

# Minutes of the 51<sup>st</sup> Meeting of the Tarrawonga Coal Mine Community Consultative Committee (TCCC)

Meeting Held	14 <sup>th</sup> February 2018 at 10:00AM		
Venue	Tarrawonga Coal Mine (TCM), training room		
Agenda Item	Discussion- description	Action and Accountability	Status/ Date
1. Present and Apologies	<p><u>Present:</u>            Mr David Ross (DR)- Independent Chairman,            Mrs Julie Heiler (JH)- Community Representative,            Mrs Rebecca Ryan (RR)- Community Representative,            Mrs Cath Collyer (CC)- Community Representative,            Mr Blair Meyers (BM)- Operations Manager/ MME- TMC,            Mr Sebastien Moreno (SM)- Environmental Superintendent- TCM,            Mr Tim Muldoon (TM)- Group Manager Community Relations and Property,            Mr Daryl Campbell (DC)- Community Relations Officer.</p>		
	<p><u>Apologies:</u>            Mr Andrew Johns (AJ), Gunnedah Shire council Representative,            Ms Ann Luke (AL), Gunnedah Shire council Representative.</p>		
2. Declaration of Pecuniary or Non-Pecuniary Interests	DR- declared that he is paid a fee for participation as Independent Chairman		
3. Previous Minutes Actions	CC- asked for total dams capacity and current volume stored onsite, CC- asked for species of grass to be used and which ones are successful for rehabilitation.	SM to provide the information by 21/02/18.	
	CC- gave an update of the child care project in Boggabri Shire Council that is successful and supported by Boggabri Coal Mine (BCM) for the construction of the building and Maule's Creek Coal Mine (MCCM) for training and scholarship.		

	CC and JH- requested the Quarterly Environmental and GW report. They also requested a map with names for each monitoring site.	SM to provide a map at next meeting.	
	DR and TCCC members- thanked GM for his support during secondment as Environmental officer		
<b>Agenda Item</b>	<b>Discussion- description</b>	<b>Action and Accountability</b>	<b>Status</b>
4. Business Arising	CC- asked about sprinklers and BM- said they have been efficient but due to water shortage they will only be used at targeted locations from now.		
5. Mine Progress Report	BM- said: -TCM maintain good safety records, - New MOP related to Reject- dump Area was submitted to DP&E in Dec 2017, - 2 Breaches of the Project Approval (PA) recorded: - Road Noise Monitoring not completed (Monitoring missed due to change of scope of new contractor- Global Acoustics), - Failed pre- Blast Notifications (List of contact to be updated and process has been reviewed and a training package developed).		
	BM- gave updates regarding Water and Budget: -Trials to be conducted using a polymer on the roads to minimize dust, -Closing tracks and roads that are not key for the operations, - Shortage of water- not enough rains for several months, alternative sources are under investigation, i.e.: Pit water, the old quarry, -Current Budget is on track and starting preparation of the new calendar year Budget.		
	JH- asked if desilting of dams will be conducted and BM said all the dams that are emptied will be checked to assess if desilting is required.		
	JH- asked if water from the river could be pumped through BCM. TM -said in past 20ML was used that way.		
6. Environmental Monitoring report	TCCC members – asked for the Quarterly Environmental. DR reminded that SM started 2 weeks before the TCCC meeting and was not aware of the quarterly report. DR asked SM to provide an updated Report in 2 weeks after that meeting	SM to prepare and send the Quarterly Environmental report by 28/02/18	

	DR- asked if Environmental report could be sent in advance before the TCCC meeting.	SM to send the report the Friday before each meeting (16/05/18).	
<b>Agenda Item</b>	<b>Discussion- description</b>	<b>Action and Accountability</b>	<b>Status</b>
7. General business	JH- said TCM never had dust issues before but it is starting to be an issue now. Efforts have to be done to maintain dust to acceptable levels.		
	JH- complained that EPA has not been responding/following up about complaint raised by community.		
	CC- asked if TCCC members could send a letter to Shire Council requesting usage of water trucks to reduce dust on Goondri and mine adjacent roads.	DR to follow up	
	DR- asked if signing in mandatory at TCM and BM- said that everyone (visitors, contractors and employees) should sign in for safety reason and in case of evacuation.	TCCC members to sign in/out when attending the meeting at TCM.	
8.Complaints	BM- said 2 dust complaints were recorded since the last TCCC meeting due to traffic of council trucks using the dirt road to access the quarry. TCM prepared an investigation and a response to the EPA showing evidence (photos) that the dust generated during those 2 incidents was not mine related.		
9. Next Meeting and Other Comments	DR- next TCCC meetings 2018 will be held on 16 <sup>th</sup> May, 15 <sup>th</sup> August and 31 <sup>st</sup> October.		
	DR- asked if it was a good idea to invite the EPA to BTM -CCC meeting. CC and JH said yes	DR to action.	
	DR- asked about efficiency of communication process out to the community and other groups. All TCCC members acknowledged that some improvement is required in that space.	TCCC Members to action and improve communication out.	
	DR- Action pending regarding new representatives on boarding TCCC. SM organised publication of an Advert in the paper and the deadline for application is 17 <sup>th</sup> March.		

CC- will apply to the EPA dust committee and asked DR for his support and recommendation		
JH- said Lightening struck trees in some areas and a grader was used to remove them – JH thanked TM for his help.		
TM – said discussion have started with fire services, BCM and MCCM for power and water access – now awaiting for future initiatives.	TM to follow up.	
BM- said SM is the new environmental contact for TCM and any request should be addressed to him.		
JHa -commented on staff shortage at last TCCC meeting. BM- said TCM continue recruiting people from the local community		
CC- looking for fund raising regarding international youth exercise (for 6 kids). TM clarified the process to apply for fund raising.		

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## **Environmental Monitoring Report 1 November 2017 – 31 January 2018**

### **Noise Monitoring**

Attended noise monitoring was undertaken at the “Bungalow” (TN4), “Barbers Lagoon” (TN3) and “Matong” (TN2) properties from 6<sup>th</sup> to 10<sup>th</sup> November 2017, with results outlined below. The noise criterion for the mine is 35dB(A) Leq (15 min) for all operating times.

The results in Tables 1 to 3 show that noise emissions from the mine did not exceed the operational noise criterion at the “Barbers Lagoon”, “Bungalow” or “Matong” monitoring locations during the monitoring event.

Noise from the mine must not exceed 45 dB(A) L1 (1 min) between 10 pm and 7 am. This is to minimise the potential for sleep disturbance as a result of individual loud noises from the mine. The results of the sleep disturbance monitoring (tables 1, 2 and 3) show that the measured L1 (1 min) noise level did not exceed the sleep disturbance criterion.

The real time noise monitor located on the “Coomalgah” property remains a management tool so the noise criteria are not applicable at that site. Level of noise recorded at that location is managed according to the noise management plan and trigger action response plan.

Revised Noise Management Plan remains with DP&E for approval. The BTM Noise Management Strategy has been approved by DP&E.

**Table 1 – Attended Noise Monitoring Matong**

EPL ID	Date	Start Time	Measurement period	Measured Levels – dB(A) L <sub>eq</sub> 15min Day	Measured Levels – dB(A) L <sub>eq</sub> 15min Evening	Measured Levels – dB(A) L <sub>eq</sub> 15min Night	Measured Levels – dB(A) L <sub>A1</sub> (1 min) Night	Limit	Av. Wind Speed (m/s)	Stability Class	Compliant (Yes/No)
<b>TN2 Matong</b>	6/11/2017	21:14	30		33			35	2.1	D	Yes
	6/11/2017	22:30	60			36*		35	2.4	D	Yes
	6/11/2017	22:30	60				44	45	2.4	D	Yes
	7/11/2017	11:33	90	30				35	3.0	A	Yes
	7/11/2017	21:23	30		NM			35	0.6	F	Yes
	7/11/2017	22:00	60			IA		35	2.2	F	Yes
	7/11/2017	22:00	60				IA	45	2.2	F	Yes
	8/11/2017	09:42	90	IA				35	5.6	C	Yes
	8/11/2017	21:21	30		IA			35	4.9	D	Yes
	8/11/2017	22:32	60			25		35	3.2	D	Yes
	8/11/2017	22:48	60				30	45	3.8	E	Yes
	9/11/2017	11:40	90	IA				35	4.0	A	Yes
	9/11/2017	21:22	30		IA			35	3.8	D	Yes
	9/11/2017	22:47	60			25		35	0.7	F	Yes
	9/11/2017	22:47	60				32	45	0.7	F	Yes
	10/11/2017	09:23	90	IA				35	2.4	B	Yes

\* – Result measured on project owned land, IA – Inaudible, NM – Not Measurable

**Table 2 – Attended Noise Monitoring Barbers Lagoon**

EPL ID	Date	Start Time	Measurement period	Measured Levels – dB(A) Leq 15min Day	Measured Levels – dB(A) Leq 15min Evening	Measured Levels – dB(A) Leq 15min Night	Measured Levels – dB(A) LA1 (1 min) Night	Limit	Av. Wind Speed (m/s)	Stability Class	Compliant (Yes/No)
TN3 Barbers Lagoon	6/11/2017	21:27	30		IA			35	1.8	E	Yes
	6/11/2017	22:01	60			IA		35	3.8	D	Yes
	6/11/2017	22:01	60				IA	45	3.8	D	Yes
	7/11/2017	12:55	90	IA				35	2.8	C	Yes
	7/11/2017	21:15	30		20			35	0.8	D	Yes
	7/11/2017	22:17	60			27		35	3.2	D	Yes
	7/11/2017	22:35	60				32	45	2.6	F	Yes
	8/11/2017	11:51	90	IA				35	4.4	B	Yes
	8/11/2017	20:18	30		IA			35	4.0	D	Yes
	8/11/2017	23:08	60			32		35	3.7	D	Yes
	8/11/2017	23:40	60				37	45	3.2	D	Yes
	9/11/2017	09:31	90	IA				35	4.0	B	Yes
	9/11/2017	21:06	30		25			35	4.1	D	Yes
	9/11/2017	00:13	60			30		35	3.3	D	Yes
	9/11/2017	22:17	60				38	45	3.1	D	Yes
10/11/2017	10:03	90		25				35	2.4	A	Yes

IA – Inaudible, NM – Not Measurable

**Table 3 – Attended Noise Monitoring Bungalow**

EPL ID	Date	Start Time	Measurement period	Measured Levels – dB(A) L <sub>eq</sub> 15min Day	Measured Levels – dB(A) L <sub>eq</sub> 15min Evening	Measured Levels – dB(A) L <sub>eq</sub> 15min Night	Measured Levels – dB(A) LA1 (1 min) Night	Limit	Av. Wind Speed (m/s)	Stability Class	Compliant (Yes/No)
<b>TN4 Bungalow</b>	6/11/2017	20:43	30		IA			35	3.4	D	Yes
	6/11/2017	23:22	60			IA		35	0.9	F	Yes
	6/11/2017	23:22	60				IA	45	0.9	F	Yes
	7/11/2017	11:30	90	IA				35	3.0	A	Yes
	7/11/2017	20:31	30		IA			35	1.6	D	Yes
	7/11/2017	23:34	60			27		35	2.5	E	Yes
	7/11/2017	23:34	60				32	45	2.5	E	Yes
	8/11/2017	10:01	90	IA				35	6.1	D	Yes
	8/11/2017	21:00	30		IA			35	5.5	D	Yes
	8/11/2017	00:07	60			30		35	1.8	E	Yes
	8/11/2017	00:07	60				30	45	1.8	E	Yes
	9/11/2017	09:52	90	IA				35	4.0	C	Yes
	9/11/2017	20:26	30		IA			35	3.3	D	Yes
	9/11/2017	23:37	60			25		35	0.0	G	Yes
	9/11/2017	23:52	60				30	45	1.1	F	Yes
	10/11/2017	00:07	60			25		35	1.8	F	Yes
	10/11/2017	00:07	60				30	45	1.8	F	Yes
10/11/2017	08:49	90	30				35	3.1	B	Yes	

IA – Inaudible, NM – Not Measurable

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## **Blast Monitoring**

### **Blasting Results**

Since the first blast, there have been 790 blasts (until 31/01/2018) at TCM.

There has been no exceedance of criteria since the last meeting for ground vibration or overpressure.

Since the last CCC meeting, the highest result obtained for blasting overpressure was 108 dB at the Tarrawonga monitoring station on 3/11/18 and the highest result for ground vibration was 1.14 mm/s on 21/12/18.

**Table- 4: Max Peak Overpressure and Ground Pressure for the Quarter**

<b>Monitor Location</b>	<b>Date</b>	<b>Max. Peak Overpressure (dB)</b>	<b>Criterion (dB)</b>	<b>Max. Peak Ground Pressure (mm/s)</b>	<b>Criterion (mm/s)</b>
Tarrawonga	3/11/18	108	<b>115</b>	-	-
Tarrawonga	21/12/18	-	-	1.14	<b>10</b>

The revised Blast Management Plan remains with DP&E for approval.

## **Air Quality**

### **Air Quality (Dust Deposition) Results**

Five monitoring locations exceeded the limit of 4g/m<sup>2</sup>/month (annual average). These monitors are located on mine-owned land; as such compliance criteria do not apply. A review of the location of the deposited dust gauges has been undertaken as part of a revision of the Air Quality Greenhouse Gas Management Plan which will be submitted to DP&E for approval.

<sup>1</sup>Investigation undertaken – not deemed to be mining related.

**Table 5 – Deposited Dust Gauge Results**

MONTH	TEMPLEMORE (EB-4) <sup>1</sup>	BOLLOL CREEK STN (EB-5) <sup>1</sup>	AMBARDO (EB-6) <sup>1</sup>	TARRAWONGA (EB-7) <sup>1</sup>	THUIN (EB-8)	PINE GROVE (EB-9) <sup>1</sup>	TARRAWONGA MINE (EB-10) <sup>1</sup>	TARRAWONGA MINE (EB-11) <sup>1</sup>	TARRAWONGA MINE (EB-14) <sup>1</sup>	TARRAWONGA MINE (EB-15) <sup>1</sup>	JERALONG NORTH (EB-16) <sup>2</sup>
Feb-17	59.5	17.9	0.4	1.1	2.3	1.0	0.0	2.8	2.2	4.3	4.3
Mar-17	3.5	4.0	4.7	1.1	1.5	1.4	22.0	3.7	6.0	7.8	1.8
Apr-17	6.0	3.9	5.9	0.8	4.6	0.5	8.7	2.4	2.8	2.5	2.8
May-17	3.0	3.0	0.0	0.7	2.0	0.4	4.1	2.7	2.0	4.3	1.0
Jun-17	53.6 <sup>1</sup>	4.2	1.5	0.9	3.0	2.4	6.9	4.5	2.0	2.4	1.0
Jul-17	2.0	2.4	0.9	0.7	2.0	1.0	1.6	3.7	1.2	4.1	0.5
Aug-17	2.9	3.1	0.9	0.9	2.4	1.5	4.2	2.2	1.8	4.9	0.4
Sep-17	12.7	3.5	1.8	0.6	2.0	1.4	3.2	2.0	1.9	-	0.7
Oct-17	6.6	4.2	2.0	1.1	1.1	3.0	2.5	3.3	4.7	8.6	1.8
Nov-17	2.7	4.8	3.8	7.1	-	4.0	2.9	3.1	2.6	4.8	3.6
Dec-17	24.6	2.3	1.8	1.9	3.5	3.0	13.5	7.5	3.1	4.1	71.3
Jan-18	6.7	2.6	10.5	2.1	2.5	3.4	14.4	4.3	1.9	3.4	5.3
<b>12 MONTH ROLLING AVERAGE</b>	<b>13.4</b>	<b>4.7</b>	<b>2.1</b>	<b>1.5</b>	<b>2.6</b>	<b>1.8</b>	<b>6.2</b>	<b>3.4</b>	<b>2.7</b>	<b>4.6</b>	<b>7.6</b>

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## PM<sub>10</sub> Results

The High Volume Air Sampler (HVAS) installed at Coomalgah property monitors level of Particle Matter under 10 micron (PM<sub>10</sub>). It operates for 24hr every 6 days. Table 6 shows 24hr average values recorded above the criterion specified in the Project Approval (PA). Investigations show that those exceedances were related to high wind speed (>7m/s) and farming activity adjacent to the monitor location during the day of sampling. The rolling Annual average is below the PA criterion.

**Table- 6: HVAS PM<sub>10</sub> 24 hr average levels for the Quarter**

<b>Date</b>	<b>24hr averaged PM<sub>10</sub> (µg/m<sup>3</sup>)</b>	<b>Criterion 24hr average (µg/m<sup>3</sup>)</b>	<b>Rolling Annual average (µg/m<sup>3</sup>)</b>	<b>Criterion Annual Average (µg/m<sup>3</sup>)</b>	<b>Comments</b>
14/11/17	178	<b>50</b>	19.8	<b>30</b>	Not a result of mining related operations. Farming activities including cultivation observed by site personnel and noted on field sheet.
26/11/17	53.9	<b>50</b>	20.4	<b>30</b>	Not mine Related. Very Windy week and Harvest of wheat nearby noted in field sheet. BOM weather data show wind was coming from East-South East
8/12/17	52.2	<b>50</b>	20.6	<b>30</b>	Not mine related. Windy week (wind speed above 7.5 -8m/s registered during that week)
19/1/18	67.7	<b>50</b>	22.8	<b>30</b>	Not mine related. Windy week (Wind above the 7.5m/s recorded) and also wind noted in field sheet. BOM weather data show that wind was coming from S-SE
25/1/18	61	<b>50</b>	23.5	<b>30</b>	Not Mine related- Windy week and also wind noted in the field sheet. BOM Weather data show that wind was coming from South.

According to the current Air Quality and Greenhouse gas Management Plan, the fixed real time air quality unit (TEOM) installed at the “Flixton” property monitors PM<sub>10</sub> levels in ambient air. It is an operation management tool and Dust levels nearing or reaching the nominated criteria will trigger actions onsite to assess the source of dust and modify operations if it is determined to be related to Tarrawonga operations.

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**Water Monitoring**

**Groundwater**

Routine groundwater monitoring was undertaken in September 2017.

**Table 7- Groundwater results Summary**

Site	Date	SWL (mbgl)	pH (units)	Elect. Conduct (µS/cm)
<b>MW1</b>				
<b>Thuin</b>	November 2016	6.68	7.6	3170
	February 2017	6.66	8.36	3380
	June 2017	6.74	7.8	3290
	September 2017	6.80*	8.31	3370
	December 2017	6.73	7.7	3280
<b>MW2</b>				
<b>Thuin</b>	November 2016	3.54	7.0	524
	February 2017	3.85	7.7	639
	June 2017	3.86	7.0	591
	September 2017	3.64	7.54	533
	December 2017	3.68	7	545
<b>MW4</b>				
<b>Tarrawonga</b>	November 2016	8.91	7.3	4330
	February 2017	8.92	8.13	4610
	June 2017	9.00	7.4	4370
	September 2017	8.9	7.82	4570
	December 2017	8.95	7.2	4440
<b>MW5</b>				
<b>Templemore</b>	November 2016	2.0	7.6	3010
	February 2017	2.35	8.24	1750
	June 2017	2.54	7.9	1288
	September 2017	2.75	8.19	2640
	December 2017	2.78	7.7	2630
<b>MW6</b>				
<b>Nagero</b>	November 2016	4.74	7.5	1416
	February 2017	4.68	8.25	1630
	June 2017	4.77	7.5	1660
	September 2017	4.57	8.15	1710
	December 2017	4.55	7.6	1738
<b>MW7</b>				
<b>Tarrawonga Mine</b>	November 2016	104.41	No sample	No sample
	February 2017	104.74	No sample	No sample
	June 2017	104.92	No sample	No sample
	September 2017	104.47	No sample	No sample
	December 2017	104.53	No sample	No sample
<b>MW8</b>				
<b>Tarrawonga Mine</b>	November 2016	12.62	Casing blocked	Casing blocked
	February 2017	12.90	Casing blocked	Casing blocked
	June 2017	13.11	Casing blocked	Casing blocked
	September 2017	13.04	Casing blocked	Casing blocked
	December 2017	13.16	Casing blocked	Casing blocked

\*GM advised he had previously reported SWL as mbtoc instead of mbgl

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### **Surface Water**

No further wet weather monitoring has been undertaken since the last CCC meeting due to no or little rains. Most of the dams and sediment dams are dry.

The Site is exposed to a risk of water shortage if there is no rain in the next few weeks. Estimated volume of water stored onsite as 9<sup>th</sup> February was approximately 87ML for a maximum capacity of 640ML. TCM are assessing options to source additional water in order to maintain the mine in operation and they will assess if emptied dams require desilting to keep site with the maximum storage capacity.

### **Rehabilitation**

Soil amelioration and top soiling has been completed and water management is being finalised on this year's rehabilitation areas. Vegetation establishment will be undertaken on these areas during the upcoming weeks. Further information on the progression of these areas will be provided in future CCC meetings. Operations and Environment departments work together to develop and implement a more efficient rehabilitation program. The aim is to enhance the quantity of areas rehabilitated.

### **Complaints**

Since the last meeting, two complaints were lodged on December 8<sup>th</sup> and 11<sup>th</sup>. Both complaints were in regards to excessive dust purportedly being generated by the mine. An investigation was conducted and response sent to the EPA. Photos from the site monitoring cameras could clearly show that non mine vehicles were transiting on the Goondri road generating large dust plume.

### **Environmental Management Plans ( *EMPs are still being reviewed by the DP&E* )**

#### **Noise Management Plan**

Resubmitted following approval of the BTM Noise Management Strategy. Changes incorporated in previous resubmission awaiting approval include attending monitoring locations changes, administrative changes and removal of prescriptive procedural based text.

#### **Blast Management Plan**

Changes incorporated into resubmission awaiting approval include blast monitoring location changes, administrative changes and removal of prescriptive procedural based text.

#### **Air Quality Greenhouse Gas Management Plan**

Submitted to DP&E for approval; changes include updated air quality monitoring network including removal of deposited dust gauges from mine owned land except where required by approval. Other changes include removal of prescriptive procedural based text and further administrative changes to reflect current operations.

#### **Water Management Plan**

Submitted for approval. Water management plan includes but not limited surface water monitoring, groundwater monitoring, and site water balance.

#### **Environmental Management Strategy**

Submitted for approval; the EMS outlines the sites environmental management systems.

#### **BTM Air Quality Management Strategy**

Recently approved by DP&E and will be amended to the AQGGMP.