



**EnergyAustralia**

**EnergyAustralia  
Yallourn Mine**

**DEPARTMENT OF ECONOMIC DEVELOPMENT, JOBS, TRANSPORT &  
RESOURCES  
(DEDJTR)**

**SUSTAINABILITY REPORT**

**1 JULY 2015 TO 30 JUNE 2016**



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## **1.0 Economic Benefit**

### **1.1 Describe what is being extracted**

The Yallourn Mine under mining license MIN5003 extracts lignite (brown coal).

For the period 1<sup>st</sup> July 2015 to 30<sup>th</sup> June 2016, 17,962,233 tonnes of lignite was mined.

### **1.2 Describe the End Use of the material and End Location of the Product**

The Yallourn Mine loads the coal onto a series of conveyors which are used to transport the coal to the Yallourn W Power Station where the coal is used for the purposes of power generation.

### **1.3 Number of Jobs Involved in the Operation**

Effective from the 5<sup>th</sup> September 2002, EAY established a Yallourn Mine Alliance (YMA) contract with RTL (Roche Thiess Linfox) Mining and Earthworks Pty Ltd, for the operation and maintenance of the mine. EAY retains overall responsibility for the mine.

To support the mine, some 200 employees and contractors are employed in the operations, maintenance and management related activities, with a range of additional employees engaged in support related services including security and emergency services, etc.

## 2.0 Environmental Management

### 2.1 Overview of the approved Environmental Management Plan

In response to DEDJTR's Condition 1A – Risk Management, EAY submitted our Risk Assessment Management Plan (RAMP) to DEDJTR on 28<sup>th</sup> December 2015 which DEDJTR subsequently approved in their letter dated 18<sup>th</sup> March 2016. The approved RAMP included EAY's Environmental Management Plan (EMP) for the mine.

The EMP comprises the key environmental management programs for the effective management of the mine's operations so as to minimise the impact to the environment and to ensure compliance with the various legal and other requirements.

The Yallourn Mine's environmental management plan is certified to the international standard: ISO 14001: 2004 Environmental Management Systems.

**Table 1** below provides an overview of the key elements of the DEDJTR approved EMP.

**Table 1 - The DEDJTR approved EMP comprises:**

No.	Category	Program Title
1	Water	Soil erosion and Sediment Control
		Management of Water Systems Flocculation Pond Waste Water Treatment
		Groundwater Extraction
2	Land	Storage, Use and Disposal of Fuels and Lubricants
		Management of OB Dumping in Yallourn East Field
		Topsoil Management
		Litter Control
		Guidelines for Land Rehabilitation Construction
3	Air	Dust Suppression
		Energy Consumption and Control of Exhaust Emissions
		Fire Prevention and Management
		Mine Dust Emissions Control
4	Noise	Environmental Noise Control
5	Archaeology & Cultural Heritage	Archaeological and Cultural Heritage Protection

**Table 1 - The DEDJTR approved EMP comprises (Cont'd):**

No.	Category	Program Title
6	Flora and Fauna	Protection of Native Flora and Fauna
		Pest Animal, Weed and Pathogen Control
7	Waste Management	Waste Management
8	Community	Management of Public Complaints Regarding Environmental Concerns
		Managing Public Complaints regarding Environmental Concerns

Key Environmental Risks within Yallourn Mine include:

- Dust emissions;
- Fire;
- Waste Water Quality;
- Land degradation; and
- Noise

These are considered key risks as they are managed by Yallourn Mine's Environmental Critical Controls, which include:

- Fire Service Network;
- Water Carts;
- Water Treatment Plant;
- Dewatering Pump Automatic Shutdown;
- Mine Rehabilitation; and
- Physical Screening.

Whilst there are many other controls which assist in managing the key environmental risks these critical controls are the most effective. Failure of these critical controls is more likely to lead to an environmental incident.

The environmental critical controls are audited on an annual basis, with the most recent audit completed in December 2016.

Monitoring of environmental risks and controls is performed at a range of time periods including:

- Live;
- Daily;
- Weekly; and
- Monthly and Beyond.

Risk and consequence define the logic for how often an environmental hazard is monitored with some waste water components monitored with live systems whilst some groundwater extraction volumes, being a lower risk item, are reported on a monthly basis.

## 2.2 Details of the Environmental Monitoring Undertaken

**Table 2** below provides an overview of the environmental management activities completed during the 2015/16 financial year.

**Table 2 – Environmental Management Activities completed during 2015/2016**

No.	Category	Program Title	Environmental Management Activities
1	Water	Soil erosion and Sediment Control	Land rehabilitation Drainage design and implementation Strategic topsoil stockpile placement Silt fences
		Management of Water Systems Flocculation Pond Waste Water Treatment	Inspection, Monitoring and Audit of system External instrument calibration for Turbidity, pH and EC NATA Accredited Water Quality Reporting
		Groundwater Extraction	Operation of Groundwater Pumps Flow Monitoring
2	Land	Storage, Use and Disposal of Fuels and Lubricants	Storage in Approved Areas. Disposal per EA Site Waste Contractor
		Management of Overburden Dumping in Yallourn East Field	Cover of coal Cover of Potential Acid Sulphate Soils
		Topsoil Management	Strategic Placement Landform Shaping Grass Sowing Weed Control
		Litter Control	Yallourn Site Waste Contract
		Guidelines for Land Rehabilitation Construction	Design Appropriate Landforms Implement Designs Spread topsoil Grass sowing Weed control

**Table 2 – Environmental Management Activities completed during 2015/2016 (Cont'd)**

<b>No.</b>	<b>Category</b>	<b>Program Title</b>	<b>Environmental Management Activities</b>
<b>3</b>	<b>Air</b>	Dust Suppression Mine Dust Emissions Control	Maintain and Improve Fire Service Network Monitor for adverse conditions Operate sprays when required Operate water carts and maintain adequate number of carts Dust Monitoring Campaign
		Energy Consumption and Control of Exhaust Emissions	Fuel Usage Statistics
		Fire Prevention and Management	Weed control Vegetation Control per ESMS Slashing program Maintain and Improve Fire Service Network Monitor for adverse conditions Operate sprays when required Operate water carts and maintain adequate number of carts
<b>4</b>	<b>Noise</b>	Environmental Noise Control	Implement screening
<b>5</b>	<b>Archaeology &amp; Cultural Heritage</b>	Archaeological and Cultural Heritage Protection	Visual site inspection
<b>6</b>	<b>Flora and Fauna</b>	Protection of Native Flora and Fauna	Visual site inspection Survey controlled clearing Weed control Tree planting and translocation Fencing
		Pest Animal, Weed and Pathogen Control	Pest Animal Control Program Weed control
<b>7</b>	<b>Waste Management</b>	Waste Management	Visual Inspection Compliance with EnergyAustralia Site Contract
<b>8</b>	<b>Community</b>	Management of Public Complaints Regarding Environmental Concerns	No complaints received



### 2.2.1 Overview of Monitoring Outcomes:

Much of the environmental monitoring performed at Yallourn Mine is completed on a calendar year reporting basis.

In compiling this report, efforts have been made below to try and use these calendar year based reports to best fit the 2015-16 reporting timeframe. In doing so, some monitoring may fall outside the 2015-16 financial year.

### 2.2.2 Soil Erosion and Sediment Control / Land Rehabilitation

Landscape Function Analysis is performed on an annual calendar year timescale with the results shown below for the 2016 calendar year, although much of this monitoring was completed during the 2015-16 financial year. Transects were monitored within East Field Extension (EFX), Township Northern Overburden (NOB), Morwell River Diversion (MRD) and Yallourn North Open Cut (YNOC) with average results tabled below.

Landscape Organisation Index (LOI) refers to the proportion of a transect which is covered by vegetation patch. Stability, Infiltration and Nutrient Cycling indices are found through 11 different indicators which can all be assessed in the field.

**Table 3: Landscape Function Analysis Summary of 2015/16 Results**

No.	Area	LOI	Stability	Infiltration	Nutrient Cycling
1	EFX	0.84	64.60	37.90	35.30
2	NOB	0.48	59.28	29.65	23.45
3	MRD	0.96	68.06	42.70	39.09
4	YNOC	0.85	65.75	29.45	26.05

### 2.2.3 Waste Water Monitoring

**Table 4** below is the waste water monitoring summary against EPA Licence Limits for the Yallourn Mine Flocculation Pond discharge. All results show compliance.

**Table 4: Yallourn Mine Waste Water Discharge Limits and Results for 2015/16**

Waste Water Discharge Limits for Yallourn Mine					
No.	Parameter	Maximum Licence Value	2015/2016 Maximum Value	Annual Median Licence Value	2015/2016 Medium Value
1	Rate of Discharge (ML/day)	150	92.5	80.5 (Average)	37.7 (Average)
2	Total Dissolved Solids (mg/L)	700	490	450	410
3	Colour (Pt/Co Units)	70	50	50	30
4	Suspended Solids (mg/L)	50	25	20	12
5	Turbidity (NTU)	60	48	25	16
		Range			
6	pH	6.0-8.5	6.1-7.4	Not Specified	

In addition to EPA compliance monitoring, Yallourn Mine has a series of internal water sampling and testing points to characterise different water streams and formulate any treatment requirements. These alternate sampling points are situated within disturbed and rehabilitated sections of the mine.

Quarterly monitoring is also performed at the Yallourn Mine Flocculation Pond for a range of metals to demonstrate compliance with the Victorian State Environment Protection Policy (SEPP).

## 2.2.4 Groundwater Extraction Monitoring

Groundwater extraction monitoring is a requirement of the Groundwater Licence which allows Yallourn Mine to remove aquifer water to maintain mine stability.

**Table 5** below provides details of the groundwater licence limit and Yallourn Mine's extraction which is well within licence limit.

**Table 5 - Yallourn Mine Groundwater Licence and 2015/16 Extraction Volumes**

No.	Groundwater Extraction Licence (ML)	Actual Groundwater Extracted for 2015/2016
1	2372.5	1172.4

## 2.2.5 Acid Sulphate Soil Monitoring

Acid sulphate soils are present in some of the overburden disposal areas within the Yallourn Mine. These acids leach into the internal water systems with the major risk being potential discharge below the EPA licence of pH 6.0.

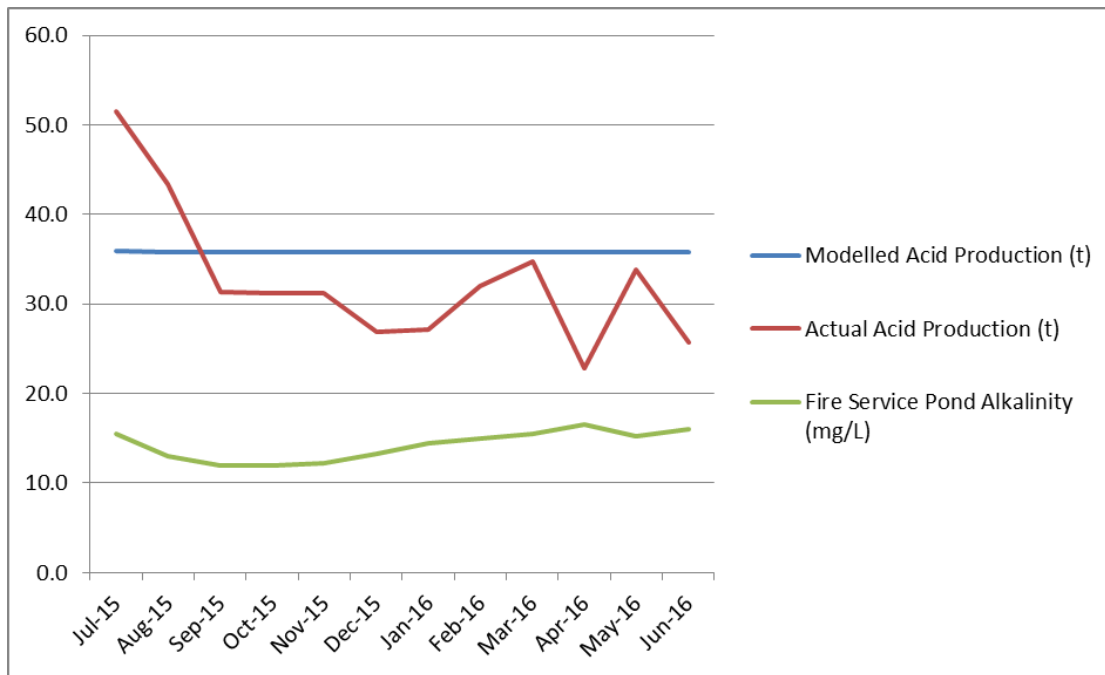
Yallourn Mine has automatic shutdown control of pumps when pH is at risk of being below this licence limit. In addition, internal monitoring of water streams and ponds has allowed Yallourn Mine to efficiently program lime dosing campaigns to treat the acid impact, although there was no treatment requirement during 2015/16.

**Table 6 - Internal Water Quality Monitoring above pH Targets during 2015/16**

No.	No.	Target pH	Average pH
1	East Field Dewatering Pond	6.0	6.90
2	Yallourn Fire Service Pond	6.2	6.76

In addition to pH monitoring, an acidity alkalinity balance model has been developed to model and track the acid production and alkalinity intake within the Yallourn Mine. Results from this monitoring are shown below with acid production levels lower than modelled for 2015/16 and Fire Service Pond alkalinity rising, making pH more resistant to impacts from acid generation.

Monitoring of acid production from acid sulphate soils is completed on a monthly basis. This monitoring showed that no water treatment was required for acid sulphate soil management during 2015/16 due to pH and Fire Service Pond alkalinity (greater than 7 mg/L) being above target and rising throughout the reporting period.



**Figure 1: Acidity and Alkalinity Monitoring during 2015/16**

### 2.2.6 Topsoil Monitoring

Yallourn Mine conserves all topsoil onsite for use in rehabilitation with any excess stockpiled in strategic locations for future use. Truck counts are used to monitor the volumes with survey correction performed as requested.

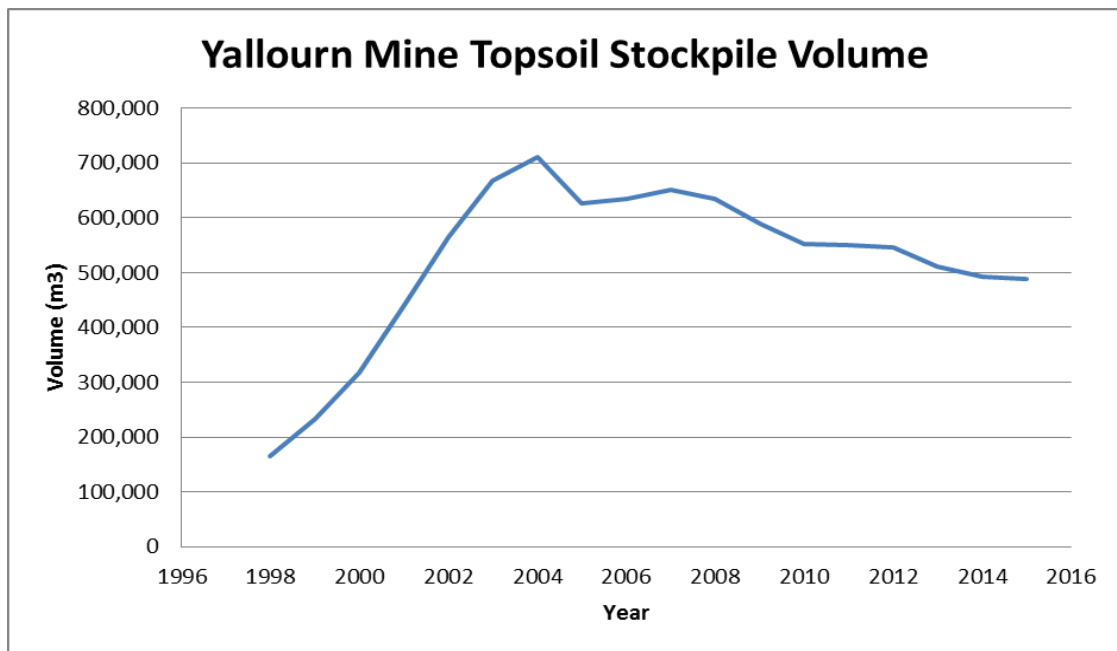
**Table 7: Monitoring of Topsoil Movements during 2015/16**

No.	Topsoil Movement.	2015-2016 Annual Volume (m <sup>3</sup> )
1	From Field to Stockpile	12,360
2	From Stockpile to Rehabilitation	38,720
3	From Field to Rehabilitation	11,524

The Yallourn Mine strips all topsoil for use directly on shaped rehabilitated areas of the mine where access is available, or for stockpile, where access is not currently available, for rehabilitation works.

A review of the remaining topsoil resource in the Mining Licence area has shown that the majority of the remaining topsoil will be required to stabilise the rehabilitation areas above the water level of the future flooded Mine. The program to strip all topsoil and to stockpile the surplus topsoil material has operated continuously since commencement in 1996/97 and will continue moving forward.

Total stockpile volumes have now peaked and will progressively reduce over time as topsoil is required for on-going future rehabilitation works.



**Figure 2 - Yallourn Mine Progressive Topsoil Stockpile Volumes**

### 2.2.7 Dust Suppression & Fire Prevention and Management Monitoring

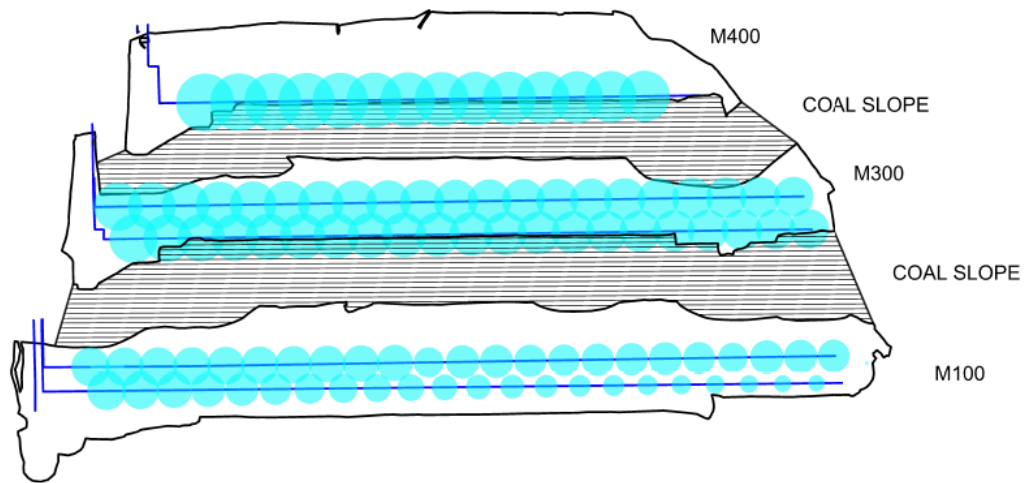
The annual Fire Service Wet Test was completed in 2015 which confirmed compliance with internal requirements for spray coverage over coal, storage volumes and system flow rates.

**Table 8** provides a summary of this monitoring.

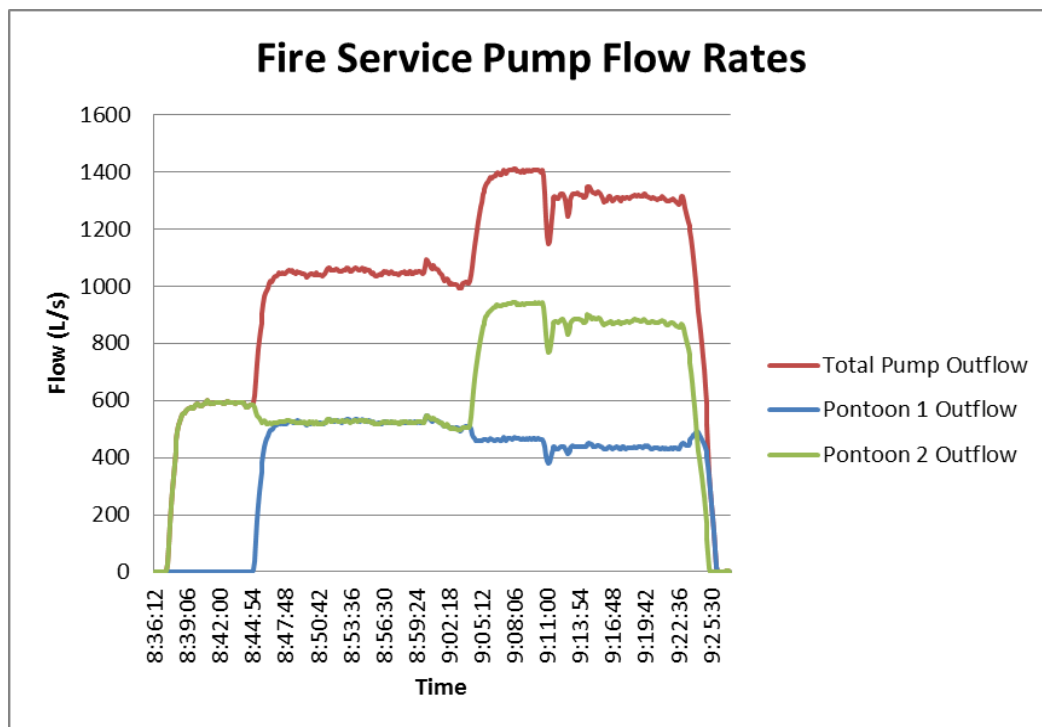
**Table 8: Annual Fire Service Wet Test Monitoring 2015/16**

No.	Conveyor	Head End Spray Radius (m)	Tail End Spray Radius (m)
1	M100 Line 1 Spray Radius	40	34
2	M100 Line 2 Spray Radius	40	20
3	M300 Line 1 Spray Radius	50	43
4	M300 Line 3 Spray Radius	50	43
5	M400 One Line Only	60	50

Fixed Spray Coverage for Maryvale Operating Area in December 2015 when all sprays on at the same time.



**Figure 3: Coal Bench Coverage when all Sprays On at the Same Time**



**Figure 4: Fire Service Pump Flow Rates during Annual Test**

A two-month dust monitoring campaign was completed within the Mining Licence adjacent Yallourn North Township, being the closest sensitive receptors. The results were skewed by fog and smoke in the local area however Jacobs (third party consultant) found the area to be insignificant as a dust source and that any dust emissions were unlikely to have caused exceedances of ambient air quality standards.

### **2.2.8 Energy Consumption**

Plant emissions are calculated from measured diesel usage and this information forms part of the Yallourn Site National Pollutant Inventory Report which can be found on:

<http://www.npi.gov.au/npidata/action/load/individual-facility-detail/criteria/state/VIC/year/2015/jurisdiction-facility/00004321>

Yallourn Mine continually upgrades the mobile plant and light vehicle fleet to improve fuel consumption and minimise vehicle emissions.

### **2.2.9 Flora and Fauna**

A detailed vegetation audit of the Yallourn North Open Cut area completed in December 2015 with a summary of the results shown below:

- 97 weedy species found;
- 16 of these are Catchment and land Protection Act, listed;
- Average weed cover estimated at 6.1%;
- Average weed cover in rehabilitation areas 1.6%.

Weed control programs have since been modified to respond to the vegetation audit findings.

The 2005 Conservation Management Program (CMP) allows the offset gain of native vegetation loss within the Maryvale Field footprint through a range of management actions on 231 hectares of native vegetation area, known as 'blocks' within the Yallourn Mining Licence area.

Management actions completed by Yallourn Mine within the 231 hectares of Conservation area include:

- Planting of over 100,000 tubes of native trees and shrubs;
- Retain fallen logs, branches and leaf litter;
- Exclude stock;
- Control pest herbivores;
- Retain all native vegetation, dead or alive;
- Forgo entitlement to harvest timber;
- Eliminate all high threat woody weeds to <1% cover (Block Dependant);
- All other high threat weeds do not increase in cover (Block Dependant):

Monitoring of this program was ongoing throughout the 10 year improvement phase with a summary and subsequent completion of the improvement phase report completed in December 2015.

### **2.2.10 Post Fire Monitoring**

Post February 2014 fire monitoring showed significant shrub species germination, native litter cover, graminoid and bryophyte growth with no supplementary planting required.

#### **2.2.11 Pest Animal Control Monitoring**

Bait take records and spotlighting completed to confirm program success.

#### **2.2.12 Bird Monitoring**

The Latrobe Valley Field Naturalists conducted four bird surveys during 2015-16 within Yallourn Morwell River Wetlands, part of the Conservation Management Program. Records for the last 10 years are available with 140 bird species recorded in that timeframe.



### 3.0 Community Engagement

#### 3.1 Overview of the Approved Community Engagement Plan

The Yallourn Mine Community Engagement Plan was approved as part of the 2011 Work Plan Variation. The Plan encompasses the following:

- Previous community engagement activities
- Affected groups and impact level
- Proposed engagement activities
- Receiving and considering feedback
- Registering, documenting and responding to community issues and concerns
- Managing community expectations

#### 3.2 Details of the Community Engagement Activities for the Period

Key community engagement related activities during the review period 1<sup>st</sup> July 2015 to 30<sup>th</sup> June 2016, include:

- **Environment Review Committee (ERC)** - which has been operating for 14 years, with the ERC meetings being held on a quarterly basis. The ERC comprises representatives from the community, regulatory authorities including DEDJTR, EPA, DELWP, DHHS and SRW and various community groups including the Yallourn North Action Group, Advance Morwell, Indigenous Groups and Latrobe City Council. The ERC is independently chaired, with meeting minutes prepared and distributed.

For the review period, ERC Meetings were held on the:

- 19<sup>th</sup> August 2015;
  - 18<sup>th</sup> November 2015;
  - 17<sup>th</sup> February 2016 (included 2 hour mine tour); and
  - 18<sup>th</sup> May 2016.
- 
- **Annual Social and Environmental Performance Summary Report** - Energy Australia Yallourn prepares an annual Social and Environmental Performance Summary report. To ensure the integrity of the report, the ERC independent chairperson provides his own independent commentary on the company's environmental performance during the review period in a signed statement.
  - **Mine Tours** - mine tours are conducted from time to time which provide an effective means of informing the community on the mine's current operations and future development and progressive rehabilitation. The site tours also assist in understanding community views and expectations and helps inform company decision making processes. The site tours provide an opportunity for the community to express their views, understand company proposals and challenge or question these proposals as necessary.
  - **Community Open days** - Yallourn holds community open days on an occasional basis, with the most recent open day being held on the 17<sup>th</sup> April 2016. This open day was attended by over 1500 members of the public with the community

encouraged to provide feedback on their views of the company's operations. Community feedback was received on the day via verbal communications, notes pinned to notice boards and following the open day via e-mail, completed feedback forms, etc. The feedback comments received have been incorporated into this Community Engagement Plan.

- **Corporate Sponsorship and Grants Programs** – EAY continues to support and promote local social causes, sporting clubs, and cultural events in the local area to build positive rapport with the community. This enables members of the community to better engage with EAY. The committee which oversees the corporate sponsorship and grants program includes two external community representatives.
- **Community Perception Survey** - EnergyAustralia engages an independent consultant to undertake community perception surveys including the Yallourn mine. The results from the community perceptions survey underpin the planned community engagement approach for the site.
- **Shop fronts within the local towns** – to bring proposed plans or mine activities to the community, for the community to review, ask questions and provide direct feedback to EAY on what is being considered or progress in mining to seek and obtain first hand, community expectations and alternative views. -

Whilst outside the reporting period, EAY held community information / consultation sessions in the Moe Town Hall Foyer, Albert Street, Moe between 8<sup>th</sup> to 10<sup>th</sup> December 2016, whereby the community could view information ask questions and provide feedback relating to Yallourn's progressive rehabilitation and also final mine rehabilitation plans. An estimated 160 members of the community visited the forum, with largely supportive feedback provided.

### **3.3 Details of the Number and Nature of the Complaints Received**

There were no public complaints received by the mine for the reporting period.

## **4.0 Rehabilitation**

### **4.1 Details of the final landform concept plan**

For over 20 years, the Yallourn Mine rehabilitation program has been progressing towards a final rehabilitation plan reflecting a pit lake with interconnection to the local rivers whilst incorporating grasslands, woodlands and wetlands above water level. This concept was further developed and in December 2001 was documented as the Mine Rehabilitation Master Plan (RMP) which was subsequently approved in January 2002.

In line with the RMP approval, works emphasis has been on rehabilitating areas above the anticipated final lake level of RL 37 and the interim stabilisation of future lake areas primarily to provide erosion control, dust mitigation, assist waste water management and improve visual amenity whilst maintaining compliance with EnergyAustralia Yallourn's Fire Control Management Plan (FCMP).

Internal overburden areas cover exposed coal, are then shaped into manageable landscapes, and are rehabilitated to grassland, open woodland and wetland landforms with a number of internal lakes created for further coal coverage and to assist in water and fire management.

Since 2002, many operational procedures have changed to allow more effective rehabilitation for the final landform whilst increasing progressive opportunities. Examples include progressive shaping of overburden and mine batters, with changes to overburden dumping procedures ensuring that coal and acid sulphate soils are well buried. Progressive rehabilitation measures assist in minimising geotechnical, fire and environmental risk whilst also providing opportunities through habitat creation and grazing lands.

**Figure 5:** Approved Rehabilitation Master Plan Concept.



Figure 5: Approved Rehabilitation Master Plan Concept

## 4.2 Details of any Progressive Rehabilitation Milestone Requirements for the Reporting Period.

Yallourn Mine has internal progressive rehabilitation targets which are based on calendar year reporting. These targets include the area progressively rehabilitated and rehabilitating more land than that year's disturbance. For the last 11 calendar years these targets have been reached, although no targets are set for financial year periods.

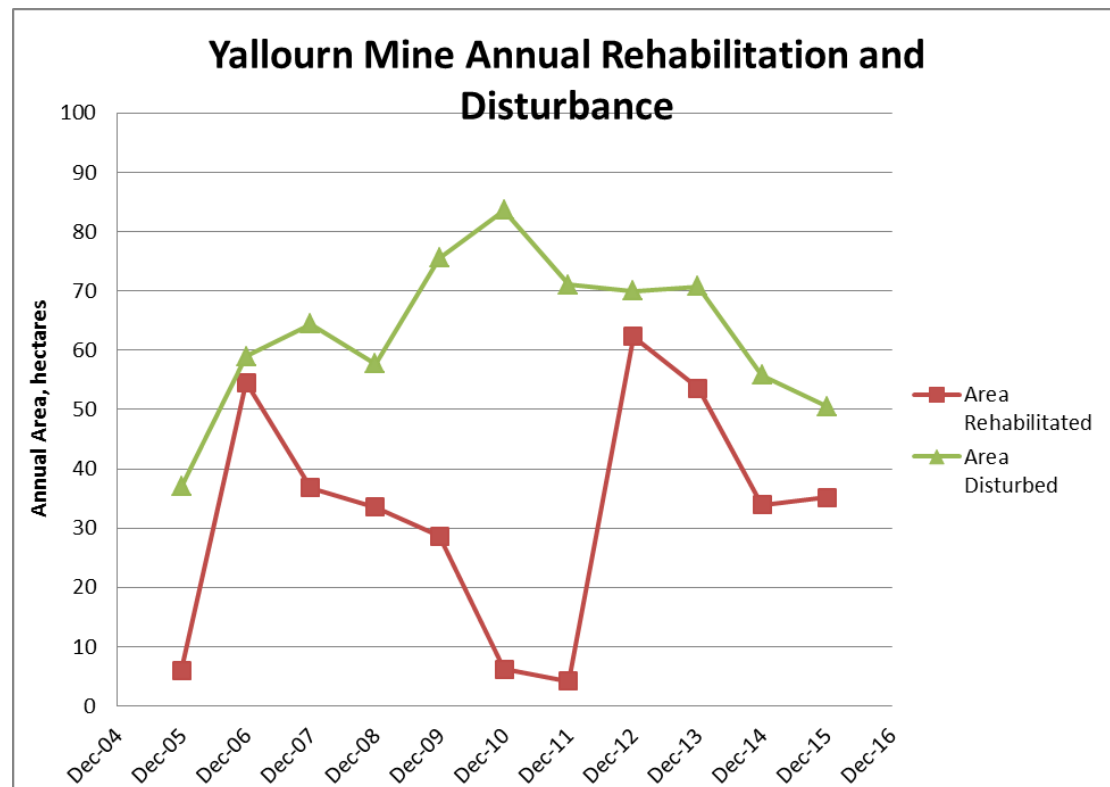


Figure 6: Yallourn Mine Annual Disturbance and Rehabilitation Area

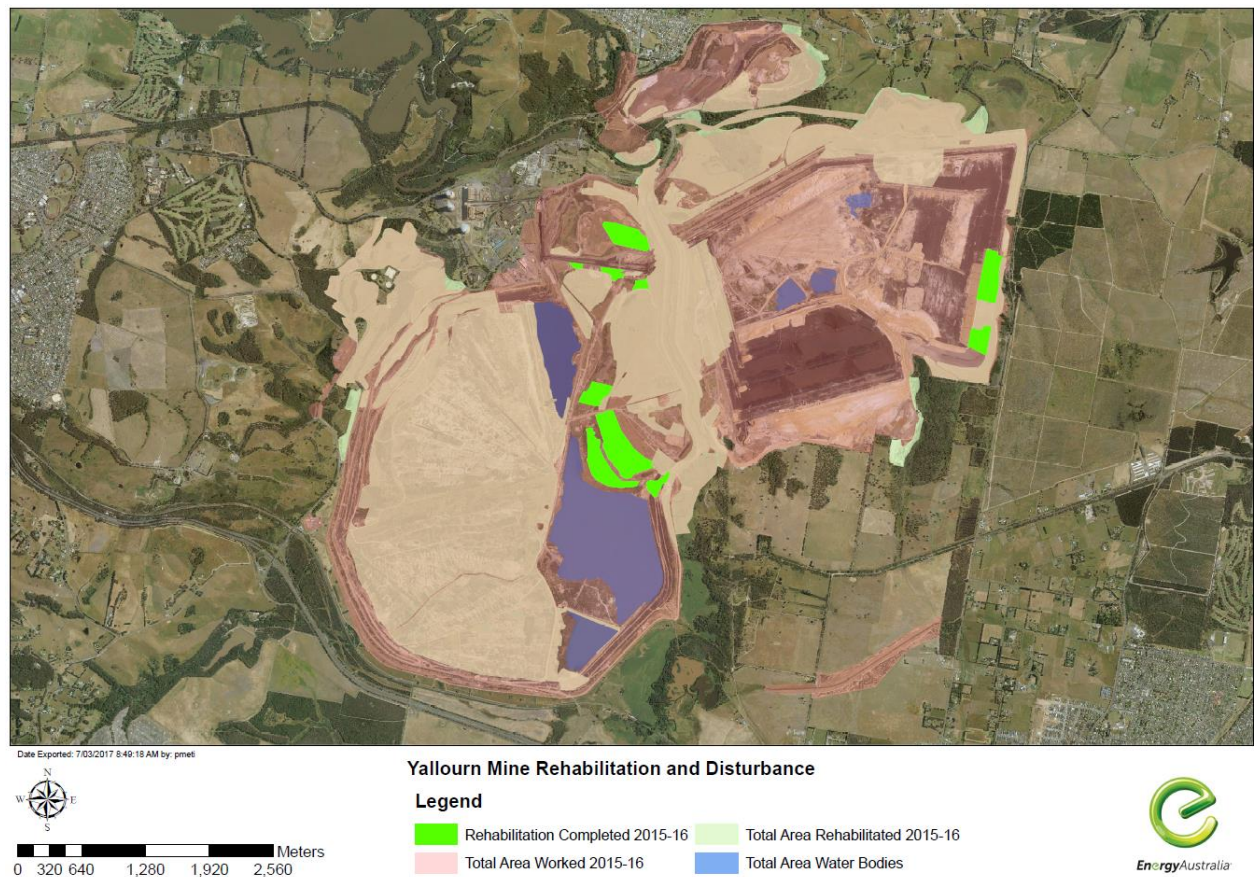
In response to DEDJTR's Condition 1A – Risk Management, EAY submitted our Risk Assessment Management Plan (RAMP) to DEDJTR on 28<sup>th</sup> December 2015 which DEDJTR subsequently approved in their letter dated 18<sup>th</sup> March 2016. The approved RAMP included an RAMP Implementation Plan which included various action plans designed to reduce current levels of risk down to acceptable levels. The approved RAMP Implementation Plan included rehabilitation plan related actions.

The approved RAMP Implementation Plan does not include any rehabilitation milestone requirements for the reporting period 1<sup>st</sup> July 2015 to 30<sup>th</sup> June 2016. The approved RAMP Implementation Plan reflects the first rehabilitation milestones not being due until December 2016.



### 4.3 Details of the area rehabilitated over the reporting period

Shown below is a site map of the total worked out area, total progressively rehabilitated area, area rehabilitated during 2015-16 financial year and area of water bodies as they mitigate many of the same risks as rehabilitation areas.



**Figure 7 - Yallourn Mine Rehabilitation and Disturbance**

#### **Description of rehabilitation works completed:**

The major rehabilitation work was conducted on the East Field Extension Latrobe Road batter and East Field Extension Southern Batter where approximately 500,000 cubic metres of overburden has been cut and dozer shaped over the permanent coal batter. Within these works a detailed drainage plan was constructed with slots draining both surface rainfall runoff and also groundwater from the series of horizontal bores drilled into the coal batter. In April a five hectare section of the available shaped overburden and coal coverage footprint was topsoiled and grassed successfully, this also included repairing a washout from the 2015 works. In May an eight hectare section of the Latrobe Road Batter was also topsoiled and grassed, the total grassed area is now approximately 18 hectares. The figures below show the progress in the Latrobe Road Batter rehabilitation with significant coal coverage and grassed areas rolling into the natural landscape.



**Figure 8: Latrobe Road Batter, December 2014**



**Figure 9: Latrobe Road Batter, October 2015**





**Figure 10: Latrobe Road Batter, August 2016**

A second final batter and loose coal section was also capped and grassed at the Fire Service Pond Siphon Batter with a 2.2 hectare section completed in April. This rehabilitation work reduces the area of exposed coal within the mine. Some low risk erosion is present on the steeper sand sections which will be monitored and repaired if required.



**Figure 11: Fire Service Pond Rehabilitation Works, August 2016**



A 25.7 hectare area on the Mid Field was claimed for rehabilitation following a prolonged effort of weed control which included mulching of weeds, especially woody weeds such as broom, targeted spraying for a number of years and some minor shaping. The success of the Mid Field Dump area will act as the prototype for other high weed areas preventing successful rehabilitation.

A seven hectare section North of E215 conveyor in Township Field was also claimed for rehabilitation following extensive weed control. Shaping for this area had been completed some time ago, however it had been significantly neglected with large numbers of broom, pampas grass, blackberry and non-native acacia species dominating the area. Significant works have allowed the area to more resemble a typical small wetland or pond ecosystem with significant numbers of reeds and shoreline vegetation allowed to prosper.

A four hectare section on the Mid Field Dump was claimed for rehabilitation after mulching and weed control. Shaping works had been completed in the past however the vegetation profile was almost exclusively woody weeds including blackberry and broom. Following mulching of the area monitoring showed that pasture grass was self-establishing. Broom and Blackberry seed will remain in the soil so increased weed control is planned to maintain the area to an interim stabilisation standard.



**Figure 12: Mid Field Dump Rehabilitation, August 2016**

During the reporting period approximately 8% of the rehabilitated area was rehabilitated to an indigenous vegetation landform with phragmites and acacia the dominant native vegetation types. In total 343 hectares of the Yallourn Mine has been rehabilitated with indigenous vegetation.

On-going assessment of rehabilitation areas is predominately measured through Landscape Function Analysis. All water balance considerations and water quality monitoring performed supports the mine pit lake concept with interconnection to the local rivers. Yallourn Mine continues to review rehabilitation plans attempting to improve the final landform whilst mitigating risk.

## **5.0 Compliance Report**

### **5.1 Details of any compliance notices received under s110 of the MRSDA and Corrective Actions Taken.**

Following the November 2007 Latrobe River Batter Failure, the (then) DPI issued a Section 110 Notice instructing EnergyAustralia to:

1. Recommence deep aquifer dewatering; and
2. Continue deep aquifer dewatering until otherwise recommended by expert geotechnical review and subsequently approved by the DPI”.

The date the DPI Section 110 Notice was served was the 11<sup>th</sup> August 2008.

In anticipation of the DPI Notice, EAY re-established deep aquifer dewatering from pump bore N5056 on the 6<sup>th</sup> June 2008, with the pump remaining in service since.

DEDJTR advised in their letter dated 3<sup>rd</sup> August 2016, that the Section 110 Notice AB30080003, is now rescinded.

### **5.2 Details of any Reportable events under s41AC of the MRSDA (Mining and Exploration) or s116A**

In accordance with the Mineral Resources (Sustainable Development) (Mineral Industries) Regulations: 2013 which came into effect on the 20<sup>th</sup> October 2013 – Par 3 – Licences, Clause 33 – Reportable Events (page 27), there were no reportable events at Yallourn Mine during

## 6.0 Mine Stability

The mining activities and operating practices associated with the various mine domains at Yallourn have been reviewed and analysed on an ongoing basis during the review period to the 30<sup>th</sup> June 2016, in accordance with the requirements of Yallourn's Ground Control Management Plan (GCMP).

In summary inspection and monitoring data for the review period confirms that current stability conditions are consistent with expectations and performance criteria as defined within the GCMP, with the exception of:

1. Yallourn North Open Cut - BCM Road batters: whilst no signs of instability have been observed, elevated groundwater levels have resulted in a FoS below GCMP requirements for this batter. The continued operation of pump bores during the review period is progressively reducing groundwater levels down towards the required groundwater target levels thereby progressively improving stability. Continued operation of pump bores will be maintained to further reduce groundwater levels until the required target groundwater levels are achieved; and
2. Yallourn North Open Cut - NW batters above the existing Eastern Basin: again whilst no signs of instability have been observed, elevated groundwater levels have resulted in a FoS below GCMP requirements for this batter. The continued operation of pump bores during the review period has been effective in progressively reducing groundwater levels thereby improving stability conditions. Continued pumping will be maintained to achieve target groundwater levels to improve the FoS to the required level, and ongoing pumping will be maintained until such time as sufficient ash material has been placed to provide adequate toe surcharge support to maintain the required FoS in the long term.

Whilst not a current stability issue, work is progressing in two areas to ensure that safe conditions are established and maintained for the following areas:

1. Maryvale Field western batters – MRD buffer area where ongoing investigations and reviews continued during the review period with the objective of ensuring appropriate actions are identified and implemented to ensure acceptable stability conditions are established and maintained for the future development of the Maryvale Field mine within this area; and
2. YNOC TAP - Central Ash Landfill area where current groundwater levels need to be reduced to enable the maximum volume of ash to be stored within this area of the YNOC. The geotechnical design has been completed including the details of the pump bore requirements. Drilling of the pump bores has commenced and is ongoing.

The abovementioned four areas were identified in Yallourn's DEDJTR approved RAMP Implementation Plan, and works are progressing in accordance with the approved action plans, which are provided in this report.