

Duralie Coal CCC Meeting

Presentation –
Company Report &
Overview of Activities

November 2018

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Environment & Community Superintendent

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1. Progress at the Mine

Mining 3rd Quarter 2018

- Overburden mined 224,000 BCM
- ROM Coal mined 169,000 tonnes
- Mining completed in Weismantel pit early October 2018. Dayshift only.
- Last ROM coal railed to Stratford on 4 October 2018.
- Rehandle of PAF material to Clareval Pit continuing.
- Bulk shaping and rehabilitation of waste emplacements.

2. Environmental Reporting & Regulators

Management Area	Project	Status
Reporting	<ul style="list-style-type: none">Duralie Coal Mine Annual Review 2018EPL 11701 Annual Return 2018NPI & NGER Reporting	<ul style="list-style-type: none">The 2018 DCM Annual Review was finalised and submitted during October 2018. Copies will be made available to the CCC members and on the Duralie website.EPL 11701 Annual Return has been finalised and submitted to the EPA in October 2018. Annual Returns are available on the EPA website public register.The 2018 NPI and NGER reports have been lodged with the relevant departments.
Regulator	<ul style="list-style-type: none">Environmental Management Plans	<ul style="list-style-type: none">The revised Biodiversity Management Plan was submitted to DPE and DoEE during August 2018. DCPL is currently awaiting comments and approval.

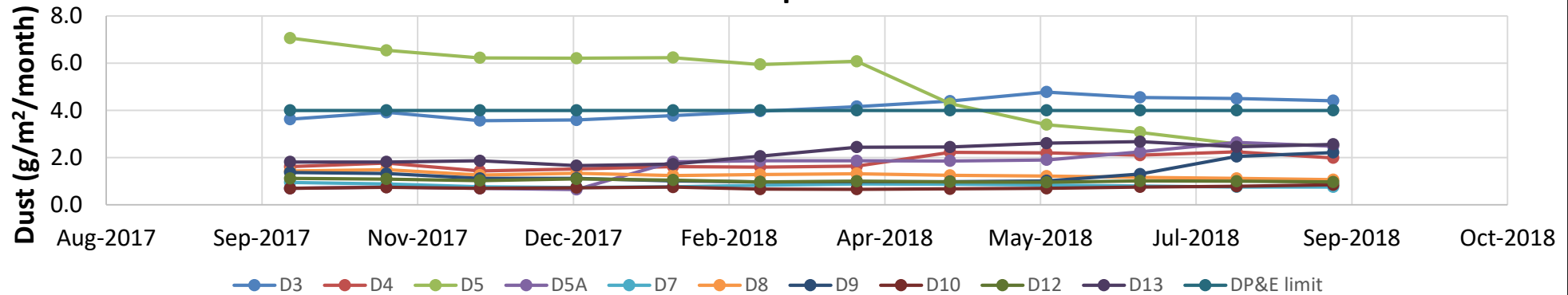
3. Environmental Management Plans & Monitoring

- a) Air Quality Management
- b) Blast Management
- c) Noise Management
- d) Water Management
- e) Rehabilitation Management
- f) Biodiversity Management
- g) Mine Closure Planning



3a. Air Quality Management

**Duralie Dust Deposition - Annual Rolling Average
12 Months to September 2018**



- Oct-17** D3 – 11.0 Very heavy - 30% dirt, 0% coal, 0% vegetation, 0% insects and 70% polysaccharide slime.
- Mar-18** D3 – 6.4 Very Heavy - 30% Dirt, 0% Coal, 0% Vegetation, 10% Insects, 60% Polysaccharide Slime. D13 – 5.2 Very Heavy - 30% Dirt, 0% Coal, 0% Vegetation, 0% Insects, 70% Polysaccharide Slime
- Apr-18** D13 – 4.9 Very Heavy - 50% Dirt, 0% Coal, 0% Vegetation, 0% Insects, 50% Polysaccharide Slime
- May-18** D3- 4.3 Heavy - 40% Dirt, 0% Coal, 0% Vegetation, 0% Insects, 60% Polysaccharide Slime. D4- 10.6 Very Heavy - 10% Dirt, 0% Coal, 0% Vegetation, 0% Insects, 90% Polysaccharide Slime
- Jun-18** D3 – 9.5 Very Heavy - 10% Dirt, 90% Polysaccharide Slime. D13 – 4.4 Very Heavy - 40% Dirt, 60% Polysaccharide Slime
- Jul-18** D5- Very Heavy - 60% Dirt, 40% Polysaccharide Slime. D5A- Very Heavy - 60% Dirt, 40% Polysaccharide Slime
- Aug-18** D9 - Insects, bird droppings and vegetation. Medium - 30% Dirt, 10% Vegetation, 10% Insects, 50% Polysaccharide Slime

Guide to Descriptions used by Laboratory

Coal: Black sharp angled grains with glossy conchoidal fractures or dull with cellular features.

Dirt/Minerals: Subhedral to euhedral crystalline grains including fine sand, clay and other fine mineral particulates.

Insects: Whole insects such as spiders, ants, moths or outer parts of insects including wings, legs and exoskeletons.

Vegetation: Plant debris and algae including trichomes, decomposed organic matter and charred particulates showing characteristic cellular plant structures.

Polysaccharide Slime: Slimy gelatinous material including decomposed soft body parts of insects and vegetation.

Copper Sludge: Blue-green subhedral to euhedral crystalline salts, commonly precipitated from the copper sulphate algacide solution.

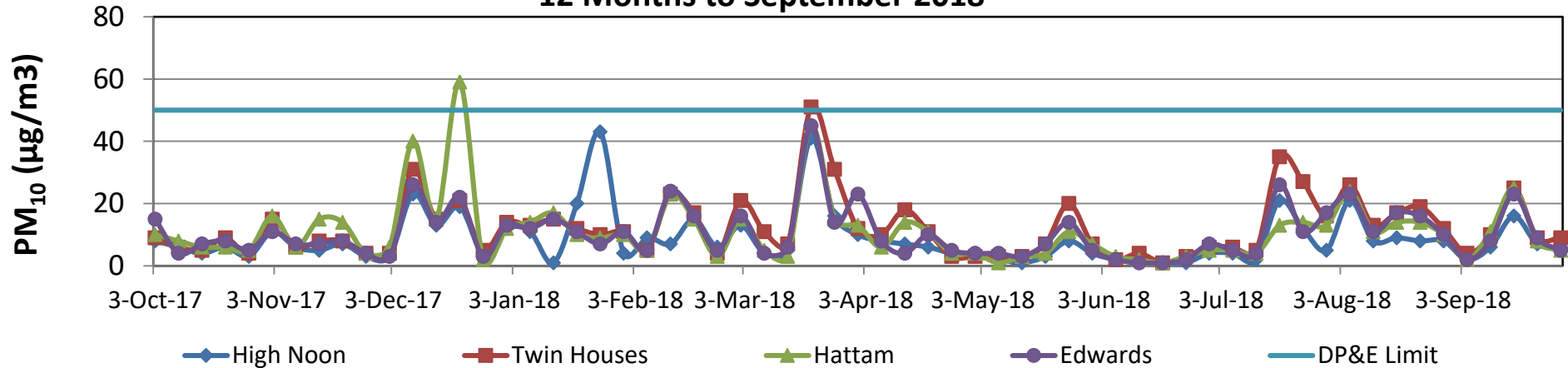
Contamination: Gelatinous material such as bird droppings

- High levels in D3 and D5 due to contamination of multiple samples. Additional site D5A installed for comparison.
- Due to frequent contamination of dust gauges the HVAS results should also be used when interpreting results.

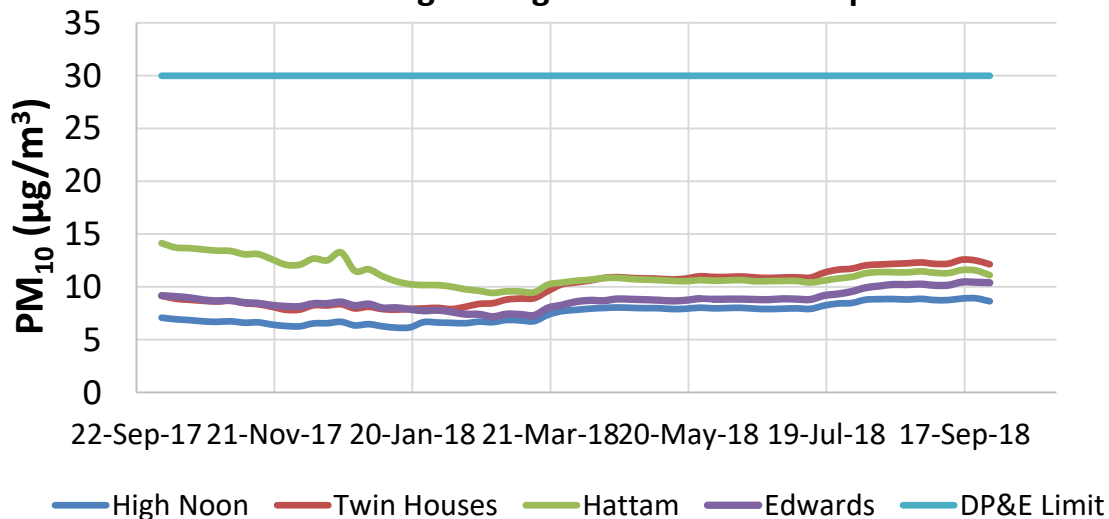


3a. Air Quality Management

**Duralie HVAS Monitoring (PM₁₀)
12 Months to September 2018**



**Duralie HVAS Monitoring (PM₁₀)
Annual Rolling Average - 12 Months to September 2018**



- All sites below DP&E limit. Typically low results during winter and higher during spring/ summer.
- Elevated results recorded at Hattam during December 2017 due to bushfire smoke.
- High results across all monitors on 20-Mar-18 due to hazy conditions across valley following a southerly change and prolonged dry weather.
- Flat trend over previous 12 months.
- HVAS results provide more reliable data compared to dust deposition results and should be referred to when interpreting dust emissions.

3b. Blast Management

Management Area	Project	Status
Blasting	<ul style="list-style-type: none"> Blast monitoring 	<ul style="list-style-type: none"> No blasts exceeded 115dB(L) or 5mm/s during the quarter. Total remained below 5% for the reporting period (ending 4-Sep-2018). No blasts recorded any level of fume. Blast activities at the DCM were completed on 17 August 2018. No further blasting is proposed in the next reporting period.

Location	Date	Time	Schultz (AB1)		Fisher-Webster (AAAB3)		Moylan (AAAB4)		Weismantel Inn	Overpressur e Site Exceedance 1	Overpressure "Cumulative Exceedance" 1	Monitored Blasts ¹
		24hr	mm/s	dBL	mm/s	dBL	mm/s	dBL	mm/s	%		
Weismantel Strip 16	06-Jul-18	11:59:00	<0.22	<110.0	<0.22	<110.0	<0.22	<110.0	<0.22	0.0%	0	30
Weismantel Strip 16	12-Jul-18	11:48:00	<0.22	<110.0	<0.22	<110.0	<0.22	<110.0	<0.22	0.0%	0	31
Weismantel Strip 16	02-Aug-17	14:33:00	<0.22	<110.0	<0.22	<110.0	<0.22	<110.0	<0.22	0.0%	0	32
Weismantel Strip 16	10-Aug-18	13:36:00	<0.22	<110.0	<0.22	<110.0	<0.22	<110.0	0.77	0.0%	0	33
Weismantel Strip 16	17-Aug-18	11:45:00	<0.22	<110.0	<0.22	<110.0	<0.22	<110.0	1.01	0.0%	0	34

- Note: Blast Compliance: No more than 5% of total blasts for annual monitoring period to exceed an overpressure of 115 dBL or ground vibration of 5 mm/s. No blast is to exceed an overpressure of 120 dBL or ground vibration of 10 mm/s.*
- Note: Where no trigger is recorded the results indicate <0.22mm/s and <110.0dBL corresponding to the blast monitor settings.*

3c. Noise Management

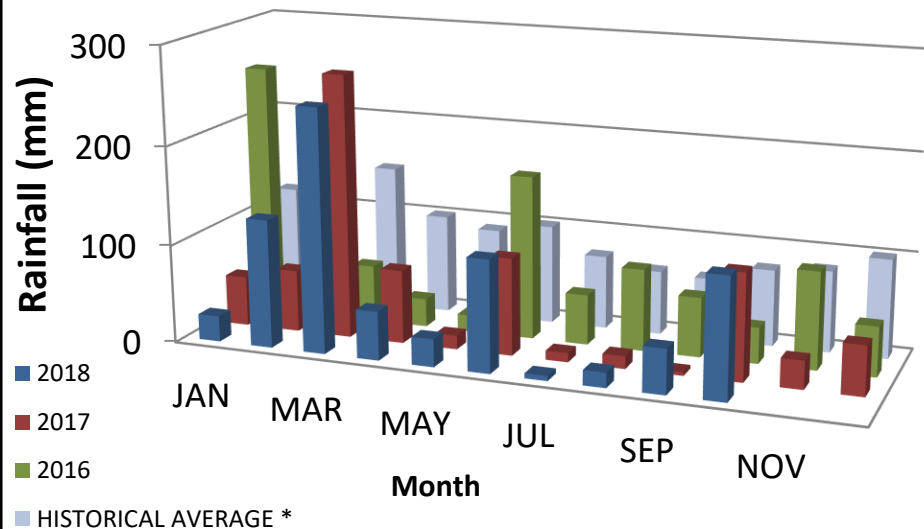
Management Area	Project	Status
Noise Monitoring	<ul style="list-style-type: none">Routine Monitoring	<ul style="list-style-type: none">Routine quarterly monitoring of operations was undertaken in October 2018. Noise monitoring results have remained below the noise criteria. Typically the operations have been inaudible or slightly audible during the monitoring. Noise reports are made available on the Duralie Coal website.
Noise Management Plan	<ul style="list-style-type: none">Noise Management Plan revision	<ul style="list-style-type: none">The Noise Management Plan has been updated to amend the noise monitoring program during times when no operations are occurring. The revised NMP clarifies that noise monitoring is only required to be undertaken at times when operations are occurring.
	<ul style="list-style-type: none">Real-Time Noise Management	<ul style="list-style-type: none">During Q3 2018 the operations at Duralie have further reduced to dayshift only.In accordance with the revised NMP real-time noise monitoring has now ceased whilst no evening or night-time operations are undertaken.

3d. Water Management

Management Area	Project	Status
Site Water Management	<ul style="list-style-type: none"> Annual water balance review. 	<ul style="list-style-type: none"> The annual water balance review for 2017 is has been finalised and a summary is included in the Annual Review.
Surface Water	<ul style="list-style-type: none"> Routine monitoring Aquatic Ecology - Macroinvertebrates 	<ul style="list-style-type: none"> Sporadic and low rainfall conditions persisted through Winter 2018. Routine surface water monitoring completed. All sites generally within Duralie water quality performance indicators. No obvious trending towards performance indicators. Macroinvertebrates monitoring was undertaken in September 2018. The monitoring continues to indicate negligible impacts associated with mining activities. The results reflected the extended dry period during winter and low flow conditions.
Irrigation	<ul style="list-style-type: none"> Irrigation Annual monitoring 	<ul style="list-style-type: none"> Monitoring of soil and pasture condition in the irrigation area was undertaken during May 2018. The 2018 Irrigation Area Monitoring Report (Horizon Environmental, 2018) concluded that there has been no significant detrimental effect on soil properties, pasture condition or suitability of soil in irrigated areas for future agricultural use, i.e. grazing on native pasture.
Groundwater	<ul style="list-style-type: none"> Routine monitor 	<ul style="list-style-type: none"> Routine monitoring has been completed and the results continue to indicate consistency with the model trends in the Environmental Assessment.

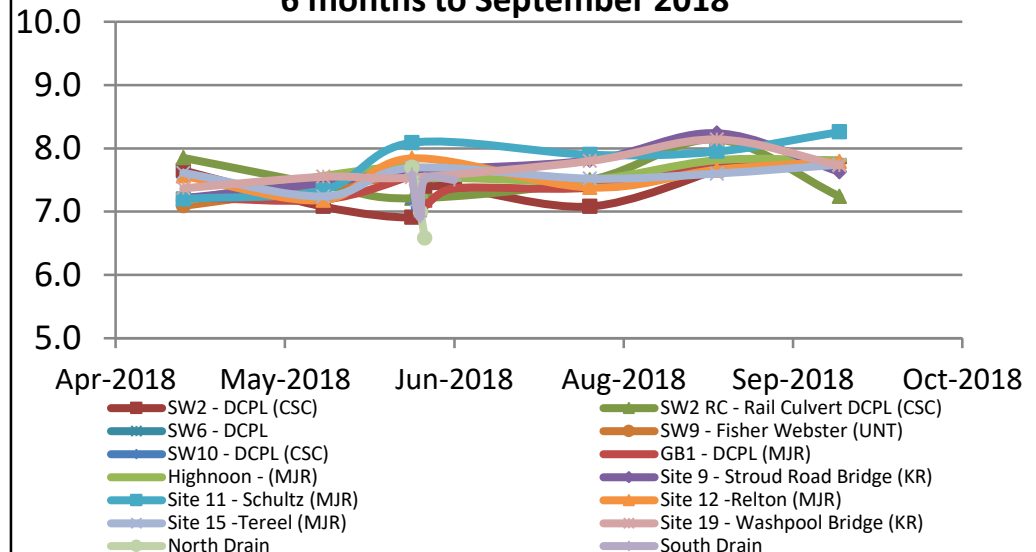
3d. Water Management

Duralie Mine Site - Monthly Rainfall

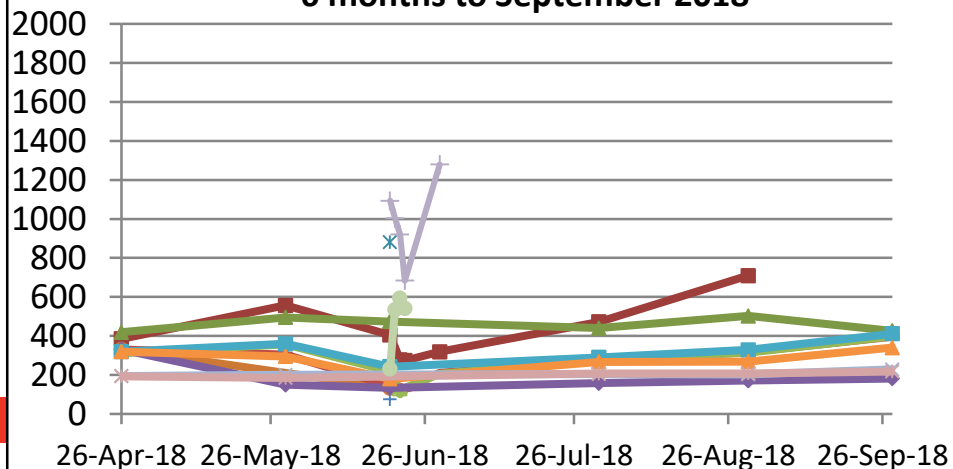


Duralie Surface Water Monitoring - pH

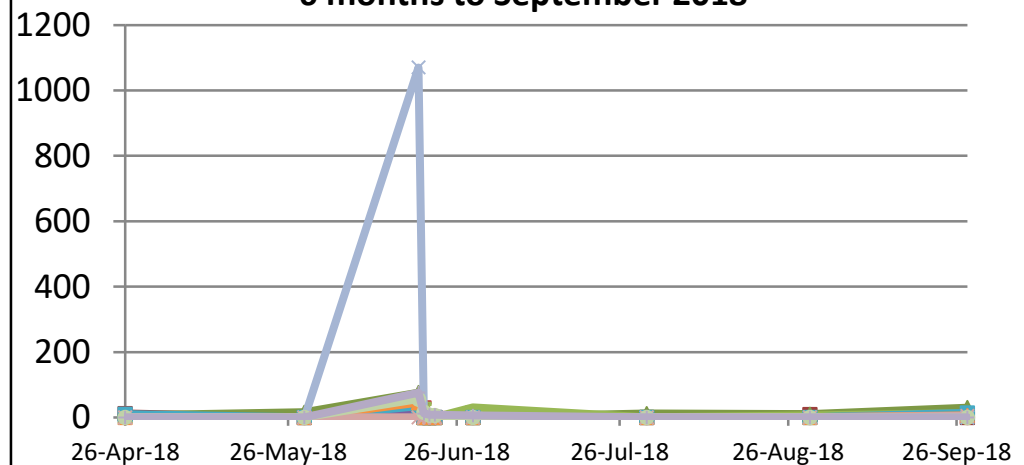
6 months to September 2018



Duralie Surface Water Monitoring - EC ($\mu\text{S}/\text{cm}$) 6 months to September 2018



Duralie Surface Water Monitoring - TSS (mg/L)
6 months to September 2018



3e. Rehabilitation Management

Management Area	Project	Status
Rehabilitated Waste emplacements	<ul style="list-style-type: none">• Final landforms designs• Bulk Shaping• Rehabilitation Works	<ul style="list-style-type: none">• Final landform designs have been progressed for the waste emplacement areas in Clareval and Weismantel.• A D11 Dozer has continued bulk shaping works on the Weismantel waste emplacement. Approximately 60ha completed in 2018.• Rehabilitation of 35ha is currently in progress (Sep-Oct 2018), including topsoil spreading, ground preparation and seeding. Approximately 15 hectare of native vegetation and 20 hectares of pasture rehabilitation will be planted.



Photo: Bulk shaping on the Weismantel waste emplacement Oct 2018.



Photo: Rehabilitation progress Oct 2018.



3e. Rehabilitation Management

Management Area	Project	Status
Rehabilitation Monitoring	<ul style="list-style-type: none"> Vegetation Monitoring - Ecosystem Function Analysis 	<ul style="list-style-type: none"> Rehabilitation monitoring incorporating landscape function analysis and vegetation dynamics was undertaken in May 2018. The report summary is included in the Annual Review 2018. The report found overall, <i>“the rehabilitation of the Duralie Spoil Emplacement continues to progress satisfactorily and is on a trajectory towards meeting the performance and completion criteria detailed in the MOP. LFA indices are continuing to achieve or approach the analogue site”</i>.
Rehabilitation Planning	<ul style="list-style-type: none"> Duralie Agricultural Rehabilitation Planning Workshop 	<ul style="list-style-type: none"> During September 2018 Duralie Coal in conjunction with the CCC held an Agricultural Rehabilitation Planning Workshop at the Duralie Coal Mine. The workshop involved an interactive day in the rehabilitation area with involvement from a cross-section of community, industry and government stakeholders, with the focus on property planning for the long-term layout and operation of the agricultural rehabilitation areas and integration with the surrounding lands. Topics discussed included stock rotation, water infrastructure and pasture management.



Photo: Duralie Agricultural Rehabilitation Planning Workshop, Sep 2018.

3f. Biodiversity Management

Management Area	Project	Status
BMP	<ul style="list-style-type: none"> Biodiversity Management Plan revision Annual Biodiversity Report 	<ul style="list-style-type: none"> A revision of the Biodiversity Management Plan has been prepared following the first 5 years of implementation. A summary of the biodiversity offset works completed and the changes to the BMP is included in the Annual Biodiversity Report. A summary of the work undertaken in relation to the biodiversity offsets in 2018 has been prepared and is attached to the Annual Review 2018.
Biodiversity Offset	<ul style="list-style-type: none"> Revegetation works 	<ul style="list-style-type: none"> Tubestock planting was planned in the biodiversity offset area during Autumn 2018 including approximately 16,000 plants over 61 hectares. The native tree seed was propagated over summer 2017/18 by Cumberland Plain Seeds. Due to the slower than expected establishment of the tube-stock the planting was postponed. Planting was undertaken during September 2018.

3f. Biodiversity Management

Management Area	Project	Status
Flora/Fauna	<ul style="list-style-type: none">Nest Box Program	<ul style="list-style-type: none">Annual monitoring of nest boxes was undertaken in September 2018. A summary of the nest box progress is included in the Annual Review 2018.The program now includes 211 nest boxes. The 2018 report is currently being prepared.
Pest Control	<ul style="list-style-type: none">Wild Dog control program	<ul style="list-style-type: none">Wild dog and fox trapping was undertaken during September 2018.
Bushfire Management	<ul style="list-style-type: none">Bushfire Management	<ul style="list-style-type: none">No further bushfire management activities with the exception of slashing have been undertaken during Q3 2018.



Photo: Masked Owl in a nest box in the offset area recorded during fauna monitoring.

3g. Mine Closure Planning

*Note: *Refer to Duralie Mining Operations Plan & Rehabilitation Management Plan Table 14 Mine Closure Planning Schedule.
Further detail on mine closure planning progress is included in the Annual Review 2018.

Management Area	Project	Status
Mine Closure Planning General	<ul style="list-style-type: none"> Stakeholder engagement 	<ul style="list-style-type: none"> Communications with the community consultative committee (CCC) have been established regarding mine closure planning. This presentation will continue to be updated to provide relevant information through the CCC forum.
Rehabilitated Landforms	<ul style="list-style-type: none"> Landform design and stability 	<ul style="list-style-type: none"> DCPL have continued to prepare the detailed final landform designs. Preparation of a geotechnical assessment and specifications for the final void design have continued to ensure the long-term void is safe and stable.
Final Voids	<ul style="list-style-type: none"> Water management and final void water balance 	<ul style="list-style-type: none"> Review of the final void site water balance has commenced to ensure the balance incorporates the final landform design, surface water inflows and outflows to/from final void.
	<ul style="list-style-type: none"> Groundwater Model 	<ul style="list-style-type: none"> Post-mining groundwater model verification to incorporate final void design.
Rehabilitation Resources	<ul style="list-style-type: none"> Topsoil Resources 	<ul style="list-style-type: none"> A topsoil stockpile update has been prepared in 2018 to ensure adequate topsoil is available for rehabilitation. The use of topsoil continues to be tracked.
Water Management	<ul style="list-style-type: none"> Mine Water Dams 	<ul style="list-style-type: none"> Preparation of a strategy for decommissioning of the mine water dams has commenced. DCPL has engaged an independent dams engineer to assist with preparing plans for the decommissioning the of the prescribed dams Auxiliary Dam 1 has been dewatered. Preparations have commenced for pumping mine water to the Clareval void.
Coal Shaft Creek	<ul style="list-style-type: none"> CSC reconstruction 	<ul style="list-style-type: none"> Re-construction of the lower reaches of Coal Shaft Creek is required following the completion mining activities. A conceptual Coal Shaft Creek Reconstruction Plan was prepared in 2012. A consultant has been engage to prepared the detailed design for the reconstruction of Coal Shaft Creek. Removal of the ROM coal stockpile in the CSC corridor has been completed.
Final land use	<ul style="list-style-type: none"> Potential final land-use planning 	<ul style="list-style-type: none"> Draft plan prepared in 2017.

4. Community Complaints

Duralie Complaint Summary

Period: 1/07/2018 - 31/09/2018

Period: 3 Months

Total No. of Complaints: 3 (0 noise, 0 blast, 3 air quality, 0 other)

Total No. of Complainants: 3

Date/Time of Complaint	Complainant Location	Method of Complaint	Nature of Complaint	Investigation/Outcome
10/10/2018 4:00am	Not advised	EPA hotline	Odours	<p>Description of Incident: The caller is affected by strong offensive odour coming from Duralie mining, on 10/10/2018 at about 4am. The issue is ongoing and happens at night. The odour is strongest before dawn at about 4am. The odour was so strong that it woke up the caller to shut down windows. The odour occurs every week - not every day but often most mornings. The caller described the odour as the type of smell that that comes of coal. The wind is still. The caller rated odour at 5/6.</p> <ul style="list-style-type: none"> • Notification of complaint received from EPA on 25/10/2018. Response to EPA: Refer to response below.
12/10/2018 9:30hrs	Not advised	EPA hotline	Odours	<p>Description of Incident: Caller is reporting of distinct to strong coal like odour coming from the mine which started around 09:30 am and is continuing. Caller lives approximately 2 km from the mine. There is slight breeze.</p> <ul style="list-style-type: none"> • Notification of complaint received from EPA on 25/10/2018. Response to EPA: Refer to response below.
24/10/2018 8:00hrs	Not advised	EPA hotline	Odours	<p>EPA Hotline Incident Description: Caller is reporting of strong acrid odour coming from the mine which caller noticed at 8 am today and is continuing. Caller said the odour was stronger on Sunday, 21/10/18 and Monday, 22/10/18. Caller gets the odour when the wind blows from South, South-East direction.</p> <ul style="list-style-type: none"> • Response to EPA on 26 Oct 2018: <p>Management of self-heating (potentially acid forming) material on the Weismantel PAF dump has been ongoing in accordance with the Duralie Coal Mine Spontaneous Combustion Principle Mining Hazard Management Plan (PMHMP). Further, DCPL has continued to manage areas with self-heating or spontaneous combustion in accordance with the Duralie Coal Mine Spontaneous Combustion & Hot Material Management Procedure. During August and September 2018 DCPL had identified some areas of increased level of heating and odours on the PAF dump and immediate actions were taken to manage these areas. DCPL has continued to monitor areas with the potential for spontaneous combustion or self-heating.</p> <p>DCPL will continue to treat this matter as a priority and believe appropriate measures have been taken to limit offsite impacts of odours.</p> <p>Additional information on PAF and odour management measures has been provided to the EPA.</p>

5. Community Programs

Management Area	Project	Status
Support Programs	Stratford Coal Community Support Program	<ul style="list-style-type: none">• The Stratford Coal Community Support Program for 2018 has been finalised. SCPL will advertise for applications for the next round of the Community Support Program in January 2019.• The Stratford Coal Education Support Fund will be running again during 2019 and applications are available from Gloucester High School or the MidCoast Council Gloucester office.