Annual Rehabilitation Report and Forward Program

Berrima Colliery

2022

Annual Rehabilitation Report and Forward Program Summary Table

Name of Mine	Berrima Colliery
Annual Rehabilitation Report Commencement Date	1 January 2022
Annual Rehabilitation Report Revision Dates and Numbers	Nil
Forward Program Commencement Date	1 January 2022
Mining Leases	CCL 748
Name of Lease Holder	Boral Limited
Name of Mine Operator	Boral Limited
Date of Submission	1 March 2023

Reporting Officer: Greg Johnson

Title: Environmental Sustainability Manager

Signature: 

Date: 28 February 2023

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1. Annual Rehabilitation Report

This Annual Rehabilitation Report (ARR) covers the period 1 January 2022 to 31 December 2022 for Berrima Colliery at Medway NSW. During this period Boral Cement operated the Colliery primarily working on final closure arrangements. The primary activities during the reporting period were associated with the implementation of the RMP which came into force on 1 July 2022.

Berrima Colliery currently does not have approval to carry out coal extraction activities, and existing use rights remain for current closure and rehabilitation activities. The primary compliance documents are therefore the RMP (Rehabilitation Management Plan) which is required under CCL 748 and the EPL 608 which has been issued under the Protection of the Environment Operations Act 1997.

During the 2022 reporting period, the Berrima Colliery RMP was prepared in accordance with Clause 9 of Schedule 8A to the Mining Regulation 2016, and came into force on 1 July 2022. The contents of the RMP was developed following four years of investigations into methods to deal with the mine discharge. These investigations, including the results of an updated groundwater model have led Boral to the conclusion that the long term sustainable and environmentally responsible solution to the mine groundwater discharge is to pump the water from the mine to a purpose built passive treatment system at the current pit top prior to discharge back into the Wingecarribee River. Under the rehabilitation reforms, RMP documents have a life of three years. Therefore the effective period of this RMP will be 1 July 2022 to 1 July 2025.

There has been changes made to EPL 608 over recent years. The main changes were the inclusion of a Performance Monitoring Program covering discharge quality and receiving water quality. These conditions were satisfied with no non-compliances. In December 2021, the EPA placed an Environment Improvement Program (EIP) on the license. The EIP will involve the installation of a passive water treatment process at the pit top at Berrima Colliery which will receive water pumped from the mine workings. The purpose of the treatment process is to remove minerals through aeration, pH adjustment and settlement in a similar manner to the current underground treatment process. Treated water will then be either returned to the river at a new discharge point near the mine bridge or piped to the Berrima Cement Works for cooling or dust suppression.

Other conditions on the EPL relate to regular monitoring of the colliery operation and receiving environment. There were no non-compliances relating to conditions of EPL 608 during the reporting period.

1.1 Complaints Register

The Colliery maintains a community complaints register that identifies actions required to resolve community issues. The main phone line advertised in the white pages is the designated community complaints line and is answered at all times during hours of operation. The complaints register records the following details:

- ❒ Complainant name and contact details
- ❒ Nature of the complaint (noise, dust, traffic etc)

- Time and date of the complaint
- Specifics of the complaint
- Actions taken to resolve the complaint
- Confirmation that the complaint has been resolved.

In the event that an issue is unresolved, the register includes details of the outstanding issues and any actions that are required. It is recognised that some issues may not have a simple resolution and have resulted in multiple complaints. These form part of the ongoing environmental improvement program for the operation.

During the reporting period, no complaints were received from residents within Medway, however there was a complaint in relation to weeds in a separate property owned by Boral. This complaint does not relate to the operation or rehabilitation of the colliery. A contractor was employed to spray the paddock which was completed in December 2022.

1.2 Current Development Consents, Leases and Licences

Berrima Colliery currently operates under the provisions of the Mining Act 1992, Section 109 of the Environmental Planning & Assessment Act 1979 and Protection of the Environment Operations Act 1997.

Berrima Colliery currently holds the following approvals and licences:

- Consolidated Coal Lease 748
- MPL 603 and MPL 604
- Environment Protection Licence 608
- Groundwater Access Licence 10WA118776

Project Approval 10_0172

Project Approval 10_0172 issued under Part 3A of the Environmental Planning and Assessment Act in June 2012 was rescinded to the Land and Environment Court in June 2014. Subsidence Management Plan approval 08/2956 was allowed to lapse in September 2014 while the 2013 SMP modification for 406 and 407 Panels was not enacted as mining ceased. Authorisation 7063 was allowed to lapse in August 2015 and was subject to formal relinquishment in February 2019.

Mining Lease CCL748, MPL603 and MPL604

MPL603 and MPL604 run on the northern and southern side of the rail spur between the Berrima Cement Plant and the Main Southern Railway line as shown on Plan 2d. There is also a section of CCL748 which also extends along this section of the spur line. As the cement plant still uses this railway line along with two other users, it is not subject to any closure activities. An application will be made to separate the section of CCL748 which extends from the cement plant to the Main Southern Railway Line. This section of CCL748 may then be amalgamated with the adjacent MPL603 and MPL604 into a single title to be held by Boral Cement Limited.

Berrima Colliery currently does not have approval to carry out coal extraction activities. Existing use rights remain for current care and maintenance activities.

Environmental Protection License 608

The EPA have placed an Environment Improvement Program (EIP) covering the pit top water treatment process on EPL608. Under the terms of the EIP, Berrima Colliery must:

- install a passive water treatment plant on the surface at Berrima Colliery to treat groundwater from the closed underground coal mine at Medway;
- lay a pipeline from Berrima Colliery to Berrima Cement Works to transfer treated water for use in the cement making process; and
- prepare an environmental assessment that identifies potential environmental impacts from the construction and operation of the above works and proposes measures to prevent or mitigate the impacts.

A draft Review of Environmental Factors (REF) was prepared in August 2022 for government agency review. It is anticipated that the REF will be finalised in the 2023 reporting period. The EIP has been designed to improve the quality of the groundwater being discharged into the Wingecarribee River by providing a better location for passive water treatment. This surface water treatment process will replace the existing underground water treatment system which is difficult to manage given its location within the old underground mine workings. It will provide a much larger area for settlement and more flexibility to use standard aeration and pH adjustment.

The pipeline to the cement plant will replace the existing water pumped from the historic Berrima Weir which is located just upstream of the Berrima township, while any excess treated water will be returned to the river at the colliery end. This will provide a neutral impact on water flows within the river but will provide a much more consistent water quality being returned to the river.

1.3 Land Ownership and Land Use

The pit top and Loch Catherine sites are located on land that is owned by Boral. The underground extraction area is primarily privately owned land. The Wingecarribee River and surrounding cliff lines are Crown Land.

1.4 Stakeholder Consultation

The community consultation process was enhanced during the 2018 reporting period with the set up of an independently chaired Closure Working Group (CWG). The CWG met quarterly during the reporting period on 11th March, 10th June, 16th September and 14th December 2022, and meetings will continue during the 2023 reporting period. The CWG meetings include both government and community representatives and cover all aspects of the mine closure process. The meetings generally cover:

- Water monitoring results to date
- Operational update on activities at the mine and the closure process
- Details of any consultation activities and feedback from the community

- Discussion of the issues surrounding the closure process

A community drop-in session was also held in Berrima on Saturday 26th November to answer questions regarding the proposed pit top treatment and pipeline project from the colliery to the cement works.

Active consultation will continue during the 2023 reporting period and will be targeted within the Medway village on the proposed pit top treatment and pipeline proposal.

1.5 Surface Disturbance and Rehabilitation Activities during Reporting Period

The operation at Berrima Colliery has ceased and finalisation of final rehabilitation is underway.

1.5.1 Surface Disturbance and Rehabilitation Activities

No surface disturbance activities were carried out in the 2022 reporting period. Material Production table is provided below.

Table 1 – Material Production during Previous Annual Reporting Period

Material	Unit	Quantity
Stripped Topsoil	M^3	Nil
Rock/Overburden	M^3	Nil
Ore or ROM Coal Extracted	Tonnes	Nil
Reject Material	Tonnes	Nil
Product	Tonnes	Nil

1.5.2 Summary of Rehabilitation Activities during Reporting Period

Berrima Colliery is currently in the process of final closure. Key activities undertaken during the 2022 reporting period included:

- Maintaining a section of the underground workings to allow for the treatment of water prior to discharge. This area is supported by ventilation and underground services such as power, communications and compressed air.
- Undertaking investigations on the effectiveness of the seven underground bulkheads installed in 2019. This included monitoring of water seepage, pressure and quality as well as inflow and discharge levels.
- Finalisation of the preferred final closure scenario which was presented in the Stage 2 Final Closure MOP but will now be subject to additional groundwater investigations.

1.5.3 Rehabilitation Planning Activities

The main environmental issue associated with the closure of Berrima Colliery is the management of groundwater which enters the underground mine. Due to the design of the underground workings, groundwater collected in the mine is discharged into the Wingecarribee River via a drain adit which was constructed at the coal seam outcrop in a

narrow gorge as part of the original mine development in 1890. In 1926, the current pit top and mine entries were constructed along with new mine entries which drifted down into the coal seam from the surface, however the mine workings joined the original workings to enable the water to freely drain from the mine. Although the drain adit is generally the low point in the mine, as the mine workings developed, groundwater was collected in several sumps and pumped to the drain adit for discharge into the river.

A groundwater model developed as part of the original Closure Plan in 2014 suggested that the mine could not be fully sealed because water would pass through the strata above the seam and discharge into the river via the existing low point, being the drain adit. Several options were canvassed including multiple bulkheads within the old mine workings as well as options to seal the mine near the river gorge. The groundwater model still suggested that water build up would be minimal and inevitably high volumes of water would be discharged into the river. The fully sealed options also created a risk of catastrophic failure of the talus slope between the river and the sandstone cliff line given that a large proportion of the original underground workings were located very close to the surface (referred to as the coal seam outcrop). An increase in water pressure in the strata immediately in front of the cliff line represented a future environmental risk that was unacceptable to Boral.

In order to further evaluate and validate the original closure plan assumptions, Boral separated the closure process into two stages. The Stage 1 Closure MOP allowed for the installation of seven underground bulkheads within the underground workings. The bulkheads increased the extent of flooding of the underground workings and were used to gather data on the permeability of overlying strata. This was necessary as a precursor to the development of the final closure option which was the subject of a Stage 2 Final Closure Plan.

A further issue in the closure process is water quality. When the mine was operating, the underground water management system involved successive pumping and settlement cycles prior to discharge. This process occurred over a 7 km length of the main 400 Panel mains and resulted in relatively consistent and acceptable water quality being discharged into the Wingecarribee River.

As part of the Stage 1 Closure program, all the underground mining equipment, coal conveyors, pumps and stores were removed from the mine. With the removal of the pumping equipment, the lower points of the mine flooded and eventually started to free drain from the mine. This occurred at the end of March 2016, but due to the lack of underground treatment, the resulting water quality was poor. To improve water quality while final closure options were being assessed, Boral commenced a temporary underground treatment program using limestone, aeration and settlement of the water prior to discharge. This program has proved successful and has allowed time to develop the final closure arrangement without adversely impacting on the Wingecarribee River.

The final closure option has now been developed and presented in the RMP. This involves the ongoing treatment of the water but on the surface, which will enable water to be either transferred to the Berrima Cement Plant via an overland pipeline or back into the river at a new discharge point near the drift bridge. Specifically, the final closure plan will involve:

- ❒ Installation of an additional three in-seam bulkheads at selected locations around pit bottom, controlled access through drift portal (entry gate) and one in the ventilation portal.

- ❒ Installing a pump and delivery pipeline from the drift portal entry gate to the pit top where surface ponds will be constructed to enable passive treatment of the water.
- ❒ Constructing a pipeline from the pit top to the Berrima Cement Plant within the existing rail easement corridor.
- ❒ Construction of a permanent seal at the ventilation Adit.
- ❒ Removal of any remaining infrastructure not required to support the passive water treatment plant.
- ❒ Completing the sealing of the Loch Catherine mine entries.
- ❒ Conclusion of all remaining land owner issues within the mining area.
- ❒ Removal, rehabilitation and/or making safe all subsidence monitoring pegs in the mining area.
- ❒ Transfer of ownership of any remaining bore supply infrastructure if reasonably requested by the landowner and removal of any remaining water supply or monitoring equipment.

1.5.4 Remediation Work Undertaken

No rehabilitation remediation work was required or undertaken during the report period.

1.5.5 Rehabilitation Management

Berrima Colliery was in the process of closure during the reporting period. Boral proposed to install the treatment system on the surface rather than within the underground workings. This decision followed detailed investigations, including the results of an updated groundwater model which have led Boral to the conclusion that the long term sustainable and environmentally responsible solution to the mine groundwater discharge is to pump the water from the mine to a purpose built passive treatment system at the current pit top prior to discharge back into the Wingecarribee River.

The discharge would require a modification to the existing Environmental Protection Licence and the point of entry back into the Wingecarribee River would be accessible from the existing mine bridge allowing easier inspection and monitoring. Treating the water on the surface at the current pit top provides significant benefits over the existing underground treatment system including removal of the statutory provisions for the operation of an underground coal mine and reduced operating and maintenance costs.

Treating the water at the surface also increases the flexibility needed in the treatment process to ensure that the water quality is maintained at or better than the historic discharge quality. This flexibility may include additional pH adjustment, aeration or settlement time which can be difficult to manage within the confines and restrictions of an underground mine. It also provides the ability to beneficially reuse the water by transferring a component to the Berrima Cement Plant via an overland pipeline within the existing railway corridor.

The project will be subject to further approvals by the EPA which will occur in the coming reporting period.

1.5.6 Rehabilitation Actions Required by Government Agencies

The Resources Regulator issued Notice NTCE0011726 in November 2022 which set out additional activities that need to be carried out in the 2023 reporting period. These centred on the groundwater model update and revised hydrogeological assessments. The purpose of the notice is to provide additional information to the Regulator in relation to closure options currently being assessed.

1.5.7 Details of Rehabilitation Achieving Final Land Use

The proposed final land use for the pit top will be an ongoing industrial activity associated with the surface passive treatment system. The proposed final land use for the Loch Catherine site will be subject to private sale. This has been noted as "other" in the Final Land Use schema.

Activities described in this Annual Rehabilitation Report are all planning matters rather than physical works. There will be no changes to the rehabilitation phases over the forward program. The pit top was originally an industrial and infrastructure domain while the site was operational and this land use will continue but repurposed as a passive water treatment facility as part of the final closure. The Loch Catherine site was a previous surface facilities site supporting underground mining but in recent years was used to store coal from Berrima Colliery. This site is currently in a decommissioning phase but will be subject to minor additional works to prepare the land for private sale. The final land use has been categorised as "other".

The final land use does not involve full relinquishment CCL748 however there may be opportunities to reduce the extent of CCL748 to exclude the underground mining areas. This will be discussed in more detail with the Resources Regulator.

The key elements of the closure process will be as follows:

- Where reasonably practicable the conclusion of all remaining landowner issues within the mining area.
- Removal or making safe all subsidence monitoring pegs within the mining area.
- Rehabilitation of the vibrating wire piezometer sites BH62 and BH63.
- Transfer of ownership of any remaining water supply infrastructure if reasonably requested by the landowner or removal of any remaining water supply or monitoring equipment as reasonably requested by the landowners.
- Install 4 additional underground bulkheads around the pit bottom area to provide an area to pump water from the mine without the need for further underground access, except as agreed with the Resources Regulator under an approved mine re-entry plan. The pumping equipment will be located at the drift roadway at pit bottom.
- Water transfer system from the underground bulkheads to the pit top utilising the existing drift bridge and cutting.
- Seal the main drift entrance to the satisfaction of the Resources Regulator but to include provisions for water to be pumped from the underground workings. The drift entrance will still need to be accessed by a controlled system of entry to be designed and installed to the satisfaction of the Resources Regulator. The underground coal workings will be sealed.

- ❒ Remove the ventilation fan and seal the fan entry to the satisfaction of the Resources Regulator.
- ❒ Seal the Loch Catherine Mine Entries as approved by the Resources Regulator.
- ❒ Construct a passive (primary) water treatment facility at the current Pit Top.
- ❒ Demolition any remaining surface infrastructure not required for the water transfer project.
- ❒ Install an overland pipeline from the Pit Top to the Berrima Cement Plant using the existing railway easement. This aspect does not form part of mine closure and is being considered as a stand alone project.
- ❒ Undertake final rehabilitation as necessary for the private sale of any remaining land owned by Boral that is surplus to requirements.

1.6 Status of Mining and Rehabilitation as at 31 December 2022

As at 31 December 2022 the pit top and Loch Catherine sites were subject to decommissioning. Ongoing planning studies are underway for the approval to proceed with repurposing the pit top to a passive water treatment facility. There was no additional land disturbance and no mining occurred during the reporting period. A description of the status of rehabilitation is provided below:

Rehabilitation Phase- Decommissioning
At the commencement of this Annual Rehabilitation Report, the Colliery is at an advanced stage of decommissioning and preparation is underway for the proposed reuse of the site as a passive treatment process for the underground water. The following activities or items have been completed or at an advanced stage of completion:

- ❒ Removal of economically recoverable underground equipment.
- ❒ Removal of dewatering equipment and flooding of the mine.
- ❒ Bolting and refurbishing underground roadways within the old workings in order to access the seal sites.
- ❒ Completion of the two Bowmans Creek seals.
- ❒ Completion of the main drain adit seal and installation of permanent drainage provisions.
- ❒ Removal of the main conveyor belting.
- ❒ Removal of potentially contaminating materials underground.
- ❒ Removal of disused but economically recyclable materials.
- ❒ Removal of coal stockpile at Loch Catherine.
- ❒ Removal of the product coal bin and associated overhead conveyors.
- ❒ Completed the first stage of the Loch Catherine entry sealing and the finalisation of the proposed final sealing methods.
- ❒ Installation of an underground passive water treatment system.
- ❒ Installation of seven underground bulkheads to obtain further information on the potentially to fully seal the workings.

- ❒ Development of an alternative final land use which will resolve the problem of an ongoing mine discharge and ultimately lead to the recovery and beneficial reuse of the water resource.

The RMP was finalised in July 2022 and covers the continuation of final rehabilitation work and implementation of the passive water treatment process at the Berrima Colliery Pit Top. Boral considers the completion of the passive water treatment system as being part of the final mine closure activities as it satisfies the outstanding issues associated with dealing with the groundwater discharge from the mine. It is recognised that this aspect of the mine closure has yet to be approved by the Resources Regulator.

1.7 Disturbance and Rehabilitation Statistics

1.7.1 Current Disturbance and Rehabilitation Progression

The disturbance and rehabilitation statistics for the reporting period is provided in the following table.

Table 2 – Status of Disturbance and Rehabilitation at end of Reporting Period

Annual Reporting Period	1 January 2022 to 31 December 2022
Total Disturbance Footprint	6.7
Underground Mining Area	640.19
Total Active Disturbance	0.15
Rehabilitation – Land Preparation	6.55
Ecosystem and Land Use Establishment	0
Ecosystem and Land Use Development	0
Rehabilitation Completion	0

The category for Land Preparation includes areas designated as being decommissioned. Although this is correct, it does not take into account the repurposing of the pit top to an ongoing non-mine related industrial land use.

1.7.2 Rehabilitation Key Performance Indicators

The following table provides the cumulative disturbance and rehabilitation since the commencement of mining.

Table 3 – Proportion of Established Rehabilitation for final Land use

Annual Reporting Period	1 January 2022 to 31 December 2022
Established Rehabilitation – Agriculture	0
Established Rehabilitation – Native Ecosystems	0
Established Rehabilitation – Other non vegetated	0

1.7.3 Variation to the Rehabilitation Schedule

No variations to the schedule are proposed.

1.8 Rehabilitation Monitoring and Research Findings

Given that Berrima Colliery is an underground mine with an established but very small surface footprint, progressive rehabilitation does not occur and revegetation trials are not warranted.

The establishment of the final land use, that is, ongoing passive water treatment, will be completed during the term of the newly approved RMP. The main area of rehabilitation will be at the Loch Catherine entries and drift. The main pit top and railway easement to the cement plant will be repurposed for water treatment while the final use of the surrounding Boral owned land will be rural residential and/or lifestyle blocks with a mixture of existing native forest and agricultural land. Privately owned land within the previous underground extraction area will continue as is once the lease is relinquished.

The following monitoring activities will be undertaken during this RMP term:

- Continuation of the Performance Monitoring Program or its equivalent under the Environment Protection Licence. This work will continue until advised by the EPA and Resources Regulator.
- Disturbance and rehabilitation activities resulting from the removal of the subsidence and groundwater monitoring instrumentation within the extraction area will be inspected on an annual basis for a period of 2 years or until the Resources Regulator is satisfied that the work is stable and of equivalent condition as surrounding agricultural land.
- Final rehabilitation work undertaken on the Loch Catherine mine drift will be inspected on a 6 monthly basis for a period of 2 years. Maintenance work will be undertaken as required.
- Continue to monitor groundwater within the previous mining area on a quarterly until 30 September 2021.

1.8.1 Monitoring Methodology

The only domains requiring rehabilitation is the Loch Catherine drift and a portion of the Loch Catherine coal storage area. These domains have a combined area of approximately 4.7 ha. There are several potential building sites however there will also be peripheral areas requiring rehabilitation. The rehabilitation activities will need to ensure the land is stable and non-polluting with a self-sustaining vegetation cover suitable for private sale.

As it is not proposed to regenerate a native vegetation community, specific monitoring methodologies such as Ecological Function Analysis will not be undertaken. The inspections will be visual only but will include:

- Vegetation cover, health and vigour.
- Evidence of erosion or sediment movement on or off site.
- Weed growth.

1.8.2 Research and Rehabilitation Trials and Use of Analogue Sites

No rehabilitation trials have been undertaken and none are proposed. The rehabilitation activities will be designed to maximise the sale value of the land. This will include a

combination of works including removal of mining infrastructure, decontamination activities, development of building sites and rehabilitation of external areas. Rehabilitation will be designed to be permanently stable and self-sustaining and include a mixture of improved pasture over the building sites and curtilage.

2. Forward Program

This section represents Part 2 of the Annual Rehabilitation Reports and Forward Programs.

2.1 Three Year Forecast – Surface Disturbance Activities

2.1.1 Project Description

Berrima Colliery ceased coal extraction in November 2013 and following a period of Care and Maintenance is now at an advanced stage of final closure. It is proposed to repurpose the pit top to a passive water treatment system to treat groundwater for discharge back into the Wingecarribee River. The treatment system will also be able to transfer water to the Berrima Cement Works via a pipeline along the existing railway line easement.

2.1.2 Description of Surface Disturbance Activities

The project is now progressing through the final closure activities. As such:

- No exploration was undertaken during the reporting period and none will be undertaken in future.
- No mining occurred during the reporting period and none will occur in future.

The following table shows the material production schedule for the next three years.

Table 4 – Material Production Schedule during the next Three Years

Material	Unit	Year 1	Year 2	Year 3
Stripped Topsoil	m^3	Nil	Nil	Nil
Rock/Overburden	m^3	Nil	Nil	Nil
Ore	MT	Nil	Nil	Nil
Reject Material	MT	Nil	Nil	Nil
Product	MT	Nil	Nil	Nil

2.2 Three Year Rehabilitation Forecast

The only surface disturbance to occur over the three year forecast will be the construction of the above ground passive water treatment system at the existing pit top.

2.2.1 Rehabilitation Planning Schedule

The following activities are planned for completion under the current RMP:

- Finalise all outstanding land owner issues within the previous SMP area and remove remaining monitoring equipment.
- Continue monitoring of the additional ambient water quality sites until such time as the Environment Protection Licence is modified to reflect the water transfer operation;
- Repurpose existing buildings and sheds to cater for the water treatment and transfer project and remove any remaining coal handling infrastructure;

- ❒ Rehabilitate the Loch Catherine Coal Stockpile area to a standard suitable for sale;
- ❒ Installation of the additional internal bulk heads around the pit bottom area and install pumping equipment;
- ❒ Complete the Loch Catherine Mine Entry seals or approved barriers;
- ❒ Rehabilitate the Loch Catherine Drift cutting on completion of the barrier construction as outlined in the RMP;
- ❒ Remove ventilation equipment and install a permanent seal on the fan entry;
- ❒ Weekly inspections of surface infrastructure and pollution control systems until such time as the pit top has been repurposed;

Consultation with regulatory authorities will continue over the RMP period, specifically in relation to the proposed final land use and mine entry post installation of bulkheads around pit bottom.

2.2.2 Rehabilitation Research and Trials

No rehabilitation trials have occurred in the past or proposed during the next three years.

2.2.3 Rehabilitation Maintenance and Corrective Actions

There is no previously rehabilitated land at Berrima Colliery. The pit top and Loch Catherine sites have not materially changed since mining commenced. Normal maintenance activities include weed spraying and erosion repair as necessary following heavy rain.

2.2.4 Rehabilitation Schedule

There will be no physical change in rehabilitation categories over the next three years. Ultimately if the final land use is approved, the surface facilities site will remain as a non-mining related industrial activity.

2.2.5 Subsidence Remediation of Underground Operations

Berrima Colliery ceased coal extraction in October 2013 and is defined as a non-active mine. The liability for the repair or compensation for subsidence damage as defined under the Coal Mine Subsidence Compensation Act 2017, rests with Subsidence Advisory NSW. Claims for compensation can be made irrespective of whether damage is caused by an active or non-active mine.

On 1st August 2019, approval was received from the Principal Subsidence Engineer – Mine Safety Technology to cease subsidence monitoring and removal of the subsidence pegs with the exception of the approved GPS monitoring points. These points exist on certain structures such as major dams and buildings as well as the South West 1 Panel slope, however access to private property is not available for a critical property within the previous mining area which makes future subsidence monitoring problematic. Boral will comply with any additional requests for information from either the Resources Regulator or Subsidence Advisory NSW.

2.3 Plan 2 Mining and Rehabilitation Three Year Forecast

2.3.1 Submission of Plan 2 Spatial Data

Plans prepared from the Mine Rehabilitation Portal are attached.

2.3.2 Submission of Plan 2 Electronic Copy

All required plans are attached to this report in pdf format.

2.4 Progressive Mining and Rehabilitation Statistics

2.4.1 Three Yearly Forecast Cumulative Disturbance

A summary of the forecast cumulative distance and rehabilitation is provided in the following table.

Table 5 – Predicted Cumulative Disturbance and Rehabilitation next 3 years

Year	1	2	3
Total Disturbance Footprint	6.7	6.7	6.7
Underground Mining Area	640.19	640.19	640.19
Total Active Disturbance	0.15	0.15	0.15
Rehabilitation – Land Preparation	6.55	6.55	6.55
Ecosystem and Land Use Establishment	0	0	0

It is not proposed to complete any final rehabilitation in the forward program. Should the final land use be approved, the pit top will convert from decommissioning to a non-mining related industrial activity.

2.4.2 Rehabilitation Key Performance Indicators

Table 6 below shows that there will be no new active disturbance and no final rehabilitation completed. These numbers will change should the Resources Regulator approve the final rehabilitation land use, being a non-mining related industrial activity.

Table 6 – Progressive Rehabilitation Key Performance Indicators

Year	1	2	3
Total New Active Disturbance Area During Reporting Period	0	0	0
Area of Land Proposed for Active Rehabilitation during reporting period	0	0	0
Annual Rehabilitation to Disturbance Ratio	0	0	0

2.5 Rehabilitation Cost Estimate

The Rehabilitation Cost Estimate is provided as Appendix C.

2.6 Further Development of the Final Rehabilitation Plan

There has been no further development of the Final Rehabilitation Plan since the RMP was prepared. The Resources Regulator has yet to approve the proposed surface passive water treatment system as the final land use for Berrima Colliery

Berrima Colliery

Legend

Disturbance Trace

- Beneficiation Facility
- Infrastructure Area
- Other
- Overburden Emplacement Area
- Tailings Storage Facility
- Underground Mining Area (SMP)
- Active Mining Area (Open cut void)
- Water Management Area

Rehabilitation Trace

- Decommissioning
- Landform Establishment
- Growth Media Development
- Ecosystem and Land Use Establish
- Ecosystem and Land Use Developr
- Relinquishment (Rehabilitated)
- Rehabilitation Completion

Forecast Data Year1 Trace

- Forecast Disturbance
- Forecast Land Prepared for Rehabi
- Ecosystem and Land Use Establish

Forecast Data Year2 Trace

- Forecast Disturbance
- Forecast Land Prepared for Rehabi
- Ecosystem and Land Use Establish

Forecast Data Year3 Trace

- Forecast Disturbance
- Forecast Land Prepared for Rehabi

458.6 0 229.31 458.6 Meters

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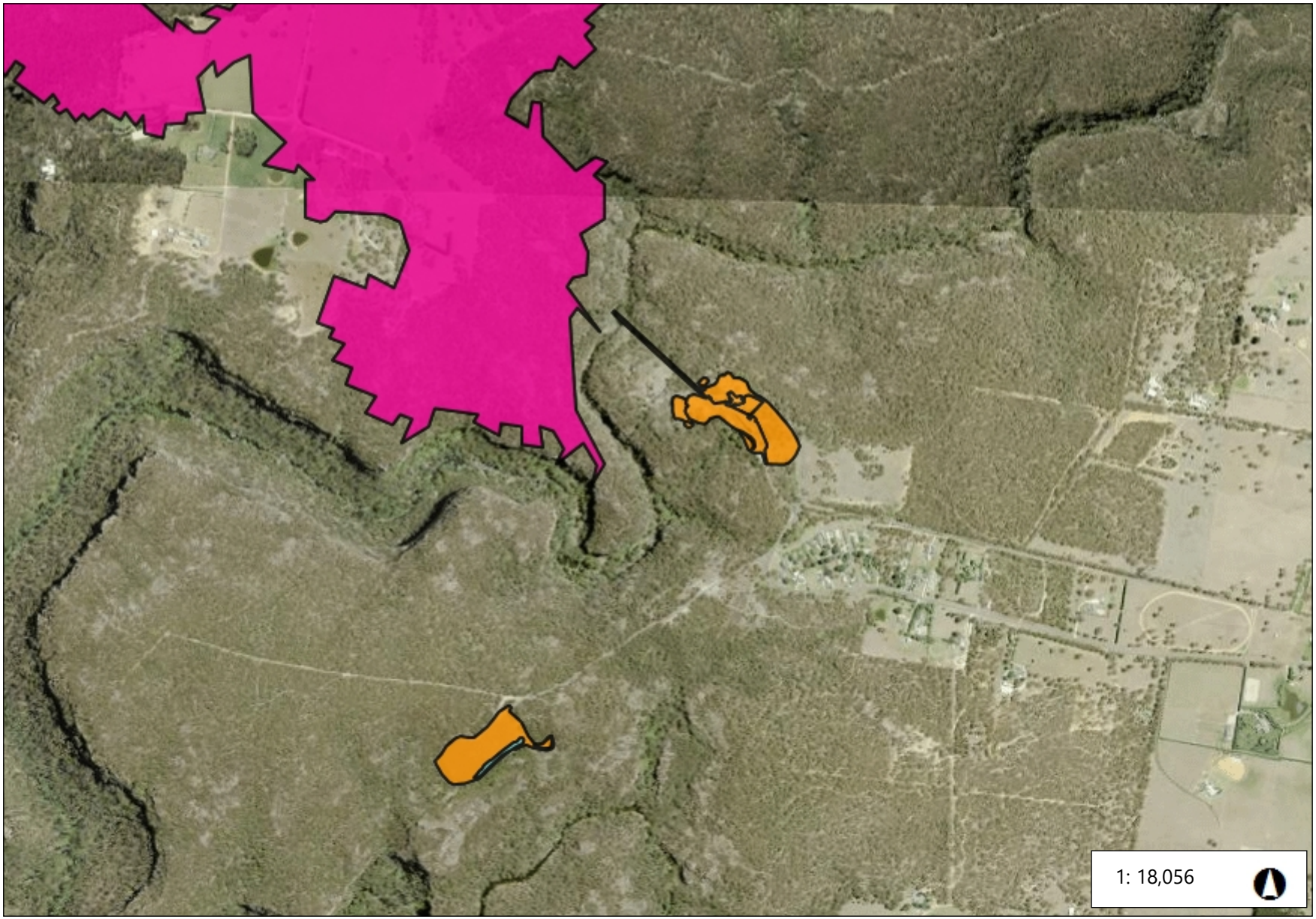
This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Notes

Plan 1a

Berrima Colliery Disturbance



Legend

Disturbance Trace

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Disturbance

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- Active Mining Area (Open cut void)
- Water Management Area

Notes

917.2 0 458.62 917.2 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere

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THIS MAP IS NOT TO BE USED FOR NAVIGATION

Berrima Colliery Pit Top Final Land Use

Legend

Final Landuse Trace

- Agricultural – Cropping
- Agricultural – Cropping
- Agricultural – Grazing
- Agricultural – Grazing
- Rehabilitation Biodiversity Offset Ar
- Final Void
- Heritage Area
- Industrial
- Infrastructure
- Native Ecosystem
- Water Management Areas
- Water Storage (Excluding Final Voi
- Other

Final Landform Features Trace

Rehabilitation

- Decommissioning
- Landform Establishment
- Growth Media Development
- Ecosystem and Land Use Establish
- Ecosystem and Land Use Developr
- Relinquishment (Rehabilitated)
- Rehabilitation Completion

Disturbance

- Beneficiation Facility
- Infrastructure Area
- Other
- Overburden Emplacement Area
- Tailings Storage Facility

Notes

Passive Water Treatment Facility

229.3 0 114.66 229.3 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Loch Catherine Storage Facility

Legend

Final Landuse Trace

- Agricultural – Cropping
- Agricultural – Cropping
- Agricultural – Grazing
- Agricultural – Grazing
- Rehabilitation Biodiversity Offset Ar
- Final Void
- Heritage Area
- Industrial
- Infrastructure
- Native Ecosystem
- Water Management Areas
- Water Storage (Excluding Final Voi
- Other

Final Landform Features Trace

Rehabilitation

- Decommissioning
- Landform Establishment
- Growth Media Development
- Ecosystem and Land Use Establish
- Ecosystem and Land Use Developr
- Relinquishment (Rehabilitated)
- Rehabilitation Completion

Disturbance

- Beneficiation Facility
- Infrastructure Area
- Other
- Overburden Emplacement Area
- Tailings Storage Facility

Notes

Preparation for private sale

229.3 0 114.66 229.3 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Berrima Colliery

Legend

Disturbance Trace
- Beneficiation Facility
- Infrastructure Area
- Other
- Overburden Emplacement Area
- Tailings Storage Facility
- Underground Mining Area (SMP)
- Active Mining Area (Open cut void)
- Water Management Area

Rehabilitation Trace
- Decommissioning
- Landform Establishment
- Growth Media Development
- Ecosystem and Land Use Establish
- Ecosystem and Land Use Developr
- Relinquishment (Rehabilitated)
- Rehabilitation Completion

Forecast Data Year1 Trace
- Forecast Disturbance
- Forecast Land Prepared for Rehabi
- Ecosystem and Land Use Establish

Forecast Data Year2 Trace
- Forecast Disturbance
- Forecast Land Prepared for Rehabi
- Ecosystem and Land Use Establish

Forecast Data Year3 Trace
- Forecast Disturbance
- Forecast Land Prepared for Rehabi

Notes

Plan 1b - Overview of Leases

3,669.0 0 1,834.49 3,669.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Berrima Colliery

Legend

Disturbance Trace

- Beneficiation Facility
- Infrastructure Area
- Other
- Overburden Emplacement Area
- Tailings Storage Facility
- Underground Mining Area (SMP)
- Active Mining Area (Open cut void)
- Water Management Area

Rehabilitation Trace

- Decommissioning
- Landform Establishment
- Growth Media Development
- Ecosystem and Land Use Establish
- Ecosystem and Land Use Developr
- Relinquishment (Rehabilitated)
- Rehabilitation Completion

Forecast Data Year1 Trace

- Forecast Disturbance
- Forecast Land Prepared for Rehabi
- Ecosystem and Land Use Establish

Forecast Data Year2 Trace

- Forecast Disturbance
- Forecast Land Prepared for Rehabi
- Ecosystem and Land Use Establish

Forecast Data Year3 Trace

- Forecast Disturbance
- Forecast Land Prepared for Rehabi

458.6 0 229.31 458.6 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere

Notes

Plan 1b - Existing contours

Appendix A - EPA Licence

Environment Protection Licence

Licence - 608

Licence Details	
Number:	608
Anniversary Date:	01-November

Licensee

BORAL CEMENT LIMITED

PO BOX 6041

NORTH RYDE NSW 2113

Premises

BERRIMA COLLIERY

MEDWAY ROAD

MEDWAY NSW 2577

Scheduled Activity

Coal works

Mining for coal

Fee Based Activity	Scale
Coal works	0-2000000 T annual handing capacity
Mining for coal	0-500000 T annual production capacity

Contact Us

NSW EPA

4 Parramatta Square

12 Darcy Street

PARRAMATTA NSW 2150

Phone: 131 555

Email: info@epa.nsw.gov.au

Locked Bag 5022

PARRAMATTA NSW 2124

Environment Protection Licence

Licence - 608

Environment Protection Licence

Licence - 608

Environment Protection Licence

Licence - 608

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:

BORAL CEMENT LIMITED
PO BOX 6041
NORTH RYDE NSW 2113

subject to the conditions which follow.

Environment Protection Licence

Licence - 608

1 Administrative Conditions

A1 What the licence authorises and regulates

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

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

Scheduled Activity	Fee Based Activity	Scale
Coal works	Coal works	0 - 2000000 T annual handing capacity
Mining for coal	Mining for coal	0 - 500000 T annual production capacity

A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
BERRIMA COLLIERY
MEDWAY ROAD
MEDWAY
NSW 2577
LOT 1 DP 598101, LOT 2 DP 598101, LOT 1 DP 707350, LOT 57 DP 751251, LOT 4 DP 793839, LOT 1 DP 1136734

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

Environment Protection Licence

Licence - 608

P1 Location of monitoring/discharge points and areas

P1.1 The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.

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	Mine Addit with discharge of mine water to Wingecarribee River as s labelled as 'DISCHARGE POINT' as shown on diagram 'BERRIMA COLLIERY _ MEDWAY LICENCED DISCHARGE POINTS' dated 14/8/03 labelled A3-DWGADDIT
2	Discharge to waters Discharge quality and volume monitoring	Discharge to waters Discharge quality and volume monitoring	Underflow of filter bed situated in coal reject disposal area as shown in drawing provided to EPA attached to letter dated 23 August 2001.
4	Discharge quality and volume monitoring for waters discharged to Point 1		V-notch weir labelled as 'U/G LDP 1' as shown on diagram 'Berrima Colliery - Medway Environmental Monitoring Sites' drawing no. A3-DWGBE96 dated 2/2/05. The V-notch weir may be replaced by a sealed drain adit pipe following mine closure.
9	Ambient water quality monitoring		Wingecarribee River upstream of LDP1 at Old Hume Highway Crossing at Berrima
10	Ambient water quality monitoring		Wingecarribee River upstream of LDP1 at MaCarthur's Crossing
11	Ambient water quality monitoring		Wingecarribee River downstream of LDP1 at Biloela Camp site
12	Ambient water quality monitoring		Wingecarribee River downstream of LDP1 at Black Bob's Crossing

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
pH	pH				6.5-8.5
Total suspended solids	milligrams per litre				50

POINT 2

Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit
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	10000
2	kilolitres per day	10

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.

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.

Environment Protection Licence

Licence - 608

M2 Requirement to monitor concentration of pollutants discharged

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

M2.2 Water and/ or Land Monitoring Requirements

POINT 2

Pollutant	Units of measure	Frequency	Sampling Method
pH	pH	Monthly during discharge	In situ
Total suspended solids	milligrams per litre	Monthly during discharge	Grab sample

POINT 4

Pollutant	Units of measure	Frequency	Sampling Method
Chloride	milligrams per litre	Every 2 months	Grab sample
Cobalt (dissolved)	micrograms per litre	Every 2 months	Grab sample
Copper (dissolved)	micrograms per litre	Every 2 months	Grab sample
Dissolved Oxygen	milligrams per litre	Every 2 months	In situ
Electrical conductivity	microsiemens per centimetre	Every 2 months	Grab sample
Manganese (dissolved)	milligrams per litre	Every 2 months	Grab sample
Nickel (dissolved)	micrograms per litre	Every 2 months	Grab sample
pH	pH	Every 2 months	In situ
Sulfate	milligrams per litre	Every 2 months	Grab sample
Total suspended solids	milligrams per litre	Every 2 months	Grab sample
Zinc (dissolved)	micrograms per litre	Every 2 months	Grab sample

POINT 9,10,11,12

Pollutant	Units of measure	Frequency	Sampling Method
Chloride	milligrams per litre	Every 2 months	Grab sample
Cobalt (dissolved)	micrograms per litre	Every 2 months	Grab sample
Copper (dissolved)	micrograms per litre	Every 2 months	Grab sample
Electrical conductivity	microsiemens per centimetre	Every 2 months	Grab sample
Manganese (dissolved)	milligrams per litre	Every 2 months	Grab sample
Nickel (dissolved)	micrograms per litre	Every 2 months	Grab sample
pH	pH	Every 2 months	In situ

Sulfate	milligrams per litre	Every 2 months	Grab sample
Total suspended solids	milligrams per litre	Every 2 months	Grab sample
Zinc (dissolved)	micrograms per litre	Every 2 months	Grab sample

Note: The monitoring results collected at point 4 in compliance with Condition M2.1 can be used to determine compliance with the concentration limits specified in Condition L2.4 for discharge to Point 1.

Note: The frequency of sampling at point 4 may be less than every 2 months where river flow conditions prevent sampling. However another sample must be taken as soon as possible following the missed sample and the number of samples taken at point 4 must total 6 samples in 12 months.

Note: The EPA may review the monitoring frequency and analyte list for points 4, 9, 10, 11 and 12 in discussion with the licensee.

M3 Testing methods - concentration limits

M3.1 Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.

M4 Recording of pollution complaints

M4.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.

M4.2 The record must include details of the following:
a) the date and time of the complaint;
b) the method by which the complaint was made;
c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
d) the nature of the complaint;
e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
f) if no action was taken by the licensee, the reasons why no action was taken.

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

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

M5 Telephone complaints line

M5.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.

M5.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

M5.3 The preceding two conditions do not apply until 3 months after: the date of the issue of this licence.

M6 Requirement to monitor volume or mass

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

POINT 2

Frequency	Unit of Measure	Sampling Method
Daily during any discharge	kilolitres per day	Estimate

POINT 4

Frequency	Unit of Measure	Sampling Method
Daily during any discharge	kilolitres per day	Estimate

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.

Environment Protection Licence

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.

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

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 they became aware of the incident.

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

R3 Written report

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

the event.

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

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

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

7 General Conditions

G1 Copy of licence kept at the premises or plant

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

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

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

G2 Other general conditions

G2.1 **Completed Programs**

Program	Description	Completed Date
PRP 1: Wingecarribee River Monitoring Locations	Wingecarribee River Monitoring Locations. Provide documentation showing the locations of water monitoring locations proposed to be used in PRP 2	28-February-2002
PRP 2: Discharge Water Quality	Discharge Water Quality. assess the impact ofd mine water discharges on the receiving water of Wingecarribee River and to then develop appropriate licence limits and parameters	06-April-2004

PRP 3: Pit top Stormwater Management Plan	Pit top Stormwater Management Plan. Upgrade system to minimise the discharge of contaminated stormwater runoff from the premises	28-February-2002
PRP 4: Compressor Waste Storage	Compressor Waste Storage. Ensure bunded areas are not used for the storage of compressor water	01-December-2001
PRP 5: Medway Mine Water Supply	Medway Mine Water Supply. To assist in accurate estimates of the volume of mine water discharges to Wingecarribee River by accounting for mine water diverted to Medway village	01-December-2001
PRP 6 Materials Storage	Materials Storage. Minimise odour generation	30-April-2005
PRP7: 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	26-September-2012
PRP 8: Flow Monitoring Equipment	Requires installation of a flow monitoring device to improve the accuracy of measurement of the amount of water discharged from LDP1	30-September-2012
PRP9: Minewater Discharge Characterisation and Options Investigation	Preparation of a study report containing a minewater characterisation, river impact assessment and treatment investigation.	20-December-2012
PRP10: Seal Internal Haul Road	Seal the exit haul road between the pit top and Medway Road.	10-December-2013

G2.2 Table of completed special conditions

Program	Desrcription	Completed Date
Special Condition E1	Develop Action Plan - Prevent, Control, Abate, Mitigate Pollution to Wingecarribee River	13-October-2017
Special Condition E2	Implement Action Plan - Underground Water Treatment System	28-February-2018
Special Condition E3	Performance Monitoring Program	28-February-2020

8 Pollution Studies and Reduction Programs

U1 Environment Improvement Program 1 - Construct Passive Water Treatment Plant and Pipeline to Berrima Cement Works

U1.1 Under the terms of this Environmental Improvement Program, the licensee must complete the following.

1) Install a passive water treatment plant on the surface at Berrima Colliery to treat groundwater from the closed underground coal mine at Medway.
2) Lay a pipeline from Berrima Colliery to Berrima Cement Works to transfer treated water for use in the cement making process.
3) Prepare an environmental assessment that identifies potential environmental impacts from the construction and operation of the above works and proposes measures to prevent or mitigate the impacts.

DUE DATE(S):
The completion dates for item 1) and item 2) will be added to this condition following review of the environmental assessment.

Note: Framework for the Program

In September 2021, the licensee requested that an Environmental Improvement Program be attached to the licence requiring works to be undertaken at the premises. The works included construction of a water treatment plant at Berrima Colliery and a pipeline to transfer the treated water to the Berrima cement works

The EPA assessed the application and found that the proposed works generally met criteria in the EPA's Operating Guideline for Environment Improvement Programs, 2014. Specifically, the EIP would provide environmental benefit beyond the requirements of licence conditions that allow the discharge of some pollutants from the mine to the Wingecarribee River.

The proposed works will achieve this outcome by providing an equivalent or higher level of treatment of the groundwater and redirecting a significant portion of treated water to the cement works for re-use. There will consequently be a reduction in the load of pollutants discharged to the Wingecarribee River. There will also be a reduction in water drawn from the Wingecarribee River by the cement works at Berrima which may assist in maintaining river flows during drought conditions.

Environment Protection Licence

Licence - 608

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

Environment Protection Licence

Licence - 608

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 describe d 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 me aning 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: 01-February-2000

Environment Protection Licence

Licence - 608

End Notes

1	Licence varied by notice V/M upgrade, issued on 07-Jul-2000, which came into effect on 07-Jul-2000.
2	Licence varied by Notice 10259, issued on 12-May-2000, which came into effect on 03-Jun-2000.
3	Licence varied by notice 1008528, issued on 03-Oct-2001, which came into effect on 28-Oct-2001.
4	Licence varied by correction to EPA Sub Region data record, issued on 17-Sep-2002, which came into effect on 17-Sep-2002.
5	Licence varied by notice 1024505, issued on 06-Feb-2003, which came into effect on 06-Feb-2003.
6	Licence varied by notice 1024851, issued on 25-Feb-2003, which came into effect on 25-Feb-2003.
7	Licence varied by notice 1030616, issued on 16-Sep-2003, which came into effect on 11-Oct-2003.
8	Licence varied by notice 1036616, issued on 17-May-2004, which came into effect on 11-Jun-2004.
9	Licence varied by notice 1037957, issued on 16-Jun-2004, which came into effect on 05-Jul-2004.
10	Licence varied by change to EPA region, issued on 05-Nov-2004, which came into effect on 05-Nov-2004.
11	Licence varied by notice 1043474, issued on 15-Mar-2005, which came into effect on 09-Apr-2005.
12	Licence varied by change to DEC Region allocation, issued on 16-Mar-2006, which came into effect on 16-Mar-2006.
13	Licence varied by notice 1085172, issued on 29-Apr-2008, which came into effect on 29-Apr-2008.
14	Condition A1.3 Not applicable varied by notice issued on <issue date> which came into effect on <effective date>
15	Licence varied by notice 1104148, issued on 02-Sep-2009, which came into effect on 02-Sep-2009.
16	Licence transferred through application 145937, approved on 03-Sep-2009, which came into effect on 01-Sep-2009.
17	Licence varied by notice 1502165 issued on 01-Nov-2011
18	Licence varied by notice 1502954 issued on 19-Dec-2011
19	Licence varied by notice 1507032 issued on 13-Aug-2012

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20	Licence varied by notice	1515452 issued on 12-Aug-2013
21	Licence varied by notice	1516202 issued on 23-Dec-2013
22	Licence transferred through application 1531754 approved on 30-Jun-2015 , which came into effect on 30-Jun-2015	
23	Licence varied by notice	1534429 issued on 09-Oct-2015
24	Licence varied by notice	1557179 issued on 27-Sep-2017
25	Licence varied by notice	1557835 issued on 30-Oct-2017
26	Licence varied by notice	1559619 issued on 21-Dec-2017
27	Licence varied by notice	1570398 issued on 27-Nov-2018
28	Licence varied by notice	1611982 issued on 30-Aug-2021
29	Licence varied by notice	1612820 issued on 20-Dec-2021

Appendix B - Rehabilitation Security

Rehabilitation Liability has been assessed as part of the Stage 1 Final Closure MOP which was approved in November 2018. The MOP triggered the provision of an updated Rehabilitation Bond Calculation covering the final close down rehabilitation of the pit top and Loch Catherine. This was calculated at $10,152,000. This AEMR therefore does not trigger the need for an additional Rehabilitation Security Calculation.

Appendix C - Monitoring Data

Berrima Colliery in Medway
POELA Act 2011 Monitoring Data - 2023

Berrima Colliery, Medway, NSW
Environmental Protection Licence Number 608, held by Boral Limited

Explanation of units of measure:

mg/m^3 = milligrams per cubic metre
g/m^2/month = grams per square metre per month
µg/m^3 = micrograms per cubic metre
mg/L = milligrams per litre
ML/d = megalitres per day

Record updated on: 07 February 2023

1. Water monitoring

Berrima Colliery has two licensed discharge points and four ambient background monitoring points:

Discharge Points:

- Mine Adit - Naturally occurring groundwater is captured in the underground workings and is discharged into the Wingecarribee River. The monitoring point is referred to as the V Notch Weir (Licence Point 4).

- Pit Top Dam – Referred to as the Chitter Dam, this dam collects water runoff from the surface facilities area. This dam did not discharge during the reporting period.

Ambient background monitoring points:

- Wingecarribee River upstream of the mine adit discharge at Old Hume Highway Crossing at Berrima (Licence Point 9).

- Wingecarribee River upstream of the mine adit discharge at Macarthur's Crossing (Licence Point 10).

- Wingecarribee River downstream of the mine adit discharge at Biloela Camp Site (Licence Point 11).

- Wingecarribee River downstream of mine adit discharge at Black Bob's confluence (Licence Point 12).

Licence limits for both discharge points are as follows:

pH: 6.5-8.5
Oil and Grease: 10 mg/L
Total Suspended Solids: 50 mg/L

Table 1 shows the results of parameters for Licence Point 4 for which the licence limits apply as listed above.

Table 2 provides the data for all of the parameters monitored at the Licenced Discharge Point 4 while Table 3 presents ambient water monitoring data. No concentration limits are assigned to these parameters with the exception of pH, suspended solids, and oil and grease as described above for the discharge point.

Table 1 – Discharge Monitoring Data (Licence Point 4)

Sampling Date	Report received	Date published	pH	Oil and Grease (mg/L)	Total Suspended Solids (mg/L)
23/01/17	03/02/17	6/02/17	6.72	<5	24
31/03/17	08/05/17	5/06/17	6.83	<5	7
30/05/17	06/06/17	4/07/17	6.71	<5	9
04/07/17	07/08/17	8/08/17	6.80	<5	9
12/09/17	10/10/17	13/10/17	6.75	<5	32
09/11/17	17/11/17	6/12/17	6.60	<5	10
31/01/18	09/02/18	13/02/18	6.77	<5	34
27/03/18	12/04/18	14/04/18	6.84	<5	8
31/05/18	11/06/18	12/06/18	6.98	<5	14
26/07/18	1/08/18	14/08/18	6.85	<5	11
25/09/18	3/10/18	4/10/18	6.62	<5	6
27/11/18	15/01/19	15/01/19	7.14	<5	<5
31/01/19	08/02/19	11/02/19	7.05	9.0	<5
26/03/19	11/04/19	12/04/19	7.29	<5	<5
23/05/19	12/06/219	13/06/19	7.28	<5	<5
25/07/19	29/07/19	08/08/19	6.72	<5	7
25/09/19	08/10/19	10/10/19	6.93	<5	7
28/11/19	10/12/19	12/12/19	7.27	<5	4
11/01/20	11/02/20	11/02/20	7.34	<5	<5
24/03/20	08/04/20	08/04/20	7.30	<5	<5
19/05/20	25/05/20	04/06/20	7.01	<5	19
21/07/20	29/07/20	11/08/20	7.01	<5	<5
21/09/20	28/09/20	01/10/20	7.2	<5	<5
25/11/20	03/12/20	10/12/20	6.9	<5	<5
18/01/21	27/01/21	10/02/21	6.7	<5	<5
30/03/21	08/04/21	12/04/21	6.7	<5	<5
20/05/21	01/06/21	11/06/21	6.96	<5	5
22/07/21	04/08/21	10/08/21	6.66	<5	<5
21/09/21	30/09/21	14/10/21	6.5	*	6
22/11/21	29/11/21	06/12/21	7.2	*	<5
10/02/22	17/02/22	11/03/22	6.54	*	5
28/03/22	07/04/22	13/04/22	6.54	*	8
23/05/22	31/05/22	10/06/22	6.94	*	7
25/07/22	02/08/22	22/08/22	6.63	*	<5
19/09/22	29/09/22	14/10/22	7.07	*	<5
24/11/22	01/12/22	14/12/22	7.31	*	<5
23/01/23	02/02/23	07/02/23	7.18	*	6

Note: values noted as <5 means that the levels were below laboratory detection limits.
Compliance summary: Discharge within the licence limits.

*The requirement to monitor oil and grease was removed from the EPL on 30th August 2021.

Table 2 – Additional Monitoring Parameters for Licence Point 4

Parameter	Date Sampled: 23/01/17 Report Received: 03/02/17 Date Published: 06/02/17	Date Sampled: 31/03/17 Report Received: 08/05/17 Date Published: 05/06/17	Date Sampled: 30/05/17 Report Received: 06/06/17 Date Published: 04/07/17	Date Sampled: 04/07/17 Report Received: 07/08/17 Date Published: 08/08/17	Date Sampled: 12/09/17 Report Received: 10/10/17 Date Published: 13/10/17
pH	6.72	6.83	6.71	6.80	6.75
Electrical conductivity	1030	1100	960	997	976
Total Suspended Solids	24	7	9	9	32
Sulphate	333	323	332	310	335
Chloride	52	59	59	58	50
Cobalt (dissolved)	0.147	0.135	0.134	0.139	0.134
Copper (dissolved)	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (dissolved)	10.9	10.4	11.2	11.3	11.1
Nickel (dissolved)	0.421	0.367	0.393	0.414	0.386
Zinc (dissolved)	1.25	0.678	0.684	0.731	0.572
Iron (dissolved)	9.13	0.73	6.28	13.3	<0.05
Oil and Grease	<5	<5	<5	<5	<5
Dissolved oxygen	10.1	8.6	8.8	9.6	7.0

Units measured in milligrams per litre unless otherwise specified.

Table 2 – Additional Monitoring Parameters for Licence Point 4 (continued)

Parameter	Date Sampled: 09/11/17 Report Received: 17/11/17 Date Published: 06/12/17	Date Sampled: 31/01/18 Report Received: 09/02/18 Date Published: 13/02/18	Date Sampled: 27/03/18 Report Received: 12/04/18 Date Published: 14/04/18	Date Sampled: 31/05/18 Report Received: 11/06/18 Date Published: 12/06/18	Date Sampled: 26/07/18 Report Received: 1/07/18 Date Published: 14/08/18
pH	6.60	6.77	6.84	6.98	6.85
Electrical conductivity	931	931	970	923	910
Total Suspended Solids	10	34	8	14	11
Sulphate	343	380	357	341	332
Chloride	55	57	60	54	57
Cobalt (dissolved)	0.134	0.131	0.081	0.054	0.018
Copper (dissolved)	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (dissolved)	10.8	10.5	6.82	4.86	1.85
Nickel (dissolved)	0.357	0.345	0.262	0.198	0.123
Zinc (dissolved)	0.518	0.446	0.434	0.266	0.158
Iron (dissolved)	13.0	8.91	5.65	2.80	0.21
Oil and Grease	<5	<5	<5	<5	<5
Dissolved oxygen	7.6	7.1	7.7	8.6	11.1

Units measured in milligrams per litre unless otherwise specified.

Table 2 – Additional Monitoring Parameters for Licence Point 4 (continued)

Parameter	Date Sampled: 25/09/18 Report Received: 3/10/18 Date Published: 4/10/18	Date Sampled: 27/11/18 Report Received: 15/1/19 Date Published: 15/1/19	Date Sampled: 31/1/19 Report Received: 08/02/19 Date Published: 11/02/19	Date Sampled: 26/3/19 Report Received: 11/04/19 Date Published: 12/04/19	Date Sampled: 23/5/19 Report Received: 12/06/19 Date Published: 13/06/19
pH	6.62	7.14	7.05	7.29	7.28
Electrical conductivity	939	868	826	814	790
Total Suspended Solids	6	<5	<5	<5	<5
Sulphate	330	321	238	261	280
Chloride	71	57	64	59	41
Cobalt (dissolved)	0.049	0.063	0.002	0.002	0.025
Copper (dissolved)	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (dissolved)	4.46	5.52	1.13	0.543	1.94
Nickel (dissolved)	0.196	0.198	0.082	0.065	0.066
Zinc (dissolved)	0.215	0.210	0.093	0.064	0.114
Iron (dissolved)	2.87	2.32	<0.05	<0.05	<0.05
Oil and Grease	<5	<5	9.0	<5	<5
Dissolved oxygen	8.4	9.8	8.0	8.4	9.9

Units measured in milligrams per litre unless otherwise specified.

Table 2 – Additional Monitoring Parameters for Licence Point 4 (continued)

Parameter	Date Sampled: 27/7/19 Report Received: 29/07/19 Date Published: 08/08/19	Date Sampled: 26/9/19 Report Received: 08/10/19 Date Published: 10/10/19	Date Sampled: 28/11/19 Report Received: 10/12/19 Date Published: 12/12/19	Date Sampled: 14/01/20 Report Received: 11/02/20 Date Published: 12/03/20	Date Sampled: 24/03/20 Report Received: 08/04/20 Date Published: 08/04/20
pH	6.72	6.93	7.27	7.34	7.30
Electrical conductivity	743	782	748	915	1110
Total Suspended Solids	7	7	4	<5	<5
Sulphate	290	306	238	306	455
Chloride	45	55	48	54	54
Cobalt (dissolved)	0.021	0.022	0.018	0.01	0.008
Copper (dissolved)	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (dissolved)	1.68	1.68	1.31	0.674	3.61
Nickel (dissolved)	0.065	0.067	0.050	0.040	0.18
Zinc (dissolved)	0.13	0.144	0.137	0.115	0.25
Iron (dissolved)	0.53	0.1	<0.05	<0.05	<0.05
Oil and Grease	<5	<5	<5	<5	<5
Dissolved oxygen	9.7	9.5	8.7	7.9	8.0

Units measured in milligrams per litre unless otherwise specified.

Table 2 – Additional Monitoring Parameters for Licence Point 4 (continued)

Parameter	Date Sampled: 19/05/20 Report Received: 25/05/20 Date Published: 04/06/20	Date Sampled: 21/07/20 Report Received: 29/07/20 Date Published: 11/08/20	Date Sampled: 21/09/20 Report Received: 28/09/20 Date Published: 01/10/20	Date Sampled: 25/11/20 Report Received: 04/12/20 Date Published: 10/12/20	Date Sampled: 18/01/21 Report Received: 27/01/21 Date Published: 10/02/21
pH	7.01	7.01	7.2	6.9	6.7
Electrical conductivity	968	1050	1100	1110	1030
Total Suspended Solids	19	<5	<5	<5	<5

Parameter	Date Sampled: 19/05/20 Report Received: 25/05/20 Date Published: 04/06/20	Date Sampled: 21/07/20 Report Received: 29/07/20 Date Published: 11/08/20	Date Sampled: 21/09/20 Report Received: 28/09/20 Date Published: 01/10/20	Date Sampled: 25/11/20 Report Received: 04/12/20 Date Published: 10/12/20	Date Sampled: 18/01/21 Report Received: 27/01/21 Date Published: 10/02/21
Sulphate	404	462	448	436	440
Chloride	44	58	55	52	56
Cobalt (dissolved)	0.011	0.004	0.003	0.006	0.010
Copper (dissolved)	<0.001	<0.001	<0.001	0.006	<0.001
Manganese (dissolved)	1.4	2.08	1.86	2.59	2.98
Nickel (dissolved)	0.085	0.123	0.147	0.171	0.197
Zinc (dissolved)	0.188	0.227	0.250	0.319	0.375
Iron (dissolved)	0.4	0.05	<0.05	0.11	<0.05
Oil and Grease	<5	<5	<5	<5	<5
Dissolved oxygen	9.2	9.4	8.8	9.5	10.2

Units measured in milligrams per litre unless otherwise specified.

Table 2 – Additional Monitoring Parameters for Licence Point 4 (continued)

Parameter	Date Sampled: 30/03/21 Report Received: 08/04/21 Date Published: 12/04/21	Date Sampled: 20/05/21 Report Received: 01/06/21 Date Published: 11/06/21	Date Sampled: 22/07/21 Report Received: 04/08/21 Date Published: 10/08/21	Date Sampled: 21/09/21 Report Received: 30/09/21 Date Published: 11/10/21	Date Sampled: 22/11/21 Report Received: 29/11/21 Date Published: 06/12/21
pH	6.7	6.96	6.66	6.50	7.20
Electrical conductivity	993	990	970	990	969
Total Suspended Solids	<5	5	<5	6	<5
Sulphate	408	410	398	375	410
Chloride	53	57	63	60	61
Cobalt (dissolved)	0.008	0.006	<0.001	0.005	0.004
Copper (dissolved)	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (dissolved)	2.57	1.74	1.41	1.12	1.45
Nickel (dissolved)	0.179	0.146	0.132	0.118	0.149
Zinc (dissolved)	0.353	0.278	0.295	0.284	0.289
Iron (dissolved)	0.05	0.10	0.08	<0.05	<0.05
Oil and Grease	<5	<5	<5	*	*
Dissolved oxygen	9.2	9.7	11.4	9.6	9.8

Units measured in milligrams per litre unless otherwise specified.

*The requirement to monitor oil and grease was removed from the EPL on 30th August 2021

Table 2 – Additional Monitoring Parameters for Licence Point 4 (continued)

Parameter	Date Sampled: 10/02/22 Report Received: 17/02/22 Date Published: 11/03/22	Date Sampled: 28/03/22 Report Received: 7/03/22 Date Published: 13/04/22	Date Sampled: 23/05/22 Report Received: 31/05/22 Date Published: 10/06/22	Date Sampled: 25/07/22 Report Received: 02/08/22 Date Published: 22/08/22	Date Sampled: 19/09/22 Report Received: 29/09/22 Date Published: 14/10/22
pH	6.54	6.54	6.94	6.63	7.07
Electrical conductivity	937	985	1010	1040	989
Total Suspended Solids	5	8	7	<5	<5
Sulphate	395	415	401	415	449
Chloride	65	61	61	62	60

Parameter	Date Sampled: 10/02/22 Report Received: 17/02/22 Date Published: 11/03/22	Date Sampled: 28/03/22 Report Received: 7/03/22 Date Published: 13/04/22	Date Sampled: 23/05/22 Report Received: 31/05/22 Date Published: 10/06/22	Date Sampled: 25/07/22 Report Received: 02/08/22 Date Published: 22/08/22	Date Sampled: 19/09/22 Report Received: 29/09/22 Date Published: 14/10/22
Cobalt (dissolved)	0.051	0.064	0.052	0.075	0.03
Copper (dissolved)	0.01	<0.001	<0.001	<0.001	<0.001
Manganese (dissolved)	7.78	6.78	5.96	6.94	3.75
Nickel (dissolved)	0.317	0.324	0.269	0.294	0.187
Zinc (dissolved)	0.476	0.508	0.298	0.443	0.193
Iron (dissolved)	0.14	3.06	<0.05	3.86	<0.05
Dissolved oxygen	10.4	7.6	10.5	9.8	9.7

Units measured in milligrams per litre unless otherwise specified.

Table 2 – Additional Monitoring Parameters for Licence Point 4 (continued)

Parameter	Date Sampled: 24/11/222 Report Received: 01/12/22 Date Published: 14/12/22	Date Sampled: 23/1/23 Report Received: 2/02/23 Date Published: 7/02/23	Date Sampled: Report Received: Date Published:	Date Sampled: Report Received: Date Published:	Date Sampled: Report Received: Date Published:
pH	7.31	7.18			
Electrical conductivity	1040	1050			
Total Suspended Solids	<5	6			
Sulphate	444	427			
Chloride	59	62			
Cobalt (dissolved)	0.024	0.016			
Copper (dissolved)	<0.001	<0.001			
Manganese (dissolved)	3.44	2.19			
Nickel (dissolved)	0.164	0.123			
Zinc (dissolved)	0.164	0.098			
Iron (dissolved)	<0.05	<0.05			
Dissolved oxygen	8.9	9.0			

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data

Date Sampled: 31 January 2017
Report Received: 7 February 2017
Date Published: 8 March 2017

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	7.95	7.57	7.67	7.66
Electrical conductivity	393	301	577	586
Suspended Solids	8	<5	<5	8
Sulphate	29	11	126	114
Chloride	49	44	49	50
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	<0.001	<0.001	0.005	<0.001
Manganese (dissolved)	0.004	0.022	0.312	0.268

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
Nickel (dissolved)	<0.001	<0.001	0.006	0.004
Zinc (dissolved)	<0.005	<0.005	<0.005	<0.005
Iron (dissolved)	0.08	0.16	0.10	0.10

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data - Continued

Date Sampled: 28 March 2017
Report Received: 6 April 2017
Date Published: 5 May 2017

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	7.55	7.61	7.51	7.60
Electrical conductivity	161	168	186	189
Suspended Solids	13	24	6	<5
Sulphate	5	5	9	9
Chloride	19	20	22	22
Cobalt	<0.001	<0.001	0.001	<0.001
Copper (dissolved)	0.002	0.002	0.002	0.002
Manganese (dissolved)	0.027	0.046	0.124	0.111
Nickel (dissolved)	0.001	0.001	0.006	0.006
Zinc (dissolved)	0.005	<0.005	0.011	0.011
Iron (dissolved)	0.47	0.49	0.51	0.47

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data - Continued

Date Sampled: 30 May 2017
Report Received: 6 June 2017
Date Published: 4 July 2017

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	7.98	7.90	7.81	7.59
Electrical conductivity	213	222	312	302
Suspended Solids	7	6	6	<5
Sulphate	18	13	35	36
Chloride	33	33	37	36
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	0.001	<0.001	<0.001	<0.001
Manganese (dissolved)	0.036	0.006	0.078	0.064
Nickel (dissolved)	<0.001	<0.001	0.012	0.009
Zinc (dissolved)	0.038	0.034	0.046	0.044
Iron (dissolved)	0.74	0.56	0.52	0.42

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data - Continued
Date Sampled: 3 August 2017
Report Received: 17 August 2017
Date Published: 11 September 2017

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	7.69	7.82	7.67	7.67
Electrical conductivity	203	222	315	251
Suspended Solids	48	17	7	6
Sulphate	15	10	44	42
Chloride	34	35	38	37
Cobalt	<0.001	<0.001	0.001	<0.001
Copper (dissolved)	<0.001	<0.001	<0.001	<0.001
Manganese (dissolved)	0.006	0.006	0.212	0.081
Nickel (dissolved)	<0.001	<0.001	0.020	0.013
Zinc (dissolved)	<0.005	<0.005	0.021	0.014
Iron (dissolved)	0.24	0.29	0.21	0.29

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data - Continued
Date Sampled: 5 September 2017
Report Received: 8 September 2017
Date Published: 13 October 2017

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	7.71	7.77	7.72	7.70
Electrical conductivity	270	273	372	378
Suspended Solids	6	<5	<5	6
Sulphate	17	14	48	52
Chloride	37	39	40	40
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	<0.001	<0.001	<0.001	<0.001
Manganese (dissolved)	0.002	0.002	0.147	0.085
Nickel (dissolved)	<0.001	<0.001	0.014	0.010
Zinc (dissolved)	<0.005	<0.005	0.010	0.006
Iron (dissolved)	<0.05	<0.05	<0.05	<0.05

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data - Continued
Date Sampled: 8 and 9 November 2017
Report Received: 1 December 2017
Date Published: 6 December 2017

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	7.75	7.79	7.65	7.53

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
Electrical conductivity	347	315	390	347
Suspended Solids	564	14	6	<5
Sulphate	33	23	57	44
Chloride	45	43	42	40
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	<0.001	<0.001	<0.001	<0.001
Manganese (dissolved)	0.041	0.011	0.404	0.157
Nickel (dissolved)	<0.001	<0.001	0.010	0.006
Zinc (dissolved)	<0.005	0.007	0.006	<0.005
Iron (dissolved)	0.07	0.11	0.06	<0.05

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data - Continued

Date Sampled: 31 January 2018
Report Received: 9 January 2018
Date Published: 13 February 2018

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	7.65	7.53	7.55	7.47
Electrical conductivity	325	293	420	552
Suspended Solids	6	<5	<5	7
Sulphate	23	18	65	151
Chloride	42	39	43	46
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	<0.001	<0.001	<0.001	<0.001
Manganese (dissolved)	0.039	0.034	0.262	0.336
Nickel (dissolved)	0.002	0.001	0.006	0.004
Zinc (dissolved)	<0.005	<0.005	0.005	<0.005
Iron (dissolved)	0.13	0.15	0.08	<0.05

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data - Continued

Date Sampled: 27/28 March 2018
Report Received: 12 April 2018
Date Published: 14 April 2018

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	7.51	7.7	7.54	7.67
Electrical conductivity	265	360	548	500
Suspended Solids	5	<5	<5	<5
Sulphate	24	34	117	84
Chloride	34	46	53	53
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	<0.001	<0.001	<0.001	<0.001

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
Manganese (dissolved)	<0.001	0.018	0.291	0.255
Nickel (dissolved)	<0.001	<0.001	0.007	0.004
Zinc (dissolved)	<0.005	<0.005	0.012	0.006
Iron (dissolved)	0.09	0.09	<0.05	0.09

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data - Continued

Date Sampled: 28 May 2018
Report Received: 11 June 2018
Date Published: 12 June 2018

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	7.53	7.58	7.6	7.54
Electrical conductivity	320	268	428	483
Suspended Solids	8	<5	<5	----
Sulphate	27	19	91	114
Chloride	37	33	40	42
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	<0.001	<0.001	<0.001	0.002
Manganese (dissolved)	0.033	0.018	0.064	0.071
Nickel (dissolved)	<0.001	0.002	0.004	0.003
Zinc (dissolved)	<0.005	0.007	<0.005	<0.005
Iron (dissolved)	0.16	0.14	0.08	<0.05

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data - Continued

Date Sampled: 26 July 2018
Report Received: 01 August 2018
Date Published: 14 August 2018

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	7.11	6.97	7.35	7.3
Electrical conductivity	307	315	455	428
Suspended Solids	<5	<5	<5	<5
Sulphate	36	36	86	71
Chloride	36	38	44	44
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	<0.001	<0.001	<0.001	<0.001
Manganese (dissolved)	0.035	0.011	0.024	0.023
Nickel (dissolved)	0.264	0.001	0.005	0.003
Zinc (dissolved)	0.009	<0.005	0.006	0.008
Iron (dissolved)	0.15	0.09	0.09	0.08

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data – Continued
Date Sampled: 25 September 2018
Report Received: 3 October 2018
Date Published: 4 October 2018

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	7.57	7.61	7.41	7.28
Electrical conductivity	317	307	596	542
Suspended Solids	<5	<5	<5	<5
Sulphate	34	27	145	119
Chloride	42	42	50	49
Cobalt	<0.0001	<0.0001	<0.001	<0.001
Copper (dissolved)	<0.0001	<0.0001	<0.001	<0.001
Manganese (dissolved)	0.038	0.016	0.119	0.094
Nickel (dissolved)	0.001	<0.001	0.007	<0.01
Zinc (dissolved)	<0.005	<0.005	<0.005	<0.005
Iron (dissolved)	0.07	0.06	0.05	<0.05

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data – Continued
Date Sampled: 27 November 2018
Report Received: 7 December 2018
Date Published: 13 December 2018

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	7.81	7.75	7.72	7.77
Electrical conductivity	279	294	549	468
Suspended Solids	6	<5	<5	<5
Sulphate	30	32	145	84
Chloride	32	34	46	42
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	<0.001	<0.001	<0.001	<0.001
Manganese (dissolved)	0.013	0.018	0.154	0.157
Nickel (dissolved)	<0.001	0.001	0.005	0.004
Zinc (dissolved)	<0.005	<0.005	<0.005	<0.005
Iron (dissolved)	0.1	0.13	0.05	0.09

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data – Continued
Date Sampled: 31 January 2019
Report Received: 7 February 2019
Date Published: 11 February 2019

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	7.19	7.26	7.26	7.2
Electrical conductivity	152	145	260	255
Suspended Solids	6	10	<5	<5
Sulphate	13	10	44	40
Chloride	25	24	32	32
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	<0.001	<0.001	<0.001	0.001
Manganese (dissolved)	0.018	0.005	0.326	0.455
Nickel (dissolved)	<0.001	<0.001	0.006	0.005
Zinc (dissolved)	<0.005	<0.005	<0.005	<0.005
Iron (dissolved)	0.23	0.36	0.19	0.23

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data – Continued
Date Sampled: 26 March 2019
Report Received: 11 April 2019
Date Published: 12 April 2019

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	7.43	7.43	7.56	7.52
Electrical conductivity	175	173	217	208
Suspended Solids	10	11	9	8
Sulphate	13	11	21	23
Chloride	26	27	30	30
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	0.001	<0.001	<0.001	<0.001
Manganese (dissolved)	0.06	0.045	0.211	0.202
Nickel (dissolved)	<0.001	0.001	0.005	0.004
Zinc (dissolved)	<0.005	<0.005	<0.005	<0.005
Iron (dissolved)	0.24	0.32	0.25	0.26

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data – Continued
Date Sampled: 23 May 2019
Report Received: 12 June 2019
Date Published: 13 June 2019

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	7.27	7.48	7.37	7.38

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
Electrical conductivity	225	183	237	363
Suspended Solids	22	<5	<5	6
Sulphate	24	18	33	81
Chloride	29	26	29	35
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	<0.001	<0.001	<0.001	<0.001
Manganese (dissolved)	0.021	0.019	0.076	0.138
Nickel (dissolved)	<0.001	<0.001	0.003	0.002
Zinc (dissolved)	0.006	0.011	0.127	<0.005
Iron (dissolved)	0.17	0.36	0.13	<0.05

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data – Continued

Date Sampled: 25 July 2019
Report Received: 08 August 2019
Date Published: 08 August 2019

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	7.38	6.67	6.73	6.72
Electrical conductivity	248	254	280	285
Suspended Solids	6	<5	<5	<5
Sulphate	24	20	22	25
Chloride	32	34	37	37
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	0.001	0.001	0.001	<0.001
Manganese (dissolved)	0.021	0.013	0.032	0.045
Nickel (dissolved)	0.001	0.001	0.003	0.002
Zinc (dissolved)	0.056	0.005	0.011	0.006
Iron (dissolved)	0.27	0.16	0.09	0.11

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data – Continued

Date Sampled: 25 September 2019
Report Received: 08 October 2019
Date Published: 10 October 2019

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	7.16	6.52	6.52	6.53
Electrical conductivity	291	291	286	280
Suspended Solids	12	16	9	7
Sulphate	33	33	29	28
Chloride	35	36	37	36
Cobalt	<0.001	<0.001	<0.001	<0.001

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
Copper (dissolved)	<0.001	<0.001	<0.001	<0.001
Manganese (dissolved)	0.016	0.015	0.042	0.043
Nickel (dissolved)	0.001	0.006	0.002	0.002
Zinc (dissolved)	<0.005	<0.005	<0.005	<0.005
Iron (dissolved)	0.18	0.16	0.1	0.12

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data – Continued
Date Sampled: 28 November 2019
Report Received: 10 December 2019
Date Published: 12 December 2019

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	7.44	7.49	7.76	7.6
Electrical conductivity	277	299	428	345
Suspended Solids	7	<5	<5	13
Sulphate	25	24	25	34
Chloride	34	35	45	40
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	<0.001	<0.001	<0.001	<0.001
Manganese (dissolved)	0.073	0.136	1.16	0.182
Nickel (dissolved)	<0.001	<0.001	0.008	0.002
Zinc (dissolved)	<0.005	<0.005	<0.005	<0.005
Iron (dissolved)	0.17	0.16	0.09	0.13

Units measured in milligrams per litre unless otherwise specified.

Ambient water monitoring was not undertaken in January 2020 due to adverse conditions and catastrophic fire danger. Sampling of the ambient water quality sites is scheduled for February 2020.

Table 3 –Ambient Water Monitoring Data – Continued
Date Sampled: 25 February 2020
Report Received: 12 March 2020
Date Published: 12 March 2020

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	7.16	7.13	7.13	7.14
Electrical conductivity	140	168	231	207
Suspended Solids	31	36	42	27
Sulphate	9	12	28	18
Chloride	22	26	30	30
Cobalt	<0.001	<0.001	0.004	0.001
Copper (dissolved)	0.002	0.002	0.002	0.003

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
Manganese (dissolved)	0.06	0.063	0.48	0.159
Nickel (dissolved)	0.001	0.002	0.007	0.006
Zinc (dissolved)	<0.005	<0.005	0.013	0.01
Iron (dissolved)	0.36	0.46	0.81	0.58

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data – Continued

Date Sampled: 24 March 2020
Report Received: 08 April 2020
Date Published: 08 April 2020

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	7.11	7.37	7.26	7.41
Electrical conductivity	202	195	298	280
Suspended Solids	8	<5	40	8
Sulphate	<1	<1	65	58
Chloride	24	23	30	26
Cobalt	<0.001	<0.001	0.002	<0.001
Copper (dissolved)	0.001	0.002	<0.001	<0.001
Manganese (dissolved)	0.045	0.054	0.421	0.314
Nickel (dissolved)	0.001	0.001	0.008	0.005
Zinc (dissolved)	<0.005	<0.005	0.011	<0.005
Iron (dissolved)	0.35	0.4	0.7	0.47

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data – Continued

Date Sampled: 19 May 2020
Report Received: 25 May 2020
Date Published: 04 June 2020

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	7.02	7.32	7.37	7.32
Electrical conductivity	278	244	270	287
Suspended Solids	6	<5	<5	<5
Sulphate	24	17	30	38
Chloride	36	34	33	34
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	<0.001	<0.001	<0.001	<0.001
Manganese (dissolved)	0.03	0.023	0.109	0.115
Nickel (dissolved)	0.001	<0.001	0.004	0.002
Zinc (dissolved)	<0.005	<0.005	<0.005	<0.005
Iron (dissolved)	0.21	0.26	0.29	0.3

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data – Continued
Date Sampled: 21 July 2020
Report Received: 29 July 2020
Date Published: 11 August 2020

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	7.23	7.33	7.52	7.51
Electrical conductivity	183	221	290	292
Suspended Solids	12	10	7	6
Sulphate	7	10	28	27
Chloride	28	34	37	38
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	0.001	<0.001	<0.001	<0.001
Manganese (dissolved)	0.012	0.009	0.036	0.037
Nickel (dissolved)	<0.001	<0.001	0.004	0.003
Zinc (dissolved)	<0.005	<0.005	0.009	0.013
Iron (dissolved)	0.39	0.39	0.21	0.22

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data – Continued
Date Sampled: 22 September 2020
Report Received: 28 September 2020
Date Published: 01 October 2020

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	6.33	6.45	6.48	6.47
Electrical conductivity	141	151	185	194
Suspended Solids	11	<5	<5	<5
Sulphate	6	2	21	24
Chloride	21	23	25	26
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	<0.001	<0.001	<0.001	<0.001
Manganese (dissolved)	0.007	0.008	0.035	0.040
Nickel (dissolved)	<0.001	<0.001	0.002	0.005
Zinc (dissolved)	<0.005	<0.005	<0.005	<0.005
Iron (dissolved)	0.40	0.38	0.29	0.35

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data – Continued
Date Sampled: 25 November 2020
Report Received: 4 December 2020
Date Published: 10 December 2020

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	6.60	6.54	6.55	6.64
Electrical conductivity	218	196	279	238
Suspended Solids	6	<5	7	8
Sulphate	10	6	36	20
Chloride	26	23	27	26
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	0.002	0.001	0.002	0.001
Manganese (dissolved)	0.050	0.039	0.171	0.182
Nickel (dissolved)	0.001	0.001	0.008	0.006
Zinc (dissolved)	<0.005	<0.005	0.005	<0.005
Iron (dissolved)	0.33	0.50	0.29	0.30

Table 3 –Ambient Water Monitoring Data – Continued
Date Sampled: 19 January 2021
Report Received: 28 January 2021
Date Published: 10 February 2021

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	6.78	6.69	6.62	6.61
Electrical conductivity	230	217	286	274
Suspended Solids	12	11	10	11
Sulphate	11	10	38	32
Chloride	29	28	32	31
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	0.001	0.005	<0.001	<0.001
Manganese (dissolved)	0.010	0.023	0.084	0.039
Nickel (dissolved)	<0.001	<0.001	0.005	0.004
Zinc (dissolved)	<0.005	<0.005	<0.005	<0.005
Iron (dissolved)	0.16	0.28	0.15	0.12

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data – Continued
Date Sampled: 30 March 2021
Report Received: 08 April 2021
Date Published: 09 April 2021

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	7.09	6.76	6.85	6.85

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
Electrical conductivity	141	145	162	161
Suspended Solids	23	18	16	15
Sulphate	7	7	10	11
Chloride	18	19	20	21
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	<0.001	0.001	0.003	0.004
Manganese (dissolved)	0.023	0.010	0.061	0.055
Nickel (dissolved)	0.001	0.001	0.003	0.003
Zinc (dissolved)	<0.005	<0.005	<0.005	<0.005
Iron (dissolved)	0.12	0.24	0.28	0.27

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data – Continued

Date Sampled: 20 May 2021
Report Received: 28 May 2021
Date Published: 11 June 2021

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	6.36	6.38	6.33	6.33
Electrical conductivity	208	190	195	193
Suspended Solids	12	<5	<5	<5
Sulphate	10	9	17	16
Chloride	26	23	22	22
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	<0.001	<0.001	0.002	<0.001
Manganese (dissolved)	0.044	0.016	0.060	0.056
Nickel (dissolved)	0.002	0.001	0.004	0.004
Zinc (dissolved)	<0.005	<0.005	0.010	0.006
Iron (dissolved)	0.66	0.68	0.77	0.70

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data – Continued

Date Sampled: 22 July 2021
Report Received: 30 July 2021
Date Published: 10 August 2021

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	7.01	6.91	6.91	6.8
Electrical conductivity	275	273	278	270
Suspended Solids	<5	<5	<5	<5
Sulphate	13	12	25	22
Chloride	54	54	43	43
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	<0.001	0.003	<0.001	<0.001

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
Manganese (dissolved)	0.026	0.008	0.021	0.018
Nickel (dissolved)	<0.001	0.001	0.006	0.004
Zinc (dissolved)	<0.005	0.012	0.007	0.005
Iron (dissolved)	0.14	0.21	0.21	0.18

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data – Continued

Date Sampled: 21 September 2021
Report Received: 30 September 2021
Date Published: 14 October 2021

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	6.78	6.75	6.66	6.70
Electrical conductivity	248	222	248	253
Suspended Solids	10	9	5	10
Sulphate	11	8	23	27
Chloride	36	34	34	33
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	<0.001	<0.001	<0.001	0.001
Manganese (dissolved)	0.009	0.011	0.034	0.035
Nickel (dissolved)	<0.001	0.001	0.004	0.004
Zinc (dissolved)	<0.005	<0.005	<0.005	0.008
Iron (dissolved)	0.14	0.17	0.15	0.14

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data – Continued

Date Sampled: 22 November 2021
Report Received: 29 November 2021
Date Published: 06 December 2021

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	6.74	6.68	6.70	6.70
Electrical conductivity	217	198	212	226
Suspended Solids	18	10	8	6
Sulphate	10	3	15	21
Chloride	32	34	32	33
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	0.002	0.002	0.002	0.002
Manganese (dissolved)	0.043	0.012	0.029	0.054
Nickel (dissolved)	0.001	0.002	0.004	0.005
Zinc (dissolved)	<0.005	<0.005	<0.005	<0.005
Iron (dissolved)	0.29	0.40	0.25	0.18

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data – Continued
Date Sampled: 24 January 2022
Report Received: 03 February 2022
Date Published: 12 February 2022

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH	7.03	6.87	6.86	6.90
Electrical conductivity	266	258	276	269
Suspended Solids	13	12	12	16
Sulphate	<1	2	11	10
Chloride	36	34	35	35
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	0.010	0.002	0.002	0.001
Manganese (dissolved)	0.091	0.040	0.117	0.118
Nickel (dissolved)	0.002	0.001	0.008	0.006
Zinc (dissolved)	<0.005	<0.005	0.008	0.008
Iron (dissolved)	0.85	1.34	0.82	1.22

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data – Continued
Date Sampled: 28 March 2022
Report Received: 07 April 2022
Date Published: 13 April 2022

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH (pH Unit)	7.22	7.11	7.24	7.14
Electrical conductivity (µS/cm)	165	174	197	193
Suspended Solids	18	12	9	9
Sulphate	4	4	7	7
Chloride	20	20	24	23
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	0.001	0.002	0.001	0.002
Manganese (dissolved)	0.036	0.007	0.060	0.034
Nickel (dissolved)	0.001	0.002	0.003	0.003
Zinc (dissolved)	<0.005	<0.005	<0.005	<0.005
Iron (dissolved)	0.63	0.42	0.69	0.63

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data – Continued
Date Sampled: 23 May 2022
Report Received: 31 May 2022
Date Published: 10 June 2022

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH (pH Unit)	7.30	6.99	7.31	7.29
Electrical conductivity (µS/cm)	248	211	252	251
Suspended Solids	16	13	9	<5
Sulphate	6	4	12	12
Chloride	33	30	34	34
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	0.001	<0.001	0.001	0.001
Manganese (dissolved)	0.087	0.023	0.069	0.063
Nickel (dissolved)	0.001	0.001	0.005	0.005
Zinc (dissolved)	<0.005	<0.005	<0.005	<0.005
Iron (dissolved)	0.79	0.80	0.77	0.81

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data – Continued
Date Sampled: 25 July 2022
Report Received: 02 August 2022
Date Published: 18 August 2022

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH (pH Unit)	6.83	6.84	6.74	6.78
Electrical conductivity (µS/cm)	154	138	147	147
Suspended Solids	15	9	10	8
Sulphate	4	4	6	7
Chloride	25	24	24	24
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	0.001	0.001	0.001	0.001
Manganese (dissolved)	0.046	0.016	0.034	0.032
Nickel (dissolved)	<0.001	<0.001	0.002	0.002
Zinc (dissolved)	<0.005	0.014	<0.005	0.007
Iron (dissolved)	0.69	0.51	0.50	0.48

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data – Continued
Date Sampled: 19 September 2022
Report Received: 19 September 2022
Date Published: 14 October 2022

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH (pH Unit)	6.87	7.19	7.30	7.31
Electrical conductivity (µS/cm)	163	170	200	207
Suspended Solids	9	<5	<5	5
Sulphate	5	6	13	13
Chloride	28	29	32	32
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	0.004	<0.001	<0.001	<0.001
Manganese (dissolved)	0.060	0.020	0.052	0.047
Nickel (dissolved)	<0.001	0.001	0.004	0.003
Zinc (dissolved)	0.006	<0.005	0.006	<0.005
Iron (dissolved)	0.69	0.55	0.57	0.59

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data – Continued
Date Sampled: 24 November 2022
Report Received: 01 December 2022
Date Published: 14 December 2022

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH (pH Unit)	7.61	7.37	7.17	7.20
Electrical conductivity (µS/cm)	210	183	190	182
Suspended Solids	13	<5	10	9
Sulphate	8	6	15	14
Chloride	29	26	26	25
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	0.002	0.002	0.002	0.001
Manganese (dissolved)	0.091	0.024	0.085	0.094
Nickel (dissolved)	0.001	0.001	0.004	0.004
Zinc (dissolved)	<0.005	<0.005	<0.005	<0.005
Iron (dissolved)	0.51	0.62	0.62	0.65

Units measured in milligrams per litre unless otherwise specified.

Table 3 –Ambient Water Monitoring Data – Continued
Date Sampled: 23 January 2023
Report Received: 02 February 2023
Date Published: 07 February 2023

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
pH (pH Unit)	7.85	7.52	7.37	7.31

Parameter	Berrima (Licence Point 9)	Macarthur's Crossing (Licence Point 10)	Biloela (Licence Point 11)	Black Bobs Creek (Licence Point 12)
Electrical conductivity (µS/cm)	228	236	249	235
Suspended Solids	23	19	<5	6
Sulphate	13	13	26	21
Chloride	31	34	32	31
Cobalt	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	<0.001	<0.001	<0.001	<0.001
Manganese (dissolved)	0.068	0.011	0.070	0.093
Nickel (dissolved)	<0.001	<0.001	0.003	0.003
Zinc (dissolved)	<0.005	<0.005	<0.005	<0.005
Iron (dissolved)	0.07	0.11	0.09	0.13

Units measured in milligrams per litre unless otherwise specified.

2. Water Volume

The volume of water discharged from the mine is recorded at the V Notch Weir and summarised as follows:

Table 4 - V Notch Weir Discharge Volume Data

Data obtained on	Data published on	Volume discharged (ML/d)
19-Dec-2016	6/02/17	2.22
20-Dec-2016		2.29
21-Dec-2016		2.07
22-Dec-2016		1.91
23-Dec-2016		1.98
24-Dec-2016		2.05
25-Dec-2016		1.92
26-Dec-2016		1.9
27-Dec-2016		1.86
28-Dec-2016		1.85
29-Dec-2016		1.84
30-Dec-2016		1.81
31-Dec-2016		1.8
1-Jan-2017		1.79
2-Jan-2017		1.92
3-Jan-2017		1.89
4-Jan-2017		1.98
5-Jan-2017		2.11
6-Jan-2017		2.12
7-Jan-2017		2.1
8-Jan-2017		2.11
9-Jan-2017		1.93
10-Jan-2017		1.88
11-Jan-2017		2.03
12-Jan-2017		1.92
13-Jan-2017		1.96
14-Jan-2017		1.95
15-Jan-2017		1.91
16-Jan-2017		2.02
17-Jan-2017		2.11
18-Jan-2017		2.15
19-Jan-2017		2.28
20-Jan-2017		2.65
21-Jan-2017		2.15
22-Jan-2017		2.14
23-Jan-2017		2.22

Data obtained on	Data published on	Volume discharged (ML/d)
24-Jan-2017	6/2/17	2.31
25-Jan-2017		2.4
26-Jan-2017		2.62
27-Jan-2017		2.57
28-Jan-2017		2.55
29-Jan-2017		2.55
30-Jan-2017	8/3/17	2.49
31-Jan-2017		2.43
1-Feb-2017		2.43
2-Feb-2017		2.5
3-Feb-2017		2.39
4-Feb-2017		2.36
5-Feb-2017		2.35
6-Feb-2017		2.39
7-Feb-2017		2.29
8-Feb-2017		2.33
9-Feb-2017		2.75
10-Feb-2017		2.5
11-Feb-2017		2.4
12-Feb-2017		2.52
13-Feb-2017		2.36
14-Feb-2017		2.26
15-Feb-2017		2.44
16-Feb-2017		2.48
17-Feb-2017		2.48
18-Feb-2017		2.52
19-Feb-2017		2.62
20-Feb-2017		2.43
21-Feb-2017		2.35
22-Feb-2017		2.52
23-Feb-2017		2.48
24-Feb-2017		2.55
25-Feb-2017		2.63
26-Feb-2017		2.64
27-Feb-2017	4/4/17	2.56
28-Feb-2017		2.63
1-Mar-2017		2.67
2-Mar-2017		2.74
3-Mar-2017		2.68
4-Mar-2017		2.73
5-Mar-2017		2.85
6-Mar-2017		2.71

Data obtained on	Data published on	Volume discharged (ML/d)
7-Mar-2017	4/4/17	2.74
8-Mar-2017		2.83
9-Mar-2017		2.86
10-Mar-2017		2.88
11-Mar-2017		2.79
12-Mar-2017		2.72
13-Mar-2017		2.52
14-Mar-2017		2.38
15-Mar-2017		2.57
16-Mar-2017		2.9
17-Mar-2017		2.73
18-Mar-2017		2.69
19-Mar-2017		2.88
20-Mar-2017		2.78
21-Mar-2017		2.74
22-Mar-2017		2.69
23-Mar-2017		2.63
24-Mar-2017		2.68
25-Mar-2017		2.87
26-Mar-2017		2.8
27-Mar-2017	5/6/17	2.74
28-Mar-2017		2.84
29-Mar-2017		2.43
30-Mar-2017		2.43
31-Mar-2017		2.26
1-Apr-2017		2.22
2-Apr-2017		2.06
3-Apr-2017		2.23
4-Apr-2017		2.4
5-Apr-2017		2.59
6-Apr-2017		2.6
7-Apr-2017		2.42
8-Apr-2017		2.6
9-Apr-2017		2.98
10-Apr-2017		2.91
11-Apr-2017		2.33
12-Apr-2017		2.22
13-Apr-2017		2.41
14-Apr-2017		2.65
15-Apr-2017		2.65
16-Apr-2017		2.67
17-Apr-2017		2.57

Data obtained on	Data published on	Volume discharged (ML/d)
18-Apr-2017	5/6/17	2.48
19-Apr-2017		2.54
20-Apr-2017		2.56
21-Apr-2017		2.72
22-Apr-2017		2.62
23-Apr-2017		2.62
24-Apr-2017		2.65
25-Apr-2017		2.81
26-Apr-2017		2.93
27-Apr-2017		2.42
28-Apr-2017		2.26
29-Apr-2017		2.42
30-Apr-2017		2.34
1-May-2017		2.46
2-May-2017		2.48
3-May-2017		2.3
4-May-2017		2.34
5-May-2017		2.55
6-May-2017		2.62
7-May-2017		2.55
8-May-2017		2.51
9-May-2017		2.54
10-May-2017		2.56
11-May-2017		2.53
12-May-2017		2.35
13-May-2017		2.35
14-May-2017		2.45
15-May-2017		2.52
16-May-2017		2.42
17-May-2017		2.34
18-May-2017		2.19
19-May-2017		2.22
20-May-2017		2.45
21-May-2017		2.44
22-May-2017		2.56
23-May-2017		2.47
24-May-2017		2.52
25-May-2017		2.41
26-May-2017		2.45
27-May-2017		2.49
28-May-2017		2.72
29-May-2017	8/8/17	2.36

Data obtained on	Data published on	Volume discharged (ML/d)
30-May-2017	8/8/17	2.41
31-May-2017		2.4
1-Jun-2017		2.49
2-Jun-2017		2.66
3-Jun-2017		2.84
4-Jun-2017		2.69
5-Jun-2017		2.71
6-Jun-2017		2.64
7-Jun-2017		2.4
8-Jun-2017		2.16
9-Jun-2017		2.23
10-Jun-2017		2.28
11-Jun-2017		2.47
12-Jun-2017		2.5
13-Jun-2017		2.3
14-Jun-2017		2.39
15-Jun-2017		2.52
16-Jun-2017		2.5
17-Jun-2017		2.36
18-Jun-2017		2.27
19-Jun-2017		2.34
20-Jun-2017		2.46
21-Jun-2017		2.49
22-Jun-2017		2.39
23-Jun-2017		2.57
24-Jun-2017		2.44
25-Jun-2017		2.29
26-Jun-2017		2.11
27-Jun-2017		2.24
28-Jun-2017		2.38
29-Jun-2017		2.44
30-Jun-2017		2.32
1-Jul-2017		2.24
2-Jul-2017		2.57
3-Jul-2017		2.71
4-Jul-2017	11/9/17	2.94
5-Jul-2017		2.37
6-Jul-2017		2.15
7-Jul-2017		2.47
8-Jul-2017		2.31
9-Jul-2017		2.14
10-Jul-2017		2.07

Data obtained on	Data published on	Volume discharged (ML/d)
11-Jul-2017	11/9/17	2.04
12-Jul-2017		2.05
13-Jul-2017		2.68
14-Jul-2017		2.79
15-Jul-2017		2.44
16-Jul-2017		2.43
17-Jul-2017		2.51
18-Jul-2017		2.71
19-Jul-2017		2.58
20-Jul-2017		2.55
21-Jul-2017		2.24
22-Jul-2017		2.36
23-Jul-2017		2.56
24-Jul-2017		2.36
25-Jul-2017		2.22
26-Jul-2017		2.22
27-Jul-2017		2.28
28-Jul-2017		2.43
29-Jul-2017		2.29
30-Jul-2017		2.18
31-Jul-2017		2.04
1-Aug-2017		1.83
2-Aug-2017		1.98
3-Aug-2017	13/10/17	2.38
4-Aug-2017		2.53
5-Aug-2017		2.09
6-Aug-2017		1.94
7-Aug-2017		1.92
8-Aug-2017		1.75
9-Aug-2017		1.7
10-Aug-2017		1.95
11-Aug-2017		1.9
12-Aug-2017		1.78
13-Aug-2017		1.89
14-Aug-2017		2.01
15-Aug-2017		2.03
16-Aug-2017		2.1
17-Aug-2017		1.82
18-Aug-2017		1.87
19-Aug-2017		1.84
20-Aug-2017		1.98
21-Aug-2017		2.15

Data obtained on	Data published on	Volume discharged (ML/d)
22-Aug-2017	13/10/17	2.11
23-Aug-2017		2.09
24-Aug-2017		2.16
25-Aug-2017		2.06
26-Aug-2017		2.15
27-Aug-2017		2.48
28-Aug-2017		2.3
29-Aug-2017		2.12
30-Aug-2017		2.12
31-Aug-2017		2.11
1-Sep-2017		2.28
2-Sep-2017		2.25
3-Sep-2017		2.34
4-Sep-2017		2.37
5-Sep-2017		2.29
6-Sep-2017		2.18
7-Sep-2017		2.12
8-Sep-2017		2.3
9-Sep-2017		2.3
10-Sep-2017		2.37
11-Sep-2017	13/11/17	1.99
12-Sep-2017		1.64
13-Sep-2017		1.7
14-Sep-2017		1.65
15-Sep-2017		1.61
16-Sep-2017		1.82
17-Sep-2017		1.81
18-Sep-2017		1.88
19-Sep-2017		2.09
20-Sep-2017		1.98
21-Sep-2017		1.96
22-Sep-2017		1.88
23-Sep-2017		1.77
24-Sep-2017		1.77
25-Sep-2017		1.69
26-Sep-2017		1.63
27-Sep-2017		1.66
28-Sep-2017		2.01
29-Sep-2017		1.83
30-Sep-2017		2.03
1-Oct-2017		1.92
2-Oct-2017		2.08

Data obtained on	Data published on	Volume discharged (ML/d)
3-Oct-2017	13/11/17	2.09
4-Oct-2017		2.23
5-Oct-2017		2.07
6-Oct-2017		2.21
7-Oct-2017		2.08
8-Oct-2017		2.23
9-Oct-2017		2.21
10-Oct-2017		2.08
11-Oct-2017		2.08
12-Oct-2017		2.28
13-Oct-2017		2.17
14-Oct-2017		2.31
15-Oct-2017		2.34
16-Oct-2017		2.38
17-Oct-2017		2.52
18-Oct-2017		2.57
19-Oct-2017		2.51
20-Oct-2017		2.73
21-Oct-2017		2.7
22-Oct-2017		2.82
23-Oct-2017	6/12/17	2.7
24-Oct-2017		2.68
25-Oct-2017		2.73
26-Oct-2017		2.54
27-Oct-2017		2.47
28-Oct-2017		3.19
29-Oct-2017		2.54
30-Oct-2017		2.02
31-Oct-2017		2.12
1-Nov-2017		2.16
2-Nov-2017		2.26
3-Nov-2017		2.3
4-Nov-2017		2.29
5-Nov-2017		2.36
6-Nov-2017		2.41
7-Nov-2017		2.41
8-Nov-2017		2.2
9-Nov-2017		2.06
10-Nov-2017		1.93
11-Nov-2017		1.98
12-Nov-2017		2.35
13-Nov-2017		2.73

Data obtained on	Data published on	Volume discharged (ML/d)
14-Nov-2017	6/12/17	2.93
15-Nov-2017		2.63
16-Nov-2017		2.42
17-Nov-2017		2.39
18-Nov-2017		2.7
19-Nov-2017		2.68
20-Nov-2017		2.73
21-Nov-2017		2.54
22-Nov-2017		2.47
23-Nov-2017		3.19
24-Nov-2017		2.54
25-Nov-2017		2.02
26-Nov-2017		2.12
27-Nov-2017	9/1/18	2.8
28-Nov-2017		3.03
29-Nov-2017		2.84
30-Nov-2017		3.11
1-Dec-2017		2.86
2-Dec-2017		2.98
3-Dec-2017		2.81
4-Dec-2017		2.67
5-Dec-2017		2.9
6-Dec-2017		2.85
7-Dec-2017		2.55
8-Dec-2017		2.7
9-Dec-2017		2.59
10-Dec-2017		2.66
11-Dec-2017		2.78
12-Dec-2017		2.78
13-Dec-2017		2.74
14-Dec-2017		2.7
15-Dec-2017		2.49
16-Dec-2017		2.54
17-Dec-2017		2.65
18-Dec-2017		2.76
19-Dec-2017		2.61
20-Dec-2017	13/2/18	2.18
21-Dec-2017		1.97
22-Dec-2017		2.17
23-Dec-2017		2.31
24-Dec-2017		2.33
25-Dec-2017		2.3

Data obtained on	Data published on	Volume discharged (ML/d)
26-Dec-2017	13/2/18	2.41
27-Dec-2017		2.53
28-Dec-2017		2.36
29-Dec-2017		2.34
30-Dec-2017		2.42
31-Dec-2017		2.22
1-Jan-2018		2.27
2-Jan-2018		2.18
3-Jan-2018		2.13
4-Jan-2018		2.13
5-Jan-2018		2.04
6-Jan-2018		2.12
7-Jan-2018		2.1
8-Jan-2018		2
9-Jan-2018		2.08
10-Jan-2018		2.22
11-Jan-2018		2.18
12-Jan-2018		2.26
13-Jan-2018		2.34
14-Jan-2018		2.44
15-Jan-2018		2.32
16-Jan-2018		2.24
17-Jan-2018		2.29
18-Jan-2018		2.31
19-Jan-2018		2.18
20-Jan-2018		2.16
21-Jan-2018		2.16
22-Jan-2018		1.85
23-Jan-2018		1.53
24-Jan-2018		1.71
25-Jan-2018		1.87
26-Jan-2018		1.77
27-Jan-2018		1.85
28-Jan-2018		1.94
29-Jan-2018		2.12
30-Jan-2018		2.19
31-Jan-2018	13/3/18	3.92
1-Feb-2018		4.98
2-Feb-2018		5.05
3-Feb-2018		5.18
4-Feb-2018		5.21
5-Feb-2018		4.95

Data obtained on	Data published on	Volume discharged (ML/d)
6-Feb-2018	13/3/18	3.89
7-Feb-2018		2.58
8-Feb-2018		2
9-Feb-2018		1.67
10-Feb-2018		1.83
11-Feb-2018		2.1
12-Feb-2018		2.36
13-Feb-2018		2.55
14-Feb-2018		2.59
15-Feb-2018		2.67
16-Feb-2018		2.77
17-Feb-2018		2.76
18-Feb-2018		2.74
19-Feb-2018		2.74
20-Feb-2018		2.76
21-Feb-2018		2.79
22-Feb-2018		2.91
23-Feb-2018		2.79
24-Feb-2018		2.7
25-Feb-2018		2.7
26-Feb-2018		2.48
27-Feb-2018		2.03
28-Feb-2018		1.94
1-Mar-2018	14/4/18	2.08
2-Mar-2018		2.15
3-Mar-2018		2.19
4-Mar-2018		2.11
5-Mar-2018		1.97
6-Mar-2018		2.1
7-Mar-2018		2.11
8-Mar-2018		2.36
9-Mar-2018		2.29
10-Mar-2018		2.33
11-Mar-2018		2.3
12-Mar-2018		2.32
13-Mar-2018		2.16
14-Mar-2018		2.13
15-Mar-2018		2.07
16-Mar-2018		2.11
17-Mar-2018		2.04
18-Mar-2018		1.97
19-Mar-2018		2.17

Data obtained on	Data published on	Volume discharged (ML/d)
20-Mar-2018	14/4/18	2.26
21-Mar-2018		2.35
22-Mar-2018		2.47
23-Mar-2018		2.45
24-Mar-2018		2.41
25-Mar-2018		2.45
26-Mar-2018		2.31
27-Mar-2018		2.34
28-Mar-2018		2.25
29-Mar-2018	11/5/18	2.41
30-Mar-2018		3.38
31-Mar-2018		3.03
1-Apr-2018		2.67
2-Apr-2018		2.48
3-Apr-2018		2.26
4-Apr-2018		2.08
5-Apr-2018		1.9
6-Apr-2018		1.64
7-Apr-2018		1.33
8-Apr-2018		1.12
9-Apr-2018		1.02
10-Apr-2018		0.75
11-Apr-2018		0.36
12-Apr-2018		0.43
13-Apr-2018		0.39
14-Apr-2018		1.01
15-Apr-2018		0.98
16-Apr-2018		0.6
17-Apr-2018		0.53
18-Apr-2018		0.68
19-Apr-2018		0.85
20-Apr-2018		1.49
21-Apr-2018		1.66
22-Apr-2018		1.69
23-Apr-2018		1.64
24-Apr-2018		1.68
25-Apr-2018		1.78
26-Apr-2018		1.75
27-Apr-2018		1.74
28-Apr-2018		1.85
29-Apr-2018		1.95
30-Apr-2018		1.94

Data obtained on	Data published on	Volume discharged (ML/d)
1-May-2018	12/6/18	2.01
2-May-2018		2.06
3-May-2018		2.35
4-May-2018		2.79
5-May-2018		2.01
6-May-2018		2.05
7-May-2018		2.72
8-May-2018		2.81
9-May-2018		3.16
10-May-2018		4.56
11-May-2018		4.94
12-May-2018		4.36
13-May-2018		3.23
14-May-2018		3.12
15-May-2018		3.52
16-May-2018		3.36
17-May-2018		3.67
18-May-2018		3.95
19-May-2018		4.21
20-May-2018		4.75
21-May-2018		4.86
22-May-2018		4.57
23-May-2018		4.26
24-May-2018		3.42
25-May-2018		2.6
26-May-2018		2.11
27-May-2018		2.11
28-May-2018		2.39
29-May-2018		2.56
30-May-2018		2.3
31-May-2018	10/7/18	2.31
1-Jun-2018		2.27
2-Jun-2018		2.25
3-Jun-2018		1.92
4-Jun-2018		1.82
5-Jun-2018		2.24
6-Jun-2018		2.26
7-Jun-2018		2.24
8-Jun-2018		2.22
9-Jun-2018		2.2
10-Jun-2018		2.08
11-Jun-2018		2.09

Data obtained on	Data published on	Volume discharged (ML/d)
12-Jun-2018	10/7/18	2.16
13-Jun-2018		1.82
14-Jun-2018		1.72
15-Jun-2018		1.88
16-Jun-2018		2.07
17-Jun-2018		2.08
18-Jun-2018		1.95
19-Jun-2018		1.77
20-Jun-2018		1.49
21-Jun-2018		1.82
22-Jun-2018		2.06
23-Jun-2018		2.33
24-Jun-2018		2.28
25-Jun-2018		2.2
26-Jun-2018		2.29
27-Jun-2018		2.17
28-Jun-2018	3/8/18	2.06
29-Jun-2018		2.03
30-Jun-2018		1.83
1-Jul-2018		1.74
2-Jul-2018		1.77
3-Jul-2018		1.69
4-Jul-2018		1.55
5-Jul-2018		1.51
6-Jul-2018		1.57
7-Jul-2018		1.66
8-Jul-2018		1.57
9-Jul-2018		1.7
10-Jul-2018		1.48
11-Jul-2018		1.07
12-Jul-2018		1.21
13-Jul-2018		1.7
14-Jul-2018		1.99
15-Jul-2018		1.97
16-Jul-2018		1.81
17-Jul-2018		1.63
18-Jul-2018		1.8
19-Jul-2018		1.87
20-Jul-2018		2
21-Jul-2018		1.82
23-Jul-2018		1.92
24-Jul-2018		2.17

Data obtained on	Data published on	Volume discharged (ML/d)
25-Jul-2018	3/8/18	2.27
26-Jul-2018	7/9/18	2.77
27-Jul-2018		3.46
28-Jul-2018		3.3
29-Jul-2018		3.6
30-Jul-2018		3.13
31-Jul-2018		3.29
1-Aug-2018		3.15
2-Aug-2018		2.74
3-Aug-2018		3.32
4-Aug-2018		3.39
5-Aug-2018		3.57
6-Aug-2018		4.44
7-Aug-2018		4.11
8-Aug-2018		5
9-Aug-2018		4.94
10-Aug-2018		6.3
11-Aug-2018		6.79
12-Aug-2018		6.01
13-Aug-2018		4.25
14-Aug-2018		3.38
15-Aug-2018		4.73
16-Aug-2018		3.81
17-Aug-2018		2.35
18-Aug-2018		2.61
19-Aug-2018		2.63
20-Aug-2018		2.48
21-Aug-2018		2.98
22-Aug-2018		3.79
23-Aug-2018		5.26
24-Aug-2018		5.29
25-Aug-2018		3.41
26-Aug-2018		1.53
27-Aug-2018		1.74
28-Aug-2018	4/10/18	4.88
29-Aug-2018		5.39
30-Aug-2018		5.16
31-Aug-2018		4.89
1-Sept-2018		4.83
2-Sept-2018		5.14
3-Sept-2018		4.33
4-Sept-2018		2.31

Data obtained on	Data published on	Volume discharged (ML/d)
5-Sept-2018	4/10/18	1.64
6-Sept-2018		4.45
7-Sept-2018		4.66
8-Sept-2018		4.86
9-Sept-2018		4.8
10-Sept-2018		4.68
11-Sept-2018		4.16
12-Sept-2018		4.38
13-Sept-2018		4.78
14-Sept-2018		4.53
15-Sept-2018		4.5
16-Sept-2018		4.9
17-Sept-2018		4.68
18-Sept-2018		3.16
19-Sept-2018		4.27
20-Sept-2018		4.53
21-Sept-2018		4.62
22-Sept-2018		4.54
23-Sept-2018		4.7
24-Sept-2018		3.25
25-Sep-2018	9/11/18	4.13
26-Sep-2018		4.44
27-Sep-2018		4.06
28-Sep-2018		3.88
29-Sep-2018		4.15
30-Sep-2018		4.2
1-Oct-2018		4.11
2-Oct-2018		4.05
3-Oct-2018		3.51
4-Oct-2018		4.04
5-Oct-2018		4.27
6-Oct-2018		4.36
7-Oct-2018		4.42
8-Oct-2018		4.1
9-Oct-2018		3.17
10-Oct-2018		2.25
11-Oct-2018		2.28
12-Oct-2018		2.29
13-Oct-2018		2.22
14-Oct-2018		2.19
15-Oct-2018		1.94
16-Oct-2018		0.58

Data obtained on	Data published on	Volume discharged (ML/d)
17-Oct-2018	9/11/18	0.29
18-Oct-2018		0.19
19-Oct-2018		0.12
20-Oct-2018		0.08
21-Oct-2018		0.07
22-Oct-2018		0.08
23-Oct-2018		0.13
24-Oct-2018		0.11
25-Oct-2018		0.05
26-Oct-2018		0.06
27-Oct-2018		0.05
28-Oct-2018		0.06
29-Oct-2018		0.06
30-Oct-2018	13/12/2018	0.15
31-Oct-2018		0.35
1-Nov-2018		1.41
2-Nov-2018		3.64
3-Nov-2018		4.71
4-Nov-2018		4.24
5-Nov-2018		3.12
6-Nov-2018		2.29
7-Nov-2018		1.69
8-Nov-2018		0.36
9-Nov-2018		1.2
10-Nov-2018		1.38
11-Nov-2018		1.23
12-Nov-2018		0.37
13-Nov-2018		0.08
14-Nov-2018		0.34
15-Nov-2018		0.42
16-Nov-2018		0.59
17-Nov-2018		0.63
18-Nov-2018		0.51
19-Nov-2018		0.61
20-Nov-2018		1.91
21-Nov-2018		3.25
22-Nov-2018		3.95
23-Nov-2018		4.45
24-Nov-2018		3.89
25-Nov-2018		2.9
26-Nov-2018		2.59
27-Nov-2018	11/02/2019	3.04

Data obtained on	Data published on	Volume discharged (ML/d)
28-Nov-2018	11/02/2019	1.39
29-Nov-2018		3.18
30-Nov-2018		2.84
1-Dec-2018		2.03
2-Dec-2018		2
3-Dec-2018		2.19
4-Dec-2018		2.27
5-Dec-2018		2.43
6-Dec-2018		2.61
7-Dec-2018		2.59
8-Dec-2018		2.47
9-Dec-2018		2.58
10-Dec-2018		2.67
11-Dec-2018		2.74
12-Dec-2018		1.15
13-Dec-2018		0.54
14-Dec-2018		0.39
15-Dec-2018		0.3
16-Dec-2018		0.22
17-Dec-2018		0.21
18-Dec-2018		0.07
19-Dec-2018		0
20-Dec-2018		0
21-Dec-2018		0
22-Dec-2018		0
23-Dec-2018		0
24-Dec-2018		0
25-Dec-2018		0
26-Dec-2018		0
27-Dec-2018		8.48
28-Dec-2018		8.51
29-Dec-2018		7.29
30-Dec-2018		7.67
31-Dec-2018		5.65
1-Jan-2019		6.47
2-Jan-2019		3.38
3-Jan-2019		0.21
4-Jan-2019		5.42
5-Jan-2019		5.28
6-Jan-2019		0.01
7-Jan-2019		0
8-Jan-2019		0

Data obtained on	Data published on	Volume discharged (ML/d)
9-Jan-2019	11/02/2019	0
10-Jan-2019		0
11-Jan-2019		0
12-Jan-2019		0.88
13-Jan-2019		0.03
14-Jan-2019		0.04
15-Jan-2019		6.09
16-Jan-2019		2.63
17-Jan-2019		6.32
18-Jan-2019		6.21
19-Jan-2019		6.07
20-Jan-2019		5.85
21-Jan-2019		5.5
22-Jan-2019		5.01
23-Jan-2019		4.81
24-Jan-2019		4.52
25-Jan-2019		3.93
26-Jan-2019		3.66
27-Jan-2019		3.41
28-Jan-2019		3.17
29-Jan-2019		2.69
30-Jan-2019		2.48
31-Jan-2019	11/03/2019	2.42
1-Feb-2019		1.81
2-Feb-2019		1.79
3-Feb-2019		1.91
4-Feb-2019		2.03
5-Feb-2019		1.69
6-Feb-2019		0.57
7-Feb-2019		0.38
8-Feb-2019		1.37
9-Feb-2019		2.6
10-Feb-2019		1
11-Feb-2019		1.14
12-Feb-2019		3.16
13-Feb-2019		3.51
14-Feb-2019		1.42
15-Feb-2019		1.03
16-Feb-2019		1.79
17-Feb-2019		2.23
18-Feb-2019		2.46
19-Feb-2019		2.59

Data obtained on	Data published on	Volume discharged (ML/d)
20-Feb-2019	11/03/2019	2.45
21-Feb-2019		2.1
22-Feb-2019		1.9
23-Feb-2019		1.8
24-Feb-2019		1.49
25-Feb-2019		1.63
26-Feb-2019	12/04/2019	1.84
27-Feb-2019		1.89
28-Feb-2019		1.7
1-Mar-2019		1.68
2-Mar-2019		1.62
3-Mar-2019		1.65
4-Mar-2019		1.37
5-Mar-2019		1.29
6-Mar-2019		2.14
7-Mar-2019		1.79
8-Mar-2019		1.59
9-Mar-2019		1.62
10-Mar-2019		1.56
11-Mar-2019		1.58
12-Mar-2019		1.65
13-Mar-2019		1.61
14-Mar-2019		1.66
15-Mar-2019		1.64
16-Mar-2019		1.76
17-Mar-2019		1.66
18-Mar-2019		1.62
19-Mar-2019		1.69
20-Mar-2019		1.64
21-Mar-2019		1.61
22-Mar-2019		1.68
23-Mar-2019		1.63
24-Mar-2019		1.58
25-Mar-2019		1.57
26-Mar-2019	08/08/2019	1.79
27-Mar-2019		1.59
28-Mar-2019		1.62
29-Mar-2019		1.56
30-Mar-2019		1.58
31-Mar-2019		1.65
1-Apr-2019		1.61
2-Apr-2019		1.66

Data obtained on	Data published on	Volume discharged (ML/d)
3-Apr-2019		1.64
4-Apr-2019		1.76
5-Apr-2019		1.66
6-Apr-2019		1.62
7-Apr-2019		1.69
8-Apr-2019		1.64
9-Apr-2019		1.61
10-Apr-2019		1.68
11-Apr-2019		1.63
12-Apr-2019		1.58
13-Apr-2019		1.57
14-Apr-2019		1.79
15-Apr-2019		1.59
16-Apr-2019		1.62
17-Apr-2019		1.56
18-Apr-2019		1.58
19-Apr-2019		0.044
20-Apr-2019		0.044
21-Apr-2019		0.044
22-Apr-2019		0.044
23-Apr-2019		0.044
24-Apr-2019		0.044
25-Apr-2019		0.044
26-Apr-2019		0.044
27-Apr-2019		0.044
28-Apr-2019		0.044
29-Apr-2019		0.044
30-Apr-2019		0.044
1-May-2019		0.044
2-May-2019		0.044
3-May-2019		0.044
4-May-2019		0.044
5-May-2019		0.044
6-May-2019		0.044
7-May-2019		0.044
8-May-2019		0.044
9-May-2019		0.044
10-May-2019		0.044
11-May-2019		0.04
12-May-2019		0.04
13-May-2019		0.04
14-May-2019		0.04

Data obtained on	Data published on	Volume discharged (ML/d)
15-May-2019		0.04
16-May-2019		0.04
17-May-2019		0.04
18-May-2019		0.04
19-May-2019		0.04
20-May-2019		0.04
21-May-2019		0.04
22-May-2019		0.04
23-May-2019		0.03
24-May-2019		0.03
25-May-2019		0.03
26-May-2019		0.03
27-May-2019		0.03
28-May-2019		0.03
29-May-2019		0.03
30-May-2019		0.03
31-May-2019		0.03
1-Jun-2019		0.03
2-Jun-2019		0.03
3-Jun-2019		0.03
4-Jun-2019		0.03
5-Jun-2019		0.03
6-Jun-2019		0.03
7-Jun-2019		0.03
8-Jun-2019		0.03
9-Jun-2019		0.03
10-Jun-2019		0.03
11-Jun-2019		0.03
12-Jun-2019		0.03
13-Jun-2019		0.03
14-Jun-2019		0.03
15-Jun-2019		0.03
16-Jun-2019		0.03
17-Jun-2019		0.03
18-Jun-2019		0.03
19-Jun-2019		0.03
20-Jun-2019		0.03
21-Jun-2019		0.03
22-Jun-2019		0.03
23-Jun-2019		0.03
24-Jun-2019		0.03
25-Jun-2019		0.03

Data obtained on	Data published on	Volume discharged (ML/d)
26-Jun-2019		0.03
27-Jun-2019		0.03
28-Jun-2019		0.03
29-Jun-2019		0.03
30-Jun-2019		0.03
1-Jul-2019		0.03
2-Jul-2019		0.03
3-Jul-2019		0.03
4-Jul-2019		0.03
5-Jul-2019		0.03
6-Jul-2019		0.03
7-Jul-2019		0.03
8-Jul-2019		0.03
9-Jul-2019		0.03
10-Jul-2019		0.03
11-Jul-2019		0.03
12-Jul-2019		0.03
13-Jul-2019		0.03
14-Jul-2019		0.03
15-Jul-2019		0.03
16-Jul-2019		0.03
17-Jul-2019		0.03
18-Jul-2019		0.03
19-Jul-2019		0.03
20-Jul-2019		0.03
21-Jul-2019		0.03
22-Jul-2019		0.03
23-Jul-2019		0.03
24-Jul-2019		0.03
25-Jul-2019		0.03
26-Jul-2019		0.03
27-Jul-2019		0.03
28-Jul-2019		0.03
29-Jul-2019		0.126
30-Jul-2019		0.124
31-Jul-2019		0.124
1-Aug-2019		0.124
2-Aug-2019		0.124
3-Aug-2019		0.131
4-Aug-2019		0.131
5-Aug-2019		0.131
6-Aug-2019		0.131

Data obtained on	Data published on	Volume discharged (ML/d)
7-Aug-2019		0.12
8-Aug-2019		0.12
9-Aug-2019		0.12
10-Aug-2019		0.12
11-Aug-2019		0.12
12-Aug-2019		0.12
13-Aug-2019		0.12
14-Aug-2019		0.12
15-Aug-2019		0.12
16-Aug-2019		0.12
17-Aug-2019		0.12
18-Aug-2019		0.12
19-Aug-2019		0.12
20-Aug-2019		0.12
21-Aug-2019		0.12
22-Aug-2019		0.12
23-Aug-2019		0.12
24-Aug-2019		0.12
25-Aug-2019		0.12
26-Aug-2019		0.12
27-Aug-2019		0.12
28-Aug-2019		0.12
29-Aug-2019		0.12
30-Aug-2019		0.12
31-Aug-2019		0.12
1-Sep-2019		0.13
2-Sep-2019		0.13
3-Sep-2019		0.13
4-Sep-2019		0.13
5-Sep-2019		0.13
6-Sep-2019		0.13
7-Sep-2019		0.13
8-Sep-2019		0.13
9-Sep-2019		0.13
10-Sep-2019		0.13
11-Sep-2019		0.13
12-Sep-2019		0.13
13-Sep-2019		0.13
14-Sep-2019		0.13
15-Sep-2019		0.13
16-Sep-2019		0.13
17-Sep-2019		0.13

Data obtained on	Data published on	Volume discharged (ML/d)
18-Sep-2019		0.13
19-Sep-2019		0.13
20-Sep-2019		0.13
21-Sep-2019		0.13
22-Sep-2019		0.13
23-Sep-2019		0.13
24-Sep-2019		0.13
25-Sep-2019		0.13
26-Sep-2019		0.13
27-Sep-2019		0.13
28-Sep-2019		0.13
29-Sep-2019		0.13
30-Sep-2019		0.14
1-Oct-2019		0.13
2-Oct-2019		0.13
3-Oct-2019		0.13
4-Oct-2019		0.13
5-Oct-2019		0.13
6-Oct-2019		0.13
7-Oct-2019		0.13
8-Oct-2019		0.13
9-Oct-2019		0.13
10-Oct-2019		0.13
11-Oct-2019		0.13
12-Oct-2019		0.13
13-Oct-2019		0.13
14-Oct-2019		0.13
15-Oct-2019		0.13
16-Oct-2019		0.13
17-Oct-2019		0.13
18-Oct-2019		0.13
19-Oct-2019		0.13
20-Oct-2019		0.13
21-Oct-2019		0.13
22-Oct-2019		0.13
23-Oct-2019		0.13
24-Oct-2019		0.138
25-Oct-2019		0.138
26-Oct-2019		0.138
27-Oct-2019		0.138
28-Oct-2019		0.138
29-Oct-2019		0.138

Data obtained on	Data published on	Volume discharged (ML/d)
30-Oct-2019		0.138
31-Oct-2019		0.138
1-Nov-2019		0.138
2-Nov-2019		0.138
3-Nov-2019		0.138
4-Nov-2019		0.138
5-Nov-2019		0.138
6-Nov-2019		0.138
7-Nov-2019		0.138
8-Nov-2019		0.138
9-Nov-2019		0.138
10-Nov-2019		0.138
11-Nov-2019		0.138
12-Nov-2019		0.138
13-Nov-2019		0.138
14-Nov-2019		0.138
15-Nov-2019		0.138
16-Nov-2019		0.138
17-Nov-2019		0.138
18-Nov-2019		0.141
19-Nov-2019		0.141
20-Nov-2019		0.141
21-Nov-2019		0.141
22-Nov-2019		0.141
23-Nov-2019		0.141
24-Nov-2019		0.141
25-Nov-2019		0.255
26-Nov-2019		0.255
27-Nov-2019		0.255
28-Nov-2019		0.255
29-Nov-2019		0.255
30-Nov-2019		0.255
1-Dec-2019		0.255
2-Dec-2019		0.255
3-Dec-2019		0.255
4-Dec-2019		0.255
5-Dec-2019		1.530
6-Dec-2019		1.530
7-Dec-2019		1.530
8-Dec-2019		1.530
9-Dec-2019		1.530
10-Dec-2019		1.530

Data obtained on	Data published on	Volume discharged (ML/d)
11-Dec-2019	13/01/2020	1.530
12-Dec-2019		1.878
13-Dec-2019		1.878
14-Dec-2019		1.878
15-Dec-2019		1.878
16-Dec-2019		0.539
17-Dec-2019		0.539
18-Dec-2019		0.539
19-Dec-2019		0.539
20-Dec-2019		0.294
21-Dec-2019		0.294
22-Dec-2019		0.294
23-Dec-2019		0.294
24-Dec-2019		0.294
25-Dec-2019		0.294
26-Dec-2019		0.294
27-Dec-2019		0.220
28-Dec-2019		0.220
29-Dec-2019		0.220
30-Dec-2019		0.220
31-Dec-2019		0.220
1-Jan-2020		0.220
2-Jan-2020		0.220
3-Jan-2020		0.220
4-Jan-2020		0.220
5-Jan-2020		0.220
6-Jan-2020		0.294
7-Jan-2020		0.294
8-Jan-2020		0.294
9-Jan-2020		0.294
10-Jan-2020		0.294
11-Jan-2020		0.294
12-Jan-2020		0.294
13-Jan-2020		0.294
14-Jan-2020		0.220
15-Jan-2020		0.462
16-Jan-2020		0.462
17-Jan-2020		0.462
18-Jan-2020		0.462
19-Jan-2020		0.462
20-Jan-2020		0.677
21-Jan-2020		0.677

Data obtained on	Data published on	Volume discharged (ML/d)
22-Jan-2020		0.677
23-Jan-2020		0.677
24-Jan-2020		0.677
25-Jan-2020		0.677
26-Jan-2020		0.677
27-Jan-2020		0.381
28-Jan-2020		0.381
29-Jan-2020		0.294
30-Jan-2020		0.294
31-Jan-2020		0.294
1-Feb-2020		0.294
2-Feb-2020		0.294
3-Feb-2020		0.294
4-Feb-2020		0.294
5-Feb-2020	11/02/2020	0.294
6-Feb-2020		2.360
7-Feb-2020		2.360
8-Feb-2020		2.360
9-Feb-2020		2.360
10-Feb-2020		2.360
11-Feb-2020		2.360
12-Feb-2020		2.360
13-Feb-2020		2.360
14-Feb-2020		2.360
15-Feb-2020		2.360
16-Feb-2020		2.360
17-Feb-2020		2.360
18-Feb-2020		2.360
19-Feb-2020		2.360
20-Feb-2020		2.360
21-Feb-2020		2.360
22-Feb-2020		2.360
23-Feb-2020		2.360
24-Feb-2020		2.360
25-Feb-2020		2.360
26-Feb-2020		2.360
27-Feb-2020		2.360
28-Feb-2020		2.360
29-Feb-2020		2.360
1-Mar-2020		2.360
2-Mar-2020		2.360
3-Mar-2020		2.360

Data obtained on	Data published on	Volume discharged (ML/d)
4-Mar-2020		2.360
5-Mar-2020		2.360
6-Mar-2020		2.360
7-Mar-2020		2.360
8-Mar-2020		2.360
9-Mar-2020		2.360
10-Mar-2020		2.360
11-Mar-2020		2.360
12-Mar-2020	12/03/2020	2.360
13-Mar-2020		0.294
14-Mar-2020		0.294
15-Mar-2020		0.294
16-Mar-2020		0.294
17-Mar-2020		0.294
18-Mar-2020		0.294
19-Mar-2020		0.294
20-Mar-2020		0.294
21-Mar-2020		0.294
22-Mar-2020		0.294
23-Mar-2020		0.294
24-Mar-2020		0.294
25-Mar-2020		0.294
26-Mar-2020		0.294
27-Mar-2020		0.294
28-Mar-2020		0.294
29-Mar-2020		0.294
30-Mar-2020		0.294
31-Mar-2020		0.294
1-Apr-2020		0.294
2-Apr-2020		0.294
3-Apr-2020		0.294
4-Apr-2020		0.294
5-Apr-2020		0.294
6-Apr-2020	08/04/2020	0.294
7-Apr-2020		0.293
8-Apr-2020		0.293
9-Apr-2020		0.293
10-Apr-2020		0.293
11-Apr-2020		0.293
12-Apr-2020		0.293
13-Apr-2020		0.293
14-Apr-2020		0.293

Data obtained on	Data published on	Volume discharged (ML/d)
15-Apr-2020		0.293
16-Apr-2020		0.293
17-Apr-2020		0.293
18-Apr-2020		0.293
19-Apr-2020		0.293
20-Apr-2020		0.293
21-Apr-2020		0.293
22-Apr-2020		0.293
23-Apr-2020		0.293
24-Apr-2020		0.293
25-Apr-2020		0.293
26-Apr-2020		0.293
27-Apr-2020		0.293
28-Apr-2020		0.001
29-Apr-2020		0.001
30-Apr-2020		0.001
1-May-2020		0.001
2-May-2020		0.001
3-May-2020		0.001
4-May-2020		0.001
5-May-2020		0.001
6-May-2020		0.001
7-May-2020		0.001
8-May-2020		0.001
9-May-2020		0.001
10-May-2020		0.001
11-May-2020	12/05/2020	0.001
12-May-2020		0.001
13-May-2020		0.001
14-May-2020		0.001
15-May-2020		0.001
16-May-2020		0.001
17-May-2020		0.003
18-May-2020		0.003
19-May-2020		0.003
20-May-2020		0.003
21-May-2020		0.003
22-May-2020		0.003
23-May-2020		0.003
24-May-2020		0.003
25-May-2020		0.003
26-May-2020		0.003

Data obtained on	Data published on	Volume discharged (ML/d)
27-May-2020		0.003
28-May-2020		0.003
29-May-2020		0.003
30-May-2020		0.003
31-May-2020		0.003
1-Jun-2020	04/06/2020	0.003
2-Jun-2020		0.003
3-Jun-2020		0.003
4-Jun-2020		0.003
5-Jun-2020		0.003
6-Jun-2020		0.003
7-Jun-2020		0.003
8-Jun-2020		0.003
9-Jun-2020		0.003
10-Jun-2020		0.003
11-Jun-2020		0.001
12-Jun-2020		0.001
13-Jun-2020		0.001
14-Jun-2020		0.001
15-Jun-2020		0.002
16-Jun-2020		0.002
17-Jun-2020		0.002
18-Jun-2020		1.900
19-Jun-2020		1.900
20-Jun-2020		1.900
21-Jun-2020		1.900
22-Jun-2020		1.900
23-Jun-2020		1.900
24-Jun-2020		1.900
25-Jun-2020		1.900
26-Jun-2020		1.900
27-Jun-2020		1.900
28-Jun-2020		1.900
29-Jun-2020		2.360
30-Jun-2020		2.360
1-Jul-2020	1/07/2020	2.360
2-Jul-2020		2.360
3-Jul-2020		2.360
4-Jul-2020		2.360
5-Jul-2020		2.360
6-Jul-2020		1.900
7-Jul-2020		1.900

Data obtained on	Data published on	Volume discharged (ML/d)
8-Jul-2020		1.900
9-Jul-2020		1.900
10-Jul-2020		1.900
11-Jul-2020		1.900
12-Jul-2020		1.900
13-Jul-2020		1.490
14-Jul-2020		1.490
15-Jul-2020		1.490
16-Jul-2020		1.490
17-Jul-2020		1.490
18-Jul-2020		1.490
19-Jul-2020		1.490
20-Jul-2020		1.490
21-Jul-2020		1.490
22-Jul-2020		1.490
23-Jul-2020		1.490
24-Jul-2020		1.490
25-Jul-2020		1.490
26-Jul-2020		1.490
27-Jul-2020		1.900
28-Jul-2020		1.900
29-Jul-2020		1.900
30-Jul-2020		1.900
31-Jul-2020		1.900
1-Aug-2020		1.900
2-Aug-2020		1.900
3-Aug-2020	11/08/2020	1.900
4-Aug-2020		1.490
5-Aug-2020		1.490
6-Aug-2020		1.490
7-Aug-2020		1.490
8-Aug-2020		1.490
9-Aug-2020		1.490
10-Aug-2020		1.490
11-Aug-2020		1.490
12-Aug-2020		1.490
13-Aug-2020		1.490
14-Aug-2020		1.490
15-Aug-2020		1.490
16-Aug-2020		1.490
17-Aug-2020		1.490
18-Aug-2020		1.490

Data obtained on	Data published on	Volume discharged (ML/d)
19-Aug-2020		1.490
20-Aug-2020		1.490
21-Aug-2020		1.490
22-Aug-2020		1.490
23-Aug-2020		1.490
24-Aug-2020		1.490
25-Aug-2020		1.490
26-Aug-2020		1.490
27-Aug-2020		1.490
28-Aug-2020		1.490
29-Aug-2020		1.490
30-Aug-2020		1.490
31-Aug-2020		1.490
1-Sep-2020		1.490
2-Sep-2020		1.490
3-Sep-2020		1.490
4-Sep-2020		1.490
5-Sep-2020		1.490
6-Sep-2020		1.490
7-Sep-2020		1.490
8-Sep-2020		1.490
9-Sep-2020		1.490
10-Sep-2020	11/09/2020	1.490
11-Sep-2020		1.490
12-Sep-2020		1.490
13-Sep-2020		1.490
14-Sep-2020		1.490
15-Sep-2020		1.490
16-Sep-2020		1.490
17-Sep-2020		1.490
18-Sep-2020		1.490
19-Sep-2020		1.490
20-Sep-2020		1.490
21-Sep-2020		1.490
22-Sep-2020		1.490
23-Sep-2020		1.490
24-Sep-2020		1.490
25-Sep-2020		1.490
26-Sep-2020		1.490
27-Sep-2020		1.490
28-Sep-2020		1.9
29-Sep-2020		1.9

Data obtained on	Data published on	Volume discharged (ML/d)
30-Sep-2020		1.9
1-Oct-2020		1.9
2-Oct-2020	01/10/2020	1.13
3-Oct-2020		1.13
4-Oct-2020		1.13
5-Oct-2020		1.49
6-Oct-2020		1.49
7-Oct-2020		1.49
8-Oct-2020		1.49
9-Oct-2020		1.49
10-Oct-2020		1.49
11-Oct-2020		1.49
12-Oct-2020		1.90
13-Oct-2020		1.90
14-Oct-2020		1.90
15-Oct-2020		1.90
16-Oct-2020		1.90
17-Oct-2020		1.90
18-Oct-2020		1.90
19-Oct-2020		1.49
20-Oct-2020		1.49
21-Oct-2020		1.90
22-Oct-2020		1.90
23-Oct-2020		1.90
24-Oct-2020		1.90
25-Oct-2020		1.90
26-Oct-2020		2.36
27-Oct-2020		2.36
28-Oct-2020		2.36
29-Oct-2020		1.90
30-Oct-2020		1.90
31-Oct-2020		1.90
1-Nov-2020		1.90
2-Nov-2020	09/11/2020	1.90
3-Nov-2020		1.90
4-Nov-2020		1.90
5-Nov-2020		1.90
6-Nov-2020		1.90
7-Nov-2020		1.90
8-Nov-2020		1.90
9-Nov-2020		1.90
10-Nov-2020	10/12/20	1.90

Data obtained on	Data published on	Volume discharged (ML/d)
11-Nov-2020		1.90
12-Nov-2020		1.90
13-Nov-2020		1.90
14-Nov-2020		0.16
15-Nov-2020		0.16
16-Nov-2020		0.16
17-Nov-2020		1.90
18-Nov-2020		1.90
19-Nov-2020		1.90
20-Nov-2020		1.90
21-Nov-2020		1.90
22-Nov-2020		1.90
23-Nov-2020		1.90
24-Nov-2020		1.90
25-Nov-2020		1.90
26-Nov-2020		1.90
27-Nov-2020		1.90
28-Nov-2020		1.90
29-Nov-2020		1.90
30-Nov-2020		1.90
1-Dec-2020		1.90
2-Dec-2020		1.90
3-Dec-2020		1.90
4-Dec-2020		1.90
5-Dec-2020		1.90
6-Dec-2020		1.90
7-Dec-2020	10/12/2020	1.90
8-Dec-2020		1.90
9-Dec-2020		1.90
10-Dec-2020		1.90
11-Dec-2020		1.90
12-Dec-2020		1.90
13-Dec-2020		1.90
14-Dec-2020		1.90
15-Dec-2020		1.90
16-Dec-2020		1.90
17-Dec-2020		1.90
18-Dec-2020		1.90
19-Dec-2020		1.90
20-Dec-2020		1.90
21-Dec-2020		1.24
22-Dec-2020	13/01/21	1.24

Data obtained on	Data published on	Volume discharged (ML/d)
23-Dec-2020		1.24
24-Dec-2020		1.24
25-Dec-2020		1.24
26-Dec-2020		1.24
27-Dec-2020		1.24
28-Dec-2020		1.24
29-Dec-2020		1.24
30-Dec-2020		1.24
31-Dec-2020		1.31
1-Jan-2021		1.31
2-Jan-2021		1.31
3-Jan-2021		1.31
4-Jan-2021		1.31
5-Jan-2021		1.31
6-Jan-2021		1.31
7-Jan-2021		1.49
8-Jan-2021		1.49
9-Jan-2021		1.49
10-Jan-2021		1.49
11-Jan-2021	13/01/2021	1.49
12-Jan-2021		1.49
13-Jan-2021		1.49
14-Jan-2021		1.49
15-Jan-2021		1.49
16-Jan-2021		1.49
17-Jan-2021		1.49
18-Jan-2021		1.49
19-Jan-2021		1.49
20-Jan-2021		1.49
21-Jan-2021		1.49
22-Jan-2021		1.49
23-Jan-2021		1.49
24-Jan-2021		1.49
25-Jan-2021		1.49
26-Jan-2021		1.49
27-Jan-2021		1.49
28-Jan-2021		1.49
29-Jan-2021		1.49
30-Jan-2021		1.49
31-Jan-2021		1.49
1-Feb-2021		1.49
2-Feb-2021	10/02/21	1.49

Data obtained on	Data published on	Volume discharged (ML/d)
3-Feb-2021		1.49
4-Feb-2021		1.49
5-Feb-2021		1.49
6-Feb-2021		1.49
7-Feb-2021		1.49
8-Feb-2021		1.49
9-Feb-2021		1.49
10-Feb-2021	10/02/21	1.49
11-Feb-2021		1.310
12-Feb-2021		1.310
13-Feb-2021		1.310
14-Feb-2021		1.310
15-Feb-2021		1.310
16-Feb-2021		1.310
17-Feb-2021		1.310
18-Feb-2021		1.310
19-Feb-2021		1.310
20-Feb-2021		1.310
21-Feb-2021		1.310
22-Feb-2021		1.490
23-Feb-2021		1.490
24-Feb-2021		1.490
25-Feb-2021		1.490
26-Feb-2021		1.490
27-Feb-2021		1.490
28-Feb-2021		1.490
1-Mar-2021		1.490
2-Mar-2021		1.490
3-Mar-2021		1.490
4-Mar-2021		0.155
5-Mar-2021		0.155
6-Mar-2021		0.155
7-Mar-2021		0.155
8-Mar-2021		0.155
9-Mar-2021		0.155
10-Mar-2021	11/03/21	0.155
11-Mar-2021		0.155
12-Mar-2021		0.155
13-Mar-2021		0.155
14-Mar-2021		0.155
15-Mar-2021		1.130
16-Mar-2021	12/04/21	1.130

Data obtained on	Data published on	Volume discharged (ML/d)
17-Mar-2021		1.130
18-Mar-2021		1.130
19-Mar-2021		1.130
20-Mar-2021		1.130
21-Mar-2021		1.130
22-Mar-2021		1.130
23-Mar-2021		0.813
24-Mar-2021		0.813
25-Mar-2021		0.813
26-Mar-2021		1.310
27-Mar-2021		1.310
28-Mar-2021		1.310
29-Mar-2021		1.310
30-Mar-2021		1.130
31-Mar-2021		1.130
1-Apr-2021		1.130
2-Apr-2021		1.130
3-Apr-2021		1.130
4-Apr-2021		1.130
5-Apr-2021		1.130
6-Apr-2021		1.130
7-Apr-2021		1.130
8-Apr-2021		1.130
9-Apr-2021	12/04/21	1.130
10-Apr-2021		1.140
11-Apr-2021		1.140
12-Apr-2021		1.140
13-Apr-2021		1.140
14-Apr-2021		1.140
15-Apr-2021		1.140
16-Apr-2021		1.140
17-Apr-2021		1.140
18-Apr-2021		1.140
19-Apr-2021		1.140
20-Apr-2021		1.140
21-Apr-2021		1.140
22-Apr-2021		1.140
23-Apr-2021		1.140
24-Apr-2021		1.140
25-Apr-2021		1.140
26-Apr-2021		1.140
27-Apr-2021	12/05/21	1.140

Data obtained on	Data published on	Volume discharged (ML/d)
28-Apr-2021		1.140
29-Apr-2021		1.140
30-Apr-2021		1.140
1-May-2021		1.140
2-May-2021		1.140
3-May-2021		1.140
4-May-2021		1.140
5-May-2021		1.140
6-May-2021		1.140
7-May-2021		1.140
8-May-2021		1.140
9-May-2021		1.140
10-May-2021	12/05/21	1.140
11-May-2021		1.179
12-May-2021		1.179
13-May-2021		1.179
14-May-2021		1.179
15-May-2021		1.179
16-May-2021		1.317
17-May-2021		1.317
18-May-2021		1.317
19-May-2021		1.317
20-May-2021		1.317
21-May-2021		1.317
22-May-2021		1.317
23-May-2021		1.412
24-May-2021		1.412
25-May-2021		1.412
26-May-2021		1.412
27-May-2021		1.412
28-May-2021		1.412
29-May-2021		1.412
30-May-2021		1.495
31-May-2021		1.495
1-Jun-2021		1.495
2-Jun-2021		1.495
3-Jun-2021		1.495
4-Jun-2021		1.495
5-Jun-2021		1.495
6-Jun-2021		1.517
7-Jun-2021		1.517
8-Jun-2021	11/06/21	1.517

Data obtained on	Data published on	Volume discharged (ML/d)
9-Jun-2021		1.517
10-Jun-2021		1.527
11-Jun-2021		1.527
12-Jun-2021		1.527
13-Jun-2021		1.527
14-Jun-2021		1.527
15-Jun-2021		1.527
16-Jun-2021		1.527
17-Jun-2021		1.527
18-Jun-2021		1.527
19-Jun-2021		1.527
20-Jun-2021		1.527
21-Jun-2021		1.527
22-Jun-2021		1.527
23-Jun-2021		1.527
24-Jun-2021		1.527
25-Jun-2021		1.527
26-Jun-2021		1.527
27-Jun-2021		1.527
28-Jun-2021		1.527
29-Jun-2021		1.54
30-Jun-2021		1.54
1-Jul-2021		1.54
2-Jul-2021		1.54
3-Jul-2021		1.54
4-Jul-2021		1.54
5-Jul-2021		1.54
6-Jul-2021		1.49
7-Jul-2021		1.49
8-Jul-2021		1.49
9-Jul-2021		1.49
10-Jul-2021		1.49
11-Jul-2021		1.49
12-Jul-2021	13/07/21	1.49
13-Jul-2021		1.49
14-Jul-2021		1.49
15-Jul-2021		1.5
16-Jul-2021		1.5
17-Jul-2021		1.5
18-Jul-2021		1.5
19-Jul-2021		1.5
20-Jul-2021	10/08/2021	1.46

Data obtained on	Data published on	Volume discharged (ML/d)
21-Jul-2021		1.46
22-Jul-2021		1.46
23-Jul-2021		1.53
24-Jul-2021		1.53
25-Jul-2021		1.53
26-Jul-2021		1.47
27-Jul-2021		1.47
28-Jul-2021		1.47
29-Jul-2021		1.49
30-Jul-2021		1.49
31-Jul-2021		1.49
1-Aug-2021		1.49
2-Aug-2021		1.51
3-Aug-2021		1.51
4-Aug-2021		1.51
5-Aug-2021		1.51
6-Aug-2021		1.51
7-Aug-2021		1.51
8-Aug-2021	10/08/2021	1.51
9-Aug-2021		1.51
10-Aug-2021		1.51
11-Aug-2021		1.51
12-Aug-2021		1.45
13-Aug-2021		1.45
14-Aug-2021		1.45
15-Aug-2021		1.45
16-Aug-2021		1.36
17-Aug-2021		1.36
18-Aug-2021		1.36
19-Aug-2021		0.87
20-Aug-2021		0.87
21-Aug-2021		0.87
22-Aug-2021		0.87
23-Aug-2021		1.42
24-Aug-2021		1.42
25-Aug-2021		1.42
26-Aug-2021		1.58
27-Aug-2021		1.58
28-Aug-2021		1.58
29-Aug-2021		1.58
30-Aug-2021		1.49
31-Aug-2021	14/09/2021	1.49

Data obtained on	Data published on	Volume discharged (ML/d)
1-Sep-2021		1.49
2-Sep-2021		1.43
3-Sep-2021		1.43
4-Sep-2021		1.43
5-Sep-2021		1.43
6-Sep-2021		0.92
7-Sep-2021		0.92
8-Sep-2021		0.92
9-Sep-2021		1.08
10-Sep-2021		1.08
11-Sep-2021		1.08
12-Sep-2021		1.08
13-Sep-2021		1.21
14-Sep-2021	14/09/2021	1.20
15-Sep-2021		1.20
16-Sep-2021		1.20
17-Sep-2021		0.96
18-Sep-2021		0.96
19-Sep-2021		0.96
20-Sep-2021		0.96
21-Sep-2021		1.51
22-Sep-2021		1.51
23-Sep-2021		1.51
24-Sep-2021		1.15
25-Sep-2021		1.15
26-Sep-2021		1.15
27-Sep-2021		1.15
28-Sep-2021		1.62
29-Sep-2021		1.62
30-Sep-2021		1.62
1-Oct-2021		1.17
2-Oct-2021		1.17
3-Oct-2021		1.17
4-Oct-2021		1.17
5-Oct-2021		1.62
6-Oct-2021		1.62
7-Oct-2021		1.62
8-Oct-2021		1.21
9-Oct-2021		1.21
10-Oct-2021		1.21
11-Oct-2021		1.21
12-Oct-2021	14/10/2021	1.58

Data obtained on	Data published on	Volume discharged (ML/d)
13-Oct-2021		1.58
14-Oct-2021		1.58
15-Oct-2021		1.49
16-Oct-2021		1.49
17-Oct-2021		1.49
18-Oct-2021		1.49
19-Oct-2021		1.68
20-Oct-2021		1.68
21-Oct-2021		1.68
22-Oct-2021		0.95
23-Oct-2021		0.95
24-Oct-2021		0.95
25-Oct-2021		0.95
26-Oct-2021		1.88
27-Oct-2021		1.88
28-Oct-2021		1.88
29-Oct-2021		1.48
30-Oct-2021		1.48
31-Oct-2021		1.48
1-Nov-2021		1.48
2-Nov-2021		1.77
3-Nov-2021		1.77
4-Nov-2021		1.77
5-Nov-2021		1.77
6-Nov-2021		1.77
7-Nov-2021		1.77
8-Nov-2021		1.77
9-Nov-2021		1.34
10-Nov-2021		1.34
11-Nov-2021	12/11/21	1.34
12-Nov-2021		1.84
13-Nov-2021		1.84
14-Nov-2021		1.84
15-Nov-2021		1.84
16-Nov-2021		1.74
17-Nov-2021		1.74
18-Nov-2021		1.74
19-Nov-2021		1.94
20-Nov-2021		1.94
21-Nov-2021		1.94
22-Nov-2021		1.94
23-Nov-2021	06/12/21	1.96

Data obtained on	Data published on	Volume discharged (ML/d)
24-Nov-2021		1.96
25-Nov-2021		1.96
26-Nov-2021		1.94
27-Nov-2021		1.94
28-Nov-2021		1.94
29-Nov-2021		1.94
30-Nov-2021		1.95
1-Dec-2021		1.95
2-Dec-2021	06/12/21	1.95
3-Dec-2021		1.90
4-Dec-2021		1.90
5-Dec-2021		1.90
6-Dec-2021		1.97
7-Dec-2021		1.97
8-Dec-2021		1.97
9-Dec-2021		1.81
10-Dec-2021		1.81
11-Dec-2021		1.81
12-Dec-2021		1.81
13-Dec-2021		1.76
14-Dec-2021		1.76
15-Dec-2021		1.76
16-Dec-2021		1.97
17-Dec-2021		1.97
18-Dec-2021		1.97
19-Dec-2021		1.97
20-Dec-2021		1.99
21-Dec-2021		1.99
22-Dec-2021		1.99
23-Dec-2021		2.03
24-Dec-2021		2.03
25-Dec-2021		2.03
26-Dec-2021		1.90
27-Dec-2021		1.90
28-Dec-2021		1.90
29-Dec-2021		1.90
30-Dec-2021		1.90
31-Dec-2021		1.90
1-Jan-2022		1.90
2-Jan-2022		1.90
3-Jan-2022		1.90
4-Jan-2022	12/01/22	1.90

Data obtained on	Data published on	Volume discharged (ML/d)
5-Jan-2022		1.90
6-Jan-2022		1.90
7-Jan-2022		1.90
8-Jan-2022		1.90
9-Jan-2022		1.90
10-Jan-2022	12/01/22	1.90
11-Jan-2022		1.90
12-Jan-2022		1.90
13-Jan-2022		1.90
14-Jan-2022		1.90
15-Jan-2022		1.90
16-Jan-2022		1.90
17-Jan-2022		1.90
18-Jan-2022		1.90
19-Jan-2022		1.90
20-Jan-2022		1.90
21-Jan-2022		1.90
22-Jan-2022		1.90
23-Jan-2022		1.90
24-Jan-2022		1.90
25-Jan-2022		1.90
26-Jan-2022		1.90
27-Jan-2022		1.90
28-Jan-2022		1.90
29-Jan-2022		1.90
30-Jan-2022		1.90
31-Jan-2022		1.90
1-Feb-2022		1.90
2-Feb-2022		1.90
3-Feb-2022		1.90
4-Feb-2022		1.90
5-Feb-2022		1.90
6-Feb-2022		1.90
7-Feb-2022		1.90
8-Feb-2022		1.90
9-Feb-2022		1.90
10-Feb-2022	10/02/2022	1.90
11-Feb-2022		1.90
12-Feb-2022		1.90
13-Feb-2022		1.90
14-Feb-2022		1.90
15-Feb-2022	13/04/2022	1.90

Data obtained on	Data published on	Volume discharged (ML/d)
16-Feb-2022		1.96
17-Feb-2022		1.96
18-Feb-2022		1.96
19-Feb-2022		1.96
20-Feb-2022		1.96
21-Feb-2022		2.91
22-Feb-2022		2.91
23-Feb-2022		2.91
24-Feb-2022		2.91
25-Feb-2022		2.91
26-Feb-2022		2.91
27-Feb-2022		2.91
28-Feb-2022		0.15
1-Mar-2022		0.15
2-Mar-2022		0.15
3-Mar-2022		0.15
4-Mar-2022		0.15
5-Mar-2022		0.15
6-Mar-2022		0.15
7-Mar-2022		0.15
8-Mar-2022		0.15
9-Mar-2022		0.15
10-Mar-2022		0.15
11-Mar-2022		0.15
12-Mar-2022		0.15
13-Mar-2022		0.15
14-Mar-2022		2.20
15-Mar-2022		2.20
16-Mar-2022		2.20
17-Mar-2022		2.25
18-Mar-2022		2.25
19-Mar-2022		2.25
20-Mar-2022		2.25
21-Mar-2022		2.25
22-Mar-2022		2.25
23-Mar-2022		2.25
24-Mar-2022		2.25
25-Mar-2022		2.25
26-Mar-2022		2.25
27-Mar-2022		2.25
28-Mar-2022		2.06
29-Mar-2022	13/04/2022	2.06

Data obtained on	Data published on	Volume discharged (ML/d)
30-Mar-2022		2.06
31-Mar-2022	13/04/2022	1.96
1-Apr-2022		1.96
2-Apr-2022		1.96
3-Apr-2022		1.96
4-Apr-2022		1.90
5-Apr-2022		1.90
6-Apr-2022		1.90
7-Apr-2022		1.96
8-Apr-2022		1.96
9-Apr-2022		1.96
10-Apr-2022		1.96
11-Apr-2022		2.10
12-Apr-2022		2.10
13-Apr-2022		2.10
14-Apr-2022		2.25
15-Apr-2022		2.25
16-Apr-2022		2.25
17-Apr-2022		2.25
18-Apr-2022		2.25
19-Apr-2022		2.25
20-Apr-2022		2.25
21-Apr-2022		2.25
22-Apr-2022		2.25
23-Apr-2022		2.25
24-Apr-2022		2.25
25-Apr-2022		2.16
26-Apr-2022		2.16
27-Apr-2022		2.16
28-Apr-2022		1.96
29-Apr-2022		1.96
30-Apr-2022		1.96
1-May-2022		1.96
2-May-2022		1.96
3-May-2022		1.96
4-May-2022		1.96
5-May-2022		1.96
6-May-2022		1.96
7-May-2022		1.96
8-May-2022		1.96
9-May-2022	10/05/2022	1.96
10-May-2022		1.96

Data obtained on	Data published on	Volume discharged (ML/d)
11-May-2022		1.96
12-May-2022		1.96
13-May-2022		1.96
14-May-2022		1.96
15-May-2022		1.96
16-May-2022		1.96
17-May-2022		1.96
18-May-2022		1.96
19-May-2022		1.96
20-May-2022		1.96
21-May-2022		1.96
22-May-2022		1.96
23-May-2022		1.96
24-May-2022		1.96
25-May-2022		1.96
26-May-2022		1.96
27-May-2022		1.96
28-May-2022		1.96
29-May-2022		1.96
30-May-2022		1.96
31-May-2022		1.96
1-Jun-2022		1.96
2-Jun-2022		1.96
3-Jun-2022		1.96
4-Jun-2022		1.96
5-Jun-2022	10/06/2022	1.96
6-Jun-2022		1.96
7-Jun-2022		1.96
8-Jun-2022		1.96
9-Jun-2022		1.96
10-Jun-2022		1.96
11-Jun-2022		1.96
12-Jun-2022		1.96
13-Jun-2022		1.96
14-Jun-2022		1.96
15-Jun-2022		1.96
16-Jun-2022		1.96
17-Jun-2022		1.96
18-Jun-2022		1.96
19-Jun-2022		1.96
20-Jun-2022		1.96
21-Jun-2022	12/07/2022	1.96

Data obtained on	Data published on	Volume discharged (ML/d)
22-Jun-2022		1.96
23-Jun-2022		1.96
24-Jun-2022		1.96
25-Jun-2022		1.96
26-Jun-2022		1.96
27-Jun-2022		1.96
28-Jun-2022		1.96
29-Jun-2022		1.96
30-Jun-2022		1.96
1-Jul-2022		1.96
2-Jul-2022		1.96
3-Jul-2022		1.96
4-Jul-2022		1.96
5-Jul-2022		1.96
6-Jul-2022		1.96
7-Jul-2022		1.96
8-Jul-2022		1.96
9-Jul-2022		1.96
10-Jul-2022		1.96
11-Jul-2022		1.96
12-Jul-2022	12/07/2022	1.96
13-Jul-2022		1.96
14-Jul-2022		1.96
15-Jul-2022		1.96
16-Jul-2022		1.96
17-Jul-2022		1.96
18-Jul-2022		1.96
19-Jul-2022		1.96
20-Jul-2022		1.96
21-Jul-2022		1.96
22-Jul-2022		1.96
23-Jul-2022		1.96
24-Jul-2022		1.96
25-Jul-2022		1.96
26-Jul-2022		1.96
27-Jul-2022		1.96
28-Jul-2022		1.96
29-Jul-2022		1.96
30-Jul-2022		1.96
31-Jul-2022		1.96
1-Aug-2022		1.96
2-Aug-2022	12/08/2022	1.96

Data obtained on	Data published on	Volume discharged (ML/d)
3-Aug-2022		1.96
4-Aug-2022		1.96
5-Aug-2022		1.96
6-Aug-2022		1.96
7-Aug-2022		1.96
8-Aug-2022	12/08/2022	1.96
9-Aug-2022		1.96
10-Aug-2022		1.96
11-Aug-2022		1.96
12-Aug-2022		1.96
13-Aug-2022		1.96
14-Aug-2022		1.96
15-Aug-2022		1.96
16-Aug-2022		1.96
17-Aug-2022		1.96
18-Aug-2022		1.96
19-Aug-2022		1.96
20-Aug-2022		1.96
21-Aug-2022		1.96
22-Aug-2022		1.96
23-Aug-2022		1.96
24-Aug-2022		1.96
25-Aug-2022		1.96
26-Aug-2022		1.96
27-Aug-2022		1.96
28-Aug-2022		1.96
29-Aug-2022		1.96
30-Aug-2022		1.96
31-Aug-2022		1.96
1-Sep-2022		1.96
2-Sep-2022		1.96
3-Sep-2022		1.96
4-Sep-2022		1.96
5-Sep-2022		1.96
6-Sep-2022		1.96
7-Sep-2022		1.96
8-Sep-2022		1.96
9-Sep-2022		1.96
10-Sep-2022		1.96
11-Sep-2022		1.96
12-Sep-2022		1.96
13-Sep-2022	14/09/2022	1.96

Data obtained on	Data published on	Volume discharged (ML/d)
14-Sep-2022	14/09/2022	1.96
15-Sep-2022		1.96
16-Sep-2022		1.96
17-Sep-2022		2.03
18-Sep-2022		2.03
19-Sep-2022		2.03
20-Sep-2022		2.03
21-Sep-2022		2.03
22-Sep-2022		2.03
23-Sep-2022		2.03
24-Sep-2022		1.96
25-Sep-2022		1.96
26-Sep-2022		1.96
27-Sep-2022		1.96
28-Sep-2022		1.96
29-Sep-2022		1.96
30-Sep-2022		1.96
1-Oct-2022		1.96
2-Oct-2022		1.96
3-Oct-2022		1.96
4-Oct-2022		2.03
5-Oct-2022		2.03
6-Oct-2022		2.03
7-Oct-2022		0.20
8-Oct-2022		0.20
9-Oct-2022		0.20
10-Oct-2022		0.20
11-Oct-2022		0.15
12-Oct-2022		0.15
13-Oct-2022		0.15
14-Oct-2022		0.15
15-Oct-2022		0.15
16-Oct-2022	14/10/2022	0.15
17-Oct-2022		1.90
18-Oct-2022		1.90
19-Oct-2022		1.90
20-Oct-2022		1.90
21-Oct-2022		1.90
22-Oct-2022		1.90
23-Oct-2022		1.90
24-Oct-2022		1.96
25-Oct-2022	14/11/2022	1.96

Data obtained on	Data published on	Volume discharged (ML/d)
26-Oct-2022		1.96
27-Oct-2022		1.96
28-Oct-2022		1.96
29-Oct-2022		1.96
30-Oct-2022		1.96
31-Oct-2022		1.96
1-Nov-2022		1.96
2-Nov-2022		1.96
3-Nov-2022		1.96
4-Nov-2022		1.96
5-Nov-2022		1.96
6-Nov-2022		1.96
7-Nov-2022	14/11/2022	1.96
8-Nov-2022		1.96
9-Nov-2022		1.96
10-Nov-2022		1.96
11-Nov-2022		1.96
12-Nov-2022		1.96
13-Nov-2022		1.96
14-Nov-2022		1.90
15-Nov-2022		1.90
16-Nov-2022		1.90
17-Nov-2022		1.90
18-Nov-2022		1.90
19-Nov-2022		1.90
20-Nov-2022		1.90
21-Nov-2022		1.90
22-Nov-2022		1.90
23-Nov-2022		1.90
24-Nov-2022		1.90
25-Nov-2022		1.90
26-Nov-2022		1.90
27-Nov-2022		1.90
28-Nov-2022		1.96
29-Nov-2022		1.96
30-Nov-2022		1.96
1-Dec-2022		1.96
2-Dec-2022		1.96
3-Dec-2022		1.96
4-Dec-2022		1.96
5-Dec-2022		1.96
6-Dec-2022	14/12/2022	1.96

Data obtained on	Data published on	Volume discharged (ML/d)
7-Dec-2022		1.96
8-Dec-2022	14/12/2022	1.96
9-Dec-2022		1.96
10-Dec-2022		1.96
11-Dec-2022		1.96
12-Dec-2022		1.96
13-Dec-2022		1.96
14-Dec-2022		1.96
15-Dec-2022		1.96
16-Dec-2022		1.96
17-Dec-2022		1.96
18-Dec-2022		1.96
19-Dec-2022		1.96
20-Dec-2022		1.96
21-Dec-2022		1.96
22-Dec-2022		1.96
23-Dec-2022		1.96
24-Dec-2022		1.96
25-Dec-2022		1.96
26-Dec-2022		1.96
27-Dec-2022		1.96
28-Dec-2022		1.96
29-Dec-2022		1.96
30-Dec-2022		1.96
31-Dec-2022		1.96
1-Jan-2023		1.96
2-Jan-2023		1.96
3-Jan-2023		1.96
4-Jan-2023		1.96
5-Jan-2023		1.96
6-Jan-2023		1.96
7-Jan-2023		1.96
8-Jan-2023		1.96
9-Jan-2023	09/01/2023	1.96
10-Jan-2023		1.96
11-Jan-2023		1.96
12-Jan-2023		1.96
13-Jan-2023		1.96
14-Jan-2023		1.96
15-Jan-2023		1.96
16-Jan-2023		1.96
17-Jan-2023	07/02/2023	1.96

Data obtained on	Data published on	Volume discharged (ML/d)
18-Jan-2023		1.96
19-Jan-2023		1.96
20-Jan-2023		1.96
21-Jan-2023		1.96
22-Jan-2023		1.96
23-Jan-2023		1.96
24-Jan-2023		1.96
25-Jan-2023		1.96
26-Jan-2023		1.96
27-Jan-2023		1.96
28-Jan-2023		1.96
29-Jan-2023		1.96
30-Jan-2023		1.96
31-Jan-2023		1.96
1-Feb-2023		1.96
2-Feb-2023		1.96
3-Feb-2023		1.96
4-Feb-2023		1.96
5-Feb-2023		1.96
6-Feb-2023	07/02/2023	1.96

Licence Limit: 10 ML/d. Compliance summary: Discharge within licence limits.

3. Ambient Air/Dust Monitoring

On 30th August 2021, the EPA approved an amendment to the Berrima Colliery EPL removing the requirement to monitor dust. The amendment was because mining and ancillary activities have ceased at the premises which is in the process of closure. Up until the change in the licence, Berrima Colliery operated 4 dust monitoring locations as described below:

- Mine Office Dust Deposition (Gauge 1)
- Medway Village Dust Deposition (Gauge 2)
- Loch Catherine Coal Stockpile Dust Deposition (Gauge 3)
- Mine Entry Road PM_{10} Atmospheric Dust (Gauge 4)

The results provided in the following sections have been included for completeness however no further results will be included post 30th August 2021.

3.1 Dust Deposition Gauges: Total Insoluble Matter (grams per metre^2 per month)

Gauges 1 to 3 are dust deposition gauges which measure the levels of coarse dust. It is a measure of dust nuisance rather than an indication of potential health problems as this dust fraction does not penetrate into the respiratory system.

Licence limit: Not specified

Adopted limits: For dust deposition, the NSW State guideline of 4 g/m^2 /month (presented as a 12-month rolling average) has been adopted.

Table 5 – Dust Deposition Data

	Dust Deposition Gauges (g/m^2/month as 12-month rolling average)		
	Site 1 Office	**Site 2 Medway Village**	**Site 3 Loch Catherine**
December 2016 Report Received: 9/01/17 Date Published: 6/02/17	1.61	0.44	0.46
January 2017 Report Received: 6/02/17 Date Published: 6/02/17	1.58	0.58	0.45
February 2017 Report Received: 8/03/17 Date Published: 8/03/17	1.53	0.61	0.47
March 2017 Report Received: 16/03/17 Date Published: 4/04/17	1.65	0.65	0.50
April 2017 Report Received: 3/05/17 Date Published: 5/05/17	1.64	0.64	0.49
May 2017 Report Received: 5/06/17 Date Published: 5/06/17	1.67	0.65	0.50

	Dust Deposition Gauges (g/m^2/month as 12-month rolling average)		
	Site 1 Office	**Site 2 Medway Village**	**Site 3 Loch Catherine**
June 2017 Report Received: 3/07/17 Date Published: 4/07/17	1.55	0.60	0.40
July 2017 Report Received: 7/08/17 Date Published: 8/08/17	1.49	0.61	0.40
August 2017 Report Received: 1/09/17 Date Published: 11/09/17	1.53	0.66	0.39
September 2017 Report Received: 15/09/17 Date Published: 13/10/17	1.24	0.62	0.38
October 2017 Report Received: 15/09/17 Date Published: 13/10/17	1.23	0.65	0.42
November 2017 Report Received: 15/11/17 Date Published: 6/12/17	1.34	No Result*	0.48
December 2017 Report Received: 5/01/18 Date Published: 9/1/18	2.07	0.70	0.48
January 2018 Report Received: 9/03/18 Date Published: 13/3/18	2.04	0.63	0.55
February 2018 Report Received: 21/02/18 Date Published: 13/3/18	2.12	0.69	0.50
March 2018 Report Received: 15/03/18 Date Published: 14/4/18	1.99	0.64	0.48
April 2018 Report Received: 11/06/18 Date Published: 12/06/18	1.98	0.65	0.55
May 2018 Report Received: 11/06/18 Date Published: 12/06/18	0.97	0.69	0.58
June 2018 Report Received: 18/06/18 Date Published: 10/07/18	1.97	0.75	No Result#
July 2018 Report Received: 03/08/18 Date Published: 14/08/18	1.98	0.75	0.64
August 2018 Report Received: 05/09/18 Date Published: 07/09/18	1.96	0.71	0.81
September 2018 Report Received: 02/10/18 Date Published: 04/10/18	1.95	0.75	0.85
October 2018 Report Received: 07/11/18 Date Published: 09/11/18	2.0	0.78	0.85
November 2018 Report Received: 7/12/18 Date Published: 13/12/18	1.81	0.77	0.83
December 2018 Report Received: 15/01/19	1.73	0.82	0.93

	Dust Deposition Gauges (g/m^2/month as 12-month rolling average)		
	Site 1 Office	**Site 2 Medway Village**	**Site 3 Loch Catherine**
Date Published: 15/01/19			
January 2019 Report Received: 08/02/19 Date Published: 11/02/19	2.42	0.93	1.07
February 2019 Report Received: 14/03/19 Date Published: 14/03/19	2.32	0.84	1.15
March 2019 Report Received: 11/04/19 Date Published: 12/04/19	2.28	0.86	1.19
April 2019 Report Received: 1/05/19 Date Published: 13/05/19	2.33	0.86	1.24
May 2019 Report Received: 12/06/19 Date Published: 13/06/19	2.29	0.82	1.21
June 2019 Report Received: 12/07/19 Date Published: 12/07/19	2.34	0.83	1.14
July 2019 Report Received: 08/08/19 Date Published: 08/08/19	2.36	0.83	1.12
August 2019 Report Received: 04/09/19 Date Published: 10/09/19	2.34	0.83	0.97
September 2019 Report Received: 08/10/19 Date Published: 10/10/19	2.46	0.83	1.15
October 2019 Report Received: 13/11/19 Date Published: 13/11/19	2.42	0.83	1.14
November 2019 Report Received: 10/12/19 Date Published: 12/12/19	2.49	0.88	1.18
December 2019 Report Received: 18/12/19 Date Published: 13/01/20	1.88	0.87	1.18
January 2020 Report Received: 11/02/20 Date Published: 11/02/20	1.34	0.75	1.41
February 2020 Report Received: 12/03/20 Date Published: 12/03/20	2.16	0.98	1.56
March 2020 Report Received: 08/04/20 Date Published: 08/04/20	2.47	1.17	1.68
April 2020 Report Received: 12/05/20 Date Published: 12/05/20	2.49	1.13	1.56
May 2020 Report Received: 04/06/20 Date Published: 04/06/20	2.56	1.18	1.54
June 2020 Report Received: 16/06/20 Date Published: 01/07/20	2.56	1.18	1.54

	Dust Deposition Gauges (g/m^2/month as 12-month rolling average)		
	Site 1 Office	**Site 2 Medway Village**	**Site 3 Loch Catherine**
July 2020 Report Received: 15/07/20 Date Published: 11/08/20	2.56	1.23	1.55
August 2020 Report Received: 14/08/20 Date Published: 11/09/20	2.62	1.27	1.66
September 2020 Report Received: 14/09/20 Date Published: 01/10/20	2.70	1.33	1.46
October 2020 Report Received: 15/10/20 Date Published: 10/12/20	2.92	1.27	1.43
November 2020 Report Received: 15/11/20 Date Published: 10/12/20	2.83	1.25	1.38
December 2020 Report Received: 16/12/20 Date Published: 13/01/21	2.81	1.28	1.35
January 2021 Report Received: 15/01/21 Date Published: 10/02/21	2.68	1.19	1.09
February 2021 Report Received: 12/02/21 Date Published: 11/03/21	1.84	0.97	0.93
March 2021 Report Received: 12/03/21 Date Published: 12/04/21	1.58	0.82	0.78
April 2021 Report Received: 16/04/21 Date Published: 12/05/21	1.47	0.81	0.78
May 2021 Report Received: 12/05/21 Date Published: 11/06/21	1.43	0.78	0.80
June 2021 Report Received: 11/06/21 Date Published: 13/07/21	1.63	0.91	1.04
July 2021 Report Received: 14/07/21 Date Published: 10/08/21	1.63	0.88	1.08
August 2021 Report Received: 13/08/21 Date Published: 14/09/21	1.68	0.89	0.98
September 2021 Report Received: 13/09/21 Date Published: 14/09/21	1.58	0.88	No Result[##]

Compliance summary: The dust levels at site office and Loch meet the adopted criteria.
*Dust gauge missing from Medway Village therefore no result for November 2017.
[#] Dust gauge destroyed in fire at Loch Catherine (Site 3) therefore no result for June 2018.
[##] Dust bottle cracked and leaking water, therefore no sample analysed at Site 3 in September 2021.

3.2 Atmospheric Dust Sampling

Up until the 30th August 2021, Berrima Colliery was required to measure the very small fraction of total suspended particulate matter, namely the 10 micron fraction (PM_{10}). This test measures the levels of the very fine dust suspended in the air which is a measure of potential health effects (irritation of the respiratory tract) as the small particles can penetrate into the airways and the lungs. Fine dust can persist in the atmosphere for days or even months before it settles and can travel some distance. Gauge 4 was located near the mine entrance which is midway between the mine facilities and the village of Medway.

Licence limit: Not specified

Adopted limits: The National Environment Protection (Ambient Air Quality) Measure standard of 50 µg/m^3 for a 24-hour average has been adopted. This is in line with current standards for the coal industry.

Table 7 – Atmospheric Dust Data

Month	Report Received	Date Published	PM_{10} µg/m^3 24 hour average
January 2017	23/01/17	06/02/17	13.6
February 2017	16/02/17	08/03/17	73.3
March 2017	16/03/17	04/04/17	8.5
April 2017	20/04/17	05/05/17	11.6
May 2017	15/05/17	05/06/17	8.8
June 2017	14/06/17	04/07/17	2.8
July 2017	03/08/17	08/08/17	<0.1
August 2017	18/09/17	13/10/17	<0.1
September 2017	18/09/17	13/10/17	7.0
October 2017	13/10/17	06/12/17	15.5
November 2017	14/11/17	06/12/17	10.2
December 2017	18/12/17	09/01/18	9.1
January 2018	24/01/18	13/02/18	15.16
February 2018	22/02/18	13/03/18	12.0
March 2018	26/03/18	14/04/18	17.3
April 2018	24/04/18	11/05/18	21.1
May 2018	18/05/18	12/06/18	14.5
June 2018	21/06/18	26/06/18	6.7
July 2018	19/07/18	14/08/18	3.2
August 2018	28/08/18	07/09/18	12.4
September 2018	26/09/18	04/10/18	5.5
October 2018	12/10/18	09/11/18	11.6
November 2018	7/12/18	13/12/18	37.8
December 2018	20/12/18	15/01/19	136
January 2019	22/01/19	11/02/19	25.9
February 2019	08/03/19	14/03/19	14.0

Month	Report Received	Date Published	PM_{10} µg/m^3 24 hour average
March 2019	27/03/19	12/04/19	8.8
April 2019	30/04/19	13/06/19	7.6
May 2019	27/05/19	13/06/19	43.5
June 2019	18/06/19	12/07/19	11.0
July 2019	18/07/19	8/08/19	2.0
August 2019	16/08/19	10/09/19	5.6
September 2019	20/09/19	10/10/19	6.6
October 2019	25/10/19	13/11/19	18.2
November 2019	18/11/19	12/12/19	44.4
December 2019	02/12/19	16/12/19	18.6
January 2020	29/01/20	11/02/20	35.0
February 2020	24/02/20	12/03/20	93.8
March 2020	17/03/20	08/04/20	15.8
April 2020	20/04/20	12/05/20	9.3
May 2020	18/05/20	04/06/20	14.0
June 2020	16/06/20	01/07/20	6.0
July 2020	13/08/20	11/09/20	12.9
August 2020	13/08/20	11/09/20	13.2
September 2020	23/09/20	01/10/20	9.0
October 2020	16/10/20	09/11/20	9.0
November 2020	16/11/20	10/12/20	4.7
December 2020	17/12/20	13/01/21	11.8
January 2021	25/01/21	10/02/21	2.7
February 2021	26/02/21	11/03/21	8.9
March 2021	13/04/21	12/05/21	18.9
April 2021	11/06/21	12/07/21	7.2
May 2021	17/05/21	11/06/21	7.7
June 2021	18/06/21	13/07/21	8.8
July 2021	14/07/21	10/08/21	1.8
August 2021	16/08/21	10/09/21	7.3
September 2021	16/09/21	14/10/21	18.2

Compliance summary:

The February 2017 result exceeded the NEPM standard at the mine office. The corresponding deposition monitoring data at the mine office and at Medway Village was still in compliance despite the elevated PM_{10} reading on the mine site, and therefore deposition rates at the nearest residential receptor remain in compliance.

The December 2018 result exceeded the NEPM standard at the mine office. This was due to localised dust generation resulting from handling of limestone aggregate for use in underground water treatment. The corresponding deposition monitoring data at the mine

office was elevated relative to the village and the stockpile sites. Given that the result at Medway Village was still in compliance despite the elevated PM_{10} reading on the mine site, deposition rates at the nearest residential receptor remain in compliance. Elevated dust readings will be expected in future as part of the earthworks component of the rehabilitation program.

The November 2019 result was effected by hazard reduction burning in the region, while the January and February 2020 levels were effected by bushfires in the local area.

As Berrima Colliery is now in the process of closure and all mining and ancillary activities have ceased at the premises, the EPA approved a variation to EPL 608 to remove the requirements to monitor Oil and Grease from the discharge point as well as remove the requirement to monitor dust. The results in this report include historic data prior to the change in the EPL for completeness.

REPORT ENDS