

AGL Loy Yang Mine Sustainability Report 2017 - 2018





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Introduction

This Sustainability Report¹ has been prepared to comply with a Notice received under section 26 of the *Mineral Resources (Sustainable Development) Act 1990*. This Sustainability Report relates to the AGL Loy Yang mine over the 2017/18 financial year.

The AGL Loy Yang Mine

The AGL Loy Yang Mine is situated in the Latrobe Valley approximately 160 km east of Melbourne. The AGL Loy Yang Partnership (AGL Loy Yang) currently owns the Loy Yang Mine, which provides coal to the 2200 MW Loy Yang A Power Station (also owned by the AGL Loy Yang Partnership), the 1050 MW Loy Yang B Power Station (owned by ENGIE), and other minor customers. AGL Loy Yang Mine is one of Australia's largest open cut mine with an annual nominal output of 30 million tonnes of brown coal and 6-8 million cubic metres of overburden and waste interseam (soil that overlies the coal seams).

The Open Cut Mine itself currently occupies an area of approximately 600 ha and has a depth of 220 metres, is 4.5 km long and 2.5 km wide at its widest. In pit overburden placement commenced in April 2017. An external overburden area is currently also being filled to the south of Bartons Lane and occupies 665 ha.

Operations continue 24 hours a day, 365 days a year. Coal is fed directly to the power stations and other customers via conveyor belt systems, which includes up to 18 hours of reserve supply held in the 80,000t Raw Coal Bunker (**RCB**).

The Loy Yang Mine was initially opened up near the outlet in the southern area of the mine, with excavation developing in a north easterly direction. Excavation is now being developed in an easterly direction. In the future, excavation will swing further to the south.

Mine operations use Bucket Wheel Excavators (**BWE**) (or dredgers), travelling stackers, mobile plant and conveyor systems to dig and transport coal and dispose of overburden and inter-burden materials.

Operation of the entire AGL Loy Yang Mine facility is monitored via the Mine's Control Centre located at the Mine Administration Offices. The Mine Administration area includes a number of offices, depot, storage and workshop buildings all located on the south side of the Open Cut and are occupied by a variety of mining personnel and site based contractors.

The Planning and Development Group provides essential infrastructure services to the entire site, including Loy Yang B and the numerous contractors established on site. Their services include low quality and high quality water, sewerage, drainage, ash disposal system and roads.

Between the commencement of mining in 1982 and 30 June 2018 the area disturbed by mining is approximately 1,227 ha. The area of the external overburden dump is approximately 665 ha. The final area of the mine will be approximately 2,200 ha, and the final external dump 850 ha. To date 628.1 ha of land has been rehabilitated.

The open cut operations are covered by Mining Licence (**MIN**) 5189 and a Work Plan approved in May 1997 (which has been subject to minor variations). The area covered by MIN 5189 is 4,561.4 ha. The Loy Yang A and B Power Stations are located on an area excluded from MIN 5189.

¹ In addition to this Sustainability Report, AGL annually publishes a company-wide sustainability report to provide a transparent account of our performance in relation to the social, environmental and economic challenges facing AGL and the energy industry. For more information on AGL's company-wide sustainability approach and performance over FY2017, visit: <http://agl2017.sustainability-report.com.au/>

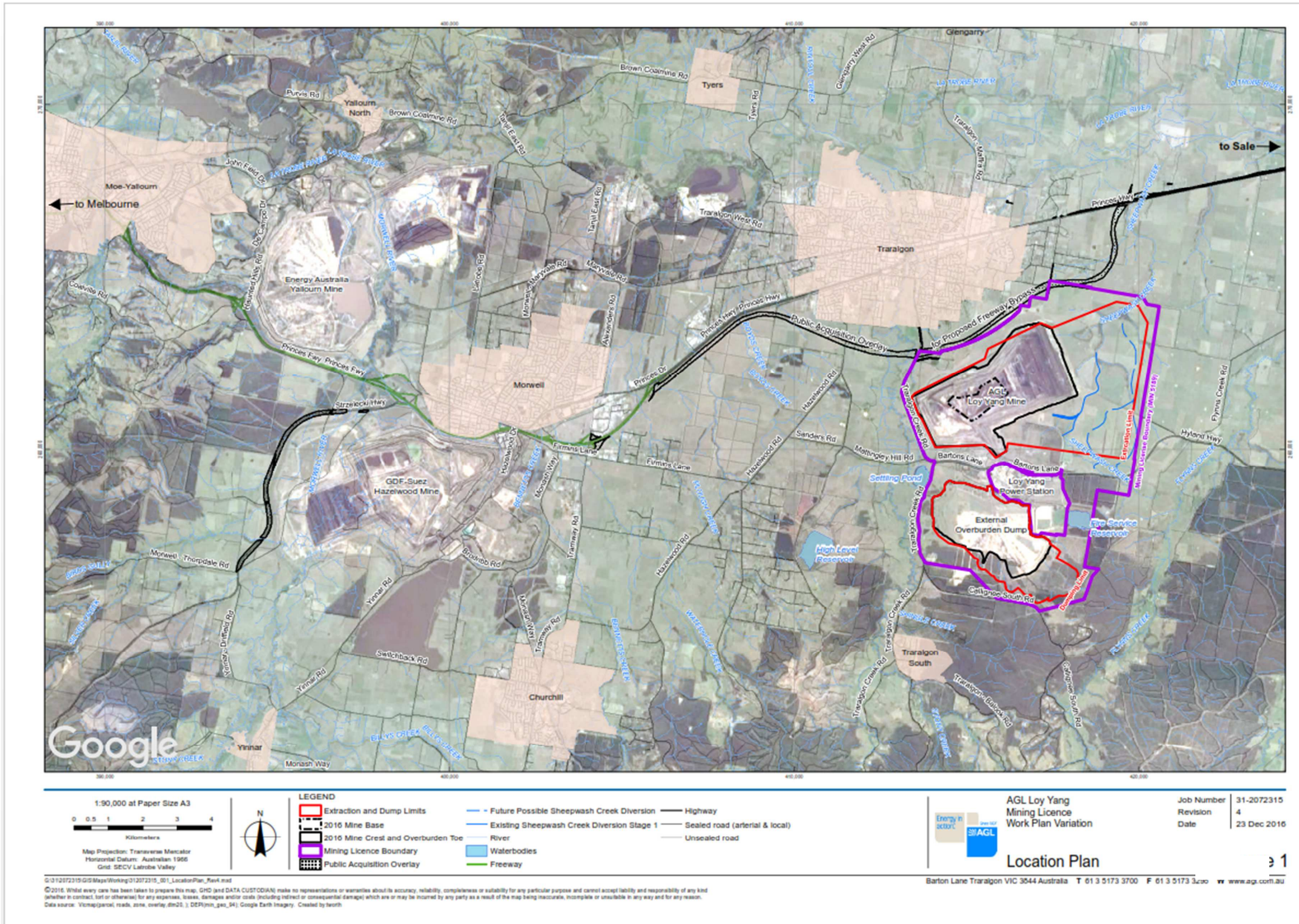


Figure 1 Loy Yang Mine Location Plan

Economic benefits of the operation

AGL Loy Yang Mine is Australia's largest open cut mine with an annual nominal output of 30 million tonnes of brown coal and 6-8 million cubic metres of overburden and waste interseam (soil that overlies the coal seams).

The Mine supplies coal that fuels the two adjacent Power Stations, namely:

- Loy Yang A Power Station operated by AGL Loy Yang.
- Loy Yang B Power Station operated by Alinta Loy Yang B.

Power stations currently fed by the Loy Yang Mine provide approximately 50% of the electricity generated in Victoria. The mine and these two power stations have been identified as critical infrastructure for the State of Victoria.

AGL Loy Yang currently employs approximately 600 full time employees and 300 contractors. It is estimated that Loy Yang Mine contributes millions of dollars every week to the local community through procurement, labour and the hiring of contractors.

Environmental management

Overview of environmental management plan

The Loy Yang Mine Environmental Management Plan (**EMP**) covers operations on MIN5189 and includes details on the following:

- Mining operations, organisations, individuals and associated processes at AGL Loy Yang Mine;
- Water treatment operations
- Waste storage and disposal operations, including ash waste and non-mineral waste
- Rehabilitation activities

The EMP does not include the power station operations as they are excluded from MIN5189.

The objective of the EMP is to outline the systems to manage environmental systems within the Loy Yang Mine.

The EMP identifies the environmental management structure and responsibilities, approvals and licencing requirements, reporting and training undertaken and property description. The EMP also describes the activities undertaken on site and the infrastructure onsite. The potential environmental impacts and the control and monitoring measures undertaken for each aspect of Loy Yang Mine's operation are described in the EMP and outlined in detail in separate management plans referenced in the EMP. Review of the environmental control systems is undertaken as part of the EMP.

Loy Yang Mine also has an Environmental Management System (**EMS**) that is designed to manage Loy Yang Mine's environmental obligations in a detailed, systematic, planned and documented manner.

The Loy Yang Mine EMS:

- Serves as a tool to improve environmental performance
- Provides a systematic way of managing environmental activities
- Provides order and consistency to address environmental events through the allocation of resources, assignment of responsibilities and on-going evaluation of practices, procedures and processes
- Consolidates environmental activities and responsibilities across the site, providing references to procedures, registers and policy documents
- Focuses on continual improvement of the system.

The EMS is a critical component of Loy Yang Mine's environmental and social responsibility activities and underpins its on-going environmental performance.

In addition to organisational drivers which underpin the development of the EMS, the Environment Protection Authority of Victoria (**EPA**) also requires the establishment and implementation of an EMS as part of its accredited licensing provisions.

Key Environmental Risks

Table 1 below outlines the aspects of the environment that have been identified as being potentially impacted by the activities undertaken at Loy Yang Mine. The key commitments and control strategies utilised at Loy Yang Mine are also outlined in Table 1.

Table 1 Summary of Loy Yang Mine Environmental Commitments and Control Strategies

Aspect	No.	Key Commitment	Control Strategies
AIR	1.	No loss of visual amenity due to air emissions	EPA licence #11149 limits Dust Trigger Action Response Plan Operational Controls for Dust Suppression Field monitoring program (online monitoring)
NOISE	2.	No impact offsite from mining activities	Operational procedures Monitoring program
WATER	3.	No offsite discharge of water containing contaminants	EPA licence #11149 limits Operational management procedures Online monitoring program
	4.	Land disturbance does not result in adverse discharge to surface or groundwater	Strategic mine planning process Approved Work Plan Variation
	5.	Maintain ash containment systems to prevent contamination to surface and groundwater	EPA Licence #11149 limits Groundwater monitoring network and program
	6.	Maintain environmental flows in Traralgon Creek	EPA licence #11149 limits
	7.	No exceedance of SWOP licence conditions	Gippsland Water waste monitoring program Online controls to stop pumps if turbidity & pH exceeded Trigger Action Response Plan
	8.	Collect and use artesian water as a resource	SRW Licenced extraction Regional subsidence monitoring Groundwater modelling Monitoring monthly usage SRW usage report
	9.	Dosing system to treat water before discharge from site	EPA licence #11149 limits Online monitoring of discharge Automated treatment systems
	10.	Maintain adequate water supply	Bulk Entitlement rights (as granted by Minister) Review operation and liaison with Water Authorities for Lake Narracan
	11.	No negative impact on groundwater outside the boundary of the attenuation zone	EPA licence #11149 limits Monitoring bores and modelling Groundwater monitoring program every six months and annual reporting
WASTE	12.	Appropriate waste disposal	EPA accredited waste disposal contractors used Regular "housekeeping" audits Routine maintenance

Aspect	No.	Key Commitment	Control Strategies
REHABILITATION	13.	Weed control	Operational procedures
	14.	Maintain topsoil resource	Long term rehabilitation programs Topsoil stripping / stockpiling plans
	15.	Use appropriate rehabilitation techniques	Work Plan Variation Plantation management plan Long term rehabilitation programs Land Rehabilitation Manual
	16.	Maintain progressive rehabilitation	Work Plan Variation Rehabilitation standards / audit protocols Long Term Rehabilitation Strategy Strategic Mine Rehabilitation Plan
LAND	17.	Discharge of wastewater to land must not adversely affect the land.	EPA licence #11149 limits Monitoring and design program
	18.	Land disturbance does not result in adverse discharge to land	Work Plan Variation Rehabilitation Strategic mine planning process
	19.	Maintain ash containment systems to prevent contamination to land	EPA licence #11149 limits Placement of ash as per design Leachate return systems to ash pond Containment practices
	20.	Control soil erosion	Work Plan Variation Operational procedures Land management Rehabilitation
	21.	Minimise acid mine drainage	Clay capping Dump management plan Adjusted pH of final effluent as required to meet EPA regulations Online monitoring & alarms Retention ponds/ drainage flows managed
CULTURAL HERITAGE	22.	Recognition of Archaeology and Heritage native title and reclamation of land parcel	Traditional Owner Settlement Act 2010 – S31 deed agreement CHMP for mining areas
	23.	Gain consent for destruction or removal of European and Aboriginal Archaeology and Heritage sites	Operational procedure Archaeological surveys – survey and recovery process
ENVIRONMENTAL AWARENESS	24.	Ensure all site personnel know their environmental commitments and responsibilities	Integrate environmental awareness into training package EMS work developing procedures Succession planning Appropriately trained contractors used on site JSEAs, risk assessments undertaken before activities commence
COMMUNITY	25.	Community support and no negative perception of AGL LY activities	Community consultation (through activities such as the Environmental Review Committee (ERC)) Stakeholder management process EPA licence requirement to undertake reporting Reports to the community, Annual Sustainability Report, public forums, etc.

Aspect	No.	Key Commitment	Control Strategies
ENVIRONMENTAL MANAGEMENT SYSTEM	26.	Compliance with EMS	Compliance calendar Monitoring program Internal and EPA audits Review

Table 2 below outlines the environmental monitoring undertaken at Loy Yang Mine. For each of the identified environmental aspects, monitoring is undertaken to determine the impact on the environment from the operational activities at Loy Yang Mine. The timing, frequency and responsibility for each monitoring activity is also outlined in Table 2.

Table 2 Loy Yang Mine Environmental Monitoring

Monitoring Type	Monitoring Locations	Timing and Frequency	Responsibility
Air	<p>Ambient air monitoring as part of the Latrobe Valley Air Monitoring Network</p> <p>Deposition gauges at 2 locations (D7, D8) outside the site boundary and nearby sensitive receptors (e.g. Flynn Farm)</p> <p>Visual inspections from elevated viewing point</p> <p>Particulate monitoring at numerous (currently 5) locations (S1 – S4 and ‘Stuckeys’), sensitive receiver locations, or appropriate representative locations.</p> <p>Odour survey along the boundary of the premises</p>	<p>Monthly site walk around during operating hours</p> <p>Monitoring following complaints</p> <p>Regular audits of environmental performance</p> <p>Visual inspections weekly, or during dry, windy weather events.</p> <p>Particulate monitoring – continuous recording of PM10 concentration.</p> <p>Dust deposition – continuous, with monitors replaced monthly.</p> <p>Regular audits of environmental performance – once annually as part of an annual non-statutory audit.</p>	<p>Scientific Services Manager</p> <p>Planning and Development Manager</p> <p>Environment and Earth Sciences Superintendent</p> <p>Environment Business Partner</p>
Noise	<p>Unattended Noise logging when required (previously undertaken at the six sensitive receiver locations: Whitelaws track, Liddiard Road (Hilltop Park), Chester Park Drive, Stuart Creek, Traralgon Creek Road, Sagars Road).</p>	<p>Monthly site walk around during operating hours</p> <p>Monitoring following complaints</p> <p>Regular audits of environmental performance</p>	<p>Scientific Services Manager</p> <p>Planning and Development Manager</p> <p>Environment and Earth Sciences Superintendent</p> <p>Environment Business Partner</p>
Water	<p>Surface water monitoring at surface water discharge locations - Discharge points (L150, L160, L171) and upstream location L203 and downstream location L201 of Traralgon Creek.</p> <p>Visual inspection of surface water/stormwater drains and discharge points.</p> <p>Effectiveness of leachate collection and pump back system</p> <p>Visual inspection - stormwater management systems.</p> <p>Visual inspections of OB dump surface.</p> <p>Regular statutory audits</p> <p>Regular observation</p> <p>Land and Drainage Systems</p>	<p>On line sampling at non-licensed discharge point following an event.</p> <p>On line and sampling at licensed discharge points</p> <p>Locations L203, L171, L201 and L160 sampled weekly when flowing.</p> <p>Visual inspection – once per week and after each significant rain event.</p> <p>Six monthly for groundwater bores.</p> <p>Recording of all spillage incidents on Incident Register.</p>	<p>Planning and Development Manager</p> <p>Environment and Earth Sciences Superintendent</p> <p>Environment Business Partner</p>

Monitoring Type	Monitoring Locations	Timing and Frequency	Responsibility
	Groundwater bore monitoring and modelling for groundwater plume Background water monitoring Irrigation site runoff and site boundary runoff monitoring		
Ash	Visual inspections of leached ash disposal areas.	Recording of all incidents on Incident Register. Regular audits	Environment Business Partner Planning and Development Manager Environment and Earth Sciences Superintendent
Hazardous Materials	EPA Transport Certificates Monitoring of litter complaints and inspection of area.		Environment Business Partner Planning and Development Manager Environment and Earth Sciences Superintendent

Activities and monitoring outcomes 2017 - 18

During the 2017-2018 period the following environmental management activities were undertaken:

- o Dust suppression through placement of paper mulch within the mine, water sprays within the mine, water trucks on unsealed roads;
- o Weed spraying; and
- o Water treatment before discharge offsite through polymer and caustic dosing.

Table 3 below outlines the water monitoring results at each discharge point from July 2017 through to June 2018. The exceedances of the target limits observed at L160 are discussed further.

Table 3 Loy Yang Mine 2017-2018 EPA Licence Limits vs Actual Discharge Water Qualities

Sampling Point		Suspended Solids (mg/L)	Total Dissolved Solids (mg/L)	Turbidity (mg/L)	pH	Colour (Pt/Co)
L160 – EPA Licence Limit	Maximum	60	700	80	6 – 8.5	
	Median	40	500	30		
L160 - Combined SW and NW floc ponds discharge	Maximum	42	350	49	7.6	110
	Median	5	260	3.95	6.8	55
L171 – EPA Licence Limit	Maximum	40	700	40	6 – 8.5	70
	Median	20	500	20		50
L171- Settling pond & O/B runoff ponds discharge	Maximum	15	490	31	7.4	45
	Median	5	370	2.8	6.4	15

°C = Degrees Celsius

mg/l = Milligrams/litre

NTU = Nephelometric Turbidity Units

pH = pH units

PtCo = Platinum Cobalt Units

Table 4 Total Groundwater Pumped and Collected 2017-2018

Month	Pumped ML	Pumped to PYPS ML	Collected %
July	695.9	664.4	96.7%
August	877.8	862.5	98.5%
September	809.8	787.2	97.8%
October	963.4	955.3	99.9%
November	920.8	905.5	99.7%
December	587.9	571.6	98.6%
January	916.7	901.0	99.2%
February	740.9	739.1	100.0%
March	949.7	918.3	97.1%
April	979.4	976.9	100.0%
May	900.2	897.1	100.0%
June	697.4	695.0	99.8%
Total	10,039.9	9,873.9	99.0%

Table 5 Groundwater Pumped M2B, M2C and Traralgon (ML) 2017-2018

Month	Traralgon	M2C	M2B	Total Seepage
July	529.3	216.8	0	50.1
August	690.9	244.1	0	57.2
September	653.6	204.4	0	48.2
October	798.3	236.9	0	57.4
November	764.8	210	0	41.1
December	464.7	132.8	0	9.5
January	732.7	219.5	0	35.4
February	544.9	219.5	0	23.5
March	736.5	238	0	24.9
April	754.4	250.3	0	25.2
May	681.9	247.6	0	29.3
June	527.6	192.1	0	23.3
Total	7879.6	2612	0	425.1

Rehabilitation

Final Concept Rehabilitation Plan

The rehabilitation goals for Loy Yang Mine area are:

- Cover all exposed coal with non-combustible inert material and vegetated where applicable
- Create a geotechnical stable landform
- Safe to humans and wildlife
- Non-polluting
- Create a land form that sustains post-mining land use.

- Complete the majority of the rehabilitation works within 15 years of closure; with a subsequent period of monitoring and maintenance as required.

Loy Yang Mine is committed to the progressive and final rehabilitation of the Loy Yang open cut mine. Loy Yang Mine recognises that there are challenges in achieving the key objectives as outlined above. As a result Loy Yang Mine is working with government bodies, researchers and the operators of the Yallourn and Hazelwood mines to better understand the risks.

Final Closure concept and closure plan

The closure concept is to partially flood the final open cut void to form a lake, return the remaining disturbed land to agricultural use, and develop native flora/fauna vegetation corridors that connect to the remaining bush reserves adjacent to the Mining licence area. Current undisturbed land will continue to be used as pasture/grazing land. The closure concept is shown in Figure 2 (or Figure 19 of the approved Work Plan Variation).

AGL Loy Yang is committed to achieving a final closure concept over the Mining Licence area with the following rehabilitation goals:

- Reduce the mining footprint
- Reinstatement a natural ecosystem similar to that which existed pre-mining, over parts of the area,
- Reinstatement previous land use over parts of the area, and develop a lake for the remainder of the area.

AGL Loy Yang is committed to rehabilitating some land immediately adjacent to the Mining Licence area within the final rehabilitation concept.

At this point in time, it is AGL's intention that the land will remain in private ownership at the completion of mining with limited public access. Land will be made available through leasing to the public. AGL Loy Yang commits to flooding the mine as soon as practicable after the completion of mining and earthworks associated with rehabilitation.

Community Consultation

AGL Loy Yang has adopted company-wide principles that guide our approach to engaging with stakeholders about rehabilitation. These principles include:

- **Transparency** – AGL will provide stakeholders with information to enable better understanding of the issues related to rehabilitation of AGL sites.
- **Engagement** – AGL will undertake ongoing engagement with stakeholders to ensure a diverse range of views are considered in rehabilitation plans and processes.
- **Accountability** - AGL will publish relevant information at least annually to enable external assessment of rehabilitation activities.

Consistent with these AGL-wide rehabilitation principles, AGL Loy Yang has adopted a set of rehabilitation principles to provide a framework for planning and undertaking rehabilitation activities and for setting appropriate objectives and targets. One of the rehabilitation principles adopted by AGL Loy Yang is “regular consultation to be conducted with stakeholders during the rehabilitation planning process and their interest taken into account”. The local community is considered to be a stakeholder of the final closure plan and consultation on rehabilitation planning will be included in the community engagement plan as outlined in the approved Work Plan Variation.

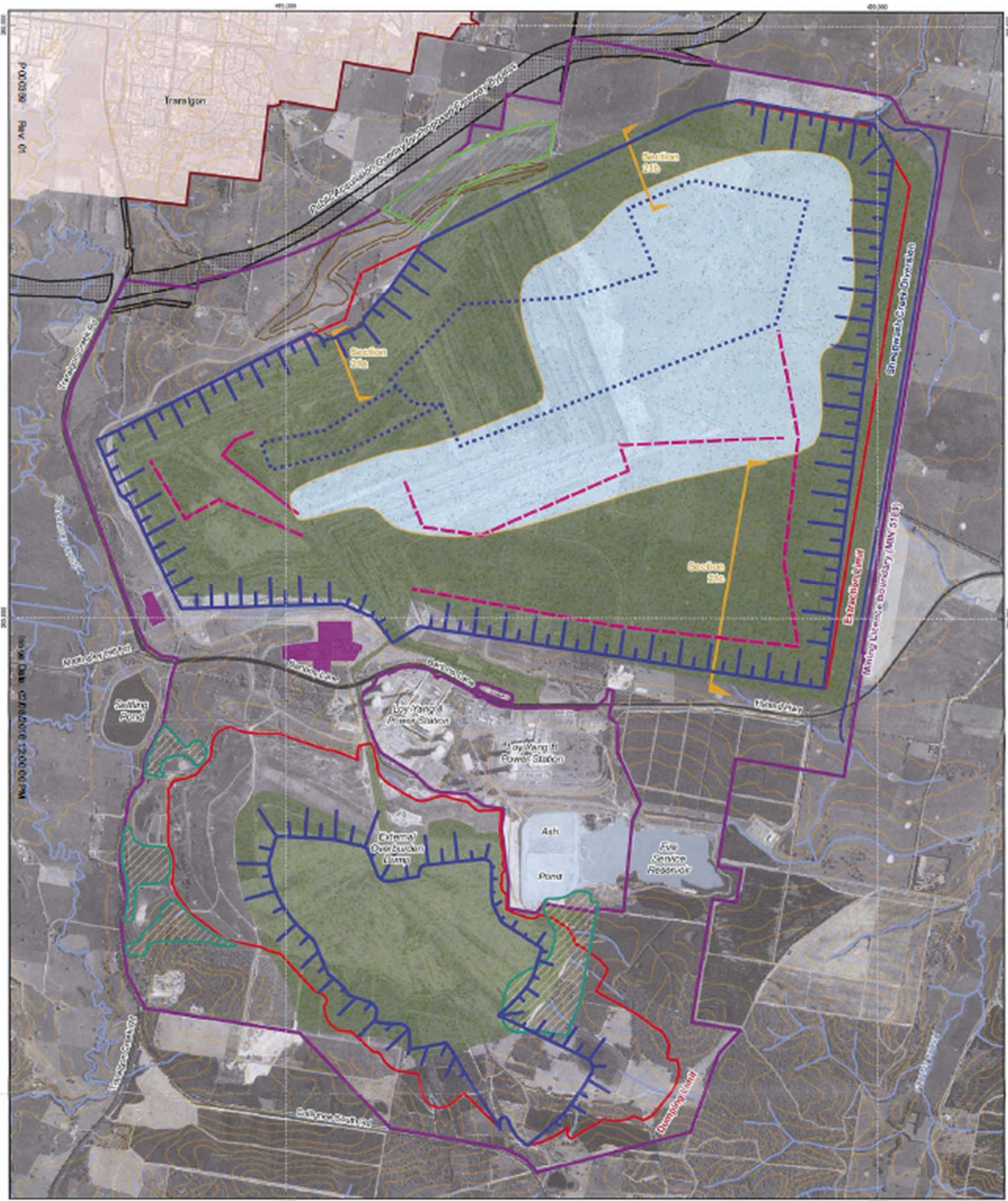


Figure 2 Final Closure Plan

Progressive rehabilitation milestones

Progressive rehabilitation will take into account future mining development and designated final land uses to maximise the efficient use of resources. Progressive rehabilitation of the coal mine is carried out as and when final pit batters and floor areas become available, that is, are no longer required for production or support infrastructure, such as flood protection, fire water infrastructure and power supply purposes.

Loy Yang Mine's plans for the progressive rehabilitation of the coal exposed in the final slopes mine (above the overburden fill level) is determined by the on-going access, infrastructure layout and geotechnical stability of the coal batters. Loy Yang Mine's experience with coal slope rehabilitation shows that there are competing issues still to be resolved in determining the design for progressive coal slope rehabilitation. In order to assist in resolving some of these technical issues, Loy Yang Mine is conducting a comprehensive number of trials of rehabilitation options on sections along the west and north western permanent slopes. The trials will assist in determining the final rehabilitation design (inter-slope angle, clay and topsoil coverage, infrastructure layout, drainage and maintenance) for the existing slopes and maintenance requirements.

For progressive rehabilitation all future permanent batters will be designed to be safe, stable and sustainable. The results from the aforementioned trials will be used to inform the rehabilitation design for these permanent batters on the northern, eastern and southern slopes (about 14 km).

In assessing the acceptability of rehabilitation objectives, indicators and completion criteria Loy Yang Mine has had regard to the hierarchy for mine rehabilitation. AGL Loy Yang has selected strategies that are listed higher in this hierarchy in preference to those listed lower. The hierarchy in order of decreasing capacity to prevent or minimise environmental harm is:

1. Avoid disturbance that will require rehabilitation
2. Reinstatement a "natural" ecosystem as similar as possible to other existing ecosystem in the region
3. Reinstatement previous land use (e.g. grazing or plantation)
4. Develop lower value land use
5. Leave the site in an unusable condition or with potential to generate future pollution or adversely affect environmental values.

There are nine domains within the closure concept plan. The domain closure indicators and acceptance criteria for each domain are summarised in Table 6. Within the acceptance criteria defined by this rehabilitation plan certification is to be read as self-certification by Loy Yang Mine.

Table 6 Closure domain indicators and acceptance criteria

Closure Domain	Closure Indicators	Closure Acceptance Criteria
Unaffected land	Continuance of existing pasture, grazing land use Develop visual screens along the southern edge of the proposed Traralgon by-pass	Certification that vegetation type and density are suitable for visual screening.
Waterways	Native species Revegetation Water quality Flooding	Certification that vegetation type and coverage is suited to the regional assessment of waterway requirements. Certification report on vegetation self-supporting over a continuous 3 year period. Certification of water quality meeting EPA guidelines within the waterways over a continuous 3 year period. Certification that water ways will not overflow in 1:100 ARI event.
Overburden dumps (external)	Return to pasture, grazing land use	Certification that pasture grasses are established and self-sustaining Certification that weed management is successful.
Overburden batters	Stable batters	Certification that slopes are safe and stable in the long term. Erosion restricted to less than 10% of exposed area. Certification that pasture grasses are established and self-sustaining. Certification that weed management is successful.
Coal batters above lake water line	Stable batters	Certification that slopes are safe and stable in the long term. Certification that erosion rates meet regional expectations. Certification that pasture grasses are established and self-sustaining with over 70% coverage. Certification that weed management is successful. Certification that exposed coal in the batters is covered with overburden to a minimum depth of 0.5 m.
Coal batters below final lake water level	Stable batters Removal of infrastructure	Certification that slopes are safe and stable in the long term. Certification that groundwater pumps and associated infrastructure can be removed from the batters progressively as lake water level rises.
Pit floor (exposed)	Floor coverage Removal of infrastructure	Certification that exposed coal in the pit floor is covered with overburden to a minimum depth of 0.5 m. Certification that groundwater pumps and associated infrastructure can be removed from the pit floor.
Pit void (Lake)	Stable batters Minimal erosion due to wave action	Certification that slopes are safe and stable in the long term. Certification of long term stability of the beach areas and lower batters.

Overview of rehabilitation activities 2017 - 2018

Table 7 below outlines the land disturbance and rehabilitation during the reporting period. All rehabilitation works include the shaping of the batter, placement of fill and topsoil and revegetation.

Table 7 2017-2018 Land Disturbance and Rehabilitation

Land Disturbance and Rehabilitation	Area
Pits - Total	965 ha
Overburden and waste rock dumps - Total	298 ha
Total current area of land disturbed	1,263 ha
Pits 2017-2018	33.98 ha
Overburden and waste rock dumps 2017-2018	2.02 ha
Total area of land disturbed in 2017-2018	36.0. ha
Area rehabilitated in 2017-2018	38.1 ha
Total current area of land rehabilitated	628.1 ha
Percentage of the area rehabilitated in 2017-2018 that was revegetated with local native vegetation	0%

Figure 3 below displays the rehabilitation undertaken at Loy Yang Mine in the reporting period and since mining commenced.

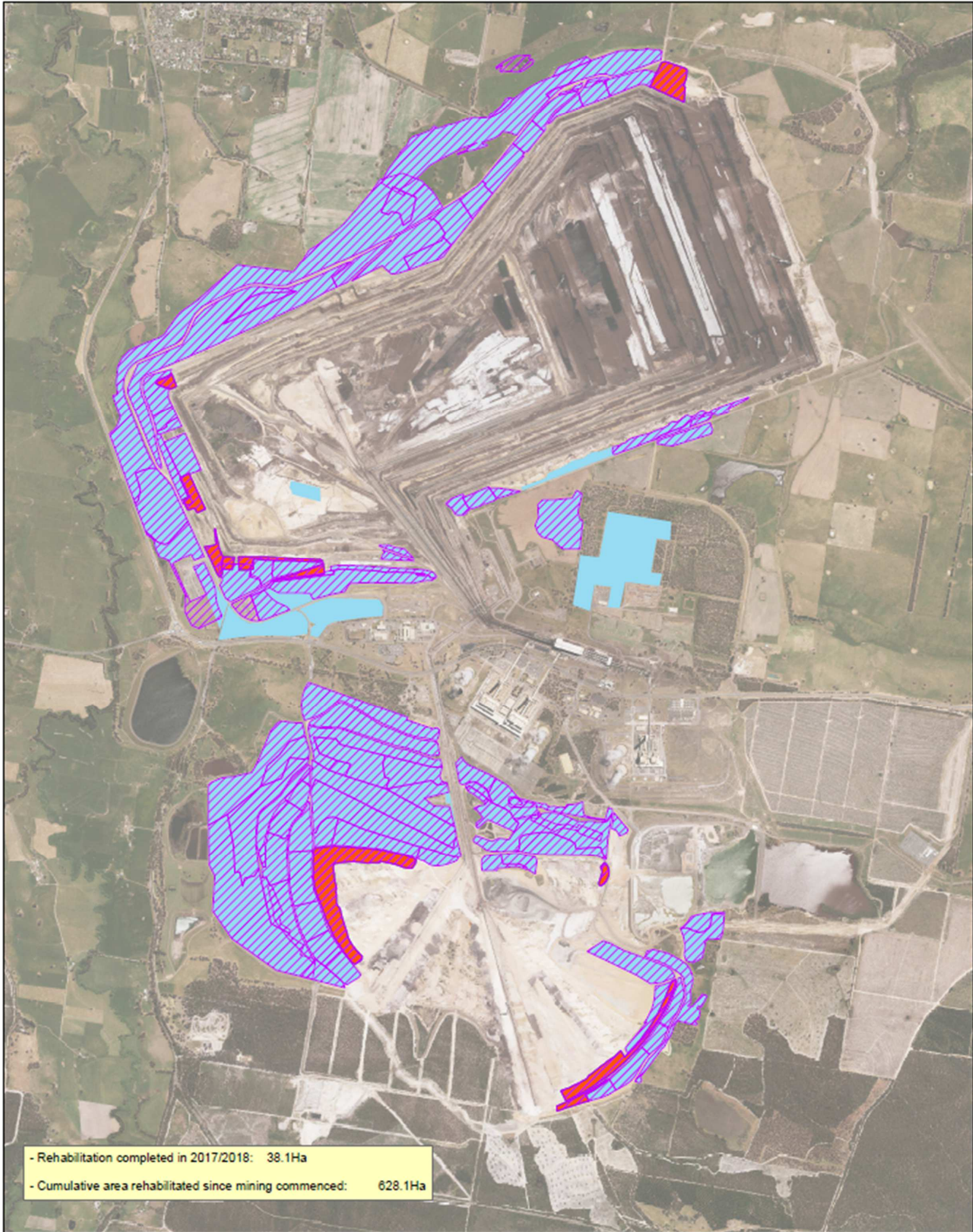


Figure 3 Rehabilitation at Loy Yang Mine



Community engagement

Overview of community engagement plan

For AGL, authentic community engagement will ensure high quality services and operations that understand and respond to stakeholder interests.

In delivering high quality engagement practices which identify, seek to understand, and respond to the interests, concerns, risks and interdependencies of its stakeholders, AGL will make better quality decisions, and will aim to exceed its regulatory requirements for engagement.

AGL Energy follows the approach of the IAP2 International Association for Public Participation Australasia Quality Assurance Standard for Community and Stakeholder Engagement.

Ensuring individuals affected by a decision have input into that decision enables better quality decisions to be made, and helps to ensure that everywhere AGL operates, communities are better off as a result of AGL's activities.

AGL's key commitments include the points listed below. A move towards a standard Community Engagement practice across AGL's fleet is ongoing.

- Knowing where you stand – we combine local presence, knowledge and research to understand the communities in which we operate.
- Using a range of communication channels that suit community needs – we seek to understand how stakeholders like to be informed and involved in our projects.
- Keeping it local – we take opportunities to employ local people, use locally sourced products, involve local communities and build local relationships. We seek feedback from stakeholders to improve the way we work together.
- Showing not telling – we provide opportunities for stakeholders to see and experience how we operate, including site tours, equipment inspections and community engagement activities.
- Doing what we say we'll do – we build trust by delivering on our promises. We record, measure and report on our commitments to ensure we are keeping them.
- Building internal capacity – we review and improve our communication activities so our people are informed, engaged and understand the commitments we make.

In line with AGL's overarching Community Engagement Policy and standards, AGL Loy Yang is currently undertaking consultation with key stakeholders regarding the appropriate model to oversee its community engagement activities. This includes an evaluation of AGL's Community Dialogue model which is the general model proposed for all AGL assets. Currently this work is undertaken by the Environmental Review Committee (**ERC**).

Alongside this, AGL has placed a strong emphasis on diversity and inclusion. To develop and strengthen relationships with Aboriginal and Torres Strait Islander (**ATSI**) peoples and their local communities, AGL is undertaking preliminary work, including consultation with Reconciliation Australia, to establish a formalised, strategic Reconciliation Action Plan to support engagement. Consultation will be undertaken with the Gunaikurnai people to ensure the local community is engaged and empowered during the planning and implementation stages of this strategy, and any operations of AGL Loy Yang which may impact that community.

AGL Loy Yang will clearly outline as part of its community engagement what is and is not negotiable. While the majority of the operations of the Loy Yang mine must meet mandated requirements set out in the approved Work Plan Variation, the community is empowered to decide how it wishes to provide and receive communication from AGL Loy Yang around its operations.

AGL Loy Yang's key commitments to community engagement are provided in Table 8

Table 8 AGL Loy Yang's Key Commitments to Community Engagement

Area of Focus	Purpose and Outcomes	Approach
<p>Community Engagement is an integral part of operations</p>	<p>AGL Loy Yang will ensure that the community is engaged early, involved in the decision making process wherever possible, and made aware of any potential impacts.</p> <p>Community expectations will be understood and managed.</p>	<p>The AGL Loy Yang Community Engagement Plan will detail objectives, opportunities and outcomes of community involvement.</p> <p>AGL Loy Yang will capture all information regarding its stakeholders in its stakeholder register, Consultation Manager, and engage with stakeholders per their level of interest, involvement or impact.</p> <p>AGL Loy Yang will offer opportunities to engage interested and relevant stakeholders.</p> <p>The Community Relations Manager (CRM) will support all community engagement activities and will identify opportunities to build local relationships.</p> <p>The CRM will undertake a periodic review of the Community Engagement Plan and the Stakeholder Register to ensure both are current and reflect changing requirements.</p> <p>Community engagement will be supported by Operations Management and the relevant Business Partners on site, along with the broader Government and Community Relations Team within AGL Energy.</p> <p>Communications will clearly state the intent and issues to be dealt with, and will detail what the community is being asked to participate in and why.</p>
<p>Community attitudes and expectations are identified</p>	<p>AGL Loy Yang will make every effort to be a legitimate and trusted partner</p>	<p>Annual public engagement forums are held, and open to any interested stakeholder.</p> <p>AGL Loy Yang will support community groups and initiatives through its Community Partnerships Program.</p> <p>AGL Loy Yang will identify areas of opportunity to support community groups and initiatives outside of the program where it aligns with AGL's strategic priorities.</p> <p>Briefings will be provided to key community groups and interested parties on topics either identified by the community or by AGL Loy Yang, where the topic may impact or be of interest to the community.</p> <p>AGL Loy Yang will support a Community Monitor survey to be undertaken annually.</p> <p>AGL Loy Yang will further develop its external website at agl.com.au/loyyang</p> <p>AGL Loy Yang is committed to a health and safety culture that serves in the best interests of its staff and contractors, the broader communities, and complies with all environmental requirement and incident response procedures.</p>

Area of Focus	Purpose and Outcomes	Approach
		<p>AGL Loy Yang will ensure stakeholders have the opportunity to be informed of potential or actual impacts of its operations.</p> <p>AGL Loy Yang will implement its emergency response plans in the case of an environmental or safety incident.</p>
Social impacts	<p>AGL will identify and communicate potential impacts to stakeholders.</p> <p>A complaints management system is in place with regular reviews of emerging issues.</p>	<p>AGL Loy Yang will identify potential impacts and recommend management and / or mitigation strategies.</p> <p>AGL Loy Yang will offer information to interested stakeholders and briefings to affected landowners and neighbours.</p> <p>AGL Loy Yang will seek to minimise intrusion and disruption to stakeholders, existing land use activities and existing infrastructure.</p> <p>AGL Loy Yang will conduct all activities in accordance with the relevant approvals.</p> <p>Safe works practices will be followed and ensure the site does not pose any health and safety risks for those onsite, neighbours and those passing by.</p> <p>AGL's Community Complaints Policy and Management Procedures will be followed.</p>
Evaluation and measurement of effective stakeholder engagement	<p>AGL Loy Yang will continue to identify areas for improvement in its practice of community engagement.</p>	<p>Evaluate the communication and engagement activities against quality, cost and timeliness of consultation.</p> <p>For example:</p> <ul style="list-style-type: none"> • Communicating stakeholder and community engagement feedback to identify areas of improvement and success • Participants evaluation of consultation activities to include consulting key stakeholders for their feedback • Measuring feedback over time to demonstrate if consultation has resulted in an increase in the percentage of people who say AGL listens to their view or who have expressed satisfaction with AGL Community Monitor survey • Regular, formal review to determine successes and identify areas for improvement • Measuring the timeliness of preparation of communications resources and delivery of them as well as community satisfaction with the standard of information provided • Refine engagement techniques and practices to increase community involvement as required.

AGL Loy Yang employs a comprehensive suite of communication and engagement tools to identify the attitudes, expectations and concerns of key stakeholders and the wider community. This information is used to inform key decisions made by the business.

The IAP2 Spectrum of Public Participation recognises five streams of engagement – Inform, Consult, Involve, Collaborate and Empower.

Methods for identifying attitudes, expectations and concerns are outlined in Table 9.

Table 9 Community and Stakeholder Engagement Methods

Method and/or Technique	Inform	Consult	Involve	Collaborate	Empower
Advertising	✓				
Advisory Committees	✓	✓	✓	✓	
Briefings	✓	✓	✓		
Community fairs/events	✓	✓	✓		
Community meetings	✓	✓	✓		
Community reference groups	✓	✓	✓	✓	
Discussion groups and workshops	✓	✓	✓		
Displays	✓	✓			
Education and awareness programs	✓	✓	✓		
Fact sheets	✓	✓			
Media stories	✓				
Newsletters	✓				
One on One interviews or meetings	✓	✓	✓	✓	
Open days	✓	✓	✓		
Policy actions teams	✓	✓	✓	✓	
Survey research		✓			

Stakeholder Categorisation

The Community Engagement Plan identifies a stakeholder as an individual, organisation or group who is affected by the operations of AGL Loy Yang.

Stakeholders are categorised using the following definition, and communication is targeted to each category depending on their identified requirement and interest.

- Stakeholders directly impacted or involved.
- Individuals, businesses, government agencies, community or social groups who are directly impacted by, or involved in, the operation of the mine.
- Stakeholders with a direct interest.
- Individuals, businesses, government agencies, community or social groups who have a direct interest in the operation of the mine.
- Stakeholders of standing.
- Individuals, businesses, government agencies, community or social groups of standing in the local community.
- Broader stakeholders, indirect stakeholders.
- Individuals, businesses, government agencies, community or social groups who are based in the region and who are not impacted directly by, but may have an interest in, the operation of the mine.

Overview of community engagement activities 2017- 2018

Table 10 Community Engagement Activities 2017-2018

Activity	Date	Activity promotion or advertising	Stakeholders involved
Attendance and key contributor to monthly Gippsland Executive Forums	Ongoing	Presentation made by Stakeholder Relations Manager Renee Switzer on Hydrogen Energy Supply Chain	Business and industry in Latrobe Valley including Australian Paper, Latrobe Regional Hospital, Gippsland Water etc
ERC meetings	Ongoing (4)	Environmental and community issues	ERC (Community Members, LCC, ERR, EPA etc)
Site Tour - Minister Wade Noonan	Quarter One 2017		
Site Tour - Adam Bandt Federal Member for Melbourne (Greens)	Quarter One 2017		
Federation University Entrepreneur Program Launch	Quarter One 2017	Media release and local media reported	FedUni, local businesses
Gippsland Jobs and Innovation Showcase	Quarter One 2017	Media present and reported on event. Interview with AGL's Doug Jackson	FedUni, local industry, Victorian Government, local businesses
AGL LY Community Dialogue Group (CDG) Workshop	Quarter One 2017	Workshop advertised in local paper	Local community groups
Latrobe Valley Authority Site Tour	Quarter One 2017		
Emergency Management Victoria Site Tour	Quarter One 2017		
STEM Sisters Event	Quarter Two 2017		
Latrobe Valley Authority - Micro-Credentialing - Industry engagement session AGL	Quarter Two 2017		Latrobe Valley Authority
Gippsland Asbestos Related Diseases Support Group meeting presentation	Quarter Two 2017		
Hazelwood Power Station Community Consultation sessions	Quarter Two 2017		
Job Shadow Day	Quarter Two 2017	Media Release. Media present at event which was reported by both print and television.	Work Solutions Gippsland
Committee for Gippsland meeting attendance	Quarter Two 2018		
Gippsland Executive Forum attendance	Quarter Two 2018		
Bass Coast Landcare Program Launch	Quarter Two 2018	Media Release. Media coverage in both print and television. Advertised by Landcare throughout local schools.	Bass Coast Landcare Network. Latrobe Valley secondary schools.
Delivery of Enterprise Development Program	Quarter Three 2018	Advertised in local press and on social media	Local businesses, AGL Loy Yang suppliers, FedUni.
Marriage Equality Decision Day November 2017	Quarter Three 2018		Gippsland Rainbow Collective, community members
Pop up stand	December 2017	Pop up stand at the Traralgon Plaza which allowed leaders	AGL leaders, Latrobe Valley community members

Activity	Date	Activity promotion or advertising	Stakeholders involved
		and industry experts from Loy Yang the opportunity to liaise with the public and answer any questions on our operations.	
Hydrogen Energy Supply Chain (HESC) project	April 2018	AGL hosted the launch of a world-first pilot project to convert brown coal to liquid hydrogen.	Australian and Victorian government representatives including the Prime Minister, Kawasaki Heavy Industries, J-Power, Iwatani and Marubeni Corporation, community representatives
Environmental Justice Australia Community Forum Attendance	Quarter Three 2018		
AGL Loy Yang Community Forum	February 2018	Community Forum in Traralgon. This forum took an interactive approach with industry representatives taking the stage and answering questions from our Community Dialogue chair as well as questions that were texted in and displayed on a screen behind the speakers. Forum was advertised in local press.	
Press conference re Generator "super load" move.	Quarter Three 2018	Media Release. Local and state media coverage.	VicRoads, Siemens, Victorian Government
Launch of Community Dialogue Group	Quarter Three 2018	Community Dialogue Group (CDG) will sit alongside its Environmental Review Committee. The CDG has an independent chair and will be community driven. It will focus on issues related to AGL Loy Yang that our stakeholders and Latrobe Valley community members are most interested in	Community representatives
"Relaunch" of Smith Family Program	Quarter Three 2018	Media release and local media coverage	Smith Family and Kurnai College
Shadow Cabinet attendance	Quarter Four 2018	Media present	Victorian Opposition, local MPs, businesses and community representatives,
Gippsland Executive Forum	Quarter Four 2018	AGL presented on HESC	Local business and community representatives
First Community Dialogue Group Meeting	Quarter Four 2018		
STEM Sisters	Quarter Four 2018	Site tour. Local media coverage	Local secondary schools, Baw Baw Latrobe Local Learning and Employment Network
Pride Match - NGFNC Partnership	June 2018	Media and social media coverage.	AFL Gippsland, North Gippsland Football Netball Club, Latrobe Regional Hospital, Latrobe City

Activity	Date	Activity promotion or advertising	Stakeholders involved
			Council and local Gippsland community
Enterprise Development Program This program allowed suppliers and small businesses affected by the closure of Hazelwood the opportunity to take part in a 5 day business course through Federation University aimed at helping these businesses grow and diversify.	June 2018	Media launch - WIN News, 9 News, Latrobe Valley Express and Gippsland FM	Federation University, Regional Development Victoria, local businesses
Gippsland GROW program	May 2018	Workshop run by Latrobe Valley Authority commissioned consultants ArcBlue	Latrobe Valley Authority, ArcBlue, local industry and suppliers

Compliance record

Reportable events and corrective actions

There were no reportable events as described in the Mineral Resources (Sustainable Development) Act.

There were 4 EPA reportable events reported during the period

- o 19/12/2017, off-site nuisance dust. Breach of EPA licence condition LI_A3 that requires no nuisance dust beyond the boundaries of the premises
- o 18/3/2018, off-site nuisance dust. Breach of EPA licence condition LI_A3 that requires no nuisance dust beyond the boundaries of the premises
- o 7/8/2017, sample collection from EPA licensed discharge point L160 reported a pH of 5.8, below the minimum EPA licence limit of 6.
- o 1/12/2017, minor ash disposal line developed a leak. The ash contaminated water discharged across the AGL Loy Yang premises boundary onto the adjacent Loy Yang B site. Discharge of waste beyond the premises boundary is a breach of the site's EPA licence.

Mine Stability

High level summary of Declared Mine Report

During the period one report detailing the geotechnical and hydrogeological performance of Loy Yang Mine between 1 July 2017 and 31 December 2017 was prepared (AGL, 2018). The information between 1 January 2018 and 30 June 2018 is taken from the AGL Loy Yang Mine Monthly Reports for the Aquifer Depressurisation and Geotechnical Program and the six monthly report is currently being prepared. This is in accordance with the LYM Ground Control Management Plan (**GCMP**) and Department of Economic Development, Jobs, Transport and Resources reporting guidelines (DEDJTR, 2015).

These reports are based on the results of the monitoring program as outlined in the GCMP and structured as mitigating controls for the geotechnical risks. This program included the following activities:

- o Ground movement surveys based on pin network
- o Monitoring of groundwater pressures for both mine batter stability and aquifer depressurisation
- o Periodic inspections of mine domains (Fortnightly, monthly, and annually)
- o Annual inspection and mapping of operating faces to record defects (mostly update crack / joint orientations)
- o Dam inspections (daily, monthly, and annually)
- o Repair and maintenance of cracks and other geotechnical issues

The reports detail performance of permanent batters, the mine operating face, mine floor, dams and the external overburden dump as well as providing a summary of other reports generated during the period.

A summary of findings, contained in the two reports are detailed below.

Aquifer depressurisation

- TR and M2C aquifer pressures remained within normal limits for all mine domains.
- M2B pressures were also within normal limits across all mine domains with one exception. During July a small area within the South East domain recorded a minor exceedance above normal limits, this was not considered significant.
- All aquifer pump outages were within normal limits.
- Total groundwater extractions during the reporting period (12 months) was 10,492 ML and was below the total monthly licenced allocations for all aquifers.
- M1B pump bore LY4997 completed drilling, recovery test and preliminary water quality sampling;
- Redevelopment of previously drilled TR pump bore LY4395 in the South Eastern domain was completed in August 2017 and bore was commissioned in late October 2017. M2C pump bore LY4665 drilled on the North Eastern domain was waiting on electrical connection at the end of the review period and was commissioned in early 2018.
- TR aquifer observation bore LY3338 was sealed in November 2017. Failed TR pump bore LY3238 was decommissioned and sealed in December 2017.

Geotechnical Performance

- All stability bore water levels remained within normal limits during the period.
- All monitoring pin horizontal movement rates are within normal levels. Vertical movement rates have been impacted by the correction to datum level from the control survey. Considering this correction, all vertical movement rates are within established trends and normal limits.
- No significant subsurface movements have been recorded over the reporting period by the shear monitoring bores installed across the mine site.