Plan			
		Trigger Level 1 As per Seagrass and Benthic Community Management Plans Monitoring Level 1 triggers	Liaise with monitoring consultant & undertake internal review to determine if impacts are related to mining and greater than negligible environmental consequences.		Review if variation is within broader background variation range for the site.	
		Trigger Level 2 As per Seagrass and Benthic Community Management Plans Monitoring Level 2 triggers >780mm subsidence	Incident Report to be completed and distributed to relevant agencies	Notify immediately DPIE if incident and within 7 days for non-compliance Notify DPIE-Fisheries and LMCC	Initiate ecological monitoring program to assess the impacts to ecological communities and threatened species. Consult with relevant authorities about monitoring and management controls	Consult with relevant authorities to identify if offsets or rehabilitation is required and how this is to be implemented.
	WATER INFLOW	Ongoing monitoring of water inflows and site water management through operational Water Management and Monitoring TARP process				

		Revision 4 - 10/08/2021 CHAIN VALLEY COLLIERY- SUBSIDENCE MANAGEMENT TRIGGER ACTION RESPONSE PLAN (TARP 00136) **SUBSIDENCE MANAGEMENT NORTHERN MINING AREA DOMAIN (S5 and Northern Pillar Area)**
Responsibilities	Environment Compliance Coordinator	Coordinate and undertake all environmental monitoring as outlined in TARP Implement TARP actions in consultation with regulatory agencies as/if required Notify the relevant Government agencies and other affected parties of exceedance of performance measures Coordinate Subsidence Review as a part of Annual Environmental Reporting Arrange for subsidence prediction and impact updates as required Update Extraction Plan as required Audit public safety controls regularly
	Mine Surveyor	Coordinate subsidence monitoring as outlined in TARP Review subsidence monitoring results against TARP triggers Inform relevant stakeholders as to subsidence monitoring trends and exceedances
	Mine Manager	Ensure adequate financial and personnel resources are made available for implementation of this plan Review and approve required mine plan changes

Appendix 6: Complaints and Incidents Register

Mannering Colliery Complaints and Incidents Register 2021

Last Updated: 14/01/2022

Date	Nature of Complaint / Incident	Complaint / Incident	Action Taken
12/02/2021	Complaint - Noise	Resident of Macquarie Shores Home Village (MSHV) emailed a complaint to the Delta Coal Environmental Compliance Coordinator (ECC) on the 12th February 2021, indicating “exceptionally loud vibrating and thumbing noise suddenly came back from 3:27am 12/2/2021”.	There were no notable changes in Delta Coal operations or plant during the complaint period. The complaint was acknowledged to the complainant. The complainant was provided with a graphical representation of the data captured by the directional noise logger installed at Macquarie Shores Home Village, from which analysis indicated that Mannering Colliery (MC) was operating within consented noise limits during the complaint period. Attended noise monitoring was undertaken on the evening of the 12/2/2021 during similar meteorological and operational conditions.
26/02/2021	Complaint - Noise	Resident of MSHV emailed through a complaint to the ECC on the 26th February 2021, indicating “at 6:30am the noise level was just unbearable. We could hear vibrating thumb and clan noises emitting from overland conveyor presumably the YE1 whilst transporting coal to your sister company VPPS”.	An e-mail response was provided to the complainant on the 26th February 2021 which detailed the following: * Review of noise logger data provided, results indicate compliance (significantly under consented levels); * The YE1 conveyor was unlikely to be the source of noise at MSHV based upon a review of attended noise monitoring results conducted over the last 12 months and discussions with our noise consultant, having not previously identified the YE1/YE2 system as a source of industrial noise at MSHV; * The drift belt was initiated at 6:30am, this was likely the cause of noise observed at MSHV from MC, it was noted that MC cannot feasibly commit to being inaudible at all times at MSHV; * The complainant was provided with a summary of noise reduction works undertaken at MC within the 2020 period.
05/03/2021	Complaint - Noise	Resident of MSHV emailed a complaint to the Delta Coal ECC on the 5th March 2020, describing "loud vibrating thumb and clang noises have been waking us up". The complainant requested a graphical analysis be provided from the Delta Coal directional noise logger installed at MSHV.	The complaint was acknowledged to the complainant following receipt of the complaint. On the 22nd March a formal response was provided to the complainant detailing the operations of MC during the complaint period and the results of the directional noise logger. It was noted that during the specified complaint period coal was being transported from underground via the MC drift belt and Coal Handling and Preparation Plant, however the MSHV directional logger all pass and low pass data was significantly below the consented MC noise limits, indicating that the site was likely operating in compliance with consented noise limits.
21/03/2021	Incident - Volumetric Discharge Exceedance	Exceedance of volumetric discharge limit at LDP1. A total of 4,134 kL was discharged exceeding the EPL 191 limit of 4,000 kL.	Condition L3.2 of EPL 191 stipulates that "*Exceedance of the volume limit for Point 1* (LDP1) *is permitted only if the discharge from Point 1 occurs solely as a result of rainfall at the premises exceeding 10mm during the 24 hours immediately prior to the commencement of discharge* ". Mine dewatering at MC had ceased on the 18/03/2021, with the exceedance occurring on the 21/03/2021. The exceedance was reported to the EPA, DPIE and Resources Regulator even though being considered permitted under EPL 191.

Mannering Colliery Complaints and Incidents Register 2021

Last Updated: 14/01/2022

Date	Nature of Complaint / Incident	Complaint / Incident	Action Taken
24/03/2021	Complaint - Noise	Resident of MSHV emailed a complaint to the Delta Coal ECC on the 24th March 2021 describing "loud thumbing and vibrating noise".	The complaint was acknowledged and provided with a graphical representation of the directional data logger for the complaint period. The directional logger data indicated that the low-frequency noise sourcing from the direction of MC was around 30 dB(A), based on this data it was considered likely that the site was operating within consented noise limits.
25/03/2021	Complaint - Noise	The DPIE contacted the Delta Coal ECC on the 25th of March regarding a noise complaint received from a resident of Macquarie Shores Home Village for the period of 12:00am to 9:00am and requested to review the data from the directional noise logger, noting it is not a tool to measure compliance however can be used for indicative purposes.	A response was provided to the DPIE on the 1st April 2021 which outlined the following: * Attended noise monitoring was undertaken at MSHV on the 25th March 2021 at 2:00am and noted the site was compliant with consented noise levels; * Directional noise monitoring recorded similar levels to attended noise monitoring, indicating compliance with consented noise limits for MC
18/04/2021	Complaint - Noise	Resident of MSHV emailed a complaint to the Delta Coal ECC on the 19th April 2021, describing a load roaring low-bass frequency loader noise running intermittently	Response provided to the complainant on the 22/04/2021 detailing that loader operations had been occurring within the timeframe stipulated within the complaint. It was noted that the use of a loader on Mannering Colliery's coal stockpile can be imperative to site operations. Attended monitoring was undertaken at MSHV on the 20/04/2020 from midnight and did not identify exceedances of noise limits.
20/04/2021	Incident - Oil and Grease Exceedance	Exceedance of EPL 191 oil and grease limits (10 mg/L). Oil and grease concentration of 34 mg/L identified in Mannering Colliery LDP 1 weekly sampling.	At the time of sampling no hydrocarbon slicks, sheens or odours were observed within sampled discharge or on the Mannering Colliery ponds. Further petroleum hydrocarbon analysis indicated a non-petroleum source, notably the analysis classifies anything dissolvable by hexane as oil and grease, including natural fatty acids and lipids. Consideration was given to potential on site sources, with the most likely source being a long-wall emulsion fluid that comprises a fatty acid and water mixture. Following investigations underground workers did identify some leaks and spills had occurred underground which could have potentially been transported to Mannering Colliery within mined coal material. The incident was reported to the NSW EPA and DPIE and actions to prevent the exceedance include increased frequency in emulsion fluid usage (i.e. uncharacteristic usage may indicate a leak or spill) and improved turn-around time of sample analysis from laboratories to 2 day turn-around times to improve Delta Coals ability to respond in a timely manner to such incidents.

Mannering Colliery Complaints and Incidents Register 2021

Last Updated: 14/01/2022

Date	Nature of Complaint / Incident	Complaint / Incident	Action Taken
23/04/2021	Complaint - Noise	Resident of MSHV acknowledged Delta Coals previous response and made a complaint for the morning of 23/04/2021, from 1:15am. Noise was described as "low bass loader engine buzzing and thumbing noise".	Both complaints were acknowledged immediately to the complainant and a formal response was provided on the 26/04/2021. It was noted that the loader was generally operational during the complaint periods. Direction noise monitoring data did not indicate any likely exceedances of noise criteria. It was noted that the unattended directional noise monitor is utilised to indicate the sites noise emissions however is not a tool of compliance monitoring.
26/04/2021	Complaint - Noise	Resident of MSHV lodged a noise complaint against Mannering Colliery for 26/04/21 for the period of midnight, 2:10am and 4:00am.	
17/05/2021	Complaint - Noise	Resident of MSHV lodged a noise complaint for the time frame of 14/05/2021 - 17/05/2021 against Mannering colliery citing loud thumping, clanging and roaring noises.	The complaint was acknowledged immediately and a letter response was provided to the complainant on the 24/05/2021. The letter detailed directional noise logger results and site operations in respect to the noises observed for the complaints period. It was noted that directional data and recent attended monitoring did not indicate Mannering Colliery was in exceedance of it's consented noise limits during routine site operations.
20/05/2021	Complaint - Noise	Resident of MSHV lodged a noise complaint for the time frame of 20/05/2021 against Mannering colliery citing thumping and vibrating noises, additionally noting nearby turbine noise was also particularly loud.	The complaint was acknowledged on the 20/05/2021 and the complaint timeframe was included on in the letter response provided on the 24/05/2021.
21/05/2021	Complaint - Noise	Resident of MSHV lodged a noise complaint for the time frame of 21/05/2021 against Mannering colliery citing thumping noise.	The complaint was acknowledged on the 20/05/2021 and the complaint timeframe was included on in the letter response provided on the 24/05/2021.
28/05/2021	Complaint - Noise	Resident of MSHV text messaged Delta Coal ECC and noted excessive noise during the hours of 12am to 7am, requesting the data form the Directional Logger be provided.	The residents message was logged and a response provided immediately provided 800 Hz filtered noise levels from the direction of Mannering Colliery as 37.5 dB(A) and 38.5 dB(A) (LAeq 15 minute) being the peaks in complaint period. The complainant requested that evidence of attended monitoring being undertaken in the complaint period to measure compliance, the complainant was referred to the 12/02/2021 and noted a formal response would be provided within 7 days.
01/06/2021	Complaint - Noise	Resident of MSHV lodged a noise complaint requesting a review of noise early around 5:50 am on 1st June 2021.	The complaint was acknowledged immediately and a formal response was provided on the 7th June 2021, detailing operations at the time of the complaint and available noise logger data. A review of available data did not indicate a likelihood of the site exceeding noise criteria

Date	Nature of Complaint / Incident	Complaint / Incident	Action Taken
08/06/2021	Complaint - Noise	Resident of MSHV lodged a noise complaint requesting a review of Mannering Colliery operations and logger data for 5:40am	The complaint was acknowledged and the complainant was notified that the colliery was not in operation the evening or morning due to a a fire on the YE1 overland conveyor on 06/06/2021 which at that time was still unavailable. No loader operations were observed reviewing CCTV data. the complainant was provided with directional noise logger data for the period also. It was considered the complainant was likely hearing nearby industrial noise unrelated to Mannering Colliery. The complainant responded but did not acknowledge that MC was not operational.
11/06/2021	Complaint - Noise	Resident of MSHV lodged a noise complaint requesting a review of Mannering Colliery operations and logger data for 7:00am	The complaint was acknowledged on receipt (24/6 submitted by complainant)and the complainant was informed that: - Mannering Colliery was operational during the period of complaint - at 7:00am the low-pass directional LAEQ noise level was close to 25 dB(A) and Mannering Colliery has a noise contribution limit of 40 dB(A) LAEQ at MSHV. - All pass directional noise was 35.5 dB(A). - between midnight and 7:00am on 11/6/2021 the low pass directional peaked at 34 dB(A). - Available data indicated the site was compliant with noise limits.
12/06/2021	Complaint - Noise	Resident of MSHV lodged a noise complaint requesting a review of Mannering Colliery operations and logger data for 5:35am	The complaint was acknowledged on 28/6 receipt (24/6 submission by the complainant) and the complainant was informed that: - Mannering Colliery was operational during the period of complaint - at ~5:35am the low-pass directional LAEQ noise level was 25.5 dB(A) and Mannering Colliery has a noise contribution limit of 40 dB(A) LAEQ at MSHV. - All pass directional noise was 28 dB(A). - Between midnight and 7:00am on 12/6/2021 the low pass directional peaked at 29.5 dB(A). - Available data indicated the site was compliant with noise limits.
13/06/2021	Incident - Technical Exceedance of Depositional Dust limits	DDG003 exceeded the maximum value in depositional dust for a monthly reading (4 g/m2/month).	The DPIE, NSW EPA and Resources Regulator were notified of the exceedance. It was noted the gauge was subject to contamination by extraneous material unrelated to site operations. Laboratory analysis identified that approximately 40% of the gauge content was sand and another 40% was Polysaccharide Slime (biological). The Exceedance and containation of the gauge was noted by DPIE with no further comments or actions being taken.
17/06/2021	Complaint - Noise	Resident of MSHV lodged a noise complaint requesting a review of Mannering Colliery operations and logger data for 3:55am	The complaint was acknowledged on 28/6 (complainant submitted 24/6) and the complainant was informed that: - Mannering Colliery was operational during the period of complaint - at ~3:55am the low-pass directional LAEQ noise level was 22.4 dB(A) and Mannering Colliery has a noise contribution limit of 40 dB(A) LAEQ at MSHV. - All pass directional noise was 25.1 dB(A). - Available data indicated the site was compliant with noise limits.

Date	Nature of Complaint / Incident	Complaint / Incident	Action Taken
24/06/2021	Complaint - Noise	Resident of MSHV lodged a noise complaint requesting a review of Mannering Colliery operations and logger data for 5:10am	The complaint was acknowledged on 28/6 (complainant submitted 24/6) and the complainant was informed that: - Mannering Colliery was operational during the period of complaint - Wind directions at the time were considered not to enhance MC noise - at ~5:10am the low-pass directional LAEQ noise level was 0.1 dB(A) and Mannering Colliery has a noise contribution limit of 40 dB(A) LAEQ at MSHV. - All pass directional noise was 23.2 dB(A). - Available data indicated the site was compliant with noise limits.
26/06/2021	Complaint - Noise	Resident of MSHV lodged a noise complaint requesting a review of Mannering Colliery operations and logger data for 5:15am	The complaint was acknowledged on 28/6 (complainant submitted 28/6) and the complainant was informed that: - Mannering Colliery was operational during the period of complaint - at ~5:15am the low-pass directional LAEQ noise level was 33.6 dB(A) and Mannering Colliery has a noise contribution limit of 40 dB(A) LAEQ at MSHV. - All pass directional noise was 35.1 dB(A). - Available data indicated the site was compliant with noise limits.
27/06/2021	Complaint - Noise	Resident of MSHV lodged a noise complaint requesting a review of Mannering Colliery operations and logger data for 3:11am	The complaint was acknowledged on 28/6 (complainant submitted 28/6) and the complainant was informed that: - Mannering Colliery was operational during the period of complaint - at ~3:11am the low-pass directional LAEQ noise level was 26.1 dB(A) and Mannering Colliery has a noise contribution limit of 40 dB(A) LAEQ at MSHV. - All pass directional noise was 36.6 dB(A). - Available data indicated the site was compliant with noise limits.
28/06/2021	Complaint - Noise	Resident of MSHV lodged a noise complaint requesting a review of Mannering Colliery operations and logger data for 4:52am	The complaint was acknowledged on 28/6 (complainant submitted 28/6) and the complainant was informed that: - Mannering Colliery was operational during the period of complaint - at ~4:52am the low-pass directional LAEQ noise level was 28.8 dB(A) and Mannering Colliery has a noise contribution limit of 40 dB(A) LAEQ at MSHV. - All pass directional noise was 33.1 dB(A). - Available data indicated the site was compliant with noise limits.

Mannering Colliery Complaints and Incidents Register 2021

Last Updated: 14/01/2022

Date	Nature of Complaint / Incident	Complaint / Incident	Action Taken
30/07/2021	Complaint - Noise	Resident of MSHV lodged a noise complaint on the 30/07/2021 requesting a review of Mannering Colliery operations and data logger noting loud vibrating and thumping noises between the hours of 12:00am and 7:00am.	The complaint was ackowledged on the 30/07/2021. A response was provided to the complainaint outlining that: - The coal handling plant and Overland Conveyor were operational during the complaint period, however the loader was not. - The directional noise logger at MSHV indicated a peak low frequency LAEQ (15 min) of 38dB(A) at 3:45am. - The directional noise logger at MSHV indicated a peak LAEQ (15 min) of 38dB(A) at 12:45am and 3:45am. - Met data indicated that meteorological conditions were likely to be noise enhancing hence why MC was more audible than in other meteorological condition. - Attended noise monitoring undertaken on the 27th of July 2021 during equivilent site operations did not identify exceedance of Mannering Collierys consented noise limits (Project Approval 06_0311 as modified). - Available data did not indicate a probable exceedance of Mannering Colliery's noise limits at MSHV.
31/07/2021	Complaint - Noise	Resident of MSHV lodged a noise complaint on the 30/07/2021 requesting a review of Mannering Colliery operations and data logger noting loud vibrating and thumping noises between the hours of 12:00am and 7:00am.	The complaint was ackowledged on the 30/07/2021. A response was provided to the complainaint outlining that: - The coal handling plant and Overland Conveyor were operational during the complaint period, however the loader was not. - The directional noise logger at MSHV indicated a peak low frequency LAEQ (15 min) of 38dB(A) at 3:45am. - The directional noise logger at MSHV indicated a peak LAEQ (15 min) of 38dB(A) at 12:45am and 3:45am. - Met data indicated that meteorological conditions were likely to be noise enhancing hence why MC was more audible than in other meteorological condition. - Attended noise monitoring undertaken on the 27th of July 2021 during equivilent site operations did not identify exceedance of Mannering Collierys consented noise limits (Project Approval 06_0311 as modified). - Available data did not indicate a probable exceedance of Mannering Colliery's noise limits at MSHV.
30/08/2021	Complaint - Noise	Resident of MSHV lodged a noise complaint on the 30/08/2021 citing a continuous thumping noise.	The complaint was ackowledged on the 30/08/2021 and an investigation was undertaken by Delta Coal into the potential sources of noise and noise emissions from the site. Outcomes of the investigation were provided to DPIE and the complainant on 09/09/2021. Outcomes of the investigation were: - A review of the noise logger data (provided to the complainant) indicated that it was unlikely Mannering Colliery was exceeding its consented noise limits; and - Attended monitoring undertaken at MSHV at 3am, 4am, 5am and 6am indicated that while during some of the measurements the coal handling plant at Mannering Colliery were audible, they were not in exceedance of consented noise limits on the 30th of August 2021.
01/09/2021	Complaint - Noise	Resident of MSHV lodged a noise complaint on the 01/09/2021 regarding noise experieced at 4:45am	The complaint was ackowledged on the 01/09/2021 and an investigation was undertaken by Delta Coal into the potential sources of noise and noise emissions from the site. Outcomes of the investigation were provided to DPIE and the complainant on 09/09/2021. Outcomes of the investigation were: - A review of the noise logger data (provided to the complainant) indicated that it was unlikely Mannering Colliery was exceeding its consented noise limits.

Date	Nature of Complaint / Incident	Complaint / Incident	Action Taken
20/09/2021	Complaint - Noise	Resident of MSHV lodged a noise complaint on the 20/09/2021 regarding noise experienced at 2:20am and 6:30a, (20/09/2021)	A response was provided to the complainant and DPIE-Compliance on the 20th September 2021. The response detailed site operations, which was noted to be usual coal handling activities at 2:20am however no site operations at 6:30am. Noting the mine loader was not operational during the complaint period. Analysis was undertaken of the directional noise logger located at Macquarie Shores Home Village. The recorded noise levels by the directional noise logger indicated that it would have been unlikely that Mannering Colliery was exceeding specified noise limits within its Project Approval (MP06_0311). The loudest meaasurement was taken at approximately 2:00am and was approximately 33.5 dB(A) (LAEQ 15 minute)
23/09/2021	Complaint - Noise	Resident of MSHV lodged a noise complaint on the 23/09/2021 regarding noise experienced at 12:05am and 2:10AM - 2:30AM.	A response was provided to the complainant and DPIE-Compliance on the 5th October 2021. The response detailed site operations and results from the directional noise logger as well as results taken from attended monitoring at 3:00am - all available monitoring data indicated that Mannering COlliery was operating within compliance limits. Noise peaks from the logger during the complaint period indicated a peak of 34dB(A) LAEQ15min.
24/09/2021	Complaint - Noise	Resident of MSHV lodged a noise complaint on the 24/09/2021 regarding low-frequency thumping noises during the night.	A response was provided to the complainant and DPIE-Compliance on the 27th September 2021. The response detailed site operations and results from the directional noise logger - all available monitoring data indicated that Mannering Colliery was operating within compliance limits. Noise peaks identified by the logger during the complaint period was approximately 14dB(A) LAEQ 15 min.
04/10/2021	Complaint - Noise	Resident of MSHV lodged a noise complaint on the 4/10/2021 regarding noise heard from 1:58am. The resident noted a thumping noise with strong impact coming from Mannering Colliery.	A response was provided to the complainant on the 5th October 2021, directional noise logger graphs where provided to the resident and the DPIE-Compliance. Available data indicated the logger was operational, calibrated and did not indicate a potential exceedance of the Mannering Colliery Project Approval noise limits.
05/10/2021	Complaint - Noise	Resident of MSHV lodged a noise complaint on the 5/10/2021 regarding noise at 3:36am and 5:25am. The complainant noted a thumping noise that was loud and vibrating.	A response was provided to the complainant on the 5th October 2021, directional noise logger graphs where provided to the resident and the DPIE-Compliance. Available data indicated the logger was operational, calibrated and did not indicate a potential exceedance of the Mannering Colliery Project Approval noise limits.
19/10/2021	Complaint - Noise	Resident of MSHV lodged a noise complaint on 19/10/2021. The complainant noted that the noise was loud at 5:05am and was thumping, clanging and strong impact and vibrating noise through the residents window. The resident noted the noise source to be Mannering Colliery.	A response was provided to the complainant on the 19th October 2021, directional noise logger graphs where provided to the resident and the DPIE-Compliance. Available data indicated the logger was operational, calibrated and did not indicate a potential exceedance of the Mannering Colliery Project Approval noise limits. at the complaint time a noise peak of 37.8 dB(A) LAeq 15 min was recorded. The limit for Mannering Colliery noise contribution at the monitoring location is 40 dB(A).

Mannering Colliery Complaints and Incidents Register 2021

Last Updated: 14/01/2022

Date	Nature of Complaint / Incident	Complaint / Incident	Action Taken
15/11/2021	Complaint - Noise	Resident of MSHV lodged a noise complaint on 15/11/2021. Noted that some days noise had been good/tolerable however from 4:28am on 15/11 the thumping noise came back.	Each complaint was immediately acknowledged to the complainant on the day of submission (15/11 and 16/11). Following notification of the complaints Delta Coal's Chief Executive Officer and Technical Services Manager met with the complainant the following week to discuss the impact of Mannering Colliery's noise emissions, Delta Coal commited to investigating and when reasonable and feasible, implementing proven noise mitigation measures. Investigations into the mitigation of noise sourcing from the site were commenced immediately and commitment was made to the complainant to continue to liase regarding findings of the investigations and potential noise mitigation measures.
16/11/2021	Complaint - Noise	Resident of MSHV lodged a noise complaint on 16/11/2021. Noted that thumping and clanging noises were audible between 10:52pm (15/11) and 2:15am (16/11).	
23/11/2021	Incident - Technical Exceedance of Depositional Dust limits	DDG003 exceeded the maximum value in depositional dust for a monthly reading (4 g/m2/month).	The DPIE, NSW EPA and Resources Regulator were notified of the exceedance. It was noted the gauge was subject to contamination by extraneous material unrelated to site operations. Laboratory analysis identified that approximately 50% of the gauge content was dirt and another 40% was sand, 5% insects and 5% coal. The Exceedance and containation of the gauge was noted by DPIE with no further comments or actions being taken.
24/11/2021	Incident - Oil and Grease Exceedance	Exceedance of EPL 191 oil and grease limits (10 mg/L). Oil and grease concentration of 22 mg/L identified in Mannering Colliery LDP 1 weekly sampling.	The exact cause of the exceedance was unable to be identified, however considering laboratory analytical results and field observations, it is considered that the elevated results were not from a petrogenic source. In consideration of significant pollen collection on the surface of Pond B, it is considered plausible that lipids and other organic fats/acids were dissolved in the HEM analysis which contributed to total oil and grease concentrations. It is noted that the initial result of 22 mg/L was not repeatable utilising a duplicate oil and grease sample (reporting 7 mg/L), indicating the source at the site to be heterogenous. A sample collected on the 19/11/2021 indicated that oil and grease was no longer detectable. No impacts were identified from the oil and grease exceedance at the discharge point or further downstream. The exceedance was reported to the NSW EPA, NSW DPIE and NSW Resources Regulator.
08/12/2021	Complaint - Noise	Resident of MSHV lodged a noise complaint on 08/12/2021. Noted that thumping noises where audible throughout the night.	Delta Coal reviewed site operations, noise logger data and listened to hourly noise logger records in a review of the complaint period and potential noise emissions from Mannering Colliery. The investigation concluded Mannering Colliery, while operational during the complaint period, was not exceeding consented noise limits. Delta Coal environmental management team is meeting with the complainant in January following complaints made during December, to discuss the complaints and expectationsof the complainant.
20/12/2021	Complaint - Noise	Resident of MSHV lodged a noise complaint on 20/12/2021. Noted that thumping noises where particularly audible at 4:20am.	Delta Coal reviewed site operations, noise logger data and listened to hourly noise logger recordings in a review of the complaint period and potential noise emissions from Mannering Colliery. The investigation concluded Mannering Colliery, while operational during the complaint period, was not exceeding consented noise limits. Delta Coal environmental management team is meeting with the complainant in January following complaints made during December, to discuss the complaints and expectationsof the complainant.

Date	Nature of Complaint / Incident	Complaint / Incident	Action Taken
30/12/2021	Complaint - Noise	Resident of MSHV lodged a noise complaint on 30/12/2021. Noted that thumping noises where particularly audible at 6:28am.	Delta Coal reviewed site operations, noise logger data and listened to hourly noise logger records in a review of the complaint period and potential noise emissions from Mannering Colliery. The investigation concluded that Mannering Colliery Coal Handling Plant and Drift Belt were not operational, and the site was not generating or transporting product coal. A review of the hourly noise recording indicating the presence of industrial noise however was considered to be unrelated to Mannering Colliery due to the lack of operations and registered directional noise.

Appendix 7: Mannering Colliery Independent Environmental Audit

INDEPENDENT ENVIRONMENTAL AUDIT 2019

Mannering Colliery

Prepared for:

Delta Coal
PO Box 7115
Mannering Park NSW 2259

SLR

SLR Ref: 630.12751-R01
Version No: -v0.1
May 2019

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BASIS OF REPORT

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Delta Coal (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

DOCUMENT CONTROL

Reference	Date	Prepared	Checked	Authorised
630.12751-R01-v0.1	27 May 2019	Chris Jones	Chris Jones	Chris Jones
630.12751-R01-v0.1	21 May 2019	Tracey Ball	Chris Jones	Chris Jones

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1 Introduction

1.1 Background

Mannering Colliery is an underground coal mine located on the southern side of Lake Macquarie approximately 60 kilometres (km) south of Newcastle. Development of Mannering Colliery began in 1960 in conjunction with the construction of Vales Point Power Station and at that time was named Wyee State Coal Mine.

Production commenced in 1961 with extensive mining (first workings and secondary extraction) in both the Great Northern and Fassifern Seams. While some resources remain within the Great Northern Seam, mining has not been undertaken in this seam since 1999, with all recent mining occurring in the Fassifern Seam.

On 30 June 2002 mining operations ceased and the mine was placed on care and maintenance, at that time the mine was operated by Powercoal Pty Ltd (Powercoal). On 7 August 2002, Centennial Coal acquired the Colliery from Powercoal. The mine was reopened and renamed Mannering Colliery, with production recommencing in January 2005, mining the Fassifern Seam. Due to unfavourable conditions the mine was again placed on care and maintenance, ceasing production on 27 November 2012.

LakeCoal Pty Ltd (LakeCoal), the operator of the adjacent Chain Valley Colliery, became the operator of Mannering Colliery as a result of a mining cooperation agreement that was reached between the owners of Chain Valley Colliery and Mannering Colliery. As a result, LakeCoal became the operator of Mannering Colliery effective from 17 October 2013.

In December 2015, a business decision was made by LakeCoal to progress the “underground link road project” between Mannering Colliery and Chain Valley Colliery. During the reporting period, Mannering Colliery commenced underground mining operations as part of the underground link road project approved under Project Approval (PA 06_0311) Modification (Mod) 2. In February 2017, difficult mining conditions were encountered underground during the link road drivage and an operational decision was made to cease underground mining from Mannering Colliery of the link road. As a result, the remainder of the link road drivage was undertaken from Chain Valley Colliery. Mannering Colliery did not produce any coal from its underground mining operations and handled a total of 394,213 tonnes of coal. All coal produced was transported to the adjacent Vales Point Power Station by overland conveyor.
LakeCoal went into receivership on 3 October 2018, however has maintained coal conveyance and processing operations. Delta Coal are now the current owners and operators of the site. The transfer occurred on the 31 March 2019 with Great Southern Energy (trading as Delta Coal) being the owner and operator of Mannering Colliery and Chain Valley Colliery.

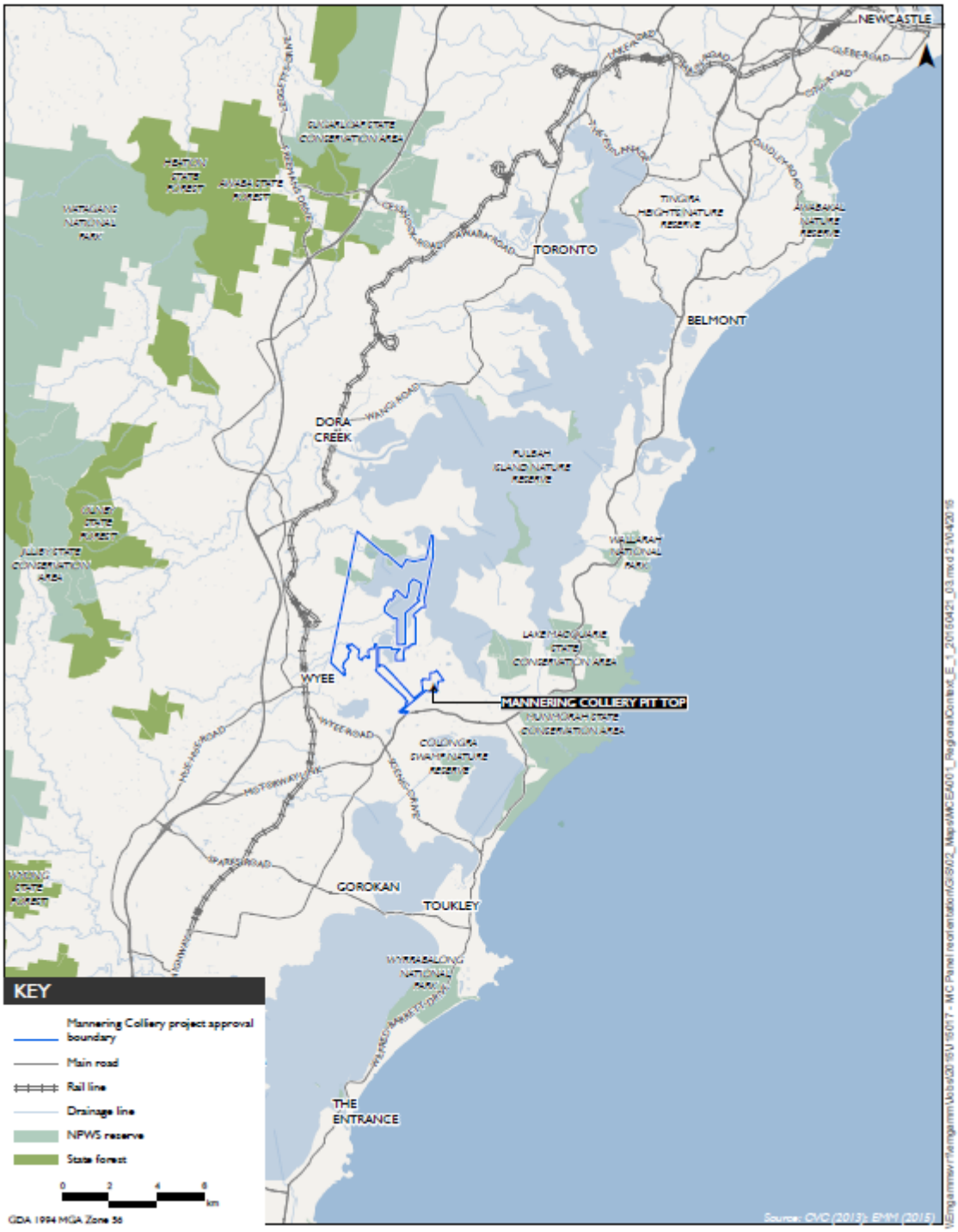

Figure 1 Mannering Colliery Location

1.2 Audit Scope

This Independent Environmental Audit (Audit) covers the period from 1 January 2016 (day after previous 2015 Independent Environmental Audit) to the end of the auditing onsite (10 April 2019).

The scope of the Audit is outlined in Schedule 5, Condition 8 and 9 of PA 06_0311 (as modified), and includes:

8. By the end of March 2013 and every three years thereafter, unless the Secretary directs otherwise, the Proponent must commission and pay the full cost of an Independent Environmental Audit of the project.

a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;

b) include consultation with the relevant agencies;

c) assess the environmental performance of the project and assess whether it is complying with the requirements in this approval and any relevant EPL or Mining Lease (including any assessment, plan or program required under these approvals);

d) review the adequacy of any approved strategy/plan/program required under this approval: and, if necessary;

e) recommend appropriate measures or actions to improve the environmental performance of the project, and/or any assessment, strategy/plan/program required under the abovementioned approvals; and

f) be conducted and reported to the satisfaction of the Secretary.

Note: This audit team must be led by a suitably qualified auditor and include experts in any field specified by the Secretary.

9. Within 12 weeks of commissioning this audit, or as otherwise agreed by the Secretary, the Proponent must submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.

The Audit has assessed the key approvals and documentation outlined in **Section 4**, including:

- PA 06_0311 and Statement of Commitments;
- Environment Protection Licence (EPL) 191; and
- Consolidated Coal Leases (CCL) 719 and 721.

1.3 Key Site Contacts

Contact details for key Delta Coal contact for this audit is outlined below:
Chris Armit
Environmental and Community Coordinator
Phone: 02 4358 0800

1.4 Audit Methodology

The Audit was undertaken onsite by Chris Jones (Lead Auditor), Tracey Ball (Assistant Auditor), Martin Davenport (Mine Site Noise Specialist) of SLR.

SLR was assisted by subsidence specialist Ken Mills of SCT during the Audit.

The SLR Audit team are independent of Mannering Colliery as defined under Section 3.3 of the Department of Planning and Environment's (DPE) *Independent Environmental Audit Guidelines* (October 2015).

Information was provided by Mannering Colliery prior to, during and following the Audit. SLR also sourced a large amount of information from the Mannering Colliery website.

The methodology for the Audit consisted of the following key steps:

- Introductory and close out meetings;
- Reviewing key documents provided by Mannering Colliery prior to the Audit;
- Consultation with relevant government agencies as per the Audit requirements prior to the site component;
- Preparation of draft Audit Tables provided to Mannering Colliery prior to the site Audit;
- Site component of the Audit, including inspections and discussions with key Mannering Colliery operational personnel;
- Review of additional relevant documentation obtained while onsite during the inspection or provided by Mannering Colliery operations after the site inspection; and
- Client review and comment on the draft Audit report.

The site component was completed on the following days:

- 2 and 3 April 2019 – including opening meeting, inspection, determination of compliance;
- 10 April 2019 – at site determining compliance;
- 17 May 2019 – Meeting at SLR offices to obtain further evidence to determine compliance.

Photographs taken during the site inspections are included in **Appendix A**. A large amount of evidence was viewed and collected as part of the Audit, including monitoring records, reports, and correspondence. While this key evidence has been referenced in **Section 2**, it has not been attached to this Audit report.

The Audit has been completed as per the *Independent Environmental Audit Guidelines* (DPE October 2015).

The Audit team assessed the approvals and documentation outlined in **Section 4**.

1.4.1 Introductory and Closeout Meetings

Introductory and close out meetings were held for the Audit. At the opening meeting introductions were made by each of the meeting attendees and Mannering Colliery personnel provided background details regarding the site to SLR. During the close-out meeting a general discussion about compliance and areas for improvement was undertaken. **Table 1** lists those present at these meetings.

Table 1 Meeting Attendees

Name	Role	Comment
Chris Armit	Delta Coal Environment and Community Co-ordinator	Present at opening meeting. Main contact for the audit.
Chris Jones	SLR Lead Auditor	Present at opening and closing meeting
Tracey Ball	SLR Assistant Auditor	Present at opening and closing meeting
Martin Davenport	SLR Noise Specialist	Present at opening meeting
Ken Mills	SCT Subsidence Specialist	Present at opening meeting

1.5 Consultation Requirements

Table 2 outlines the stakeholder consultation completed for Mannering Colliery, undertaken in accordance with the Audit Guidelines.

Table 2 Stakeholder Consultation for the Audit

Regulatory Authority	Contact Details	Comment
DPE	Joel Curran Compliance Officer Northern Region NSW Department of Planning and Environment PO Box 1226 | NEWCASTLE NSW 2300 P 02 4904 2702 M 0412 323 331 E joel.curran@planning.nsw.gov.au	Email sent to DPE contact from SLR on 20 March 2019. A response was provided by the DPE on 25 March 2019 *The Department sees noise and general monitoring and reporting obligations as key issues for Chain Valley and Mannering Collieries at this time.*
Environment Protection Authority (EPA)	Matthew Corradin A/Unit Head Hunter North NSW Environment Protection Authority – North Branch Landline (02) 4908 6830 – Mobile Telephone 0428 663 146	Email sent to EPA contact from SLR on 20 March 2019. No response provided to SLR.

Regulatory Authority	Contact Details	Comment
Department of Planning and Environment – Resources Regulator (DPE-RR)	Catherine Lewis Senior Inspector Environment Resources Regulator 516 High Street Maitland NSW 2320 T 02 4063 6619 E Catherine.lewis@planning.nsw.gov.au Lands Ministerial Unit NSW Department of Industry - Crown Lands Level 4, 437 Hunter Street, NEWCASTLE NSW 2300 E: lands.ministerials@industry.nsw.gov.au	Email sent to DPE-RR contact from SLR on 20 March 2019. No response provided to SLR from the RR, however a response was provided from Crown Lands. *The only feedback from Crown Lands, is that SLR should consider to what extent Crown Land is involved in either project, and if so whether Access Agreements (where required) are in place in accordance with the Mining Act 1992.* Crown Land is within the previous underground mining areas.
Department of Industry – Water (DOI Water)	Mitchell Isaacs | Manager Strategic Stakeholder Liaison Department of Primary Industries | NSW Office of Water Level 11, 10 Valentine Ave Parramatta NSW 2124 | PO Box 3720 Parramatta NSW 2124 T: 02 8838 7529 | M: 0403 103 823 | E: mitchell.isaacs@dpi.nsw.gov.au	Email sent to DoI Water contact from SLR on 20 March 2019. No response provided to SLR.
Lake Macquarie City Council (LMCC)	Emma Graham (LMCC) egraham@lakemac.nsw.gov.au	Email sent to LMCC contact from SLR on 20 March 2019. No response provided to SLR.
CCC Chairperson	Margaret MacDonald-Hill 0448 414 888 mmacdonald-hill@bigpond.com	Email sent to contact from SLR on 20 March 2019. The CCC Chairperson sent an email to the CCC requesting any comments. A response was provided by the CCC chairperson based on 25 March. *I have reviewed the file for the audit period and other than the long delay with the implementation of the Voluntary Planning Agreement and Community Advisory Panel (condition for Chain Valley) with the former Wyong Council (now Central Coast Council) caused by the Council itself and now satisfactorily resolved, there are no specific issues. The committee met quarterly for the entire audit period.* One of the members of the CCC stated in an email to the CCC Chairperson on 25 March 2019: *There have been a series of noise complaints from a fellow resident of mine. But only one person – no one else seems to hear what he hears. The colliery have taken a great deal of remedial actions.*

Regulatory Authority	Contact Details	Comment
Central Coast Council	Julie Vaughan Central Coast Council - Julie.Vaughan@centralcoast.nsw.gov.au	Email sent to contact from SLR on 20 March 2019. No response provided to SLR.

2 Documents Reviewed and Referenced

Key documentation reviewed as part of the Audit includes:

- Previous IEA;
- PA 06_0311;
- EPL 191;
- CCL 719 and 721;
- Annual Reviews – 2016, 2017 and 2018;
- Monitoring results for meteorological, noise, air, water and blasting;
- Rehabilitation Monitoring Reports;
- Environmental Management Plans – as per approval conditions;
- Mining Operations Plans
- Annual Returns – across the Audit period;
- Complaints log;
- Lighting Audit;
- Voluntary Planning Agreements - Payments
- Evidence of maintenance and calibration;
- CCC Meeting Minutes – across the Audit period; and
- Key consultation with government – including consultation and approval letters.

3 Assessment of Compliance

The terms used in the Audit to describe the level of compliance of the site with the relevant approval documentation are outlined in **Table 3** and **Table 4**. These are requirements of the DPE's *Independent Environmental Audit Guidelines* (October 2015).

Table 3 Compliance Assessment Criteria

Assessment	Criteria
Compliant	Where the Auditor has collected sufficient verifiable evidence to demonstrate that the intent and all elements of the requirement of the regulatory approval have been complied with within the scope of the Audit.
Not Verified	Where the Auditor has not been able to collect sufficient verifiable evidence to demonstrate that the intent and all elements of the requirement of the regulatory approval have been complied with within the scope of the Audit. In the absence of sufficient verification, the Auditor may in some instances be able to verify by other means (visual inspection, personal communication, etc.) that a requirement has been met. In such a situation, the requirement should still be assessed as not verified. However, the Auditor could note in the report that they have no reasons to believe that the operation is non-compliant with that requirement.
Non-Complaint	Where the Auditor has collected sufficient verifiable evidence to demonstrate that the intent of one or more specific elements of the regulatory approval have not been complied with within the scope of the Audit.
Administrative Non-Compliance	A technical non-compliance with a regulatory approval that would not impact on performance and that is considered minor in nature (e.g. report submitted but not on the due date, failed monitor or late monitoring session). This would not apply to performance-related aspects (e.g. exceedance of a noise limit) or where a requirement had not been met at all (e.g. noise management plan not prepared and submitted for approval).
Not triggered	A regulatory approval requirement has an activation or timing trigger that had not been met at the time of the Audit inspection; therefore, a determination of compliance could not be made.
Observation	Observations are recorded where the Audit identified issues of concern which do not strictly relate to the scope of the Audit or assessment of compliance. Further observations are considered to be indicators of potential non-compliances or areas where performance may be improved.
Note	A statement or fact, where no assessment of compliance is required.

Table 4 Risk Levels for Non-Compliances

Risk Level	Colour Code	Description
High		Non-compliance with potential for significant environmental con- sequences, regardless of the likelihood of occurrence.
Medium		Non-compliance with: • Potential for serious environmental consequences, but is unlikely to occur; or • Potential for moderate environmental consequences but is likely to occur.
Low		Non-compliance with: • Potential for moderate environmental consequences, but is unlikely to occur; or • Potential for low environmental consequences but is likely to occur.
Administrative Non - Compliance		Only to be applied where the non-compliance does not result in any risk of environmental harm (e.g. submitting a report to government later than required under approval conditions).

4 Approvals and Documentation Assessed

Audit findings and recommendations relating to key approvals are outlined in **Section 6** and **7** of this report.

4.1 Previous Audit Recommendations

The previous IEA was completed by Hansen Bailey, with the site IEA completed in May 2016 and the final Audit Report dated 22 July 2016.

The previous IEA covered the period of 10 April 2013 to 30 April 2016. Appendix 4 of the 2016 Annual Review provides an update on the 2016 IEA, with several recommendations committing to a 30 June 2017 completion date. There is no update on IEA actions within the 2017 AEMR, therefore it is not possible to fully determine compliance against the previous actions. IEA Actions Plans should be included in every Annual Review going forward.

The requirement to review Environmental Management Plans has not been completed with this referenced numerous times in the IEA Acton Plan (Appendix 4 of 2016 Annual Review). There was also a commitment to improve reporting of incidents/non – compliances during the future, with some non – compliances identified as part of this 2019 IEA.

4.2 Project Approval PA 06_0311

The conditions relating to PA 06_0311 were assessed as part of this Audit. The consolidated Project Approval was first granted on 12 March 2008. PA 06_0311 has been modified four times including:

- Mod 1 – approved 25 October 2012;
- Mod 2 – approved 27 November 2014;
- Mod 3 – approved 16 December 2015;
- Mod 4 – approved 18 August 2016; and
- Mod 5 – pending approval.

The site had a moderate level of compliance against Project Approval conditions.

4.2.1 Project Approval PA 06_0311 Statement of Commitments

There is a Statement of Commitments relating to PA 06_0311 which contains numerous commitments relating to environmental management, monitoring and reporting. The site had a moderate level of compliance against the Statement of Commitments.

4.3 Environment Protection Licence 191

SLR assessed compliance against the EPL 191 which has an anniversary date of 1 January. Conditions relate to limit conditions, operating conditions, monitoring and reporting. The site had a moderate level of compliance against the EPL.

4.4 Management Plans and Programs

The following management plans were assessed as part of the Audit. All the management plans reviewed are required according to PA 06_0311 consent conditions. The management plans for site are out of date, with there being several non – compliances identified for not fully implementing the management plans. Several of the management plans are from 2011 and are in a Centennial Coal template.

Specific recommendations relating to management plans are outlined in **Section 6** and **Section 7**. A list of the management plans reviewed during the IEA are outlined in **Table 5**. All these management plans are out of date, and require updating.

Table 5 Management Plans

Management Plan	Requirement	Comment
Noise Monitoring Program	PA 06_0311 Schedule 3, Condition 3	The management plan on the CVC website is dated 26 April 2016.
Water Management Plan	PA 06_0311 Schedule 3, Condition 8	The management plan on the CVC website is dated January 2013 (no specific date recorded).
Erosion and Sediment Control Plan	PA 06_0311 Schedule 3, Condition 10	Captured in the Water Management Plan dated January 2013.
Surface Water Monitoring Program	PA 06_0311 Schedule 3, Condition 11	Captured in the Water Management Plan dated January 2013.
Groundwater Monitoring Program	PA 06_0311 Schedule 3, Condition 12	Captured in the Water Management Plan dated January 2013.
Land Management Plan	PA 06_0311 Schedule 3, Condition 14	The management plan on the CVC website is dated 15 January 2016.
Rehabilitation Plan	PA 06_0311 Schedule 3, Condition 15	The management plan on the CVC website is dated 13 March 2015.
Air Quality Management Plan	PA 06_0311 Schedule 3, Condition 17	The management plan on the CVC website is dated 21 December 2012.
Non-Indigenous Cultural Heritage Management Plan	PA 06_0311 Schedule 3, Condition 18	The management plan on the CVC website is dated February 2013.
Aboriginal Cultural Heritage Management Plan	PA 06_0311 Schedule 3, Condition 18	The management plan on the CVC website is dated 13 November 2012.
Greenhouse Gas and Energy Efficiency Plan	PA 06_0311 Schedule 3, Condition 22	The management plan on the CVC website is dated September 2008.
Energy Savings Actions Plan		The management plan on the CVC website is dated September 2008.
Environmental Management Strategy	PA 06_0311 Schedule 5, Condition 1	The management plan on the CVC website is dated 26 June 2013.
Environmental Monitoring Program	PA 06_0311 Schedule 5, Condition 2	The management plan on the CVC website is dated 8 November 11.
Pollution Incident Response Management Plan	EPL 191	The management plan on the CVC website is dated 21 September 2018.

Management Plan	Requirement	Comment
Pollution Reduction Program	EPL 191	The report on the CVC website is dated 19 September 2012.
Particulate Matter Control Best Practice Assessment	EPL 191	The report on the CVC website is dated 19 September 2012.

4.5 Mining Leases

As part of this Audit, SLR assessed the two consolidated coal leases which is applicable to the Project Approval Area including CCL 719 and 721. This lease includes conditions relating to mining, rehabilitation, MOPs and group security deposits.

4.6 Water Licences

Mannering Colliery has one current Groundwater Extraction Licence – Bore Licence 20BL172016. This licence is a production bore and has an annual limit of 985ML. There was also a licence for Bore Licence 20BL111869 which operated during the 2015 and 2016 Annual Review periods and had an entitlement limit of 402ML.

The Water Licence for Bore Licence 20BL171958 has a condition stating:

The volume of groundwater extracted from the works authorized by this licence shall not exceed 985 megalitres in any 12 month period commencing 1st July.

Based on the information in the 2016, 2017 and 2018 Annual Reviews the site was well below the extraction licence limits during the Audit period.

4.7 Complaints

Complaints were recorded within the 2016, 2017 and 2018 Annual Reviews, with 2019 complaints provided by Site. Complaints have increased over the Audit period, including:

- Zero complaints received in the 2016 calendar year;
- One complaint received in 2017 relating to coal over the stockpile drain;
- 12 complaints received in 2018 relating to noise; and
- 16 complaints received from 1 January 2019 till the end of the audit period, relating to noise.

It is expected that the number of complaints will remain low whilst the site is not operational and only undertaking rehabilitation activities.

4.8 Incidents and Non-Compliances

There were three incidents and non-compliances during the Audit period based on the information provided to SLR. These are summarised below.

4.8.1 2016 Noise Exceedance

The 2016 Annual review states:

"*There was one exceedance of the noise monitoring criteria at Mannering Colliery during 2016. On 12 August 2016, LakeCoal was advised by its independent noise monitoring consultant (Global Acoustics) that they had recorded a 3dB exceedance of the site's $L_{Aeq\ (15\ Minute)}$ noise criteria at receiver RA2 (Macquarie Shores Retirement Village) during the evening monitoring on 11 August 2016. During the monitoring Global Acoustics could not attribute the noise emissions to a particular source on the site and described the noise as a general continuum in their notification."*

Section 7 of the 2016 discusses the actions taken following the exceedance:

"In accordance with the sites Noise Monitoring Program the following actions were also undertaken by LakeCoal as a result of noise exceedance:

- *Follow up noise monitoring was undertaken at RA2 approximately 4 hours later at 10:23pm. The results from the night time monitoring undertaken at RA2 indicated that there was no sustained exceedance of the noise levels from the operation and that the results were within the noise criteria limits as specified within PA 06_0311.*
- *A review of the sites operational management system and consultation with operational personnel at Mannering Colliery was undertaken on the 12th and 15th of August 2016 to assist with determining the potential noise sources occurring at the time. The review concluded that the following activities were occurring around the time the exceedance was recorded:*
  - *coal transfer (conveyors), crushing and transport to Vales Point Power Station (VPPS) via the Mannering coal clearance system.*
  - *general pit top activities*

Following the investigation by LakeCoal in consultation with Global Acoustics, LakeCoal was unable to definitively identify a specific noise source that had contributed to the elevated result at RA2 during the evening period on 11 August 2016."

No further actions required with regard to the non-compliance.

4.8.2 2017 Coal Stockpile Incident

As reported in **Section 4.7**, excess coal was stockpiled to accommodate for an issue with the coal conveyor. As a result, coal was pushed over the pollution control drain contaminating the waterway. Section 4.1 of the Annual Review discussed the issue.

The EPA attended site on the 13th November in response the complaint. At the time of the inspection it was observed that there was no coal over the stockpile drains and that they were free of obstructions.

Following discussions with the EPA LakeCoal agreed to report the community contact to the EPA hotline as a consolidated complaint on the EPL191 Annual Return and provide a report on the complaint. It was acknowledged that the complaint was most likely driven by industrial action being undertake on site at the time and was unlikely to have been from the local community. No further action was required as the coal was removed following the identification of the incident.

The incident report prepared by Mannering Colliery states that the following actions were implemented to prevent reoccurrence of the incident:

- Train relevant employees and management in the Stockpile Management Plan responsibilities and environmental controls;
- Investigate options to install or redesign existing eastern drain to gain additional stockpile capacity; and
- Improve operational control on the stockpile to ensure the incident does not happen again in the future.

4.8.3 2018 Noise Exceedance

Exceedance of night noise criteria (LAeq 15 Min) at RA2 on 29 August 2018.

The 2018 Annual Reviews states *'on 29 August 2018, there was an exceedance recorded at 1dB exceedance of the site's LAeq15 Minute noise criteria at receiver RA2 (Macquarie Shores Retirement Village) during the scheduled night monitoring.*

During the night time monitoring the Global Acoustics technician noted that the Mannering Colliery rotary breaker continuum was clearly audible and the most dominant site specific noise source evident during the monitoring period.

Following the notification of the exceedance LakeCoal notified the NSW Department of Planning Environment (Compliance Division) and the Environmental Protection Authority of the exceedance via email on 29 August 2018. The following actions were also undertaken by LakeCoal as a result of noise exceedance:

The review concluded that the following activities were occurring around the time the exceedance was recorded:

- *full coal production and processing (conveyors, rotary breaker and screening plant operations) through the Mannering coal handling and processing infrastructure*
- *general pit top activities*

Follow up attended noise monitoring was undertaken at receiver RA2 on 30 August 2018. The results from the night time monitoring undertaken at RA2 confirmed elevated noise levels attributable to the site with a site specific LAeq15 min value of 42dB recorded.

In consultation with an acoustic specialist LakeCoal undertook an inspection/audit of Mannering's coal clearance infrastructure on the 29th and 30th August 2018 and noise mitigation works have been undertaken and will be reported in Q2 2019.

5 Environmental Management – Specialist Assessments

5.1 Noise

5.1.1 SLR Findings – Noise

Noise management has become an increasingly significant management aspect at Mannering with noise complaints increasing throughout the IEA period. There were also some issues with noise non – compliances during the audit period. This increase in noise complaints was associated with the handling of coal from the Chain Valley Coal operations.

According to 2016 Annual Review, on 12 August 2016 LakeCoal was advised by its independent noise monitoring consultant (Global Acoustics) that they had recorded a 3dB exceedance of the site's LAeq15 Minute noise criteria at receiver RA2 (Macquarie Shores Retirement Village) during the evening monitoring on 11 August 2016 for Mannering Colliery.

According to 2016 Annual Review, on 29 August 2018, there was an exceedance recorded at 1dB exceedance of the site's LAeq15 Minute noise criteria at receiver RA2 (Macquarie Shores Retirement Village) during the scheduled night monitoring.

According to the Noise Mitigation Study that was prepared by EMM Consulting, dated March 2019:

- Noise mitigation works implemented by the previous operators in 2018 have decreased site noise emission levels at all neighbouring noise-sensitive receivers.
- Current and proposed MC noise emissions are predicted to comply with the relevant long-term noise criteria outlined in MP 06_0311 at all assessment locations under worst case meteorological conditions.
- -LAmax noise level events at the site are also predicted to remain below the relevant sleep disturbance criteria.

Noise complaints increased during the audit period, with 0 noise complaints in 2016 and 2017, but 10 complaints in 2018, and 10 complaints from January 2019 to March 2019.

SLR has provided some recommendations in **Section 6** regarding noise monitoring and management.

5.2 Subsidence

Subsidence management and performance was reviewing as part of this audit. The 2018 Annual Review provides an update on mining and subsidence during the Audit period.

In December 2015, a business decision was made by LakeCoal to progress the "underground link road project" between Mannering Colliery and Chain Valley Colliery. During the reporting period Mannering Colliery continued underground mining operations as part of the underground link road project approved under PA 06_0311 Mod 2. In February 2017 difficult mining conditions were encountered underground during the link road drivage and an operational decision was made to cease underground mining from the Mannering Colliery of the link road. As a result the remainder of the link road drivage was undertaken from Chain Valley Colliery. Mannering Colliery did not produce any coal from its underground mining operations and handled a total of 394,213 tonnes of coal. All coal produced was transported to the adjacent Vales Point Power Station by overland conveyor.

As a result of the commencement of mining operations associated with the Link Road Project (LRP) LakeCoal implemented a subsidence monitoring program during the reporting period. Monitoring points were installed around the Vales Point Power Station (VPPS) switchyard in early 2016 prior to the commencement of the Link Road Project.

The Annual Review stated that No discernible subsidence impact from the LRP workings was observed during the IEA period. There was no evidence provided to SLR of subsidence impacts from Mannering during the IEA period. SLR noted that there is little detail on subsidence reporting in Annual Reviews and a recommendation has been made in **Section 7** in relation to improving subsidence reporting.

6 Audit Findings – Summary of Non-Compliances

Table 6 outlines the summary of non-compliances relating to the statutory conditions of Mannering Colliery and the proposed recommendation.

Table 6 Summary of Non-Compliances

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations
PA 06_0311 (as modified)				
Schedule 2 Condition 8	"The Proponent must regularly review the strategies, plans and programs required under this approval and ensure that these documents are updated to incorporate measures to improve the environmental performance of the development and reflect current best practice in the mining industry. To facilitate these updates, the Proponent may at any time submit revised strategies, plans or programs for the approval of the Secretary. With the agreement of the Secretary, the Proponent may also submit any strategy, plan or program required by this approval on a staged basis. With the agreement of the Secretary, the Proponent may prepare a revision or stage of any strategy, plan or program required under this approval without undertaking consultation with all parties nominated under the applicable condition in this approval. Notes: • While any strategy, plan or program may be submitted on a staged basis, the Proponent must ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times. • If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.	Administrative Non-Compliance	The Proponent has not regularly reviewed the strategies, plans and programs required under this approval (i.e. Environmental Monitoring Program labelled Centennial Coal and dated November 2011, Energy Savings Action Plan labelled Centennial Mannering and dated 2011). Management Plans are out of date.	REC 1: Develop and implement a plan to update Mannering's Strategies, Plans and Programs.

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations
Schedule 2 Condition 11	"The Proponent must ensure that all plant and equipment used on site is: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner.	Non-Compliant (Low Risk)	(a) Downer maintenance records for radiation equipment dated 31 March 2017. * Electrical inspection records for ash analysers from 2016 to 2017. * Maintenance records: ""Mannering Front End Loaders work order history as at 2.5.19"" (b) During site inspection plant and equipment appeared to be operated in a proper and efficient manner. * Non-compliant: Complaint register dated 2018 indicated a number of complaints related to noise from the loader at the prep plant.	REC 2: Ensure that all plant and equipment used on site is operated in a proper and efficient manner.
Schedule 2 Condition 12	The Proponent must pay the affected councils $0.02 for each tonne of ROM coal produced by the project for the purpose of improving water quality in the Lake Macquarie catchment. This payment must be: (a) shared equally by the affected councils; (b) made by the end of March 2009, and at yearly intervals thereafter; (c) calculated on the ROM coal produced in the previous calendar year; and (d) subject to indexation by the Implicit Price Deflator, as published by the Australian Bureau of Statistics.	Administrative Non-Compliance	* Email from Council dated 2 April 2019 confirming VPA Payment for the 2018 period. * Admin Non-compliant: Receipt From Central Coast Council for VPA payment, dated 5 October 2016. Payment of Voluntary Planning Agreement (VPA) not made by the end of March 2016.	REC 3: Ensure VPA payments are made prior to the due date.

<table>
<tr><th>Schedule and Condition Number</th><th>Condition</th><th>Compliance Status</th><th>Evidence</th><th>Recommendations</th></tr>
<tr>
<td>Schedule 3 Condition 1</td>
<td>1. The Proponent must ensure that the noise generated by the project does not exceed the noise impact assessment criteria in Table 1 at any residence on privately owned land.

Table 1: Noise limits dB(A)
<table>
<tr><th>Day $L_{Aeq(15\ min)}$</th><th>Evening $L_{Aeq(15\ min)}$</th><th colspan="2">Night</th><th>Location (as listed in Appendix 4)</th></tr>
<tr><td></td><td></td><td>$L_{Aeq(15\ min)}$</td><td>$L_{A1(1\ min)}$</td><td></td></tr>
<tr><td>49</td><td>49</td><td>35</td><td>49</td><td>4 – di Rocco</td></tr>
<tr><td>47</td><td>47</td><td>35</td><td>49</td><td>5 – Keighran</td></tr>
<tr><td>44</td><td>44</td><td>35</td><td>49</td><td>6 – Swan</td></tr>
<tr><td>43</td><td>43</td><td>43</td><td>50</td><td>7 – Druitt</td></tr>
<tr><td>46</td><td>46</td><td>46</td><td>50</td><td>8 – May</td></tr>
<tr><td>45</td><td>45</td><td>45</td><td>52</td><td>9 – Jeans</td></tr>
<tr><td>40</td><td>40</td><td>40</td><td>52</td><td>11 – Jeans</td></tr>
<tr><td>43</td><td>43</td><td>43</td><td>52</td><td>18 – Jeans</td></tr>
<tr><td>44</td><td>44</td><td>44</td><td>52</td><td>20 – Knight and all other Chain Valley Bay residences</td></tr>
</table>

Note: The location of the land referred to in Table 1 is shown on the figure in Appendix 4.</td>
<td>Non-Compliant (Low Risk)</td>
<td>Non-compliant: According to 2016 Annual Review, on 12 August 2016 LakeCoal was advised by its independent noise monitoring consultant (Global Acoustics) that they had recorded a 3dB exceedance of the site's LAeq15 Minute noise criteria at receiver RA2 (Macquarie Shores Retirement Village) during the evening monitoring on 11 August 2016 for Mannering Colliery.
* According to 2016 Annual Review, on 29 August 2018, there was an exceedance recorded at 1dB exceedance of the site's LAeq15 Minute noise criteria at receiver RA2 (Macquarie Shores Retirement Village) during the scheduled night monitoring.
* According to the Noise Mitigation Study dated March 2019:
-Noise mitigation works implemented by the previous operators in 2018 have decreased site noise emission levels at all neighbouring noise-sensitive receivers.
-Current and proposed MC noise emissions are predicted to comply with the relevant long-term noise criteria outlined in MP 06_0311 at all assessment locations under worst case meteorological conditions.
-LAmax noise level events at the site are also predicted to remain below the relevant sleep disturbance criteria.

* Noise complaints increased during the audit period, with 0 noise complaints in 2016 and 2017, but 10 complaints in 2018, and 10 complaints from January 2019 to March 2019.</td>
<td>REC 4: Continue to undertake noise monitoring.
REC 5: Undertake follow-up actions if noise exceedances occur.
REC 6: Continue to manage noise complaints.
REC 7: Provide DPE with EMM Noise Mitigation Study dated March 2019.</td>
</tr>
</table>

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations
Schedule 3 Condition 3	The Proponent must prepare a Noise Monitoring Program for the project to the satisfaction of the Secretary. This program must: (a) be submitted to the Secretary by the end of September 2008; (a1) be revised in consultation with the EPA and be submitted to the Secretary by the end of April 2016; and (b) include the use of continuous and attended noise monitoring measures to monitor the performance of the project. The Proponent must implement the approved Noise Monitoring Program as approved from time to time by the Secretary.	Non-Compliant (Low Risk)	Preparation: * Updated (April 2016) NMP approved by DPE on 20 October 2008 according to LakeCoal email dated 4 March 2016 (a) NMP Section 1.2 * Updated (April 2016) Noise Monitoring Program (NMP) submitted to DPE on 29 April 2016 (b) NMP Section 5.1 & 5.2 Implementation: * Noise monitoring results included in the 2016, 2017 and 2018 Annual Reviews * Non-compliant: Only attended noise monitoring has been undertaken, according to the 2016, 2017 and 2018 Annual Reviews.	REC 8: Continuous noise monitoring should be undertaken in accordance with Mannering Colliery's Noise Management Plan.

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations
Schedule 3 Condition 8	The Proponent must prepare a Water Management Plan for the project to the satisfaction of the Secretary. This plan must: (a) be prepared in consultation with DPI Water by suitably qualified expert/s whose appointment/s have been approved by the Secretary; (b) be submitted the Secretary by the end of March 2009; and (c) include a: • Site Water Balance; • Erosion and Sediment Control Plan; • Surface Water Monitoring Plan; and • Groundwater Monitoring Program. The Proponent must implement the approved management plan as approved from time to time by the Secretary.	Administrative Non-Compliance	Preparation: (a) Prepared in consultation with DPI Water - Section 4.1. * Document prepared by suitably qualified expert - Section 4.1. (b) Water Management Plan (WMP) approved by DPE on 9 March 2010. (c) Site Water Balance - Section 6.5. • Erosion and Sediment Control Plan - Section 7.0. • Surface Water Monitoring Plan - Section 8.1. • Groundwater Monitoring Program - Section 9.1. Observation: The Water Management Plan has not been updated since January 2013. Observation: Figure 1 does not clearly show clean and dirty water management at the site. Implementation: * During site inspection clean and water management system appeared to be effective in keeping clean water and dirty water separate. * Groundwater and surface water monitoring program undertaken during the audit period per Annual Reviews. * Section 11 of the Management Plan commits to reviewing the plan every three years. This has not been completed, therefore Admin Non - Compliance.	REC 9: The WMP needs to be updated. REC 10: Replace Figure 1 in the WMP with clear figures showing clean and dirty water management (i.e. replace with Figures 2.10 & Figure 2.11 from the 2018 Annual Review).

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations
Schedule 3 Condition 9	The Site Water Balance must: (a) include details of: • sources and security of water supply; • water use on site; • water management on site; and (b) investigate, assess and report on measures to minimise water use by the project, particularly potable water from the Wyong Shire town water supply.	Administrative Non-Compliance	Preparation: a) Sources of water supply - WMP Section 6.5. • Water use on site - WMP Section 6.1. • Water management on site - WMP Section 6.0. Admin Non-compliant: The water balance is outdated and does not reflect the current status of the site. Section 6.5 of the WMP references a Water Balance Assessment from December 2011. (b) Investigate, assess and report on measures to minimise water use by the project, particularly potable water from the Wyong Shire town water supply - Section 6.1 Implementation: * Water management system sited during site inspection.	REC 11: The Water Balance in the WMP needs to be reviewed as it's out of date.

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations
Schedule 3 Condition 11	The Surface Water Monitoring Plan must include: (a) detailed baseline data on surface water flows and quality in creeks and other waterbodies that could be affected by the project; (b) surface water impact assessment criteria; (c) a program to monitor the impact of the project on surface water flows and quality; and (d) procedures for reporting the results of this monitoring.	Non-Compliant (Low Risk)	Preparation: (a) WMP Section 8.2. (b) WMP Section 8.1.1. (c) WMP Section 8.2. (d) WMP Section 8.3. Implementation: * Surface water monitoring program undertaken during the audit period per the 2016, 2017 and 2018 Annual Reviews. * LDP 001 sited during the field inspection. Non-compliant: Visual assessment of the unnamed creek (described in Section 8.2.1 of the WMP) is not undertaken every 6 months to monitor stability and erosion.	REC 12: Undertake visual assessment of the unnamed creek every 6 months, to monitor stability and erosion. A TARP should be developed in the next review of the WMP which outlines quantitative and qualitative triggers for the creek and erosion. REC 13: Include results of the visual assessment of the unnamed creek in Annual Reviews. Include a reference again previous results. REC 14: Ensure monitoring undertaken at the "Downstream" monitoring location is undertaken every 12 months. REC 15: Include analysis results from monitoring undertaken at the "Downstream" monitoring location in Annual Reviews.

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations
Schedule 3 Condition 17	The Proponent must prepare an Air Quality Monitoring Program for the project to the satisfaction of the Secretary. This program must: (a) be submitted to the Secretary by the end of September 2008; and (b) use dust deposition gauges to monitor the performance of the project. The Proponent must implement the approved monitoring program as approved from time to time by the Secretary.	Administrative Non-Compliance	Preparation: * Air Quality Monitoring Program included as Section 3 of the AQMP, dated December 2012. This is too long between reviews. It was not updated following the 2013 or 2016 audits. Admin Non - Compliance. * AQMP approved by DPE on 20 October 2008, according to LakeCoal email dated 4 March 2016. * List of dust deposition gauges included in Section 3 of the AQMP. Implementation: * Monitoring results from deposition gauges reported in the 2016, 2017 and 2018 Annual Reviews.	*Nil recommendation*

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations
Schedule 3 Condition 18	The Proponent must prepare a Heritage Management Plan for the project to the satisfaction of the Secretary. This Plan must: (a) be prepared in consultation with any relevant Aboriginal stakeholders; (b) be submitted, prior to 31 March 2013, for approval to the Secretary; (c) include consideration of the Aboriginal and non-Aboriginal cultural context and significance of the site; (d) detail the responsibilities of all stakeholders; and (e) include programs/procedures and management measures for: • dealing with previously unidentified Aboriginal objects (excluding human remains), including any need to halt works in the vicinity, assessment of significance, determination of appropriate mitigation measures (by a qualified archaeologist in consultation with Aboriginal stakeholders), re-commencement of works, notifying OEH, and registering the new site(s) in the OEH AHIMS register; • dealing with any human remains which may be discovered, including halting of works in the vicinity; notifying NSW Police, OEH, the Department and Aboriginal stakeholders; and not re-commencing any works in the vicinity unless authorised; • heritage induction for construction personnel (including procedures for keeping records of inductions); • ongoing Aboriginal consultation and involvement (including procedures for keeping records of this); • appropriate identification, management, conservation and protection of both Aboriginal and non-Aboriginal heritage items identified on the site; and • dealing with previously unidentified non-Aboriginal heritage items which may be discovered during the project. The Proponent must implement the approved management plan as approved from time to time by the Secretary.	Administrative Non-Compliance	Preparation: * Approval letter from DPE dated 26/11/2012 for Aboriginal Cultural Heritage Management Plan (ACHMP) (dated November 2012). It was not updated following the 2013 or 2016 audits. Admin Non - Compliance. * Approval letter from DPE dated 10 September 2013 for Non-Indigenous Heritage Management Plan (dated February 2013). (a) ACHMP - Section 6.0. (b) N/A - Outside of the audit period. (c) ACHMP - Attachment 3. Non-Indigenous Heritage Management Plan - Section 4. (d) ACHMP - Section 16. Non-Indigenous Heritage Management Plan - Section 3. (e) ACHMP - Section 6, 7, 13 and 17.2. Non-Indigenous Heritage Management Plan - Section 3, 6.1 & 6.2. * Observation: ACHMP was last updated November 2012 and is labelled Centennial and contains areas which are not relevant to the Mannering site. * Observation: Non-Indigenous Heritage Management Plan was last updated February 2013 is labelled Centennial. Implementation: * ACHMP & Non-Indigenous Heritage Management Plan appear to have been implemented during the audit period, with no complaints or incidents related to heritage recorded in the 2016, 2017 and 2018 Annual Reviews and Complaints Log.	REC 16: Update the ACHMP to make it reflective of the Mannering site only. REC 17: Update the Non-Indigenous Heritage Management Plan

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations
Schedule 3 Condition 22	The Proponent must prepare a Greenhouse and Energy Efficiency Plan for the project to the satisfaction of the Secretary. This plan must: (a) be prepared in consultation with EPA and generally in accordance with the Guidelines for Energy Savings Action Plans (DEUS 2005, or its latest version); (b) be submitted to the Secretary for approval by the end of September 2008; (c) include a program to monitor greenhouse gas emissions and energy use generated by the project; (d) include a framework for investigating and implementing measures to reduce greenhouse gas emissions and energy use at the site; and (e) describe how the performance of these measures would be monitored over time. The Proponent must implement the approved management plan as approved from time to time by the Secretary.	Administrative Non-Compliance	Preparation: (a) N/A - Prepared outside of audit period (b) Energy Savings Action Plan (ESAP) was approved by DPE on 20 October 2008 according to LakeCoal email dated 4 March 2016 (c) ESAP - Page 17, 22 (d) ESAP - Page 4 (e) ESAP - Page 4 Admin Non-Compliant: The methodology to monitor greenhouse gas emissions generated by the project is not clearly stated in the ESAP. * The ESAP has not been reviewed since 2008 and is labelled Centennial Mannering Implementation: *According to site communications, energy savings due to minor operations completed during the audit period *Greenhouse gas emissions reported in 2016, 2017 and 2018 Annual Reviews.	REC 18: Assess the relevance of the Energy Savings Action Plan (ESAP) and whether it requires updating or incorporation into the sites Air Quality Management Plan (AQMP).

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations
Schedule 5 Condition 1	The Proponent must revise an Environmental Management Strategy for the project. This strategy must: (a) be submitted for approval to the Secretary prior to 30 June 2013; (b) provide the strategic framework for the environmental management of the project; (c) identify the statutory approvals that apply to the project; (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project; (e) describe the procedures that would be implemented to: • keep the local community and relevant agencies informed about the operation and environmental performance of the project; • receive, handle, respond to, and record complaints; • resolve any disputes that may arise during the course of the project; • respond to any non-compliance; and • respond to emergencies; and (f) include: • copies of any strategies, plans and programs approved under the conditions of this approval; and • a clear plan depicting all the monitoring required to be carried out under the conditions of this approval. The Proponent must implement the approved management strategy as approved from time to time by the Secretary.	Administrative Non-Compliance	Preparation: * Approval letter from DPE dated 10 September 2013 for the Environmental Management Strategy (EMS). It was not updated following the 2013 or 2016 audits. Admin Non - Compliance. (a) EMS submission letter dated 26 June 2013 (b) EMS - Section 1.0 (c) EMS - Section 4.0 (d) EMS - Section 5.0 (e) EMS - Section 8.1, 8.2, 8.3, 8.6 and 8.7 (f) EMS - Section 9.0, 12.0 and copies of management plans maintained on the Mannering Colliery website Admin Non-compliant: Table 9 and 10 list the incorrect monitoring frequency for conductivity, TSS, pH and Oil & Grease Observation: The EMS was last reviewed in September 2013 and is labelled Centennial Mannering Implementation: * Results from environmental monitoring (dust, noise, surface water and groundwater) reported in 2016, 2017 and 2018 Annual Reviews. * Management plans reviewed and assessed as part of this audit. * Complaints/Incidents Register for Mannering maintained. * 2 April 2019 non-compliance (TSS exceedance) reported to EPA.	REC 19: Review the Environmental Management Strategy (EMS). REC 20: Include in the reviewed EMS the incorrect monitoring frequency for conductivity, TSS, pH and Oil & Grease

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations
Schedule 5 Condition 2	The Proponent must ensure that the management plans required under this approval are prepared in accordance with any relevant guidelines, and include: (a) detailed baseline data; (b) a description of: • the relevant statutory requirements (including any relevant approval, licence or lease conditions); • any relevant limits or performance measures/criteria; • the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the project or any management measures; (c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria; (d) a program to monitor and report on the: • impacts and environmental performance of the project; • effectiveness of any management measures (see (c) above); (e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible; (f) a protocol for managing and reporting any: • incidents; • complaints; • non-compliances with statutory requirements; and • exceedances of the impact assessment criteria and/or performance criteria; and (g) a protocol for periodic review of the plan. Note: The Secretary may waive some of these requirements if they are unnecessary for particular management plans.	Administrative Non-Compliance	(a) WMP: Section 8.2, LMP: Section 6.1, ACHMP: Attachment 3, Non-Indigenous CHMP: Section 4.0 & 5.0 (b) WMP: Section 4.0 & 8.0, LMP: Section 2, ACHMP: Attachment 3, Non-Indigenous CHMP: Section 1.2 (c) WMP: Section 8.0 & 9.0, LMP: Section 4.4 & 6.2, ACHMP: Attachment 3, Non-Indigenous CHMP: Section 6.0 (d) WMP: Section 8.0, 9.3 & 9.4, Non-Indigenous CHMP: Section 7.1 Admin Non-compliant: The LMP & ACHMP does not include reporting mechanisms (i.e. Annual Review) (e) LMP: Section 9.1, ACHMP: Section 13.0, Non-Indigenous CHMP: Section 6.2 Admin Non-compliant: The WMP does not include a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible (f) LMP: Section 9.1 & 7.1, ACHMP: Section 13.0 & 18.0, Non-Indigenous CHMP: Section Admin Non-compliant: The WMP does not include a protocol for managing and reporting any incidents, complaints, non-compliances with statutory requirements and exceedances of the impact assessment criteria and/or performance criteria. Admin Non-compliant: The ACHMP does not include a complaints handling procedure (g) a protocol for periodic review of the plan. WMP: Section 11 Admin Non-compliant: The ACHMP does not include a protocol for periodic review of the plan. Observation: The management plans condition has not been included in regulatory requirements section of the WMP, LMP, ACHMP and Non-Indigenous CHMP.	REC 21: All management plans require updating due to the length of time since the previous reviews. REC 22: Ensure there is a cross referencing table covering this condition in management plans. REC 23: Additional detail including Trigger, Action, Response Tables (contingency plan) should be developed in the next round of management plan updates. REC 24: Include in the LMP and ACHMP reporting mechanisms (i.e. Annual Review). REC 25: Include in the WMP a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible. REC 26: Include in the WMP a protocol for managing and reporting any incidents, complaints, non-compliances with statutory requirements; and exceedances of the impact assessment criteria and/or performance criteria. REC 27: Include a complaints handling procedure in the include ACHMP. REC 28: Include a protocol for periodic review of the ACHMP. REC 29: Ensure all management plans required under PA 06_0311 detail and consider the management condition.

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations
Schedule 5 Condition 3	By the end of March each year, or other timing as may be agreed by the Secretary, the Proponent must submit a report to the Department reviewing the environmental performance of the project to the satisfaction of the Secretary. This review must: (a) describe the development (including any rehabilitation) that was carried out in the past calendar year, and the development that is proposed to be carried out over the current financial year; (b) include a comprehensive review of the monitoring results and complaints records of the project over the past calendar year, which includes a comparison of these results against the: • the relevant statutory requirements, limits or performance measures/criteria; • requirements of any plan or program required under this approval; • the monitoring results of previous years; and • the relevant predictions in the documents listed in condition 2 of Schedule 2; (c) identify any non-compliance over the past year, and describe what actions were (or are being) taken to ensure compliance; (d) identify any trends in the monitoring data over the life of the project; (e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and (f) describe what measures will be implemented over the current financial year to improve the environmental performance of the project.	Administrative Non-Compliance	Preparation: * Approval letter from DPE for 2016 Annual Review, dated 6 July 2017. * Approval letter from DPE for 2017 Annual Review, dated 20 March 2018. Admin Non-compliant: 2016 Annual Review not submitted by March 31 2017. Submission email from LakeCoal to DPE dated 30 April 2017. * Letter from LakeCoal to DPE dated 29 March 2019 stating Annual Review uploaded on the Mannering Colliery website. * Email from LakeCoal to DPE dated 30 March stating Annual Review uploaded on the Mannering Colliery website. (a) Section 2, 5 & 8 - 2016, 2017, 2018 Annual Reviews (b) Section 3 & 4 - 2016, 2017, 2018 Annual Reviews Admin Non-compliant: The Annual Reviews do not provide: * Clearly state the performance criteria for noise and water quality; * Requirements of plans/programs required under this approval for noise and water quality; * The monitoring results of previous years, for noise and water; and * The relevant predictions in environmental assessments for air quality, noise and water. (c) Executive summary, Section 3 & 7 - 2016, 2017, 2018 Annual Reviews (d) Non-compliant: Trends in the monitoring data (for air quality, noise and water) over the life of the project are not included in the 2016, 2017 and 2018 Annual Reviews. (e) Non-compliant: Discrepancies between the predicted impacts in the EAs (for air quality, noise and water) and actual impacts of the project are not included in the 2016, 2017 and 2018 Annual Reviews. (f) Section 2, 3 & 6 - 2016, 2017 and 2018 Annual Reviews. Admin Non-compliant: The Annual Reviews have not been prepared to cover the current Annual Review Guidelines. See: https://www.planning.nsw.gov.au/Policy-and-Legislation/Mining-and-Resources/~/media/3AA21D35168042FE813DD0FB92E00E58.ashx	REC 29: Ensure Annual Reviews are submitted to DPE by 31 March. REC 30: Future Annual Reviews should clearly state noise and water quality performance criteria, and provide monitoring results against these. REC 31: Include in future Annual Reviews: - Requirements of plans/programs required under PA 06_0311 for noise and water quality; - The monitoring results of previous years, for noise and water; - The relevant predictions in environmental assessments for air quality, noise and water; - Trends in the monitoring data for air quality, noise and water, over the life of the project; and - Discrepancies between the predicted impacts in the EAs for air quality, noise and water, and actual impacts of the project. REC 32: The Annual Reviews are set out differently to the DPE Annual Review Guidelines (2015). Ensure table of contents matches the guidelines. REC 33: IEA Actions Plans should be included in every Annual Review going forward.

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations
Schedule 5 Condition 4	Within 3 months of: (a) the submission of an annual review under Condition 3 above; (b) the submission of an incident report under Condition 6 below; (c) the submission of an audit under Condition 8 below; or (d) any modification to the conditions of this approval (unless the conditions require otherwise), the Proponent must review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Secretary. Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the project.	Administrative Non-Compliance	Admin Non-compliant: Management plans have not been updated: (a) Within 3 months of the submission of the 2016 and 2017 Annual Reviews; (b) Since the submission of an incident (incidents described in the 2016 and 2017 Annual Reviews); (c) Since the submission of the 2016 IEA by Hansen Bailey; and (d) Since the modification to PA 06_0311 (Mod 4), from August 2016. These management plans include the WMP dated January 2013, LMP dated April 2016, ACHMP dated November 2012 and Non-Indigenous CHMP dated February 2013.	REC 1 REC 34: Include statement in future Annual Reviews stating that Management Plans have been reviewed and state which management plans will or will not be updated within 3 months.
Schedule 5 Condition 6	The Proponent must notify, at the earliest opportunity, the Secretary and any other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment. For any other incidents associated with the project, the Proponent must notify the Secretary and any other relevant agencies as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of the incident, the Proponent must provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.	Administrative Non-Compliance	Admin Non-compliant: Noise exceedance on 11 August 2016 reported to DPE on 12 August 2016, according to 2016 Annual Review. Detailed incident report could not be provided by LakeCoal, therefore not able to determine when or if an incident report was submitted. * Noise exceedance on 29 August 2018 reported to DPE on same day (email to DPE Compliance Mailbox from LakeCoal dated 29 August 2018). Detailed LakeCoal incident report provided to DPE on 7 September 2018. Compliant as LakeCoal was granted an extension to provide the detailed report, via email from EPA dated 5 September 2016. * Email from LakeCoal to DPE, dated 11 April 2019, reporting TSS exceedance at Point 1 on 2 April 2019. Detailed LakeCoal incident report attached to email. Observation: Complaints/incidents register indicates no incidents during the audit period.	REC 35: Ensure all incidents are reported within the required timeframe. REC 36: Ensure the complaints/incidents register includes all incidents.

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations
Schedule 5 Condition 9	Within 12 weeks of commissioning this audit, or as otherwise agreed by the Secretary, the Proponent must submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.	Administrative Non-Compliance	* Correspondence indicating when the Hansen Bailey IEA report was submitted to DPE could not be provided by LakeCoal. Correspondence indicating requesting/granting extension could not be provided. * According to DPE letter dated 28 January 2016 IEA audit was due to be completed on 30 March 2016. * Hansen Bailey IEA report dated July 2016. * Mannering Coal IEA – Response to Audit Recommendations dated 2 September 2016. * Response to Audit Recommendations to accompany submission of IEA Report. * Admin Non-compliant: Hansen Bailey IEA report not submitted within required timeframe. No submission letter provided to SLR. For the 2019 IEA, SLR were endorsed by the DPE on 28 February 2019. SLR were officially commissioned by LakeCoal -Pty Ltd Administrators Appointed on 5 March 2019, when a purchase order was granted. Therefore 12 weeks from this date is 28 May 2019 for submission.	REC 37: Ensure future IEA reports are submitted within the required timeframe.

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations
Schedule 5 Condition 10	The Proponent must: (a) make copies of the following publicly available on its website: • the documents referred to in condition 2 of Schedule 2; • all relevant statutory approvals for the project; • all approved strategies, plans and programs required under the conditions of this approval; • a comprehensive summary of the monitoring results of the project, reported in accordance with the specifications in any approved plans or programs required under the conditions of this or any other approval; • a complaints register, which is to be updated on a monthly basis; • minutes of CCC meetings; • the annual reviews required under this approval; • any independent environmental audit of the project, and the Proponent's response to the recommendations in any audit; and • any other matter required by the Secretary; and (b) keep this information up-to-date, to the satisfaction of the Secretary.	Administrative Non-Compliance	Admin Non-compliant: The following documents are not included on the project (LakeCoal) website: * The documents referred to in condition 2 of Schedule 2 (EAs for the original project and Mod 1 - Mod 4); * Up-to-date Complaints Register. The Register only includes complaints up to February 2019; * CCC minutes for 2017, 2018 and 2019; * 2016 Audit Action Plan; * Noise monitoring data not included in the Monthly Website Report; and * 2018 - 2020 MOP. New Delta Coal website checked on 13 May 2018 and the following documents are not included on the website: * The documents referred to in condition 2 of Schedule 2 (EAs for the original project and Mod 1 - Mod 4); * Complaints Register (link not working); * Noise monitoring data not included in the Monthly Website Report; and * EMS and Management Plans (only PIRMP up on website).	REC 38: Include the following documentation on the project website: * The documents referred to in condition 2 of Schedule 2 (EAs for the original project and Mod 1 - Mod 4); * Up-to-date Complaints Register. The Register only includes complaints up to February 2019; * CCC minutes for 2017, 2018 and 2019; * 2016 Audit Action Plan; * Noise monitoring data not included in the Monthly Website Report; and * 2018 - 2020 MOP.

<table>
<tr><th>Schedule and Condition Number</th><th>Condition</th><th>Compliance Status</th><th>Evidence</th><th>Recommendations</th></tr>
<tr>
<td>APPENDIX 4B: ALTERNATE NOISE CONDITIONS

1</td>
<td>Table 1: Noise limits dB(A)
<table>
<tr><th rowspan="2">Day
$L_{Aeq(15\ min)}$</th><th rowspan="2">Evening
$L_{Aeq(15\ min)}$</th><th colspan="2">Night</th><th rowspan="2">Location</th></tr>
<tr><th>$L_{Aeq(15\ min)}$</th><th>$L_{A1(1\ min)}$</th></tr>
<tr><td>40</td><td>40</td><td>40</td><td>49</td><td>4 – di Rocco</td></tr>
<tr><td>43</td><td>43</td><td>41</td><td>49</td><td>5 – Keighran</td></tr>
<tr><td>42</td><td>42</td><td>41</td><td>49</td><td>6 – Swan</td></tr>
<tr><td>39</td><td>39</td><td>39</td><td>47</td><td>7 – Druitt</td></tr>
<tr><td>46</td><td>46</td><td>46</td><td>47</td><td>8 – May</td></tr>
<tr><td>41</td><td>41</td><td>41</td><td>51</td><td>9 – Jeans</td></tr>
<tr><td>39</td><td>39</td><td>39</td><td>49</td><td>11 – Jeans</td></tr>
<tr><td>39</td><td>39</td><td>39</td><td>51</td><td>18 – Jeans</td></tr>
<tr><td>40</td><td>40</td><td>40</td><td>51</td><td>20 – Knight and all other Chain Valley Bay residences</td></tr>
</table>
Note: The location of the land referred to in Table 1 is shown on the figure in Appendix 4.</td>
<td>Non-Compliant (Low Risk)</td>
<td>* Recommencement of underground coal extraction at Mannering Colliery until 18 months thereafter is; April 2016 till October 2017.
* Non-compliant: According to 2016 Annual Review, on 12 August 2016 LakeCoal was advised by its independent noise monitoring consultant (Global Acoustics)
that they had recorded a 3dB exceedance of the site's LAeq15 Minute noise criteria at receiver RA2 (Macquarie Shores Retirement Village) during the evening monitoring on 11 August 2016 for Mannering Colliery.

* Noise complaints increased during the audit period, with 0 noise complaints in 2016 and 2017, but 10 complaints in 2018, and 10 complaints from January 2019 to March 2019.</td>
<td>REC 4
REC 5
REC 6
REC 39: Prepare a report to determine what further actions can be undertaken to reduce noise exceedances and noise complaints.</td>
</tr>
<tr>
<td>APPENDIX 4B: ALTERNATE NOISE CONDITIONS
2</td>
<td>Table 2: Noise limits dB(A)
<table>
<tr><th rowspan="2">Day
$L_{Aeq(15\ min)}$</th><th rowspan="2">Evening
$L_{Aeq(15\ min)}$</th><th colspan="2">Night</th><th rowspan="2">Location</th></tr>
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<tr><td>40</td><td>40</td><td>40</td><td>51</td><td>20 – Knight and all other Chain Valley Bay residences</td></tr>
</table>
Note: The location of the land referred to in Table 2 is shown on the figure in Appendix 4.</td>
<td>Non-Compliant (Low Risk)</td>
<td>Non-compliant: According to 2016 Annual Review, on 29 August 2018, there was an exceedance recorded at 1dB exceedance of the site's LAeq15 Minute noise criteria at receiver RA2 (Macquarie Shores Retirement Village) during the scheduled night monitoring.

* Noise complaints increased during the audit period, with 0 noise complaints in 2016 and 2017, but 10 complaints in 2018, and 10 complaints from January 2019 to March 2019.</td>
<td>REC 4
REC 5
REC 6
REC 39</td>
</tr>
</table>

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations
APPENDIX 4B: ALTERNATE NOISE CONDITIONS 3	The Proponent must prepare a report on all noise mitigation measures required to achieve the noise limits in Table 2 to the satisfaction of the Secretary. This report must: (a) be prepared by a suitably qualified and experienced acoustic consultant whose appointment has been approved by the Secretary; (b) be prepared in consultation with EPA, and submitted to the Department for approval within 6 months after recommencement of underground coal extraction; and (c) include an action plan for the implementation of any reasonable and feasible recommendations of the report. The Proponent must implement the noise mitigation measures prior to the expiry of the 18 month period referred to in condition 1 above.	Non-Compliant (Low Risk)	'* The Preliminary Noise Mitigation Options Report for the Mannering Colliery - Continuation of Mining Project dated 31 May 2017, prepared by Atkins Acoustics and Associates Pty Ltd could not be provided to SLR from Lake Coal * DPE approval letter dated 9 June 2017, for the Preliminary Noise Mitigation Options Report. Admin non-compliant: Acoustic consultant was not endorsed by DPE Non-compliant: Noise mitigation measures required to be undertaken by October 2017. According to site communications these mitigation measures were undertaken from 2017 to February 2019.	*Nil recommendation*
APPENDIX 4B: ALTERNATE NOISE CONDITIONS 4	The Proponent must prepare a Noise Compliance Report for the project to the satisfaction of the Secretary. The report must: (a) be prepared by a suitably qualified acoustic consultant, whose appointment has been approved by the Secretary; (b) be prepared in consultation with EPA, and be submitted for approval within 6 months of the expiry of the 18 month period referred to in condition 1 above; and (c) investigate and evaluate the effectiveness of the noise mitigation measures required under condition 3 and compliance with the noise limits in Table 2.	Non-Compliant (Low Risk)	(a) Non-compliant: Letter of endorsement for EMM to undertake the 2019 Noise Mitigation Study could not be found by LakeCoal. (b) Non-compliant: The Noise Mitigation Study was not prepared in consultation with EPA and was not submitted for approval by March 2018. (c) According to the EMM Noise Mitigation Study dated March 2019: -Noise mitigation works implemented by the previous operators in 2018 have decreased site noise emission levels at all neighbouring noise-sensitive receivers. -Current and proposed MC noise emissions are predicted to comply with the relevant long-term noise criteria outlined in MP 06_0311 at all assessment locations under worst case meteorological conditions. -LAmax noise level events at the site are also predicted to remain below the relevant sleep disturbance criteria.	*Nil recommendation*
PA 06_0311 Statement of Commitments (Mod 4)				

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations
Water Management	LakeCoal will undertake a review of the existing site water management system in consultation with the EPA. The water level within the sediment pond system will be monitored and kept at a relatively low operating level, such that the ponds can provide a detention function in a significant rainfall event. A visual assessment of the unnamed creek will be undertaken every 6 months to monitor stability and erosion. Where practicable, underground water levels will be recorded to monitor changes in the level of water stored in underground depressions and to verify that the rate of extraction is sufficient. The extraction of underground water from the mine workings will be undertaken in accordance with the Bore License (20BL172016) issued under the Water Act 1912. To enable on-going assessment of the quality of water discharged, the existing monitoring program will be maintained for the life of the Project with the following enhancements: • An assessment of the surrounding catchments summarising land uses and other background information to characterise an appropriate water quality; and • Annual monitoring of heavy metals at the monitoring location identified as 'Downstream'.	Non-Compliant (Low Risk)	* During site inspection noted that the sediment pond system has freeboard. Non-compliant: Visual assessment of the unnamed creek is not undertaken every 6 months to monitor stability and erosion. This requirement is included in the WMP. *2016, 2017 & 2018 Annual Reviews describe: -Groundwater extraction from bore 20BL172016. -Monitoring of groundwater extraction. -Section 8.2 of the WMP provides background information of the water quality of the unnamed creek. Non-compliant: Annual monitoring (i.e. monitoring every 12 months) of heavy metals not undertaken at the monitoring location identified as "Downstream". -ALS analytical results dated 18 April 2017, 22 November 2018, 12 March 2019, and include analysis results for heavy metals for monitoring location "Downstream". Observation: Monitoring results for the "Downstream" monitoring location is not included in Annual Reviews.	REC 12 REC 13 REC 14 REC 40: Ensure monitoring undertaken at the "Downstream" monitoring location is undertaken every 12 months.

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations
Aboriginal Heritage	Activities will continue to be managed in accordance with the Colliery's Aboriginal Cultural Heritage Management plan (ACHMP). Given the Colliery's current ACHMP is integrated with other Centennial sites, a separate ACHMP will be developed. If monitoring indicates that mine-induced subsidence levels exceed 20 millimetres, a review will be undertaken to identify any potential impacts to cultural heritage in consultation with OEH. All relevant Centennial Mannering staff and contractors will be made aware of their statutory obligations for Aboriginal cultural heritage under the NP&W Act as part of the existing mine induction process. An Aboriginal Cultural Heritage Management Plan (ACHMP) will be developed and implemented for the identified Aboriginal heritage items within the Project Site in consultation with the relevant Aboriginal stakeholders. If additional sites are identified they will be assessed for cultural significance and be incorporated into the ACHMP. In the unlikely event that skeletal remains are identified, the NSW Police Coroner will be contacted to determine if the material is of Aboriginal origin. If determined to be Aboriginal, contact will be made with the OEH, a suitably qualified archaeologist and representatives of the relevant Aboriginal stakeholder groups to determine an action plan for the management of the skeletal remains and formulate management recommendations if required.	Administrative Non-Compliance	Admin non-compliant: A separate ACHMP has not been developed. It still covers other Centennial sites. * Mine-induced subsidence levels do not exceed 20 millimetres * "Lake Coal Surface Generic Surface Induction" and "Environmental Awareness Training" Assessment includes Aboriginal heritage aspects * Aboriginal Cultural Heritage Management Plan (ACHMP) developed for the identified Aboriginal heritage items within the Project Site. * ACHMP prepared in consultation with the relevant Aboriginal stakeholders (refer to Section 2.0).	*Nil recommendation*
European Heritage	If monitoring indicates that mine-induced subsidence levels exceed 20 millimetres, a review will be undertaken to identify any potential impacts to non-indigenous heritage. All relevant Centennial Mannering staff and contractors will be made aware of their statutory obligations for European cultural heritage under the Heritage Act 1977 as part of the existing mine induction process. If, during the course of development works, significant non-indigenous cultural heritage material is uncovered within the Project Site, the Heritage Branch of OEH will be notified and any required monitoring or management strategies instigated.	Administrative Non-Compliance	* Mine-induced subsidence levels do not exceed 20 millimetres * Admin Non-compliant: "Lake Coal Surface Generic Surface Induction" and "Environmental Awareness Training" Assessment does not include European heritage aspects.	REC 41: Include European heritage aspects in the "Lake Coal Surface Generic Surface Induction" and "Environmental Awareness Training" Assessment

<table>
<tr><th>Schedule and Condition Number</th><th>Condition</th><th>Compliance Status</th><th>Evidence</th><th>Recommendations</th></tr>
<tr><td>Monitoring</td><td>The Environmental Monitoring Program will be reviewed and updated, as required, to incorporate the commitments made in the Environmental Assessment and any additional consent conditions.</td><td>Administrative Non-Compliance</td><td>The Environmental Monitoring Program has not been reviewed and updated since November 2011, and does not to incorporate the commitments made in the Environmental Assessments (EAs) for Mod 1, Mod 2, Mod 3 & Mod 4, and any additional consent conditions (for these modifications).</td><td>REC 42: Update the Environmental Monitoring Program to incorporate any commitments made in the Environmental Assessments (EAs) for Mod 1, Mod 2, Mod 3 & Mod 4, and any additional consent conditions (for these modifications).</td></tr>
<tr><td colspan="5">EPL 191</td></tr>
<tr><td>L1.1</td><td>Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.</td><td>Non-Compliant (Low Risk)</td><td>Exceedance of TSS on 2 April 2019. Exceedance constitutes a 'pollution' of waterways based on the POEO Act.</td><td>REC 43: Continue to undertake mitigation measures to comply with section 120 of the Protection of the Environment Operations Act 1997.</td></tr>
<tr><td>L2.4</td><td>POINT 1<table><tr><th>Pollutant</th><th>Units of Measure</th><th>50 percentile concentration limit</th><th>90 percentile concentration limit</th><th>3DGM concentration limit</th><th>100 percentile concentration limit</th></tr><tr><td>Oil and Grease</td><td>milligrams per litre</td><td></td><td></td><td></td><td>10</td></tr><tr><td>pH</td><td>pH</td><td></td><td></td><td></td><td>6.5-8.5</td></tr><tr><td>Total suspended solids</td><td>milligrams per litre</td><td></td><td></td><td></td><td>50</td></tr></table></td><td>Non-Compliant (Low Risk)</td><td>Exceedance of TSS on 2 April 2019. Dam flocculated and re-tested, with TSS reading of 10mg/L.</td><td>REC 44: Continue to undertake water quality monitoring. If a water quality exceedance is detected undertake measures to improve water quality.</td></tr>
</table>

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations
L5	Note: Noise limits are not specified as a condition of this licence. Noise limits are prescribed with the conditions of Project Approval 06_0311 granted under the Environmental Planning and Assessment Act 1979. Under the Environmental Planning and Assessment Act 1979 the Department of Planning is the appropriate authority in respect of the administration and regulation of the Project Approval.	Non-Compliant (Low Risk)	Non-compliant: According to 2016 Annual Review, on 12 August 2016 LakeCoal was advised by its independent noise monitoring consultant (Global Acoustics) that they had recorded a 3dB exceedance of the site's LAeq15 Minute noise criteria at receiver RA2 (Macquarie Shores Retirement Village) during the evening monitoring on 11 August 2016 for Mannering Colliery. * According to 2016 Annual Review, On 29 August 2018, there was an exceedance recorded at 1dB exceedance of the site's LAeq15 Minute noise criteria at receiver RA2 (Macquarie Shores Retirement Village) during the scheduled night monitoring. * According to the Noise Mitigation Study dated March 2019: -Noise mitigation works implemented by the previous operators in 2018 have decreased site noise emission levels at all neighbouring noise-sensitive receivers. -Current and proposed MC noise emissions are predicted to comply with the relevant long-term noise criteria outlined in MP 06_0311 at all assessment locations under worst case meteorological conditions. * LAmax noise level events at the site are also predicted to remain below the relevant sleep disturbance criteria.	REC 4 REC 5
M5.2	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.	Administrative Non-Compliance	*Admin Non-compliant: The Complaints Register does not include the time of the complaint and the personal details of the complainant. * Not all complaints registered included the method by which the complaint was made.	REC 45: Include in the Complaints Register: -Time of the complaint; -Personal details of the complainant; and -Method by which the complaint was made.

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations
M6.2	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.	Administrative Non-Compliance	*Telephone line for complaints advertised on the LakeCoal and Delta Coal websites. * However no evidence of notifying to the community that the complaints line exists.	REC 46: With the new ownership an advertisement should be placed in the paper providing a link to the Delta Coal website and outlining the complaint management details.
M6.4	The licensee must nominate a representative of the company that is available all times and is capable of providing immediate assistance or response during emergencies or any other incidents at the premises. The name of the nominated representative and their contact details, including a telephone number, must be current at all times. Note: This condition does not apply until two (2) weeks after the date of issue of this licence.	Administrative Non-Compliance	* Designated representatives of the company included in the Pollution Incident Response Plan (PIRMP), dated September 2018. * Admin Non-compliant: The designated representatives of the company, included in the PIRMP, are not current.	REC 47: Update the details of designated representatives of the company in the PIRMP.
CCL 721				
5	a) report against compliance with the MOP; b) report on progress in respect of rehabilitation completion criteria; c) report on the extent of compliance with regulatory requirements; and d) have regard to any relevant guidelines adopted by the Director-General;	Administrative Non-Compliance	a) Admin Non-compliant: The 2016, 2017 & 2018 Annual Reviews do not report against compliance with the MOP. b) N/A - Rehabilitation has not commenced at the site; c) 2016, 2017 & 2018 Annual Reviews - Executive Summary & Section 3 d) Admin Non-compliant: 2016, 2017 and 2018 Annual Reviews not prepared in accordance with the DPE Annual Review guidelines	REC 31 REC 48: Report against compliance with the MOP in future Annual Reviews. *Prepare future Annual Reviews in accordance with the DPE Annual Review guidelines.

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations
6	Additional environmental reports may be required on specific surface disturbing operations or environmental incidents from time to time as directed in writing by the Director-General and must be lodged as instructed.	Administrative Non-Compliance	Admin Non-compliant: Noise exceedance on 11 August 2016 reported to DPE on 12 August 2016, according to 2016 Annual Review. Detailed incident report could not be provided by LakeCoal, therefore not able to determine when or if an incident report was submitted. * Noise exceedance on 29 August 2018 reported to DPE on same day (email to DPE Compliance Mailbox from LakeCoal dated 29 August 2018). Detailed LakeCoal incident report provided to DPE on 7 September 2018. Compliant as LakeCoal was granted an extension to provide the detailed report, via email from EPA dated 5 September 2016. * TSS exceedance at Point 1 on 2 April 2019 reported to DPE on 11 April 2019 via email and formal letter * Admin Non-compliant: According to site communications the RR required additional environmental reports on specific surface disturbing operations. Reports could not be provided to SLR from LakeCoal. Observation: Compliant/incident register indicates no incidents from June 2016 to April 2019.	REC 34 REC 35 REC 49: Ensure all additional environmental reports on specific surface disturbing operations are provided to the RR as required.

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations
18	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, waterbody or groundwaters. The lease holder must observe and perform any instructions given by the Director-General in this regard.	Non-Compliant (Low Risk)	* Management plans prepared and implemented for the site. Management plans include management controls to minimise any harm to the environment that may result from the operation of the site * During the site inspection noted management controls being implemented at the site: -No visible dust; -Water cart used on site to reduce dust; -Majority of the pit top is concreted; -Covered conveyor; -Bunded chemicals (Photo 7); -Rubbish disposed of in labelled waste bins; -Oily water separator; -Noise mitigation measures implemented at site (Photo 8). *Water quality, dust and monitoring undertaken at the site. Non-compliant: During audit period non-compliances with noise and water quality criteria.	REC 50: Ensure all practicable measures are undertaken to reduce noise and water quality exceedances (refer to specific recommendations relating to noise and water quality).
CCL 719				

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations
3	(a) The lease holder must comply with an approved Mining Operations Plan (MOP) in carrying out any significant surface disturbing activities, including mining operations, mining purposes and prospecting. The lease holder must apply to the Minister for approval of a MOP. An approved MOP must be in place prior to commencing any significant surface disturbing activities, including mining operations, mining purposes and prospecting. (b) The MOP must identify the post mining land use and set out a detailed rehabilitation strategy which: (i) identifies areas that will be disturbed; (ii) details the staging of specific mining operations, mining purposes and prospecting; (iii) identifies how the mine will be managed and rehabilitated to achieve the post mining land use; (iv) identifies how mining operations, mining purposes and prospecting will be carried out in order to prevent and or minimise harm to the environment; and (v) reflects the conditions of approval under: • the Environmental Planning and Assessment Act 1979; • the Protection of the Environment Operations Act 1997; and • any other approvals relevant to the development including the conditions of this mining lease. (c) The MOP must be prepared in accordance with the ESG3: Mining Operations Plan (MOP) Guidelines September 2013 published on the Department's website at www.resources.nsw.gov.au/environment (d) The lease holder may apply to the Minister to amend an approved MOP at any time. (e) It is not a breach of this condition if: (i) the operations which, but for this condition 3(e) would be a breach of condition 3(a), were necessary to comply with a lawful order or direction given under the Environmental Planning and Assessment Act 1979, the Protection of the Environment Operations Act 1997, the Mine Health and Safety Act 2004 I Coal Mine Health and Safety Act 2002 and Mine Health and Safety Regulation 2007 I Coal Mine Health and Safety Regulation 2006 or the Work Health and Safety Act 2011; and (ii) the Minister had been notified in writing of the terms of the order or direction prior to the operations constituting the breach being carried out. (f) The lease holder must prepare a Rehabilitation Report to the satisfaction of the Minister. The report must: (i) provide a detailed review of the progress of rehabilitation against the performance measures and criteria established in the approved MOP; (ii) be submitted annually on the grant anniversary date (or at such other times as agreed by the Minister); and (iii) be prepared in accordance with any relevant annual reporting guidelines published on the Department's website at www.resources.nsw.gov.au/envrionment. Note: The Rehabilitation Report replaces the Annual Environmental Management Report.	Non-Compliant (Low Risk)	(a) Site inspection indicates MOP is being implemented. * Approval letter from Resources Regulator (RR) (formerly DRE) dated 27 March 2015, for 2015-2018 MOP * Approval letter from RR dated 26 September 2018 for 2018-2020 MO (b) The MOP must: i) MOP plans; ii) MOP plans (3 series); iii) Mine Closure Plan to be prepared at least two years prior to the cessation of mining activities; iv) Section 3; v) Section 4.1; vi) have regard to any relevant guidelines adopted by the Director-General. (c) 2018-2020 MOP has been prepared generally in accordance with DRE (now Resources Regulator) ESG3: MOP Guidelines, dated September 2013. (d) N/A-MOP not amended during MOP period. (e) Non-compliant: Details could not be provided by LakeCoal about non-compliances with the MOP. (f) Admin Non-compliant: Annual Rehabilitation Reports have not been prepared by LakeCoal. Rehabilitation not undertaken at the site but no correspondence provided by LakeCoal stating that Annual Rehabilitation Reports are not required or that these are covered by other reports. Observation: The 2016, 2017 and 2018 Annual Reviews do not provide details of non-compliances with the MOP.	REC 51: Prepare Annual Rehabilitation Reports. REC 52: Include in Annual Reviews any non-compliances with the MOP, during the reporting period.

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations
5	(a) The lease holder must notify the Department of all: (i) breaches of the conditions of this mining lease or breaches of the Act causing or threatening material harm to the environment; and (ii) breaches of environmental protection legislation causing or threatening material harm to the environment (as defined in the Protection of the Environment Operations Act 1997), arising in connection with significant surface disturbing activities, including mining operations, mining purposes and prospecting operations, under this mining lease. The notification must be given immediately after the lease holder becomes aware of the breach. Note. Refer to www.resources.nsw.qov.au/environmenf for notification contact details. (b) The lease holder must submit an Environmental Incident Report to the Department within seven (7) days of all breaches referred to in condition 5(a)(i) and (ii). The Environmental Incident Report must include: (i) the details of the mining lease; (ii) contact details for the lease holder; (iii) a map identifying the location of the incident and where material harm to the environment has or is likely to occur; (iv) a description of the nature of the incident or breach, likely causes and consequences; (v) a timetable showing actions taken or planned to address the incident and to prevent future incidents or breaches referred to in 5(a). (vi) a summary of all previous incidents or breaches which have occurred in the previous 12 months relating to significant surface disturbing activities, including mining operations, mining purposes and prospecting operations under this mining lease. Note. The lease holder should have regard to any relevant Director General's guidelines in the preparation of an Environmental Incident Report. Refer to www.resources.nsw.qov.au/environmentfor further details. (c) In addition to the requirements set out in conditions 5(a) and (b), the lease holder must immediately advise the Department of any notification made under section 148 of the Protection of the Environment Operations Act 1997 arising in connection with significant surface disturbing activities including mining operations, mining purposes and prospecting operations, under this mining lease.	Administrative Non-Compliance	* Email from LakeCoal to DPE (RR integrated into DPE), dated 11 April 2019, reporting TSS exceedance at Point 1 on 2 April 2019. Detailed LakeCoal incident report attached to email. Admin Non-compliant: Noise exceedance on 11 August 2016 reported to DPE on 12 August 2016, according to 2016 Annual Review. Detailed incident report could not be provided by LakeCoal, therefore not able to determine when or if an incident report was submitted. * Noise exceedance on 29 August 2018 reported to DPE on same day (email to DPE Compliance Mailbox from LakeCoal dated 29 August 2018). Detailed LakeCoal incident report provided to DPE on 7 September 2018. Compliant as LakeCoal was granted an extension to provide the detailed report, via email from EPA dated 5 September 2016. * There were no incidents of hydrocarbon contamination, or significant spills reported in the 2016, 2017 and 2018 Annual Reviews Observation: Complaints/incident register indicates no incidents from June 2016 to April 2019.	REC 35

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations
8	The lease holder is required to provide and maintain a security deposit to secure funding for the fulfilment of obligations of all or any kind under the mining lease, including obligations of all or any kind under the mining lease that may arise in the future. The amount of the security deposit to be provided as a group security has been assessed by the Minister at $3,879,000. The leases covered by the group security include: Consolidated Coal Lease Nos 719 & 721 (Act 1973)	Non-Compliant (Low Risk)	* "Rehabilitation Cost Calculation Tool Mannering (2015)" indicates $3,879,000 security for 2015-2018 MOP * Non-compliant: "Chain Valley Colliery (Mannering Surface Areas) Underground RCE Report" (Mannering RCE) indicates $3,226,730 security for 2018-2020 MOP. Approval letter from RR for updated security could not be provided to SLR by LakeCoal.	REC 53: Ensure an adequate security deposit is provided as a group security REC 54: Ensure group security has been approved by RR

7 Additional Recommended Actions

Additional recommendations relating to compliant conditions are outlined within **Table 7**.

Table 7 Additional Recommendations

Aspect	Recommendation
Management Systems	REC 55: It provided difficult for Delta Coal to provide requested information in a timely manner. SLR recommends a review of the management system to ensure information is correctly filed and readily available.
Audit Preparations	REC 56: Little information was provided to SLR prior to the audit which resulted in numerous additional information requests. Additional time is required by Delta Coal to prepare for the next IEA. An internal audit is recommended prior to the next IEA to ensure information and evidence is available to the Independent Environmental Auditor.
Water Management	REC 57: Include in Section 9.4 of the Water Management Plan reporting of ground water results in Annual Reviews.
Bushfire and Land Management Plan	REC 58: Attach the Bushfire Management Plan to the Land Management Plan
Air Quality Management	REC 59: * Update the AQMP * Include in the updated AQMP a plan showing dust monitoring locations and the location of the weather station.
Waste Management	REC 60: * Finish sorting out the piles of reject and rubbish at the pit top area. * Undertake contaminated sites/waste material assessment at the waste stockpile area. * SLR recommends none of the waste from the stockpile material is removed from site for waste disposal until an assessment on the waste is undertaken. * Install signage at the landfarm material at the pit top.
Subsidence	REC 61: A separate subsidence impact assessment report should be prepared annually and appended to the Annual Review. This report should be prepared or peer reviewed by a subsidence specialist. This should assess subsidence performance measures from the Project Approval.
Pollution Incident Response Management Plan	REC 62: * Update the PIRMP to include: - Current site contacts; - Email details for government contacts; and - Figures that clearly show the location of hazardous substances and where pollution response equipment is stored.

Aspect	Recommendation
2019 Annual Return	REC 63: * LakeCoal prepare an Annual Return for the period commencing on the first day of the reporting period (1 January 2019) and ending on the date the application for the transfer of the licence to the new licensee is granted (1 April 2019). * Delta Coal prepare an Annual Return for the period commencing on the date the application for the transfer of EPL191 is granted (1 April 2019) and ending on the last day of the reporting period (31 December 2019).

8 Conclusion

A total of 200 conditions were assessed across the PA 06_0311, PA 06_0311 Statement of Commitments (Mod 4), EPL 191 and CCL 721. The Audit performance is summarised in **Table 8**.

Table 8 Summary of Audit Performance

Approval	Number of Conditions	Administrative Non-Compliances	Low Risk Non-Compliances
PA 06_0311 (as modified)	62	14	8
PA 06_0311 Statement of Commitments (Mod 4)	11	3	1
EPL 191	75	3	3
CCL 719	18	1	2
CCL 721	34	2	1
Total	**200**	**23**	**15**

In summary:

- There were 23 Administrative Non-Compliances;
- There were 15 Low Risk Non-Compliances; and
- There are a total of 63 recommendations across **Section 6** and **7**.

The majority of non - compliances and recommendations related to administrative issues, including not fully implementing the Project Approval and management plans. The field inspection did not identify any major issues that required immediate attention. The situation at the time of IEA did make the task of auditing more difficult than expected for SLR. This included the change in management from LakeCoal to Delta Coal and the previous Environment and Community Co-ordinator leaving LakeCoal prior to the commencement of the audit. Little information was provided to SLR prior to the audit which resulted in numerous additional information requests following the site component. Additional time is required by Delta Coal to prepare for the next IEA.

The major issue going forward for Mannering will be the management of noise. It has been noted that complaints have increased and the site has been liaising with DPE regarding noise management.

APPENDIX A

Photographs

Photo 1 Coal Reject and Mixed Rubbish from the Underground

Photo 2 Material to be removed from sumps

Photo 3 Some Areas of Lantana onsite

Photo 4 Dams are stable with banks well vegetated

Photo 5 Licenced Discharge Point

Photo 6 Oily Rags contained in general waste bin

Photo 7 Chemicals stored within bunds

Photo 8 Areas of noise mitigation at the plant

APPENDIX B

Compliance Spreadsheet

Project Approval 06_0311

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
SCHEDULE 2 - ADMINISTRATIVE CONDITIONS				
Obligation to Minimise Harm to the Environment	The Proponent must 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 project.	Compliant	Despite there being non compliances during the audit period. No evidence of any non compliance constituting material harm to the environment as per the PEOE Act definition.	
1				
Terms of Approval				
2	Any disturbance resulting from the activities carried out under this mining lease must be rehabilitated to the satisfaction of the Minister.	Compliant	The project has been undertaken generally in accordance with Environmental Assessments (AS') and the Project Layout Plans.	
2A	The Proponent must carry out the development in accordance with the: (a) Statement of Commitments; and (b) conditions of this approval.	Compliant	The development has been carried out generally in accordance with the Statement of Commitments and conditions of this approval, except where noted below and within the Statement of Commitments Audit Spreadsheet.	
3	If there is any inconsistency between the documents in condition 2, the most recent document shall prevail to the extent of the inconsistency. The conditions of this approval shall prevail over the documents in conditions 2 and 2A(a) to the extent of any inconsistency.	Note		
4	The Proponent must comply with any reasonable requirement/s of the Secretary arising from the Department's assessment of: (a) any reports, plans, programs or correspondence that are submitted in accordance with the conditions of this approval; and (b) the implementation of any actions or measures contained in these reports, plans, programs or correspondence.	Compliant	(a) Actions related to DPE review of 2015 Annual Review included in 2016 Annual Review. Actions related to DPE review of 2017 Annual Review included in 2018 Annual Review. * Letter from DPE dated 29 August 2016 requested Mannering Colliery to provide DPE correspondence regarding the approval of the management plans or to include the management plans as part of the program of review. In response, LakeCoal provided a schedule in an email dated 4 March 2016 listing the date management plans were approved by DPE. (b) Email from DPE dated 27 March 2019 details issues raised from a compliance inspection undertaken in 26 March 2019. In an email response dated 29 March 2019, LakeCoal provides an action plan to address these issues.	
Limits on Approval				
5	Mining operations may take place until 30 June 2022. Note: Under this approval, the Proponent is required to rehabilitate the site to the satisfaction of the Secretary and DRE. Consequently this approval will continue to apply in all other respects other than the right to conduct mining operations until the site has been rehabilitated to a satisfactory standard.	Compliant	Mining operations undertaken during the audit period	
6	The Proponent must not extract more than 1.1 million tonnes of ROM coal a year from the site.	Compliant	2016, 2017 & 2018 Annual Reviews confirm that no more than 1.1 million tonnes per annum of ROM coal was extracted from the site	
6A	The Proponent must not transport more than 1.3 million tonnes of ROM coal a year from the site.	Compliant	2016, 2017 & 2018 Annual Reviews confirm that no more than 1.3 million tonnes per annum of ROM coal was transported from the site	
7	The Proponent must ensure all coal produced and/or received on the site is transported by overland conveyor to Vales Point Power Station.	Compliant	The Environmental Monitoring Program has not been reviewed and updated since November 2011, and does not to incorporate the commitments made in the Environmental Assessments (EAs) for Mod 1, Mod 2, Mod 3 & Mod 4, and any additional consent conditions (for these modifications).	
Updating and Staging Strategies, Plans and Programs				
8	The Proponent must regularly review the strategies, plans and programs required under this approval and ensure that these documents are updated to incorporate measures to improve the environmental performance of the development and reflect current best practice in the mining industry. To facilitate these updates, the Proponent may at any time submit revised strategies, plans or programs for the approval of the Secretary. With the agreement of the Secretary, the Proponent may also submit any strategy, plan or program required by this approval on a staged basis. With the agreement of the Secretary, the Proponent may prepare a revision or stage of any strategy, plan or program required under this approval without undertaking consultation with all parties nominated under the applicable condition in this approval. Notes: • While any strategy, plan or program may be submitted on a staged basis, the Proponent must ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times. • If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.	Administrative Non-Compliance	The Proponent has not regularly reviewed the strategies, plans and programs required under this approval (i.e. Environmental Monitoring Program labelled Centennial Coal and dated November 2011, Energy Savings Action Plan labelled Centennial Mannering and dated 2011). Management Plans are out of date.	Develop and implement a plan to update Mannering's Strategies, Plans and Programs.
Structural Adequacy				

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
9	The Proponent must ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA. Notes: • Under Part 4A of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works. • Part 8 of the EP&A Regulation sets out the requirements for the certification of the project.	Not Triggered	* Based on site communications with Environment and Community Co-ordinator no new buildings and structures, nor alterations or additions to existing buildings and structures during the reporting period. * According to the 2016 Annual Review only underground construction works were undertaken. * No construction works undertaken during 2017 & 2018, according to 2017 & 2018 Annual Reviews.	
Demolition				
10	The Proponent must ensure that all demolition work is carried out in accordance with Australian Standard AS 2601-2001: The Demolition of Structures, or its latest version.	Not Triggered	* Based on site communications with the Environment and Community Co-ordinator no demolition undertaken during the IEA period. * No demolition undertaken according to 2016, 2017 & 2018 Annual Review.	
Operation of Plant and Equipment				
11	The Proponent must ensure that all plant and equipment used on site is: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner.	Non-Compliant (Low Risk)	(a) Downer maintenance records for radiation equipment dated 31 March 2017. * Electrical inspection records for ash analysers from 2016 to 2017. * Maintenance records: "Mannering Front End Loaders work order history as at 2.5.19" (b) During site inspection plant and equipment appeared to be operated in a proper and efficient manner. * Non-compliant: Complaint register dated 2018 indicated a number of complaints related to noise from the loader at the prep plant.	Ensure that all plant and equipment used on site is operated in a proper and efficient manner.
Community Enhancement Program				
12	The Proponent must pay the affected councils $0.02 for each tonne of ROM coal produced by the project for the purpose of improving water quality in the Lake Macquarie catchment. This payment must be: (a) shared equally by the affected councils; (b) made by the end of March 2009, and at yearly intervals thereafter; (c) calculated on the ROM coal produced in the previous calendar year; and (d) subject to indexation by the Implicit Price Deflator, as published by the Australian Bureau of Statistics.	Administrative Non-Compliance	* Email from Council dated 2 April 2019 confirming VPA Payment for the 2018 period. * Admin Non-compliant: Receipt From Central Coast Council for VPA payment, dated 5 October 2016. Payment of Voluntary Planning Agreement (VPA) not made by the end of March 2016.	Ensure VPA payments are made prior to the due date.

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
SCHEDULE 3 - SPECIFIC ENVIRONMENTAL CONDITIONS				
Noise				
Noise Impact Criteria				
1	1. The Proponent must ensure that the noise generated by the project does not exceed the noise impact assessment criteria in Table 1 at any residence on privately owned land.	Note		
	Table 1: Noise limits dB(A) **Day** $L_{Aeq(15\ min)}$ / **Evening** $L_{Aeq(15\ min)}$ / **Night** $L_{Aeq(15\ min)}$ / **Night** $L_{A1(1\ min)}$ / **Location** (as listed in Appendix 4) 49 / 49 / 35 / 49 / 4 – di Rocco 47 / 47 / 35 / 49 / 5 – Keighran 44 / 44 / 35 / 49 / 6 – Swan 43 / 43 / 43 / 50 / 7 – Druitt 46 / 46 / 46 / 50 / 8 – May 45 / 45 / 45 / 52 / 9 – Jeans 40 / 40 / 40 / 52 / 11 – Jeans 43 / 43 / 43 / 52 / 18 – Jeans 44 / 44 / 44 / 52 / 20 – Knight and all other Chain Valley Bay residences Note: The location of the land referred to in Table 1 is shown on the figure in Appendix 4.	Non-Compliant (Low Risk)	Non-compliant: According to 2016 Annual Review, on 12 August 2016 LakeCoal was advised by its independent noise monitoring consultant (Global Acoustics) that they had recorded a 3dB exceedance of the site's LAeq15 Minute noise criteria at receiver RA2 (Macquarie Shores Retirement Village) during the evening monitoring on 11 August 2016 for Mannering Colliery. * According to 2016 Annual Review, on 29 August 2018, there was an exceedance recorded at 1dB exceedance of the site's LAeq15 Minute noise criteria at receiver RA2 (Macquarie Shores Retirement Village) during the scheduled night monitoring. * According to the Noise Mitigation Study dated March 2019: -Noise mitigation works implemented by the previous operators in 2018 have decreased site noise emission levels at all neighbouring noise-sensitive receivers. -Current and proposed MC noise emissions are predicted to comply with the relevant long-term noise criteria outlined in MP 06_0311 at all assessment locations under worst case meteorological conditions. -LAmax noise level events at the site are also predicted to remain below the relevant sleep disturbance criteria. * Noise complaints increased during the audit period, with 0 noise complaints in 2016 and 2017, but 10 complaints in 2018, and 10 complaints from January 2019 to March 2019.	* Continue to undertake noise monitoring. * Undertake follow-up actions if noise exceedances occur. * Continue to manage noise complaints. * Provide DPE with EMM Noise Mitigation Study dated March 2019.
	Subsidence Control Zone	Note		
Noise Mitigation				
2	The Proponent must prepare a report on potential noise mitigation measures for noisy equipment and activities undertaken on the site to the satisfaction of the Secretary. This report must be: (a) prepared by a suitably qualified acoustic expert; (b) submitted to the Secretary by the end of September 2008; and (c) accompanied by an action plan for the implementation of any reasonable and feasible recommendations of the report.	Compliant	Preparation: * Updated (April 2016) Noise Monitoring Program (NMP) submitted to DPE on 29 April 2016 * Updated (April 2016) NMP approved by DPE on 20 October 2008 according to LakeCoal email dated 4 March 2016 * Original NMP was submitted on the 9/9/08 and approved on the 20/10/08 * The NMP was prepared by Carbon Based Environmental * Mitigation measures included in Section 4.2 of the NMP. Implementation: * During the site inspection noise sighted noise mitigation measures, undertaken during 2017 & 2018, at the preparation plant. These included the installation of a rubber hood, rubber skirting and a deflection board. A smaller loader is also now used at the coal stockpile area. * Noise Mitigation Study, dated March 2019, prepared by EMM. Noise mitigation measures included the Study, dated March 2019, indicate mitigation measures effective in reducing operational noise * 0 noise complaints in 2016 and 2017. 12 noise complaints during 2018. 18 complaints during 2019.	
Noise Monitoring				
3	The Proponent must prepare a Noise Monitoring Program for the project to the satisfaction of the Secretary. This program must: (a) be submitted to the Secretary by the end of September 2008; (a1) be revised in consultation with the EPA and be submitted to the Secretary by the end of April 2016; and (b) include the use of continuous and attended noise monitoring measures to monitor the performance of the project. The Proponent must implement the approved Noise Monitoring Program as approved from time to time by the Secretary.	Non-Compliant (Low Risk)	Preparation: * Updated (April 2016) NMP approved by DPE on 20 October 2008 according to LakeCoal email dated 4 March 2016 (a) NMP Section 1.2 * Updated (April 2016) Noise Monitoring Program (NMP) submitted to DPE on 29 April 2016 (b) NMP Section 5.1 & 5.2 Implementation: * Noise monitoring results included in the 2016, 2017 and 2018 Annual Reviews * Non-compliant: Only attended noise monitoring has been undertaken, according to the 2016, 2017 and 2018 Annual Reviews.	* Continuous noise monitoring should be undertaken in accordance with Mannering Colliery's Noise Management Plan.
SUBSIDENCE				
4	The Proponent must limit its coal extraction methods on the site to first workings only, and must not undertake second workings.	Compliant	* According to site communications with Environment and Community Co-ordinator only first workings have only been undertaken. * According to 2016 & 2017 Annual Reviews coal was extracted via first workings only.	
SOIL AND WATER				
Discharge				
6	The Proponent must only discharge water from the site as expressly provided for by its EPL.	Compliant	* During site inspection sited LDP01. * According to 2016, 2017 & 2018 Annual Reviews discharge during the reporting period was in accordance with EPL191. * January, February & March 2019 Monthly Website Reports and "Mannering UG Discharge" spreadsheet indicate discharge was in accordance with EPL 191. * LDP1 - Discharge Volumes Master" spreadsheet indicates volume of water discharged from 1 to 10 April 2019 was within the limit	

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
7	The Proponent must investigate, assess and report on the ecological interactions of minewater discharged from the site with the aquatic ecology of the unnamed creek and wetlands (and associated vegetation) between the minewater discharge point/s and Lake Macquarie. This report must: (a) be prepared in consultation with EPA by suitably qualified expert/s whose appointment/s have been approved by the Secretary; (b) be submitted to the Secretary by the end of March 2009; and (c) assess the probable alterations in the local ecology attributable to previous and proposed minewater discharges and any future cessation of minewater discharge flows.	Not Triggered	Not within audit period.	
Water Management Plan				
8	The Proponent must prepare a Water Management Plan for the project to the satisfaction of the Secretary. This plan must: (a) be prepared in consultation with DPI Water by suitably qualified expert/s whose appointment/s have been approved by the Secretary; (b) be submitted the Secretary by the end of March 2009; and (c) include a: • Site Water Balance; • Erosion and Sediment Control Plan; • Surface Water Monitoring Plan; and • Groundwater Monitoring Program. The Proponent must implement the approved management plan as approved from time to time by the Secretary.	Administrative Non-Compliance	Preparation: (a) Prepared in consultation with DPI Water - Section 4.1. * Document prepared by suitably qualified expert - Section 4.1. (b) Water Management Plan (WMP) approved by DPE on 9 March 2010. (c) Site Water Balance - Section 6.5. • Erosion and Sediment Control Plan - Section 7.0. • Surface Water Monitoring Plan - Section 8.1. • Groundwater Monitoring Program - Section 9.1. Observation: The Water Management Plan has not been updated since January 2013. Observation: Figure 1 does not clearly show clean and dirty water management at the site. Implementation: * During site inspection clean and water management system appeared to be effective in keeping clean water and dirty water separate. * Groundwater and surface water monitoring program undertaken during the audit period per Annual Reviews. * Section 11 of the Management Plan commits to reviewing the plan every three years. This has not been completed, therefore Admin Non - Compliance.	* The WMP needs to be updated. * Replace Figure 1 in the WMP with clear figures showing clean and dirty water management (i.e. replace with Figures 2.10 & Figure 2.11 from the 2018 Annual Review).
Site Water Balance				
9	The Site Water Balance must: (a) include details of: • sources and security of water supply; • water use on site; • water management on site; and (b) investigate, assess and report on measures to minimise water use by the project, particularly potable water from the Wyong Shire town water supply.	Administrative Non-Compliance	Preparation: a) Sources of water supply - WMP Section 6.5. • Water use on site - WMP Section 6.1. • Water management on site - WMP Section 6.0. Admin Non-compliant: The water balance is outdated and does not reflect the current status of the site. Section 6.5 of the WMP references a Water Balance Assessment from December 2011. (b) Investigate, assess and report on measures to minimise water use by the project, particularly potable water from the Wyong Shire town water supply - Section 6.1 Implementation: * Water management system sited during site inspection.	The Water Balance in the WMP needs to be reviewed as its out of date.
Erosion and Sediment Control				
10	The Erosion and Sediment Control Plan must: (a) be consistent with the requirements of Managing Urban Stormwater: Soils and Construction (Landcom 2004, or its latest version); (b) identify activities that could cause soil erosion and generate sediment; (c) describe measures to minimise soil erosion and the potential for transport of sediment from the site; (d) describe the location, function, and capacity of erosion and sediment control structures; and (e) describe what measures would be implemented to monitor and maintain the structures over time.	Compliant	Preparation: (a) WMP Section 7.2. (b) WMP Section 7.2. (c) WMP Section 7.2. (d) WMP Section 7.1 and Figure 1. * Observation: Figure 1 is not clear. The figure needs to be replaced by a figure that clearly shows erosion and sediment control structures. (e) WMP Section 7.1 Implementation: * Erosion and sediment controls sighted during the field inspection. Minimal issues sighted. * Sumps need to be cleaned out of coal. Evidence of one sump almost overflowing (refer to PHOTO 2)	
Surface Water Monitoring Program				
11	The Surface Water Monitoring Plan must include: (a) detailed baseline data on surface water flows and quality in creeks and other waterbodies that could be affected by the project; (b) surface water impact assessment criteria; (c) a program to monitor the impact of the project on surface water flows and quality; and (d) procedures for reporting the results of this monitoring.	Non-Compliant (Low Risk)	Preparation: (a) WMP Section 8.2. (b) WMP Section 8.1.1. (c) WMP Section 8.2. (d) WMP Section 8.3. Implementation: * Surface water monitoring program undertaken during the audit period per the 2016, 2017 and 2018 Annual Reviews. * LDP 001 sited during the field inspection. Non-compliant: Visual assessment of the unnamed creek (described in Section 8.2.1 of the WMP) is not undertaken every 6 months to monitor stability and erosion.	*Undertake visual assessment of the unnamed creek every 6 months, to monitor stability and erosion. A TARP should be developed in the next review of the WMP which outlines quantitative and qualitative triggers for the creek and erosion. *Include results of the visual assessment of the unnamed creek in Annual Reviews. Include a reference again previous results. * Ensure monitoring undertaken at the "Downstream" monitoring location is undertaken every 12 months. * Include analysis results from monitoring undertaken at the "Downstream" monitoring location in Annual Reviews.
Groundwater Monitoring Program				

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
12	The Groundwater Monitoring Program must include: (a) detailed baseline data to benchmark the natural variation in groundwater levels, yield and quality; (b) groundwater impact assessment criteria; (c) a program to monitor the impact of the project on groundwater levels, yield and quality; and (d) procedures for reporting the results of this monitoring.	Compliant	Preparation: (a) WMP Section 9.1. (b) WMP Section 9.3.2. (c) WMP Section 9.3. (d) WMP Section 9.4. Observation: Section 9.4 of the WMP does not include reporting via Annual Reviews. Implementation: * Groundwater extraction results included in the 2016, 2017 and 2018 Annual Reviews.	* Include in Section 9.4 of the Water Management Plan reporting of ground water results in Annual Reviews.
REHABILITATION				
13	The Proponent must rehabilitate the site to the satisfaction of the Secretary and DRE. Rehabilitation must be substantially consistent with the Rehabilitation Objectives described in the EA, the Statement of Commitments and the following objectives in Table 2 below.	Not Triggered	Rehabilitation has not been undertaken at the site based on discussions with the Environment and Community Co-ordinator.	
	Table 2: Rehabilitation Objectives **Feature** / **Objective** Mine site (as a whole of the disturbed land and water) — Safe, stable and non-polluting, fit for the purpose of the intended post-mining land use(s). Rehabilitation materials — • Materials (including topsoils, substrates and seeds of the disturbed area) are recovered, appropriately managed and used effectively as resources in the rehabilitation. Surface Infrastructure — To be decommissioned and removed, unless the DRE agrees otherwise. Portals and ventilation shafts — To be decommissioned and made safe and stable. Other land affected by the development — Restore ecosystem function, including maintaining or establishing self-sustaining ecosystems comprised of: • local native plant species (unless the DRE agrees otherwise); and • a landform consistent with the surrounding environment. Built features damaged by mining operations — Repair to pre-mining condition or equivalent unless: • the owner agrees otherwise; or • the damage is fully restored, repaired or compensated under the *Mine Subsidence Compensation Act 1961*. Community — Ensure public safety.	Not Triggered	Rehabilitation has not been undertaken at the site based on discussions with the Environment and Community Co-ordinator.	
13A	The Proponent must carry out all surface disturbing activities in a manner that, as far as practicable, minimises potential for dust emissions and must carry out rehabilitation of disturbed areas progressively, as soon as reasonably practicable, to the satisfaction of the Secretary and DRE.	Compliant	* Rehabilitation has not been undertaken based on discussions with the Environment and Community Co-ordinator. * During site inspection noted: - Water cart used on site to reduce dust; and - Majority of the pit top is concreted.	
Land Management Plan				
14	The Proponent must prepare a detailed Land Management Plan for the site to the satisfaction of the Secretary and DRE. This plan must: (a) be submitted to the Secretary by the end of September 2008; (b) be prepared by suitably qualified expert/s whose appointment/s have been endorsed by the Secretary; (c) be prepared in consultation with DRE, OEH and affected councils; and (d) include measures to: • minimise visual impacts; • control weeds, feral pests and access; and • manage bushfires; and (e) provide details of who is responsible for monitoring, reviewing and implementing the plan. Prior to the end of April 2016, the Proponent must revise the Land Management Plan to incorporate the measures required to implement its commitments described in new row 2 of the Terrestrial Ecology section of its Statement of Commitments, and submit it to the Secretary for approval. The Proponent must implement the approved management plan as approved from time to time by the Secretary.	Compliant	Preparation: (a) Approval letter from DPE dated 27 May 2016 for the Land Management Plan (LMP). (b) LMP Section 1.2. (c) LMP Section 1.2. (d) LMP Section 3.1 and 3.2, 4, 5 and 6. * The Bushfire Management Plan is not attached to the LMP. (e) LMP Section 8. Implementation: * Visual screen sighted during the field inspection * External lighting audit undertaken in 2016, as discussed in 2016 Annual Review * Weed management undertaken at site, per 2016, 2017 and 2018 Annual Reviews	* Attach the Bushfire Management Plan to the Land Management Plan
14A	The Proponent must implement its preferred option of the three options set out in new row 2 of the Terrestrial Ecology section of its Statement of Commitments by 1 December 2016, following consultation with OEH and to the satisfaction of the Secretary.	Compliant	Letter dated 1 December 2016 regarding LakeCoal preferred option (Option 2)	
Rehabilitation Plan				

<table>
<tr><th>Condition Number</th><th>Condition</th><th>Compliance Status</th><th>Evidence</th><th>Recommended Action</th></tr>
<tr><td>15</td><td>The Proponent must prepare a Rehabilitation Plan for the site to the satisfaction of the DRE. This plan must:
(a) be submitted within 3 months of approval of Mod 2 for approval by DRE prior to carrying out any disturbing activities of the development, unless otherwise agreed by the Secretary;
(b) be prepared in accordance with DRE guidelines and in consultation with the Department, OEH, EPA, DPI Water, affected councils and the mine's CCC;
(c) incorporate and be consistent with the rehabilitation objectives in the EA, Statement of Commitments and Table 2 above;
(d) integrate and build on, to the maximum extent practicable, the other management plans required under this approval; and
(e) address all aspects of mine closure and rehabilitation, including post-mining land use domains, rehabilitation objectives, completion criteria and rehabilitation monitoring and management.

The Proponent must implement the approved management plan as approved from time to time by the Secretary.

Note: The approved Mining Operations Plan (which will become the REMP once the Mining Act Amendments have commenced) required as a condition of the Mining Lease(s) issued in relation to this project, will satisfy the requirements of this condition for a Rehabilitation Plan.</td><td>Compliant</td><td><u>Preparation:</u>
(a) 2015-2018 MOP, dated 1 April 2015, approved by DPE on 27 March 2015 according to LakeCoal email dated 4 March 2016.
* Approval letter from Resources Regulator dated 26 September 2018 for 2018-2020 MOP.
* Rehabilitation Plan covered by sites Mining Operations Plans (MOPs).
(b) 2018-2020 MOP has been prepared generally in accordance with DRE (now Resources Regulator) ESG3: MOP Guidelines, dated September 2013.
Prepared in consultation with the Department, OEH, EPA, DPI Water, affected councils and the mine's CCC - Refer to Section 1.4.3 of 2018-2020 MOP.
(c) Section 4.1 of 2018-2020 MOP.
(d) Section 3.2 of 2018-2020 MOP.
(e) Section 1.4.4, 4, 5.2, 6 and 8 of 2018-2020 MOP.

<u>Implementation:</u>
* Domains sighted during site inspection and appear to be in accordance with the domains depicted on the MOP Plans in the 2018-2020 MOP.
* During site inspection determined all areas associated with Mannering Colliery are operational. No rehabilitation has been undertaken. This is in accordance with the 2018-2020 MOP.</td><td></td></tr>
<tr><td colspan="5">AIR QUALITY</td></tr>
<tr><td colspan="5">Impact Assessment Criteria</td></tr>
<tr><td>16</td><td>The Proponent must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the development do not cause exceedances of the criteria listed in Table 3 at any residence on privately-owned land.</td><td>Compliant</td><td><u>Preparation:</u>
* Air Quality Management Plan (AQMP), dated December 2012, prepared.
* AQMP approved by DPE on 20 October 2008, according to LakeCoal email dated 4 March 2016
* Dust control measures included in Section 4 of the AQMP
* <u>Observation:</u> The AQMP hasn't been reviewed since December 2012, however this condition doesnt refer to the management plan (therefore compliant). It was not updated following the 2013 or 2016 audits.
* <u>Observation</u>: The AQMP doesn't include a plan with the dust monitoring locations and the location of the weather station.

<u>Implementation:</u>
* No dust visible dust during the field inspection.
* Water cart seen during the site inspection.
* The majority of the pit top is either concreted or grassed.</td><td>* Update the AQMP
* Include in the updated AQMP a plan showing dust monitoring locations and the location of the weather station.</td></tr>
<tr><td></td><td>Table 3: Long term impact assessment criteria for deposited dust
<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^2/month</td><td>4 g/m^2/month</td></tr></table>
Note: Deposited dust is assessed as insoluble solids as defined by Standards Australia, 1991, AS/NZS 3580.10.1-2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulates - Deposited Matter - Gravimetric Method.</td><td>Compliant</td><td>* According to 2016, 2017 and 2018 Annual reviews no air quality exceedances occurred.
* According to the "MANN Monitoring Master Spreadsheet" air quality monitoring data no exceedances of criteria up to and including April 2019
* According to the "MANN Monitoring Master Spreadsheet" air quality monitoring data has been continuous up to and including April 2019</td><td></td></tr>
<tr><td colspan="5">Monitoring</td></tr>
<tr><td>17</td><td>The Proponent must prepare an Air Quality Monitoring Program for the project to the satisfaction of the Secretary. This program must:
(a) be submitted to the Secretary by the end of September 2008; and
(b) use dust deposition gauges to monitor the performance of the project.

The Proponent must implement the approved monitoring program as approved from time to time by the Secretary.</td><td>Administrative Non-Compliance</td><td><u>Preparation:</u>
* Air Quality Monitoring Program included as Section 3 of the AQMP, dated December 2012. This is too long between reviews. It was not updated following the 2013 or 2016 audits.
<u>Admin Non - Compliance</u>.
* AQMP approved by DPE on 20 October 2008, according to LakeCoal email dated 4 March 2016.
* List of dust deposition gauges included in Section 3 of the AQMP.

<u>Implementation:</u>
* Monitoring results from deposition gauges reported in the 2016, 2017 and 2018 Annual Reviews.</td><td></td></tr>
<tr><td colspan="5">Heritage</td></tr>
<tr><td colspan="5">Heritage Management Plan</td></tr>
</table>

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
18	The Proponent must prepare a Heritage Management Plan for the project to the satisfaction of the Secretary. This Plan must: (a) be prepared in consultation with any relevant Aboriginal stakeholders; (b) be submitted, prior to 31 March 2013, for approval to the Secretary; (c) include consideration of the Aboriginal and non-Aboriginal cultural context and significance of the site; (d) detail the responsibilities of all stakeholders; and (e) include programs/procedures and management measures for: • dealing with previously unidentified Aboriginal objects (excluding human remains), including any need to halt works in the vicinity, assessment of significance, determination of appropriate mitigation measures (by a qualified archaeologist in consultation with Aboriginal stakeholders), re-commencement of works, notifying OEH, and registering the new site(s) in the OEH AHIMS register; • dealing with any human remains which may be discovered, including halting of works in the vicinity; notifying NSW Police, OEH, the Department and Aboriginal stakeholders; and not re-commencing any works in the vicinity unless authorised; • heritage induction for construction personnel (including procedures for keeping records of inductions); • ongoing Aboriginal consultation and involvement (including procedures for keeping records of this); • appropriate identification, management, conservation and protection of both Aboriginal and non-Aboriginal heritage items identified on the site; and • dealing with previously unidentified non-Aboriginal heritage items which may be discovered during the project. The Proponent must implement the approved management plan as approved from time to time by the Secretary.	Administrative Non-Compliance	Preparation: * Approval letter from DPE dated 26/11/2012 for Aboriginal Cultural Heritage Management Plan (ACHMP) (dated November 2012). It was not updated following the 2013 or 2016 audits. Admin Non - Compliance. * Approval letter from DPE dated 10 September 2013 for Non-Indigenous Heritage Management Plan (dated February 2013). (a) ACHMP - Section 6.0. (b) N/A - Outside of the audit period. (c) ACHMP - Attachment 3. Non-Indigenous Heritage Management Plan - Section 4. (d) ACHMP - Section 16. Non-Indigenous Heritage Management Plan - Section 3. (e) ACHMP - Section 6, 7, 13 and 17.2. Non-Indigenous Heritage Management Plan - Section 3, 6.1 & 6.2. * Observation: ACHMP was last updated November 2012 and is labelled Centennial and contains areas which are not relevant to the Mannering site. * Observation: Non-Indigenous Heritage Management Plan was last updated February 2013 is labelled Centennial. Implementation: * ACHMP & Non-Indigenous Heritage Management Plan appear to have been implemented during the audit period, with no complaints or incidents related to heritage recorded in the 2016, 2017 and 2018 Annual Reviews and Complaints Log.	* Update the ACHMP to make it reflective of the Mannering site only. * Update the Non-Indigenous Heritage Management Plan
VISUAL				
19	The Proponent must: (a) ensure no outdoor lights shine above the horizontal; (b) ensure that all external lighting associated with the project complies with Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting; (c) take all practicable measures to mitigate off-site lighting impacts from the project; and (d) minimise the visual impacts of the project, to the satisfaction of the Secretary.	Compliant	* Lighting audit undertaken in December 2016 by Light Studio 21 . * The lighting audit concluded that all lighting at Mannering Colliery complies with the Australian Standard 4282 – Control of Obtrusive Lighting Effects of outdoor lighting. * No lighting complaints received during the reporting period.	
TRANSPORT				
Monitoring of Coal Transport				
20	The Proponent must keep records of the amount of coal transported from the site each year, and include these records in the Annual Review.	Compliant	* 2016, 2017 and 2018 Annual Reviews state the amount of coal transported from the site each year. * 2016 - 93,972 tonnes * 2017 - 522,132 tonnes * 2018 - 394,213 tonnes	
Ruttleys Road Intersection				
21	The Proponent must: (a) complete a road safety audit of the intersection of Ruttleys Road and Mannering Colliery Access Road by the end of March 2009; (b) provide copies of this audit to RMS, Central Coast Council and the Secretary within one month of its completion; and (c) within 3 months of approval of Mod 2, install additional sections of guardrail (safety barrier) on the eastern side of Ruttleys Road between the Mannering Colliery access road and existing sections of guardrail further to the north; (d) be responsible for the maintenance and upkeep of the pavement of the Ruttleys Road/Mannering Colliery access road intersection whilst the site is used for mining purposes or until the intersection is upgraded to a Type CHR intersection treatment; and (e) prior to the number of workers (direct employees and contractors) at Mannering Colliery exceeding 70, the Proponent must upgrade the Ruttleys Road/Mannering Colliery access road intersection to a Type CHR treatment in accordance with Construction Certificate SCC/69/2011 issued by Central Coast Council, or later updated versions of this Construction Certificate; to the satisfaction of the Secretary.	Compliant	(a)(b)(c) Not triggered - outside of audit period (d) Email regarding Annual Road Maintenance Agreement Costs for the 2016 Period, dated 23 January 2017 * Road Maintenance Agreement dated 1 July 2013. e) Not triggered-not more than 70 workers during audit period	
GREENHOUSE AND ENERGY EFFICIENCY				
22	The Proponent must prepare a Greenhouse and Energy Efficiency Plan for the project to the satisfaction of the Secretary. This plan must: (a) be prepared in consultation with EPA and generally in accordance with the Guidelines for Energy Savings Action Plans (DEUS 2005, or its latest version); (b) be submitted to the Secretary for approval by the end of September 2008; (c) include a program to monitor greenhouse gas emissions and energy use generated by the project; (d) include a framework for investigating and implementing measures to reduce greenhouse gas emissions and energy use at the site; and (e) describe how the performance of these measures would be monitored over time. The Proponent must implement the approved management plan as approved from time to time by the Secretary.	Administrative Non-Compliance	Preparation: (a) N/A - Prepared outside of audit period (b) Energy Savings Action Plan (ESAP) was approved by DPE on 20 October 2008 according to LakeCoal email dated 4 March 2016 (c) ESAP - Page 17, 22 (d) ESAP - Page 4 (e) ESAP - Page 4 Admin Non-Compliant: The methodology to monitor greenhouse gas emissions generated by the project is not clearly stated in the ESAP. * The ESAP has not been reviewed since 2008 and is labelled Centennial Mannering Implementation: *According to site communications, energy savings due to minor operations completed during the audit period *Greenhouse gas emissions reported in 2016, 2017 and 2018 Annual Reviews.	Assess the relevance of the Energy Savings Action Plan (ESAP) and whether it requires updating or incorporation into the sites Air Quality Management Plan (AQMP).

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
WASTE				
23	The Proponent must: (a) monitor the amount of waste generated by the project; (b) investigate ways to minimise waste generated by the project; (c) implement reasonable and feasible measures to minimise waste generated by the project; and (d) report on waste management and minimisation in the Annual Review, to the satisfaction of the Secretary.	Compliant	(a) The amount of waste generated by the project is reported in the 2016, 2017 and 2018 Annual Reviews (b)(c) As sited during the inspection, Waste material generated by the project and brought to the surface is currently being sorted. Bins for scrap material and recycle bins for co-mingled waste sited during the field inspection. (d) Waste management and minimisation is reported in the 2016, 2017 and 2018 Annual Reviews. 2016 & 2017 Annual Reviews approved by DPE. Observation: Waste storage area contains a number of stockpiles of rubbish being sorted for recycling/disposal.	* Finish sorting out the piles of reject and rubbish at the pit top area. * Undertake contaminated sites/waste material assessment at the waste stockpile area. * SLR recommends none of the waste from the stockpile material is removed from site for waste disposal until an assessment on the waste is undertaken. * Install signage at the landfarm material at the pit top.
SCHEDULE 4 - ADDITIONAL PROCEDURES				
INDEPENDENT REVIEW				
1	If a landowner considers the project to be exceeding the impact assessment criteria in schedule 3, then he/she may ask the Secretary in writing for an independent review of the impacts of the project on his/her land. If the Secretary is satisfied that an independent review is warranted, the Proponent must within 2 months of the Secretary's decision: (a) consult with the landowner to determine his/her concerns; (b) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, to conduct monitoring on the land, to: • determine whether the project is complying with the relevant impact assessment criteria in schedule 3; and • identify the source(s) and scale of any impact on the land, and the project's contribution to this impact; and • give the Secretary and landowner a copy of the independent review.	Not Triggered	Landowner has not requested an Independent Review to be undertaken by DPE but DPE is undertaking their own	
2	If the independent review determines that the project is complying with the relevant impact assessment criteria in schedule 3, then the Proponent may discontinue the independent review with the approval of the Secretary.	Not Triggered	As above	
3	If the independent review determines that the project is not complying with the relevant impact assessment criteria in schedule 3, and that the project is primarily responsible for this non-compliance, then the Proponent must: (a) take all reasonable and feasible measures, in consultation with the landowner, to ensure that the project complies with the relevant criteria; and (b) conduct further monitoring to determine whether these measures ensure compliance. If the additional monitoring referred to above subsequently determines that the project is complying with the relevant criteria in schedule 3, or the Proponent and landowner enter into a negotiated agreement to allow these exceedances, then the Proponent may discontinue the independent review with the approval of the Secretary.	Not Triggered	As above	
4	If the independent review determines that the relevant criteria in schedule 3 are being exceeded, but that more than one project is responsible for this non-compliance, then the Proponent must, together with the relevant project/s: (a) take all reasonable and feasible measures, in consultation with the landowner, to ensure that the relevant criteria are complied with; and (b) conduct further monitoring to determine whether these measures ensure compliance; or (c) secure a written agreement with the landowner and other relevant projects to allow exceedances of the criteria in schedule 3, to the satisfaction of the Secretary. If the additional monitoring referred to above subsequently determines that the projects are complying with the relevant criteria in schedule 3, then the Proponent may discontinue the independent review with the approval of the Secretary.	Not Triggered	As above	
5	If the landowner disputes the results of the independent review, either the Proponent or the landowner may refer the matter to the Secretary for resolution. If the matter cannot be resolved within 21 days, the Secretary shall refer the matter to an Independent Dispute Resolution Process.	Not Triggered	As above	
SCHEDULE 5 ENVIRONMENTAL MANAGEMENT, MONITORING, AUDITING AND REPORTING				
ENVIRONMENTAL MANAGEMENT				
Environmental Management Strategy				

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
1	The Proponent must revise an Environmental Management Strategy for the project. This strategy must: (a) be submitted for approval to the Secretary prior to 30 June 2013; (b) provide the strategic framework for the environmental management of the project; (c) identify the statutory approvals that apply to the project; (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project; (e) describe the procedures that would be implemented to: • keep the local community and relevant agencies informed about the operation and environmental performance of the project; • receive, handle, respond to, and record complaints; • resolve any disputes that may arise during the course of the project; • respond to any non-compliance; and • respond to emergencies; and (f) include: • copies of any strategies, plans and programs approved under the conditions of this approval; and • a clear plan depicting all the monitoring required to be carried out under the conditions of this approval. The Proponent must implement the approved management strategy as approved from time to time by the Secretary.	Administrative Non-Compliance	Preparation: * Approval letter from DPE dated 10 September 2013 for the Environmental Management Strategy (EMS). It was not updated following the 2013 or 2016 audits. Admin Non - Compliance. (a) EMS submission letter dated 26 June 2013 (b) EMS - Section 1.0 (c) EMS - Section 4.0 (d) EMS - Section 5.0 (e) EMS - Section 8.1, 8.2, 8.3, 8.6 and 8.7 (f) EMS - Section 9.0, 12.0 and copies of management plans maintained on the Mannering Colliery website Admin Non-compliant: Table 9 and 10 list the incorrect monitoring frequency for conductivity, TSS, pH and Oil & Grease Observation: The EMS was last reviewed in September 2013 and is labelled Centennial Mannering Implementation: * Results from environmental monitoring (dust, noise, surface water and groundwater) reported in 2016, 2017 and 2018 Annual Reviews. * Management plans reviewed and assessed as part of this audit. * Complaints/Incidents Register for Mannering maintained. * 2 April 2019 non-compliance (TSS exceedance) reported to EPA.	*Review the Environmental Management Strategy (EMS). *Include in the reviewed EMS the incorrect monitoring frequency for conductivity, TSS, pH and Oil & Grease
Management Plan Requirements				
2	The Proponent must ensure that the management plans required under this approval are prepared in accordance with any relevant guidelines, and include: (a) detailed baseline data; (b) a description of: • the relevant statutory requirements (including any relevant approval, licence or lease conditions); • any relevant limits or performance measures/criteria; • the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the project or any management measures; (c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria; (d) a program to monitor and report on the: • impacts and environmental performance of the project; • effectiveness of any management measures (see (c) above); (e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible; (f) a protocol for managing and reporting any: • incidents; • complaints; • non-compliances with statutory requirements; and • exceedances of the impact assessment criteria and/or performance criteria; and (g) a protocol for periodic review of the plan. Note: The Secretary may waive some of these requirements if they are unnecessary for particular management plans.	Administrative Non-Compliance	(a) WMP: Section 8.2, LMP: Section 6.1, ACHMP: Attachment 3, Non-Indigenous CHMP: Section 4.0 & 5.0 (b) WMP: Section 4.0 & 8.0, LMP: Section 2, ACHMP: Attachment 3, Non-Indigenous CHMP: Section 1.2 (c) WMP: Section 8.0 & 9.0, LMP: Section 4.4 & 6.2, ACHMP: Attachment 3, Non-Indigenous CHMP: Section 6.0 (d) WMP: Section 8.0, 9.3 & 9.4, Non-Indigenous CHMP: Section 7.1 Admin Non-compliant: The LMP & ACHMP does not include reporting mechanisms (i.e. Annual Review) (e) LMP: Section 9.1, ACHMP: Section 13.0, Non-Indigenous CHMP: Section 6.2 Admin Non-compliant: The WMP does not include a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible (f) LMP: Section 9.1 & 7.1, ACHMP: Section 13.0 & 18.0, Non-Indigenous CHMP: Section Admin Non-compliant: The WMP does not include a protocol for managing and reporting any incidents, complaints, non-compliances with statutory requirements and exceedances of the impact assessment criteria and/or performance criteria. Admin Non-compliant: The ACHMP does not include a complaints handling procedure (g) a protocol for periodic review of the plan. WMP: Section 11 Admin Non-compliant: The ACHMP does not include a protocol for periodic review of the plan. Observation: The management plans condition has not been included in regulatory requirements section of the WMP, LMP, ACHMP and Non-Indigenous CHMP	* All management plans require updating due to the length of time since the previous reviews. * Ensure there is a cross referencing table covering this condition in management plans. * Additional detail including Trigger, Action, Response Tables (contingency plan) should be developed in the next round of management plan updates. * Include in the LMP and ACHMP reporting mechanisms (i.e. Annual Review) * Include in the WMP a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible * Include in the WMP a protocol for managing and reporting any incidents, complaints, non-compliances with statutory requirements; and exceedances of the impact assessment criteria and/or performance criteria * Include a complaints handling procedure in the include ACHMP * Include a protocol for periodic review of the ACHMP * Ensure all management plans required under PA 06_0311 detail and consider the management condition.
Annual Review				

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
3	By the end of March each year, or other timing as may be agreed by the Secretary, the Proponent must submit a report to the Department reviewing the environmental performance of the project to the satisfaction of the Secretary. This review must: (a) describe the development (including any rehabilitation) that was carried out in the past calendar year, and the development that is proposed to be carried out over the current financial year; (b) include a comprehensive review of the monitoring results and complaints records of the project over the past calendar year, which includes a comparison of these results against the: • the relevant statutory requirements, limits or performance measures/criteria; • requirements of any plan or program required under this approval; • the monitoring results of previous years; and • the relevant predictions in the documents listed in condition 2 of Schedule 2; (c) identify any non-compliance over the past year, and describe what actions were (or are being) taken to ensure compliance; (d) identify any trends in the monitoring data over the life of the project; (e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and (f) describe what measures will be implemented over the current financial year to improve the environmental performance of the project.	Administrative Non-Compliance	Preparation: * Approval letter from DPE for 2016 Annual Review, dated 6 July 2017. * Approval letter from DPE for 2017 Annual Review, dated 20 March 2018. Admin Non-compliant: 2016 Annual Review not submitted by March 31 2017. Submission email from LakeCoal to DPE dated 30 April 2017. * Letter from LakeCoal to DPE dated 29 March 2019 stating Annual Review uploaded on the Mannering Colliery website. * Email from LakeCoal to DPE dated 30 March stating Annual Review uploaded on the Mannering Colliery website. (a) Section 2, 5 & 8 - 2016, 2017, 2018 Annual Reviews (b) Section 3 & 4 - 2016, 2017, 2018 Annual Reviews Admin Non-compliant: The Annual Reviews do not provide: * Clearly state the performance criteria for noise and water quality; * Requirements of plans/programs required under this approval for noise and water quality; * The monitoring results of previous years, for noise and water; and * The relevant predictions in environmental assessments for air quality, noise and water. (c) Executive summary, Section 3 & 7 - 2016, 2017, 2018 Annual Reviews (d) Non-compliant: Trends in the monitoring data (for air quality, noise and water) over the life of the project are not included in the 2016, 2017 and 2018 Annual Reviews. (e) Non-compliant: Discrepancies between the predicted impacts in the EAs (for air quality, noise and water) and actual impacts of the project are not included in the 2016, 2017 and 2018 Annual Reviews. (f) Section 2, 3 & 6 - 2016, 2017 and 2018 Annual Reviews. Admin Non-compliant: The Annual Reviews have not been prepared to cover the current Annual Review Guidelines. See link: https://www.planning.nsw.gov.au/Policy-and-Legislation/Mining-and-Resources/~/media/3AA21D35168042FE813DD0FB92E00E58.ashx	* Ensure Annual Reviews are submitted to DPE by 31 March. * Future Annual Reviews should clearly state noise and water quality performance criteria, and provide monitoring results against these. * Include in future Annual Reviews: - Requirements of plans/programs required under PA 06_0311 for noise and water quality; - The monitoring results of previous years, for noise and water; - The relevant predictions in environmental assessments for air quality, noise and water; - Trends in the monitoring data for air quality, noise and water, over the life of the project; and - Discrepancies between the predicted impacts in the EAs for air quality, noise and water, and actual impacts of the project. * The Annual Reviews are set out differently to the DPE Annual Review Guidelines (2015). Ensure table of contents matches the guidelines. * IEA Actions Plans should be included in every Annual Review going forward.
Revision of Strategies, Plans and Programs				
4	Within 3 months of: (a) the submission of an annual review under Condition 3 above; (b) the submission of an incident report under Condition 6 below; (c) the submission of an audit under Condition 8 below; or (d) any modification to the conditions of this approval (unless the conditions require otherwise), the Proponent must review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Secretary. Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the project.	Administrative Non-Compliance	Admin Non-compliant: Management plans have not been updated: (a) Within 3 months of the submission of the 2016 and 2017 Annual Reviews; (b) Since the submission of an incident (incidents described in the 2016 and 2017 Annual Reviews); (c) Since the submission of the 2016 IEA by Hansen Bailey; and (d) Since the modification to PA 06_0311 (Mod 4), from August 2016. These management plans include the WMP dated January 2013, LMP dated April 2016, ACHMP dated November 2012 and Non-Indigenous CHMP dated February 2013.	* Include statement in future Annual Reviews stating that Management Plans have been reviewed and state which management plans will or will not be updated within 3 months. * Develop and implement a plan to update Mannering's Strategies, Plans and Programs
Community Consultative Committee				
5	The Proponent must continue to operate a Community Consultative Committee (CCC) for the project in accordance with the Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects (Department of Planning, 2007, or its latest version), and to the satisfaction of the Secretary. Notes: • The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Proponent complies with this approval; and • In accordance with the guideline, the Committee should be comprised of an independent chair and appropriate representation from the Proponent, Councils and the local community.	Compliant	* CCC described in 2016, 2017 and 2019 Annual Reviews: Comprised of an independent chair and appropriate representation from the Proponent, Councils and the local community. * Quarterly CCC meeting minutes from 2016, 2017 and 2018. * CCC is combined for Mannering Colliery and Chain Valley Colliery.	
REPORTING				
Incident Reporting				
6	The Proponent must notify, at the earliest opportunity, the Secretary and any other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment. For any other incidents associated with the project, the Proponent must notify the Secretary and any other relevant agencies as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of the incident, the Proponent must provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.	Administrative Non-Compliance	Admin Non-compliant: Noise exceedance on 11 August 2016 reported to DPE on 12 August 2016, according to 2016 Annual Review. Detailed incident report could not be provided by LakeCoal, therefore not able to determine when or if an incident report was submitted. * Noise exceedance on 29 August 2018 reported to DPE on same day (email to DPE Compliance Mailbox from LakeCoal dated 29 August 2018). Detailed LakeCoal incident report provided to DPE on 7 September 2018. Compliant as LakeCoal was granted an extension to provide the detailed report, via email from EPA dated 5 September 2016. * Email from LakeCoal to DPE, dated 11 April 2019, reporting TSS exceedance at Point 1 on 2 April 2019. Detailed LakeCoal incident report attached to email. Observation: Complaints/incidents register indicates no incidents during the audit period.	* Ensure all incidents are reported within the required timeframe. * Ensure the complaints/incidents register includes all incidents.
Operation of Plant and Equipment				
7	The Proponent must provide regular reporting on the environmental performance of the project on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this approval.	Compliant	As of 22 April 2019: * Annual Reviews posted on Mannering Colliery website. * Monthly Environmental Report posted on Mannering website.	
INDEPENDENT ENVIRONMENTAL AUDIT				

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
8	By the end of March 2013 and every three years thereafter, unless the Secretary directs otherwise, the Proponent must commission and pay the full cost of an Independent Environmental Audit of the project. This audit must: (a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary; (b) include consultation with the relevant agencies; (c) assess the environmental performance of the project and assess whether it is complying with the requirements in this approval and any relevant EPL or Mining Lease (including any assessment, plan or program required under these approvals); (d) review the adequacy of any approved strategy/plan/program required under this approval: and, if necessary; (e) recommend appropriate measures or actions to improve the environmental performance of the project, and/or any assessment, strategy/plan/program required under the abovementioned approvals; and (f) be conducted and reported to the satisfaction of the Secretary. Note: This audit team must be led by a suitably qualified auditor and include experts in any field specified by the Secretary.	Compliant	* Last independent environmental audit (IEA) undertaken in 2016 by Hansen Bailey * Hansen Bailey IEA Report dated 26 July 2016 (a) DPE letter dated 28 January 2016 endorsing audit team (Hansen Bailey). (b) Hansen Bailey IEA Report - Section 1.5.3 & Table 4. (c) Hansen Bailey IEA Report - Section 3 & 4 & Appendix E (Table B). (d) Hansen Bailey IEA Report - Section 4 & Appendix E. (e) Hansen Bailey IEA Report - Section 6. (f) DPE approval letter to LakeCoal dated 9 January 2017.	
9	Within 12 weeks of commissioning this audit, or as otherwise agreed by the Secretary, the Proponent must submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.	Administrative Non-Compliance	* Correspondence indicating when the Hansen Bailey IEA report was submitted to DPE could not be provided by LakeCoal. Correspondence indicating requesting/granting extension could not be provided. * According to DPE letter dated 28 January 2016 IEA audit was due to be completed on 30 March 2016. * Hansen Bailey IEA report dated July 2016. * Mannering Coal IEA – Response to Audit Recommendations dated 2 September 2016. * Response to Audit Recommendations to accompany submission of IEA Report. * Admin Non-compliant: Hansen Bailey IEA report not submitted within required timeframe.No submission letter provided to SLR. For the 2019 IEA, SLR were endorsed by the DPE on 28 February 2019. SLR were officially commissioned by LakeCoal -Pty Ltd Administrators Appointed on 5 March 2019, when a purchase order was granted. Therefore 12 weeks from this date is 28 May 2019 for submission.	*Ensure future IEA reports are submitted within the required timeframe.
ACCESS TO INFORMATION				
10	The Proponent must: (a) make copies of the following publicly available on its website: • the documents referred to in condition 2 of Schedule 2; • all relevant statutory approvals for the project; • all approved strategies, plans and programs required under the conditions of this approval; • a comprehensive summary of the monitoring results of the project, reported in accordance with the specifications in any approved plans or programs required under the conditions of this or any other approval; • a complaints register, which is to be updated on a monthly basis; • minutes of CCC meetings; • the annual reviews required under this approval; • any independent environmental audit of the project, and the Proponent's response to the recommendations in any audit; and • any other matter required by the Secretary; and (b) keep this information up-to-date, to the satisfaction of the Secretary.	Administrative Non-Compliance	Admin Non-compliant: The following documents are not included on the project (LakeCoal) website: * The documents referred to in condition 2 of Schedule 2 (EAs for the original project and Mod 1 - Mod 4); * Up-to-date Complaints Register. The Register only includes complaints up to February 2019; * CCC minutes for 2017, 2018 and 2019; * 2016 Audit Action Plan; * Noise monitoring data not included in the Monthly Website Report; and * 2018 - 2020 MOP. New Delta Coal website checked on 13 May 2018 and the following documents are not included on the website: * The documents referred to in condition 2 of Schedule 2 (EAs for the original project and Mod 1 - Mod 4); * Complaints Register (link not working); * Noise monitoring data not included in the Monthly Website Report; and * EMS and Management Plans (only PIRMP up on website).	Include the following documentation on the project website: * The documents referred to in condition 2 of Schedule 2 (EAs for the original project and Mod 1 - Mod 4); * Up-to-date Complaints Register. The Register only includes complaints up to February 2019; * CCC minutes for 2017, 2018 and 2019; * 2016 Audit Action Plan; * Noise monitoring data not included in the Monthly Website Report; and * 2018 - 2020 MOP.
APPENDIX 4A: NOISE COMPLIANCE ASSESSMENT				
Applicable Meteorological Conditions				
1	The noise criteria in Tables 1 and 2 in Appendix 4B are to apply under all meteorological conditions except the following: (a) wind speeds greater than 3m/s at 10 metres above ground level; (b) stability category F temperature inversion conditions and wind speeds greater than 2 m/s at 10 m above ground level; or (c) stability category G temperature inversion conditions.	Note		
Determination of Meteorological Conditions				
2	Except for wind speed at microphone height, the data to be used for determining meteorological conditions must be that recorded by the meteorological station located on the site.	Compliant	Meteorological station located on the site.	
Compliance Monitoring				
3	Attended monitoring is to be used to evaluate compliance with the relevant conditions of this approval.	Compliant	Attended monitoring included in 2016, 2017 and 2018 Annual Reviews	
4	This monitoring must be carried out at least once a month (at least two weeks apart) for the first 12 months following recommencement of underground coal extraction, and then quarterly thereafter, unless the Secretary directs otherwise. Note: The Secretary may direct that the frequency of attended monitoring increase or decrease at any time during the life of the project.	Compliant	* According to 2016 Annual Review monthly noise monitoring commenced after the recommencement of mining operations. May 2016 to December 2016 noise monitoring results included in the Annual Review. Operations recommenced in May 2016, according to the 2016 Annual Review and confirmed by site communications. * Monitoring results included in 2017 & 2018 Annual Review.Based on the recommencement of operations (May 2016) monitoring should have been completed monthly until May 2017. Monthly monitoring completed in 2016 and 2017. * "Mannering Colliery Quarterly Attended Noise Monitoring Quarter 1 - 2019" report	

<table>
<tr><th>Condition Number</th><th>Condition</th><th>Compliance Status</th><th>Evidence</th><th>Recommended Action</th></tr>
<tr><td>5</td><td>Unless the Secretary agrees otherwise, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the NSW Industrial Noise Policy (as amended from time to time), in particular the requirements relating to:
(a) monitoring locations for the collection of representative noise data;
(b) meteorological conditions during which collection of noise data is not appropriate;
(c) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment; and
(d) modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration</td><td>Compliant</td><td>Mannering Colliery Quarterly Attended Noise Monitoring Quarter 1 - 2019" report, "Mannering Colliery Environmental Noise Monitoring, April 2018" report and "Mannering Colliery Environmental Noise Monitoring, February 2017" report reference NSW Industrial Noise Policy, for noise assessment methodology.</td><td></td></tr>
<tr><td colspan="5">APPENDIX 4B: ALTERNATE NOISE CONDITIONS</td></tr>
<tr><td>1</td><td>From the recommencement of underground coal extraction at Mannering Colliery until 18 months thereafter, the Proponent must ensure that the noise generated by the project does not exceed the noise impact assessment criteria in Table 1 at any residence on privately-owned land.</td><td>Note</td><td></td><td></td></tr>
<tr><td></td><td>Table 1: Noise limits dB(A)
<table><tr><th>Day
$L_{Aeq(15\ min)}$</th><th>Evening
$L_{Aeq(15\ min)}$</th><th colspan="2">Night</th><th>Location</th></tr><tr><td></td><td></td><td>$L_{Aeq(15\ min)}$</td><td>$L_{A1(1\ min)}$</td><td></td></tr><tr><td>40</td><td>40</td><td>40</td><td>49</td><td>4 – di Rocco</td></tr><tr><td>43</td><td>43</td><td>41</td><td>49</td><td>5 – Keighran</td></tr><tr><td>42</td><td>42</td><td>41</td><td>49</td><td>6 – Swan</td></tr><tr><td>39</td><td>39</td><td>39</td><td>47</td><td>7 – Druitt</td></tr><tr><td>46</td><td>46</td><td>46</td><td>47</td><td>8 – May</td></tr><tr><td>41</td><td>41</td><td>41</td><td>51</td><td>9 – Jeans</td></tr><tr><td>39</td><td>39</td><td>39</td><td>49</td><td>11 – Jeans</td></tr><tr><td>39</td><td>39</td><td>39</td><td>51</td><td>18 – Jeans</td></tr><tr><td>40</td><td>40</td><td>40</td><td>51</td><td>20 – Knight and all other Chain Valley Bay residences</td></tr></table>Note: The location of the land referred to in Table 1 is shown on the figure in Appendix 4.</td><td>Non-Compliant (Low Risk)</td><td>* Recommencement of underground coal extraction at Mannering Colliery until 18 months thereafter is; April 2016 till October 2017.
* Non-compliant: According to 2016 Annual Review, on 12 August 2016 LakeCoal was advised by its independent noise monitoring consultant (Global Acoustics)
that they had recorded a 3dB exceedance of the site's LAeq15 Minute noise criteria at receiver RA2 (Macquarie Shores Retirement Village) during the evening monitoring on 11 August 2016 for Mannering Colliery.

* Noise complaints increased during the audit period, with 0 noise complaints in 2016 and 2017, but 10 complaints in 2018, and 10 complaints from January 2019 to March 2019.</td><td>* Continue to undertake noise monitoring.
* Undertake follow-up actions if noise exceedances occur.
* Continue to manage noise complaints.
* Prepare a report to determine what further actions can be undertaken to reduce noise exceedances and noise complaints.</td></tr>
<tr><td></td><td>Noise generated by the project is to be measured in accordance with the relevant requirements of the NSW Industrial Noise Policy (as may be updated from time-to-time). Appendix 4A sets out the meteorological conditions under which these criteria apply, and the requirements for evaluating compliance with these criteria.

However, these criteria do not apply if the Proponent has an agreement with the owner/s of the relevant residence or land to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.</td><td>Note</td><td></td><td></td></tr>
<tr><td>2</td><td>Following the expiry of the 18 month period referred to in condition 1 above, the Proponent must ensure that the noise generated by the project does not exceed the noise impact assessment criteria in Table 2 at any residence on privately-owned land.</td><td>Note</td><td></td><td></td></tr>
<tr><td></td><td>Table 2: Noise limits dB(A)
<table><tr><th>Day
$L_{Aeq(15\ min)}$</th><th>Evening
$L_{Aeq(15\ min)}$</th><th colspan="2">Night</th><th>Location</th></tr><tr><td></td><td></td><td>$L_{Aeq(15\ min)}$</td><td>$L_{A1(1\ min)}$</td><td></td></tr><tr><td>40</td><td>40</td><td>40</td><td>49</td><td>4 – di Rocco</td></tr><tr><td>41</td><td>41</td><td>41</td><td>49</td><td>5 – Keighran</td></tr><tr><td>41</td><td>41</td><td>41</td><td>49</td><td>6 – Swan</td></tr><tr><td>39</td><td>39</td><td>39</td><td>47</td><td>7 – Druitt</td></tr><tr><td>45</td><td>45</td><td>43</td><td>47</td><td>8 – May</td></tr><tr><td>41</td><td>41</td><td>41</td><td>51</td><td>9 – Jeans</td></tr><tr><td>39</td><td>39</td><td>39</td><td>49</td><td>11 – Jeans</td></tr><tr><td>39</td><td>39</td><td>39</td><td>51</td><td>18 – Jeans</td></tr><tr><td>40</td><td>40</td><td>40</td><td>51</td><td>20 – Knight and all other Chain Valley Bay residences</td></tr></table>Note: The location of the land referred to in Table 2 is shown on the figure in Appendix 4.</td><td>Non-Compliant (Low Risk)</td><td>Non-compliant: According to 2016 Annual Review, on 29 August 2018, there was an exceedance recorded at 1dB exceedance of the site's LAeq15 Minute
noise criteria at receiver RA2 (Macquarie Shores Retirement Village) during the scheduled night monitoring.

* Noise complaints increased during the audit period, with 0 noise complaints in 2016 and 2017, but 10 complaints in 2018, and 10 complaints from January 2019 to March 2019.</td><td>* Continue to undertake noise monitoring.
* Undertake follow-up actions if noise exceedances occur.
* Continue to manage noise complaints.
* Prepare a report to determine what further actions can be undertaken to reduce noise exceedances and noise complaints.</td></tr>
<tr><td></td><td>Noise generated by the project is to be measured in accordance with the relevant requirements of the NSW Industrial Noise Policy (as may be updated from time-to-time). Appendix 4A sets out

the meteorological conditions under which these criteria apply, and the requirements for evaluating compliance with these criteria.

However, these criteria do not apply if the Proponent has an agreement with the owner/s of the relevant residence or land to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.</td><td>Note</td><td></td><td></td></tr>
</table>

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
3	The Proponent must prepare a report on all noise mitigation measures required to achieve the noise limits in Table 2 to the satisfaction of the Secretary. This report must: (a) be prepared by a suitably qualified and experienced acoustic consultant whose appointment has been approved by the Secretary; (b) be prepared in consultation with EPA, and submitted to the Department for approval within 6 months after recommencement of underground coal extraction; and (c) include an action plan for the implementation of any reasonable and feasible recommendations of the report. The Proponent must implement the noise mitigation measures prior to the expiry of the 18 month period referred to in condition 1 above.	Non-Compliant (Low Risk)	* The Preliminary Noise Mitigation Options Report for the Mannering Colliery - Continuation of Mining Project dated 31 May 2017, prepared by Atkins Acoustics and Associates Pty Ltd could not be provided to SLR from Lake Coal * DPE approval letter dated 9 June 2017, for the Preliminary Noise Mitigation Options Report. Admin non-compliant: Acoustic consultant was not endorsed by DPE Non-compliant: Noise mitigation measures required to be undertaken by October 2017. According to site communications these mitigation measures were undertaken from 2017 to February 2019.	
4	The Proponent must prepare a Noise Compliance Report for the project to the satisfaction of the Secretary. The report must: (a) be prepared by a suitably qualified acoustic consultant, whose appointment has been approved by the Secretary; (b) be prepared in consultation with EPA, and be submitted for approval within 6 months of the expiry of the 18 month period referred to in condition 1 above; and (c) investigate and evaluate the effectiveness of the noise mitigation measures required under condition 3 and compliance with the noise limits in Table 2.	Non-Compliant (Low Risk)	(a) Non-compliant: Letter of endorsement for EMM to undertake the 2019 Noise Mitigation Study could not be found by LakeCoal. (b) Non-compliant: The Noise Mitigation Study was not prepared in consultation with EPA and was not submitted for approval by March 2018. (c) According to the EMM Noise Mitigation Study dated March 2019: -Noise mitigation works implemented by the previous operators in 2018 have decreased site noise emission levels at all neighbouring noise-sensitive receivers. -Current and proposed MC noise emissions are predicted to comply with the relevant long-term noise criteria outlined in MP 06_0311 at all assessment locations under worst case meteorological conditions. -LAmax noise level events at the site are also predicted to remain below the relevant sleep disturbance criteria.	

Statement of Commitments and Noise Compliance Conditions

Condition Aspect	Condition	Compliance Status	Evidence	Recommended Action
Appendix 3 - Statement of Commitments				
Revised Statement of Commitments (December 2015) - Revised Statement of Commitments				
Subsidence	Mining to be limited to the approved bord-and-pillar method where coal recovery is limited to first workings only. Monitoring of the existing subsidence monitoring marks will continue and additional subsidence monitoring marks will be installed above the proposed mining areas to measure the subsidence and verify that subsidence is within the predicted levels. If it is identified that subsidence levels are greater than the predicted maximum of 20 millimetres, the DTIRIS Minerals Division will be consulted to determine appropriate management and mitigation actions.	Compliant	* 2016 & 2017 Annual Reviews confirm bord-and-pillar method was used for coal recovery. * 2016 & 2017 Annual Reviews confirm additional subsidence monitoring marks were installed above the proposed mining areas. * 2016 & 2017 Annual Reviews state "No discernible subsidence impact from the LRP workings was observed during the reporting period." and subsidence monitoring results for Mannering Colliery included in the reports. Based on a review of monitoring results provided in Annual Review all results appear below the 20mm trigger. Observation: The 2016 & 2017 Annual Reviews do not indicate where the subsidence monitoring data originated from and who undertook the subsidence monitoring.	A separate subsidence impact assessment report should be prepared annually and appended to the Annual Review. This report should be prepared or peer reviewed by a subsidence specialist. This should assess subsidence performance measures from the Project Approval
Water Management	LakeCoal will undertake a review of the existing site water management system in consultation with the EPA. The water level within the sediment pond system will be monitored and kept at a relatively low operating level, such that the ponds can provide a detention function in a significant rainfall event. A visual assessment of the unnamed creek will be undertaken every 6 months to monitor stability and erosion. Where practicable, underground water levels will be recorded to monitor changes in the level of water stored in underground depressions and to verify that the rate of extraction is sufficient. The extraction of underground water from the mine workings will be undertaken in accordance with the Bore License (20BL172016) issued under the Water Act 1912. To enable on-going assessment of the quality of water discharged, the existing monitoring program will be maintained for the life of the Project with the following enhancements: • An assessment of the surrounding catchments summarising land uses and other background information to characterise an appropriate water quality; and • Annual monitoring of heavy metals at the monitoring location identified as 'Downstream'.	Non-Compliant (Low Risk)	* During site inspection noted that the sediment pond system has freeboard. Non-compliant: Visual assessment of the unnamed creek is not undertaken every 6 months to monitor stability and erosion. This requirement is included in the WMP. *2016, 2017 & 2018 Annual Reviews describe: -Groundwater extraction from bore 20BL172016. -Monitoring of groundwater extraction. -Section 8.2 of the WMP provides background information of the water quality of the unnamed creek. Non-compliant: Annual monitoring (i.e. monitoring every 12 months) of heavy metals not undertaken at the monitoring location identified as "Downstream". -ALS analytical results dated 18 April 2017, 22 November 2018, 12 March 2019, and include analysis results for heavy metals for monitoring location "Downstream". Observation: Monitoring results for the "Downstream" monitoring location is not included in Annual Reviews.	*Undertake visual assessment of the unnamed creek every 6 months, to monitor stability and erosion. A TARP should be developed in the next review of the WMP which outlines quantitative and qualitative triggers for the creek and erosion. *Include results of the visual assessment of the unnamed creek in Annual Reviews. Include a reference again previous results. * Ensure monitoring undertaken at the "Downstream" monitoring location is undertaken every 12 months. * Include analysis results from monitoring undertaken at the "Downstream" monitoring location in Annual Reviews.
Terrestrial Ecology	Any disturbance resulting from the activities carried out under this mining lease must be rehabilitated to the satisfaction of the Minister.	Compliant	* Weed management described in 2016, 2017 & 2018 Annual Reviews. * During site inspection noted: -Weed management is being undertaken at the site; and -Large trees are retained at the site. * No disturbance at site during the audit period, according to 2016, 2017 & 2018 Annual Reviews. * Letter dated 1 December 2016 regarding LakeCoal preferred option (Option 2) * According to 2016, 2017 & 2018 Annual Reviews no discernible subsidence impact from the Link Road Project (LRP) workings was observed during the audit period.	
Aquatic Ecology	If monitoring indicates that mine-induced subsidence levels exceed 20 millimetres, a review will be undertaken to identify any potential impacts to aquatic ecology.	Compliant	According to 2016, 2017 & 2018 Annual Reviews no discernible subsidence impact from the Link Road Project (LRP) workings was observed during the audit period.	

Condition Aspect	Condition	Compliance Status	Evidence	Recommended Action
Aboriginal Heritage	Activities will continue to be managed in accordance with the Colliery's Aboriginal Cultural Heritage Management plan (ACHMP). Given the Colliery's current ACHMP is integrated with other Centennial sites, a separate ACHMP will be developed. If monitoring indicates that mine-induced subsidence levels exceed 20 millimetres, a review will be undertaken to identify any potential impacts to cultural heritage in consultation with OEH. All relevant Centennial Mannering staff and contractors will be made aware of their statutory obligations for Aboriginal cultural heritage under the NP&W Act as part of the existing mine induction process. An Aboriginal Cultural Heritage Management Plan (ACHMP) will be developed and implemented for the identified Aboriginal heritage items within the Project Site in consultation with the relevant Aboriginal stakeholders. If additional sites are identified they will be assessed for cultural significance and be incorporated into the ACHMP. In the unlikely event that skeletal remains are identified, the NSW Police Coroner will be contacted to determine if the material is of Aboriginal origin. If determined to be Aboriginal, contact will be made with the OEH, a suitably qualified archaeologist and representatives of the relevant Aboriginal stakeholder groups to determine an action plan for the management of the skeletal remains and formulate management recommendations if required.	Administrative Non-Compliance	Admin non-compliant: A separate ACHMP has not been developed. It still covers other Centennial sites. * Mine-induced subsidence levels do not exceed 20 millimetres * "Lake Coal Surface Generic Surface Induction" and "Environmental Awareness Training" Assessment includes Aboriginal heritage aspects * Aboriginal Cultural Heritage Management Plan (ACHMP) developed for the identified Aboriginal heritage items within the Project Site. * ACHMP prepared in consultation with the relevant Aboriginal stakeholders (refer to Section 2.0).	
European Heritage	The Proponent must comply with any reasonable requirement/s of the Secretary arising from the Department's assessment of: (a) any reports, plans, programs or correspondence that are submitted in accordance with the conditions of this approval; and (b) the implementation of any actions or measures contained in these reports, plans, programs or correspondence.	Administrative Non-Compliance	* Mine-induced subsidence levels do not exceed 20 millimetres * Admin Non-compliant: "Lake Coal Surface Generic Surface Induction" and "Environmental Awareness Training" Assessment does not include European heritage aspects.	Include European heritage aspects in the "Lake Coal Surface Generic Surface Induction" and "Environmental Awareness Training" Assessment
Air Quality	A review of dust management strategies and mitigation measures will be undertaken against the best practice dust mitigation measures identified in the NSW Coal Mining Benchmarking Study: International Best Practice Measures to Prevent and/or Minimise Emissions of Particulate Matter from Coal Mining (Katestone Environmental Pty Ltd 2011), which was prepared for OEH. The review will identify any additional dust management practices that are reasonable and feasible for implementation at Mannering Colliery and will be undertaken generally in accordance with any requirements of a pollution reduction program that may be imposed by the OEH on the Manning Colliery EPL in the future.	Compliant	Outside of the audit period. This document would need to have been prepared for the previous mining lease renewal. The CCL 719 was renewed by the RR in a letter dated 2 October 2015.	
Traffic	Centennial Mannering will upgrade the Rutleys Road - Mannering Colliery Access Road intersection to improve safety and operational efficiency.	Not Triggered	According to site communications and the 2016, 2017 & 2018 Annual Reviews an upgrade to the Rutleys Road - Mannering Colliery Access Road intersection was not undertaken during the audit period.	
Socio-Economic	Centennial Mannering is committed to on-going community consultation and will continue to engage the community for the purposes of providing information relating to on-going operations and the Extension of Mine Project.	Compliant	* CCC described in 2016, 2017 and 2019 Annual Reviews. * Quarterly CCC meeting minutes from 2016, 2017 and 2018 * CCC is combined for Mannering Colliery and Chain Valley Colliery	
Rehabilitation	Rehabilitation will be undertaken in accordance with the Colliery's mining operations plan, which will be updated to include any changes as a result of the proposed modification. The Mining Operations Plan will be amended to reflect the proposed modification and will include integrated rehabilitation and environmental management.	Compliant	* Rehabilitation has not been undertaken at the site * The 2018 - 2020 Mining Operations Plan (MOP) reflects Mod 4 and includes integrated rehabilitation and environmental management.	
Monitoring	The Environmental Monitoring Program will be reviewed and updated, as required, to incorporate the commitments made in the Environmental Assessment and any additional consent conditions.	Administrative Non-Compliance	The Environmental Monitoring Program has not been reviewed and updated since November 2011, and does not to incorporate the commitments made in the Environmental Assessments (EAs) for Mod 1, Mod 2, Mod 3 & Mod 4, and any additional consent conditions (for these modifications).	* Update the Environmental Monitoring Program to incorporate any commitments made in the Environmental Assessments (EAs) for Mod 1, Mod 2, Mod 3 & Mod 4, and any additional consent conditions (for these modifications).

Environment Protection Licence

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
1 Administrative Conditions				
A1	What the licence authorises and regulates	Note		
A1.1	This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation. Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.	Note		
	Scheduled Activity / **Fee Based Activity** / **Scale** Coal works / Coal works / 0 - 2000000 T annual handing capacity Mining for coal / Mining for coal / > 500000 - 2000000 T annual production capacity Any disturbance resulting from the activities carried out under this mining lease must be rehabilitated to the satisfaction of the Minister.	Compliant	* 2016 Annual Review - 93,972 tonnes coal mined & handled. * 2017 Annual Review - 3,699 tonne coal mined & 522,132 tonne coal handled. * 2018 Annual Review - 0 tonne coal mined & 394,213 tonne coal handled.	
A1.2	The licensee must not: (a) Produce by mining activities more than 1.1 million tonnes of coal within any 12 month period. (b) Undertake coal works handling more than 1.3 million tonnes within any 12 month period, where ROM coal handled on the premises may be made up of coal produced by mining activities from both the Mannering premises as defined in this licence or Chain Valley premises as defined in Environment Protection Licence number 1770. Note: These limits on the scale of the fee based activities are based on project Approval 06_0311 granted under the Environmental Planning and Assessment Act 1979 which limits extraction to 1.1 million tonnes of run of mine (ROM) coal per year and its modifications, the most recent of which is dated 27 November 2014.	Compliant	* 2016 Annual Review - 93,972 tonnes coal mined & handled. * 2017 Annual Review - 3,699 tonne coal mined & 522,132 tonne coal handled. * 2018 Annual Review - 0 tonne coal mined & 394,213 tonne coal handled.	
A2	Premises or plant to which this licence applies	Note		
A2.1	The Proponent must comply with any reasonable requirement/s of the Secretary arising from the Department's assessment of: (a) any reports, plans, programs or correspondence that are submitted in accordance with the conditions of this approval; and (b) the implementation of any actions or measures contained in these reports, plans, programs or correspondence.	Note		
	Premises Details MANNERING COLLIERY RUTLEYS ROAD DOYALSON NSW 2262 SURFACE PREMISES DESCRIBED BY PLAN OF PREMISES TITLED "MANNERING COLLIERY EPL PREMISES PLAN FIGURE 2 SURFACE EXTENTS, COMPLIANCE AND MONITORING LOCATIONS" DATED 24 JANUARY 2014 DOC15/31114 AND MINING FOR COAL IN THE FASSIFERN AND GREAT NORTHERN COAL SEAMS DESCRIBED BY THE PLAN OF THE PREMISES TITLED "MANNERING COLLIERY EPL PREMISES PLAN FIGURE 1 PROJECT EXTENTS" DATED 24 JANUARY 2014 DOC15/31114. THIS PLAN IS HELD ON FILE LIC08/38-03 DUE TO SIZE OF PLAN.	Compliant	Outside of the audit period. This document would need to have been prepared for the previous mining lease renewal. The CCL 719 was renewed by the RR in a letter dated 2 October 2015.	
A3	Information supplied to the EPA	Note		
A3.1	Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence. In this condition the reference to "the licence application" includes a reference to: a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.	Note		

<table>
<tr><th>Condition Number</th><th>Condition</th><th>Compliance Status</th><th>Evidence</th><th>Recommended Action</th></tr>
<tr><td colspan="5">2 Discharges to Air and Water and Applications to Land</td></tr>
<tr><td>P1</td><td>Location of monitoring/discharge points and areas</td><td>Note</td><td></td><td></td></tr>
<tr><td>P1.1</td><td>The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.</td><td>Note</td><td></td><td></td></tr>
<tr><td></td><td>Air<table><tr><th>EPA identification no.</th><th>Type of Monitoring Point</th><th>Type of Discharge Point</th><th>Location Description</th></tr><tr><td>3</td><td>Dust monitoring</td><td></td><td>Dust deposition gauge identified as point 3 on plan titled "Mannering Colliery EPL Premises Plan - Figure 2 Surface Extents, Compliance and Monitoring Locations" dated 24 January 2014 DOC15/31114. Held on LIC08/38-03 due to size of plan.</td></tr><tr><td>4</td><td>Dust monitoring</td><td></td><td>Dust deposition gauge identified as point 4 on plan titled "Mannering Colliery EPL Premises Plan - Figure 2 Surface Extents, Compliance and Monitoring Locations" dated 24 January 2014 DOC15/31114. Held on LIC08/38-03 due to size of plan.</td></tr><tr><td>5</td><td>Dust monitoring</td><td></td><td>Dust deposition gauge identified as point 5 on plan titled "Mannering Colliery EPL Premises Plan - Figure 2 Surface Extents, Compliance and Monitoring Locations" dated 24 January 2014 DOC15/31114. Held on LIC08/38-03 due to size of plan.</td></tr><tr><td>6</td><td>Dust monitoring</td><td></td><td>Dust deposition gauge identified as point 6 on plan titled "Mannering Colliery EPL Premises Plan - Figure 2 Surface Extents, Compliance and Monitoring Locations" dated 24 January 2014 DOC15/31114. Held on LIC08/38-03 due to size of plan.</td></tr><tr><td>7</td><td>Dust monitoring</td><td></td><td>Dust deposition gauge identified as point 3 on plan titled "Mannering Colliery EPL Premises Plan - Figure 2 Surface Extents, Compliance and Monitoring Locations" dated 24 January 2014 DOC15/31114. Held on LIC08/38-03 due to size of plan.</td></tr></table></td><td>Compliant</td><td>* Dust monitoring locations described in the 2016, 2017 & 2018 Annual Reviews.
* EPL Premises Plan shows location of dust deposition gauges 3 - 7.</td><td></td></tr>
<tr><td>P1.2</td><td>The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.</td><td>Note</td><td></td><td></td></tr>
<tr><td>P1.3</td><td>The Proponent must ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.

Notes:
• Under Part 4A of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works.
• Part 8 of the EP&A Regulation sets out the requirements for the certification of the project.</td><td>Note</td><td></td><td></td></tr>
<tr><td></td><td>Water and land<table><tr><th>EPA Identification no.</th><th>Type of Monitoring Point</th><th>Type of Discharge Point</th><th>Location Description</th></tr><tr><td>1</td><td>Discharge to waters
Discharge quality monitoring</td><td>Discharge to waters
Discharge quality monitoring</td><td>Discharge from Final Treatment Pond (surface and groundwater) identified as point 1 on plan titled "Mannering Colliery EPL Premises Plan - Figure 2 Surface Extents, Compliance and Monitoring Locations" dated 24 January 2014 DOC15/31114. Held on LIC08/38-03</td></tr></table></td><td>Compliant</td><td>Sighted EPA Point 1 during the site inspection.</td><td></td></tr>
<tr><td colspan="5">3 Limit Conditions</td></tr>
<tr><td>L1</td><td>Pollution of waters</td><td>Note</td><td></td><td></td></tr>
<tr><td>L1.1</td><td>Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.</td><td>Non-Compliant (Low Risk)</td><td>Exceedance of TSS on 2 April 2019. Exceedance constitutes a 'pollution' of waterways based on the POEO Act.</td><td>* Continue to undertake mitigation measures to comply with section 120 of the Protection of the Environment Operations Act 1997.</td></tr>
<tr><td>L2</td><td>Concentration limits</td><td>Note</td><td></td><td></td></tr>
<tr><td>L2.1</td><td>For each monitoring/discharge point or utilisation area specified in the table\s below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.</td><td>Note</td><td></td><td></td></tr>
<tr><td>3 - SPECIFIC ENVIRONMENTAL C</td><td>Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.</td><td>Note</td><td></td><td></td></tr>
<tr><td>L2.3</td><td>To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table\s.</td><td>Note</td><td></td><td></td></tr>
<tr><td>L2.4</td><td>Water and/or Land Concentration Limits</td><td>Note</td><td></td><td></td></tr>
</table>

<table>
<tr><th>Condition Number</th><th>Condition</th><th>Compliance Status</th><th>Evidence</th><th>Recommended Action</th></tr>
<tr><td></td><td>POINT 1<table><tr><th>Pollutant</th><th>Units of Measure</th><th>50 percentile concentration limit</th><th>90 percentile concentration limit</th><th>3DGM concentration limit</th><th>100 percentile concentration limit</th></tr><tr><td>Oil and Grease</td><td>milligrams per litre</td><td></td><td></td><td></td><td>10</td></tr><tr><td>pH</td><td>pH</td><td></td><td></td><td></td><td>6.5-8.5</td></tr><tr><td>Total suspended solids</td><td>milligrams per litre</td><td></td><td></td><td></td><td>50</td></tr></table></td><td>Non-Compliant (Low Risk)</td><td>Exceedance of TSS on 2 April 2019. Dam flocculated and re-tested, with TSS reading of 10mg/L.</td><td>Continue to undertake water quality monitoring. If a water quality exceedance is detected undertake measures to improve water quality.</td></tr>
<tr><td>L3</td><td>Volume and mass limits</td><td>Note</td><td></td><td></td></tr>
<tr><td>L3.1</td><td>Subsidence Control Zone</td><td>Note</td><td></td><td></td></tr>
<tr><td></td><td><table><tr><th>Point</th><th>Unit of Measure</th><th>Volume/Mass Limit</th></tr><tr><td>1</td><td>kilolitres per day</td><td>4000</td></tr></table></td><td>Compliant</td><td>* 2016, 2017 & 2018 Annual Reviews indicate total yearly discharge of surface water within the discharge limit.
* 6 January 2016 discharge over limit but was a result of rainfall at the premises exceeding 10mm during the 24 hours immediately prior to the commencement of discharge
* January, February & March 2019 Monthly Website Reports and "Mannering UG Discharge" spreadsheet indicate discharge was in accordance with EPL 191.
* LDP1 - Discharge Volumes Master" spreadsheet indicates volume of water discharged from 1 to 10 April 2019 was within the limit</td><td></td></tr>
<tr><td>L3.2</td><td>Exceedance of the volume limit for Point 1 is permitted only if the discharge from Point 1 occurs solely as a result of rainfall at the premises exceeding 10mm during the 24 hours immediately prior to the commencement of discharge</td><td>Note</td><td></td><td></td></tr>
<tr><td>L4</td><td>Waste</td><td>Note</td><td></td><td></td></tr>
<tr><td>L4.1</td><td>The licensee must not cause, permit or allow any waste to be received at the premises, except the wastes expressly referred to in the column titled “Waste” and meeting the definition, if any, in the column titled “Description” in the table below.
Any waste received at the premises must only be used for the activities referred to in relation to that waste in the column titled “Activity” in the table below.
Any waste received at the premises is subject to those limits or conditions, if any, referred to in relation to that waste contained in the column titled “Other Limits” in the table below.
This condition does not limit any other conditions in this licence.</td><td>Not Triggered</td><td>Waste not received at the site from outside sources</td><td></td></tr>
<tr><td></td><td><table><tr><th>Code</th><th>Waste</th><th>Description</th><th>Activity</th><th>Other Limits</th></tr><tr><td>NA</td><td>Waste</td><td>Any other waste received on the premises for storage, treatment, processing, sorting or disposal and which receipt is not a scheduled activity under Schedule 1 of the POEO Act, as in force from time to time.</td><td></td><td></td></tr><tr><td>NA</td><td>General or Specific exempted waste</td><td>Waste that meets all the conditions of a resource recovery exemption under Clause 51A of the Protection of the Environment Operations (Waste) Regulation 2014</td><td>As specified in each particular resource recovery exemption</td><td>N/A</td></tr></table></td><td>Not Triggered</td><td>Waste not received at the site from outside sources</td><td></td></tr>
<tr><td>L4.2</td><td>The licensee must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by the licence.</td><td>Not Triggered</td><td>* Waste not received at the site from outside sources
* During the site inspection noted that waste is not being disposed of at the site
* 2016, 2017 and 2018 Annual Reviews indicate that waste is collected disposed of by a licenced contractor.</td><td></td></tr>
<tr><td>L4.3</td><td>This condition only applies to the storage, treatment, processing, reprocessing or disposal of waste at the premises if it requires an environment protection licence.</td><td>Not Triggered</td><td>The storage of waste at the site does not require an environment protection licence (EPL).</td><td></td></tr>
<tr><td>L5</td><td>Noise limits</td><td>Note</td><td></td><td></td></tr>
<tr><td></td><td>Note: Noise limits are not specified as a condition of this licence. Noise limits are prescribed with the conditions of Project Approval 06_0311 granted under the Environmental Planning and Assessment Act 1979. Under the Environmental Planning and Assessment Act 1979 the Department of Planning is the appropriate authority in respect of the administration and regulation of the Project Approval.</td><td>Non-Compliant (Low Risk)</td><td><u>Non-compliant</u>: According to 2016 Annual Review, on 12 August 2016 LakeCoal was advised by its independent noise monitoring consultant (Global Acoustics)
that they had recorded a 3dB exceedance of the site’s LAeq15 Minute noise criteria at receiver RA2 (Macquarie Shores Retirement Village) during the evening monitoring on 11 August 2016 for Mannering Colliery.
* According to 2016 Annual Review, On 29 August 2018, there was an exceedance recorded at 1dB exceedance of the site’s LAeq15 Minute
noise criteria at receiver RA2 (Macquarie Shores Retirement Village) during the scheduled night monitoring.
* According to the Noise Mitigation Study dated March 2019:
-Noise mitigation works implemented by the previous operators in 2018 have decreased site noise emission levels at all neighbouring noise-sensitive receivers.
-Current and proposed MC noise emissions are predicted to comply with the relevant long-term noise criteria outlined in MP 06_0311 at all assessment locations under worst case meteorological conditions.
* LAmax noise level events at the site are also predicted to remain below the relevant sleep disturbance criteria.</td><td>* Continue to undertake noise monitoring and follow-up actions if noise exceedances occur.</td></tr>
</table>

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
4 Operating Conditions				
O1	Activities must be carried out in a competent manner	Note		
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.	Compliant	(a)During site inspection noted: -Minimal coal stored at site; -No visible dust; -Hazardous materials and other substances like oil bunded; -Piles of rubbish/materials stored at the surface, ready for sorting; -Rubbish and recycling bins located around the pit top area; Observation: Landfarm material at the pit top is not sign posted. * 2016, 2017 and 2018 Annual Reviews indicate that waste is collected disposed of by a licenced contractor.	* Finish sorting out the piles of rubbish at the pit top area. * Undertake contaminated sites/waste material assessment at the waste stockpile area. * SLR recommends none of the waste from the stockpile material is removed from site for waste disposal until an assessment on the waste is undertaken. * Install signage at the landfarm material at the pit top.
O2	Maintenance of plant and equipment	Note		
O2.1	All plant and equipment installed at the premises or used in connection with the licensed activity: a) must be maintained in a proper and efficient condition; and b) must be operated in a proper and efficient manner.	Compliant	(a) Downer maintenance records for radiation equipment dated 31 March 2017 * Electrical inspection records for ash analysers from 2016 to 2017. * Maintenance records: "Mannering Front End Loaders work order history as at 2.5.19" (b) During site inspection plant and equipment appeared to be operated in a proper and efficient manner.	
O3	Dust	Note		
O3.1	The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.	Compliant	* During the site inspection noted: -No visible dust; -Water cart used on site to reduce dust (PHOTO XXX); and -Majority of the pit top is concreted or grassed (PHOTO XXX). * According to 2016, 2017 and 2018 Annual reviews no air quality exceedances occurred * According to the "MANN Monitoring Master Spreadsheet" air quality monitoring data no exceedances of criteria up to and including April 2019	
O3.2	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.	Compliant	* During the site inspection noted: -No visible dust; -Water cart used on site to reduce dust; and -Minimal coal stored at the pit top. * According to 2016, 2017 and 2018 Annual reviews no air quality exceedances occurred * According to the "MANN Monitoring Master Spreadsheet" air quality monitoring data no exceedances of criteria up to and including April 2019	
O3.3	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.	Compliant	* During the site inspection noted: -No visible dust; -Speed limit; -Water cart used on site to reduce dust; and -Majority of the pit top (including roadways) is concreted. * According to 2016, 2017 and 2018 Annual reviews no air quality exceedances occurred * According to the "MANN Monitoring Master Spreadsheet" air quality monitoring data no exceedances of criteria up to and including April 2019	
O3.4	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.	Not Triggered	According to 2016, 2017 and 2018 Annual Reviews coal is transported via overland conveyor. Trucks are not used to transport coal.	
O3.5	The tailgates of all haulage trucks leaving the premises must be securely fixed prior to loading or immediately after unloading to prevent loss of materials.	Not Triggered	According to 2016, 2017 and 2018 Annual Reviews coal is transported via overland conveyor. Trucks are not used to transport coal.	
O3.6	Coal stockpiles must be maintained in a condition that will minimise the generation and emission of dust on the premises.	Compliant	* During the site inspection noted: -No coal stockpiled at the pit top; -Covered conveyor; and -No visible dust. *According to the Air Quality Management Plan (AQMP) dated December 2012, the conveyor has water sprays to reduce dust potential. *According to site communications: -The coal is quite wet; -A water cart is used to water the loader wheeling areas; -And a canon can be used to spray down the stockpile area.	
O4	Emergency response	Note		

<table>
<tr><th>Condition Number</th><th>Condition</th><th>Compliance Status</th><th>Evidence</th><th>Recommended Action</th></tr>
<tr><td>O4.1</td><td>The licensee must maintain, and implement as necessary, a current emergency response plan for the premises. The licensee must keep the emergency response plan on the premises at all times. The emergency response plan must document systems and procedures to deal with all types of incidents (e.g. spills, explosions or fire) that may occur at the premises or that may be associated with activities that may occur at the premises and which are likely to cause harm to the environment. If a current emergency response plan does not exist at the date on which this condition is attached to the licence, the licensee must develop an emergency response plan within three months of that date.</td><td>Compliant</td><td>* Pollution Incident Attendant Duty Card, dated February 2018
* According to site communications, PIRMP was included in the Emergency Control Plan and then removed from it late 2018
* Pollution Incident Response Management Plan (PIRMP) dated September 2018
* PIRMP is kept on-site
* Observation: The PIRMP is labelled LakeCoal, has persons listed in it who are no longer at site, does not have email details for government contacts, and figures do not clearly show the location of hazardous substances and where pollution response equipment is stored.</td><td>* Update the PIRMP to include:
- Current site contacts;
- Email details for government contacts; and
- Figures that clearly show the location of hazardous substances and where pollution response equipment is stored.</td></tr>
<tr><td>O5</td><td>Other operating conditions</td><td>Note</td><td></td><td></td></tr>
<tr><td>O5.1</td><td>All above-ground tanks containing material that is likely to cause environmental harm must be bunded or have an alternative spill containment system in place.</td><td>Compliant</td><td>During site inspection noted above-ground tanks were bunded.</td><td></td></tr>
<tr><td>O5.2</td><td>The licensee must ensure that activities are conducted in an environmentally satisfactory manner. So as to minimise and prevent the pollution of air and water the licensee must:
(a) Ensure that vehicles or containers prior to leaving the premises are clean and sealed in a manner that will not cause materials or wastes used in conducting the activities at the premises to be tracked, thrown from, blown, fall, or cast from any vehicle or container onto a public road.
(b) The licensee must have in place and implement procedures to ensure that vehicles and containers exiting the premises are in a condition to ensure that materials are not tracked, thrown, blown, fall or cast onto a public road.</td><td>Compliant</td><td>*During the site inspection noted that vehicles at the site appeared to be clean.
* According to 2016, 2017 and 2018 Annual Reviews waste is removed from the site by a licenced contractor.
* Controls included in the Water Management Plan (WMP), dated January 2013 and AQMP, dated December 2012.</td><td></td></tr>
<tr><td colspan="5">5 Monitoring and Recording Conditions</td></tr>
<tr><td>M1</td><td>Monitoring records</td><td>Note</td><td></td><td></td></tr>
<tr><td>M1.1</td><td>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.</td><td>Compliant</td><td>Monitoring required to be conducted by this licence is recorded and retained as set out in this condition (as detailed below)</td><td></td></tr>
<tr><td>M1.2</td><td>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.</td><td>Compliant</td><td>a) Monthly website reports;
b) Monthly website reports going back to 2013 available from Mannering Colliery website; and
c) PIRMP was produced to L. Richards during EPA site inspection.</td><td></td></tr>
<tr><td>M1.3</td><td>The following records must be kept in respect of any samples required to be collected for the purposes of this licence:
a) the date(s) on which the sample was taken;
b) the time(s) at which the sample was collected;
c) the point at which the sample was taken; and
d) the name of the person who collected the sample.</td><td>Compliant</td><td>Monthly website reports have:
a) the date(s) on which the sample was taken;
b) the time(s) at which the sample was collected;
c) the point at which the sample was taken; and
d) the name of the person who collected the sample.</td><td></td></tr>
<tr><td>M2</td><td>Requirement to monitor concentration of pollutants discharged</td><td>Note</td><td></td><td></td></tr>
<tr><td>M2.1</td><td>For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:</td><td>Compliant</td><td>2016, 2017 & 2018 Annual Returns.</td><td></td></tr>
<tr><td>M2.2</td><td>Air Monitoring Requirements</td><td>Note</td><td></td><td></td></tr>
<tr><td></td><td>POINT 3,4,5,6,7
<table><tr><th>Pollutant</th><th>Units of measure</th><th>Frequency</th><th>Sampling Method</th></tr><tr><td>Particulates - Deposited Matter</td><td>grams per square metre per month</td><td>Monthly</td><td>AM-19</td></tr></table></td><td>Compliant</td><td>2016, 2017 & 2018 Annual Returns and Annual Reviews. Monitoring frequency appears to meet this condition.</td><td></td></tr>
<tr><td>M2.3</td><td>Water and/ or Land Monitoring Requirements</td><td>Note</td><td></td><td></td></tr>
</table>

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
	POINT 1 **Pollutant / Units of measure / Frequency / Sampling Method** Aluminium (dissolved) — micrograms per litre — Monthly during discharge — Grab sample Aluminium (total) — micrograms per litre — Monthly during discharge — Grab sample Antimony — micrograms per litre — Monthly during discharge — Grab sample Arsenic (dissolved) — micrograms per litre — Monthly during discharge — Grab sample Arsenic (total) — micrograms per litre — Monthly during discharge — Grab sample Barium — micrograms per litre — Monthly during discharge — Grab sample Beryllium (dissolved) — micrograms per litre — Monthly during discharge — Grab sample Beryllium (total) — micrograms per litre — Monthly during discharge — Grab sample Boron — micrograms per litre — Monthly during discharge — Grab sample Cadmium (dissolved) — micrograms per litre — Monthly during discharge — Grab sample Cadmium (total) — micrograms per litre — Monthly during discharge — Grab sample Calcium — micrograms per litre — Monthly during discharge — Grab sample Chromium (dissolved) — micrograms per litre — Monthly during discharge — Grab sample Chromium (total) — micrograms per litre — Monthly during discharge — Grab sample Cobalt (dissolved) — micrograms per litre — Monthly during discharge — Grab sample Cobalt (total) — micrograms per litre — Monthly during discharge — Grab sample Conductivity — microsiemens per centimetre — Weekly during any discharge — Grab sample Copper (dissolved) — micrograms per litre — Monthly during discharge — Grab sample Copper (total) — micrograms per litre — Monthly during discharge — Grab sample Iron — micrograms per litre — Monthly during discharge — Grab sample Lead (dissolved) — micrograms per litre — Monthly during discharge — Grab sample Lead (total) — micrograms per litre — Monthly during discharge — Grab sample Lithium — micrograms per litre — Monthly during discharge — Grab sample Magnesium — micrograms per litre — Monthly during discharge — Grab sample Manganese (dissolved) — micrograms per litre — Monthly during discharge — Grab sample Mercury (dissolved) — micrograms per litre — Monthly during discharge — Grab sample	Compliant	Compliant based on 2016, 2017 & 2018 Annual Returns.	
M3	Testing methods - concentration limits	Note		
M3.1	Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with: a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or b) if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or c) if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place. Note: The *Protection of the Environment Operations (Clean Air) Regulation 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".	Compliant	Section 3.0 of the AQMP provides the methodology for dust monitoring. The AQMP states that "*samples are taken from the depositional gauges every 28 days as per Approved Methods for the Sampling and Analysis of Air Pollutants in NSW*".	
M3.2	Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.	Compliant	Section 8.1.1 of the WMP provides the methodology for water quality monitoring. The WMP states that *"water quality is monitored at LPD001 in compliance with the Environment Protection Licence 191."*	
M4	Weather monitoring	Note		
M4.1	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. Point W1	Note		
	Parameter / Units of Measure / Frequency / Averaging Period / Sampling Method Rainfall — mm — Continuous — 24 hour — AM-4 Wind direction — degrees — Continuous — 1 hour — AM-2 and AM-4	Compliant	Wind direction is recorded by the on site weather station. Bearing provided in raw data downloads every fifteen minutes.	
M4.2	For the purpose of condition M4.1, Point W1 refers to a meteorological station established on the premises	Note		
M4.3	The licensee may use the meteorological station established at Eraring Power Station provided the licensee has authority from Eraring Energy to access data from the Eraring Power Station at all times. However, if this station is not available at any time then	Not Triggered	Data from the meteorological station established at Eraring Power Station was not used during the audit period.	
M4.4	The licensee must fully comply with condition M4 by 30 April 2011.	Compliant	Weather station established at the site.	
M5	Recording of pollution complaints	Note		
M5.1		Compliant	Complaints Register, dated April 2019.	

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
M5.2	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.	Administrative Non-Compliance	*Admin Non-compliant: The Complaints Register does not include the time of the complaint and the personal details of the complainant. * Not all complaints registered included the method by which the complaint was made.	*Include in the Complaints Register: -Time of the complaint; -Personal details of the complainant; and -Method by which the complaint was made.
M5.3	The record of a complaint must be kept for at least 4 years after the complaint was made.	Compliant	Complaints Registers going back to 2013 posted on the Mannering Colliery website.	
M5.4	The record must be produced to any authorised officer of the EPA who asks to see them.	Compliant	Email from LakeCoal dated 7 March 2019 regarding noise complaint	
M6	Telephone complaints line	Note		
M6.1	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.	Compliant	Telephone line for complaints advertised on the Mannering Colliery website	
M6.2	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.	Administrative Non-Compliance	*Telephone line for complaints advertised on the LakeCoal and Delta Coal websites. * However no evidence of notifying to the community that the complaints line exists.	With the new ownership an advertisement should be placed in the paper providing a link to the Delta Coal website and outlining the complaint management details.
M6.3	The preceding two conditions do not apply until 3 months after: the date of the issue of this licence.	Note		
M6.4	The licensee must nominate a representative of the company that is available all times and is capable of providing immediate assistance or response during emergencies or any other incidents at the premises. The name of the nominated representative and their contact details, including a telephone number, must be current at all times. Note: This condition does not apply until two (2) weeks after the date of issue of this licence.	Administrative Non-Compliance	* Designated representatives of the company included in the Pollution Incident Response Plan (PIRMP), dated September 2018. * Admin Non-compliant: The designated representatives of the company, included in the PIRMP, are not current.	*Update the details of designated representatives of the company in the PIRMP.
M7	Requirement to monitor volume or mass	Note		
M7.1	For each discharge point or utilisation area specified below, the licensee must monitor: a) the volume of liquids discharged to water or applied to the area; b) the mass of solids applied to the area; c) the mass of pollutants emitted to the air; at the frequency and using the method and units of measure, specified below	Compliant	a) 2016, 2017 & 2018 Annual Returns b) N/A c) N/A	
	POINT 1 **Frequency** / **Unit of Measure** / **Sampling Method** Continuous during discharge / kilolitres per day / In line instrumentation	Note		
6 Reporting Conditions				
R1	Annual return documents	Note		
R1.1	The licensee must complete and supply to the EPA an Annual Return in the approved form comprising: 1. a Statement of Compliance, 2. a Monitoring and Complaints Summary, 3. a Statement of Compliance - Licence Conditions, 4. a Statement of Compliance - Load based Fee, 5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan, 6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and 7. a Statement of Compliance - Environmental Management Systems and Practices. 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.	Compliant	2016, 2017 & 2018 Annual Returns.	
R1.2	An Annual Return must be prepared in respect of each reporting period, except as provided below. Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.	Compliant	2016, 2017 & 2018 Annual Returns.	
R1.3	Where this licence is transferred from the licensee to a new licensee: a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period. Note: An application to transfer a licence must be made in the approved form for this purpose.	Compliant	* Letter from EPA dated 1 April 2019 confirms the EPL was transferred from LakeCoal to Great Southern Energy (trading as Delta Coal). * LakeCoal have not prepared an Annual Return for the period commencing on the first day of the reporting period (1 January 2019) and ending on the date the application for the transfer of the licence to the new licensee is granted (1 April 2019). Note, the Annual Return is due within 60 days of the anniversary date.	* LakeCoal prepare an Annual Return for the period commencing on the first day of the reporting period (1 January 2019) and ending on the date the application for the transfer of the licence to the new licensee is granted (1 April 2019). * Delta Coal prepare an Annual Return for the period commencing on the date the application for the transfer of EPL191 is granted (1 April 2019) and ending on the last day of the reporting period (31 December 2019).

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
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.	Not Triggered	The licence has neither been surrendered by the licensee or revoked by the EPA.	
R1.5	The Annual Return for the reporting period must be supplied to the EPA via eConnect EPA or by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').	Compliant	* 2016 Annual Return submitted to EPA on 28 February 2017 via email. * 2017 Annual Return submitted to EPA on 28 February 2018 via email. * 2018 Annual Return submitted to EPA on 28 February 2019 via email.	
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.	Compliant	2015, 2016, 2017 & 2018 Annual Returns.	
R1.7	Within the Annual Return, the Statements 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.	Compliant	Signed 2016, 2017 and 2018 Annual Returns.	
R2	Notification of environmental harm	Note		
	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.	Not Triggered	A PIRMP has been prepared for the site. Latest dated 21 Sept 2018. Evidence of testing PIRMP. Although there were some incidents, it does not appear any incident required the PIRMP to be enacted. PIRMP is currently being updated. No material harm identified.	
R2.1	Notifications must be made by telephoning the Environment Line service on 131 555.	Not Triggered	Based on discussions with the Environment and Community Co-ordinator this condition has not been triggered.	
R2.2	The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.	Not Triggered	Based on discussions with the Environment and Community Co-ordinator this condition has not been triggered.	
R3	Written report	Note		
R3.1	Where an authorised officer of the EPA suspects on reasonable grounds that: a) where this licence applies to premises, an event has occurred at the premises; or b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence, and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.	Compliant	EPA requested written report (R3) to address the complaints received by the EPA in November 2017. EPA requested report be supplied by end of March 2018. LakeCoal sent R3 via email on 30 March 2018.	
R3.2	The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.	Compliant	LakeCoal sent R3 via email on 30 March 2018, within the specified time.	
R3.3	The request may require a report which includes any or all of the following information: a) the cause, time and duration of the event; b) the type, volume and concentration of every pollutant discharged as a result of the event; c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event; d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort; e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants; f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and g) any other relevant matters.	Compliant	Written report (R3) supplied to EPA.	

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
R3.4	The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.	Not Triggered	No further details required	
R4	Other reporting conditions	Note		
	Receival of ROM Coal	Note		
R4.1	The licensee must notify the Manager Hunter Region hunter.region@epa.nsw.gov.au within 24 hours of the receival of ROM Coal at the Coal Handling and Preparation Plant that the plant has been re-commissioned.	Compliant	Email dated 13 May 2016 regarding notification of ROM coal receival.	
7 General Conditions				
G1	Copy of licence kept at the premises or plant	Compliant	Electronic copy of the EPL kept on the site.	
G1.1	A copy of this licence must be kept at the premises to which the licence applies.	Compliant	Electronic copy of the EPL kept on the site.	
G1.2	The licence must be produced to any authorised officer of the EPA who asks to see it.	Compliant	According to site communications an EPA Officer has not requested to see the EPL.	
G1.3	The licence must be available for inspection by any employee or agent of the licensee working at the premises.	Compliant	Electronic copy of the EPL available for inspection by any employee or agent.	
G2	Other general conditions	Note		
G2.1	Completed Programs	Note		
	Program / **Description** / **Completed Date** PRP 1 - Assessment of Potential Impacts of Metals — The licensee must conduct an assessment of metals detected in wastewater discharges from the mine in accordance with the ANZECC water quality guidelines.. To obtain a greater understanding of the type and concentration of metals discharged in mine water and entering the receiving waters. To limit the concentration of metals discharged in mine water within ANZECC guidelines.(@) — 26-June-2013 Coal Mine Particulate Matter Control Best Practice — Requires licensee to conduct a site specific Best Management Practice (BMP) determination to identify ways to reduce particle emissions. — 19-September-2012 Coal Handling and Preparation Plant Commissioning Water Quality Monitoring Study — CHPP commissioning water quality monitoring study — 12-October-2016	Compliant	Coal Handling and Preparation Plant Commissioning Water Quality Monitoring Study undertaken, per 2016 Annual Review	

Consolidated Coal Lease 721

Renewed: December 2008

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
Mning Lease Conditions 2008				
1	**Notice to Landholders**			
	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. 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.	Not Triggered	Renewal outside of audit period	
2	**Environmental Harm**			
	Any disturbance resulting from the activities carried out under this mining lease must be rehabilitated to the satisfaction of the Minister.	Compliant	Based on information provided there is no evidence of material harm.	
3	**Mining Operations Plan**			
	(a) Mining operations must not be carried out otherwise than in accordance with: a Mining Operations Plan (MOP) which has been approved by the Director-General of the Department of Primary Industries. (b) The MOP must: i) identify areas that will be disturbed by mining operations; ii) detail the staging of specific mining operations; iii) identify how the mine will be managed to allow mine closure; iv) identify how mining operations will be carried out on site in order to prevent and or minimise harm to the environment; v) reflect the conditions of approval under: the Environmental Planning and Assessment Act 1979 the Protection of the Environment Operations Act 1997 and any other approvals relevant to the development including the conditions of this lease; and vi) have regard to any relevant guidelines adopted by the Director-General. (c) The titleholder may apply to the Director-General to amend an approved MOP at any time. (d) It is not a breach of this condition if: i) the operations constituting the breach were necessary to comply with a lawful order or direction given under the Mining Act 1992, the Environmental Planning and Assessment Act 1979, Protection of the Environment Operations Act 1997 or the Occupational Health and Safety Act 2000; and ii) the Director-General had been notified in writing of the terms of the order or direction prior to the operations constituting the breach being carried out. (e) A MOP ceases to have affect 7 years after date of approval or other such period as identified by the Director-General. An approved amendment to the MOP under condition 5 does not constitute an approval for the purpose of this paragraph unless otherwise identified by the Director-General.	Compliant	Preparation: (a) Approval letter from Resources Regulator (RR) (formerly DRE) dated 27 March 2015, for 2015-2018 MOP * Approval letter from RR dated 26 September 2018 for 2018-2020 MOP (b) i) MOP plans; ii) MOP plans (3 series); iii) Mine Closure Plan to be prepared at least two years prior to the cessation of mining activities; iv) Section 3; v) Section 4.1; (vi) 2018-2020 MOP has been prepared generally in accordance with DRE (now Resources Regulator) ESG3: MOP Guidelines, dated September 2013. (c) N/A-No amended MOP during the audit period. (d) N/A-According to 2016, 2017 & 2018 Annual Reviews, no such breach during the audit period. (e) N/A Implementation: * Domains sighted during site inspection and appear to be in accordance with the domains depicted on the MOP Plans in the 2018-2020 MOP. * During site inspection determined all areas associated with Mannering Colliery are operational. No rehabilitation has been undertaken. This is in accordance with the 2018-2020 MOP.	
4	The Proponent must comply with any reasonable requirement/s of the Secretary arising from the Department's assessment of: (a) any reports, plans, programs or correspondence that are submitted in accordance with the conditions of this approval; and (b) the implementation of any actions or measures contained in these reports, plans, programs or correspondence.			
	The lease holder must lodge Environmental Management Reports (EMR) with the Director- General annually or at dates otherwise directed by the Director-General.	Compliant	Outside of the audit period. This document would need to have been prepared for the previous mining lease renewal. The CCL 719 was renewed by the RR in a letter dated 2 October 2015.	
5	**The EMR must:**			
	a) report against compliance with the MOP; b) report on progress in respect of rehabilitation completion criteria; c) report on the extent of compliance with regulatory requirements; and d) have regard to any relevant guidelines adopted by the Director-General;	Administrative Non-Compliance	a) Admin Non-compliant: The 2016, 2017 & 2018 Annual Reviews do not report against compliance with the MOP. b) N/A - Rehabilitation has not commenced at the site; c) 2016, 2017 & 2018 Annual Reviews - Executive Summary & Section 3 d) Admin Non-compliant: 2016, 2017 and 2018 Annual Reviews not prepared in accordance with the DPE Annual Review guidelines	*Report against compliance with the MOP in future Annual Reviews. *The Annual Reviews are set out differently to the DPE Annual Review Guidelines (2015). Ensure table of contents matches the guidelines.

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
6	Additional environmental reports may be required on specific surface disturbing operations or environmental incidents from time to time as directed in writing by the Director-General and must be lodged as instructed.	Administrative Non-Compliance	Admin Non-compliant: Noise exceedance on 11 August 2016 reported to DPE on 12 August 2016, according to 2016 Annual Review. Detailed incident report could not be provided by LakeCoal, therefore not able to determine when or if an incident report was submitted. * Noise exceedance on 29 August 2018 reported to DPE on same day (email to DPE Compliance Mailbox from LakeCoal dated 29 August 2018). Detailed LakeCoal incident report provided to DPE on 7 September 2018. Compliant as LakeCoal was granted an extension to provide the detailed report, via email from EPA dated 5 September 2016. * TSS exceedance at Point 1 on 2 April 2019 reported to DPE on 11 April 2019 via email and formal letter * Admin Non-compliant: According to site communications the RR required additional environmental reports on specific surface disturbing operations. Reports could not be provided to SLR from LakeCoal. Observation: Compliant/incident register indicates no incidents from June 2016 to April 2019.	* Ensure all incidents are reported within the required timeframe. * Ensure all additional environmental reports on specific surface disturbing operations are provided to the RR as required. * Ensure the complaints/incident register includes all incidents.
7	**Rehabilitation**			
	Disturbed land must be rehabilitated to a sustainable/agreed end land use to the satisfaction of the Director-General.	Not Triggered	Rehabilitation has not been undertaken at the site.	
8	**Subsidence Management**			
	(a) The lease holder shall prepare a Subsidence Management Plan prior to commencing any underground mining operations which will potentially lead to subsidence of the land surface. (b) Underground mining operations which will potentially lead to subsidence include secondary extraction panels such as longwalls or miniwalls, associated first workings (gateroads, installation roads and associated main headings, etc), and pillar extractions, and are otherwise defined by the Applications for Subsidence Management Approvals guidelines (EDG17) (c) The lease holder must not commence or undertake underground mining operations that will potentially lead _to subsidence other than in accordance with a Subsidence Management Plan approved by the Director-General, an approval under the Mine Health & Safety Act 2004, or the document New Subsidence Management Plan Approval Process - Transitional Provisions (EDP09). (d) Subsidence Management Plans are to be prepared in accordance with the Guideline for Applications for Subsidence Management Approvals. (e) Subsidence Management Plans as approved shall form part of the Mining Operations Plan required under Condition 3 and will be_ subject to the Annual Environmental Management Report process as set out under Condition 4. 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.	Not Triggered	* Subsidence Management Plan prepared outside of the audit period. * First workings only, therefore Subsidence Management Plan not applicable to these workings.	
9	The Proponent must ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA. Notes: • Under Part 4A of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works. • Part 8 of the EP&A Regulation sets out the requirements for the certification of the project.			
	The lease holder must: (a) ensure that at least 142 competent people are efficiently employed on the lease area on each week day except Sunday or any week day that is a public holiday, OR (b) expend on operations carried out in the course of prospecting or mining the lease area, an amount of not less than $2,485,000 per annum whilst the lease is in force. The Minister may at any time or times, by instrument in writing served on the lease holder, increase or decrease the expenditure required or the number of people to be employed.	Compliant	a) 2016 Annual Review - 66 employees. 2017 Annual Review - 23 employees. 2018 Annual Review - 23 employees. b) According to site communications over $2,485,000 was spent at site (based on FTE's & wages bills). Commercially sensitive information, therefore further evidence couldn't be provided.	
10	**Control of Operations**			
	(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:- (i) cease working the lease; or (ii) cease that part of the operation not complying with the Act or conditions; until in the opinion of the Environmental Officer the situation is rectified. (b) The lease holder must comply with any direction given. The Director-General may confirm, vary or revoke any such direction. (c) A direction referred to in this condition may be served on the Mine Manager.	Not Triggered	According to site communications no such directions provided by the RR officers.	
11	**Reports**			

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
	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 Director-General may stipulate, of each year. The report must be to the satisfaction of the Director-General and contain the following: (a) Full particulars, including results, interpretation and conclusions, of all exploration conducted during the twelve months period; (b) Details of expenditure incurred in conducting that exploration; (c) A summary of all geological findings acquired through mining or development evaluation activities; (d) Particulars of exploration proposed to be conducted in the next twelve months period; (e) All plans, maps, sections and other data necessary to satisfactorily interpret the report.	Not Triggered	Based on discussions with the Environment and Community Co-ordinator there has been no exploration during the audit period.	
12	**Licence to Use Reports**			
SCHEDULE 3 - SPECIFIC ENVIRONMENTAL CONDITIONS	(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 (b) The non-exclusive licence will operate as a consent for the purposes of section 365 of the Mining Act 1992.	Not Triggered	Based on discussions with the Environment and Community Co-ordinator there has been no exploration during the audit period.	
13	**Confidentiality**			
	(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: (i) the lease holder has agreed that specified reports may be made non-confidential. (ii) reports deal with exploration conducted exclusively on areas that have ceased to be part of the lease. (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. (c) The Director-General may extend the period of confidentiality.	Not Triggered	Based on discussions with the Environment and Community Co-ordinator there has been no exploration during the audit period.	
14	**Terms of the non-exclusive licence**			
	The terms of the non-exclusive copyright licence granted under condition 12 are: (a) the Minister may sub-licence others to publish, print, adapt and reproduce but not on-licence reports. (b) the Minister and any sub-licensee 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. (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.	Not Triggered	Based on discussions with the Environment and Community Co-ordinator there has been no exploration during the audit period.	
15	**Subsidence Control Zone**			
	(a) Ground Vibration The lease holder must ensure that the ground vibration peak particle velocity generated by any blasting within the lease area does not exceed 10 mm/second and does not exceed 5 mm/second in more than 5% of the total number of blasts over a period of 12 months at any dwelling or occupied premises as the case may be, unless determined otherwise by the Department of Environment and Climate Change. (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 Climate Change.	Not Triggered	* According to 2016, 2017 and 2018 Annual Reviews no blasting undertaken at the surface of the operation. * Noise Management Plan (NMP) does not include requirement for ground vibration or blast overpressure monitoring.	
16	**Safety**			
	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 Director-General, 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 Director-General.	Not Triggered	This is not a safety audit.	
17	**Exploratory Drilling**			

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
	(a) At least twenty eight days prior to commencement of drilling operations the lease holder must notify the relevant Department of Water and Energy Regional Hydrologist of the intention to drill exploratory drill holes together with information on the location of the proposed holes. (b) If the lease holder drills exploratory drill holes he must satisfy the Director-General that:- (i) all cored holes are accurately surveyed and permanently marked in accordance with Departmental guidelines so that their location can be easily established; (ii) all holes cored or otherwise are sealed to prevent the collapse of the surrounding surface; (iii) all drill holes are permanently sealed with cement plugs to prevent surface discharge of groundwaters; (iv) if any drill hole meets natural or noxious gases it is plugged or sealed to prevent their escape; (v) if any drill hole meets an artesian or sub-artesian flow it is effectively sealed to prevent contamination of aquifers. (vi) 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 Director-General. (vii) once any drill hole ceases to be used the land and its _immediate vicinity is left in a clean, tidy and stable condition.	Not Triggered	Based on site communications and 2016, 2017 & 2018 Annual Reviews no exploration drilling in this lease area.	
18	**Prevention of Soil Erosion and Pollution**			
	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, waterbody or groundwaters. The lease holder must observe and perform any instructions given by the Director-General in this regard.	Non-Compliant (Low Risk)	* Management plans prepared and implemented for the site. Management plans include management controls to minimise any harm to the environment that may result from the operation of the site * During the site inspection noted management controls being implemented at the site: -No visible dust; -Water cart used on site to reduce dust; -Majority of the pit top is concreted; -Covered conveyor; -Bunded chemicals (Photo 7); -Rubbish disposed of in labelled waste bins; -Oily water separator; -Noise mitigation measures implemented at site (Photo 8). *Water quality, dust and monitoring undertaken at the site. <u>Non-compliant</u>: During audit period non-compliances with noise and water quality criteria.	Ensure all practicable measures are undertaken to reduce noise and water quality exceedances (refer to specific recommendations relating to noise and water quality).
19	**Transmission lines, Communication lines and Pipelines**			
	Operations must not interfere with or impair the stability or efficiency of any transmission line, communication line, pipeline or any other utility on the lease area without the prior written approval of the Director-General and subject to any conditions he may stipulate.	Not Triggered	*During the site inspection, LakeCoal did not appear to be interfering with or impairing the stability or efficiency of any transmission line, communication line, pipeline or any other utility on the lease area *According to site communications and the 2016, 2017 & 2018 Annual Reviews no transmission lines, communication lines, pipelines or any other utilities were interfered with or impaired during the audit period.	
20	**Fences, Gates**			
	(a) Activities on the lease must 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	Not Triggered	*During the site inspection, LakeCoal did not appear to be interfering or damaging any fences or gates *According to site communications and the 2016, 2017 & 2018 Annual Reviews the operations did not interfere or damage any fences or gates during the audit period	
21	**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 Director-General and subject to any conditions he may stipulate. (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.	Not Triggered	(a) During site inspection, LakeCoal did not appear to be affecting any roads. Coal is delivered to Vales Point Power Station via a conveyor, according to 2016, 2017 & 2018 Annual Reviews. (b) VPA paid to the Central Coast Council	
22	**Trees and Timber**			
	(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. (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 Act 2003. (c) The lease holder must obtain all necessary approvals or licences before using timber from any Crown land within the lease area.	Not Triggered	*No clearing undertaken at the site during the audit period, according to the 2016, 2017 & 2018 Annual Reviews. *During site inspection noted no recent clearing.	
25	**Resource Recovery**			

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
	(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 Director-General 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. (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. (c) The lease holder must, when requested by the Director-General, provide such information as the Director-General may specify about the recovery of the mineral resources of the lease area. (d) The Director-General shall issue no such notice unless the matter has firstly been thoroughly discussed with and a report to the Director-General has incorporated the views of the lease holder. (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. (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.	Compliant	* During audit period coal operations related to the underground linkage project * Underground linkage project to optimise recovery	
26	**Indemnity**			
	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 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.	Note		
28	**Security**			
	(a) The single security in the sum of $1,905,000 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 CCL 719 and CCL 721. 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 thereunder 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 thereunder. (b) The lease holder must provide the security required by sub-clause (a) in one of the following forms: (i) cash, (ii) a security certificate in a form approved by the Minister and issued by an authorised deposit-taking institution	Compliant	* "Rehabilitation Cost Calculation Tool Mannering (2015)" indicates $3,879,000 security for 2015-2018 MOP * "Chain Valley Colliery (Mannering Surface Areas) Underground RCE Report" (Mannering RCE) indicates $3,226,730 security for 2018-2020 MOP	
29	**Prescribed Dam**			

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
	(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 Mannering Creek Ash Dam, Colongra Creek Ash Dam and Vales Point Ash Dam without the prior written approval of the Minister and subject lo any conditions he may stipulate. (b) Where the lease holder desires to mine within the notification area he must: (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 (ii) provide such information as the Minister may direct. (c) The Minister must not, except in the circumstances set out in sub-paragraph (ii), grant approval unless sub-paragraph (i) of this paragraph has been complied with. This sub-paragraph is complied with if: (i) 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 referred to in paragraph (b). {ii) the notifications referred lo in clause (a) are accompanied by a description or plan of the area to be mined. (iii) 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. (iv) 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 (v) where the Dams Safety Committee has made recommendations the approval is in terms that are: - in accordance with those recommendations; or - where the Minister does not accept those recommendations or any of them - in accordance with a determination under sub-paragraph (ii) of this paragraph. (vi) Where the Minister does not accept the recommendations of the Dams Safety Committee or where the Dams Safety Committee has failed to make any recommendations and has not informed the Minister in writing that it does not propose to make any recommendations, the approval shall be in terms that are, in relation to matters dealing with the safety of the dam: as determined by agreement between the Minister and the Minister administering the Dams Safety Act 1978; or - in the event of failure to reach such agreement - as determined by the Premier. (d) The Minister, on notice from the Dams Safety Committee, may at any time or times: (i) cancel any approval given where a notice pursuant to Section 18 of the Dams Safety Act 1978 is given. (ii) suspend for a period of time, alter, omit from or add to any approval given or conditions imposed.	Not Triggered	*During the audit period the Mannering Creek Ash Dam, Colongra Creek Ash Dam and Vales Point Ash Dam were not under mined.	
30	**Suspension of Mining Operations**			
	The holder of a consolidated mining lease may not suspend mining operations in the mining area other than in accordance with the consent of the Minister.	Compliant	*2016 & 2017 Annual Reviews describe mining activity related to the underground linkage. *Approved 2018 MOP states "Mining activities within the Mannering approval boundary will be limited to those required to operate the underground linkage and supporting tunnel network to allow coal conveyance, travel and ventilation to the Mannering pit top."	
31	**Cooperation Agreement**			
	The licence holder must make every reasonable attempt, and be able to demonstrate their attempts, to enter into a cooperation agreement with the holder(s) of any overlapping petroleum title(s). The cooperation agreement should address but not be limited to issues such as: *access arrangements *operational interaction procedures dispute resolution *information exchange well location *timing of drilling *potential resource extraction conflicts and rehabilitation issues.	Not Triggered	According to site communications, there are no petroleum titles that overlap CCL 721.	
Special Conditions				
32	**Barriers**			
	The lease holder, unless with the consent of the Minister and subject to such conditions as the Minister may impose, shall not conduct mining operations on those parts of the subject area within the highwater level subsidence control zone defined: (a) on the surface by the highwater level of Lake Macquarie and Pallamanaba Creek and a point 2.44 metres in elevation above that highwater level; (b) in the seam by a line defined by an angle of draw of 35° drawn landwards from the line drawn vertically beneath a point 2.44 metres in elevation above the highwater level of Lake Macquarie and Pallamanaba Creek; (c) in the seam by a line defined by an angle of draw of 35°drawn lakewards from the line drawn vertically beneath the highwater level of Lake Macquarie.	Compliant	(a) N/A-Mining operations not undertaken in this area. (b) N/A-Mining operations not undertaken in this area. (c) According to site communications mining operations were undertaken in the seam by a line defined by an angle of draw of 35°drawn lakewards from the line drawn vertically beneath the highwater level of Lake Macquarie (in the underground linkage). Approval was sought and granted by DPE to undertake the underground linkage (PA 06_0311 Mod 2).	
33	Any approval or consent given by the Minister including any approval or consent given pursuant to any condition or term contained in a lease consolidated into this lease to the effect that the lease holder may conduct mining operations on those parts of the subject area within the highwater level subsidence control zone as defined in Condition 32 shall be deemed to be a consent given for the purposes of the said Condition 32, subject to the same conditions of that approval or consent Provided however that this clause shall also apply to any barrier 60.35 metres wide within the said zone.	Note		
34	The lease holder shall not work or cause to be worked any seam of coal within the subject area without leaving, if the Minister by order given in writing to the lease holder so directs, a barrier of such width or a protective pillar or pillars of such size or sizes as is specified in the order, against any surface improvements or any feature whether natural or artificial.	Compliant	First workings only	
35	Unless with the consent of the Minister first had and obtained, and subject to such conditions as he may impose, the lease holder shall not conduct mining operations on those parts of the subject area: (a) beneath the main buildings of the Munmorah and Vales Point Power Stations constructed on the excepted surface of the subject area; (b) within the marginal zone which is the area contained by an angle of draw of 35°. measured outwards from the external walls of the main buildings of the Munmorah and Vales Point Power Station to the floor of the seam.	Not Triggered	LakeCoal did not undermine the main buildings of Munmorah and Vales Point Power Stations during the audit period	

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
36	Any approval or consent given by the Minister, including any approval or consent given pursuant to any condition. or term contained in a lease consolidated into this lease, to the effect that the lease holder may conduct mining operations on those parts of the subject area within the barrier defined in Condition 35 shall be deemed to be a consent given for the purposes of the said Condition 35, subject to the same conditions of that approval or consent.	Not Triggered	LakeCoal did not undermine the main buildings of the Munmorah and Vales Point Power Stations during the audit period	
37	The lease holder shall be limited to the following purposes and conditions within the specified areas described on Plan No. 06180 marked Plan 'B'. Condition 12 noted on Plan 'B' is replaced by Condition 37.	Not Triggered	LakeCoal did not undermine these areas during the audit period	

Consolidated Coal Lease 719

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
Mining Lease Conditions 2013				
1	**Notice to Landholders**			
	(a) Within a period of three months from the date of renewal of this mining lease, the lease holder must serve on each landholder a notice in writing indicating that this mining lease has been renewed and whether the lease includes the surface. A plan identifying each landholder and individual land parcel subject to the lease area, and a description of the lease area must accompany the notice. (b) If there are ten or more landholders, 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 mining lease has been renewed; state whether the lease includes the surface and must contain a plan and description of the lease area. If a notice is made under condition 1(b), compliance with condition 1(a) is not required.	Not Triggered	Renewal outside of audit period	
2	**Rehabilitation**			
	Any disturbance resulting from the activities carried out under this mining lease must be rehabilitated to the satisfaction of the Minister.	Not Triggered	Rehabilitation has not been undertaken at the site.	
3	**Mining Operations Plan and Annual Rehabilitation Report**			
	(a) The lease holder must comply with an approved Mining Operations Plan (MOP) in carrying out any significant surface disturbing activities, including mining operations, mining purposes and prospecting. The lease holder must apply to the Minister for approval of a MOP. An approved MOP must be in place prior to commencing any significant surface disturbing activities, including mining operations, mining purposes and prospecting. (b) The MOP must identify the post mining land use and set out a detailed rehabilitation strategy which: (i) identifies areas that will be disturbed; (ii) details the staging of specific mining operations, mining purposes and prospecting; (iii) identifies how the mine will be managed and rehabilitated to achieve the post mining land use; (iv) identifies how mining operations, mining purposes and prospecting will be carried out in order to prevent and or minimise harm to the environment; and (v) reflects the conditions of approval under: • the Environmental Planning and Assessment Act 1979; • the Protection of the Environment Operations Act 1997; and • any other approvals relevant to the development including the conditions of this mining lease. (c) The MOP must be prepared in accordance with the ESG3: Mining Operations Plan (MOP) Guidelines September 2013 published on the Department's website at www.resources.nsw.gov.au/environment (d) The lease holder may apply to the Minister to amend an approved MOP at any time. (e) It is not a breach of this condition if: (i) the operations which, but for this condition 3(e) would be a breach of condition 3(a), were necessary to comply with a lawful order or direction given under the Environmental Planning and Assessment Act 1979, the Protection of the Environment Operations Act 1997, the Mine Health and Safety Act 2004 I Coal Mine Health and Safety Act 2002 and Mine Health and Safety Regulation 2007 I Coal Mine Health and Safety Regulation 2006 or the Work Health and Safety Act 2011; and (ii) the Minister had been notified in writing of the terms of the order or direction prior to the operations constituting the breach being carried out. (f) The lease holder must prepare a Rehabilitation Report to the satisfaction of the Minister. The report must: (i) provide a detailed review of the progress of rehabilitation against the performance measures and criteria established in the approved MOP; (ii) be submitted annually on the grant anniversary date (or at such other times as agreed by the Minister); and (iii) be prepared in accordance with any relevant annual reporting guidelines published on the Department's website at www.resources.nsw.gov.au/envrionment. Note: The Rehabilitation Report replaces the Annual Environmental Management Report.	Non-Compliant (Low Risk)	(a) Site inspection indicates MOP is being implemented. * Approval letter from Resources Regulator (RR) (formerly DRE) dated 27 March 2015, for 2015-2018 MOP * Approval letter from RR dated 26 September 2018 for 2018-2020 MO (b) The MOP must: i) MOP plans; ii) MOP plans (3 series); iii) Mine Closure Plan to be prepared at least two years prior to the cessation of mining activities; iv) Section 3; v) Section 4.1; vi) have regard to any relevant guidelines adopted by the Director-General. (c) 2018-2020 MOP has been prepared generally in accordance with DRE (now Resources Regulator) ESG3: MOP Guidelines, dated September 2013. (d) N/A-MOP not amended during MOP period. (e) Non-compliant: Details could not be provided by LakeCoal about non-compliances with the MOP. (f) Admin Non-compliant: Annual Rehabilitation Reports have not been prepared by LakeCoal. Rehabilitation not undertaken at the site but no correspondence provided by LakeCoal stating that Annual Rehabilitation Reports are not required or that these are covered by other reports. Observation: The 2016, 2017 and 2018 Annual Reviews do not provide details of non-compliances with the MOP.	
4	The Proponent must comply with any reasonable requirement/s of the Secretary arising from the Department's assessment of: (a) any reports, plans, programs or correspondence that are submitted in accordance with the conditions of this approval; and (b) the implementation of any actions or measures contained in these reports, plans, programs or correspondence.			

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
	(a) The lease holder must submit a Compliance Report to the satisfaction of the Minister. The report must be prepared in accordance with any relevant guidelines or requirements published by the Minister for compliance reporting. (b) The Compliance Report must include: (i) the extent to which the conditions of this mining lease or any provisions of the Act or the regulations applicable to activities under this mining lease, have or have not been complied with; (ii) particulars of any non-compliance with any such conditions or provisions, (iii) the reasons for any such non-compliance; (iv) any action taken, or to be taken, to prevent any recurrence, or to mitigate the effects, of that non-compliance. (c) The Compliance Report must be lodged with the Department annually on the grant anniversary date for the life of this mining lease. (d) In addition to annual lodgement under condition 4(c) above, a Compliance Report: (i) must accompany any application to renew this mining lease under the Act; (ii) must accompany any application to transfer this mining lease under the Act; and (iii) must accompany any application to cancel, or to partially cancel, this mining lease under the Act. (e) Despite the submission of any Compliance Report under (c) or (d) above, the titleholder must lodge a Compliance Report with the Department at any date or dates otherwise required by the Minister. (f) A Compliance Report must be submitted one month prior to the expiry of this mining lease, where the licence holder is not seeking to renew or cancel this mining lease.	Not Triggered	Outside of the audit period. This document would need to have been prepared for the previous mining lease renewal. The CCL 719 was renewed by the RR in a letter dated 2 October 2015.	
5	**Environmental Incident Report**			
	(a) The lease holder must notify the Department of all: (i) breaches of the conditions of this mining lease or breaches of the Act causing or threatening material harm to the environment; and (ii) breaches of environmental protection legislation causing or threatening material harm to the environment (as defined in the Protection of the Environment Operations Act 1997), arising in connection with significant surface disturbing activities, including mining operations, mining purposes and prospecting operations, under this mining lease. The notification must be given immediately after the lease holder becomes aware of the breach. Note. Refer to www.resources.nsw.qov.au/environmenf for notification contact details. (b) The lease holder must submit an Environmental Incident Report to the Department within seven (7) days of all breaches referred to in condition 5(a)(i) and (ii). The Environmental Incident Report must include: (i) the details of the mining lease; (ii) contact details for the lease holder; (iii) a map identifying the location of the incident and where material harm to the environment has or is likely to occur; (iv) a description of the nature of the incident or breach, likely causes and consequences; (v) a timetable showing actions taken or planned to address the incident and to prevent future incidents or breaches referred to in 5(a). (vi) a summary of all previous incidents or breaches which have occurred in the previous 12 months relating to significant surface disturbing activities, including mining operations, mining purposes and prospecting operations under this mining lease. Note. The lease holder should have regard to any relevant Director General's guidelines in the preparation of an Environmental Incident Report. Refer to www.resources.nsw.qov.au/environmentfor further details. (c) In addition to the requirements set out in conditions 5(a) and (b), the lease holder must immediately advise the Department of any notification made under section 148 of the Protection of the Environment Operations Act 1997 arising in connection with significant surface disturbing activities including mining operations, mining purposes and prospecting operations, under this mining lease.	Administrative Non-Compliance	* Email from LakeCoal to DPE (RR integrated into DPE), dated 11 April 2019, reporting TSS exceedance at Point 1 on 2 April 2019. Detailed LakeCoal incident report attached to email. Admin Non-compliant: Noise exceedance on 11 August 2016 reported to DPE on 12 August 2016, according to 2016 Annual Review. Detailed incident report could not be provided by LakeCoal, therefore not able to determine when or if an incident report was submitted. * Noise exceedance on 29 August 2018 reported to DPE on same day (email to DPE Compliance Mailbox from LakeCoal dated 29 August 2018). Detailed LakeCoal incident report provided to DPE on 7 September 2018. Compliant as LakeCoal was granted an extension to provide the detailed report, via email from EPA dated 5 September 2016. * There were no incidents of hydrocarbon contamination, or significant spills reported in the 2016, 2017 and 2018 Annual Reviews Observation: Complaints/incident register indicates no incidents from June 2016 to April 2019.	* Ensure the compliant/incident register includes all incidents.
6	**Extraction Plan**			

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
	(a) In this condition: (i) approved Extraction Plan means a plan, being: A. an extraction plan or subsidence management plan approved in accordance with the conditions of a relevant development consent and provided to the Secretary; or B. a subsidence management plan relating to the mining operations subject to this lease: I. submitted to the Secretary on or before 31 December 2014; and II. approved by the Secretary. (ii) relevant development consent means a development consent or project approval issued under the Environmental Planning & Assessment Act 1979 relating to the mining operations subject to this lease. (b) The lease holder must not undertake any underground mining operations that may cause subsidence except in accordance with an approved Extraction Plan. (c) The lease holder must ensure that the approved Extraction Plan provides for the effective management of risks associated with any subsidence resulting from mining operations carried out under this lease. (d) The lease holder must notify the Secretary within 48 hours of any: (i) incident caused by subsidence which has a potential to expose any person to health and safety risks; (ii) significant deviation from the predicted nature, magnitude , distribution, timing and duration of subsidence effects, and of the potential impacts and consequences of those deviations on built features and the health and safety of any person; or (iii) significant failure or malfunction of a monitoring device or risk control measure set out in the approved Extraction Plan addressing: A. built features; B. public safety; or c. subsidence monitoring.	Compliant	* Extraction Plan prepared outside of the audit period. * First workings only, therefore Extraction Plan not applicable to these operations - ie. The Linkage Project. * According to the Incidents/Complaints register no subsidence related incidents during the audit period. * 2016 & 2017 Annual Reviews state "No discernible subsidence impact from the LRP workings was observed during the reporting period." and subsidence monitoring results for Mannering Colliery included in the reports. Observation: The 2016 & 2017 Annual Reviews do not indicate where the subsidence monitoring data originated from and who undertook the subsidence monitoring.	A separate subsidence impact assessment report should be prepared annually and appended to the Annual Review. This report should be prepared or peer reviewed by a subsidence specialist. This should assess subsidence performance measures from the Project Approval
7	**Resource Recovery**			
	The lease holder must optimise recovery of the minerals that are the subject of this mining lease to the extent economically feasible.	Compliant	* During audit period coal operations related to the underground linkage project * Underground linkage project to optimise recovery	
8	**Group Security**			
	The Proponent must ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA. Notes: • Under Part 4A of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works. • Part 8 of the EP&A Regulation sets out the requirements for the certification of the project.	Non-Compliant (Low Risk)	* "Rehabilitation Cost Calculation Tool Mannering (2015)" indicates $3,879,000 security for 2015-2018 MOP * Non-compliant: "Chain Valley Colliery (Mannering Surface Areas) Underground RCE Report" (Mannering RCE) indicates $3,226,730 security for 2018-2020 MOP. Approval letter from RR for updated security could not be provided to SLR by LakeCoal.	
9	**Cooperation Agreement**			
	The lease holder must make every reasonable attempt, and be able to demonstrate its attempts, to enter into a cooperation agreement with the holder(s) of any overlapping title(s). The cooperation agreement should address but not be limited to issues such as: • access arrangements • operational interaction procedures • dispute resolution • information exchange • well location • timing of drilling • potential resource extraction conflicts; and • rehabilitation issues.	Not Triggered	According to site communications CCL 719 does not overlap with any other titles	
	Exploration Reporting			
	Note: Exploration Reports (Geological and Geophysical) The lease holder must lodge reports to the satisfaction of the Minister in accordance with section 163C of the Mining Act 1992 and in accordance with clause 57 of the Mining Regulation 2010. Reports must be prepared in accordance with Exploration Reporting: A guide for reporting on exploration and prospecting in New South Wales (Department of Trade and Investment; Regional Infrastructure and Services 2010).	Not Triggered	Based on site communications and 2016, 2017 & 2018 Annual Reviews no exploration during the audit period.	
	SPECIAL CONDITIONS Note: The standard conditions apply to all mining leases. The Division of Resources & Energy (DRE) reserves the right to impose special conditions, based on individual circumstances, where appropriate.	Note		
10	**Prescribed Dam**			

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
SCHEDULE 3 - SPECIFIC ENVIRONMENTAL CONDITIONS	(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 Colongra Creek Ash Dam without the prior written approval of the Minister and subject to any conditions stipulated. (b) Where the lease holder desires to mine within the notification area he or she must: (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 (ii) provide such information as the Minister may direct. (c) The Minister must not, except in the circumstances set out in sub-paragraph (ii), grant approval unless sub-paragraph (i) of this paragraph has been complied with. This sub-paragraph is complied with if: (i) 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 referred to in paragraph (b). (ii) the notifications referred to in clause (a) are accompanied by a description or plan of the area to be mined. (iii) 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. (iv) 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 (v) where the Dams Safety Committee has made recommendations the approval is in terms that are: in accordance with those recommendations; or where the Minister does not accept those recommendations or any of them - in accordance with a determination under sub-paragraph (ii) of this paragraph. (vi) Where the Minister does not accept the recommendations of the Dams Safety Committee or where the Dams Safety Committee has failed to make any recommendations and has not informed the Minister in writing that it does not propose to make any recommendations, the approval shall be in terms that are, in relation to matters dealing with the safety of the dam: as determined by agreement between the Minister and the Minister administering the Dams Safety Act 1978; or in the event of failure to reach such agreement - as determined by the Premier. (d) The Minister, on notice from the Dams Safety Committee, may at any time or times: (i) cancel any approval given where a notice pursuant to Section 18 of the Dams Safety Act 1978 is given. (ii) suspend for a period of time, alter, omit from or add to any approval given or conditions imposed.	Not Triggered	Mannering not mine within the Colongra Creek Ash Da	
11	**Petroleum**			
	Any proposed activity from time to time in regard to methane drainage and capture should be advised to the Department's Mine Safety Operations and Environmental Sustainability Units for consideration. Such activities may be subject to conditions relative to each site specific case.	Not Triggered	According to site communications during the linkage project methane was not captured and/or drained. 2016 and 2017 Annual Reviews confirm this.	
12	**Barriers**			
	The lease holder shall not work or cause to be worked any seam of coal within the subject area without leaving, if the Minister by order given in writing to the lease holder so directs, a barrier of such width or a protective pillar or pillars of such size or sizes as is specified in the order, against any surface improvements or any feature whether natural or artificial.	Compliant	First workings only completed during the audit period.	
13	**Subsidence Control Zone**			
	a) The lease holder, unless with the consent of the Minister and subject to such conditions as the Minister may impose, shall not conduct mining operations on those parts of the subject area within the highwater level subsidence control zone defined: i) on the surface by the highwater level of Lake Macquarie, Lake Munmorah, Karigan Creek and the South Pacific Ocean and a point 2.44 metres in elevation above that highwater level; ii) in the seam by a line defined by an angle of draw of 35° drawn landwards from the line drawn vertically beneath a point 2.44 metres in elevation above the highwater level of Lake Macquarie, Lake Munmorah, Karigan Creek and the South Pacific Ocean; iii) in the seam by a line defined by an angle of draw of 35° drawn lakewards from the line drawn vertically beneath the highwater level of Lake Macquarie and Lake Munmorah and seawards from a line drawn vertically beneath the highwater level of the South Pacific Ocean. b). Any approval or consent given by the Minister including any approval or consent given pursuant to any condition or term contained in a lease consolidated into this lease to the effect that the lease holder may conduct mining operations on those parts of the subject area within the highwater level subsidence control zone as defined in Condition 13 shall be deemed to be a consent given for the purposes of the said Condition 13, subject to the same conditions of that approval or consent. Provided however that this clause shall also apply to any barrier 60.35 metres wide within the said zone.	Compliant	(a) N/A-Mining operations not undertaken in this area (b) According to site communications mining operations were undertaken in the seam by a line defined by an angle of draw of 35°drawn lakewards from the line drawn vertically beneath the highwater level of Lake Macquarie (in the underground linkage). Approval was sought and granted by DPE to undertake the underground linkage (PA 06_0311 Mod 2).	
14	**Power Station**			
	a) The lease holder, unless with the consent of the Minister and subject to such conditions as the Minister may impose, shall not conduct mining operations on those parts of the subject area: i) beneath the main buildings of the Vales Point Power Station constructed on the excepted surface of the subject area; ii) within the marginal zone which is the area contained by an angle of draw of 35° measured outwards from the external walls of such buildings to the floor of the seam. b) Any approval or consent given by the Minister including any approval or consent given pursuant to any condition or term contained in a lease consolidated into this lease to the effect that the lease holder may conduct mining operations on those parts of the subject area within the barrier defined in Condition 15 shall be deemed to be a consent given for the purposes of the said Condition 15 subject to the same conditions of that approval or consent.	Not Triggered	Did not undermine the main buildings of Vales Point Power Stations during the audit period.	
15	**Details of Lands and Purposes**			
	The leases holder shall be limited to the following purposes and conditions within the specified areas described on the plan annexed hereto and marked "B" insofar as such areas relate to the surface and land below the surface to the depth/s specified on the plan.	Note		

Condition Number	Condition	Compliance Status	Evidence	Recommended Action
	<table><tr><th>COLUMN 1- AREAS</th><th>COLUMN 2- PURPOSES</th><th>COLUMN 3- CONDITIONS</th></tr><tr><td>Lands shown by red colour</td><td>Constructing, maintaining or using in connection with mining any of the following, namely bin, borehole, bridge, building, coal preparation plant, conveyor systems, dam, drain, drift, machinery, magazine, railway, reservoir, road, shaft, shaft appurtenances, telephone line, tramway, tunnel. The erection, maintenance and use of standards, posts, wires and appliances for the transmission of electricity. The dumping or depositing of coal, minerals, mine residues or tailings. The storing of fuel, machinery, tools, timber or equipment in connection with mining. Erecting dwellings for the use of persons employed on or about a mine or land subject to a lease for mining purposes. Laying, maintaining and using a pipeline or cable in connection with mining. The generation of electricity.</td><td>NIL</td></tr><tr><td>Lands shown by blue colour</td><td>Constructing, maintaining or using in connection with mining any of the following, namely borehole, building, dam, drain, machinery, road, shaft, shaft appurtenances and telephone line. The erection, maintenance and use of standards, posts, wires and appliances for the transmission of electricity. The storing of fuel, machinery, tools or equipment in connection with mining. Laying, maintaining and using a pipeline or cable in connection with mining. The generation of electricity.</td><td>NIL</td></tr><tr><td>Lands shown by green colour</td><td>Constructing, maintaining or using in connection with mining any of the following, namely bridge, building, dam, drain, machinery, road and telephone line. The erection, maintenance and use of standards, posts, wires and appliances for the transmission of electricity. Laying, maintaining and using a pipeline or cable in connection with mining.</td><td>NIL</td></tr></table>	Not Triggered	Not condition requirements	

APPENDIX C

Audit Certification Form

Development Name	Mannering Colliery
Development Consent No.	PA 06_0311
Description of Development	Underground Coal Mine
Development Address	Off Ruttleys Road, Doyalson North NSW 2262
Operator	Delta Coal
Operator Address	Off Ruttleys Road, Doyalson North NSW 2262
Title of Audit	Mannering Colliery 2019 Independent Environmental Audit

I certify that I have undertaken the independent Audit and prepared the contents of the attached independent Audit report and to the best of my knowledge:

The Audit has been undertaken in accordance with relevant approval condition(s) and in accordance with the Auditing standard AS/NZS ISO 19011:2014 and Post Approval Guidelines – Independent Audits

The findings of the Audit are reported truthfully, accurately and completely;

I have exercised due diligence and professional judgement in conducting the Audit;

I have acted professionally, in an unbiased manner and did not allow undue influence to limit or over-ride objectivity in conducting the Audit;

I am not related to any owner or operator of the development as an employer, business partner, employee, sharing a common employer, having a contractual arrangement outside the Audit, spouse, partner, sibling, parent, or child;

I do not have any pecuniary interest in the Audited development, including where there is a reasonable likelihood or expectation of financial gain or loss to me or to a person to whom I am closely related (i.e. immediate family);

Neither I nor my employer have provided consultancy services for the Audited development that were subject to this Audit except as otherwise declared to the lead regulator prior to the Audit; and

I have not accepted, nor intend to accept any inducement, commission, gift or any other benefit (apart from fair payment) from any owner or operator of the development, their employees or any interested party. I have not knowingly allowed, nor intend to allow my colleagues to do so.

Note.

The Independent Audit is an 'environmental Audit' for the purposes of section 122B(2) of the Environmental Planning and Assessment Act 1979. Section 122E provides that a person must not include false or misleading information (or provide information for inclusion in) an Audit report produced to the Minister in connection with an environmental Audit if the person knows that the information is false or misleading in a material respect. The maximum penalty is, in the case of a corporation, $1 million and for an individual, $250,000.

The Crimes Act 1900 contains other offences relating to false and misleading information: section 192G (Intention to defraud by false or misleading statement—maximum penalty 5 years imprisonment); sections 307A, 307B and 307C (False or misleading applications/information/documents—maximum penalty 2 years imprisonment or $22,000, or both).

Signature	
Name of Lead / Principal Auditor	Chris Jones
Address	10 Kings Road, New Lambton NSW 2305, Australia
Email Address	cjones@slrconsulting.com
Auditor Certification (if relevant)	Principal Environmental Auditor
Date:	27 May 2019

APPENDIX D

Endorsement of SLR

NSW GOVERNMENT | Planning & Environment

Chris Armit
Environment and Community
Lake Coal
PO Box 7115
MANNERING PARK NSW 2259

Contact: Leah Cook
Phone: 02 65753403
Email: leah.cook@planning.nsw.gov.au
compliance@planning.nsw.gov.au

Chain Valley Colliery and Mannering Colliery
2019 Independent Environmental Audit Scope and Team Endorsement

Dear Mr Armit,

Thank you for providing a copy of SLR's Independent Environmental Audit (IEA) proposal for Chain Valley and Mannering Collieries, for endorsement of the team in accordance with SSD 5465, as modified and PA 06_0311, as modified.

The Department has reviewed the information provided and endorses the scope of the IEA and proposed audit team with the following personnel:

- Chris Jones – Lead Auditor
- Tracey Ball – Senior Assistant Auditor
- Martin Davenport - Noise specialist

The Department has also requested that the audit team includes an independent subsidence specialist (endorsement pending) and their audit findings should be incorporated into the SLR report.

The Department expects that the audit will be conducted in accordance with the Independent Audit Guideline, October 2015. A copy of this guideline is available at: http://www.planning.nsw.gov.au/~/media/Files/DPE/Guidelines/independent-audit-guideline-2015-10-23.ashx\

Please ensure that your audit team consults with relevant agencies to ascertain any aspects that the agencies wish the audit to address. Evidence of agency consultation and clear referencing to audit findings in relation to any agency request is to be provided in the audit report.

Please note that the Chain Valley approval has a tighter timeframe for delivery of the audit report and response to audit recommendations (RAR) (6weeks for the date of inspection, unless otherwise agreed). Please ensure that the RAR includes responses to all non-compliances and auditor recommendations with clear timeframes (dd-mm-yyyy) for implementation of the proposed corrective action.

Please contact me if you require any further clarification.

Yours sincerely,

28/2/19.

Leah Cook
Team Leader - Compliance
As Nominee of the Secretary

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Appendix 8: Independent Environmental Audit Action Plan

INDEPENDENT ENVIRONMENTAL AUDIT ACTION PLAN 2019

Mannering Colliery

AS UPDATED 28/03/2022

Non-compliance summary and recommendations Prepared by:

SLR Consulting

Confirmation and Due date Prepared by:

Delta Coal

Version No: -v0.1
May 2019

Action Table from Mannering Colliery IEA Audit Findings – Summary of Non-Compliances

Table 1 outlines the summary of non-compliances relating to the statutory conditions of Mannering Colliery, proposed recommendation, Delta confirmation and due date.

Table 1 Summary of Non-Compliances

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations	Delta Coal Confirmation Due date	Delta Coal Internal resource / External Resource	% Complete
PA 06_0311 (as modified)							
Schedule 2 Condition 8	"The Proponent must regularly review the strategies, plans and programs required under this approval and ensure that these documents are updated to incorporate measures to improve the environmental performance of the development and reflect current best practice in the mining industry. To facilitate these updates, the Proponent may at any time submit revised strategies, plans or programs for the approval of the Secretary. With the agreement of the Secretary, the Proponent may also submit any strategy, plan or program required by this approval on a staged basis. With the agreement of the Secretary, the Proponent may prepare a revision or stage of any strategy, plan or program required under this approval without undertaking consultation with all parties nominated under the applicable condition in this approval. Notes: • While any strategy, plan or program may be submitted on a staged basis, the Proponent must ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times. • If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.	Administrative Non-Compliance	The Proponent has not regularly reviewed the strategies, plans and programs required under this approval (i.e. Environmental Monitoring Program labelled Centennial Coal and dated November 2011, Energy Savings Action Plan labelled Centennial Mannering and dated 2011). Management Plans are out of date.	REC 1: Develop and implement a plan to update Mannering's Strategies, Plans and Programs.	REC 1: Agree 31/8/19	LM	100%

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations	Delta Coal Confirmation Due date	Delta Coal Internal resource / External Resource	% Complete
Schedule 2 Condition 11	"The Proponent must ensure that all plant and equipment used on site is: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner.	Non-Compliant (Low Risk)	(a) Downer maintenance records for radiation equipment dated 31 March 2017. * Electrical inspection records for ash analysers from 2016 to 2017. * Maintenance records: ""Mannering Front End Loaders work order history as at 2.5.19"" (b) During site inspection plant and equipment appeared to be operated in a proper and efficient manner. * Non-compliant: Complaint register dated 2018 indicated a number of complaints related to noise from the loader at the prep plant.	REC 2: Ensure that all plant and equipment used on site is operated in a proper and efficient manner.	REC 2: Disagree	N/A	N/A
Schedule 2 Condition 12	The Proponent must pay the affected councils $0.02 for each tonne of ROM coal produced by the project for the purpose of improving water quality in the Lake Macquarie catchment. This payment must be: (a) shared equally by the affected councils; (b) made by the end of March 2009, and at yearly intervals thereafter; (c) calculated on the ROM coal produced in the previous calendar year; and (d) subject to indexation by the Implicit Price Deflator, as published by the Australian Bureau of Statistics.	Administrative Non-Compliance	* Email from Council dated 2 April 2019 confirming VPA Payment for the 2018 period. * Admin Non-compliant: Receipt From Central Coast Council for VPA payment, dated 5 October 2016. Payment of Voluntary Planning Agreement (VPA) not made by the end of March 2016.	REC 3: Ensure VPA payments are made prior to the due date.	REC 3: Agree 31/3/20	LM	100%

Schedule 3 Condition 1	1. The Proponent must ensure that the noise generated by the project does not exceed the noise impact assessment criteria in Table 1 at any residence on privately owned land. *Table 1: Noise limits dB(A)* **Day** $L_{Aeq(15\ min)}$ / **Evening** $L_{Aeq(15\ min)}$ / **Night** $L_{Aeq(15\ min)}$ / **Night** $L_{A1(1\ min)}$ / **Locat** (as listed in Ap 49 / 49 / 35 / 49 / 4 – di Rocco 47 / 47 / 35 / 49 / 5 – Kelghran 44 / 44 / 35 / 49 / 6 – Swan 43 / 43 / 43 / 50 / 7 – Druitt 46 / 46 / 46 / 50 / 8 – May 45 / 45 / 45 / 52 / 9 – Jeans 40 / 40 / 40 / 52 / 11 – Jeans 43 / 43 / 43 / 52 / 18 – Jeans 44 / 44 / 44 / 52 / 20 – Knight an Chain Valley B residences Note: The location of the land referred to in Table 1 is shown on the figure in Appendix 4.	Non-Compliant (Low Risk)	Non-compliant: According to 2016 Annual Review, on 12 August 2016 LakeCoal was advised by its independent noise monitoring consultant (Global Acoustics) that they had recorded a 3dB exceedance of the site's LAeq15 Minute noise criteria at receiver RA2 (Macquarie Shores Retirement Village) during the evening monitoring on 11 August 2016 for Mannering Colliery. * According to 2016 Annual Review, on 29 August 2018, there was an exceedance recorded at 1dB exceedance of the site's LAeq15 Minute noise criteria at receiver RA2 (Macquarie Shores Retirement Village) during the scheduled night monitoring. * According to the Noise Mitigation Study dated March 2019: -Noise mitigation works implemented by the previous operators in 2018 have decreased site noise emission levels at all neighbouring noise-sensitive receivers. -Current and proposed MC noise emissions are predicted to comply with the relevant long-term noise criteria outlined in MP 06_0311 at all assessment locations under worst case	REC 4: Continue to undertake noise monitoring. REC 5: Undertake follow-up actions if noise exceedances occur. REC 6: Continue to manage noise complaints. REC 7: Provide DPE with EMM Noise Mitigation Study dated March 2019.	REC 4: Agree REC 5: Agree REC 6: Agree REC 7: Agree, Completed 01/04/2019	LM	100%

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations	Delta Coal Confirmation Due date	Delta Coal Internal resource / External Resource	% Complete
			meteorological conditions. -LAmax noise level events at the site are also predicted to remain below the relevant sleep disturbance criteria. * Noise complaints increased during the audit period, with 0 noise complaints in 2016 and 2017, but 10 complaints in 2018, and 10 complaints from January 2019 to March 2019.				

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations	Delta Coal Confirmation Due date	Delta Coal Internal resource / External Resource	% Complete
Schedule 3 Condition 3	The Proponent must prepare a Noise Monitoring Program for the project to the satisfaction of the Secretary. This program must: (a) be submitted to the Secretary by the end of September 2008; (a1) be revised in consultation with the EPA and be submitted to the Secretary by the end of April 2016; and (b) include the use of continuous and attended noise monitoring measures to monitor the performance of the project. The Proponent must implement the approved Noise Monitoring Program as approved from time to time by the Secretary.	Non-Compliant (Low Risk)	Preparation: * Updated (April 2016) NMP approved by DPE on 20 October 2008 according to LakeCoal email dated 4 March 2016 (a) NMP Section 1.2 * Updated (April 2016) Noise Monitoring Program (NMP) submitted to DPE on 29 April 2016 (b) NMP Section 5.1 & 5.2 Implementation: * Noise monitoring results included in the 2016, 2017 and 2018 Annual Reviews * Non-compliant: Only attended noise monitoring has been undertaken, according to the 2016, 2017 and 2018 Annual Reviews.	REC 8: Continuous noise monitoring should be undertaken in accordance with Mannering Colliery's Noise Management Plan.	REC 8 Agree: Find Correspondence with DPE on removal of Mine Cottages continuous noise monitoring equipment and reinstall if necessary. 31/08/19	LM	100%

Schedule 3 Condition 8	The Proponent must prepare a Water Management Plan for the project to the satisfaction of the Secretary. This plan must: (a) be prepared in consultation with DPI Water by suitably qualified expert/s whose appointment/s have been approved by the Secretary; (b) be submitted the Secretary by the end of March 2009; and (c) include a: • Site Water Balance; • Erosion and Sediment Control Plan; • Surface Water Monitoring Plan; and • Groundwater Monitoring Program. The Proponent must implement the approved management plan as approved from time to time by the Secretary.	Administrative Non-Compliance	Preparation: (a) Prepared in consultation with DPI Water - Section 4.1. * Document prepared by suitably qualified expert - Section 4.1. (b) Water Management Plan (WMP) approved by DPE on 9 March 2010. (c) Site Water Balance - Section 6.5. • Erosion and Sediment Control Plan - Section 7.0. • Surface Water Monitoring Plan - Section 8.1. • Groundwater Monitoring Program - Section 9.1. Observation: The Water Management Plan has not been updated since January 2013. Observation: Figure 1 does not clearly show clean and dirty water management at the site. Implementation: * During site inspection clean and water management system appeared to be effective in keeping clean water and dirty water separate. * Groundwater and surface water monitoring program undertaken during the audit period per Annual Reviews. * Section 11 of the Management Plan commits to reviewing the plan every three years. This has not been	REC 9: The WMP needs to be updated. REC 10: Replace Figure 1 in the WMP with clear figures showing clean and dirty water management (i.e. replace with Figures 2.10 & Figure 2.11 from the 2018 Annual Review).	REC 9: Agree: 31/10/19 REC10: Agree: 31/10/19	LM	100%

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations	Delta Coal Confirmation Due date	Delta Coal Internal resource / External Resource	% Complete
			completed, therefore Admin Non - Compliance.				
Schedule 3 Condition 9	The Site Water Balance must: (a) include details of: • sources and security of water supply; • water use on site; • water management on site; and (b) investigate, assess and report on measures to minimise water use by the project, particularly potable water from the Wyong Shire town water supply.	Administrative Non-Compliance	Preparation: a) Sources of water supply - WMP Section 6.5. • Water use on site - WMP Section 6.1. • Water management on site - WMP Section 6.0. Admin Non-compliant: The water balance is outdated and does not reflect the current status of the site. Section 6.5 of the WMP references a Water Balance Assessment from December 2011. (b) Investigate, assess and report on measures to minimise water use by the project, particularly potable water from the Wyong Shire town water supply - Section 6.1 Implementation: * Water management system sited during site inspection.	REC 11: The Water Balance in the WMP needs to be reviewed as it's out of date.	REC11 Agree: 31/10/19 Mannering Colliery WMP reviewed 03/02/2020	LM	100%

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations	Delta Coal Confirmation Due date	Delta Coal Internal resource / External Resource	% Complete
Schedule 3 Condition 11	The Surface Water Monitoring Plan must include: (a) detailed baseline data on surface water flows and quality in creeks and other waterbodies that could be affected by the project; (b) surface water impact assessment criteria; (c) a program to monitor the impact of the project on surface water flows and quality; and (d) procedures for reporting the results of this monitoring.	Non-Compliant (Low Risk)	Preparation: (a) WMP Section 8.2. (b) WMP Section 8.1.1. (c) WMP Section 8.2. (d) WMP Section 8.3. Implementation: * Surface water monitoring program undertaken during the audit period per the 2016, 2017 and 2018 Annual Reviews. * LDP 001 sited during the field inspection. Non-compliant: Visual assessment of the unnamed creek (described in Section 8.2.1 of the WMP) is not undertaken every 6 months to monitor stability and erosion.	REC 12: Undertake visual assessment of the unnamed creek every 6 months, to monitor stability and erosion. A TARP should be developed in the next review of the WMP which outlines quantitative and qualitative triggers for the creek and erosion. REC 13: Include results of the visual assessment of the unnamed creek in Annual Reviews. Include a reference again previous results. REC 14: Ensure monitoring undertaken at the "Downstream" monitoring location is undertaken every 12 months. REC 15: Include analysis results from monitoring undertaken at the "Downstream" monitoring location in Annual Reviews.	REC 12: Agree 31/08/19 REC 13: Agree 31/3/20 REC14: Agree 31/08/19 REC15: Agree 31/3/20	LM	REC 12: 100% REC 13: 100% REC14: 100% REC15: 100%

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations	Delta Coal Confirmation Due date	Delta Coal Internal resource / External Resource	% Complete
Schedule 3 Condition 17	The Proponent must prepare an Air Quality Monitoring Program for the project to the satisfaction of the Secretary. This program must: (a) be submitted to the Secretary by the end of September 2008; and (b) use dust deposition gauges to monitor the performance of the project. The Proponent must implement the approved monitoring program as approved from time to time by the Secretary.	Administrative Non-Compliance	Preparation: * Air Quality Monitoring Program included as Section 3 of the AQMP, dated December 2012. This is too long between reviews. It was not updated following the 2013 or 2016 audits. Admin Non - Compliance. * AQMP approved by DPE on 20 October 2008, according to LakeCoal email dated 4 March 2016. * List of dust deposition gauges included in Section 3 of the AQMP. Implementation: * Monitoring results from deposition gauges reported in the 2016, 2017 and 2018 Annual Reviews.	*Nil recommendation*	*Action:* Update Air Quality Management Plan 31/8/19	LM	100%

Schedule 3 Condition 18	The Proponent must prepare a Heritage Management Plan for the project to the satisfaction of the Secretary. This Plan must: (a) be prepared in consultation with any relevant Aboriginal stakeholders; (b) be submitted, prior to 31 March 2013, for approval to the Secretary; (c) include consideration of the Aboriginal and non-Aboriginal cultural context and significance of the site; (d) detail the responsibilities of all stakeholders; and (e) include programs/procedures and management measures for: • dealing with previously unidentified Aboriginal objects (excluding human remains), including any need to halt works in the vicinity, assessment of significance, determination of appropriate mitigation measures (by a qualified archaeologist in consultation with Aboriginal stakeholders), re-commencement of works, notifying OEH, and registering the new site(s) in the OEH AHIMS register; • dealing with any human remains which may be discovered, including halting of works in the vicinity; notifying NSW Police, OEH, the Department and Aboriginal stakeholders; and not re-commencing any works in the vicinity unless authorised; • heritage induction for construction personnel (including procedures for keeping records of inductions); • ongoing Aboriginal consultation and involvement (including procedures for keeping records of this); • appropriate identification, management, conservation and protection of both Aboriginal and non-Aboriginal heritage items identified on the site; and • dealing with previously unidentified non-Aboriginal heritage items which may be discovered during the project. The Proponent must implement the approved management plan as approved from time to time by the Secretary.	Administrative Non-Compliance	Preparation: * Approval letter from DPE dated 26/11/2012 for Aboriginal Cultural Heritage Management Plan (ACHMP) (dated November 2012). It was not updated following the 2013 or 2016 audits. Admin Non - Compliance. * Approval letter from DPE dated 10 September 2013 for Non-Indigenous Heritage Management Plan (dated February 2013). (a) ACHMP - Section 6.0. (b) N/A - Outside of the audit period. (c) ACHMP - Attachment 3. Non-Indigenous Heritage Management Plan - Section 4. (d) ACHMP - Section 16. Non-Indigenous Heritage Management Plan - Section 3. (e) ACHMP - Section 6, 7, 13 and 17.2. Non-Indigenous Heritage Management Plan - Section 3, 6.1 & 6.2. * Observation: ACHMP was last updated November 2012 and is labelled Centennial and contains areas which are not relevant to the Mannering site. * Observation: Non-Indigenous Heritage Management Plan was last updated February	REC 16: Update the ACHMP to make it reflective of the Mannering site only. REC 17: Update the Non-Indigenous Heritage Management Plan	REC16: Agree 31/08/19 REC17: Agree 31/08/19	LM	100%

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations	Delta Coal Confirmation Due date	Delta Coal Internal resource / External Resource	% Complete
			2013 is labelled Centennial. Implementation: * ACHMP & Non-Indigenous Heritage Management Plan appear to have been implemented during the audit period, with no complaints or incidents related to heritage recorded in the 2016, 2017 and 2018 Annual Reviews and Complaints Log.				

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations	Delta Coal Confirmation Due date	Delta Coal Internal resource / External Resource	% Complete
Schedule 3 Condition 22	The Proponent must prepare a Greenhouse and Energy Efficiency Plan for the project to the satisfaction of the Secretary. This plan must: (a) be prepared in consultation with EPA and generally in accordance with the Guidelines for Energy Savings Action Plans (DEUS 2005, or its latest version); (b) be submitted to the Secretary for approval by the end of September 2008; (c) include a program to monitor greenhouse gas emissions and energy use generated by the project; (d) include a framework for investigating and implementing measures to reduce greenhouse gas emissions and energy use at the site; and (e) describe how the performance of these measures would be monitored over time. The Proponent must implement the approved management plan as approved from time to time by the Secretary.	Administrative Non-Compliance	<u>Preparation:</u> (a) N/A - Prepared outside of audit period (b) Energy Savings Action Plan (ESAP) was approved by DPE on 20 October 2008 according to LakeCoal email dated 4 March 2016 (c) ESAP - Page 17, 22 (d) ESAP - Page 4 (e) ESAP - Page 4 <u>Admin Non-Compliant</u>: The methodology to monitor greenhouse gas emissions generated by the project is not clearly stated in the ESAP. * The ESAP has not been reviewed since 2008 and is labelled Centennial Mannering <u>Implementation</u>: *According to site communications, energy savings due to minor operations completed during the audit period *Greenhouse gas emissions reported in 2016, 2017 and 2018 Annual Reviews.	REC 18: Assess the relevance of the Energy Savings Action Plan (ESAP) and whether it requires updating or incorporation into the sites Air Quality Management Plan (AQMP).	REC18: Agree 31/08/19	LM	100%

Schedule 5 Condition 1	The Proponent must revise an Environmental Management Strategy for the project. This strategy must: (a) be submitted for approval to the Secretary prior to 30 June 2013; (b) provide the strategic framework for the environmental management of the project; (c) identify the statutory approvals that apply to the project; (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project; (e) describe the procedures that would be implemented to: • keep the local community and relevant agencies informed about the operation and environmental performance of the project; • receive, handle, respond to, and record complaints; • resolve any disputes that may arise during the course of the project; • respond to any non-compliance; and • respond to emergencies; and (f) include: • copies of any strategies, plans and programs approved under the conditions of this approval; and • a clear plan depicting all the monitoring required to be carried out under the conditions of this approval. The Proponent must implement the approved management strategy as approved from time to time by the Secretary.	Administrative Non-Compliance	Preparation: * Approval letter from DPE dated 10 September 2013 for the Environmental Management Strategy (EMS). It was not updated following the 2013 or 2016 audits. Admin Non - Compliance. (a) EMS submission letter dated 26 June 2013 (b) EMS - Section 1.0 (c) EMS - Section 4.0 (d) EMS - Section 5.0 (e) EMS - Section 8.1, 8.2, 8.3, 8.6 and 8.7 (f) EMS - Section 9.0, 12.0 and copies of management plans maintained on the Mannering Colliery website Admin Non-compliant: Table 9 and 10 list the incorrect monitoring frequency for conductivity, TSS, pH and Oil & Grease Observation: The EMS was last reviewed in September 2013 and is labelled Centennial Mannering Implementation: * Results from environmental monitoring (dust, noise, surface water and groundwater) reported in 2016, 2017 and 2018 Annual Reviews.	REC 19: Review the Environmental Management Strategy (EMS). REC 20: Include in the reviewed EMS the incorrect monitoring frequency for conductivity, TSS, pH and Oil & Grease	REC19: Agree 31/08/19 REC20: Agree 31/08/19	LM	100%

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations	Delta Coal Confirmation Due date	Delta Coal Internal resource / External Resource	% Complete
			* Management plans reviewed and assessed as part of this audit. * Complaints/Incidents Register for Mannering maintained. * 2 April 2019 non-compliance (TSS exceedance) reported to EPA.				

Schedule 5 Condition 2	The Proponent must ensure that the management plans required under this approval are prepared in accordance with any relevant guidelines, and include: (a) detailed baseline data; (b) a description of: • the relevant statutory requirements (including any relevant approval, licence or lease conditions); • any relevant limits or performance measures/criteria; • the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the project or any management measures; (c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria; (d) a program to monitor and report on the: • impacts and environmental performance of the project; • effectiveness of any management measures (see (c) above); (e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible; (f) a protocol for managing and reporting any: • incidents; • complaints; • non-compliances with statutory requirements; and • exceedances of the impact assessment criteria and/or performance criteria; and (g) a protocol for periodic review of the plan. Note: The Secretary may waive some of these requirements if they are unnecessary for particular management plans.	Administrative Non-Compliance	(a) WMP: Section 8.2, LMP: Section 6.1, ACHMP: Attachment 3, Non-Indigenous CHMP: Section 4.0 & 5.0 (b) WMP: Section 4.0 & 8.0, LMP: Section 2, ACHMP: Attachment 3, Non-Indigenous CHMP: Section 1.2 (c) WMP: Section 8.0 & 9.0, LMP: Section 4.4 & 6.2, ACHMP: Attachment 3, Non-Indigenous CHMP: Section 6.0 (d) WMP: Section 8.0, 9.3 & 9.4, Non-Indigenous CHMP: Section 7.1 Admin Non-compliant: The LMP & ACHMP does not include reporting mechanisms (i.e. Annual Review) (e) LMP: Section 9.1, ACHMP: Section 13.0, Non-Indigenous CHMP: Section 6.2 Admin Non-compliant: The WMP does not include a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible (f) LMP: Section 9.1 & 7.1, ACHMP: Section 13.0 & 18.0, Non-Indigenous CHMP: Section Admin Non-compliant: The WMP does not include a protocol for managing and reporting	REC 21: All management plans require updating due to the length of time since the previous reviews. REC 22: Ensure there is a cross referencing table covering this condition in management plans. REC 23: Additional detail including Trigger, Action, Response Tables (contingency plan) should be developed in the next round of management plan updates. REC 24: Include in the LMP and ACHMP reporting mechanisms (i.e. Annual Review). REC 25: Include in the WMP a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible. REC 26: Include in the WMP a protocol for managing and reporting any incidents, complaints, non-compliances with statutory requirements; and exceedances of the impact assessment criteria and/or performance criteria. REC 27: Include a complaints handling procedure in the include ACHMP. REC 28: Include a protocol for periodic review of the ACHMP. REC 29: Ensure all management plans required under PA	REC21: Agree 31/08/19 REC22: Agree 31/08/19 REC23:Agree 31/08/19 REC24: Agree 31/08/19 REC25: Agree 31/08/19 REC26: Agree 31/08/19 REC27:Agree 31/08/19	LM	100%

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations	Delta Coal Confirmation Due date	Delta Coal Internal resource / External Resource	% Complete
			any incidents, complaints, non-compliances with statutory requirements and exceedances of the impact assessment criteria and/or performance criteria. Admin Non-compliant: The ACHMP does not include a complaints handling procedure (g) a protocol for periodic review of the plan. WMP: Section 11 Admin Non-compliant: The ACHMP does not include a protocol for periodic review of the plan. Observation: The management plans condition has not been included in regulatory requirements section of the WMP, LMP, ACHMP and Non-Indigenous CHMP.	06_0311 detail and consider the management condition.			

Schedule 5 Condition 3	By the end of March each year, or other timing as may be agreed by the Secretary, the Proponent must submit a report to the Department reviewing the environmental performance of the project to the satisfaction of the Secretary. This review must: (a) describe the development (including any rehabilitation) that was carried out in the past calendar year, and the development that is proposed to be carried out over the current financial year; (b) include a comprehensive review of the monitoring results and complaints records of the project over the past calendar year, which includes a comparison of these results against the: • the relevant statutory requirements, limits or performance measures/criteria; • requirements of any plan or program required under this approval; • the monitoring results of previous years; and • the relevant predictions in the documents listed in condition 2 of Schedule 2; (c) identify any non-compliance over the past year, and describe what actions were (or are being) taken to ensure compliance; (d) identify any trends in the monitoring data over the life of the project; (e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and (f) describe what measures will be implemented over the current financial year to improve the environmental performance of the project.	Administrative Non-Compliance	Preparation: * Approval letter from DPE for 2016 Annual Review, dated 6 July 2017. * Approval letter from DPE for 2017 Annual Review, dated 20 March 2018. Admin Non-compliant: 2016 Annual Review not submitted by March 31 2017. Submission email from LakeCoal to DPE dated 30 April 2017. * Letter from LakeCoal to DPE dated 29 March 2019 stating Annual Review uploaded on the Mannering Colliery website. * Email from LakeCoal to DPE dated 30 March stating Annual Review uploaded on the Mannering Colliery website. (a) Section 2, 5 & 8 - 2016, 2017, 2018 Annual Reviews (b) Section 3 & 4 - 2016, 2017, 2018 Annual Reviews Admin Non-compliant: The Annual Reviews do not provide: * Clearly state the performance criteria for noise and water quality; * Requirements of plans/programs required under this approval for noise and water quality; * The monitoring results of previous years, for noise and water; and * The relevant predictions in environmental	REC 29: Ensure Annual Reviews are submitted to DPE by 31 March. REC 30: Future Annual Reviews should clearly state noise and water quality performance criteria, and provide monitoring results against these. REC 31: Include in future Annual Reviews: - Requirements of plans/programs required under PA 06_0311 for noise and water quality; - The monitoring results of previous years, for noise and water; - The relevant predictions in environmental assessments for air quality, noise and water; - Trends in the monitoring data for air quality, noise and water, over the life of the project; and - Discrepancies between the predicted impacts in the EAs for air quality, noise and water, and actual impacts of the project. REC 32: The Annual Reviews are set out differently to the DPE Annual Review Guidelines (2015). Ensure table of contents matches the guidelines. REC 33: IEA Actions Plans should be included in every Annual Review going forward.	REC29: Agree 31/03/20 REC30: Agree 31/03/20 REC31:Agree31/03/20 REC32:Agree 31/03/20 REC33:Agree 31/03/20	LM	80% Recommendation made by DPIE for 2020 Annual review to follow guideline format. Will be completed for 2021 Annual Review.

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations	Delta Coal Confirmation Due date	Delta Coal Internal resource / External Resource	% Complete
			assessments for air quality, noise and water. (c) Executive summary, Section 3 & 7 - 2016, 2017, 2018 Annual Reviews (d) Non-compliant: Trends in the monitoring data (for air quality, noise and water) over the life of the project are not included in the 2016, 2017 and 2018 Annual Reviews. (e) Non-compliant: Discrepancies between the predicted impacts in the EAs (for air quality, noise and water) and actual impacts of the project are not included in the 2016, 2017 and 2018 Annual Reviews. (f) Section 2, 3 & 6 - 2016, 2017 and 2018 Annual Reviews. Admin Non-compliant: The Annual Reviews have not been prepared to cover the current Annual Review Guidelines. See: https://www.planning.nsw.gov.au/Policy-and-Legislation/Mining-and-Resources/~/media/3AA21D35168042FE813DD0FB92E00E58.ashx				

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations	Delta Coal Confirmation Due date	Delta Coal Internal resource / External Resource	% Complete
Schedule 5 Condition 4	Within 3 months of: (a) the submission of an annual review under Condition 3 above; (b) the submission of an incident report under Condition 6 below; (c) the submission of an audit under Condition 8 below; or (d) any modification to the conditions of this approval (unless the conditions require otherwise), the Proponent must review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Secretary. Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the project.	Administrative Non-Compliance	Admin Non-compliant: Management plans have not been updated: (a) Within 3 months of the submission of the 2016 and 2017 Annual Reviews; (b) Since the submission of an incident (incidents described in the 2016 and 2017 Annual Reviews); (c) Since the submission of the 2016 IEA by Hansen Bailey; and (d) Since the modification to PA 06_0311 (Mod 4), from August 2016. These management plans include the WMP dated January 2013, LMP dated April 2016, ACHMP dated November 2012 and Non-Indigenous CHMP dated February 2013.	REC 34: Include statement in future Annual Reviews stating that Management Plans have been reviewed and state which management plans will or will not be updated within 3 months.	REC34: Agree 31/03/20	LM	100% Statement included in Annual Review regarding management plans that have been reviewed and updated within the period.

Schedule 5 Condition 6	The Proponent must notify, at the earliest opportunity, the Secretary and any other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment. For any other incidents associated with the project, the Proponent must notify the Secretary and any other relevant agencies as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of the incident, the Proponent must provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.	Administrative Non-Compliance	Admin Non-compliant: Noise exceedance on 11 August 2016 reported to DPE on 12 August 2016, according to 2016 Annual Review. Detailed incident report could not be provided by LakeCoal, therefore not able to determine when or if an incident report was submitted. * Noise exceedance on 29 August 2018 reported to DPE on same day (email to DPE Compliance Mailbox from LakeCoal dated 29 August 2018). Detailed LakeCoal incident report provided to DPE on 7 September 2018. Compliant as LakeCoal was granted an extension to provide the detailed report, via email from EPA dated 5 September 2016. * Email from LakeCoal to DPE, dated 11 April 2019, reporting TSS exceedance at Point 1 on 2 April 2019. Detailed LakeCoal incident report attached to email. Observation: Complaints/incidents register indicates no incidents during the audit period.	REC 35: Ensure all incidents are reported within the required timeframe. REC 36: Ensure the complaints/incidents register includes all incidents.	REC 35 Agree REC 36: Agree, 31/08/19	LM	Ongoing action – cannot be completed. Noted and implemented by Delta Coal.
Schedule 5 Condition 9	Within 12 weeks of commissioning this audit, or as otherwise agreed by the Secretary, the Proponent must submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.	Administrative Non-Compliance	* Correspondence indicating when the Hansen Bailey IEA report was submitted to DPE	REC 37: Ensure future IEA reports are submitted within the required timeframe.	REC 37: Agree	LM – Add to Work Order/Lawlex	Ongoing action – cannot be completed until 2022 IEA. Noted

			could not be provided by LakeCoal. Correspondence indicating requesting/granting extension could not be provided. * According to DPE letter dated 28 January 2016 IEA audit was due to be completed on 30 March 2016. * Hansen Bailey IEA report dated July 2016. * Mannering Coal IEA – Response to Audit Recommendations dated 2 September 2016. * Response to Audit Recommendations to accompany submission of IEA Report. * Admin Non-compliant: Hansen Bailey IEA report not submitted within required timeframe. No submission letter provided to SLR. For the 2019 IEA, SLR were endorsed by the DPE on 28 February 2019. SLR were officially commissioned by LakeCoal -Pty Ltd Administrators Appointed on 5 March 2019, when a purchase order was granted. Therefore 12 weeks from this date is 28 May 2019 for submission.				and implemented by Delta Coal.
Schedule 5 Condition 10	The Proponent must: (a) make copies of the following publicly available on its website: • the documents referred to in condition 2 of Schedule 2;	Administrative Non-Compliance	Admin Non-compliant: The following documents are not included on the	REC 38: Include the following documentation on the project website:	REC38: Agree 31/08/19	LM	100%

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations	Delta Coal Confirmation Due date	Delta Coal Internal resource / External Resource	% Complete
	• all relevant statutory approvals for the project; • all approved strategies, plans and programs required under the conditions of this approval; • a comprehensive summary of the monitoring results of the project, reported in accordance with the specifications in any approved plans or programs required under the conditions of this or any other approval; • a complaints register, which is to be updated on a monthly basis; • minutes of CCC meetings; • the annual reviews required under this approval; • any independent environmental audit of the project, and the Proponent's response to the recommendations in any audit; and • any other matter required by the Secretary; and (b) keep this information up-to-date, to the satisfaction of the Secretary.		project (LakeCoal) website: * The documents referred to in condition 2 of Schedule 2 (EAs for the original project and Mod 1 - Mod 4); * Up-to-date Complaints Register. The Register only includes complaints up to February 2019; * CCC minutes for 2017, 2018 and 2019; * 2016 Audit Action Plan; * Noise monitoring data not included in the Monthly Website Report; and * 2018 - 2020 MOP. New Delta Coal website checked on 13 May 2018 and the following documents are not included on the website: * The documents referred to in condition 2 of Schedule 2 (EAs for the original project and Mod 1 - Mod 4); * Complaints Register (link not working); * Noise monitoring data not included in the Monthly Website Report; and * EMS and Management Plans (only PIRMP up on website).	* The documents referred to in condition 2 of Schedule 2 (EAs for the original project and Mod 1 - Mod 4); * Up-to-date Complaints Register. The Register only includes complaints up to February 2019; * CCC minutes for 2017, 2018 and 2019; * 2016 Audit Action Plan; * Noise monitoring data not included in the Monthly Website Report; and * 2018 - 2020 MOP.			

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations	Delta Coal Confirmation Due date	Delta Coal Internal resource / External Resource	% Complete
APPENDIX 4B: ALTERNATE NOISE CONDITIONS 1	*Table 1: Noise limits dB(A)* Day $L_{Aeq(15\ min)}$ / Evening $L_{Aeq(15\ min)}$ / Night $L_{Aeq(15\ min)}$ / Night $L_{A1(1\ min)}$ / Locati 40 / 40 / 40 / 49 / 4 – di Roc 43 / 43 / 41 / 49 / 5 – Keigh 42 / 42 / 41 / 49 / 6 – Swan 39 / 39 / 39 / 47 / 7 – Druitt 46 / 46 / 46 / 47 / 8 – May 41 / 41 / 41 / 51 / 9 – Jeans 39 / 39 / 39 / 49 / 11 – Jean 39 / 39 / 39 / 51 / 18 – Jean 40 / 40 / 40 / 51 / 20 – Knig other Cha Bay resid *Note: The location of the land referred to in Table 1 is shown on the figure in Appendi*	Non-Compliant (Low Risk)	* Recommencement of underground coal extraction at Mannering Colliery until 18 months thereafter is; April 2016 till October 2017. * Non-compliant: According to 2016 Annual Review, on 12 August 2016 LakeCoal was advised by its independent noise monitoring consultant (Global Acoustics) that they had recorded a 3dB exceedance of the site's LAeq15 Minute noise criteria at receiver RA2 (Macquarie Shores Retirement Village) during the evening monitoring on 11 August 2016 for Mannering Colliery. * Noise complaints increased during the audit period, with 0 noise complaints in 2016 and 2017, but 10 complaints in 2018, and 10 complaints from January 2019 to March 2019.	REC 39: Prepare a report to determine what further actions can be undertaken to reduce noise exceedances and noise complaints.	REC39: Report submitted to DPE-Compliance 1/4/2019	CA	100%

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations	Delta Coal Confirmation Due date	Delta Coal Internal resource / External Resource	% Complete
APPENDIX 4B: ALTERNATE NOISE CONDITIONS 2	Table 2: Noise limits dB(A) Day $L_{Aeq(15\ min)}$ | Evening $L_{Aeq(15\ min)}$ | Night $L_{Aeq(15\ min)}$ | Night $L_{A1(1\ min)}$ | Location 40 | 40 | 40 | 49 | 4 – di Rocc 41 | 41 | 41 | 49 | 5 – Keighra 41 | 41 | 41 | 49 | 6 – Swan 39 | 39 | 39 | 47 | 7 – Druitt 45 | 45 | 43 | 47 | 8 – May 41 | 41 | 41 | 51 | 9 – Jeans 39 | 39 | 39 | 49 | 11 – Jeans 39 | 39 | 39 | 51 | 18 – Jeans 40 | 40 | 40 | 51 | 20 – Knight other Chair Bay reside Note: The location of the land referred to in Table 2 is shown on the figure in Appendix 4.	Non-Compliant (Low Risk)	Non-compliant: According to 2016 Annual Review, on 29 August 2018, there was an exceedance recorded at 1dB exceedance of the site's LAeq15 Minute noise criteria at receiver RA2 (Macquarie Shores Retirement Village) during the scheduled night monitoring. * Noise complaints increased during the audit period, with 0 noise complaints in 2016 and 2017, but 10 complaints in 2018, and 10 complaints from January 2019 to March 2019.				No action required.

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations	Delta Coal Confirmation Due date	Delta Coal Internal resource / External Resource	% Complete
APPENDIX 4B: ALTERNATE NOISE CONDITIONS 3	The Proponent must prepare a report on all noise mitigation measures required to achieve the noise limits in Table 2 to the satisfaction of the Secretary. This report must: (a) be prepared by a suitably qualified and experienced acoustic consultant whose appointment has been approved by the Secretary; (b) be prepared in consultation with EPA, and submitted to the Department for approval within 6 months after recommencement of underground coal extraction; and (c) include an action plan for the implementation of any reasonable and feasible recommendations of the report. The Proponent must implement the noise mitigation measures prior to the expiry of the 18 month period referred to in condition 1 above.	Non-Compliant (Low Risk)	'* The Preliminary Noise Mitigation Options Report for the Mannering Colliery - Continuation of Mining Project dated 31 May 2017, prepared by Atkins Acoustics and Associates Pty Ltd could not be provided to SLR from Lake Coal * DPE approval letter dated 9 June 2017, for the Preliminary Noise Mitigation Options Report. Admin non-compliant: Acoustic consultant was not endorsed by DPE Non-compliant: Noise mitigation measures required to be undertaken by October 2017. According to site communications these mitigation measures were undertaken from 2017 to February 2019.	*Nil recommendation*			No Action Required.

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations	Delta Coal Confirmation Due date	Delta Coal Internal resource / External Resource	% Complete
APPENDIX 4B: ALTERNATE NOISE CONDITIONS 4	The Proponent must prepare a Noise Compliance Report for the project to the satisfaction of the Secretary. The report must: (a) be prepared by a suitably qualified acoustic consultant, whose appointment has been approved by the Secretary; (b) be prepared in consultation with EPA, and be submitted for approval within 6 months of the expiry of the 18 month period referred to in condition 1 above; and (c) investigate and evaluate the effectiveness of the noise mitigation measures required under condition 3 and compliance with the noise limits in Table 2.	Non-Compliant (Low Risk)	(a) Non-compliant: Letter of endorsement for EMM to undertake the 2019 Noise Mitigation Study could not be found by LakeCoal. (b) Non-compliant: The Noise Mitigation Study was not prepared in consultation with EPA and was not submitted for approval by March 2018. (c) According to the EMM Noise Mitigation Study dated March 2019: -Noise mitigation works implemented by the previous operators in 2018 have decreased site noise emission levels at all neighbouring noise-sensitive receivers. -Current and proposed MC noise emissions are predicted to comply with the relevant long-term noise criteria outlined in MP 06_0311 at all assessment locations under worst case meteorological conditions. -LAmax noise level events at the site are also predicted to remain below the relevant sleep disturbance criteria.	*Nil recommendation*			No Action Required.
PA 06_0311 Statement of Commitments (Mod 4)							

Water Management	LakeCoal will undertake a review of the existing site water management system in consultation with the EPA. The water level within the sediment pond system will be monitored and kept at a relatively low operating level, such that the ponds can provide a detention function in a significant rainfall event. A visual assessment of the unnamed creek will be undertaken every 6 months to monitor stability and erosion. Where practicable, underground water levels will be recorded to monitor changes in the level of water stored in underground depressions and to verify that the rate of extraction is sufficient. The extraction of underground water from the mine workings will be undertaken in accordance with the Bore License (20BL172016) issued under the Water Act 1912. To enable on-going assessment of the quality of water discharged, the existing monitoring program will be maintained for the life of the Project with the following enhancements: • An assessment of the surrounding catchments summarising land uses and other background information to characterise an appropriate water quality; and • Annual monitoring of heavy metals at the monitoring location identified as 'Downstream'.	Non-Compliant (Low Risk)	* During site inspection noted that the sediment pond system has freeboard. Non-compliant: Visual assessment of the unnamed creek is not undertaken every 6 months to monitor stability and erosion. This requirement is included in the WMP. *2016, 2017 & 2018 Annual Reviews describe: -Groundwater extraction from bore 20BL172016. -Monitoring of groundwater extraction. -Section 8.2 of the WMP provides background information of the water quality of the unnamed creek. Non-compliant: Annual monitoring (i.e. monitoring every 12 months) of heavy metals not undertaken at the monitoring location identified as "Downstream". -ALS analytical results dated 18 April 2017, 22 November 2018, 12 March 2019, and include analysis results for heavy metals for monitoring location "Downstream". Observation: Monitoring results for the "Downstream" monitoring location is not	REC 40: Visual assessment of the unnamed creek is not undertaken every 6 months to monitor stability and erosion. This requirement is included in the WMP.	REC40: Agree 31/08/19	LM	100% Added to work order system, inspections completed on a quarterly basis.

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations	Delta Coal Confirmation Due date	Delta Coal Internal resource / External Resource	% Complete
			included in Annual Reviews.				
Aboriginal Heritage	Activities will continue to be managed in accordance with the Colliery's Aboriginal Cultural Heritage Management plan (ACHMP). Given the Colliery's current ACHMP is integrated with other Centennial sites, a separate ACHMP will be developed. If monitoring indicates that mine-induced subsidence levels exceed 20 millimetres, a review will be undertaken to identify any potential impacts to cultural heritage in consultation with OEH. All relevant Centennial Mannering staff and contractors will be made aware of their statutory obligations for Aboriginal cultural heritage under the NP&W Act as part of the existing mine induction process. An Aboriginal Cultural Heritage Management Plan (ACHMP) will be developed and implemented for the identified Aboriginal heritage items within the Project Site in consultation with the relevant Aboriginal stakeholders. If additional sites are identified they will be assessed for cultural significance and be incorporated into the ACHMP. In the unlikely event that skeletal remains are identified, the NSW Police Coroner will be contacted to determine if the material is of Aboriginal origin. If determined to be Aboriginal, contact will be made with the OEH, a suitably qualified archaeologist and representatives of the relevant Aboriginal stakeholder groups to determine an action plan for the management of the skeletal remains and formulate management recommendations if required.	Administrative Non-Compliance	Admin non-compliant: A separate ACHMP has not been developed. It still covers other Centennial sites. * Mine-induced subsidence levels do not exceed 20 millimetres * "Lake Coal Surface Generic Surface Induction" and "Environmental Awareness Training" Assessment includes Aboriginal heritage aspects * Aboriginal Cultural Heritage Management Plan (ACHMP) developed for the identified Aboriginal heritage items within the Project Site. * ACHMP prepared in consultation with the relevant Aboriginal stakeholders (refer to Section 2.0).	*Nil recommendation*	See REC 1: 31/08/19		No Actions

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations	Delta Coal Confirmation Due date	Delta Coal Internal resource / External Resource	% Complete
European Heritage	If monitoring indicates that mine-induced subsidence levels exceed 20 millimetres, a review will be undertaken to identify any potential impacts to non-indigenous heritage. All relevant Centennial Mannering staff and contractors will be made aware of their statutory obligations for European cultural heritage under the Heritage Act 1977 as part of the existing mine induction process. If, during the course of development works, significant non-indigenous cultural heritage material is uncovered within the Project Site, the Heritage Branch of OEH will be notified and any required monitoring or management strategies instigated.	Administrative Non-Compliance	* Mine-induced subsidence levels do not exceed 20 millimetres * Admin Non-compliant: "Lake Coal Surface Generic Surface Induction" and "Environmental Awareness Training" Assessment does not include European heritage aspects.	REC 41: Include European heritage aspects in the "Lake Coal Surface Generic Surface Induction" and "Environmental Awareness Training" Assessment	REC41: Agree, 31/08/19	LM	100%
Monitoring	The Environmental Monitoring Program will be reviewed and updated, as required, to incorporate the commitments made in the Environmental Assessment and any additional consent conditions.	Administrative Non-Compliance	The Environmental Monitoring Program has not been reviewed and updated since November 2011, and does not to incorporate the commitments made in the Environmental Assessments (EAs) for Mod 1, Mod 2, Mod 3 & Mod 4, and any additional consent conditions (for these modifications).	REC 42: Update the Environmental Monitoring Program to incorporate any commitments made in the Environmental Assessments (EAs) for Mod 1, Mod 2, Mod 3 & Mod 4, and any additional consent conditions (for these modifications).	REC 42: Agree 31/08/19	LM	100%
EPL 191							
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.	Non-Compliant (Low Risk)	Exceedance of TSS on 2 April 2019. Exceedance constitutes a 'pollution' of waterways based on the POEO Act.	REC 43: Continue to undertake mitigation measures to comply with section 120 of the Protection of the Environment Operations Act 1997.	REC 43: Agree	LM	100%

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations	Delta Coal Confirmation Due date	Delta Coal Internal resource / External Resource	% Complete
L2.4	POINT 1 Pollutant / Units of Measure / 50 percentile concentration limit / 90 percentile concentration limit / 3DGM concentration limit / 100 (conc limit Oil and Grease / milligrams per litre / / / / 10 pH / pH / / / / 6.5- Total suspended solids / milligrams per litre / / / / 50	Non-Compliant (Low Risk)	Exceedance of TSS on 2 April 2019. Dam flocculated and re-tested, with TSS reading of 10mg/L.	REC 44: Continue to undertake water quality monitoring. If a water quality exceedance is detected undertake measures to improve water quality.	REC 44: Agree	LM	100%

L5	Note: Noise limits are not specified as a condition of this licence. Noise limits are prescribed with the conditions of Project Approval 06_0311 granted under the Environmental Planning and Assessment Act 1979. Under the Environmental Planning and Assessment Act 1979 the Department of Planning is the appropriate authority in respect of the administration and regulation of the Project Approval.	Non-Compliant (Low Risk)	Non-compliant: According to 2016 Annual Review, on 12 August 2016 LakeCoal was advised by its independent noise monitoring consultant (Global Acoustics) that they had recorded a 3dB exceedance of the site's LAeq15 Minute noise criteria at receiver RA2 (Macquarie Shores Retirement Village) during the evening monitoring on 11 August 2016 for Mannering Colliery. * According to 2016 Annual Review, On 29 August 2018, there was an exceedance recorded at 1dB exceedance of the site's LAeq15 Minute noise criteria at receiver RA2 (Macquarie Shores Retirement Village) during the scheduled night monitoring. * According to the Noise Mitigation Study dated March 2019: -Noise mitigation works implemented by the previous operators in 2018 have decreased site noise emission levels at all neighbouring noise-sensitive receivers. -Current and proposed MC noise emissions are predicted to comply with the relevant long-term noise criteria outlined in MP 06_0311 at all assessment locations				No Action Required

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations	Delta Coal Confirmation Due date	Delta Coal Internal resource / External Resource	% Complete
			under worst case meteorological conditions. * LAmax noise level events at the site are also predicted to remain below the relevant sleep disturbance criteria.				
M5.2	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.	Administrative Non-Compliance	*Admin Non-compliant: The Complaints Register does not include the time of the complaint and the personal details of the complainant. * Not all complaints registered included the method by which the complaint was made.	REC 45: Include in the Complaints Register: -Time of the complaint; -Personal details of the complainant; and -Method by which the complaint was made.	REC 44: Agree 31/08/19	LM	100%
M6.2	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.	Administrative Non-Compliance	*Telephone line for complaints advertised on the LakeCoal and Delta Coal websites. * However no evidence of notifying to the community that the complaints line exists.	REC 46: With the new ownership an advertisement should be placed in the paper providing a link to the Delta Coal website and outlining the complaint management details.	REC46: Agree 31/08/19	LM	100%

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations	Delta Coal Confirmation Due date	Delta Coal Internal resource / External Resource	% Complete
M6.4	The licensee must nominate a representative of the company that is available all times and is capable of providing immediate assistance or response during emergencies or any other incidents at the premises. The name of the nominated representative and their contact details, including a telephone number, must be current at all times. Note: This condition does not apply until two (2) weeks after the date of issue of this licence.	Administrative Non-Compliance	* Designated representatives of the company included in the Pollution Incident Response Plan (PIRMP), dated September 2018. * Admin Non-compliant: The designated representatives of the company, included in the PIRMP, are not current.	REC 47: Update the details of designated representatives of the company in the PIRMP.	REC47: Agree 31/08/19	LM	100%
CCL 721							
5	a) report against compliance with the MOP; b) report on progress in respect of rehabilitation completion criteria; c) report on the extent of compliance with regulatory requirements; and d) have regard to any relevant guidelines adopted by the Director-General;	Administrative Non-Compliance	a) Admin Non-compliant: The 2016, 2017 & 2018 Annual Reviews do not report against compliance with the MOP. b) N/A - Rehabilitation has not commenced at the site; c) 2016, 2017 & 2018 Annual Reviews - Executive Summary & Section 3 d) Admin Non-compliant: 2016, 2017 and 2018 Annual Reviews not prepared in accordance with the DPE Annual Review guidelines	REC 48: Report against compliance with the MOP in future Annual Reviews. *Prepare future Annual Reviews in accordance with the DPE Annual Review guidelines.	REC 48: Agree 31/3/20	LM	100%

6	Additional environmental reports may be required on specific surface disturbing operations or environmental incidents from time to time as directed in writing by the Director-General and must be lodged as instructed.	Administrative Non-Compliance	Admin Non-compliant: Noise exceedance on 11 August 2016 reported to DPE on 12 August 2016, according to 2016 Annual Review. Detailed incident report could not be provided by LakeCoal, therefore not able to determine when or if an incident report was submitted. * Noise exceedance on 29 August 2018 reported to DPE on same day (email to DPE Compliance Mailbox from LakeCoal dated 29 August 2018). Detailed LakeCoal incident report provided to DPE on 7 September 2018. Compliant as LakeCoal was granted an extension to provide the detailed report, via email from EPA dated 5 September 2016. * TSS exceedance at Point 1 on 2 April 2019 reported to DPE on 11 April 2019 via email and formal letter * Admin Non-compliant: According to site communications the RR required additional environmental reports on specific surface disturbing operations. Reports could not be provided to SLR from LakeCoal. Observation: Compliant/incident register indicates no	REC 49: Ensure all additional environmental reports on specific surface disturbing operations are provided to the RR as required.	REC 49: Agree		Ongoing action – cannot be completed until 2022 IEA. Noted and implemented by Delta Coal, all reports on specific surface disturbing operations are provided to Resources regulator.

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations	Delta Coal Confirmation Due date	Delta Coal Internal resource / External Resource	% Complete
			incidents from June 2016 to April 2019.				

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations	Delta Coal Confirmation Due date	Delta Coal Internal resource / External Resource	% Complete
18	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, waterbody or groundwaters. The lease holder must observe and perform any instructions given by the Director-General in this regard.	Non-Compliant (Low Risk)	* Management plans prepared and implemented for the site. Management plans include management controls to minimise any harm to the environment that may result from the operation of the site * During the site inspection noted management controls being implemented at the site: -No visible dust; -Water cart used on site to reduce dust; -Majority of the pit top is concreted; -Covered conveyor; -Bunded chemicals (Photo 7); -Rubbish disposed of in labelled waste bins; -Oily water separator; -Noise mitigation measures implemented at site (Photo 8). *Water quality, dust and monitoring undertaken at the site. <u>Non-compliant</u>: During audit period non-compliances with noise and water quality criteria.	REC 50: Ensure all practicable measures are undertaken to reduce noise and water quality exceedances (refer to specific recommendations relating to noise and water quality).	REC 50:Agree		Ongoing action – cannot be completed until 2022 IEA. Noted and implemented by Delta Coal

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations	Delta Coal Confirmation Due date	Delta Coal Internal resource / External Resource	% Complete
CCL 719							

3	(a) The lease holder must comply with an approved Mining Operations Plan (MOP) in carrying out any significant surface disturbing activities, including mining operations, mining purposes and prospecting. The lease holder must apply to the Minister for approval of a MOP. An approved MOP must be in place prior to commencing any significant surface disturbing activities, including mining operations, mining purposes and prospecting. (b) The MOP must identify the post mining land use and set out a detailed rehabilitation strategy which: (i) identifies areas that will be disturbed; (ii) details the staging of specific mining operations, mining purposes and prospecting; (iii) identifies how the mine will be managed and rehabilitated to achieve the post mining land use; (iv) identifies how mining operations, mining purposes and prospecting will be carried out in order to prevent and or minimise harm to the environment; and (v) reflects the conditions of approval under: • the Environmental Planning and Assessment Act 1979; • the Protection of the Environment Operations Act 1997; and • any other approvals relevant to the development including the conditions of this mining lease. (c) The MOP must be prepared in accordance with the ESG3: Mining Operations Plan (MOP) Guidelines September 2013 published on the Department's website at www.resources.nsw.gov.au/environment (d) The lease holder may apply to the Minister to amend an approved MOP at any time. (e) It is not a breach of this condition if: (i) the operations which, but for this condition 3(e) would be a breach of condition 3(a), were necessary to comply with a lawful order or direction given under the Environmental Planning and Assessment Act 1979, the Protection of the Environment Operations Act 1997, the Mine Health and Safety Act 2004 I Coal Mine Health and Safety Act 2002 and Mine Health and Safety Regulation 2007 I Coal Mine Health and Safety Regulation 2006 or the Work Health and Safety Act 2011; and (ii) the Minister had been notified in writing of the terms of the order or direction prior to the operations constituting the breach being carried out. (f) The lease holder must prepare a Rehabilitation Report to the satisfaction of the Minister. The report must: (i) provide a detailed review of the progress of rehabilitation against the performance measures and criteria established in the approved MOP; (ii) be submitted annually on the grant anniversary date (or at such other times as agreed by the Minister); and (iii) be prepared in accordance with any relevant annual reporting guidelines published on the Department's website at www.resources.nsw.gov.au/envrionment. Note: The Rehabilitation Report replaces the Annual Environmental Management Report.	Non-Compliant (Low Risk)	(a) Site inspection indicates MOP is being implemented. * Approval letter from Resources Regulator (RR) (formerly DRE) dated 27 March 2015, for 2015-2018 MOP * Approval letter from RR dated 26 September 2018 for 2018-2020 MO (b) The MOP must: i) MOP plans; ii) MOP plans (3 series); iii) Mine Closure Plan to be prepared at least two years prior to the cessation of mining activities; iv) Section 3; v) Section 4.1; vi) have regard to any relevant guidelines adopted by the Director-General. (c) 2018-2020 MOP has been prepared generally in accordance with DRE (now Resources Regulator) ESG3: MOP Guidelines, dated September 2013. (d) N/A-MOP not amended during MOP period. (e) Non-compliant: Details could not be provided by LakeCoal about non-compliances with the MOP. (f) Admin Non-compliant: Annual Rehabilitation Reports have not been prepared by LakeCoal.	REC 51: Prepare Annual Rehabilitation Reports. REC 52: Include in Annual Reviews any non-compliances with the MOP, during the reporting period.	REC 51: Agree 31/03/20 REC 52: Agree 31/03/20	CA	100% Annual rehab report included in Annual Reviews and submitted to Resources Regulator and key stakeholders. Annual reviews to include non-compliances with MOP ongoing.

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations	Delta Coal Confirmation Due date	Delta Coal Internal resource / External Resource	% Complete
			Rehabilitation not undertaken at the site but no correspondence provided by LakeCoal stating that Annual Rehabilitation Reports are not required or that these are covered by other reports. Observation: The 2016, 2017 and 2018 Annual Reviews do not provide details of non-compliances with the MOP.				

5	(a) The lease holder must notify the Department of all: (i) breaches of the conditions of this mining lease or breaches of the Act causing or threatening material harm to the environment; and (ii) breaches of environmental protection legislation causing or threatening material harm to the environment (as defined in the Protection of the Environment Operations Act 1997), arising in connection with significant surface disturbing activities, including mining operations, mining purposes and prospecting operations, under this mining lease. The notification must be given immediately after the lease holder becomes aware of the breach. Note. Refer to www.resources.nsw.qov.au/environmenf for notification contact details. (b) The lease holder must submit an Environmental Incident Report to the Department within seven (7) days of all breaches referred to in condition 5(a)(i) and (ii). The Environmental Incident Report must include: (i) the details of the mining lease; (ii) contact details for the lease holder; (iii) a map identifying the location of the incident and where material harm to the environment has or is likely to occur; (iv) a description of the nature of the incident or breach, likely causes and consequences; (v) a timetable showing actions taken or planned to address the incident and to prevent future incidents or breaches referred to in 5(a). (vi) a summary of all previous incidents or breaches which have occurred in the previous 12 months relating to significant surface disturbing activities, including mining operations, mining purposes and prospecting operations under this mining lease. Note. The lease holder should have regard to any relevant Director General's guidelines in the preparation of an Environmental Incident Report. Refer to www.resources.nsw.qov.au/environmentfor further details. (c) In addition to the requirements set out in conditions 5(a) and (b), the lease holder must immediately advise the Department of any notification made under section 148 of the Protection of the Environment Operations Act 1997 arising in connection with significant surface disturbing activities including mining operations, mining purposes and prospecting operations, under this mining lease.	Administrative Non-Compliance	* Email from LakeCoal to DPE (RR integrated into DPE), dated 11 April 2019, reporting TSS exceedance at Point 1 on 2 April 2019. Detailed LakeCoal incident report attached to email. Admin Non-compliant: Noise exceedance on 11 August 2016 reported to DPE on 12 August 2016, according to 2016 Annual Review. Detailed incident report could not be provided by LakeCoal, therefore not able to determine when or if an incident report was submitted. * Noise exceedance on 29 August 2018 reported to DPE on same day (email to DPE Compliance Mailbox from LakeCoal dated 29 August 2018). Detailed LakeCoal incident report provided to DPE on 7 September 2018. Compliant as LakeCoal was granted an extension to provide the detailed report, via email from EPA dated 5 September 2016. * There were no incidents of hydrocarbon contamination, or significant spills reported in the 2016, 2017 and 2018 Annual Reviews Observation: Complaints/incident register indicates no incidents from June 2016 to April 2019.				Nil Actions.

Schedule and Condition Number	Condition	Compliance Status	Evidence	Recommendations	Delta Coal Confirmation Due date	Delta Coal Internal resource / External Resource	% Complete
8	The lease holder is required to provide and maintain a security deposit to secure funding for the fulfilment of obligations of all or any kind under the mining lease, including obligations of all or any kind under the mining lease that may arise in the future. The amount of the security deposit to be provided as a group security has been assessed by the Minister at $3,879,000. The leases covered by the group security include: Consolidated Coal Lease Nos 719 & 721 (Act 1973)	Non-Compliant (Low Risk)	* "Rehabilitation Cost Calculation Tool Mannering (2015)" indicates $3,879,000 security for 2015-2018 MOP * Non-compliant: "Chain Valley Colliery (Mannering Surface Areas) Underground RCE Report" (Mannering RCE) indicates $3,226,730 security for 2018-2020 MOP. Approval letter from RR for updated security could not be provided to SLR by LakeCoal.	REC 53: Ensure an adequate security deposit is provided as a group security REC 54: Ensure group security has been approved by RR	REC 53: Agree, Centennial provided the additional security deposit for Mannering in October last year and that once the Mannering title is transferred to Delta Coal an parent company guarantee will be provided. REC 54: Agree	CA / JF	100% Delta Coal amended security deposit to match RCE for MOP 2020-2023 Amendment 2.

Additional recommendations relating to compliant conditions are outlined within **Table 7**.

Table 2 Additional Recommendations

Aspect	Recommendation	Delta Coal Confirmation and Due Date
Management Systems	REC 55: It provided difficult for Delta Coal to provide requested information in a timely manner. SLR recommends a review of the management system to ensure information is correctly filed and readily available.	REC 55: Agree: 31/08/19 – CA – 100%
Audit Preparations	REC 56: Little information was provided to SLR prior to the audit which resulted in numerous additional information requests. Additional time is required by Delta Coal to prepare for the next IEA. An internal audit is recommended prior to the next IEA to ensure information and evidence is available to the Independent Environmental Auditor.	REC56: Disagree first sentence: Most of documents requested in original RFI prior to site audit were provided and publicly available information present on the website. Further requests resulted as Auditors got into auditing, some time-delays encountered from both parties.

Aspect	Recommendation	Delta Coal Confirmation and Due Date
Water Management	REC 57: Include in Section 9.4 of the Water Management Plan reporting of ground water results in Annual Reviews.	REC 57: Agree: 31/08/19, CA - 100% 2018 AR updated
Bushfire and Land Management Plan	REC 58: Attach the Bushfire Management Plan to the Land Management Plan	REC 58: Agree: 31/08/19, CA – 100%
Air Quality Management	REC 59: * Update the AQMP * Include in the updated AQMP a plan showing dust monitoring locations and the location of the weather station.	REC 59: Agree: 31/08/19, CA – 100%
Waste Management	REC 60: * Finish sorting out the piles of reject and rubbish at the pit top area. * Undertake contaminated sites/waste material assessment at the waste stockpile area. * SLR recommends none of the waste from the stockpile material is removed from site for waste disposal until an assessment on the waste is undertaken. * Install signage at the landfarm material at the pit top.	REC 60: • Agree, is an ongoing reject area • Agree, 31/07/19, Remondis CA – 100% • Agree, 28/05/19, Remondis notified not to take material until assessment completed. CA-100% • Agree 31/08/19, CA – 0% - As of 2020, landfarming currently not taking place on site, land-farm material not present to be sign posted.
Subsidence	REC 61: A separate subsidence impact assessment report should be prepared annually and appended to the Annual Review. This report should be prepared or peer reviewed by a subsidence specialist. This should assess subsidence performance measures from the Project Approval.	REC61: Agree 31/03/20, CA, 100% Prepared and submitted with 2019, 2020, 2021 Annual reviews.
Pollution Incident Response Management Plan	REC 62: * Update the PIRMP to include: - Current site contacts; - Email details for government contacts; and - Figures that clearly show the location of hazardous substances and where pollution response equipment is stored.	REC 62: Agree 31/8/19, JB, 100%

Aspect	Recommendation	Delta Coal Confirmation and Due Date
2019 Annual Return	REC 63: * LakeCoal prepare an Annual Return for the period commencing on the first day of the reporting period (1 January 2019) and ending on the date the application for the transfer of the licence to the new licensee is granted (1 April 2019). * Delta Coal prepare an Annual Return for the period commencing on the date the application for the transfer of EPL191 is granted (1 April 2019) and ending on the last day of the reporting period (31 December 2019).	REC 63a: Agree, 28/02/20. CA, 100% REC63b: Agree, 28/02/20 CA, 100%

Appendix 9: DPIE Letter – 2021 Annual Review

To be provided following receipt and acceptance of the Mannering Colliery 2021 Annual Review.