MAULES CREEK COAL MINE – MONTHLY MONITORING SUMMARY

Site Information

EPL No: 20221
EPA Website Link: Hyperlink to Maules Creek Coal, Environment Protection Licence
Licensee: Maules Creek Coal Mine Pty Ltd
Licensee Address: Maules Creek Coal Mine, Therribri Road, BOGGABRI NSW 2382
EPL Monitoring Points: Figure 1
Sampling Period: January 2016
Publication Date: February 2016

Context: This Monthly Monitoring Summary aligns with the applicable Environment Protection Licence (EPL) – Maules Creek Coal Mine issued 21st September 2015 by the NSW Environment Protection Authority (EPA).

Monthly Monitoring Summary

Table 1 – Wet Weather Discharge - Surface Water Monitoring

ID EPL (Site)	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min Value	Mean Value	Median Value	Max / Only Value
2 (SD2)	TSS	mg/L	Special Frequency Discharge only	0	No discharge at this location this month.					
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
3 (SD3)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
4 (SD4)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
5 (SD5)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
6 (SD6)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
7 (SD7)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
8 (SD8)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						

EPL ID	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min Value	Mean Value	Median Value	Max / Only Value
9 (SD9)	TSS	mg/L	Special Frequency Discharge only	0	No discharge at this location this month.					
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
10 (SD10)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
11 (SD11)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						

Table 2 – Surface Water Monitoring – Mine Void

ID EPL (Site)	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min	Mean	Max / Only Value
12 (Mine Void)	TSS	mg/L	Every 2 months	0	Next sample February				
	Conductivity	µs/cm		0					
	Oil & Grease	mg/L		0					
	pH	pH		0					

Table 3 – Groundwater Quality Monitoring

ID EPL (Bore)	Parameters	Units	Frequency	Samples	Date	Laboratory Results Received	Min	Mean	Max / Only Value
13 (RB01a)	pH	pH	Quarterly	0	Next sample March				
	Conductivity	µs/cm							
	TDS	mg/L							
14 (RB02a)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							
15 (BCM01)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							
16 (BCM03)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							
17 (REG10a)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							

Table 4 – Noise Monitoring (Attended – Measured)

MCC ID	Date	Start Time	Wind Speed (m/s)	Measured Levels – dB(A) $L_{Aeq\ 15min}$ Evening	Measured Levels – dB(A) $L_{Aeq\ 15min}$ Night	Limit $L_{Aeq\ 15min}$ (dB) Operations Criteria	Measured Levels – dB(A) $L_{A1\ (1\ min)}$ Night	Limit $L_{A1\ (1\ min)}$ (dB) Operations Criteria	Weather Rain (mm)	Exceedance (Yes / No)
NM1	19/01/2016	20:48:00	0.7	<20		35			0	Nil
NM1	19/01/2016	21:04:00	0.4	<20		35			0	Nil
NM1	18/01/2016	22:45:00	0.6		27	35	32	45	0	Nil
NM1	18/01/2016	23:00:00	0.5		28	35	35	45	0	Nil
NM2	18/01/2016	20:57:00	1.1	26		39			0	Nil
NM2	18/01/2016	21:13:00	1.4	25		39			0	Nil
NM2	19/01/2016	22:17:00	1.2		29	39	36	45	0	Nil
NM2	19/01/2016	22:37:00	1		31	39	37	45	0	Nil
NM3	18/01/2016	19:30:00	1.5	<30		35			0	Nil
NM3	18/01/2016	19:45:00	1.2	<30		35			0	Nil
NM3	19/01/2016	23:53:00	0.4		<25	35	<25	45	0	Nil
NM3	20/01/2016	0:09:00	0.2		<25	35	<25	45	0	Nil
NM4	19/01/2016	19:48:00	1.3	<20		35			0	Nil
NM4	19/01/2016	20:18:00	0.2	<20		35			0	Nil
NM4	18/01/2016	23:32:00	0.4		27	35	32	45	0	Nil
NM4	18/01/2016	23:48:00	0.2		26	35	34	45	0	Nil
NM5	19/01/2016	21:28:00	0.9	<20		35			0	Nil
NM5	19/01/2016	21:43:00	0.9	<20		35			0	Nil
NM5	18/01/2016	22:00:00	0.7		<20	35	<25	45	0	Nil
NM5	18/01/2016	22:16:00	1		<25	35	<25	45	0	Nil
NM6	18/01/2016	20:14:00	1.3	IA		35			0	Nil
NM6	18/01/2016	20:29:00	1.4	IA		35			0	Nil
NM6	19/01/2016	23:08:00	0.7		IA	35	IA	45	0	Nil
NM6	19/01/2016	23:23:00	0.3		IA	35	IA	45	0	Nil

* IA & NM = Inaudible & Not Measurable.
**MCC ID = Locations as per the approved Noise Management Plan.
***ND = No data due to high prevailing winds during the attended noise monitoring event.
Italicised text indicates wind speed exceeds the 3.0m/s maximum for noise monitoring.

Noise Monitoring (Attended - Low Frequency Assessment)

None of the twenty-four measurements occurred during which operational activities from MCC were directly measurable (not “inaudible”, “not measurable” or less than a maximum cut-off value of 30 dB), were within 5 dB of the relevant criterion and where meteorological conditions resulted in criteria applying (in accordance with the project approval). No further analysis was required.

Table 5 – Blast Monitoring (Blasts – Limits Apply)

Location	Parameter	Units	Frequency	Number	Average	Max	100% Limit	Exceedance (Yes / No)
Operations Blasts	Noise	Db (Lin Peak)	All	7	97.04	110.3	120	No
	Vibration	mm/s		7	0.23	0.76	10	No

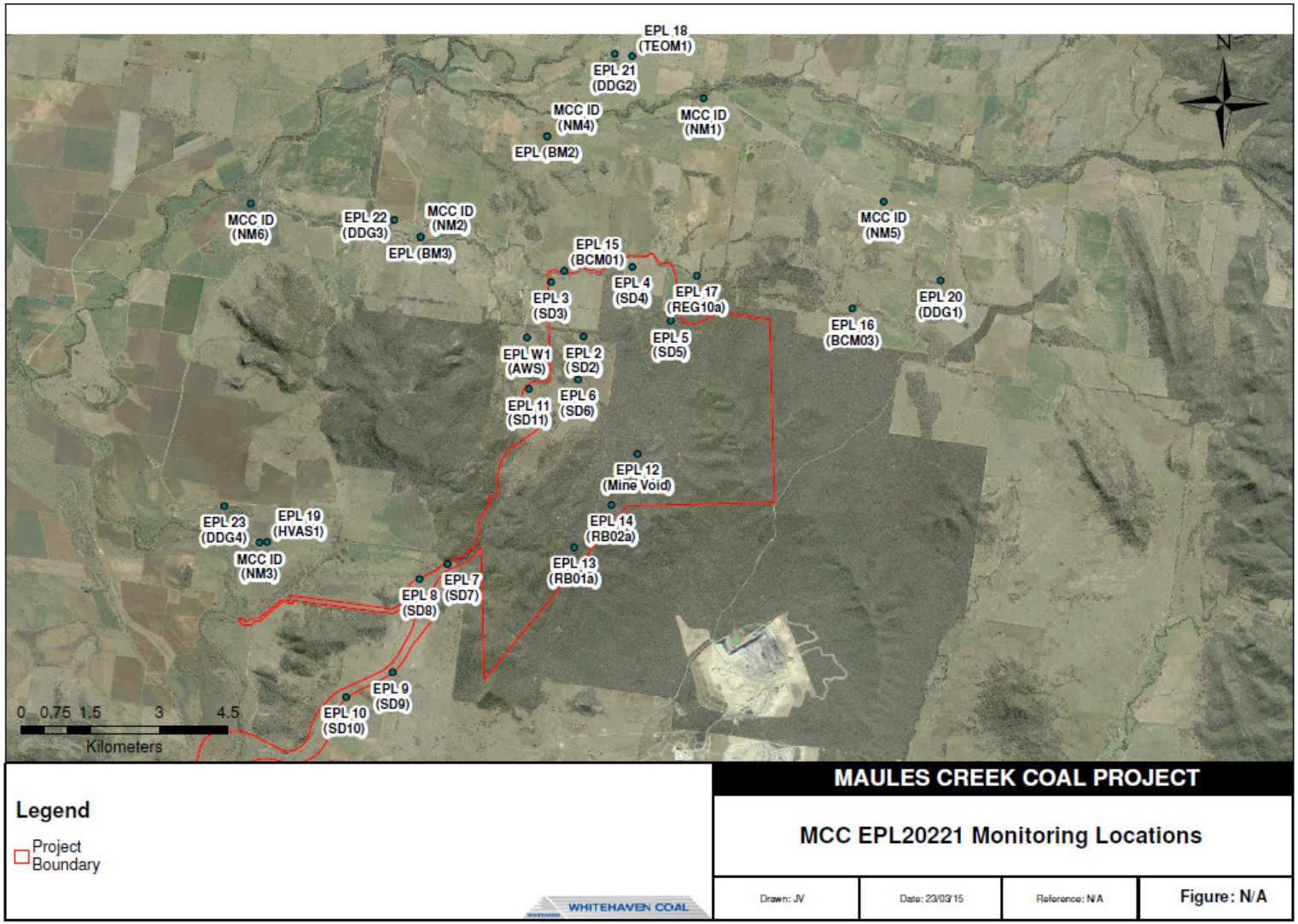
Table 6 – Dust Monitoring (Limits Apply)

ID EPL (Site)	Sample period	Unit	Parameter	Rolling Annual Average	NEPM Annual Criteria	Exceedance (Yes / No)
18 (TEOM1)	Continuous	**µg/m^3.month**	**PM_{10}**	9.6	30	No
19 (HVAS)	6 days	**µg/m^3**	**PM_{10}**	13.6	30	No

ID EPL (Site)	Sample period	Particulates Deposited Matter	Rolling Annual Average Insoluble Solids	Criteria	Exceedance (Yes / No)
20 (DDG1/MC1)	Monthly	**g/m^2 month**	2.0	4	No
21 (DDG2/MC2)	Monthly	**g/m^2 month**	2.7	4	No
22 (DDG3/MC3)	Monthly	**g/m^2 month**	1.2	4	No
23 (DDG4/MC4)	Monthly	**g/m^2 month**	1.3	4	No

Figure

Figure 1 – EPL 20221 Monitoring Locations



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Licensee: Maules Creek Coal Mine Pty Ltd
Licensee Address: Maules Creek Coal Mine, Therribri Road, BOGGABRI NSW 2382
EPL Monitoring Points: Figure 1
Sampling Period: February 2016
Publication Date: March 2016

Context: This Monthly Monitoring Summary aligns with the applicable Environment Protection Licence (EPL) – Maules Creek Coal Mine issued 21st September 2015 by the NSW Environment Protection Authority (EPA).

Monthly Monitoring Summary

Table 1 – Wet Weather Discharge - Surface Water Monitoring

ID EPL (Site)	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min Value	Mean Value	Median Value	Max / Only Value
2 (SD2)	TSS	mg/L	Special Frequency Discharge only	0	No discharge at this location this month.					
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
3 (SD3)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
4 (SD4)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
5 (SD5)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
6 (SD6)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
7 (SD7)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
8 (SD8)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						

EPL ID	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min Value	Mean Value	Median Value	Max / Only Value
9 (SD9)	TSS	mg/L	Special Frequency Discharge only	0	No discharge at this location this month.					
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
10 (SD10)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
11 (SD11)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						

Table 2 – Surface Water Monitoring – Mine Void

ID EPL (Site)	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min	Mean	Max / Only Value
12 (Mine Void)	TSS	mg/L	Every 2 months	0	25 Feb 2016	15 Mar 2016			<5
	Conductivity	µs/cm		0	25 Feb 2016	15 Mar 2016			1720
	Oil & Grease	mg/L		0	25 Feb 2016	15 Mar 2016			<5
	pH	pH		0	25 Feb 2016	15 Mar 2016			8.36

Table 3 – Groundwater Quality Monitoring

ID EPL (Bore)	Parameters	Units	Frequency	Samples	Date	Laboratory Results Received	Min	Mean	Max / Only Value
13 (RB01a)	pH	pH	Quarterly	0	Next sample March				
	Conductivity	µs/cm							
	TDS	mg/L							
14 (RB02a)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							
15 (BCM01)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							
16 (BCM03)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							
17 (REG10a)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							

Table 4 – Noise Monitoring (Attended – Measured)

MCC ID	Date	Start Time	Wind Speed (m/s)	Measured Levels – dB(A) $L_{Aeq\ 15min}$ Evening	Measured Levels – dB(A) $L_{Aeq\ 15min}$ Night	Limit $L_{Aeq\ 15min}$ (dB) Operations Criteria	Measured Levels – dB(A) $L_{A1\ (1\ min)}$ Night	Limit $L_{A1\ (1\ min)}$ (dB) Operations Criteria	Weather Rain (mm)	Exceedance (Yes / No)
NM1	24/02/2016	20:37:00	0.2	IA		35			0	Nil
NM1	24/02/2016	20:54:00	0.4	IA		35			0	Nil
NM1	23/02/2016	23:39:00	0.7		26	35	31	45	0	Nil
NM1	23/02/2016	23:54:00	0.8		24	35	33	45	0	Nil
NM2	23/02/2016	21:18:00	0.9	26		39			0	Nil
NM2	23/02/2016	21:34:00	0.5	34		39			0	Nil
NM2	24/02/2016	22:14:00	0.3		IA	39	IA	45	0	Nil
NM2	24/02/2016	22:31:00	0.2		<20	39	<20	45	0	Nil
NM3	23/02/2016	19:49:00	1.9	IA		35			0	Nil
NM3	23/02/2016	20:06:00	1.8	IA		35			0	Nil
NM3	24/02/2016	23:41:00	0.6		IA	35	IA	45	0	Nil
NM3	24/02/2016	23:57:00	0.4		IA	35	IA	45	0	Nil
NM4	24/02/2016	19:53:00	1.2	IA		35			0	Nil
NM4	24/02/2016	20:09:00	0.4	IA		35			0	Nil
NM4	23/02/2016	22:15:00	0.4		30	35	36	45	0	Nil
NM4	23/02/2016	22:31:00	1.6		29	35	34	45	0	Nil
NM5	24/02/2016	21:26:00	0.3	<20		35			0	Nil
NM5	24/02/2016	21:41:00	0.5	<20		35			0	Nil
NM5	24/02/2016	0:19:00	0.7		<20	35	29	45	0	Nil
NM5	24/02/2016	0:34:00	1.7		<20	35	<20	45	0	Nil
NM6	23/02/2016	20:34:00	2.2	IA		35			0	Nil
NM6	23/02/2016	20:50:00	2.5	<20		35			0	Nil
NM6	24/02/2016	22:58:00	0.4		IA	35	IA	45	0	Nil
NM6	24/02/2016	23:14:00	0.7		IA	35	IA	45	0	Nil

* IA & NM = Inaudible & Not Measurable.
**MCC ID = Locations as per the approved Noise Management Plan.
***ND = No data due to high prevailing winds during the attended noise monitoring event.
Italicised text indicates wind speed exceeds the 3.0m/s maximum for noise monitoring.

Noise Monitoring (Attended - Low Frequency Assessment)

None of the twenty-four measurements occurred during which operational activities from MCC were directly measurable (not “inaudible”, “not measurable” or less than a maximum cut-off value of 30 dB), were within 5 dB of the relevant criterion and where meteorological conditions resulted in criteria applying (in accordance with the project approval). No further analysis was required.

Table 5 – Blast Monitoring (Blasts – Limits Apply)

Location	Parameter	Units	Frequency	Number	Average	Max	100% Limit	Exceedance (Yes / No)
Operations Blasts	Noise	Db (Lin Peak)	All	8	103.28	111.7	120	No
	Vibration	mm/s		8	0.35	1.36	10	No

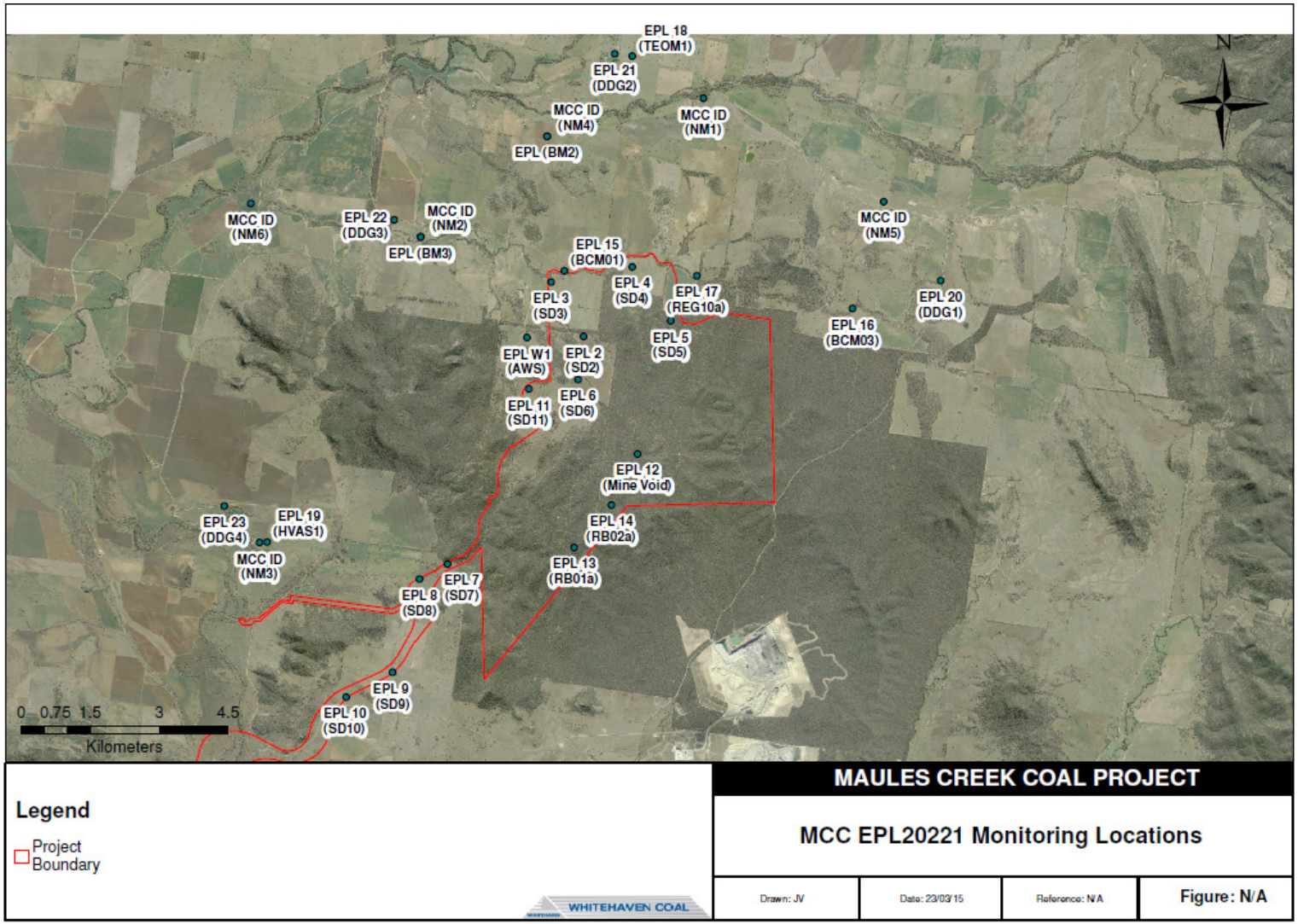
Table 6 – Dust Monitoring (Limits Apply)

ID EPL (Site)	Sample period	Unit	Parameter	Rolling Annual Average	NEPM Annual Criteria	Exceedance (Yes / No)
18 (TEOM1)	Continuous	**µg/m^3.month**	**PM_{10}**	9.9	30	No
19 (HVAS)	6 days	**µg/m^3**	**PM_{10}**	13.9	30	No

ID EPL (Site)	Sample period	Particulates Deposited Matter	Rolling Annual Average Insoluble Solids	Criteria	Exceedance (Yes / No)
20 (DDG1/MC1)	Monthly	**g/m^2 month**	1.9	4	No
21 (DDG2/MC2)	Monthly	**g/m^2 month**	2.8	4	No
22 (DDG3/MC3)	Monthly	**g/m^2 month**	1.2	4	No
23 (DDG4/MC4)	Monthly	**g/m^2 month**	1.3	4	No

Figure

Figure 1 – EPL 20221 Monitoring Locations



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EPL No: 20221
EPA Website Link: Hyperlink to Maules Creek Coal, Environment Protection Licence
Licensee: Maules Creek Coal Mine Pty Ltd
Licensee Address: Maules Creek Coal Mine, Therribri Road, BOGGABRI NSW 2382
EPL Monitoring Points: Figure 1
Sampling Period: March 2016
Publication Date: April 2016

Context: This Monthly Monitoring Summary aligns with the applicable Environment Protection Licence (EPL) – Maules Creek Coal Mine issued 21st September 2015 by the NSW Environment Protection Authority (EPA).

Monthly Monitoring Summary

Table 1 – Wet Weather Discharge - Surface Water Monitoring

ID EPL (Site)	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min Value	Mean Value	Median Value	Max / Only Value
2 (SD2)	TSS	mg/L	Special Frequency Discharge only	0	No discharge at this location this month.					
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
3 (SD3)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
4 (SD4)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
5 (SD5)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
6 (SD6)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
7 (SD7)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
8 (SD8)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						

EPL ID	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min Value	Mean Value	Median Value	Max / Only Value
9 (SD9)	TSS	mg/L	Special Frequency Discharge only	0	No discharge at this location this month.					
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
10 (SD10)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
11 (SD11)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						

Table 2 – Surface Water Monitoring – Mine Void

ID EPL (Site)	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min	Mean	Max / Only Value
12 (Mine Void)	TSS	mg/L	Every 2 months	0	Next sample April.				
	Conductivity	µs/cm		0					
	Oil & Grease	mg/L		0					
	pH	pH		0					

Table 3 – Groundwater Quality Monitoring

ID EPL (Bore)	Parameters	Units	Frequency	Samples	Date	Laboratory Results Received	Min	Mean	Max / Only Value
13 (RB01a)	pH	pH	Quarterly	1	10/3/2016	14/4/16			8.68
	Conductivity	µs/cm							1030
	TDS	mg/L							526
14 (RB02a)	pH	pH	Quarterly	1	10/3/2016	14/4/16			11.7
	Conductivity	µs/cm							1460
	TDS	mg/L							601
15 (BCM01)	pH	pH	Quarterly	0	14/3/2016	Bore dry since installation			
	Conductivity	µs/cm							
	TDS	mg/L							
16 (BCM03)	pH	pH	Quarterly	0	14/3/2016	Bore dry since installation			
	Conductivity	µs/cm							
	TDS	mg/L							
17 (REG10a)	pH	pH	Quarterly	0	14/3/2016	Bore dry since installation			
	Conductivity	µs/cm							
	TDS	mg/L							

Table 4 – Noise Monitoring (Attended – Measured)

MCC ID	Date	Start Time	Wind Speed (m/s)	Measured Levels – dB(A) $L_{Aeq\ 15min}$ Evening	Measured Levels – dB(A) $L_{Aeq\ 15min}$ Night	Limit $L_{Aeq\ 15min}$ (dB) Operations Criteria	Measured Levels – dB(A) $L_{A1\ (1\ min)}$ Night	Limit $L_{A1\ (1\ min)}$ (dB) Operations Criteria	Weather Rain (mm)	Exceedance (Yes / No)
NM1	31/03/2016	19:09:00	1.4	IA		35			0	Nil
NM1	31/03/2016	19:24:00	0.3	IA		35			0	Nil
NM1	30/03/2016	22:51:00	0.3		29	35	35	45	0	Nil
NM1	30/03/2016	23:10:00	0.7		27	35	31	45	0	Nil
NM2	31/03/2016	20:43:00	0.3	25		39			0	Nil
NM2	31/03/2016	20:59:00	0.2	<25		39			0	Nil
NM2	31/03/2016	1:37:00	1		29	39	36	45	0	Nil
NM2	31/03/2016	1:56:00	0.6		27	39	35	45	0	Nil
NM3	30/03/2016	19:53:00	1.6	<25		35			0	Nil
NM3	30/03/2016	20:08:00	1.4	<25		35			0	Nil
NM3	31/03/2016	22:43:00	0.7		<20	35	<20	45	0	Nil
NM3	31/03/2016	22:58:00	1.1		<20	35	<20	45	0	Nil
NM4	31/03/2016	19:53:00	0.6	<25		35			0	Nil
NM4	31/03/2016	20:16:00	0.6	<25		35			0	Nil
NM4	31/03/2016	0:15:00	0.4		31	35	40	45	0	Nil
NM4	31/03/2016	0:48:00	0.2		33	35	39	45	0	Nil
NM5	31/03/2016	18:29:00	1.9	IA		35			0	Nil
NM5	31/03/2016	18:44:00	1.6	IA		35			0	Nil
NM5	30/03/2016	22:00:00	0.9		29	35	34	45	0	Nil
NM5	30/03/2016	22:18:00	0.4		<30	35	36	45	0	Nil
NM6	30/03/2016	20:36:00	1.1	<20		35			0	Nil
NM6	30/03/2016	20:52:00	1.4	IA		35			0	Nil
NM6	31/03/2016	22:00:00	0.6		<20	35	<20	45	0	Nil
NM6	31/03/2016	22:16:00	0.7		<20	35	<20	45	0	Nil

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Italicised text indicates wind speed exceeds the 3.0m/s maximum for noise monitoring.

Noise Monitoring (Attended - Low Frequency Assessment)

Two of the twenty four measurements occurred during which operational activities from MCCP were directly measurable (not "inaudible", "not measurable" or less than a maximum cut off value of 30 dB), were within 5 dB of the relevant criterion and where meteorological conditions resulted in criteria applying (in accordance with the project approval). These two measurements were further analysed for low frequency noise against relevant triggers.

Where results in the following table are greater than the applicable 'Industrial Noise Policy' (INP), or 'Broner' low frequency modifying factor triggers due to activities at MCC, a 5 dB modifying factor correction is applied to the measured noise level.

MCC ID	Date	Start Time	Broner low frequency modifying factor trigger (dB) (1)	Broner Total L_{Ceq} (dB) (2,5)	INP low frequency modifying factor trigger (dB) (3)	INP Total L_{Ceq} minus L_{Aeq} (dB) (4,5)	Measured MCC only L_{Aeq} (dB)	Modifying factor correction (dB)	Site only L_{Aeq} *with* modifying factor correction applied (5)	Relevant MCC L_{Aeq} impact assessment criterion (dB)	Exceedance (Yes / No)
NM4	31/03/2016	00:15:00	>60	54	>=15	**23**	31	+5	**36**	35	**Yes[a]**
NM4	19/06/2015	00:48:00	>60	54	>=15	**21**	33	+5	**38**	35	**Yes[a]**

(1) Night LCeq modifying factor trigger as detailed in Broner (2010);
(2) These are measured C-weighted noise levels (at frequencies less than 250 Hz) and are not always the result of activity at MCC.
(3) INP low frequency modifying factor trigger as detailed in the Industrial Noise Policy;
(4) This is the total measured C-weighted noise level minus the total measured A-weighted noise level and are not always the result of activity at MCC;
(5) Bold results are greater than the relevant low frequency modifying factor trigger.
(a) This residence is listed in MCC Project Approval PA 10_0138, Schedule 3 Table 2. IE within the 35dB noise impact contour.

Table 5 – Blast Monitoring (Blasts – Limits Apply)

Location	Parameter	Units	Frequency	Number	Average	Max	100% Limit	Exceedance (Yes / No)
Operations Blasts	Noise	Db (Lin Peak)	All	7	98.6	108.6	120	No
	Vibration	mm/s		7	0.37	1.03	10	No

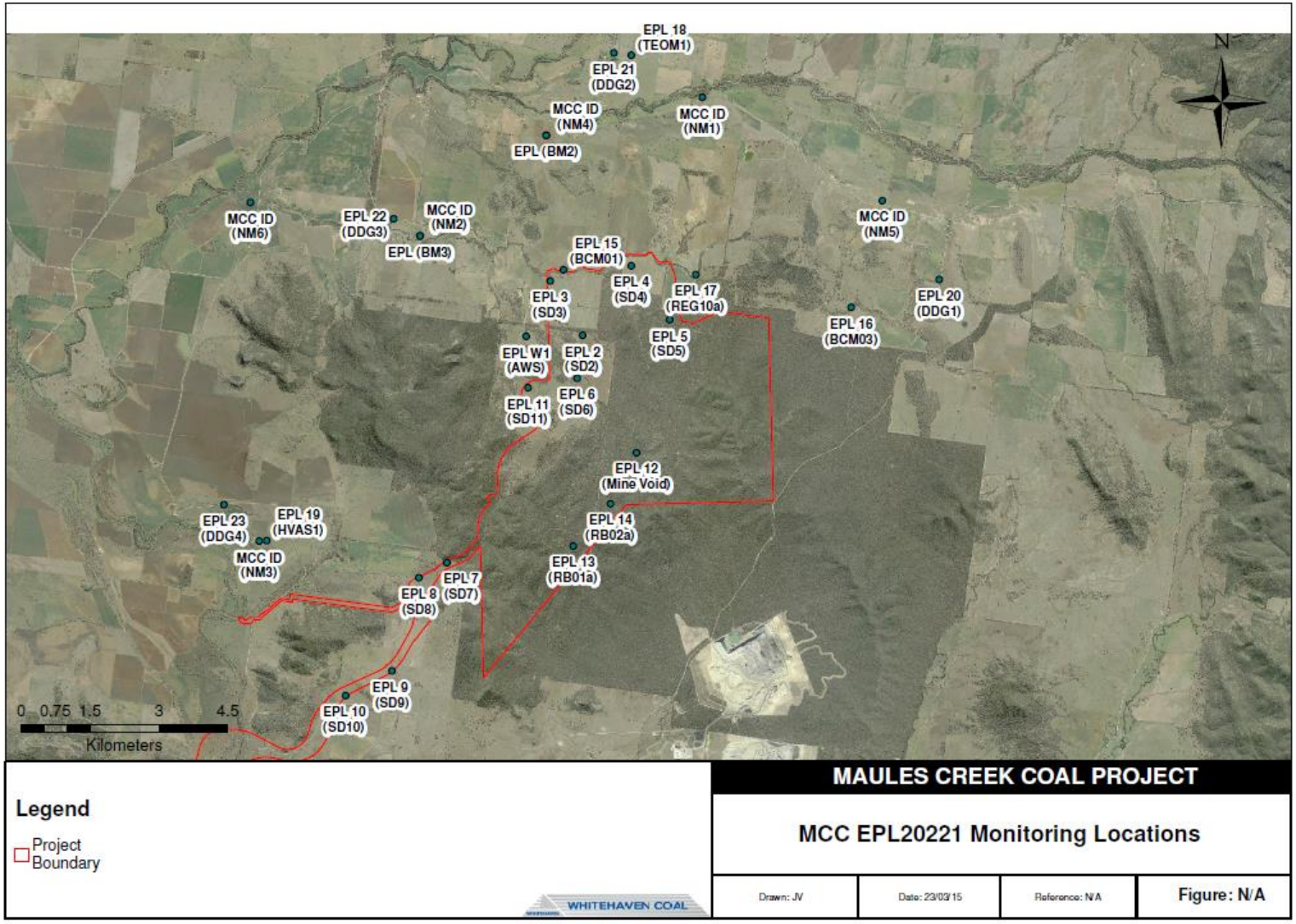
Table 6 – Dust Monitoring (Limits Apply)

ID EPL (Site)	Sample period	Unit	Parameter	Rolling Annual Average	NEPM Annual Criteria	Exceedance (Yes / No)
18 (TEOM1)	Continuous	**µg/m³.month**	**PM_{10}**	9.4	30	No
19 (HVAS)	6 days	**µg/m³**	**PM_{10}**	13.9	30	No

ID EPL (Site)	Sample period	Particulates Deposited Matter	Rolling Annual Average Insoluble Solids	Criteria	Exceedance (Yes / No)
20 (DDG1/MC1)	Monthly	**g/m² month**	1.7	4	No
21 (DDG2/MC2)	Monthly	**g/m² month**	2.8	4	No
22 (DDG3/MC3)	Monthly	**g/m² month**	1.0	4	No
23 (DDG4/MC4)	Monthly	**g/m² month**	1.2	4	No

Figure

Figure 1 – EPL 20221 Monitoring Locations



MAULES CREEK COAL MINE – MONTHLY MONITORING SUMMARY

Site Information

EPL No: 20221
EPA Website Link: Hyperlink to Maules Creek Coal, Environment Protection Licence
Licensee: Maules Creek Coal Mine Pty Ltd
Licensee Address: Maules Creek Coal Mine, Therribri Road, BOGGABRI NSW 2382
EPL Monitoring Points: Figure 1
Sampling Period: April 2016
Publication Date: May 2016

Context: This Monthly Monitoring Summary aligns with the applicable Environment Protection Licence (EPL) – Maules Creek Coal Mine issued 21st September 2015 by the NSW Environment Protection Authority (EPA).

Monthly Monitoring Summary

Table 1 – Wet Weather Discharge - Surface Water Monitoring

ID EPL (Site)	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min Value	Mean Value	Median Value	Max / Only Value
2 (SD2)	TSS	mg/L	Special Frequency Discharge only	0	No discharge at this location this month.					
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
3 (SD3)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
4 (SD4)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
5 (SD5)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
6 (SD6)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
7 (SD7)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
8 (SD8)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						

EPL ID	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min Value	Mean Value	Median Value	Max / Only Value
9 (SD9)	TSS	mg/L	Special Frequency Discharge only	0	No discharge at this location this month.					
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
10 (SD10)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
11 (SD11)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						

Table 2 – Surface Water Monitoring – Mine Void

ID EPL (Site)	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min	Mean	Max / Only Value
12 (Mine Void)	TSS	mg/L	Every 2 months	1	27/4/2016				<5
	Conductivity	µs/cm		1	27/4/2016				1080
	Oil & Grease	mg/L		1	27/4/2016				<5
	pH	pH		1	27/4/2016				8.46

Table 3 – Groundwater Quality Monitoring

ID EPL (Bore)	Parameters	Units	Frequency	Samples	Date	Laboratory Results Received	Min	Mean	Max / Only Value
13 (RB01a)	pH	pH	Quarterly	0	Next Sample June				
	Conductivity	µs/cm							
	TDS	mg/L							
14 (RB02a)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							
15 (BCM01)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							
16 (BCM03)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							
17 (REG10a)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							

Table 4 – Noise Monitoring (Attended – Measured)

MCC ID	Date	Start Time	Wind Speed (m/s)	Measured Levels – dB(A) $L_{Aeq\ 15min}$ Evening	Measured Levels – dB(A) $L_{Aeq\ 15min}$ Night	Limit $L_{Aeq\ 15min}$ (dB) Operations Criteria	Measured Levels – dB(A) $L_{A1\ (1\ min)}$ Night	Limit $L_{A1\ (1\ min)}$ (dB) Operations Criteria	Weather Rain (mm)	Exceedance (Yes / No)
NM1	19/04/2016	19:48:00	0.6	27		35			0	Nil
NM1	19/04/2016	20:07:00	0.1	<25		35			0	Nil
NM1	20/04/2016	22:41:00	0.6		28	35	35	45	0	Nil
NM1	20/04/2016	22:59:00	0.5		<25	35	27	45	0	Nil
NM2	20/04/2016	18:49:00	1.1	<20		39			0	Nil
NM2	20/04/2016	19:05:00	1.3	24		39			0	Nil
NM2	19/04/2016	23:25:00	0.7		26	39	37	45	0	Nil
NM2	19/04/2016	23:45:00	0.6		28	39	39	45	0	Nil
NM3	19/04/2016	18:51:00	1.5	IA		35			0	Nil
NM3	19/04/2016	19:07:00	1.6	IA		35			0	Nil
NM3	20/04/2016	23:36:00	0.6		<25	35	30	45	0	Nil
NM3	20/04/2016	23:56:00	0.6		27	35	30	45	0	Nil
NM4	20/04/2016	19:32:00	0.7	26		35			0	Nil
NM4	20/04/2016	19:48:00	1.5	26		35			0	Nil
NM4	19/04/2016	22:25:00	0.5		30	35	35	45	0	Nil
NM4	19/04/2016	22:45:00	0.5		30	35	36	45	0	Nil
NM5	19/04/2016	20:34:00	0.3	IA		35			0	Nil
NM5	19/04/2016	20:50:00	0.5	IA		35			0	Nil
NM5	20/04/2016	22:00:00	0.4		IA	35	IA	45	0	Nil
NM5	20/04/2016	22:15:00	0.8		IA	35	IA	45	0	Nil
NM6	20/04/2016	18:04:00	1.9	IA		35			0	Nil
NM6	20/04/2016	18:22:00	1.4	IA		35			0	Nil
NM6	20/04/2016	0:16:00	0.9		IA	35	IA	45	0	Nil
NM6	20/04/2016	0:32:00	0.7		IA	35	IA	45	0	Nil

* IA & NM = Inaudible & Not Measurable.
**MCC ID = Locations as per the approved Noise Management Plan.
***ND = No data due to high prevailing winds during the attended noise monitoring event.
Italicised text indicates wind speed exceeds the 3.0m/s maximum for noise monitoring.

Table 5 – Blast Monitoring (Blasts – Limits Apply)

Location	Parameter	Units	Frequency	Number	Average	Max	100% Limit	Exceedance (Yes / No)
Operations Blasts	Noise	Db (Lin Peak)	All	7	99.79	108.40	120	No
	Vibration	mm/s		7	0.44	1.11	10	No

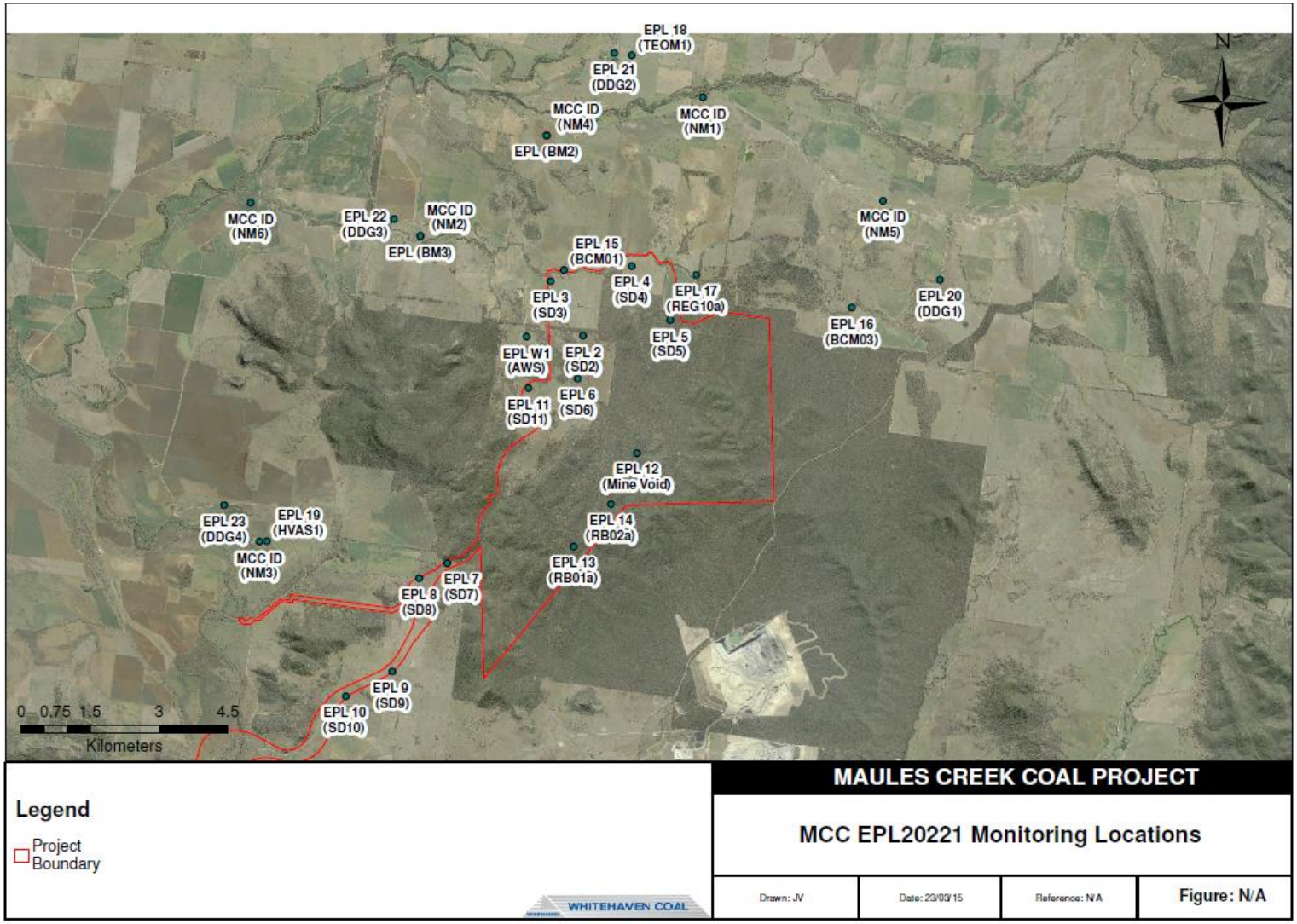
Table 6 – Dust Monitoring (Limits Apply)

ID EPL (Site)	Sample period	Unit	Parameter	Rolling Annual Average	NEPM Annual Criteria	Exceedance (Yes / No)
18 (TEOM1)	Continuous	**µg/m³.month**	**PM_{10}**	10.0	30	No
19 (HVAS)	6 days	**µg/m³**	**PM_{10}**	16.2	30	No

ID EPL (Site)	Sample period	Particulates Deposited Matter	Rolling Annual Average Insoluble Solids	Criteria	Exceedance (Yes / No)
20 (DDG1/MC1)	Monthly	**g/m² month**	1.6	4	No
21 (DDG2/MC2)	Monthly	**g/m² month**	1.8	4	No
22 (DDG3/MC3)	Monthly	**g/m² month**	0.9	4	No
23 (DDG4/MC4)	Monthly	**g/m² month**	1.1	4	No

Figure

Figure 1 – EPL 20221 Monitoring Locations



MAULES CREEK COAL MINE – MONTHLY MONITORING SUMMARY

Site Information

EPL No: 20221
EPA Website Link: Hyperlink to Maules Creek Coal, Environment Protection Licence
Licensee: Maules Creek Coal Mine Pty Ltd
Licensee Address: Maules Creek Coal Mine, Therribri Road, BOGGABRI NSW 2382
EPL Monitoring Points: See Figure 1 below
Sampling Period: May 2016
Obtained Date: 15 June 2016
Publication Date: 24 June 2016

Context: This Monthly Monitoring Summary aligns with the applicable Environment Protection Licence (EPL) – Maules Creek Coal Mine issued 21st September 2015 by the NSW Environment Protection Authority (EPA).

Monthly Monitoring Summary

Table 1 – Wet Weather Discharge - Surface Water Monitoring

ID EPL (Site)	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min Value	Mean Value	Median Value	Max / Only Value
2 (SD2)	TSS	mg/L	Special Frequency Discharge only	0	No discharge at this location this month.					
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
3 (SD3)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
4 (SD4)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
5 (SD5)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
6 (SD6)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
7 (SD7)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
8 (SD8)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						

EPL ID	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min Value	Mean Value	Median Value	Max / Only Value
9 (SD9)	TSS	mg/L	Special Frequency Discharge only	0	No discharge at this location this month.					
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
10 (SD10)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
11 (SD11)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						

Table 2 – Surface Water Monitoring – Mine Void

ID EPL (Site)	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min	Mean	Max / Only Value
12 (Mine Void)	TSS	mg/L	Every 2 months	Next Sample June					
	Conductivity	µs/cm							
	Oil & Grease	mg/L							
	pH	pH							

Table 3 – Groundwater Quality Monitoring

ID EPL (Bore)	Parameters	Units	Frequency	Samples	Date	Laboratory Results Received	Min	Mean	Max / Only Value
13 (RB01a)	pH	pH	Quarterly	0	Next Sample June				
	Conductivity	µs/cm							
	TDS	mg/L							
14 (RB02a)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							
15 (BCM01)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							
16 (BCM03)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							
17 (REG10a)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							

Table 4 – Noise Monitoring (Attended – Measured)

MCC ID	Date	Start Time	Wind Speed (m/s)	Measured Levels – dB(A) $L_{Aeq\ 15min}$ Evening	Measured Levels – dB(A) $L_{Aeq\ 15min}$ Night	Limit $L_{Aeq\ 15min}$ (dB) Operations Criteria	Measured Levels – dB(A) $L_{A1\ (1\ min)}$ Night	Limit $L_{A1\ (1\ min)}$ (dB) Operations Criteria	Weather Rain (mm)	Exceedance (Yes / No)
NM1	12/05/2016	21:11:00	0.6	29		35			0	Nil
NM1	12/05/2016	21:28:00	0.9	29		35			0	Nil
NM1	11/05/2016	22:03:00	0.7		<25	35	<25	45	0	Nil
NM1	11/05/2016	22:20:00	0.6		25	35	33	45	0	Nil
NM2	11/05/2016	20:26:00	4.6	<20		39			0	NA
NM2	11/05/2016	20:42:00	3.9	<20		39			0	NA
NM2	12/05/2016	23:10:00	1.6		<20	39	<20	45	0	Nil
NM2	12/05/2016	23:31:00	0.9		IA	39	IA	45	0	Nil
NM3	12/05/2016	19:27:00	1.8	IA		35			0	Nil
NM3	12/05/2016	19:11:00	2.3	IA		35			0	Nil
NM3	11/05/2016	23:56:00	0.2		IA	35	IA	45	0	Nil
NM3	12/05/2016	0:12:00	0.3		IA	35	IA	45	0	Nil
NM4	11/05/2016	21:16:00	2.3	23		35			0	Nil
NM4	11/05/2016	21:34:00	1.4	<25		35			0	Nil
NM4	12/05/2016	22:20:00	1.8		29	35	33	45	0	Nil
NM4	12/05/2016	22:40:00	2.5		28	35	31	45	0	Nil
NM5	12/05/2016	20:12:00	0.7	29		35			0	Nil
NM5	12/05/2016	20:29:00	0.3	31		35			0	Nil
NM5	11/05/2016	22:50:00	0.4		26	35	34	45	0	Nil
NM5	11/05/2016	23:08:00	0.4		27	35	34	45	0	Nil
NM6	11/05/2016	19:39:00	4.4	IA		35			0	NA
NM6	11/05/2016	19:55:00	4.3	IA		35			0	NA
NM6	13/05/2016	2:19:00	0.3		<20	35	<20	45	0	Nil
NM6	13/05/2016	2:35:00	0.5		<20	35	<25	45	0	Nil

* IA & NM = Inaudible & Not Measurable.
**MCC ID = Locations as per the approved Noise Management Plan.
***ND = No data due to high prevailing winds during the attended noise monitoring event.
Italicised text indicates wind speed exceeds the 3.0m/s maximum for noise monitoring.

Table 5 - Noise Monitoring (Attended - Low Frequency Assessment)

One of the twenty four measurements occurred during which operational activities from MCCP were directly measurable (not "inaudible", "not measurable" or less than a maximum cut off value of 30 dB), were within 5 dB of the relevant criterion and where meteorological conditions resulted in criteria applying (in accordance with the project approval). This measurement was further analysed for low frequency noise against relevant triggers. Where results in the following table are greater than the applicable 'Industrial Noise Policy' (INP), or 'Broner' low frequency modifying factor triggers due to activities at MCC, a 5 dB modifying factor correction is applied to the measured noise level.

MCC ID	Date	Start Time	Broner low frequency modifying factor trigger (dB) (1)	Broner Total L_{Ceq} (dB) (2,5)	INP low frequency modifying factor trigger (dB) (3)	INP Total L_{Ceq} minus L_{Aeq} (dB) (4,5)	Measured MCC only L_{Aeq} (dB)	Modifying factor correction (dB)	Site only L_{Aeq} *with* modifying factor correction applied (5)	Relevant MCC L_{Aeq} impact assessment criterion (dB)	Exceedance (Yes / No)
NM5	12/05/2016	20:29	>60	57	>=15	**26**	31	+5	**36**	35	**Yes**

(1) Night LCeq modifying factor trigger as detailed in Broner (2010);
(2) These are measured C-weighted noise levels (at frequencies less than 250 Hz) and are not always the result of activity at MCC.
(3) INP low frequency modifying factor trigger as detailed in the Industrial Noise Policy;
(4) This is the total measured C-weighted noise level minus the total measured A-weighted noise level and are not always the result of activity at MCC;
(5) Bold results are greater than the relevant low frequency modifying factor trigger.

An exceedance of up to 2 dB is not considered significant in line with Chapter 11 of the NSW Industrial Noise Policy that deems a development to be in non-compliance only when "the monitored noise level is more than 2 dB above the statutory noise limit specified in the consent or licence condition." This is based on the fact that 2 dB is less than that change in loudness, 3 dB, where the difference is just perceptible to the normal ear (Bies and Hansen, 1988).

Table 6 – Blast Monitoring (Blasts – Limits Apply)

Location	Parameter	Units	Frequency	Number	Average	Max	100% Limit	Exceedance (Yes / No)
Operations	Noise	Db (Lin Peak)	All	9	101.54	108.00	120	No
Blasts	Vibration	mm/s		9	0.36	1.01	10	No

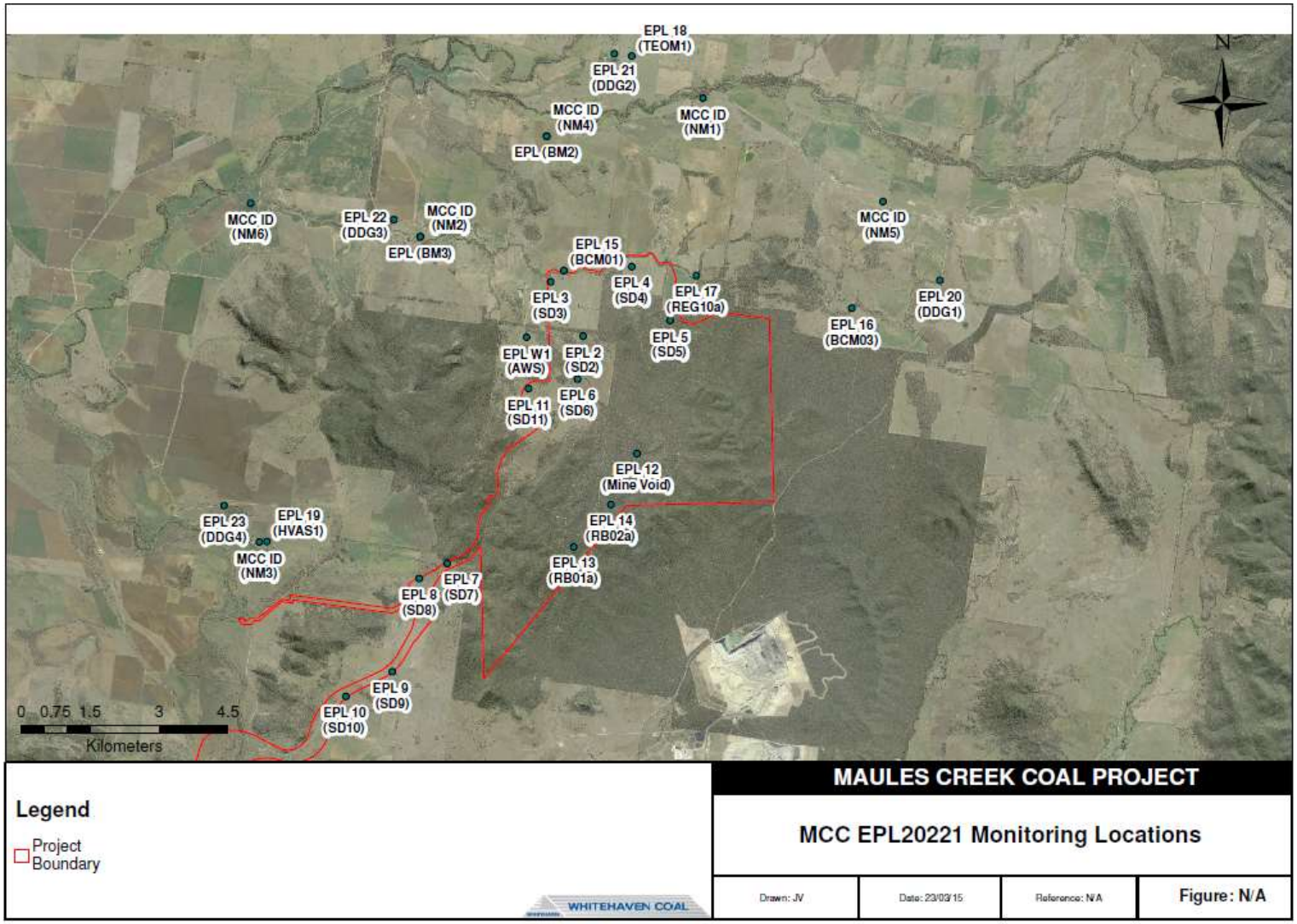
Table 7 – Dust Monitoring (Limits Apply)

ID EPL (Site)	Sample period	Unit	Parameter	Rolling Annual Average	NEPM Annual Criteria	Exceedance (Yes / No)
18 (TEOM1)	Continuous	**µg/m³.month**	**PM_{10}**	10.0	30	No
19 (HVAS)	6 days	**µg/m³**	**PM_{10}**	17.0	30	No

ID EPL (Site)	Sample period	Particulates Deposited Matter	Rolling Annual Average Insoluble Solids	Criteria	Exceedance (Yes / No)
20 (DDG1/MC1)	Monthly	**g/m² month**	1.7	4	No
21 (DDG2/MC2)	Monthly	**g/m² month**	2.0	4	No
22 (DDG3/MC3)	Monthly	**g/m² month**	0.9	4	No
23 (DDG4/MC4)	Monthly	**g/m² month**	1.3	4	No

Figure

Figure 1 – EPL 20221 Monitoring Locations



MAULES CREEK COAL MINE – MONTHLY MONITORING SUMMARY

Site Information

EPL No: 20221
EPA Website Link: Hyperlink to Maules Creek Coal, Environment Protection Licence
Licensee: Maules Creek Coal Mine Pty Ltd
Licensee Address: Maules Creek Coal Mine, Therribri Road, BOGGABRI NSW 2382
EPL Monitoring Points: See Figure 1 below
Sampling Period: June 2016
Obtained Date: 19 July 2016
Publication Date: 27 July 2016

Context: This Monthly Monitoring Summary aligns with the applicable Environment Protection Licence (EPL) – Maules Creek Coal Mine issued 21st September 2015 by the NSW Environment Protection Authority (EPA).

Monthly Monitoring Summary

Table 1 – Wet Weather Discharge - Surface Water Monitoring

ID EPL (Site)	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min Value	Mean Value	Median Value	Max / Only Value
2 (SD2)	TSS	mg/L	Special Frequency Discharge only	0	No discharge at this location this month.					
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
3 (SD3)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
4 (SD4)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
5 (SD5)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
6 (SD6)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
7 (SD7)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
8 (SD8)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						

EPL ID	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min Value	Mean Value	Median Value	Max / Only Value
9 (SD9)	TSS	mg/L	Special Frequency Discharge only	0	No discharge at this location this month.					
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
10 (SD10)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
11 (SD11)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						

Table 2 – Surface Water Monitoring – Mine Void

ID EPL (Site)	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min	Mean	Max / Only Value
12 (Mine Void)	TSS	mg/L	Every 2 months	1	29/6/2016	Yes			3140
	Conductivity	µs/cm		1	29/6/2016	Yes			1660
	Oil & Grease	mg/L		1	29/6/2016	Yes			<5
	pH	pH		1	29/6/2016	Yes			7.71

Table 3 – Groundwater Quality Monitoring

ID EPL (Bore)	Parameters	Units	Frequency	Samples	Date	Laboratory Results Received	Min	Mean	Max / Only Value
13 (RB01a)	pH	pH	Quarterly	1	28/6/2016	Yes			9.11
	Conductivity	µs/cm							1010
	TDS	mg/L							650
14 (RB02a)	pH	pH	Quarterly	1	28/6/2016	Yes			11.8
	Conductivity	µs/cm							1890
	TDS	mg/L							565
15 (BCM01)	pH	pH	Quarterly	0		Bore dry since installation			
	Conductivity	µs/cm							
	TDS	mg/L							
16 (BCM03)	pH	pH	Quarterly	0		Bore dry since installation			
	Conductivity	µs/cm							
	TDS	mg/L							
17 (REG10a)	pH	pH	Quarterly	0		Bore dry since installation			
	Conductivity	µs/cm							
	TDS	mg/L							

Table 4 – Noise Monitoring (Attended – Measured)

MCC ID	Date	Start Time	Wind Speed (m/s)	Measured Levels – dB(A) $L_{Aeq\ 15min}$ Evening	Measured Levels – dB(A) $L_{Aeq\ 15min}$ Night	Limit $L_{Aeq\ 15min}$ (dB) Operations Criteria	Measured Levels – dB(A) $L_{A1\ (1\ min)}$ Night	Limit $L_{A1\ (1\ min)}$ (dB) Operations Criteria	Weather Rain (mm)	Exceedance (Yes / No)
NM1	8/06/2016	19:21:00	1.5	NM		35			0	Nil
NM1	8/06/2016	19:38:00	0.8	IA		35			0	Nil
NM1	7/06/2016	22:45:00	0.3		30	35	33	45	0	Nil
NM1	7/06/2016	23:02:00	0.4		30	35	38	45	0	Nil
NM2	7/06/2016	19:40:00	0.9	IA		39			0	Nil
NM2	7/06/2016	19:56:00	0.3	IA		39			0	Nil
NM2	8/06/2016	22:00:00	1.1		27	39	30	45	0	Nil
NM2	8/06/2016	22:15:00	0.5		26	39	30	45	0	Nil
NM3	7/06/2016	18:12:00	3.7	IA		35			0	NA
NM3	7/06/2016	18:27:00	3.4	IA		35			0	NA
NM3	8/06/2016	23:29:00	0.5		IA	35	IA	45	0	Nil
NM3	8/06/2016	23:45:00	0.2		IA	35	IA	45	0	Nil
NM4	8/06/2016	20:06:00	0.9	<20		35			0	Nil
NM4	8/06/2016	20:22:00	0.4	NM		35			0	Nil
NM4	7/06/2016	23:37:00	0.8		27	35	32	45	0	Nil
NM4	7/06/2016	23:53:00	0.6		28	35	34	45	0	Nil
NM5	8/06/2016	18:37:00	0.3	<20		35			0	Nil
NM5	8/06/2016	18:54:00	0.6	<20		35			0	Nil
NM5	7/06/2016	22:00:00	2		29	35	35	45	0	Nil
NM5	7/06/2016	22:19:00	0.9		28	35	34	45	0	Nil
NM6	7/06/2016	18:55:00	2.4	IA		35			0	Nil
NM6	7/06/2016	19:12:00	1.7	IA		35			0	Nil
NM6	8/06/2016	22:43:00	0.3		IA	35	IA	45	0	Nil
NM6	8/06/2016	23:00:00	0.4		IA	35	IA	45	0	Nil

* IA & NM = Inaudible & Not Measurable.
**MCC ID = Locations as per the approved Noise Management Plan.
***ND = No data due to high prevailing winds during the attended noise monitoring event.
Italicised text indicates wind speed exceeds the 3.0m/s maximum for noise monitoring.

Noise Monitoring (Attended - Low Frequency Assessment)

None of the twenty-four measurements occurred during which operational activities from MCC were directly measurable (not “inaudible”, “not measurable” or less than a maximum cut-off value of 30 dB), were within 5 dB of the relevant criterion and where meteorological conditions resulted in criteria applying (in accordance with the project approval). No further analysis was required.

Table 5 – Blast Monitoring (Blasts – Limits Apply)

Location	Parameter	Units	Frequency	Number	Average	Max	100% Limit	Exceedance (Yes / No)
Operations Blasts	Noise	Db (Lin Peak)	All	5	100.00	108.2	120	No
	Vibration	mm/s		5	0.51	0.94	10	No

Note: In accordance with the requirements of EPL 20221 M7.4 blast monitoring results are for monitoring points BM2 and BM3.

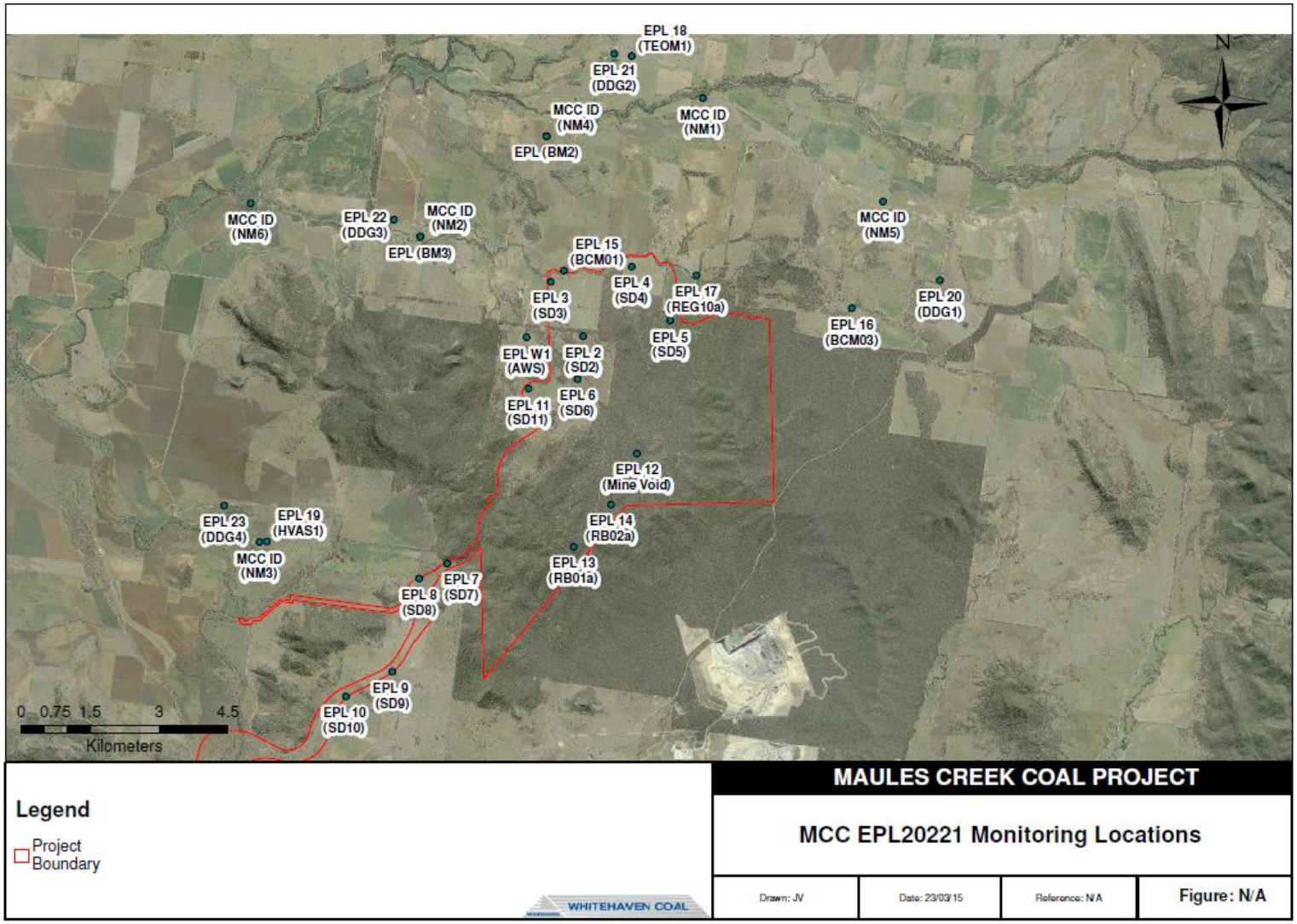
Table 6 – Dust Monitoring (Limits Apply)

ID EPL (Site)	Sample period	Unit	Parameter	Rolling Annual Average	NEPM Annual Criteria	Exceedance (Yes / No)
18 (TEOM1)	Continuous	**µg/m³.month**	**PM_{10}**	9.7	30	No
19 (HVAS)	6 days	**µg/m³**	**PM_{10}**	16.6	30	No

ID EPL (Site)	Sample period	Particulates Deposited Matter	Rolling Annual Average Insoluble Solids	Criteria	Exceedance (Yes / No)
20 (DDG1/MC1)	Monthly	**g/m² month**	2.0	4	No
21 (DDG2/MC2)	Monthly	**g/m² month**	2.1	4	No
22 (DDG3/MC3)	Monthly	**g/m² month**	0.9	4	No
23 (DDG4/MC4)	Monthly	**g/m² month**	1.3	4	No

Figure

Figure 1 – EPL 20221 Monitoring Locations



MAULES CREEK COAL MINE – MONTHLY MONITORING SUMMARY

Site Information

EPL No: 20221
EPA Website Link: Hyperlink to Maules Creek Coal, Environment Protection Licence
Licensee: Maules Creek Coal Mine Pty Ltd
Licensee Address: Maules Creek Coal Mine, Therribri Road, BOGGABRI NSW 2382
EPL Monitoring Points: See Figure 1 below
Sampling Period: July 2016
Obtained Date: 24 August 2016
Publication Date: 1 September 2016

Context: This Monthly Monitoring Summary aligns with the applicable Environment Protection Licence (EPL) – Maules Creek Coal Mine issued 21st September 2015 by the NSW Environment Protection Authority (EPA).

Monthly Monitoring Summary

Table 1 – Wet Weather Discharge - Surface Water Monitoring

ID EPL (Site)	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min Value	Mean Value	Median Value	Max / Only Value
2 (SD2)	TSS	mg/L	Special Frequency Discharge only	0	No discharge at this location this month.					
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
3 (SD3)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
4 (SD4)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
5 (SD5)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
6 (SD6)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
7 (SD7)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
8 (SD8)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						

EPL ID	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min Value	Mean Value	Median Value	Max / Only Value
9 (SD9)	TSS	mg/L	Special Frequency Discharge only	0	No discharge at this location this month.					
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
10 (SD10)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
11 (SD11)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						

Table 2 – Surface Water Monitoring – Mine Void

ID EPL (Site)	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min	Mean	Max / Only Value
12 (Mine Void)	TSS	mg/L	Every 2 months	Next Sample August					
	Conductivity	µs/cm							
	Oil & Grease	mg/L							
	pH	pH							

Table 3 – Groundwater Quality Monitoring

ID EPL (Bore)	Parameters	Units	Frequency	Samples	Date	Laboratory Results Received	Min	Mean	Max / Only Value
13 (RB01a)	pH	pH	Quarterly	0	Next Sample August				
	Conductivity	µs/cm							
	TDS	mg/L							
14 (RB02a)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							
15 (BCM01)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							
16 (BCM03)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							
17 (REG10a)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							

Table 4 – Noise Monitoring (Attended – Measured)

MCC ID	Date	Start Time	Wind Speed (m/s)	Measured Levels – dB(A) $L_{Aeq\ 15min}$ Evening	Measured Levels – dB(A) $L_{Aeq\ 15min}$ Night	Limit $L_{Aeq\ 15min}$ (dB) Operations Criteria	Measured Levels – dB(A) $L_{A1\ (1\ min)}$ Night	Limit $L_{A1\ (1\ min)}$ (dB) Operations Criteria	Weather Rain (mm)	Exceedance (Yes / No)
NM1	18/07/2016	20:19:00	0.3	27		35			0	Nil
NM1	18/07/2016	20:34:00	0.4	25		35			0	Nil
NM1	19/07/2016	23:03:00	0.9		<20	35	35	45	0	Nil
NM1	19/07/2016	23:18:00	0.8		<20	35	24	45	0	Nil
NM2	19/07/2016	21:16:00	0.3	24		39			0	Nil
NM2	19/07/2016	21:39:00	0.3	26		39			0	Nil
NM2	18/07/2016	22:00:00	0.7		25	39	33	45	0	Nil
NM2	18/07/2016	22:15:00	0.9		27	39	35	45	0	Nil
NM3	19/07/2016	19:40:00	0.5	<20		35			0	Nil
NM3	19/07/2016	19:56:00	0.3	<20		35			0	Nil
NM3	18/07/2016	23:23:00	0.3		IA	35	IA	45	0	Nil
NM3	18/07/2016	23:39:00	0.4		<20	35	<20	45	0	Nil
NM4	18/07/2016	21:03:00	0.5	24		35			0	Nil
NM4	18/07/2016	21:19:00	0.4	25		35			0	Nil
NM4	19/07/2016	22:04:00	0.7		25	35	31	45	0	Nil
NM4	19/07/2016	22:33:00	1		21	35	32	45	0	Nil
NM5	18/07/2016	19:39:00	0.2	<20		35			0	Nil
NM5	18/07/2016	19:54:00	0.4	21		35			0	Nil
NM5	19/07/2016	23:44:00	0.4		21	35	25	45	0	Nil
NM5	19/07/2016	23:59:00	0.4		20	35	25	45	0	Nil
NM6	19/07/2016	20:22:00	0.6	IA		35			0	Nil
NM6	19/07/2016	20:37:00	0.7	IA		35			0	Nil
NM6	18/07/2016	22:41:00	0.5		IA	35	IA	45	0	Nil
NM6	18/07/2016	22:57:00	0.4		IA	35	IA	45	0	Nil

* IA & NM = Inaudible & Not Measurable.
**MCC ID = Locations as per the approved Noise Management Plan.
***ND = No data due to high prevailing winds during the attended noise monitoring event.
Italicised text indicates wind speed exceeds the 3.0m/s maximum for noise monitoring.

Table 5 - Noise Monitoring (Attended - Low Frequency Assessment)

None of the twenty-four measurements occurred during which operational activities from MCCM were directly measurable (not “inaudible”, “not measurable” or less than a maximum cut-off value of 30 dB), were within 5 dB of the relevant criterion and where meteorological conditions resulted in criteria applying (in accordance with the project approval).

Table 6 – Blast Monitoring (Blasts – Limits Apply)

Location	Parameter	Units	Frequency	Number	Average	Max	100% Limit	Exceedance (Yes / No)
Operations Blasts	Noise	Db (Lin Peak)	All	10	98.28	117.9	120	No
	Vibration	mm/s		10	0.2	0.85	10	No

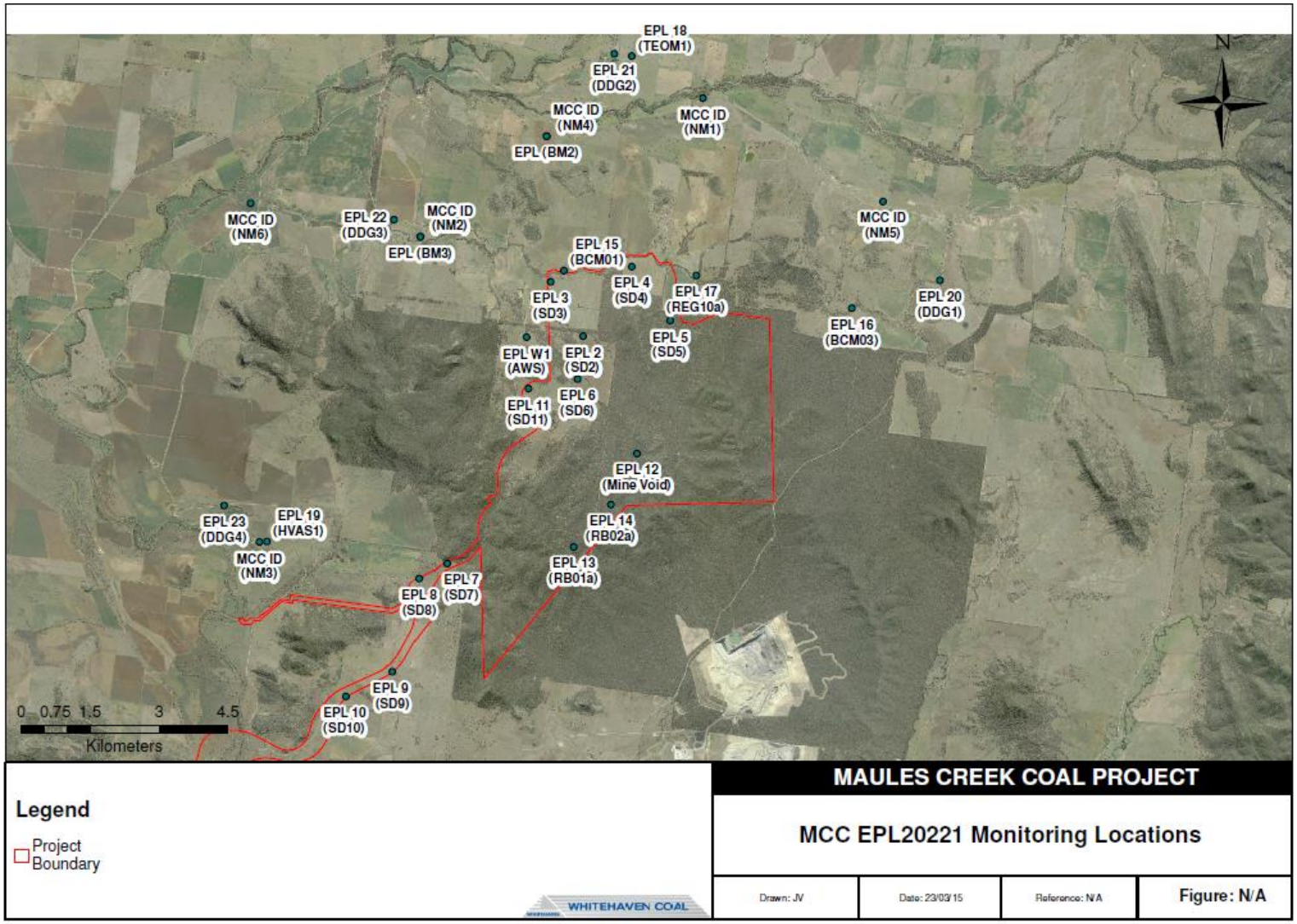
Table 7 – Dust Monitoring (Limits Apply)

ID EPL (Site)	Sample period	Unit	Parameter	Rolling Annual Average	NEPM Annual Criteria	Exceedance (Yes / No)
18 (TEOM1)	Continuous	**µg/m³.month**	**PM_{10}**	9.6	30	No
19 (HVAS)	6 days	**µg/m³**	**PM_{10}**	16.3	30	No

ID EPL (Site)	Sample period	Particulates Deposited Matter	Rolling Annual Average Insoluble Solids	Criteria	Exceedance (Yes / No)
20 (DDG1/MC1)	Monthly	**g/m² month**	2.0	4	No
21 (DDG2/MC2)	Monthly	**g/m² month**	2.1	4	No
22 (DDG3/MC3)	Monthly	**g/m² month**	0.9	4	No
23 (DDG4/MC4)	Monthly	**g/m² month**	1.2	4	No

Figure

Figure 1 – EPL 20221 Monitoring Locations



MAULES CREEK COAL MINE – MONTHLY MONITORING SUMMARY

Site Information

EPL No: 20221
EPA Website Link: Hyperlink to Maules Creek Coal, Environment Protection Licence
Licensee: Maules Creek Coal Mine Pty Ltd
Licensee Address: Maules Creek Coal Mine, Therribri Road, BOGGABRI NSW 2382
EPL Monitoring Points: See Figure 1 below
Sampling Period: August 2016
Obtained Date: 15 September 2016
Publication Date: 29 September 2016

Context: This Monthly Monitoring Summary aligns with the applicable Environment Protection Licence (EPL) – Maules Creek Coal Mine issued 21st September 2015 by the NSW Environment Protection Authority (EPA).

Monthly Monitoring Summary

Table 1 – Wet Weather Discharge - Surface Water Monitoring

ID EPL (Site)	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min Value	Mean Value	Median Value	Max / Only Value
2 (SD2)	TSS	mg/L	Special Frequency Discharge only	0	No discharge at this location this month.					
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
3 (SD3)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
4 (SD4)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
5 (SD5)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
6 (SD6)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
7 (SD7)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
8 (SD8)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						

EPL ID	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min Value	Mean Value	Median Value	Max / Only Value
9 (SD9)	TSS	mg/L	Special Frequency Discharge only	6	- 3/8/16 - Daily 23 to 27/8/16	Yes	34	52	48	77
	Conductivity	µs/cm		6		Yes	146	481	545	656
	Oil & Grease	mg/L		6		Yes	<5	<5	<5	<5
	pH	pH		6		Yes	7.49	7.77	7.79	8.03
10 (SD10)	TSS	mg/L	Special Frequency Discharge only	0	No discharge at this location this month.					
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
11 (SD11)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						

Table 2 – Surface Water Monitoring – Mine Void

ID EPL (Site)	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min	Mean	Max / Only Value
12 (Mine Void)	TSS	mg/L	Every 2 months	1	30/8/16	Yes			5
	Conductivity	µs/cm		1	30/8/16	Yes			1160
	Oil & Grease	mg/L		1	30/8/16	Yes			<5
	pH	pH		1	30/8/16	Yes			7.73

Table 3 – Groundwater Quality Monitoring

ID EPL (Bore)	Parameters	Units	Frequency	Samples	Date	Laboratory Results Received	Min	Mean	Max / Only Value
13 (RB01a)	pH	pH	Quarterly	0	Next Sample September				
	Conductivity	µs/cm							
	TDS	mg/L							
14 (RB02a)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							
15 (BCM01)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							
16 (BCM03)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							
17 (REG10a)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							

Table 4 – Noise Monitoring (Attended – Measured)

MCC ID	Date	Start Time	Wind Speed (m/s)	Measured Levels – dB(A) $L_{Aeq\ 15min}$ Evening	Measured Levels – dB(A) $L_{Aeq\ 15min}$ Night	Limit $L_{Aeq\ 15min}$ (dB) Operations Criteria	Measured Levels – dB(A) $L_{A1\ (1\ min)}$ Night	Limit $L_{A1\ (1\ min)}$ (dB) Operations Criteria	Weather Rain (mm)	Exceedance (Yes / No)
NM1	16/08/2016	20:22:00	1.2	28		35			0	Nil
NM1	16/08/2016	20:39:00	0.6	29		35			0	Nil
NM1	15/08/2016	23:04:00	0.6		27	35	37	45	0	Nil
NM1	15/08/2016	23:24:00	0.6		25	35	31	45	0	Nil
NM2	15/08/2016	21:04:00	0.4	32		39			0	Nil
NM2	15/08/2016	21:22:00	0.5	32		39			0	Nil
NM2	16/08/2016	22:10:00	0.6		30	39	38	45	0	Nil
NM2	16/08/2016	22:26:00	0.3		30	39	41	45	0	Nil
NM3	15/08/2016	19:33:00	0.5	IA		35			0	Nil
NM3	15/08/2016	19:50:00	1.5	IA		35			0	Nil
NM3	16/08/2016	23:41:00	0.4		IA	35	IA	45	0	Nil
NM3	16/08/2016	23:57:00	0.4		IA	35	IA	45	0	Nil
NM4	16/08/2016	21:11:00	0.8	31		35			0	Nil
NM4	16/08/2016	21:39:00	0.3	29		35			0	Nil
NM4	15/08/2016	22:00:00	0.2		32	35	35	45	0	Nil
NM4	15/08/2016	22:30:00	0.6		28	35	33	45	0	Nil
NM5	16/08/2016	19:40:00	1	27		35			0	Nil
NM5	16/08/2016	19:57:00	1.5	<20		35			0	Nil
NM5	15/08/2016	23:50:00	0.6		<20	35	<20	45	0	Nil
NM5	16/08/2016	0:06:00	0.9		IA	35	IA	45	0	Nil
NM6	15/08/2016	20:19:00	1.1	<20		35			0	Nil
NM6	15/08/2016	20:36:00	0.6	<25		35			0	Nil
NM6	16/08/2016	22:56:00	0.6		<20	35	<20	45	0	Nil
NM6	16/08/2016	23:12:00	0.4		<20	35	<25	45	0	Nil

* IA & NM = Inaudible & Not Measurable.
**MCC ID = Locations as per the approved Noise Management Plan & EPL 20221.
***ND = No data due to high prevailing winds during the attended noise monitoring event.
Italicised text indicates wind speed exceeds the 3.0m/s maximum for noise monitoring.

Noise Monitoring (Attended - Low Frequency Assessment)

Two of the twenty four measurements occurred during which operational activities from MCCP were directly measurable (not "inaudible", "not measurable" or less than a maximum cut off value of 30 dB), were within 5 dB of the relevant criterion and where meteorological conditions resulted in criteria applying (in accordance with the project approval). These measurements were further analysed for low frequency noise against relevant triggers.

Where results in the following table are greater than the applicable 'Industrial Noise Policy' (INP), or 'Broner' low frequency modifying factor triggers due to activities at MCC, a 5 dB modifying factor correction is applied to the measured noise level.

Table 5 – Measured Noise Levels for MCCM with INP Low Frequency Noise Modifying Factor Applied

MCC ID	Date	Start Time	Broner low frequency modifying factor trigger (dB) (1)	Broner Total L_{Ceq} (dB) (2,5)	INP low frequency modifying factor trigger (dB) (3)	INP Total L_{Ceq} minus L_{Aeq} (dB) (4,5)	Measured MCC only L_{Aeq} (dB)	Modifying factor correction (dB)	Site only L_{Aeq} *with* modifying factor correction applied (5)	Relevant MCC L_{Aeq} impact assessment criterion (dB)	Exceedance (Yes / No)
NM4	16/08/2016	21:11	>60	53	>=15	22	31	+5	**36**	35	**Yes**
NM4	15/08/2016	22:00	>60	53	>=15	21	32	+5	**37**	35	**yes**

(1) Night LCeq modifying factor trigger as detailed in Broner (2010);
(2) These are measured C-weighted noise levels (at frequencies less than 250 Hz) and are not always the result of activity at MCC.
(3) INP low frequency modifying factor trigger as detailed in the Industrial Noise Policy;
(4) This is the total measured C-weighted noise level minus the total measured A-weighted noise level and are not always the result of activity at MCC;
(5) Bold results are greater than the relevant low frequency modifying factor trigger.

Noise Monitoring (Attended - Low Frequency Assessment)

The EPA has recently published the Draft Industrial Noise Guideline (dING). Low frequency results for relevant measurements were assessed using the dING methodology. Noise levels with modifying factor triggers complied during all relevant measurements.

Table 6 – Measured Noise Levels for MCCM with INP Low Frequency Noise Modifying Factor Applied

MCC ID	Date	Start Time	Measured MCC only L_{Aeq} (dB)	Modifying factor correction (dB)	Site only L_{Aeq} *with* modifying factor correction applied (1)	Relevant MCC L_{Aeq} impact assessment criterion (dB)	Exceedance (Yes / No)
NM4	16/08/2016	21:11	31	0	31	35	**No**
NM4	15/08/2016	22:00	32	0	32	35	**No**

(1) Bold results are greater than the relevant low frequency modifying factor trigger.

Table 7 – Blast Monitoring (Blasts – Limits Apply)

Location	Parameter	Units	Frequency	Number	Average	Max	100% Limit	Exceedance (Yes / No)
Operations Blasts	Noise	Db (Lin Peak)	All	7	95.25	105.7	120	No
	Vibration	mm/s		7	0.24	0.54	10	No

Note: In accordance with the requirements of EPL 20221 M7.4 blast monitoring results are for monitoring points BM2 and BM3.

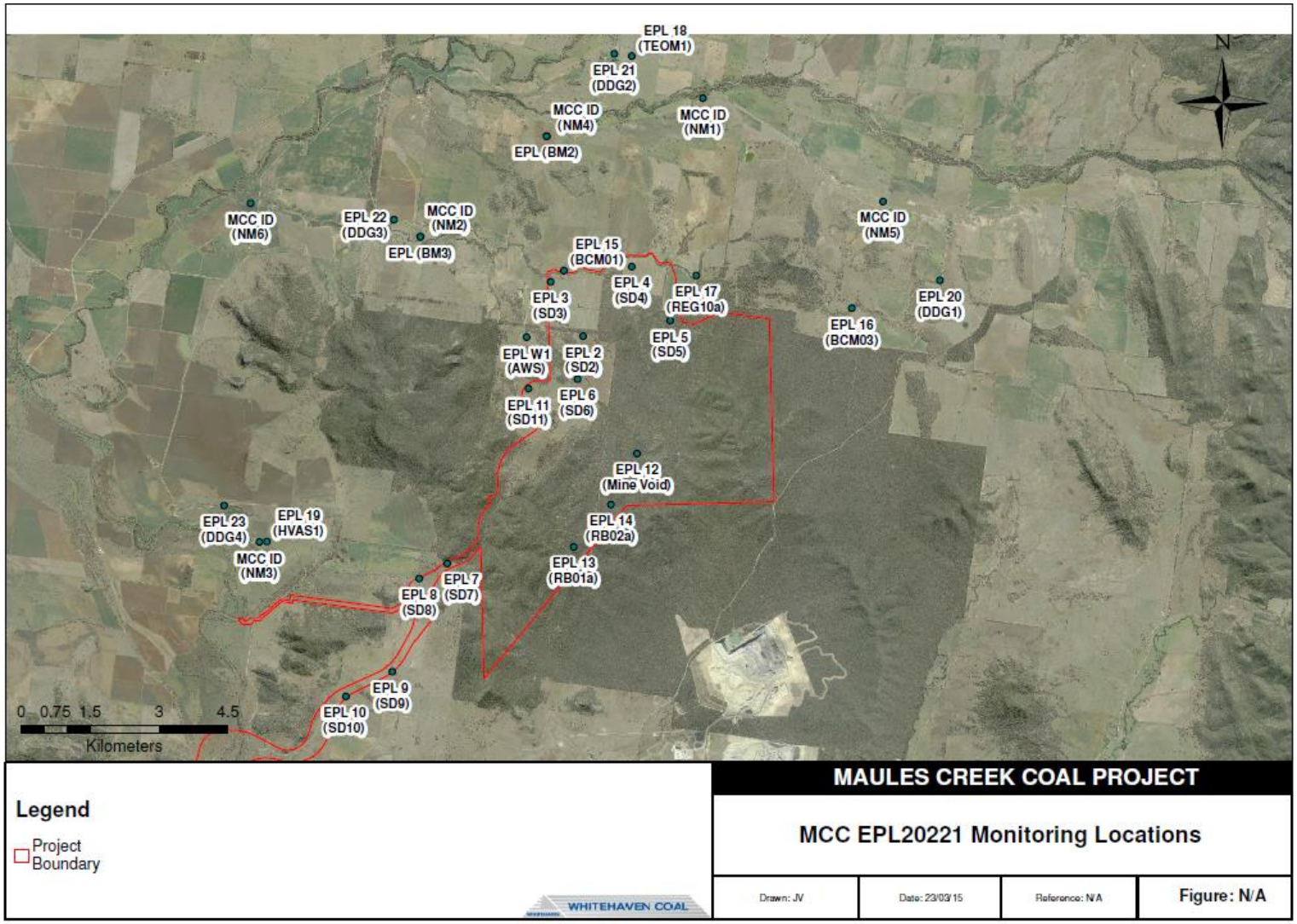
Table 8 – Dust Monitoring (Limits Apply)

ID EPL (Site)	Sample period	Unit	Parameter	Rolling Annual Average	NEPM Annual Criteria	Exceedance (Yes / No)
18 (TEOM1)	Continuous	**µg/m³.month**	**PM_{10}**	9.4	30	No
19 (HVAS)	6 days	**µg/m³**	**PM_{10}**	15.7	30	No

ID EPL (Site)	Sample period	Particulates Deposited Matter	Rolling Annual Average Insoluble Solids	Criteria	Exceedance (Yes / No)
20 (DDG1/MC1)	Monthly	**g/m² month**	2.0	4	No
21 (DDG2/MC2)	Monthly	**g/m² month**	2.3	4	No
22 (DDG3/MC3)	Monthly	**g/m² month**	1.0	4	No
23 (DDG4/MC4)	Monthly	**g/m² month**	1.3	4	No

Figure

Figure 1 – EPL 20221 Monitoring Locations



MAULES CREEK COAL MINE – MONTHLY MONITORING SUMMARY

Site Information

EPL No: 20221
EPA Website Link: Hyperlink to Maules Creek Coal, Environment Protection Licence
Licensee: Maules Creek Coal Mine Pty Ltd
Licensee Address: Maules Creek Coal Mine, Therribri Road, BOGGABRI NSW 2382
EPL Monitoring Points: See Figure 1 below
Sampling Period: September 2016
Obtained Date: 14 October 2016
Publication Date: 21 October 2016

Context: This Monthly Monitoring Summary aligns with the applicable Environment Protection Licence (EPL) – Maules Creek Coal Mine issued 21st September 2015 by the NSW Environment Protection Authority (EPA).

Monthly Monitoring Summary

Table 1 – Wet Weather Discharge - Surface Water Monitoring

ID EPL (Site)	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min Value	Mean Value	Median Value	Max / Only Value
2 (SD2)	TSS	mg/L	Special Frequency Discharge only	0	No discharge at this location this month.					
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
3 (SD3)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
4 (SD4)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
5 (SD5)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
6 (SD6)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
7 (SD7)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
8 (SD8)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						

EPL ID	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min Value	Mean Value	Median Value	Max / Only Value
9 (SD9)	TSS	mg/L	Special Frequency Discharge only	3	Daily 14 to 16/9/16 20/9/16	Yes	8	13	8	22
	Conductivity	µs/cm		3		Yes	296	438	482	535
	Oil & Grease	mg/L		2		Yes	<5	<5	<5	<5
	pH	pH		3		Yes	7.7	8.1	8.1	8.4
10 (SD10)	TSS	mg/L	Special Frequency Discharge only	0	No discharge at this location this month.					
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
11 (SD11)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						

Table 2 – Surface Water Monitoring – Mine Void

ID EPL (Site)	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min	Mean	Max / Only Value
12 (Mine Void)	TSS	mg/L	Every 2 months	Next Sample October.					
	Conductivity	µs/cm							
	Oil & Grease	mg/L							
	pH	pH							

Table 3 – Groundwater Quality Monitoring

ID EPL (Bore)	Parameters	Units	Frequency	Samples	Date	Laboratory Results Received	Min	Mean	Max / Only Value
13 (RB01a)	pH	pH	Quarterly	1	6/9/2016	Yes			9.17
	Conductivity	µs/cm							1040
	TDS	mg/L							526
14 (RB02a)	pH	pH	Quarterly	1	6/9/2016	Yes			11.9
	Conductivity	µs/cm							2240
	TDS	mg/L							590
15 (BCM01)	pH	pH	Quarterly	0	Bore dry since installation				
	Conductivity	µs/cm							
	TDS	mg/L							
16 (BCM03)	pH	pH	Quarterly	0	Bore dry since installation				
	Conductivity	µs/cm							
	TDS	mg/L							
17 (REG10a)	pH	pH	Quarterly	0	Bore dry since installation				
	Conductivity	µs/cm							
	TDS	mg/L							

Table 4 – Noise Monitoring (Attended – Measured)

MCC ID	Date	Start Time	Wind Speed (m/s)	Measured Levels – dB(A) $L_{Aeq\ 15min}$ Evening	Measured Levels – dB(A) $L_{Aeq\ 15min}$ Night	Limit $L_{Aeq\ 15min}$ (dB) Operations Criteria	Measured Levels – dB(A) $L_{A1\ (1\ min)}$ Night	Limit $L_{A1\ (1\ min)}$ (dB) Operations Criteria	Weather Rain (mm)	Exceedance (Yes / No)
NM1	27/09/2016	18:49:00	2	<25		35			0	Nil
NM1	*27/09/2016*	*19:06:00*	*3.1*	*<25*		*35*			*0*	*NA*
NM1	26/09/2016	22:42:00	0.8		<30	35	33	45	0	Nil
NM1	26/09/2016	22:58:00	0.9		<30	35	35	45	0	Nil
NM2	26/09/2016	18:49:00	3	IA		39			0	Nil
NM2	*26/09/2016*	*19:06:00*	*3.1*	*IA*		*39*			*0*	*NA*
NM2	27/09/2016	23:22:00	0.3		30	39	33	45	0	Nil
NM2	27/09/2016	23:39:00	0.3		30	39	35	45	0	Nil
NM3	27/09/2016	20:05:00	2.6	IA		35			0	Nil
NM3	27/09/2016	20:23:00	2.1	IA		35			0	Nil
NM3	26/09/2016	23:57:00	0.7		IA	35	IA	45	0	Nil
NM3	27/09/2016	0:14:00	0.4		IA	35	IA	45	0	Nil
NM4	*26/09/2016*	*18:05:00*	*3.6*	*IA*		*NA*			*0*	*NA*
NM4	*26/09/2016*	*18:21:00*	*3.3*	*<20*		*NA*			*0*	*NA*
NM4	27/09/2016	22:00:00	0.8		30	NA	38	NA	0	NA
NM4	27/09/2016	22:15:00	0.4		31	NA	37	NA	0	NA
NM5	27/09/2016	18:00:00	1.4	27		35			0	Nil
NM5	27/09/2016	18:22:00	1	25		35			0	Nil
NM5	26/09/2016	22:00:00	0.4		<20	35	<20	45	0	Nil
NM5	26/09/2016	22:16:00	0.7		<20	35	<20	45	0	Nil
NM6	26/09/2016	19:36:00	1.9	IA		35			0	Nil
NM6	26/09/2016	19:53:00	2.1	IA		35			0	Nil
NM6	28/09/2016	0:06:00	0.3		IA	35	IA	45	0	Nil
NM6	28/09/2016	0:22:00	0.5		IA	35	IA	45	0	Nil

* IA & NM = Inaudible & Not Measurable.
**MCC ID = Locations as per the approved Noise Management Plan & EPL 20221.
***ND = No data due to high prevailing winds during the attended noise monitoring event.
Italicised text indicates wind speed exceeds the 3.0m/s maximum for noise monitoring.
NM4 is at mine owned land and results have been provided for informational purposes.

Noise Monitoring (Attended - Low Frequency Assessment)

None of the twenty-four measurements occurred during which operational activities from MCCP were directly measurable (not “inaudible”, “not measurable” or less than a maximum cut-off value of 30 dB), were within 5 dB of the relevant criterion and where meteorological conditions resulted in criteria applying (in accordance with the project approval). No further assessment of low frequency noise is required.

Table 5 – Blast Monitoring (Blasts – Limits Apply)

Location	Parameter	Units	Frequency	Number	Average	Max	100% Limit	Exceedance (Yes / No)
Operations Blasts	Noise	Db (Lin Peak)	All	8	89.78	100.90	120	No
	Vibration	mm/s		8	0.15	0.28	10	No

Note: In accordance with the requirements of EPL 20221 M7.4 blast monitoring results are for monitoring points BM2 and BM3.

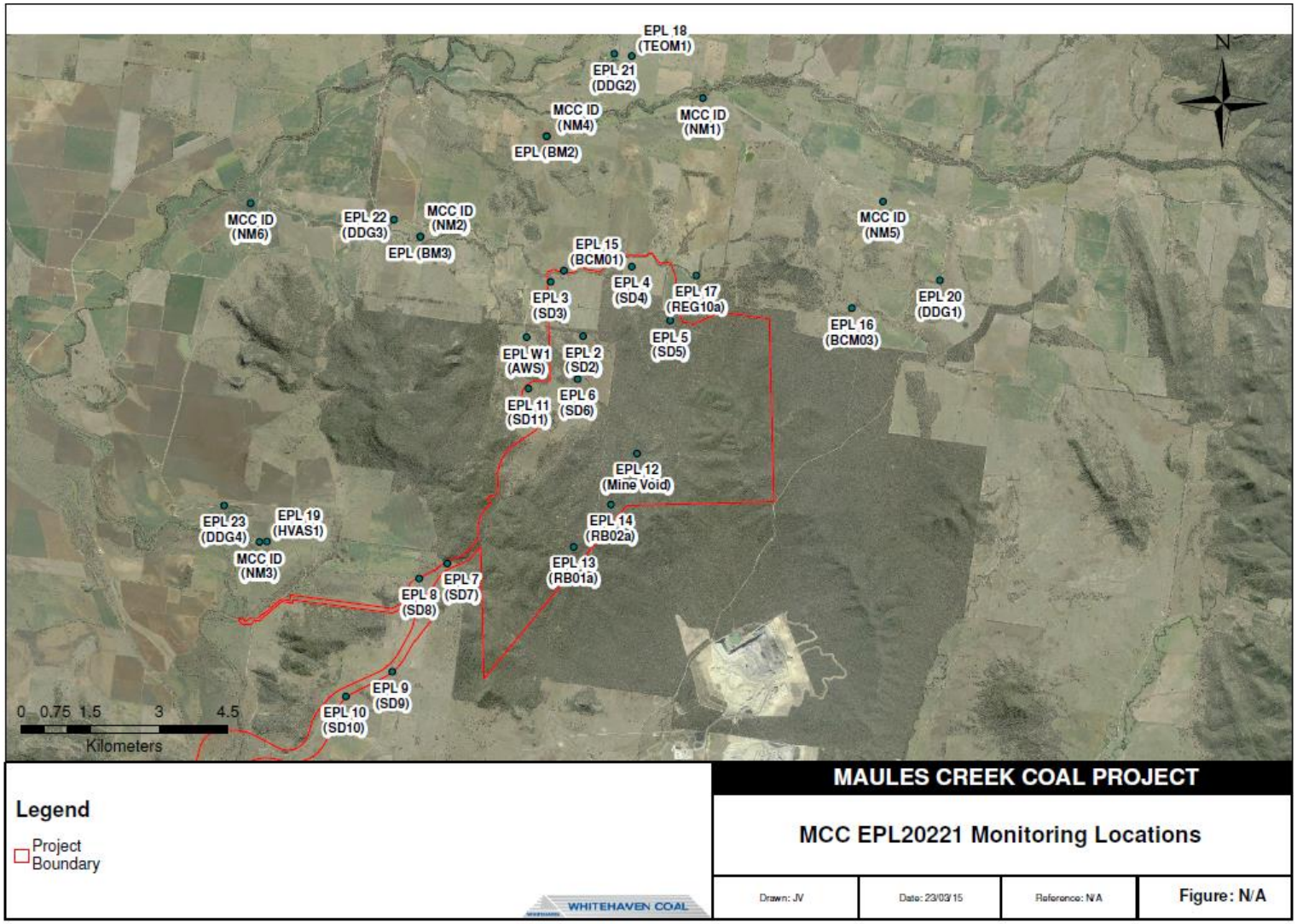
Table 6 – Dust Monitoring (Limits Apply)

ID EPL (Site)	Sample period	Unit	Parameter	Rolling Annual Average	NEPM Annual Criteria	Exceedance (Yes / No)
18 (TEOM1)	Continuous	**µg/m³.month**	**PM_{10}**	9.1	30	No
19 (HVAS)	6 days	**µg/m³**	**PM_{10}**	15.3	30	No

ID EPL (Site)	Sample period	Particulates Deposited Matter	Rolling Annual Average Insoluble Solids	Criteria	Exceedance (Yes / No)
20 (DDG1/MC1)	Monthly	**g/m² month**	2.0	4	No
21 (DDG2/MC2)	Monthly	**g/m² month**	2.7	4	No
22 (DDG3/MC3)	Monthly	**g/m² month**	1.0	4	No
23 (DDG4/MC4)	Monthly	**g/m² month**	1.3	4	No

Figure

Figure 1 – EPL 20221 Monitoring Locations



MAULES CREEK COAL MINE – MONTHLY MONITORING SUMMARY

Site Information

EPL No: 20221
EPA Website Link: Hyperlink to Maules Creek Coal, Environment Protection Licence
Licensee: Maules Creek Coal Mine Pty Ltd
Licensee Address: Maules Creek Coal Mine, Therribri Road, BOGGABRI NSW 2382
EPL Monitoring Points: See Figure 1 below
Sampling Period: October 2016
Obtained Date: 14 November 2016
Publication Date: 28 November 2016

Context: This Monthly Monitoring Summary aligns with the applicable Environment Protection Licence (EPL) – Maules Creek Coal Mine issued 21st September 2015 by the NSW Environment Protection Authority (EPA).

Monthly Monitoring Summary

Table 1 – Wet Weather Discharge - Surface Water Monitoring

ID EPL (Site)	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min Value	Mean Value	Median Value	Max / Only Value
2 (SD2)	TSS	mg/L	Special Frequency Discharge only	0	No discharge at this location this month.					
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
3 (SD3)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
4 (SD4)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
5 (SD5)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
6 (SD6)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
7 (SD7)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
8 (SD8)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						

EPL ID	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min Value	Mean Value	Median Value	Max / Only Value
9 (SD9)	TSS	mg/L	Special Frequency Discharge only	0	No discharge at this location this month.					
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
10 (SD10)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
11 (SD11)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						

Table 2 – Surface Water Monitoring – Mine Void

ID EPL (Site)	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min	Mean	Max / Only Value
12 (Mine Void)	TSS	mg/L	Every 2 months	1	27/10/2016	Yes			5
	Conductivity	µs/cm		1	27/10/2016	Yes			1200
	Oil & Grease	mg/L		1	27/10/2016	Yes			<5
	pH	pH		1	27/10/2016	Yes			8.02

Table 3 – Groundwater Quality Monitoring

ID EPL (Bore)	Parameters	Units	Frequency	Samples	Date	Laboratory Results Received	Min	Mean	Max / Only Value
13 (RB01a)	pH	pH	Quarterly	0	Next Sample December				
	Conductivity	µs/cm							
	TDS	mg/L							
14 (RB02a)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							
15 (BCM01)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							
16 (BCM03)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							
17 (REG10a)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							

Table 4 – Noise Monitoring (Attended – Measured)

MCC ID	Date	Start Time	Wind Speed (m/s)	Measured Levels – dB(A) $L_{Aeq\ 15min}$ Evening	Measured Levels – dB(A) $L_{Aeq\ 15min}$ Night	Limit $L_{Aeq\ 15min}$ (dB) Operations Criteria	Measured Levels – dB(A) $L_{A1\ (1\ min)}$ Night	Limit $L_{A1\ (1\ min)}$ (dB) Operations Criteria	Weather Rain (mm)	Exceedance (Yes / No)
NM1	18/10/2016	22:49:00	0.3		<25	35			0	Nil
NM1	18/10/2016	23:06:00	0.5		<25	35			0	Nil
NM1	19/10/2016	19:29:00	1.8	<25		35	32	45	0	Nil
NM1	19/10/2016	19:48:00	2.2	<25		35	38	45	0	Nil
NM2	18/10/2016	21:08:00	0.6	IA		39			0	Nil
NM2	18/10/2016	21:24:00	0.2	<20		39			0	Nil
NM2	19/10/2016	22:00:00	0.7		28	39	35	45	0	Nil
NM2	19/10/2016	22:15:00	0.9		28	39	38	45	0	Nil
NM3	18/10/2016	19:36:00	0.2	IA		35			0	Nil
NM3	18/10/2016	19:53:00	0.2	IA		35			0	Nil
NM3	19/10/2016	23:32:00	0.7		<25	35	30	45	0	Nil
NM3	19/10/2016	23:49:00	0.7		<20	35	<25	45	0	Nil
NM4	18/10/2016	22:00:00	0.3		<25	NA			0	NA
NM4	18/10/2016	22:16:00	0.3		<20	NA			0	NA
NM4	19/10/2016	21:11:00	0.9	30		NA	39	NA	0	NA
NM4	19/10/2016	21:30:00	0.3	30		NA	27	NA	0	NA
NM5	18/10/2016	23:34:00	0.4		<25	35			0	Nil
NM5	18/10/2016	23:50:00	0.4		<25	35			0	Nil
NM5	19/10/2016	20:16:00	2.4	<25		35	30	45	0	Nil
NM5	19/10/2016	20:34:00	0.9	<25		35	32	45	0	Nil
NM6	18/10/2016	20:21:00	0.2	IA		35			0	Nil
NM6	18/10/2016	20:38:00	0.2	IA		35			0	Nil
NM6	19/10/2016	22:46:00	0.3	<20	<20	35	<20	45	0	Nil
NM6	19/10/2016	23:02:00	0.4	<20	<20	35	<20	45	0	Nil

* IA & NM = Inaudible & Not Measurable.
**MCC ID = Locations as per the approved Noise Management Plan & EPL 20221.
***ND = No data due to high prevailing winds during the attended noise monitoring event.
Italicised text indicates wind speed exceeds the 3.0m/s maximum for noise monitoring.
NM4 is at mine owned land and results have been provided for informational purposes.

Noise Monitoring (Attended - Low Frequency Assessment)

None of the twenty-four measurements occurred during which operational activities from MCCP were directly measurable (not “inaudible”, “not measurable” or less than a maximum cut-off value of 30 dB), were within 5 dB of the relevant criterion and where meteorological conditions resulted in criteria applying (in accordance with the project approval). No further assessment of low frequency noise is required.

Table 5 – Blast Monitoring (Blasts – Limits Apply)

Location	Parameter	Units	Frequency	Number	Average	Max	100% Limit	Exceedance (Yes / No)
Operations Blasts	Noise	Db (Lin Peak)	All	11	89.43	109.8	120	No
	Vibration	mm/s		11	0.22	0.6	10	No

Note: In accordance with the requirements of EPL 20221 M7.4 blast monitoring results are for monitoring points BM2 and BM3.

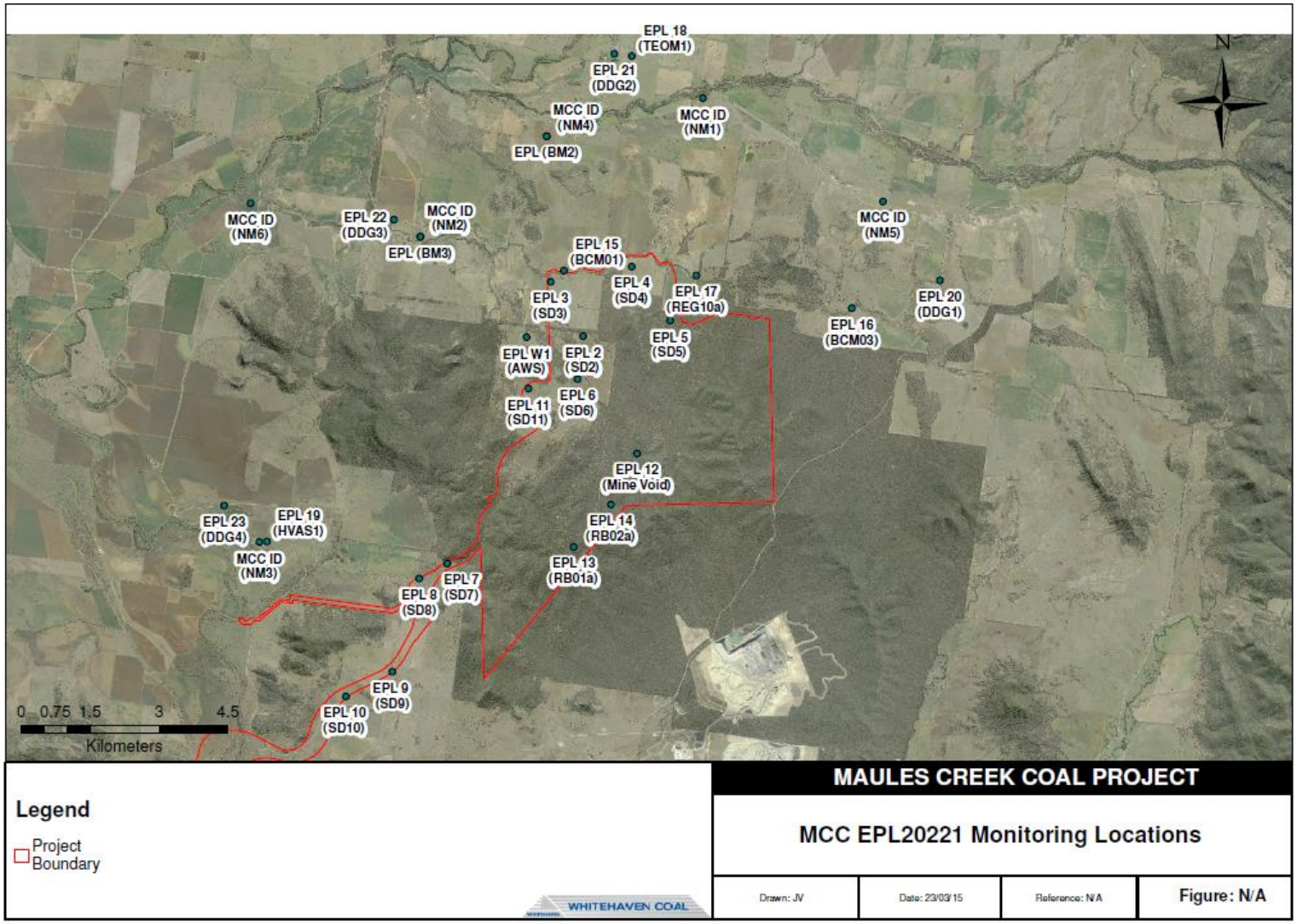
Table 6 – Dust Monitoring (Limits Apply)

ID EPL (Site)	Sample period	Unit	Parameter	Rolling Annual Average	NEPM Annual Criteria	Exceedance (Yes / No)
18 (TEOM1)	Continuous	**µg/m³.month**	**PM_{10}**	8.5	30	No
19 (HVAS)	6 days	**µg/m³**	**PM_{10}**	14.6	30	No

ID EPL (Site)	Sample period	Particulates Deposited Matter	Rolling Annual Average Insoluble Solids	Criteria	Exceedance (Yes / No)
20 (DDG1/MC1)	Monthly	**g/m² month**	2.1	4	No
21 (DDG2/MC2)	Monthly	**g/m² month**	2.7	4	No
22 (DDG3/MC3)	Monthly	**g/m² month**	1.0	4	No
23 (DDG4/MC4)	Monthly	**g/m² month**	1.3	4	No

Figure

Figure 1 – EPL 20221 Monitoring Locations



MAULES CREEK COAL MINE – MONTHLY MONITORING SUMMARY

Site Information

EPL No: 20221
EPA Website Link: Hyperlink to Maules Creek Coal, Environment Protection Licence
Licensee: Maules Creek Coal Mine Pty Ltd
Licensee Address: Maules Creek Coal Mine, Therribri Road, BOGGABRI NSW 2382
EPL Monitoring Points: See Figure 1 below
Sampling Period: November 2016
Obtained Date: 21 December 2016
Publication Date: 22 December 2016

Context: This Monthly Monitoring Summary aligns with the applicable Environment Protection Licence (EPL) – Maules Creek Coal Mine issued 21st September 2015 by the NSW Environment Protection Authority (EPA).

Monthly Monitoring Summary

Table 1 – Wet Weather Discharge - Surface Water Monitoring

ID EPL (Site)	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min Value	Mean Value	Median Value	Max / Only Value
2 (SD2)	TSS	mg/L	Special Frequency Discharge only	0	No discharge at this location this month.					
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
3 (SD3)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
4 (SD4)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
5 (SD5)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
6 (SD6)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
7 (SD7)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
8 (SD8)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						

EPL ID	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min Value	Mean Value	Median Value	Max / Only Value
9 (SD9)	TSS	mg/L	Special Frequency Discharge only	0	No discharge at this location this month.					
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
10 (SD10)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
11 (SD11)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						

Table 2 – Surface Water Monitoring – Mine Void

ID EPL (Site)	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min	Mean	Max / Only Value
12 (Mine Void)	TSS	mg/L	Every 2 months	Next Sample December					
	Conductivity	µs/cm							
	Oil & Grease	mg/L							
	pH	pH							

Table 3 – Groundwater Quality Monitoring

ID EPL (Bore)	Parameters	Units	Frequency	Samples	Date	Laboratory Results Received	Min	Mean	Max / Only Value
13 (RB01a)	pH	pH	Quarterly	0	Next Sample December				
	Conductivity	µs/cm							
	TDS	mg/L							
14 (RB02a)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							
15 (BCM01)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							
16 (BCM03)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							
17 (REG10a)	pH	pH	Quarterly	0					
	Conductivity	µs/cm							
	TDS	mg/L							

Table 4 – Noise Monitoring (Attended – Measured)

MCC ID	Date	Start Time	Wind Speed (m/s)	Measured Levels – dB(A) $L_{Aeq\ 15min}$ Evening	Measured Levels – dB(A) $L_{Aeq\ 15min}$ Night	Limit $L_{Aeq\ 15min}$ (dB) Operations Criteria	Measured Levels – dB(A) $L_{A1\ (1\ min)}$ Night	Limit $L_{A1\ (1\ min)}$ (dB) Operations Criteria	Weather Rain (mm)	Exceedance (Yes / No)
NM1	22/11/2016	20:26:00	0.6	26		35			0	Nil
NM1	22/11/2016	20:42:00	0.5	<25		35			0	Nil
NM1	21/11/2016	22:47:00	0.4		IA	35	IA	45	0	Nil
NM1	21/11/2016	23:03:00	0.3		IA	35	IA	45	0	Nil
NM2	21/11/2016	21:00:00	1.3	<25		39			0	Nil
NM2	21/11/2016	21:15:00	1.4	<25		39			0	Nil
NM2	22/11/2016	22:06:00	0.5		IA	39	IA	45	0	Nil
NM2	22/11/2016	22:21:00	0.5		<20	39	<20	45	0	Nil
NM3	21/11/2016	19:32:00	0.4	IA		35			0	Nil
NM3	21/11/2016	19:47:00	0.4	IA		35			0	Nil
NM3	22/11/2016	23:29:00	2.4		IA	35	IA	45	0	Nil
NM3	22/11/2016	23:44:00	2.7		IA	35	IA	45	0	Nil
NM4	22/11/2016	21:15:00	0.7	IA		NA			0	NA
NM4	22/11/2016	21:33:00	0.2	IA		NA			0	NA
NM4	21/11/2016	22:00:00	0.6		<25	NA	25	NA	0	NA
NM4	21/11/2016	22:15:00	0.3		<25	NA	<25	NA	0	NA
NM5	22/11/2016	19:45:00	0.7	IA		35			0	Nil
NM5	22/11/2016	20:00:00	0.3	IA		35			0	Nil
NM5	21/11/2016	23:48:00	0.4		IA	35	IA	45	0	Nil
NM5	22/11/2016	0:03:00	0.5		IA	35	IA	45	0	Nil
NM6	21/11/2016	20:12:00	0.2	IA		35			0	Nil
NM6	21/11/2016	20:27:00	0.2	IA		35			0	Nil
NM6	22/11/2016	22:47:00	0.3		IA	35	IA	45	0	Nil
NM6	22/11/2016	23:02:00	0.2		IA	35	IA	45	0	Nil

* IA & NM = Inaudible & Not Measurable.
**MCC ID = Locations as per the approved Noise Management Plan & EPL 20221.
***ND = No data due to high prevailing winds during the attended noise monitoring event.
Italicised text indicates wind speed exceeds the 3.0m/s maximum for noise monitoring.
NM4 is at mine owned land and results have been provided for informational purposes.

Noise Monitoring (Attended - Low Frequency Assessment)

None of the twenty-four measurements occurred during which operational activities from MCCP were directly measurable (not “inaudible”, “not measurable” or less than a maximum cut-off value of 30 dB), were within 5 dB of the relevant criterion and where meteorological conditions resulted in criteria applying (in accordance with the project approval). No further assessment of low frequency noise is required.

Table 5 – Blast Monitoring (Blasts – Limits Apply)

Location	Parameter	Units	Frequency	Number	Average	Max	100% Limit	Exceedance (Yes / No)
Operations Blasts	Noise	Db (Lin Peak)	All	10	88.87	102.5	120	No
	Vibration	mm/s		10	0.18	0.44	10	No

Note: In accordance with the requirements of EPL 20221 M7.4 blast monitoring results are for monitoring points BM2 and BM3.

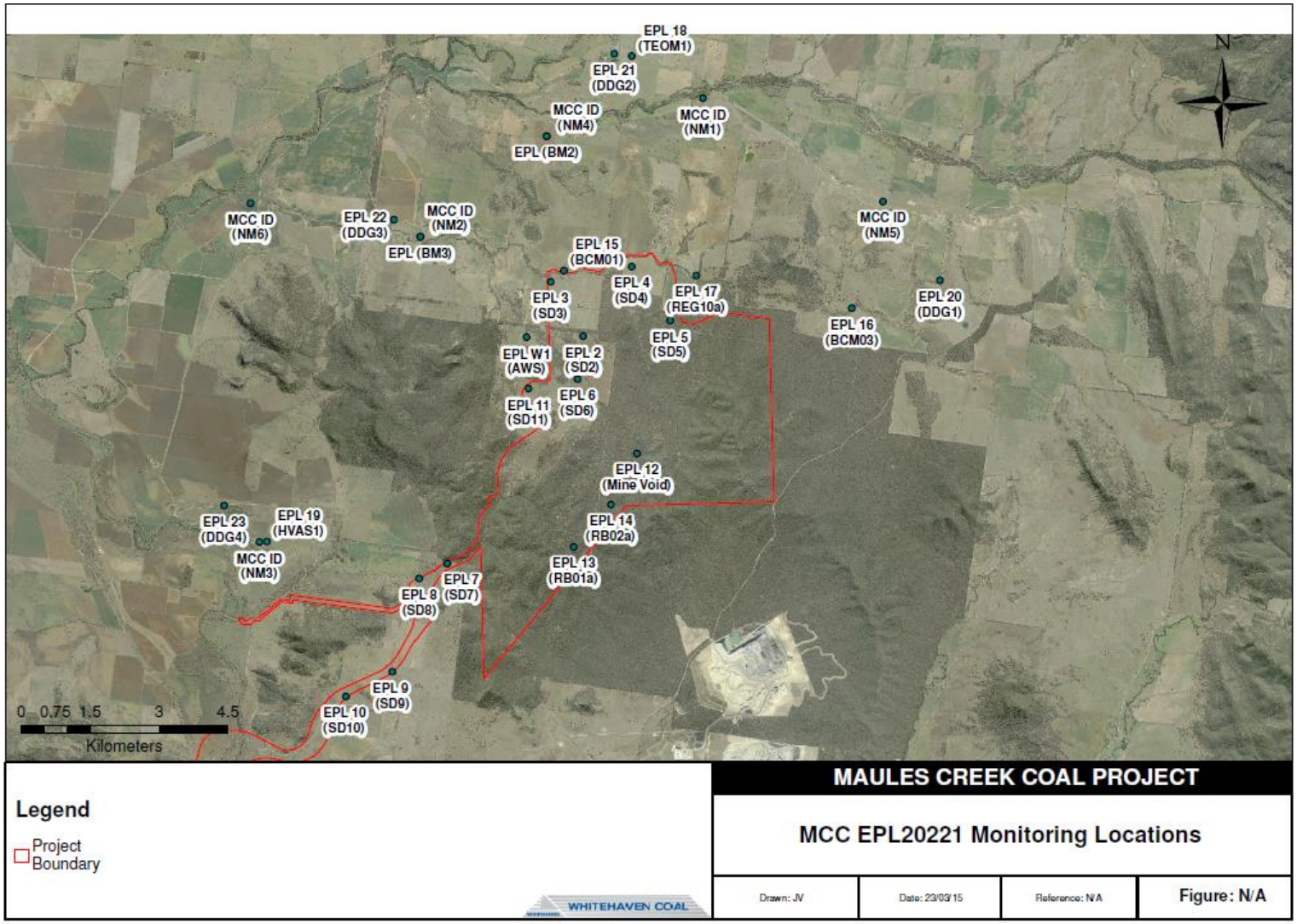
Table 6 – Dust Monitoring (Limits Apply)

ID EPL (Site)	Sample period	Unit	Parameter	Rolling Annual Average	NEPM Annual Criteria	Exceedance (Yes / No)
18 (TEOM1)	Continuous	**µg/m³.month**	**PM_{10}**	8.6	30	No
19 (HVAS)	6 days	**µg/m³**	**PM_{10}**	13.6	30	No

ID EPL (Site)	Sample period	Particulates Deposited Matter	Rolling Annual Average Insoluble Solids	Criteria	Exceedance (Yes / No)
20 (DDG1/MC1)	Monthly	**g/m² month**	2.0	4	No
21 (DDG2/MC2)	Monthly	**g/m² month**	2.5	4	No
22 (DDG3/MC3)	Monthly	**g/m² month**	1.0	4	No
23 (DDG4/MC4)	Monthly	**g/m² month**	1.1	4	No

Figure

Figure 1 – EPL 20221 Monitoring Locations



MAULES CREEK COAL MINE – MONTHLY MONITORING SUMMARY

Site Information

EPL No: 20221
EPA Website Link: Hyperlink to Maules Creek Coal, Environment Protection Licence
Licensee: Maules Creek Coal Mine Pty Ltd
Licensee Address: Maules Creek Coal Mine, Therribri Road, BOGGABRI NSW 2382
EPL Monitoring Points: See Figure 1 below
Sampling Period: December 2016
Obtained Date: 16 January 2017
Publication Date: 27 January 2017

Context: This Monthly Monitoring Summary aligns with the applicable Environment Protection Licence (EPL) – Maules Creek Coal Mine issued 21st September 2015 by the NSW Environment Protection Authority (EPA).

Monthly Monitoring Summary

Table 1 – Wet Weather Discharge - Surface Water Monitoring

ID EPL (Site)	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min Value	Mean Value	Median Value	Max / Only Value
2 (SD2)	TSS	mg/L	Special Frequency Discharge only	0	No discharge at this location this month.					
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
3 (SD3)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
4 (SD4)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
5 (SD5)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
6 (SD6)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
7 (SD7)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
8 (SD8)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						

EPL ID	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min Value	Mean Value	Median Value	Max / Only Value
9 (SD9)	TSS	mg/L	Special Frequency Discharge only	0	No discharge at this location this month.					
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
10 (SD10)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						
11 (SD11)	TSS	mg/L	Special Frequency Discharge only	0						
	Conductivity	µs/cm		0						
	Oil & Grease	mg/L		0						
	pH	pH		0						

Table 2 – Surface Water Monitoring – Mine Void

ID EPL (Site)	Parameter	Units	Frequency	Samples	Date	Laboratory Results Received	Min	Mean	Max / Only Value
12 (Mine Void)	TSS	mg/L	Every 2 months	1	19/12/2016	Yes			20
	Conductivity	µs/cm		1	19/12/2016	Yes			671
	Oil & Grease	mg/L		1	19/12/2016	Yes			<5
	pH	pH		1	19/12/2016	Yes			7.96

Table 3 – Groundwater Quality Monitoring

ID EPL (Bore)	Parameters	Units	Frequency	Samples	Date	Laboratory Results Received	Min	Mean	Max / Only Value
13 (RB01a)	pH	pH	Quarterly	1	22/12/2016	Yes			8.96
	Conductivity	µs/cm							1200
	TDS	mg/L							784
14 (RB02a)	pH	pH	Quarterly	0	Unable to be sampled				
	Conductivity	µs/cm							
	TDS	mg/L							
15 (BCM01)	pH	pH	Quarterly	0	Bore dry since installation				
	Conductivity	µs/cm							
	TDS	mg/L							
16 (BCM03)	pH	pH	Quarterly	0	Bore dry since installation				
	Conductivity	µs/cm							
	TDS	mg/L							
17 (REG10a)	pH	pH	Quarterly	0	Bore dry since installation				
	Conductivity	µs/cm							
	TDS	mg/L							

Table 4 – Noise Monitoring (Attended – Measured)

MCC ID	Date	Start Time	Wind Speed (m/s)	Measured Levels – dB(A) $L_{Aeq\ 15min}$ Evening	Measured Levels – dB(A) $L_{Aeq\ 15min}$ Night	Limit $L_{Aeq\ 15min}$ (dB) Operations Criteria	Measured Levels – dB(A) $L_{A1\ (1\ min)}$ Night	Limit $L_{A1\ (1\ min)}$ (dB) Operations Criteria	Weather Rain (mm)	Exceedance (Yes / No)
NM1	14/12/2016	20:20:00	0.5	IA		35			0	Nil
NM1	14/12/2016	20:37:00	0.5	<25		35			0	Nil
NM1	13/12/2016	22:49:00	0.5		<20	35	<20	45	0	Nil
NM1	13/12/2016	23:06:00	0.7		<20	35	<20	45	0	Nil
NM2	13/12/2016	20:56:00	0.4	<20		39			0	Nil
NM2	13/12/2016	21:12:00	0.9	<20		39			0	Nil
NM2	14/12/2016	22:00:00	0.5		<25	39	27	45	0	Nil
NM2	14/12/2016	22:16:00	0.2		<20	39	<20	45	0	Nil
NM3	13/12/2016	19:23:00	2.5	IA		35			0	Nil
NM3	13/12/2016	19:40:00	1.1	IA		35			0	Nil
NM3	14/12/2016	23:32:00	0.8		IA	35	IA	45	0	Nil
NM3	*14/12/2016*	*23:48:00*	*5.2*		*IA*	*35*	*IA*	*45*	*0*	*NA*
NM4	14/12/2016	21:06:00	1.2	<20		35			0	Nil
NM4	14/12/2016	21:23:00	0.8	<20		35			0	Nil
NM4	13/12/2016	22:00:00	0.3		<20	35	<20	45	0	Nil
NM4	13/12/2016	22:16:00	0.5		<20	35	<20	45	0	Nil
NM5	14/12/2016	19:37:00	0.4	IA		35			0	Nil
NM5	14/12/2016	19:53:00	0.4	IA		35			0	Nil
NM5	13/12/2016	23:35:00	0.2		<20	35	<20	45	0	Nil
NM5	13/12/2016	23:51:00	0.3		<20	35	<20	45	0	Nil
NM6	13/12/2016	20:08:00	0.4	IA		35			0	Nil
NM6	13/12/2016	20:24:00	0.5	<20		35			0	Nil
NM6	14/12/2016	22:46:00	0.6		IA	35	IA	45	0	Nil
NM6	14/12/2016	23:02:00	0.5		IA	35	IA	45	0	Nil

IA & NM = Inaudible & Not Measurable.
MCC ID = Locations as per the approved Noise Management Plan & EPL 20221.
ND = No data due to high prevailing winds during the attended noise monitoring event.
Italicised text indicates wind speed exceeds the 3.0m/s maximum for noise monitoring.
NM4 is at mine owned land and results have been provided for informational purposes.

Noise Monitoring (Attended - Low Frequency Assessment)

None of the twenty-four measurements occurred during which operational activities from MCCP were directly measurable (not “inaudible”, “not measurable” or less than a maximum cut-off value of 30 dB), were within 5 dB of the relevant criterion and where meteorological conditions resulted in criteria applying (in accordance with the project approval). No further assessment of low frequency noise is required.

Table 5 – Blast Monitoring (Blasts – Limits Apply)

Location	Parameter	Units	Frequency	Number	Average	Max	100% Limit	Exceedance (Yes / No)
Operations Blasts	Noise	Db (Lin Peak)	All	5*	94.91	107.5	120	No
	Vibration	mm/s		8	0.19	0.48	10	No

Note: In accordance with the requirements of EPL 20221 M7.4 blast monitoring results are for monitoring points BM2 and BM3.

** Equipment error. Unit has been replaced.*

Table 6 – Dust Monitoring (Limits Apply)

ID EPL (Site)	Sample period	Unit	Parameter	Rolling Annual Average	NEPM Annual Criteria	Exceedance (Yes / No)
18 (TEOM1)	Continuous	µg/m^3.month	PM_{10}	9.0	30	No
19 (HVAS)	6 days	µg/m^3	PM_{10}	13.5	30	No

ID EPL (Site)	Sample period	Particulates Deposited Matter	Rolling Annual Average Insoluble Solids	Criteria	Exceedance (Yes / No)
20 (DDG1/MC1)	Monthly	g/m^2 month	1.9	4	No
21 (DDG2/MC2)	Monthly	g/m^2 month	2.5	4	No
22 (DDG3/MC3)	Monthly	g/m^2 month	1.1	4	No
23 (DDG4/MC4)	Monthly	g/m^2 month	1.1	4	No

Figure

Figure 1 – EPL 20221 Monitoring Locations