

Duralie Coal CCC Meeting

Presentation –
Company Report &
Overview of Activities

November 2016

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Environment & Community Superintendent

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1. Progress at the Mine

Mining 3rd Quarter 2016

- Waste BCM 1,747,000 BCM
- Coal tonnes 280,000 tonnes
- Mining in Clareval & Weismantel continued.
- Tree harvesting in advance of mining in Weismantel was completed during August 2016, approximately 3 hectares only.



2. Environmental Projects/Activities

Management Area	Project	Status
Reporting	<ul style="list-style-type: none"> Annual Review 2016 NPI & NGER reporting EPL 11701 Annual Return 	<ul style="list-style-type: none"> Annual Review completed & submitted to regulators. Copies will be provided to CCC and made available on website. The 2016 NPI and NGER reports have been completed and submitted during Sep 2016. The 2016 EPL 11701 Annual Return has been completed and submitted to the EPA during Oct-2016.
Regulator	<ul style="list-style-type: none"> Joint Agency Dams Compliance Audit. EPA site inspection 	<ul style="list-style-type: none"> A joint agency dams compliance audit of the Duralie mine site was undertaken by EPA, DP&E and DRE on 30-Aug-2016. An audit team of 11 regulators visited Duralie to inspect dams and water management infrastructure. The audit report are yet to be provided by the EPA. A site visit was conducted on 7-Oct-2016 to undertake a general inspection of the Duralie operations. No major issues raised by the EPA.
Environmental Management Plans	<ul style="list-style-type: none"> 2016 Reviews. 	<ul style="list-style-type: none"> The Biodiversity Management Plan and Giant Barred Frog Management Plan have been revised with minor amendments and submitted to DP&E for approval.
Air Quality	<ul style="list-style-type: none"> General Real-time dust management Odour 	<ul style="list-style-type: none"> Typical low ambient dust levels through winter. Dust emissions are expected to further reduce with reduced production. No verified alarms received during the quarter. Routine monitoring continued. Odours from self-heating on waste rock is continuing to be managed and the EPA have undertaken an inspection of the area with no additional action required.
Blast	<ul style="list-style-type: none"> Routine blasting 	<ul style="list-style-type: none"> No blasts exceeded 115dB(L) during the quarter. Total remains below 5% for the reporting period (ended 4-Sep-16).

2. Environmental Projects/Activities – cont.

Management Area	Project	Status
Noise	<ul style="list-style-type: none"> • Routine Monitoring • Real-Time Noise Management • Noise consultant 	<ul style="list-style-type: none"> • Routine quarterly monitoring of operations and train noise was undertaken in September and October 2016. Reports will be available on the Duralie Coal website. • Real-time noise monitoring profiles continue to be monitored and generally indicate no exceedence of the performance criteria due to mining operations. No noise alarms received during the quarter. Reduced production. • DCPL have engaged SLR consulting to undertake noise monitoring.
Surface Water	<ul style="list-style-type: none"> • Routine monitoring • Irrigation • Aquatic Ecology 	<ul style="list-style-type: none"> • Generally average rainfall conditions through winter 2016. Routine surface water monitoring completed. • Irrigation activities have commenced during the quarter with dry ground conditions leading into September. • Macroinvertebrates monitoring and riparian vegetation monitoring was completed during September 2016. No significant changes in stream ecology and no measurable impact from mining operations.
Groundwater	<ul style="list-style-type: none"> • Routine monitor 	<ul style="list-style-type: none"> • Routine monitoring completed and generally consistent with modelled results.
Rehabilitation	<ul style="list-style-type: none"> • General waste dumps • Rehabilitation Landscape Function Analysis Monitoring • Rehabilitation maintenance 	<ul style="list-style-type: none"> • Establishment of rehabilitation on the waste emplacement near the power-line corridor. • The annual rehabilitation monitoring was completed during June 2016. The mixture of native vegetation and pasture rehabilitation areas are assessed to track the progress of the rehabilitated areas towards completion. The rehabilitation at Duralie is progressing well and is reported in the Annual Review. • Maintenance works have been planned on areas with erosion or poor establishment identified in the rehabilitation monitoring report. Weed spraying has been undertaken on the rehabilitation during October 2016.

2. Environmental Projects/Activities – cont.

Management Area	Project	Status
Biodiversity	<ul style="list-style-type: none"> Year 3 offset area deliverables 	<ul style="list-style-type: none"> Works continuing on Year 3 deliverables. New works since last CCC include: <ul style="list-style-type: none"> Planning for works in 2016/17, with approximately 300 hectares and offset land to be revegetated with native vegetation communities. Requires back-burning prior to seeding. Nest box installations and monitoring was completed during for September 2016 (refer to slides).
Bushfire Management	<ul style="list-style-type: none"> Bushfire Management 	<ul style="list-style-type: none"> DCPL have continued to liaise with the RFS to undertake hazard reduction burns. Suitable conditions and resources have not yet been available, however RFS have committed to undertaking the burns as soon an opportunity is available.
Flora/Fauna	<ul style="list-style-type: none"> Weed Control GPG bio-control fungus trials. Wild Dog Control Program 2016 	<ul style="list-style-type: none"> Weeds spraying has commenced during October 2016 on Mining Leases, Offset areas and Yancoal property. The GPG fungus trial program commenced during Oct-2016. Plots have been established on Yancoal property north of Wards River. A community field day is proposed for early 2017. (Refer to slides) A wild dog control program is being undertaken at the Stratford and Duralie sites from mid October 2016 through to mid December 2016. The program will include baiting, trapping and shooting of wild dogs and foxes and will cover the Stratford and Duralie Mining Leases and the biodiversity offset areas.
Community	<ul style="list-style-type: none"> Community Support Program 	<ul style="list-style-type: none"> Feedback and appreciation has been received from many of the community support projects. Community events have been highly successful again including the Chill Out Festival, Stroud Road Bash 'n' Bang, Dungog Art Exhibition, Gloucester Tri Challenge and the Stroud Rodeo. Successful projects have included the Gloucester fitness trail, Gloucester Public School Library Regeneration and Historical Society Archive and Research Centre.

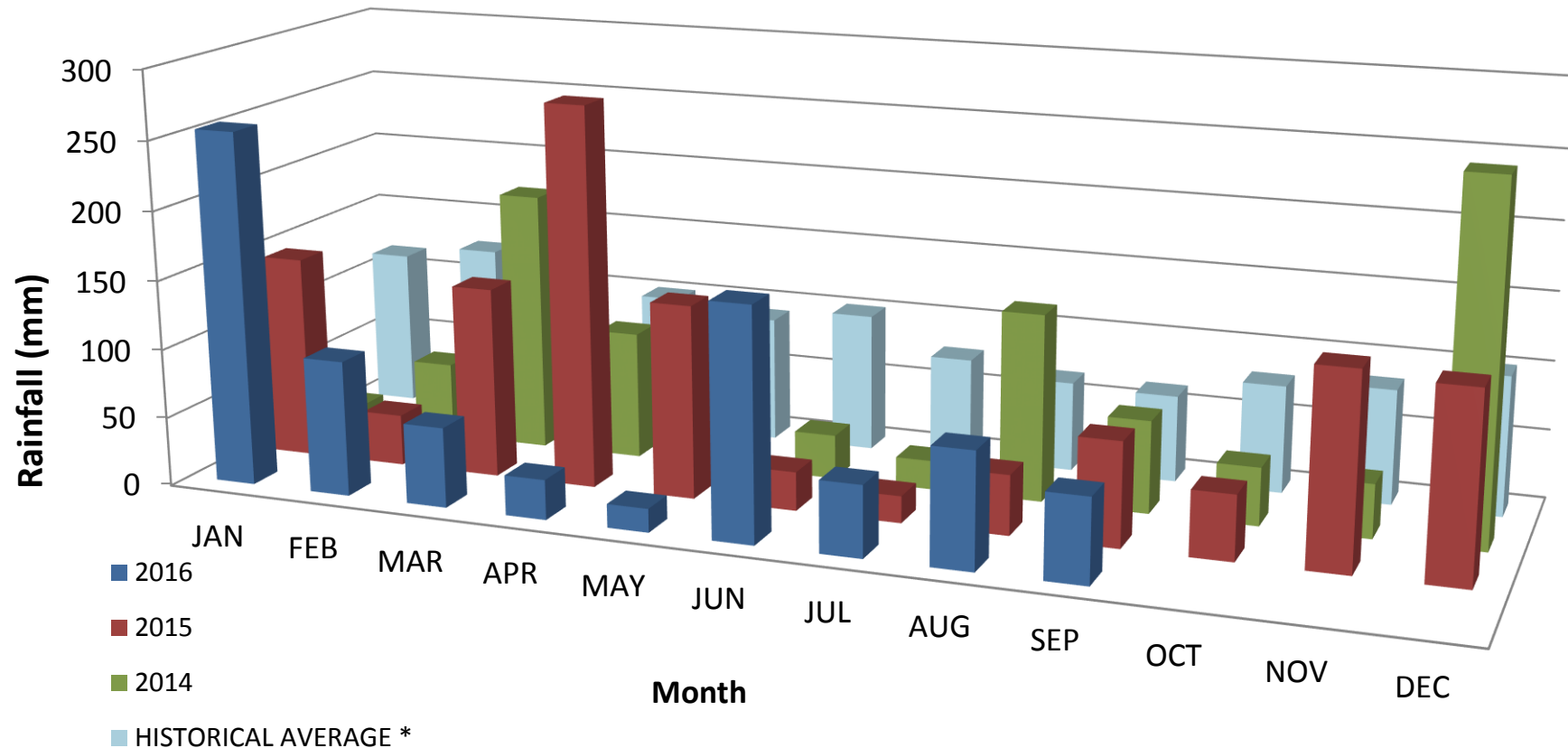
3. Environmental Monitoring Performance

1. Rainfall
2. Surface Water
 - a) pH
 - b) Electrical Conductivity
 - c) Total Suspended Solids
3. Air Quality
 - a) Dust Deposition
 - b) High Volume Air Sampler
 - c) High Volume Air Sampler-Rolling Average
4. Blasting



Rainfall

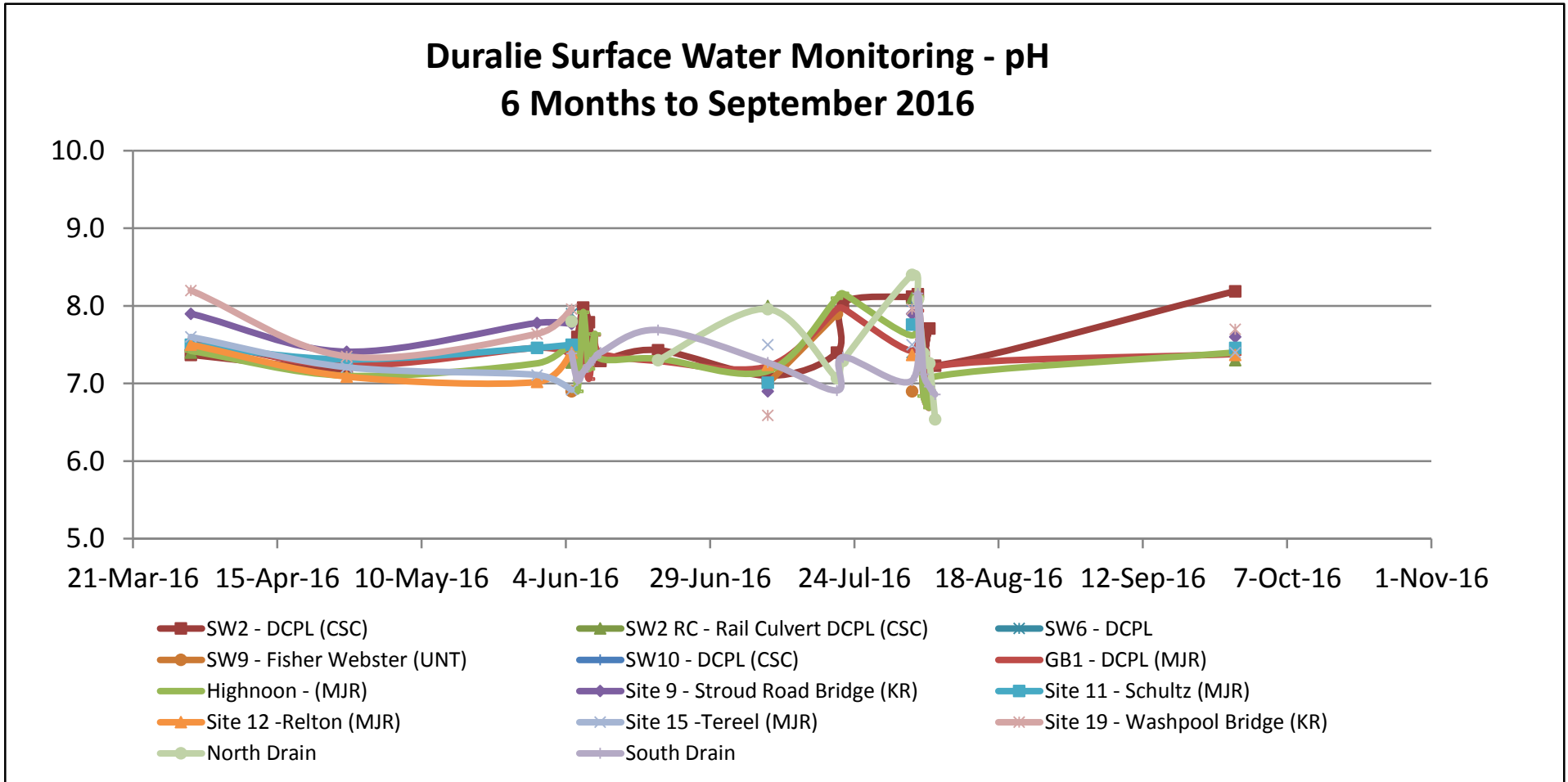
Duralie Mine Site - Monthly Rainfall



- Average rainfall through winter/spring 2016.



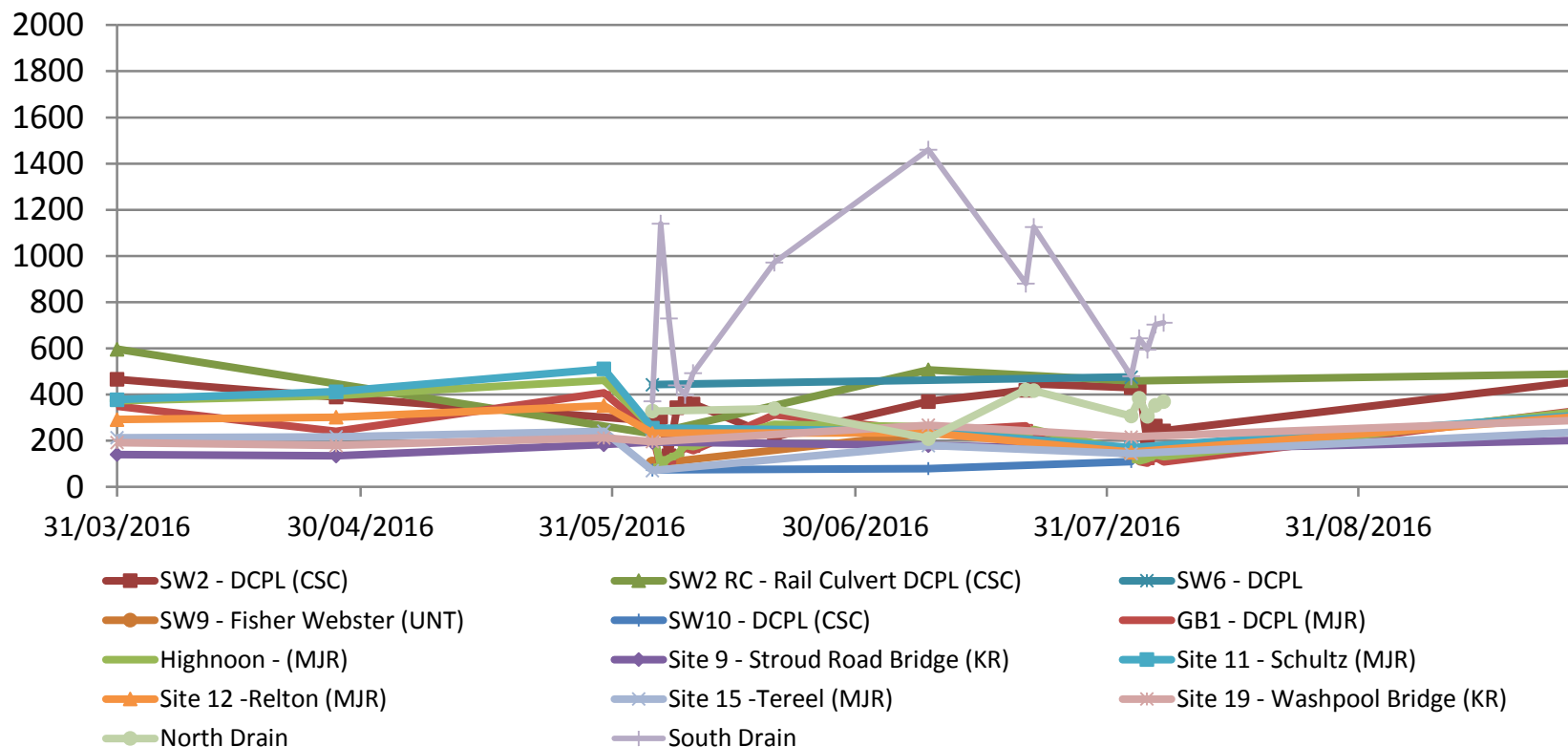
Surface Water - pH



- All sites generally within DEP water quality performance indicators. No obvious trending towards performance indicators.
- Generally near neutral.
- Gaps indicate no flow

Surface Water – Electrical Conductivity

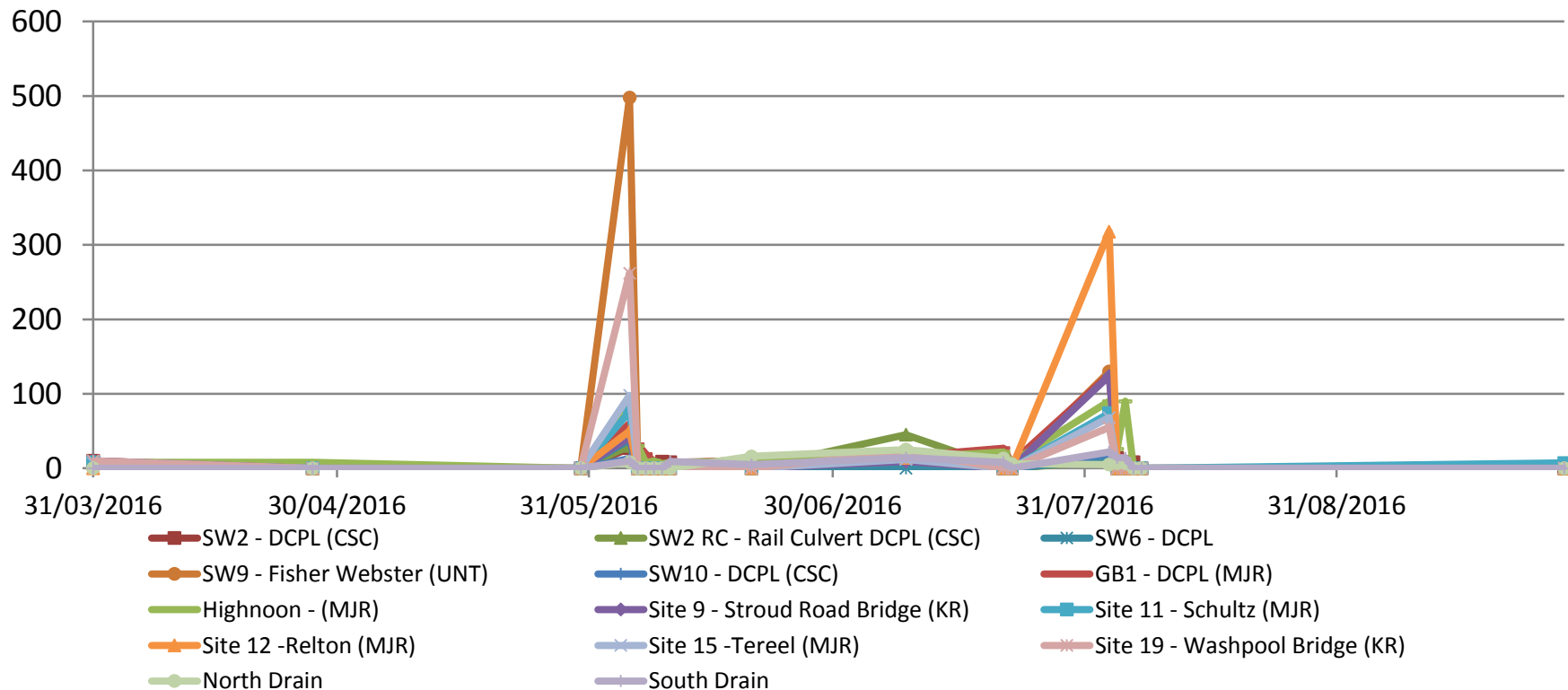
**Duralie Surface Water Monitoring - EC ($\mu\text{S}/\text{cm}$)
6 Months to September 2016**



- Gaps indicate no flow. All sites generally within DEP water quality performance indicators.
- Highest EC levels recorded in the South Drain as the flow receded. When EC level is above 1326 $\mu\text{S}/\text{cm}$ in the South Drain flow is diverted to the Main Water Dam.

Surface Water – Total Suspended Solids

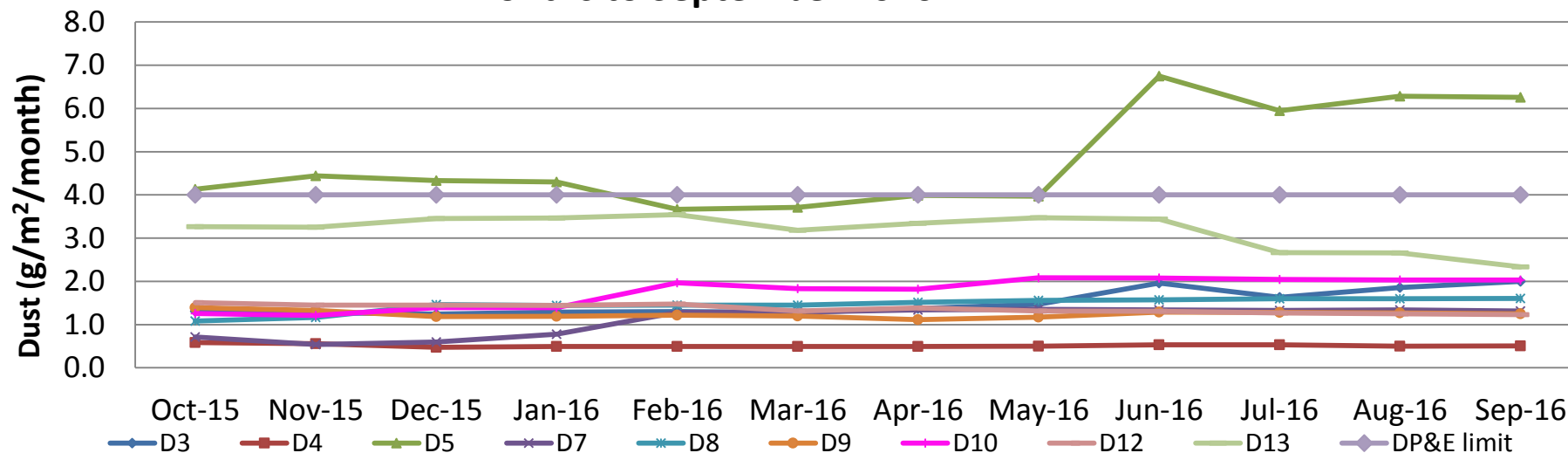
**Duralie Surface Water Monitoring - TSS (mg/L)
6 Months to September 2016**



- All sites returned generally low TSS results. All sites generally within DEP water quality performance indicators
- Anomalous result recorded at SW9 on 5 June 2016. Results upstream and downstream on MJR indicate no elevated TSS levels. Follow-up monitoring during July 2016 indicated no ongoing high TSS results.
- Gaps indicate no flow.

Air Quality – Dust Deposition

**Duralie Dust Deposition - Annual Rolling Average
12 Months to September 2016**



Apr-16 D5 – 4.3 Heavy - 30% Dirt, 0% Coal, 20% Vegetation, 10% Insects and 40% Polysaccharide slime.
May-16 D13 – 4.7 Medium - 40% Dirt 0% Coal 20% Vegetation 10% Insects 30% Polysaccharide Slime
Jun-16 D3 – 6.4 Very High - 10% Dirt 0% Coal 20% Vegetation 20% Insects 50% Polysaccharide Slime.
D5 – 40.6 Very Heavy - 40% Dirt 0% Coal 20% Vegetation 20% Insects 20% 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.

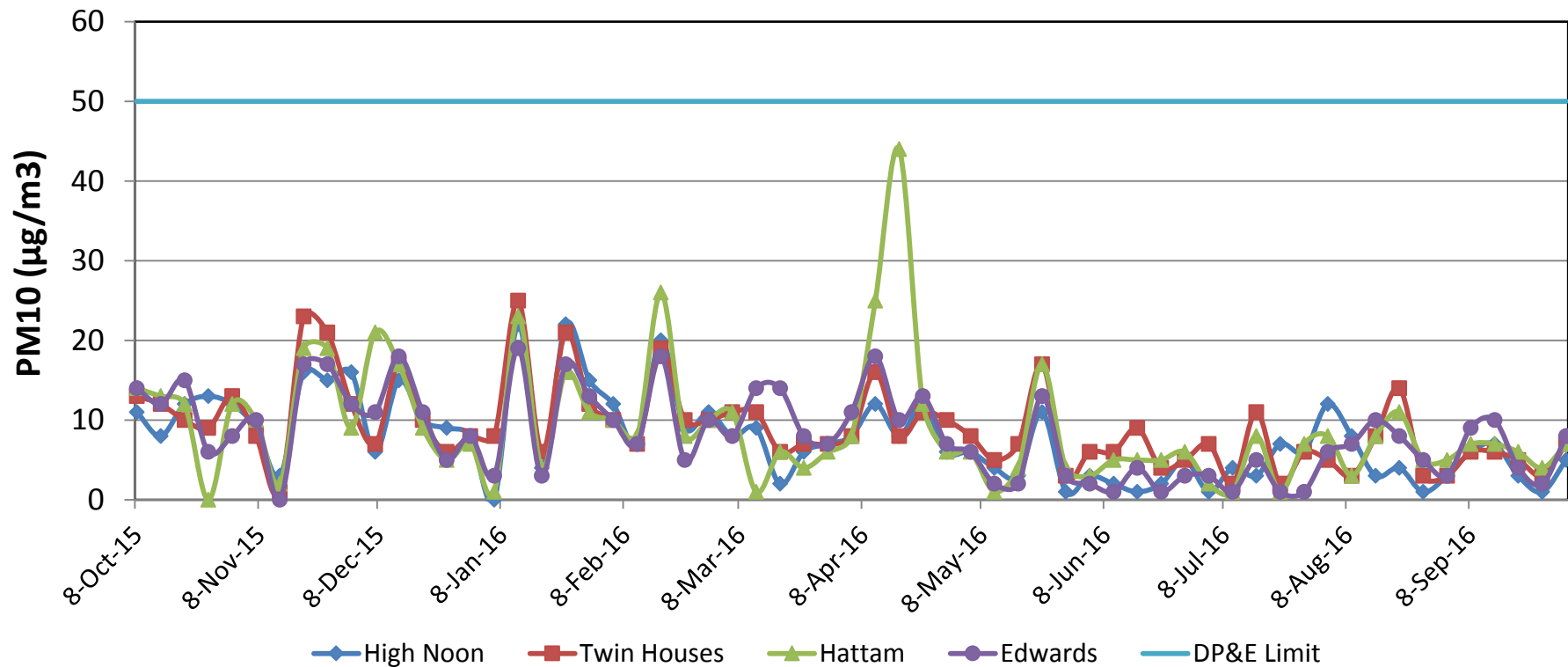
Contamination: Gelatinous material such as bird droppings

- High levels in D5 due to contamination of multiple samples from bird droppings.
- Due to frequent contamination of dust gauges the HVAS results should also be used when interpreting results.



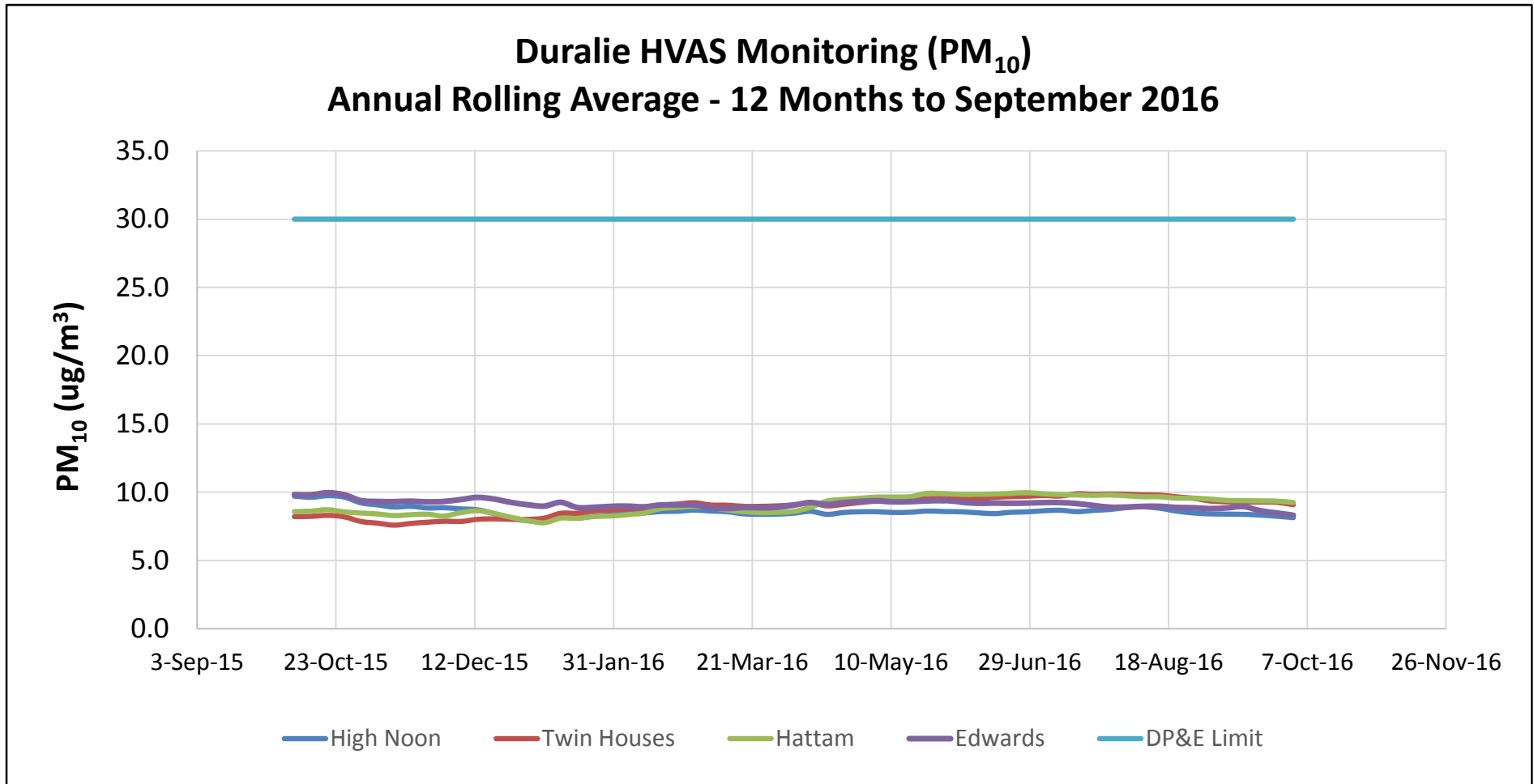
Air Quality – High Volume Air Sampler

Duralie HVAS Monitoring (PM10) 12 Months to September 2016



- All sites below DP&E limit. Typically low results during winter and higher during spring/summer.
- A single abnormal high result recorded at Hattam on 17 April 2016.
- HVAS results provide more reliable data compared to dust deposition results and should be referred to when interpreting dust emissions.

Air Quality – HVAS Rolling Average



- All site averages well below DP&E Limit.
- Flat trend over previous 12 months.

Blasting

Location	Date	Time	Schultz (AB1)		Fisher-Webster (AAAB3)		Moylan (AAAB4)		Weismantel Inn		Overpressure Site Exceedance ¹	Overpressure "Cumulative Exceedance" ¹	Monitored Blasts ¹	Fume Rating
		24hr	mm/s	dBL	mm/s	dBL	mm/s	dBL	mm/s	dBL	%			
Weismantel Strip 16	15-Jul-16	16:33:00	<0.22	<110.0	0.27	112.6	<0.22	<110.0	1.00	116.5	4.8%	3	62	Nil
Clareval Block 6	25-Jul-16	11:30:00	0.26	88.9	0.39	107.5	0.58	105.3	1.28	113.1	4.8%	3	63	Nil
Weismantel Strip 16	28-Jul-16	12:45:00	<0.22	<110.0	0.49	109.1	0.44	105.5	1.41	110.8	4.7%	3	64	Nil
Clareval Block 6	05-Aug-16	12:33:00	<0.22	<110.0	0.53	111.6	0.53	107.4	0.99	114.9	4.6%	3	65	Nil
Weismantel Strip 16	06-Aug-16	12:38:00	<0.22	<110.0	<0.22	<110.0	<0.22	<110.0	0.34	103.1	4.5%	3	66	Nil
Weismantel Strip 16	10-Aug-16	12:38:00	<0.22	<110.0	0.63	106.8	0.52	106.8	1.45	113.9	4.5%	3	67	Nil
Clareval Block 7	16-Aug-16	12:39:00	<0.22	<110.0	0.47	107.9	0.43	107.2	0.96	110.8	4.4%	3	68	Nil
Weismantel Strip 16	19-Aug-16	14:12:00	<0.22	<110.0	0.26	101.8	<0.22	<110.0	1.06	112.9	4.3%	3	69	Nil
Clareval Block 7	24-Aug-16	16:41:00	<0.22	<110.0	0.27	107.5	0.4	108.8	0.77	111.6	4.3%	3	70	Nil
Weismantel Strip 16	26-Aug-16	12:40:00	<0.22	<110.0	0.42	102.9	<0.22	<110.0	0.31	108.0	4.2%	3	71	Nil
		24hr	mm/s	dBL	mm/s	dBL	mm/s	dBL	mm/s	dBL	%			
Clareval Block 7	08-Sep-16	16:47:00	<0.22	<110.0	0.311	100.6	0.45	105.5	1.08	109.1	0.0%	0	1	Nil
Clareval Block 7	10-Sep-16	12:51:00	<0.22	<110.0	0.25	99.1	<0.22	<110.0	0.61	102.3	0.0%	0	2	Nil
Clareval Block 6	13-Sep-16	12:35:00	<0.22	<110.0	<0.22	<110.0	<0.22	<110.0	0.36	108.4	0.0%	0	3	Nil
Clareval Block 2	16-Sep-16	12:31:00	<0.22	<110.0	0.3	105.4	0.44	104.6	0.82	107.8	0.0%	0	4	Nil
Clareval Block 7	21-Sep-16	12:46:00	<0.22	<110.0	<0.22	<110.0	0.37	100.8	0.48	105.7	0.0%	0	5	Nil
Clareval Block 7	28-Sep-16	11:36:00	<0.22	<110.0	0.59	106.4	0.39	107.2	1.23	109.1	0.0%	0	6	Nil
Clareval Block 7	06-Oct-16	15:25:00	<0.22	<110.0	0.4	106.6	0.46	108.1	1.29	110.1	0.0%	0	7	Nil
Clareval Block 7	07-Oct-16	11:01:00	<0.22	<110.0	<0.22	<110.0	<0.22	<110.0	0.37	96.7	0.0%	0	8	1B

- 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.
- During 2015/16 reporting period 3 blasts exceeded 115dB(L).
- Reporting period re-started 04-Sep-2016.

4. Community Complaints

Duralie Complaint Summary

Period: 1/7/2016 - 30/9/2016

Period: 3 Months

Total No. of Complaints: 7 (0 noise, 0 blast, 7 air quality, 0 other)

Total No. of Complainants: 3

Date/Time of Complaint	Complainant Location	Method of Complaint	Nature of Complaint	Investigation/Outcome
29/07/2016 9:50hrs	Gloucester	Community hotline	Odour from mine	<p>Complaint: "Strong sulphur smell is coming from the mine"</p> <p>DCPL Response Comments:</p> <ul style="list-style-type: none"> • The complaint was referred directly to the operations manager for immediate investigation. • Two areas of spontaneous combustion were identified potentially contributing to the odour. • A risk assessment was undertaken to access the areas and measures taken to manage the spontaneous combustion and generation of odours/gases. This includes removal of material and capping to reduce air flow. • Some additional follow-up work was undertaken on the PAF dump. <p>Outcome:</p> <ul style="list-style-type: none"> • Incident reported to EPA and DP&E. Monitoring for spon comm will continue. DCPL called complainant on 1-8-2016 and provided response. No further information was requested.
29/07/2016 14:00hrs	4km North of mine	Community hotline	Odour from mine	<p>Complaint: "This morning a very strong smell hurt throat and caused headache"</p> <p>DCPL Response Comments:</p> <ul style="list-style-type: none"> • As per details above. <p>Outcome:</p> <ul style="list-style-type: none"> • DCPL called complainant on 1-8-2016, no answer. Called back on 2-Aug-2016 - DCPL provided information regarding spontaneous combustion and general information regarding the Duralie operations. The complainant stated they had smelt the odours for a couple of weeks, particularly morning and evening. The complainant thanked DCPL for the information and follow-up. Monitoring for spontaneous combustion and odour will continue.
29/07/2016 14:00hrs	Approx. 1.5km NNE of operation.	Email	Odour from mine	<p>Complaint: "There has for some weeks now been very bad odours emanating from your Duralie operation"</p> <p>DCPL Response Comments:</p> <ul style="list-style-type: none"> • As per details above. <p>Outcome:</p> <ul style="list-style-type: none"> • MP emailed complainant on 1-8-2016 and provided response. Complainant requested further information on 2-8-2016. • DCPL conducted additional inspections and gas monitoring and provided a response to the complainant. Spontaneous combustion is management in accordance with the Spontaneous Combustion Management Procedure. Monitoring for spontaneous combustion and odour will continue. Gas monitoring is also undertaken as required.

4. Community Complaints cont.

Date/Time of Complaint	Complainant Location	Method of Complaint	Nature of Complaint	Investigation/Outcome
05/08/2016 12:07hrs	4km North of mine	Community hotline	Odour from mine	<p>Complaint: "Bad Smell"</p> <p>DCPL called the complainant who advised the smell had been bad between 6am-8am.</p> <ul style="list-style-type: none"> • An inspection of the area was undertaken immediately (i.e.12:15pm), however the odour was not present at this time. • Monitoring has been undertaken for the past 4 days. • Further monitoring will be undertaken during the early morning as anecdotal comments indicate this is when the odour is most noticeable as discussed with complainant.
06/08/2016 12:28hrs	Approx. 1.5km NNE of operation.	Community hotline and email.	Odour from mine	<p>Complaint: "Ongoing odour from mine". The complainant provided an email requesting a response to several concerns.</p> <ul style="list-style-type: none"> • DCPL called the complainant on 8-Aug-2016 at 9:00am to acknowledge receipt of complaint. DCPL advised they had been addressing the issue with odours over the weekend and would provide further response to the complaint. • DCPL provided a letter response to the complaint with details regarding odour issues, compliance conditions, monitoring, ongoing management measures and reporting. The complainant still had concerns following this response and DCPL proposed to arrange a meeting with the complainant to discuss the matter further.
23/08/2016 9:27hrs	4km North of mine	Community hotline	Odour from mine	<p>Complaint: "Bad Smell from mine again"</p> <p>DCPL called the complainant back at 9:37hrs. The complainant advised the smell was bad again this morning. Inspections by Duralie Coal staff also identified odour near Duralie Rd.</p> <ul style="list-style-type: none"> • The complainant asked questions about the odour and what actions the mine was taking. The odour had passed at the time of the call. • DCPL provided information on the ongoing management of PAF material and odours. Progress had been made although further work was still required. Monitoring has continued to ensure no levels above health guideline. DCPL recognise the odour can be offensive and work is schedule to continue to resolve the issue as a matter of priority.
24/08/2016 9:20hrs	Approx. 1.5km NNE of operation.	Email	Odour from mine	<p>Complaint: "The caller reported air pollution coming from EPL11701 . The caller described the odour as an acrid smell causing hard of breathing. The odour is ongoing."</p> <ul style="list-style-type: none"> • DCPL had previously provided a report to EPA following the first incident on 29 July 2016. • DCPL prepared a further report with additional details on the management measures which had been taken to resolve the odour issues, DCPL are treating the matter as a priority and had received independent advice on the measures which should be taken going forward. • Monitoring will continue during this process. • No further action has been requested from the EPA at this point. DCPL are continuing to manage self heating and odours.

4. Community Support Program 2016

Project Feedback

Feedback and appreciation has been received from many of the community support projects. Community events have been highly successful again including the Chill Out Festival, Stroud Road Bash 'n' Bang, Dungog Art Exhibition, Gloucester Tri Challenge and the Stroud Rodeo. Successful projects have included the Gloucester fitness trail, Gloucester Public School Library Regeneration and Historical Society Archive and Research Centre.

Gloucester Public School Library Regeneration Project

Stratford Coal has teamed up with Dymocks Children's Charities to roll out a project to regenerate the Gloucester Public School library. The library has been replenished with \$10,000 of new books which were selected by the school and supplied by Dymocks. On Thursday 11th of August a launch for the new books was held at the Gloucester Public School which coincided with their annual book parade.



5. Nest Box Monitoring 2016

Nest Box Program

- The Duralie biodiversity offset Nestbox program currently includes 151 nest boxes for a range of hollow-dependent species and 18 nest boxes specifically targeting the squirrel glider.
- During September 2016 monitoring of the nest boxes was undertaken by AMBS Ecology & Heritage.
- An additional 35 nest boxes were installed across the project area.
- The program has been highly successful and the full results are reported in the Annual Review.



Photos: Duralie Nestbox Monitoring 2016



5. Creative Corner Preschool – Nest box talk

Presentation

The theme at Creative Corner Preschool this term is native animals and DCPL staff were arranged to give a talk to the students on the Duralie nest box program and show photos of the many different animals we find in the local bushland.



5. GPG Trial Program 2016

Establishment of the GPG Trial Plots

The GPG fungus trial program commenced during Oct-2016. Plots have been established by a DPI officer with support from DCPL and a local community member on Yancoal property north of Wards River. A community field day is proposed for early 2017.



Photos: GPG fungus trial plots