



Duralie Coal CCC Meeting

Presentation -
Company Report &
Overview of Activities

May 2016

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Environment & Community Coordinator

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1. Progress at the Mine

Mining 1st Quarter 2016

- Waste BCM 1,949,000 BCM
- Coal tonnes 219,000 tonnes

- Mining in Clareval continued.
- Weismantel mining recommenced in March 2016.

2. Environmental Projects/Activities

Management Area	Project	Status
Reporting	<ul style="list-style-type: none"> Commonwealth Approval Annual Compliance Report 2016 	<ul style="list-style-type: none"> Report completed and submitted to Commonwealth Department of the Environment on 13-Apr-2016.
Regulator	<ul style="list-style-type: none"> DRE Annual Inspection EPA Site Visit Water Incident 	<ul style="list-style-type: none"> Site visit postponed until May 2016. Site visit on 4 February 2016. Response from EPA received in March 2016. No further action taken.
Environmental Management Plans	<ul style="list-style-type: none"> EMP review's following approval of Project Modification. Environmental Awareness Training 	<ul style="list-style-type: none"> Biodiversity Offset Management Plan approved by DotE. Noise Management Plan approved by DP&E Water Management Plan still with DP&E. Training was undertaken with all operators during April 2016 regarding general environmental awareness.
Air Quality	<ul style="list-style-type: none"> Real-time dust management 	<ul style="list-style-type: none"> No verified alarms received during the quarter. Routine monitoring.
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"> Revegetation trails have been completed on approx. 60 hectares of offset land; including ground preparation, direct seeding, hydro-seeding and tube-stock. Weed spraying continued from January to April 2016.
Blast	<ul style="list-style-type: none"> Routine blasting 	<ul style="list-style-type: none"> Two blasts in February exceeded 115dB(L) during the quarter. Total remains below 5% for the reporting period (commenced 4-Sep-15).
Bushfire Management	<ul style="list-style-type: none"> Bushfire Management 	<ul style="list-style-type: none"> DCPL met with the RFS during March 2016 to inspect the proposed burn areas. Hazard reduction burning will now take place during Winter 2016.

2. Environmental Projects/Activities – cont.

Management Area	Project	Status
Noise	<ul style="list-style-type: none"> • Routine Monitoring • Real-Time Noise Management • Sound Power Testing 	<ul style="list-style-type: none"> • Routine quarterly monitoring of operations and train noise completed in April 2016. No non-compliances. 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. • Sound power testing of whole fleet completed in April 2016.
Surface Water	<ul style="list-style-type: none"> • Routine monitoring • Erosion & sediment control • Aquatic Ecology 	<ul style="list-style-type: none"> • Generally dry conditions following rainfall in January 2016. • Water control works continued in Weismantel in advance of mining operations. • Marco-invertebrates surveys completed in February 2016.
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 • Native grass seed • Annual monitoring • Topsoil 	<ul style="list-style-type: none"> • 12 hectares of rehabilitation on the waste emplacement near the power-line corridor has been completed in March 2016. • Work on improving the species diversity in the rehabilitation seed mix to include native grass seed. Direct seeding included native grass, shrub and canopy species. • Annual LFA monitoring is scheduled for May 2016. • Topsoil has been stripped from new areas in Weismantel and stockpiled.
Flora	<ul style="list-style-type: none"> • Weeds Program • GPG bio-control fungus trials. • GLC weeds workshop 	<ul style="list-style-type: none"> • Weeds spraying has been undertaken on the Mining Lease from January to April 2016. • Trial program on Yancoal land has been confirmed with DPI and will commence in Spring 2016. Community updates will be provided during the program. • GLC weeds workshop was attended in Stroud in March 2016.
Community	<ul style="list-style-type: none"> • Community Support Program • Education Support Fund 	<ul style="list-style-type: none"> • Community Support Program 2016 applications have been extended to 30 April 2016. Advertising in local newspaper undertaken. • Stratford Coal Education Support Fund 2016 presentation night held at Gloucester Country Club in April 2016. \$35,000 in grants to 11 students and 3 businesses.

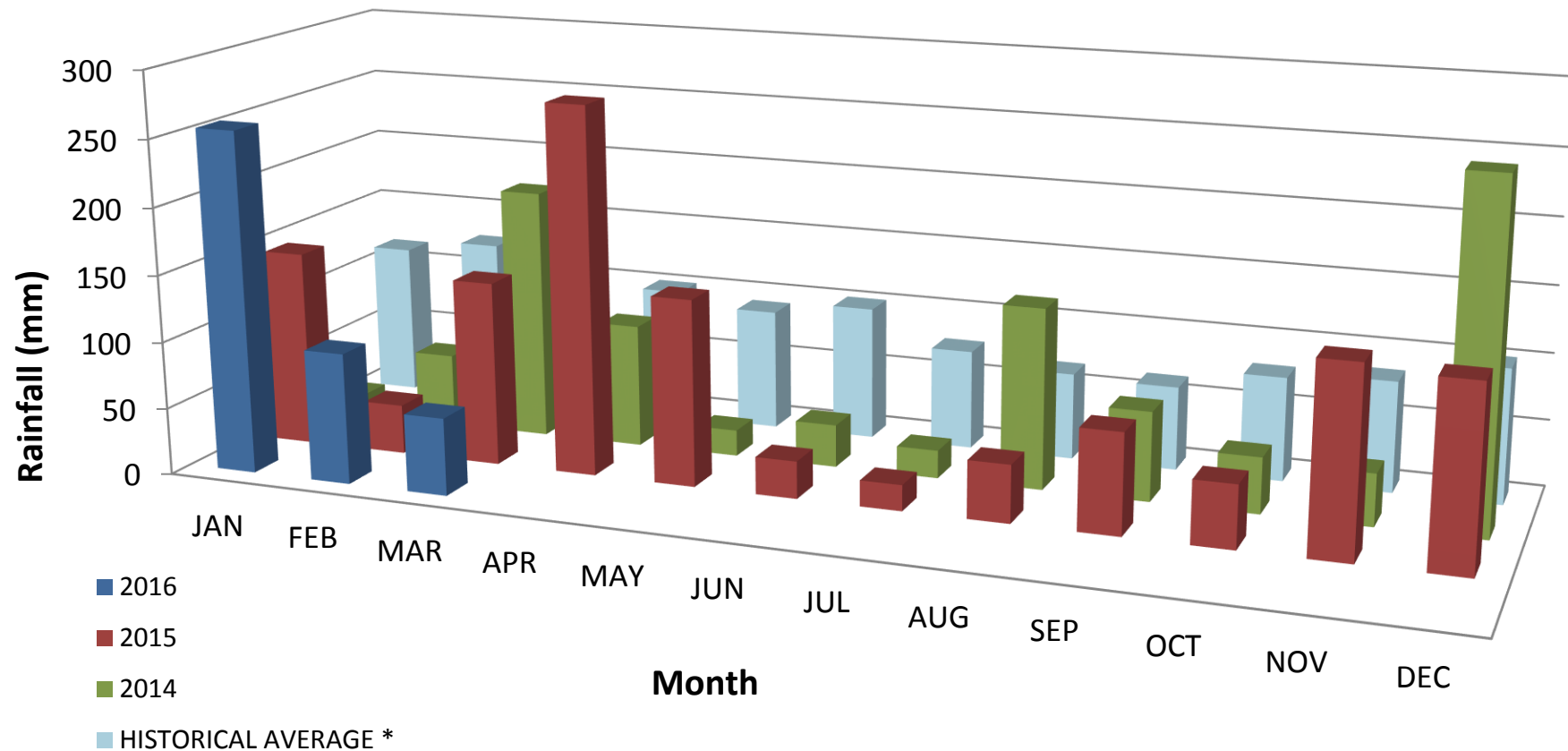
3. Environmental Monitoring Performance

1. Rainfall
2. Surface Water
 - a) Total Suspended Solids
 - b) pH
 - c) Electrical Conductivity
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

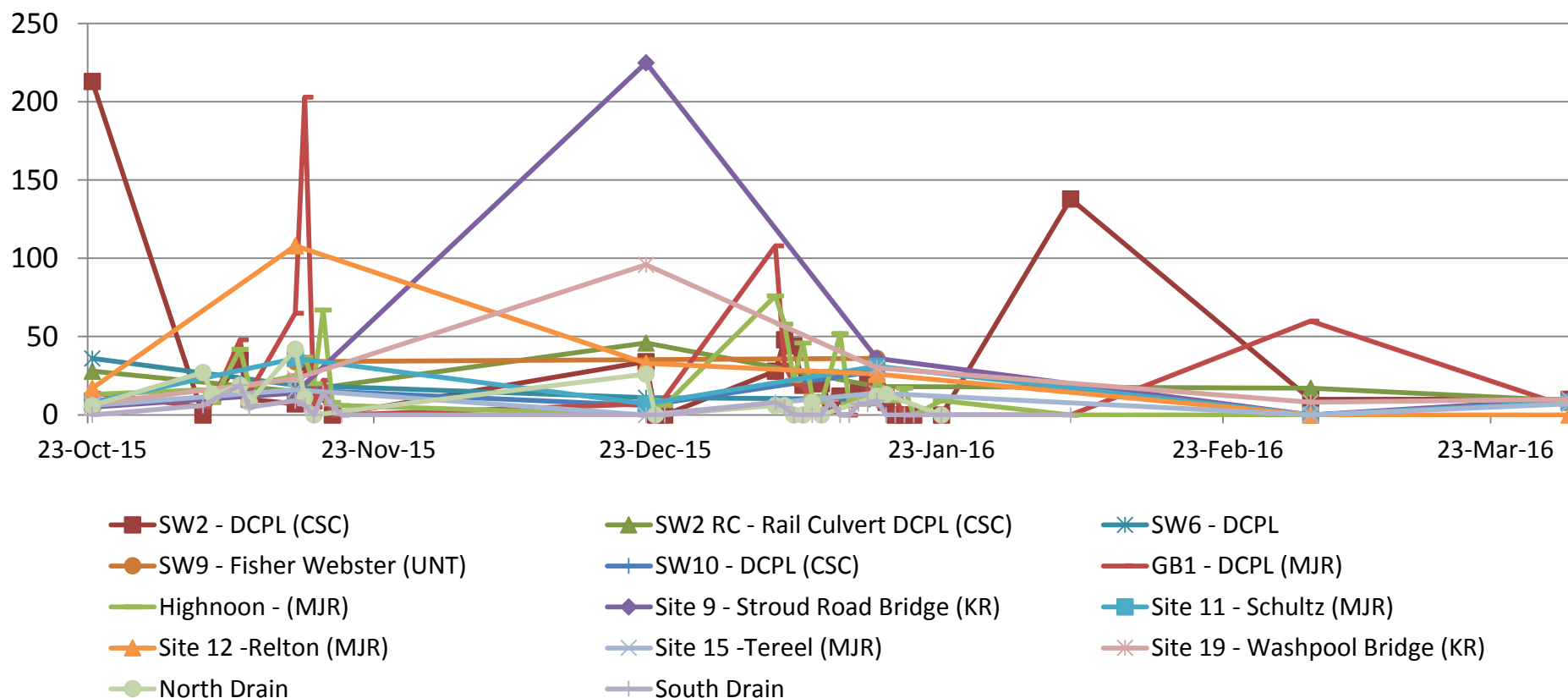


- Above average rainfall in January 2016.
- Dry March and April 2016
- 2015 Annual Total Rainfall 1225mm



Surface Water – Total Suspended Solids

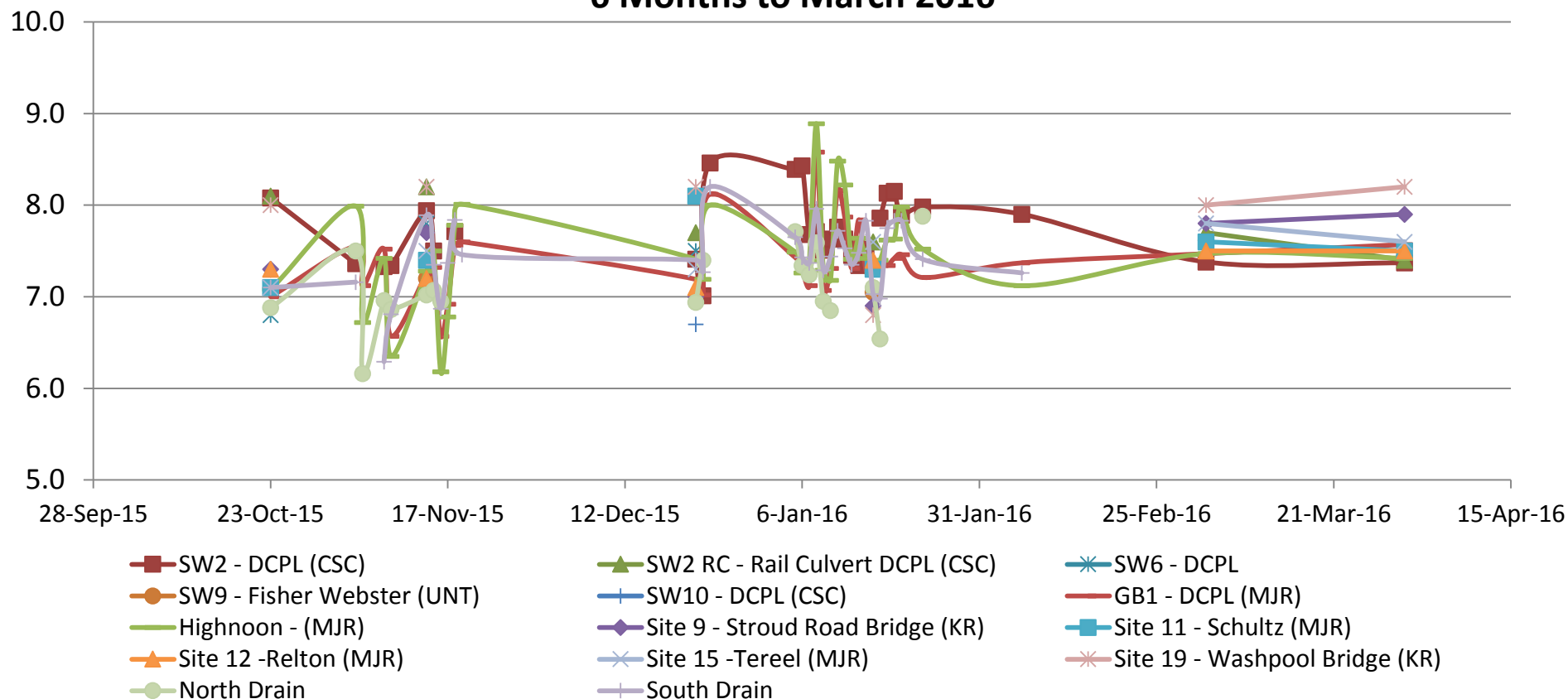
**Duralie Surface Water Monitoring - TSS (mg/L)
6 Months to March 2016**



- All sites returned generally low TSS. Elevated results recorded at SW2, GB1 and SW9 on various dates. Elevated results are both upstream and downstream with no observable trend. Generally following heavy rainfall.
- Gaps indicate no flow. All sites generally within DEP water quality performance indicators

Surface Water - pH

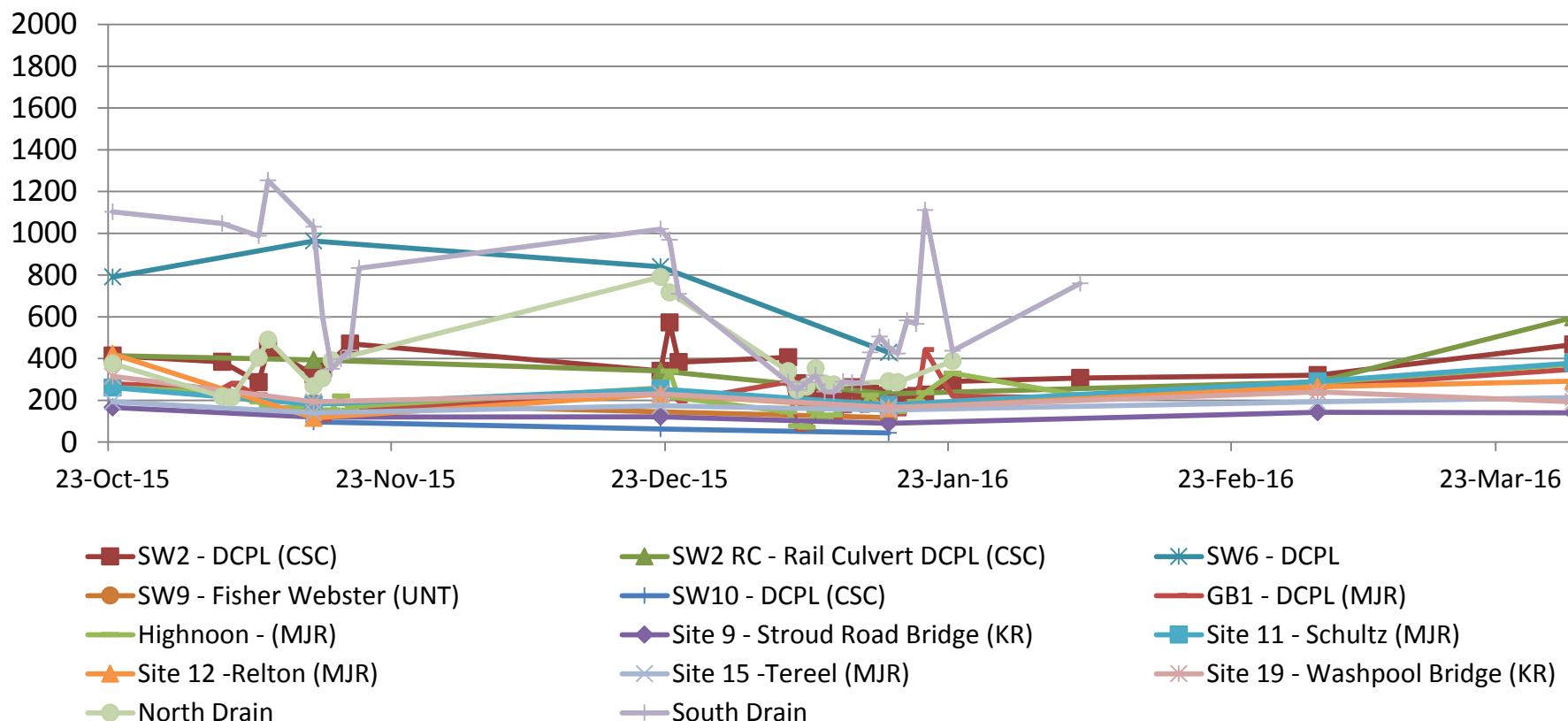
Duralie Surface Water Monitoring - pH 6 Months to March 2016



- All sites generally within DEP water quality performance indicators. No obvious trending towards performance indicators.
- Anomalous readings in November possibly due to incorrect probe calibration. Consistent trend up and down stream.
- Gaps indicate no flow

Surface Water – Electrical Conductivity

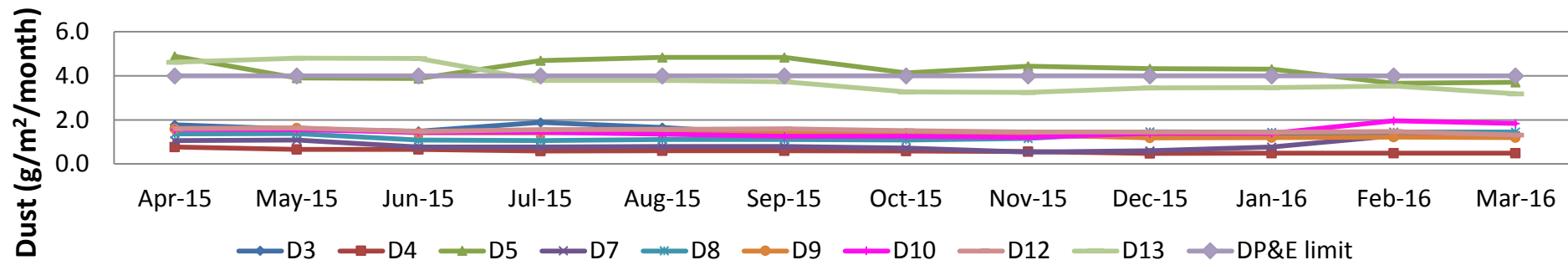
**Duralie Surface Water Monitoring - EC ($\mu\text{S}/\text{cm}$)
6 Months to March 2016**



- 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 1326uS/cm in the South Drain flow is diverted to the Main Water Dam.

Air Quality – Dust Deposition

Duralie Dust Deposition - Annual Rolling Average 12 Months to March 2016



- Jun-15** D5 - Heavy 40% Dirt, 0% Coal, 10% Vegetation, 10% Insects, 40% Polysaccharide Slime
- Jul-15** D3 Very heavy - 20% Dirt, 0% Coal, 10% Vegetation, 10% Insects, 60% Polysaccharide Slime. D5 -Very heavy - 40% Dirt, 0% Coal, 0% Vegetation, 0% Insects, 60% Polysaccharide Slime. D13-Very heavy - 30% Dirt, 0% Coal, 0% Vegetation, 30% Insects, 40% Polysaccharide Slime.
- Sep-15** D13 -Medium - 50% Dirt, 10% Coal, 10% Vegetation, 10% Insects and 20% Polysaccharide Slime.
- Nov-15** D5 - Very heavy - 40% Dirt, 0% Coal, 10% Vegetation, 10% Insects and 40% Polysaccharide slime.
- Dec-15** D8- Medium. 30% Dirt, 0% coal, 0% vegetation, 10% insects, 60% polysaccharide slime. D10- Heavy. 40% dirt, 0% coal, 0% vegetation, 0% insects, 60% polysaccharide slime.
- Feb-16** D10 Heavy - 40% dirt, 0% coal, 10% vegetation, 20% insects and 30% polysaccharide slime. D13- contaminated with insects and bird droppings. Slightly turbid. Low ash/IS ratio. D7- Heavy - 70% dirt, 0% coal, 10% vegetation, 0% insects, 20% polysaccharide slime
- Mar-16** D5- contaminated with high amounts of bird droppings. Low ash/IS ratio. D13- contaminated with insects and bird droppings. Turbid. Low ash/IS ratio.

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.

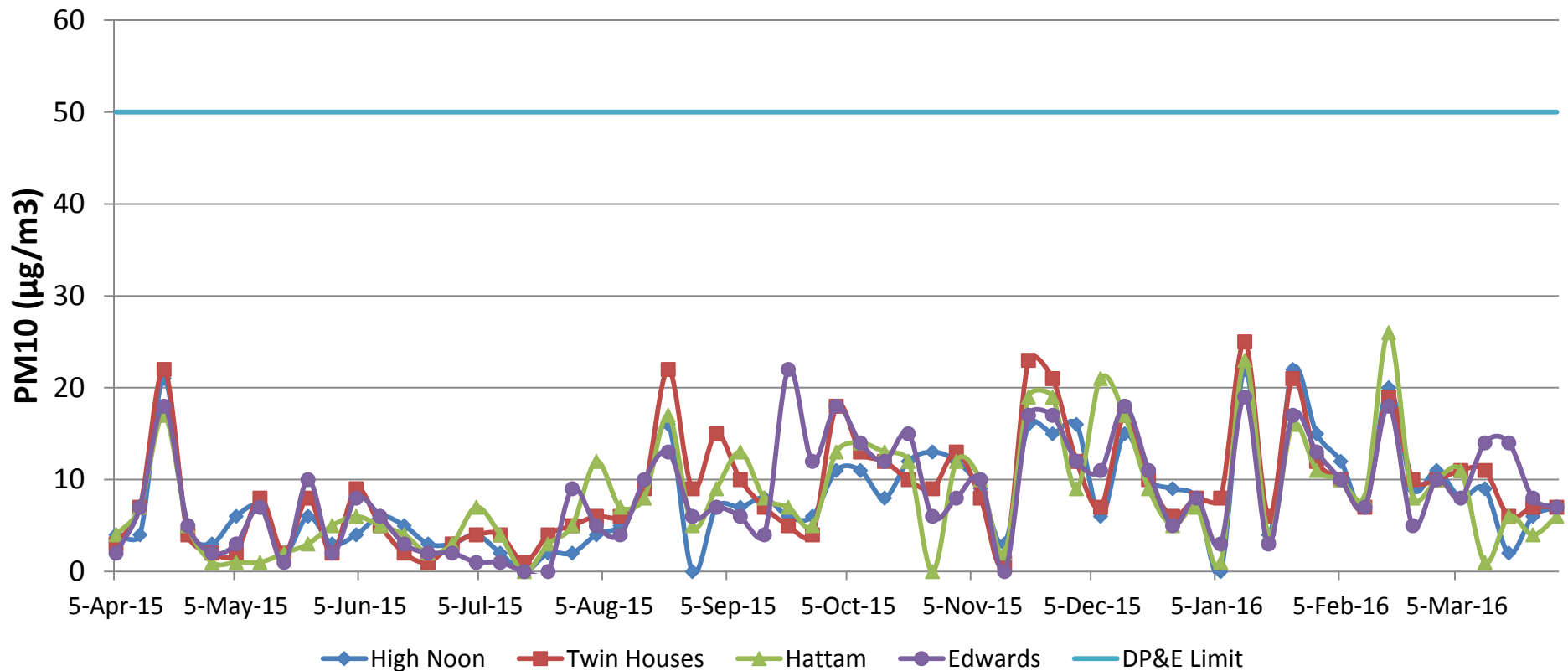
Contamination: Gelatinous material such as bird droppings

- High levels in D5 and D13 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

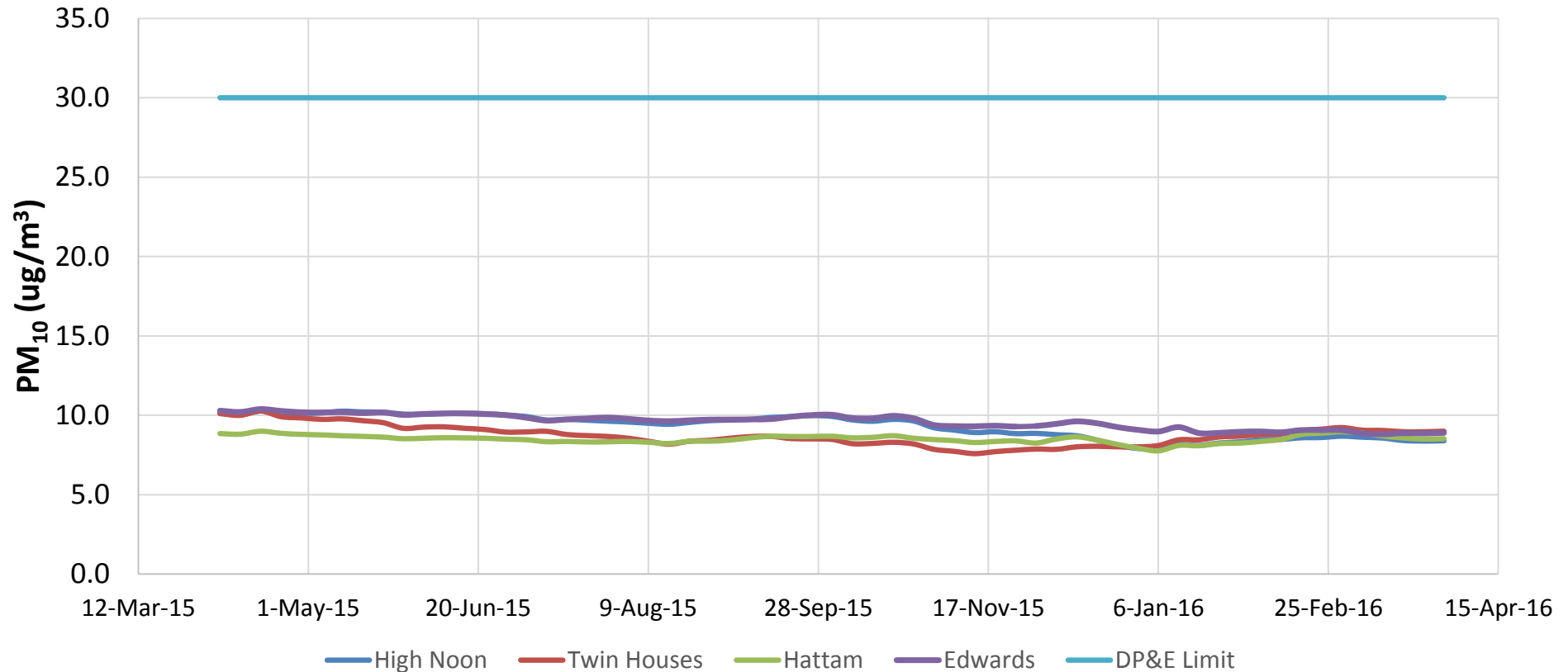
Duralie HVAS Monitoring (PM10) 12 Months to March 2016



- All sites below DP&E limit. Typically low results during winter and higher during spring/summer.
- 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

Duralie HVAS Monitoring (PM₁₀)
Annual Rolling Average - 12 Months to March 2016



- All site averages well below DP&E Limit.
- Slight downward trend during 2015.

Blasting

Location	Date	Time	Schultz (AB1)		Fisher-Webster (AAAB3)		Moylan (AAAB4)		Weismantel Inn		Overpressure Site Exceedance ¹	Overpressure "Cumulative Exceedance" ¹	Ground Vibration Site Exceedance ¹	Ground Vibration "Cumulative Exceedance" ¹	Monitored Blasts ¹	Fume Rating
			24hr	mm/s	dBL	mm/s	dBL	mm/s	dBL	mm/s						
Clareval Block 6	01-Feb-16	12:23:00	<0.22	<110.0	0.33	102.9	0.56	103.8	1.26		0.0%	0	0.0%	0	22	Nil
Clareval Block 6	04-Feb-16	12:35:00	<0.22	<110.0	0.33	115.2	0.4	111.3	1.27		4.3%	1	0.0%	0	23	Nil
Clareval Block 6	11-Feb-16	16:43:00	<0.22	<110.0	0.60	109.5	1.98	116.2	5.48		8.3%	2	0.0%	0	24	Nil
Clareval Block 6	16-Feb-16	16:41:00	<0.22	<110.0	0.35	107.9	0.31	105.1	1.05		8.0%	2	0.0%	0	25	Nil
Clareval Block 7	23-Feb-16	12:43:00	<0.22	<110.0	0.422	97.9	<0.22	<110.0	<0.22		7.7%	2	0.0%	0	26	Nil
Clareval Block 5	24-Feb-16	15:24:00	<0.22	<110.0	0.291	102.2	0.79	113.3	2.06		7.4%	2	0.0%	0	27	Nil
Clareval Block 7	01-Mar-16	12:48:00	<0.22	<110.0	<0.22	<110.0	0.38	112.7	1.26		7.1%	2	0.0%	0	28	2B
Clareval Block 7	04-Mar-16	12:38:00	<0.22	<110.0	<0.22	<110.0	<0.22	<110.0	0.57		6.9%	2	0.0%	0	29	Nil
Weismantel Strip 16	09-Mar-16	12:33:00	<0.22	<110.0	<0.22	<110.0	<0.22	<110.0	0.66		6.7%	2	0.0%	0	30	Nil
Weismantel Strip 16	11-Mar-16	16:43:00	<0.22	<110.0	<0.22	<110.0	<0.22	<110.0	0.31		6.5%	2	0.0%	0	31	Nil
Weismantel Strip 16	17-Mar-16	16:44:00	<0.22	<110.0	<0.22	<110.0	<0.22	<110.0	<0.22		6.3%	2	0.0%	0	32	Nil
Weismantel Strip 16 (re-fire)	17-Mar-16	17:34:00	Not Monitored								6.1%	2	0.0%	0	33	Nil
Weismantel Strip 16	19-Mar-16	13:17:00	<0.22	<110.0	0.249	109.1	<0.22	<110.0	0.53		5.9%	2	0.0%	0	34	Nil
Clareval Block 2	24-Mar-16	12:46:00	0.33	88.9	0.32	106.6	0.65	108.8	1.28		5.7%	2	0.0%	0	35	Nil
Clareval Block 2	01-Apr-16	12:50:00	<0.22	<110.0	0.38	106.4	0.35	104.0	1.76		5.6%	2	0.0%	0	36	Nil
Weismantel Strip 16	02-Apr-16	12:41:00	<0.22	<110.0	0.25	107.5	<0.22	<110.0	0.36		5.4%	2	0.0%	0	37	Nil
Clareval Block 2	08-Apr-16	12:34:00	<0.22	<110.0	0.35	107.9	0.43	111.0	0.82		5.3%	2	0.0%	0	38	Nil
Weismantel Strip 16	13-Apr-16	9:34:00	<0.22	<110.0	<0.22	<110.0	<0.22	<110.0	0.77		5.1%	2	0.0%	0	39	Nil
Clareval Block 2	18-Apr-16	12:34:00	0.26	87.2	0.45	105.6	0.6	104.3	1.76		5.0%	2	0.0%	0	40	Nil

- 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 2 blasts have exceeded 115dB(L)
- Reporting period re-started 04-Sep-2015.

4. Community Complaints

Duralie Complaint Summary

Period: 1/1/2016 - 31/3/2015

Period: 3 Months

Total No. of Complaints: 3 (0 noise, 2 blast, 1 Air Quality, 0 other)

Total No. of Complainants: 3

Date/Time of Complaint	Complainant Location	Method of Complaint	Nature of Complaint	Investigation/Outcome
11/02/2016 17:05hrs	Approx. 3.4km NNE of blast	Community hotline	Blasting and vibration	Blast results reviewed - Fisher Webster monitor 0.6mm/s and 109.5dB(L). Blast video reviewed. No visible dust beyond site boundary. Meteorological conditions: Wind speed 11km/hr, Wind direction 77deg (ENE), no cloud cover. Wind not in direction of complainant. DCPL returned call at 1:00pm on 12/02/16. Internal investigation into blast design and loading was undertaken.
15/02/2016 13:40hrs	Wards River	Email	Dust and Waste Dumps.	EPA requested information following receipt of a complaint. Email response to EPA: Are environmental controls in place? • We confirm that all required environmental controls are in place and operating, including water carts for dust suppression Height of Overburden Emplacements? • We confirm that overburden emplacements are being constructed in accordance with the approval and within approved heights limits. Additional information. • Approved clearing activities at Duralie has increased the visibility of waste dumps from Bucketts Way. • All of the visual screening required under the development consent has been constructed. • Duralie will continue to rehabilitate and revegetate cleared areas progressively as quickly as active mining will permit. • 24hr PM10 results confirm that Duralie continues to operate in accordance with its approval and its EPL. Follow-up call made on 1-Mar-2016 to EPA. No further action.
13/04/2016 9:38hrs	Approx. 3.4km NNE of blast	Community hotline	Blasting and vibration	Complaint: "Big explosion and buildings shaking" DCPL representative called complainant at 10:30am. Complainant advised the blast was very loud and had shaken the house and shed. DCPL representative advised the results from the nearby blast monitor were below trigger levels. The complainant then stated her husband was at the neighbouring property where the monitor is located and confirmed the blast noise and vibration was minimal. DCPL advised this was useful information and would be provided to the Blast Engineer to investigate potential causes and factor into future blasting in this location. Blast designs continue to consider options for reducing vibration and overpressure.