

**Minutes:** Minutes of the 19<sup>th</sup> Meeting of the Maules Creek Coal Community Consultative Committee  
Held at the Boggabri Golf Club, Gunnedah Road, Boggabri NSW 2382

**Wednesday 1 November 2017**

**Members Present:** Darren Swain (DS) – WHC, Steve Eather (SE) – WHC, Cr Robert Kneale (RK) - Narrabri Council, Peter Wilkinson (PWi) – WHC, Scott Mitchell (SM) – WHC, Carolyn Nancarrow (CN) – Community, Libby Laird (LL) – Community, Anna Christie (AC) – Environmental Representative (alternate), Cath Collyer (CC) – Community, Robyn Grover (RG) – Community (alternate)

**Observer:** Kirsten Gollogly (KG) - WHC

**Independent Chair:** David Ross (DR)

**Independent Secretary:** Debbie Corlet (DC)

<b>Agenda Items</b>	<b>Who to Present</b>
1. Apologies	DR
2. Declaration of pecuniary or other interests	DR
3. Confirmation of the minutes of the previous meetings a. Discussion on minutes for 16 August 2017	DR
4. Business arising from the previous minutes a. Action list distributed	DR
5. Correspondence	ALL
6. Overview of Activities: a. Progress at the mine b. Monitoring and environmental performance c. Community complaints and response to complaints d. Information provided to the community and any feedback e. Water Management Presentation	PWi, DS, SM
7. General Business	ALL
8. Next Meeting – 14 February 2018	ALL

Agenda Item	Discussion	Action/By Whom
	<b>Welcome by David Ross</b> – DR welcomed everyone to the meeting.	
1.	<b>Apologies</b> – Jack Warnock (JW) - Community, Simone Moodie (SM) - Community Aboriginal Representative, Natasha Talbot (NT) - Community Aboriginal Representative (Alternate), Kerri Clarke (KC) Environmental Representative.	
2.	<b>Declaration of pecuniary or other interests</b>  DR advised he is paid a fee to chair these meetings as is DC for typing the Minutes.	
3.	<b>Confirmation of the minutes of the previous meetings (16 August 2017)</b>  RK moved that the minutes be approved; seconded by PWi and CC.	
4.	<b>Business arising from the previous minutes</b>  DR advised that he has forwarded to the Land & Water Commissioner feedback on their coal mine reports. Someone has said previously that these summary reports weren't always accurate – so DR has been in touch. DR confirmed with the Commissioner that the intent is for reports to be released annually with those within Leards Forest to come out after the relevant company's AGM.  DR to talk to the EPA re the Industrial Noise Policy and confirmed that Lindsay Fulloon will be coming to talk to us tomorrow at the Joint CCC.  LL – Water Presentation – DR talked to the Connected Waters Initiative and confirmed that the water within Maules Creek wasn't appropriately characterised. And with Oakley Crossing – locals can't find it. Maybe Thornfield Crossing?  LL – We need to clarify with the Dept re Oakley Crossing. Oakley Creek - could be something we don't know about. We don't know if it is dry or not. Not a permanent stream at that point. We need to clarify that - so it is clear. That would be step one. DS has mentioned that the Dept accepted your plan and maybe there must be more come to light from your consultant. It is a permanent water supply.  RG – I've never heard of it.  AC – This place we think is the Oakley Crossing – said to be perennially flows. We are talking about it because of a mis-description and the mis-conceptions. This is the early stages of the water. It is a long-standing issue. This is an ongoing request to get an understanding of what is the science of the water courses in this area which is a real concern.  LL – It says Oakley Crossing – but we don't know where it is. So, is it possible your consultant has given you the wrong	

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	<p>information. Thornfield Crossing and it is dry most of the time. We'd like that clarified.  PWi – So assuming you want to see it on a map?</p> <p>LL – In the first instance yes agree on the map and then a professional opinion from the consultant. They changed it to semi-permanent but it's not. The advice DR obtained was that it was ancient water and that it had being there a long time. Even in the height of drought it doesn't run dry unless someone pumps out of it. We need to ensure the Dept understand this.</p> <p>DR – Please explain why it is important to the group.  LL – We need it to be accurate because if the stream is ephemeral, and the water is pumped out and then the water goes – people will say that's normal but it's not.</p> <p>RK – How will this be clarified that we are all on the same page?  LL – That's why we ask at the CCC meetings. One option is to go on a site tour and see if Oakley Crossing is ephemeral.</p> <p>CC – So what we need is clarification of where it is and what sort of stream it is.  SM – We need to go back to the consultant to understand.</p> <p>DR – I know it's a focus on the CCC. Scott to go back to the consultant and drill down further.</p> <p>CC – Can we get the outcomes from that. Find out where this particular crossing is supposed to be from the consultant and what type of stream it is. What is the timeframe?</p> <p>SM – These documents get reviewed progressively.  RK – A lot of investigating and back and forth discussions and then waiting with this Oakley Crossing at Maules Creek. It's either there or not there. WHC to talk to consultants. I've had a lot to do with Maules Creek and if "I" can't find out, then there is no point to continue arguing on this point.</p> <p>DR – Why do you think I'd ask everyone to "listen deeply" today?  CC – Quite often we talk over the top of someone else and don't listen to the responses correctly. The issue with the crossing that has been going on and listening to each other with what is needed, and we go off in different directions. We have a responsibility to listen to everyone carefully and respect it and ask questions in a clear and concise manner.</p> <p>DR – (to PWi) – there was an action on you re Noise: "did it measure below and report back to the next meeting".  PWi –that was in regards to Lochie Leitch's. We had a meeting a few weeks ago with the EPA and they said we were compliant. I believe they advised Lachy.</p>	<p>ACTION 1 – SM to find out if Oakley Crossing exists and where it is exactly. To show on a map at the next meeting as well as via GPS.</p> <p>ACTION 2 – RK to try and find out about Oakley Crossing as well through Council.</p>

Agenda Item	Discussion	Action/By Whom
	<p>CN – No one advised Lachy.  PWi – I may have that incorrect but that’s my understanding.</p> <p>AC – At the last CCC meeting AC asked PWi and SM “when will you start reporting which noise filters are used” as per the recommendation of Mandatory Noise Audit. Filtering of the noise should be reported as part of the compliance auditing. Despite their undertaking that they would find out and report back at the next meeting, PWi and SM again said “We don’t know anything about that requirement on the Mandatory Noise Audit”.</p> <p>PWi – Certain mining equipment emits certain noise at certain frequencies, which is how they identify what is mining noise and what is other noise.</p> <p>SM – The mines don’t filter.  AC – The Mandatory Audit needs to be used on attended monitoring. Lindsay Fulloon said you had started to do that.</p> <p>DR – We can discuss tomorrow with the EPA.  AC – Does everyone understand why we are talking of filters? Filters are a way of removing some of the noise. The crickets are also a frequency that mining shares. There is an assumption that you’d never hear it at that distance. If so, why not disclose the raw data.</p> <p>SM – We will confirm with consultants. They are acoustic experts and they don’t use filters on attended monitoring.  RK – One person says something and then someone says the opposite. A lot of time differing opinions – surely, we can cut through this arguing and just focus on what you are saying with just facts. We spend too much time arguing the coin.</p> <p>PWi – Our report goes to the EPA every month and there is nothing hidden.  AC – It is hidden from public as Lindsay says the filters have been disclosed to the EPA.</p> <p>LL – 125 or more objections re sound power modification. What is being printed in the newspapers etc – it’s becoming complicated to know what the facts are.</p> <p>KG – Currently Maules Creek have many conditions relating to noise – including requirements for annual sound power level testing, equipment maintenance, undertaking attended noise monitoring and a variety of other conditions – these conditions will continue unchanged. The limits for the amount of noise that can be experienced at people’s properties stays the same. One sub clause of one condition is proposed to be changed – in its original form the condition required the annual sound power level testing results to be compared to the list of equipment, which was originally modelled several years ago.</p>	

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	<p>PWi – We have very clear EPA limits on us and they remain the same.</p> <p>AC – The limits are not clear at all. The 2-decibel gap – you have been arguing to the EPA and the Department and the Department can't infringe the mine until they are 2 decibels above 35. The EPA itself has stated that the rationale for the 2dB buffer is that the 2dB tolerance was included in the INP to account for uncertainty including instrumentation accuracy / error. This dates back to the 1990's when the previous INP was developed and they built in this buffer, but acoustic technology has advanced so much since then that the 2dB buffer is no longer justified.</p> <p>KG – EPA have now issued the Noise Policy for Industry which replaces the Industrial Noise Policy. There seems to be confusion around the modification being considered by the Department of Planning and Environment regarding sound power levels, it does not seek to change the noise limits in the receiving environment which are regulated by the EPA – we should be clear about what we are talking about.</p> <p>RK – Question to WHC – if it was approved (to us lay people here) - what is the difference of the modification? PWi – My answer is that there will be no difference. We are obligated to meet the EPA requirements.</p> <p>AC – How will you achieve that when the mine is expanding, and we know by a very substantial amount to the west and to the north the boundary of A346 extends almost to the Harparary Road 35dB contour line.</p> <p>PWi – It will go higher and to the south and east. How we manage – we never stop working out our noise levels. Constantly working with our equipment suppliers.</p> <p>AC – Also to the northwest, which will bring the working areas of the mine possibly a kilometre closer to some residences.</p> <p>PWi – We are not expanding to the northwest, just filling in.</p>	
5.	<p><b>Correspondence</b></p> <p>DS – Has a Briefing Note that dispels the letter from Anna that she wrote to Oliver Holm at DPE (tabled).</p> <p>AC – This letter was written following the meeting in May. Boggabri Coal – they announced they received a formal caution and Boggabri CCC felt it was unfair as the breach of Biodiversity Management Plan was self-reported, trivial and that it displayed a lack of consistent application of the Department's compliance and prosecution guidelines. They requested this formal caution be withdrawn. Letters were written by the CCC to DPE regarding this. As alternate Environmental Rep on both CCC's I had more knowledge of the details and history and wished to support the call made by the Boggabri CCC for the DPE to withdraw the formal caution. Why did the community feel so much about one caution that they wanted to withdraw it?</p>	

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	<p>AC – This letter is an example of the time wasting that goes on for now I must refute the response from WHC senior management which takes up time and takes attention away from other current matters of concern. Just like with questions about water lodged in February CCC that we are still labouring over 9 months later and we are backward looking again and waiting until the next meeting for WHC’s response.</p> <p>CC – Briefing Notes and letters (generally all the paperwork that is tabled at the meetings) – can we get them prior to the meetings. So, we can look at it and read over it before the meeting.</p> <p>PWi – Yes where possible.</p>	
6.	<p><b>Company reports and overview of activities by DS</b></p> <p><b>Company Report &amp; Overview of Activities</b></p> <p>DS presented a slide presentation which discussed the following areas:</p> <ul style="list-style-type: none"> <li>• Company report &amp; overview of activities.</li> <li>• Employment.</li> <li>• Approvals &amp; regulatory agency update.</li> <li>• Monitoring and environmental performance.</li> <li>• Environmental management.</li> <li>• Air Quality Monitoring January 2016 to October 2017</li> <li>• Health and safety</li> <li>• Community complaint summary.</li> <li>• Local buying strategy.</li> <li>• Financial contributions to the community.</li> <li>• Looking Forward.</li> </ul> <p>General discussions from the presentation.</p> <ul style="list-style-type: none"> <li>• DS handed out a map with property owner names on it.</li> <li>• Safety very good. Still trending down.</li> <li>• Employment – we are continuing to employ. Continuous turnover happening. People have come here to work but now that work is picking up – people are returning to their local areas. Targeting local.</li> </ul> <p>CC – Tarrawonga – a lot of the problems not just in the mining industry. Andrew Johns from Gunnedah Shire noted issues in manufacturing with not being able to get qualified boiler makers.</p> <p>PWi – We sponsor 5 apprentices. Both electrical, mechanical and boiler makers. At least one is Indigenous as well.</p>	

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	<p>CC – Discussion having a TAFE based system for training for industries (courses available) Gunnedah and Narrabri.  DS – A good point – trade centre at Gunnedah. Discussion between the 2 councils but think it has stopped now.</p> <p>RK – If Adani mine starts up in QLD is there enough people to go around?  PWi – One project starts and another one stops. Australia is growing and so is employment. Sydney is in the middle of an infrastructure boom from mining to construction. NSW has an upturn of employment.</p> <p>PWi – WHC to challenge the Level 3 Risk rating by the EPA. Our performance doesn't support the EPA rating.</p> <p>CC – What did level 3 Risk rating entail and what are you doing to change that level.  PWI – Scoring system the EPA have.</p> <p>AC – Is it possible to show the Environmental Report – Table 4 (page 3). What does Table 4 represent?  SM – Table 4 is a summary of the low frequency assessments.</p> <p>AC – Column 4 MCCP only – what does MCCP stand for?  SM – Maules Creek Coal Project. Those numbers correspond with the times and period. Different types of low frequency assessment.</p> <p>AC – 1 and 0 mean? This is saying one of those 10 frequencies received a max of 5 decibels.  SM – Its triggered the 5 modifying factor and looking at the spectrum, triggered a 2 in the other column.</p> <p>AC – Which frequency exceeded the limits?  SM – I don't know.</p> <p>AC – 25 Sept at the Thornfield property – the low frequency contribution was triggered, and a presence of another noise source identified. Thornfield low frequency – what was that? Another source, do you know?  PWi – From Boggabri Coal.</p> <p>CC – How do you know the noise has come from Boggabri? So, it's mine noise it is referring to. Where is it positioned?  PWi – Due north of Boggabri and northwest of MCC. Some influence from both mines in that area.</p> <p>CC – Where the mines are. I know where all the mines area and how it works with the noise. Correction of the noise with hills.  DS – Attended monitoring and there is a person there.</p>	<p>ACTION 3 – WHC to explain the low frequency analysis with numbers and the report. Which frequencies were exceeded by which and by how much?</p>

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	<p>RK – Interested in getting the frequency? Frequency that it produces. If within a frequency range, it is going over the limit – can you relate that to a piece of equipment? Is that where you need to focus more sound quality.</p> <p>PWi – A fixed plant may make a different noise to a mobile plant. Separates us from Boggabri – a mobile plant would almost identical - 8-10kms away.</p> <p>RK – That 300-tonne truck?</p> <p>PWi – Operating on the dump and that has the most impact.</p> <p>AC – Environmental Statement – was it schedule 7 3 3, it was said in that part of the Environmental Assessment – whatever noise might be coming from other mines it wouldn't affect your mine and noise.</p> <p>PWi – I think the environment in which 2 mines are working – you are in fact allowed 40 decibels.</p> <p>KG – Minister Upton announced at Clean Air Summit in July that the Government is installing 2 additional monitors. Networks in place by the end of the year. Stakeholder meeting held last month – the network will present data from those monitors, the OEH monitor in Tamworth and 2 additional monitors at Gunnedah and Narrabri Shire. There will be some changes in the way that the data is presented to bring it in line with the methodology used for the Upper Hunter network, which presents rolling 24-hour averages. EPA are reporting hourly averages for us. They have agreed to have consistent data available.</p> <p>CC – Do you have any other monitors closer to this area – Boggabri township that could be utilised or that's where the EPA have decided to place the monitors and that's it?</p> <p>KG – Our compliance points are near our mines. OEH have decided to place the additional monitors in the townships of Gunnedah and Narrabri. They are seeking funding from us.</p> <p>PWi – There is a lot of misinformation from where dust comes from. Northwest picks up more. A lot more dust comes off general agriculture not the mines.</p> <p>AC – Sydney University dust deposition research across a 12km transect NW of the mine demonstrated more dust closer to the mine and it increases as it gets closer to the mine. At those EPA meetings with the mines – did anyone advocate for the interests of Boggabri? This town is about to suffer increased exposure to coal mining with the proposed Vickery mine to the south and more coal trains coming through.</p> <p>CC – They haven't involved the community at all. We're not asked. It would have been GM's and senior managers from different mines and the EPA.</p> <p>KG – EPA, OEH, Mayor, 3 mines. There is going to be a stakeholder forum – we did advocate we wanted knowledgeable members of the community. That network covers the 4 LGA's.</p>	

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	<p>CC – I understand this isn't the mines issue – It is an EPA issue. AC – And the Dept of Planning.</p> <p>AC – Wil-gai – supposedly a shared one that you operate on your own. KG – The Wil-gai monitor is owned and operated by WHC. We have volunteered the data from our monitors, so the public has access to greater information.</p> <p>PWi – Grade 3 – reporting of dust levels. We are lower than every other mine and towns. Our question to the EPA – why do you grade us 3 and others as a 1? AC – But Tamworth is a town of 60,000 with a notorious wood smoke problem.</p> <p>LL – Hunter Valley has poor air quality. I don't want to see our area get the same. Tamworth has poor air quality as well. It doesn't matter about the numbers – before mining our air quality was better even with agriculture and farming. Air quality in that 10-year drought period is not what it is like it is now. Mining is a big air polluter. PWi – When the wind is from the opposite direction from the mine – we get high dust reports.</p> <p>CC – Burning. Last time it caused some upset and how you went about it when they did the first burn system. This time around has the communication spread further? DS – We took on board what you are saying. We went to the RFS and they have an AGM and elect the captains. We had a meeting and invited the captains, and no one turned up. The intent now is to ring the same people as last year.</p> <p>PWi – There is a requirement for us to start with the regional group. CC – As long as you got the local part started and communicated.</p> <p>DS – Where it was broad last time. It's only in Maules Creek and we'll call them and tell them what's going on. I spoke to both local Captains and Group Captains last year.</p> <p>LL – Complaints – direct response hotline or EPA hotline. Which one gets the most? DS – This is both. Probably EPA more.</p> <p>PWi – These are the complaints we receive and what EPA receive and send to us.</p> <p>CC – Regarding the VPA, 7.5 cents per tonne. What amount is that for the year? PWi – From when we started \$1,500,000 – so from January 2015 to now has gone to Narrabri Shire Council as royalties. Some of that money should be spent on things for this area.</p>	

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	<p>DR – Do a Maules Creek tour at some time?  PWi – We have the open day this Saturday at 9am, 10am and 11am.</p> <p>DS – You can register at Gunnedah Shire Council as well as the Boggabri Book Shop. You must register as buses are filling up – 250 so far.  PWi – Last weekend we had 300.</p>	
7.	<p><b>General Business</b></p> <p>CN – Further discussions with Lochie Leitch to take place?  DS – We’re waiting on Lochie to come back to us. Lochie has received an email and he hasn’t replied to WHC.</p> <p>DS – He hasn’t received it? It was sent.</p> <p>AC – Lochie – there were in fact over 10 exceedances – is this grey area. They are not sustained.  PWi – It is unattended EPA monitoring. What the EPA have said to us is that it is a complaint. You should direct it to the EPA.</p> <p>CN – why unattended monitoring if no one recognises the results because it is unattended.  AC – Unattended monitoring is essential. State of the art systems that enable measuring the noise in real time to hear exactly what is being heard.</p> <p>Caz – Why aren’t they recognised?  DS – Our compliance is on attended monitoring.</p> <p>LL – Caz is talking about an unattended monitor at Lochie’s Mum’s place. Is that additional to the other monitoring going on. Is it still there? Is that what he’s asking questions about?  PWi – An email has been sent to Lochie asking him to outline his issues.</p> <p>LL – Are the issues about the monitor at his house?  DS – We have responded to Lochie. Some of his questions were around the unattended monitor at his mother’s house.</p> <p>LL – Last meeting we talked about “Bore 2” – there is a map. I didn’t notice bore 2 (page 53). Regional bore no 2 – trying to ascertain where it was. Bore is dry.  DS – That bore is capped and inaccessible.</p> <p>LL – Where is it?</p>	<p>ACTION 4 – CN and DS to resolve if Lochie has received the email from DS. If not, DS to resend email.</p>

Agenda Item	Discussion	Action/By Whom
	<p>SM – I thought it was closer to Thornfield.</p> <p>LL – Do we know the number of the Green Gully one. SM – Might be the red one on the figure but I need to confirm.</p> <p>CC – Condition of Rangari Road – go and have a drive and where the tar finishes. I believe this is a real safety issue – it is in an appalling condition. The corrugation / pot holes are severe. Need to check for employees’ safety as well.</p> <p>LL – DPE advised when issue 3 – they approved all 3 without any issue. We ask WHC to not do the clearing next year. We ask that mining be contained to where it already exists. We are concerned about the animals in the area. The project approval is going to be implemented asap.</p> <p>DR (To RK as he returned to the room) – CC and Peter have been talking about contributions to the VPA. PW i – We have provided a royalty from Jan 15 to Oct 17 to Narrabri Council of just over \$1.5 million. To sum that up I am assuming some of that money will come back to the Boggabri town.</p> <p>CC – VPA funding \$800,000 for projects in the Boggabri area. Hopefully well supported to go to the childcare centre. DR – What can Robert take back to council – it’s one of those.</p> <p>PW i – Goes back to the VPA negotiated - \$200,000 should go to the child care centre. RK – I’ll take it back to Council.</p> <p>PW i – Last meeting there was the issue with Anna taking photos. AC – Took 2 photos of the table as she thought the meeting was being recorded. Sorry that people had this mistrust.</p> <p>AC – Someone said at the meeting “I think that someone is recording” so I photographed the table with all the devices on it. DR – Anna and I discussed this and under the requirements of the guidelines – regretfully Anna got a warning. No recording devices are to be used in a CCC unless there is approval.</p> <p>AC – I did it in full sight of everyone and I apologise for offending the group. I hope you will all accept my apology? CC – Apology appreciated.</p> <p>DR – Take a deep breath and look at the meeting as a whole. You have all been exceptional.</p> <p>DR – What can I do to improve my chairing to make these meetings as good as possible.</p>	<p>ACTION 5 – SM to confirm where Bore 2 is and the number of Green Gully.</p>

Agenda Item	Discussion	Action/By Whom
	<p>RG – I think you’re a very fair chairperson.</p> <p>RK – I get frustrated with the things that keep going around. More sense of urgency. If it can’t be dealt with quickly – then move on. There were many issues today and the individual needs to get off their mind or more appropriate to talk to the EPA and then we waffle on. Otherwise, very fair.</p> <p>CC – But if there is an issue that has been on the table and still looking for a response. I don’t think you can just move on. Doesn’t need to be continually hashed. It can be noted that we are still waiting on a response.</p> <p>RK – All of the issues are important – they are. People have the time to reflect but sometimes you are never going to arrive at a decision at the meeting.</p> <p>LL – A lot of that came back from actions DR emailed to everyone. The information is there and then a response comes back that we’ll think about it. People can’t see some things that are listed on the website.</p> <p>RK – Is it the communication?</p> <p>LL – Through the website we can communicate with the community.</p>	
<b>8.</b>	<p><b>Next meeting date to be agreed</b></p> <p>Next meeting Wednesday 14 February 2018.</p>	

**Meeting Closed: 4:34pm**

Page No	Action No	Description	Date Raised
3	1	SM to find out if Oakley Crossing exists and where it is exactly. To show on a map at the next meeting as well as via GPS.	1 Nov 2017
3	2	RK to try and find out about Oakley Crossing as well through Council.	1 Nov 2017
7	3	WHC to explain the low frequency analysis with numbers and the report. Which frequencies were exceeded by which and by how much?	1 Nov 2017
9	4	<p>CN and DS to resolve if Lochie has received the email from DS. If not, DS to resend email.</p> <p>Response by DS</p> <p>Also, one of my actions was to establish whether Mr Lochie Leitch had received the email from Whitehaven as per Action 4 of the November 2017 CCC meeting.</p> <ul style="list-style-type: none"> <li>• I can confirm that the email in question was sent to several people both inside and outside Whitehaven, including Mrs Sonja Leitch (Lochie's Wife) and the Leitch's advisor on the 21 September 2017 at 2.02pm.</li> <li>• All Whitehaven personnel copied in on the email received it, so we can be sure it was sent and delivered.</li> <li>• The Whitehaven email was a reply to Mr Warwick Giblin's (the Leitch's advisor) email which requested further information and another meeting. As this was a reply email it can be assured the email addresses were correct, at least to the sender who is again the advisor of the Leitch's.</li> <li>• Lochie and Sonja Leitch (at Sonja's email address) were in the reply email from Whitehaven, consistent with the email from Mr Giblin.</li> <li>• We can also be sure that both the Leitch's and their advisor received the reply email as there were no notifications received by the sender that either the Leitch's or Mr Giblin's email had not been delivered.</li> </ul>	1 Nov 2017
10	5	SM to confirm where Bore 2 is and the number of Green Gully	1 Nov 2017

## Maules Creek Coal Mine Community Consultative Committee Meeting #20

### Environmental Monitoring Report For the Q4 period, October-December 2017

#### Attended Noise Monitoring

Attended noise monitoring was undertaken at six locations, as per the approved Noise Management Plan, on the 9-11 October; 27-28 November; and 18-19 December 2017 by an independent acoustic consultant. The measured noise level (LAeq 15 minute) attributed to Maules Creek Coal Mine (MCCM) and applicable criteria for each location are shown in the tables below.

#### **LAeq, 15minute GENERATED BY MCC AGAINST OPERATIONAL EVENING AND NIGHT NOISE CRITERIA – OCTOBER TO DECEMBER 2017.**

**Table 1 - October Noise Monitoring – Evening & Night Period**

		Time	Wind Speed m/s	Rainfall mm	Criterion dB <sup>3</sup>	Criterion Applies <sup>1</sup>	MCC LAeq dB <sup>2,4</sup>	Exceedance dB <sup>4,5</sup>
NM1	10/10/2017	20:30	1.9	0	35	Yes	28	Nil
NM1	10/10/2017	20:45	0.4	0	35	Yes	28	Nil
NM1	9/10/2017	23:00	0.7	0	35	Yes	28	Nil
NM1	9/10/2017	23:30	0.5	0	35	Yes	29	Nil
NM2	9/10/2017	21:00	0.4	0	39	Yes	<20	Nil
NM2	9/10/2017	21:15	0.3	0	39	Yes	<20	Nil
NM2	10/10/2017	22:30	1.2	0	39	Yes	33	Nil
NM2	10/10/2017	22:45	1.4	0	39	Yes	33	Nil
NM3	9/10/2017	19:30	0.3	0	35	Yes	IA	Nil
NM3	9/10/2017	19:45	0.3	0	35	Yes	IA	Nil
NM3	11/10/2017	0:00	1	0	35	Yes	IA	Nil
NM3	11/10/2017	0:15	0.7	0	35	Yes	IA	Nil
NM4	10/10/2017	21:15	0.7	0	NA	Yes	29	Nil
NM4	10/10/2017	21:30	0.7	0	NA	Yes	28	Nil
NM4	9/10/2017	22:15	0.4	0	NA	Yes	<25	Nil
NM4	9/10/2017	22:30	0.6	0	NA	Yes	<25	Nil
NM5	10/10/2017	19:45	1.5	0	35	Yes	<20	Nil
NM5	10/10/2017	20:00	2.1	0	35	Yes	<25	Nil
NM5	10/10/2017	0:00	0.9	0	35	Yes	29	Nil
NM5	10/10/2017	0:15	0.8	0	35	Yes	30	Nil
NM6	9/10/2017	20:12	0.5	0	35	Yes	IA	Nil
NM6	9/10/2017	20:27	0.5	0	35	Yes	IA	Nil
NM6	10/10/2017	23:15	0.5	0	35	Yes	25	Nil
NM6	10/10/2017	23:30	0.5	0	35	Yes	<25	Nil

**Table 2 - November Noise Monitoring – Evening & Night Period**

		Time	Wind Speed m/s	Rainfall mm	Criterion dB <sup>3</sup>	Criterion Applies <sup>1</sup>	MCC LAeq dB <sup>2,4</sup>	Exceedance dB <sup>4,5</sup>
NM1	28/11/2017	20:10	0.3	0	35	Yes	IA	Nil
NM1	28/11/2017	20:28	0.3	0	35	Yes	IA	Nil
NM1	27/11/2017	22:49	3.1	0	35	No	IA	NA
NM1	27/11/2017	23:05	2.8	0	35	Yes	IA	Nil
NM2	27/11/2017	21:00	2.1	0	39	Yes	23	Nil
NM2	27/11/2017	21:15	2.5	0	39	Yes	23	Nil
NM2	28/11/2017	22:03	1.3	0	39	Yes	28	Nil
NM2	28/11/2017	22:20	1.8	0	39	Yes	<25	Nil
NM3	27/11/2017	19:30	2.7	0	35	Yes	28	Nil
NM3	27/11/2017	19:45	2.6	0	35	Yes	23	Nil
NM3	28/11/2017	23:36	2.8	0	35	Yes	<25	Nil
NM3	28/11/2017	23:51	2.7	0	35	Yes	<20	Nil
NM4	28/11/2017	20:56	0.8	0	NA	NA	22	NA
NM4	28/11/2017	21:14	1.6	0	NA	NA	27	NA
NM4	27/11/2017	22:03	2.7	0	NA	NA	<20	NA
NM4	27/11/2017	22:19	3.5	0	NA	NA	<20	NA
NM5	28/11/2017	19:28	1.4	0	35	Yes	IA	Nil
NM5	28/11/2017	19:44	1.3	0	35	Yes	IA	Nil
NM5	27/11/2017	23:31	1.9	0	35	Yes	<20	Nil
NM5	27/11/2017	23:47	1.6	0	35	Yes	<20	Nil
NM6	27/11/2017	20:15	2.4	0	35	Yes	<20	Nil
NM6	27/11/2017	20:31	2.2	0	35	Yes	<20	Nil
NM6	28/11/2017	22:51	3	0	35	Yes	<20	Nil
NM6	28/11/2017	23:07	2.7	0	35	Yes	<20	Nil

**Table 3 - December Noise Monitoring – Evening & Night Period**

		Time	Wind Speed m/s	Rainfall mm	Criterion dB <sup>3</sup>	Criterion Applies <sup>1</sup>	MCC LAeq dB <sup>2,4</sup>	Exceedance dB <sup>4,5</sup>
NM1	19/12/2017	19:20	2.9	0	35	Yes	IA	Nil
NM1	19/12/2017	19:36	2.5	0	35	Yes	IA	Nil
NM1	18/12/2017	22:40	1.5	0	35	Yes	IA	Nil
NM1	18/12/2017	22:55	2.7	0	35	Yes	IA	Nil
NM2	18/12/2017	20:25	0.5	0	39	Yes	IA	Nil
NM2	18/12/2017	20:41	0.2	0	39	Yes	IA	Nil
NM2	19/12/2017	22:00	0.4	0	39	Yes	IA	Nil
NM2	19/12/2017	22:15	0.6	0	39	Yes	IA	Nil
NM3	18/12/2017	18:59	3	0	35	Yes	IA	Nil
NM3	18/12/2017	19:15	2.9	0	35	Yes	IA	Nil
NM3	19/12/2017	23:22	0.5	0	35	Yes	IA	Nil
NM3	19/12/2017	23:37	0.3	0	35	Yes	IA	Nil
NM4	19/12/2017	20:03	1.1	0	NA	Yes	IA	NA
NM4	19/12/2017	20:20	0.8	0	NA	Yes	IA	NA
NM4	18/12/2017	23:23	3	0	NA	Yes	IA	NA
NM4	18/12/2017	23:39	3.2	0	NA	No	IA	NA
NM5	19/12/2017	18:42	3.4	0	35	No	IA	NA
NM5	19/12/2017	18:57	2.7	0	35	Yes	IA	Nil
NM5	18/12/2017	22:00	0.6	0	35	Yes	IA	Nil
NM5	18/12/2017	22:16	0.5	0	35	Yes	IA	Nil
NM6	18/12/2017	19:41	2.5	0	35	Yes	IA	Nil
NM6	18/12/2017	19:56	1.5	0	35	Yes	IA	Nil
NM6	19/12/2017	22:42	0.5	0	35	Yes	IA	Nil
NM6	19/12/2017	22:57	0.5	0	35	Yes	IA	Nil

- (1). Noise emission limits do not apply during periods of rainfall or winds greater than 3 metres per second (at a height of 10 metres);
- (2). Estimated or measured LAeq,15minute attributed to MCCP;
- (3). NM4 has been acquired by MCCP, therefore limits are no longer applicable as per the EPL and project approval. The NMP requires monitoring at this location and results have been provided for information only;
- (4). NA in exceedance column means criterion is not applicable, either due to atmospheric conditions outside those specified in project approval or due to property acquisition by MCCP; and
- (5). Bold results indicate exceedance of criterion.

None of the seventy-two 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 has been undertaken.

In addition to the 15 minute average for Day, Evening and Night, the Maules Creek Coal (MCC) EPL 20221 also has a ‘1 Minute - Night’ criteria (LA1) that applies from 10pm to 7am Monday to Saturday & 10pm to 8am Sundays and Public Holidays. The results for the LA1 monitoring are shown below. The results show that mine operations did not exceed the applicable LA1 criteria during attended noise monitoring in Q4 2017.

**LA1, 1minute GENERATED BY MCC AGAINST OPERATIONAL EVENING NOISE CRITERIA – OCTOBER TO DECEMBER 2017.**

**Table 5 - October Noise Monitoring – Night**

L <sub>A1</sub> (1min)	October							
	Time	Wind Speed m/s	Rainfall mm	Criterion dB <sup>3</sup>	Criterion Applies <sup>1</sup>	MCC L <sub>A1</sub> (1min) dB <sup>2,4</sup>	Exceedance dB <sup>4,5</sup>	
NM1	9/10/2017	23:00	0.7	0	45	Yes	35	Nil
NM1	9/10/2017	23:30	0.5	0	45	Yes	34	Nil
NM2	10/10/2017	22:30	1.2	0	45	Yes	40	Nil
NM2	10/10/2017	22:45	1.4	0	45	Yes	38	Nil
NM3	11/10/2017	0:00	1	0	45	Yes	IA	Nil
NM3	11/10/2017	0:15	0.7	0	45	Yes	IA	Nil
NM4	9/10/2017	22:15	0.4	0	NA	Yes	<25	Nil
NM4	9/10/2017	22:30	0.6	0	NA	Yes	<25	Nil
NM5	10/10/2017	0:00	0.9	0	45	Yes	34	Nil
NM5	10/10/2017	0:15	0.8	0	45	Yes	36	Nil
NM6	10/10/2017	23:15	0.5	0	45	Yes	28	Nil
NM6	10/10/2017	23:30	0.5	0	45	Yes	29	Nil

**Table 6 - November Noise Monitoring – Night**

L <sub>A1</sub> (1min)	November							
	Time	Wind Speed m/s	Rainfall mm	Criterion dB <sup>3</sup>	Criterion Applies <sup>1</sup>	MCC L <sub>A1</sub> (1min) dB <sup>2,4</sup>	Exceedance dB <sup>4,5</sup>	
NM1	27/11/2017	22:49	3.1	0	45	No	IA	NA
NM1	27/11/2017	23:05	2.8	0	45	Yes	IA	Nil
NM2	28/11/2017	22:03	1.3	0	45	Yes	32	Nil
NM2	28/11/2017	22:20	1.8	0	45	Yes	28	Nil
NM3	28/11/2017	23:36	2.8	0	45	Yes	<25	Nil
NM3	28/11/2017	23:51	2.7	0	45	Yes	<25	Nil
NM4	27/11/2017	22:03	2.7	0	NA	NA	<20	NA
NM4	27/11/2017	22:19	3.5	0	NA	NA	<20	NA
NM5	27/11/2017	23:31	1.9	0	45	Yes	<20	Nil
NM5	27/11/2017	23:47	1.6	0	45	Yes	<20	Nil
NM6	28/11/2017	22:51	3	0	45	Yes	<20	Nil
NM6	28/11/2017	23:07	2.7	0	45	Yes	<25	Nil

**Table 7 - December Noise Monitoring – Night**

	L <sub>A1</sub> (1min)	December			Criterion	Criterion Applies <sup>1</sup>	MCC L <sub>A1</sub> (1min) dB <sup>2,4</sup>	Exceedance dB <sup>4,5</sup>
		Time	Wind Speed m/s	Rainfall mm				
NM1	18/12/2017	22:40	1.5	0	45	Yes	IA	Nil
NM1	18/12/2017	22:55	2.7	0	45	Yes	IA	Nil
NM2	19/12/2017	22:00	0.4	0	45	Yes	IA	Nil
NM2	19/12/2017	22:15	0.6	0	45	Yes	IA	Nil
NM3	19/12/2017	23:22	0.5	0	45	Yes	IA	Nil
NM3	19/12/2017	23:37	0.3	0	45	Yes	IA	Nil
NM4	18/12/2017	23:23	3	0	NA	Yes	IA	NA
NM4	18/12/2017	23:39	3.2	0	NA	No	IA	NA
NM5	18/12/2017	22:00	0.6	0	45	Yes	IA	Nil
NM5	18/12/2017	22:16	0.5	0	45	Yes	IA	Nil
NM6	19/12/2017	22:42	0.5	0	45	Yes	IA	Nil
NM6	19/12/2017	22:57	0.5	0	45	Yes	IA	Nil

**Evening L<sub>Aeq</sub>15min Night L<sub>Aeq</sub>15min, Night L<sub>A1</sub>min**

**Notes:**

- Noise emission limits do not apply during periods of rainfall or wind speeds greater than 3 metres per second (at 10 metres);
- Estimated or measured L<sub>Aeq</sub>,15minute attributed to MCCM;
- NM4 was acquired by MCCP, therefore criteria are no longer applicable as per the EPL and project approval. The NMP requires monitoring at this location and results have been provided for information purposes;
- Estimated or measured L<sub>A1</sub>,1minute attributed to MCCM;
- NA in exceedance column means atmospheric conditions outside those specified in Project Approval and criterion is not applicable.  
IA – Inaudible  
NM – Not measurable

**Wind Direction during Attended Monitoring**

Wind direction data is collected from the MCCM Automated Weather Station (AWS). Wind data for the duration of the attended monitoring assessment, recorded at the MCCM AWS is presented in the table below.

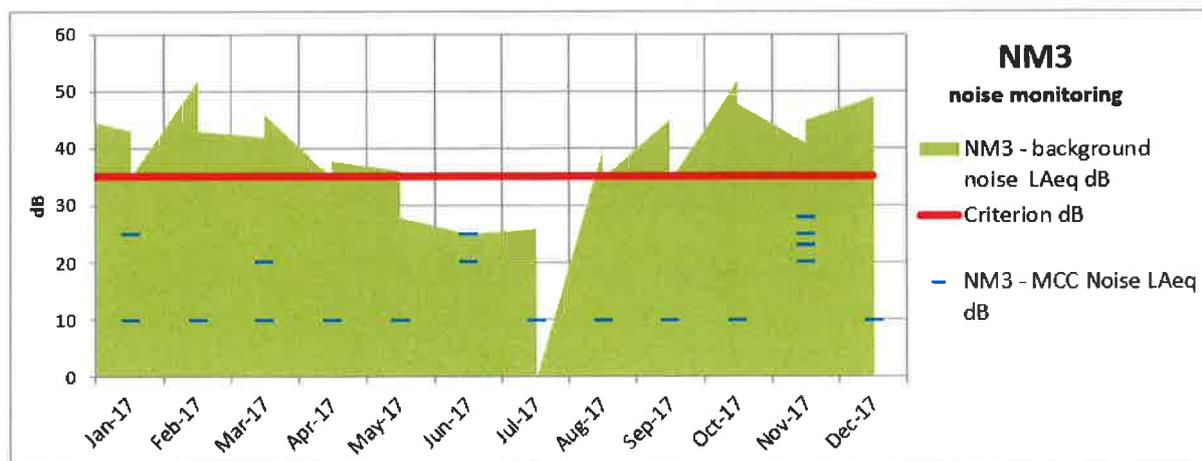
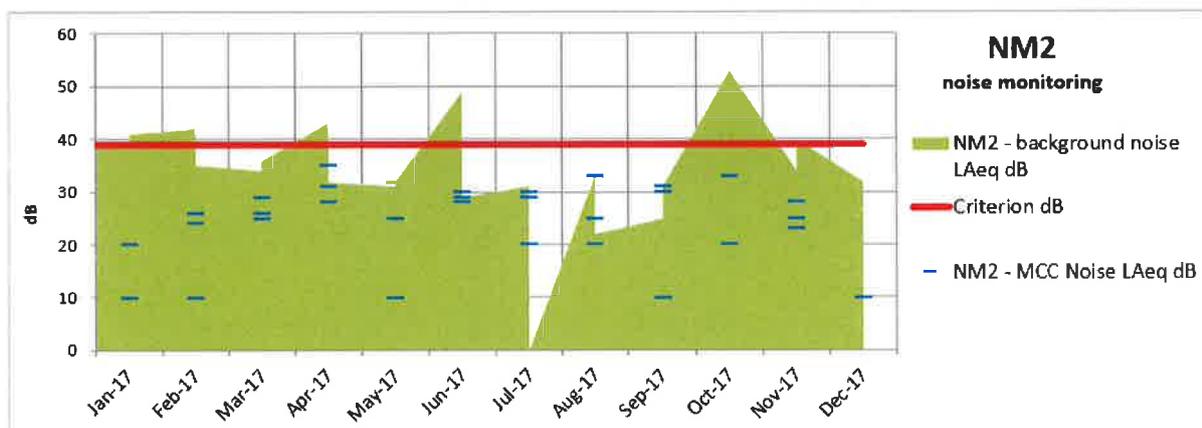
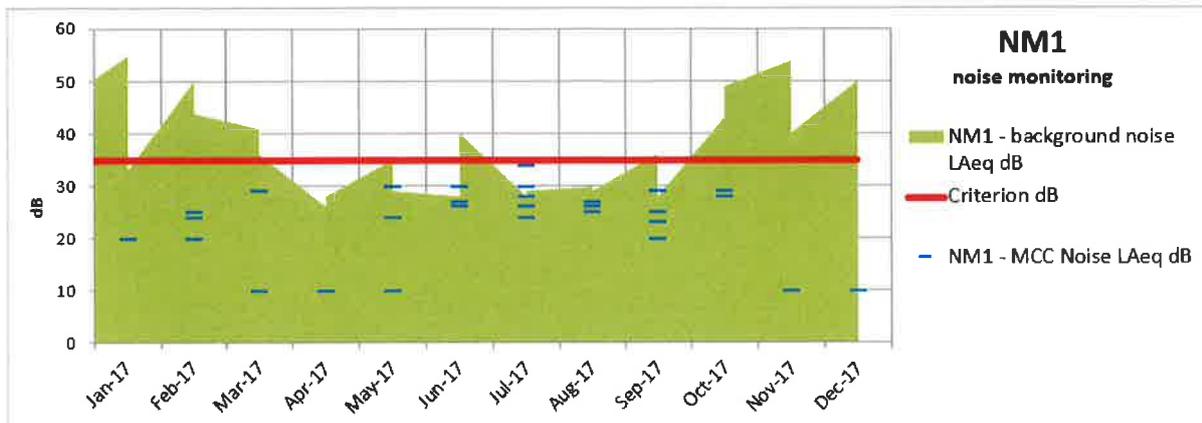
**Table 8 - Prevailing Wind Direction**

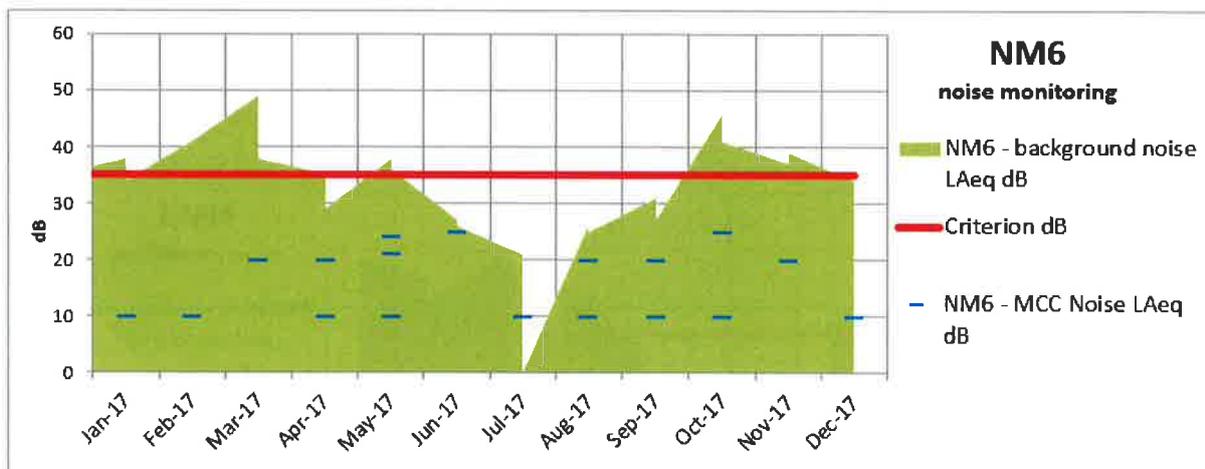
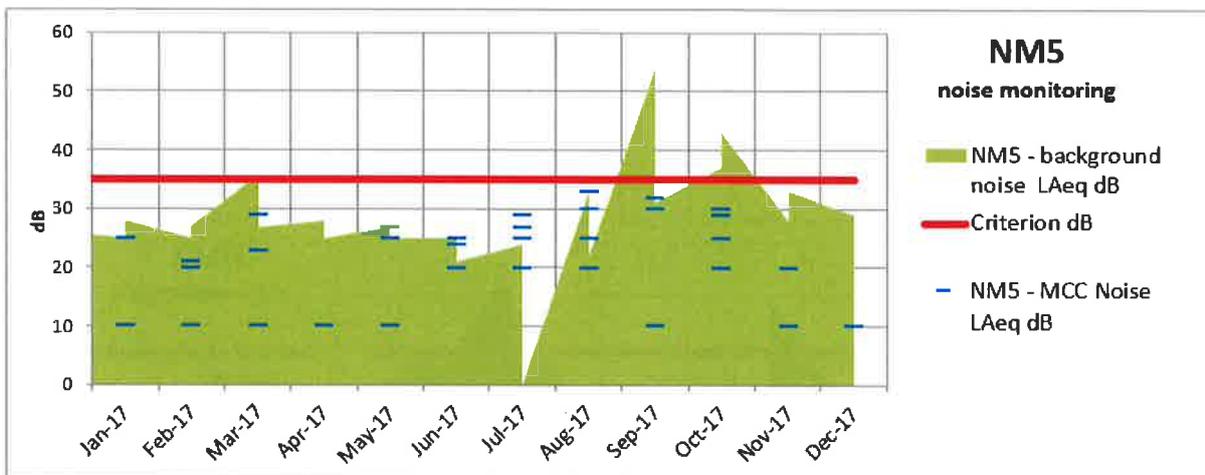
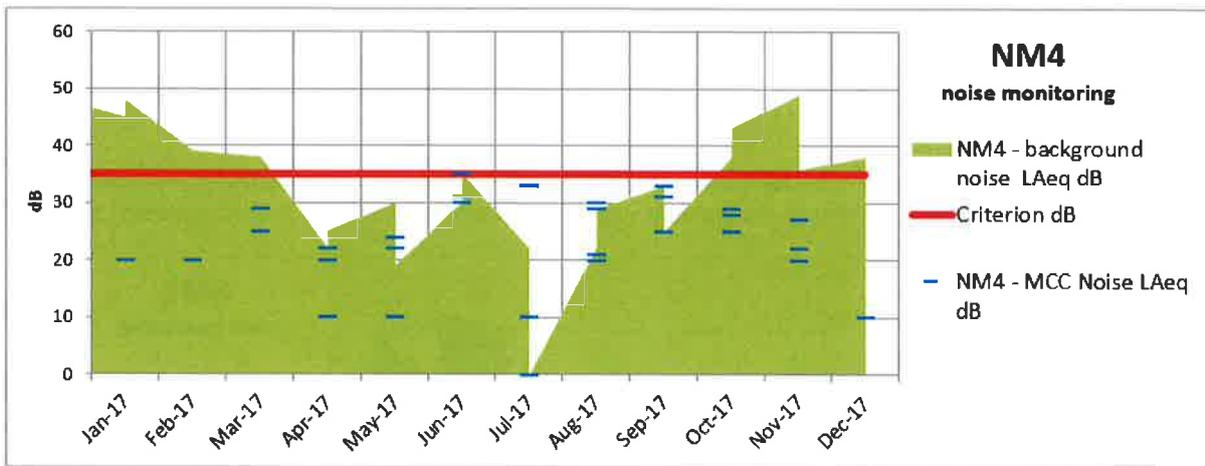
Monitoring Date	Prevailing Wind Direction
9/10 October	SE
10/11 October	SSE, SW
27 November	SE
28 November	ENE, S
18 December	WNW, W, E
19 December	NW

**Attended Noise Monitoring**

The following six (6) figures show the 'attended' noise monitoring results recorded over the last twelve (12) months.

Green shading shows the LAeq 15 minute background noise, the blue dash is the portion of the LAeq 15 minute considered likely attributable to MCCM according to the acoustic engineer and the red line is the Project Approval criteria.





**Blast Monitoring**

There have been 29 blasts at MCCM during Q4 2017.

All blast monitoring results recorded within the reporting period have been within the applicable overpressure and ground vibration limits specified in the respective approvals.

**Table 9 - Blast Results Summary Quarter 4 2017**

Parameter	Units	Frequency	Number	Average	Max	100% Limit	Exceedance (Yes / No)
Noise	dB (Lin Peak)	All	29	92.4	108.8	120	No
Vibration	mm/s		29	0.24	0.72	10	No

**Air Quality**

**Total Depositional Dust**

**Table 10 - Deposited Dust Monitoring Results\***

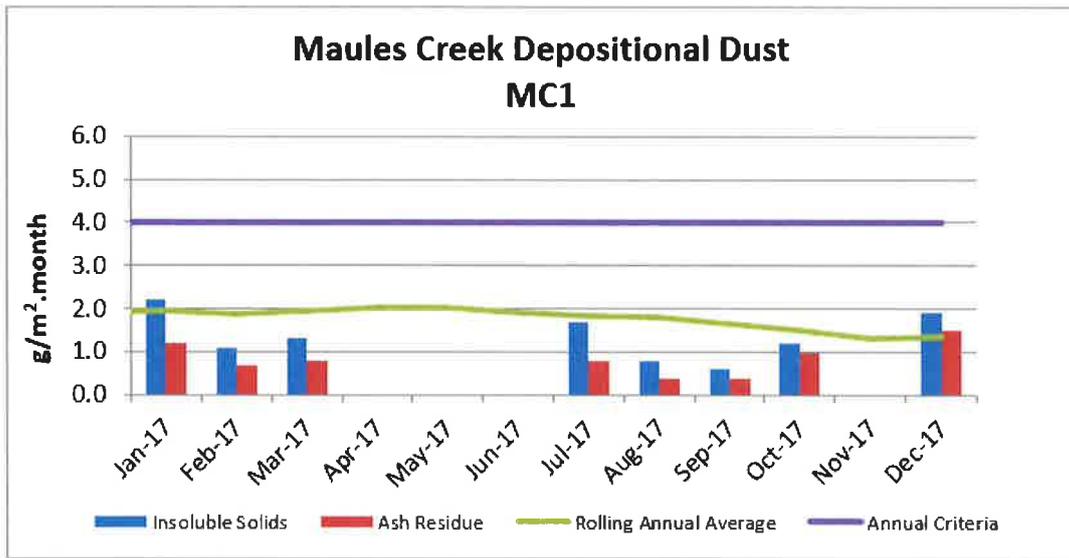
Month	MC1	MC2	MC3	MC4
Jan-17	2.2	2.1	0.7	0.8
Feb-17	1.1	1.4	1.2	1.5
Mar-17	1.3	1.8	2.8	2.0
Apr-17			1.9	1.4
May-17		3.7	1.5	1.1
Jun-17		1.1	1.3	1.3
Jul-17	1.7	0.7	20.2#	1.3
Aug-17	0.8	1.6	3.2	0.9
Sep-17	0.6	3.0	1.9	1.9
Oct-17	1.2	2.2	1.9	1.9
Nov-17		2.6	1.4	1.2
Dec-17	1.9		0.8	2.4
<b>Annual Avg</b>	<b>1.4</b>	<b>2.0</b>	<b>3.2</b>	<b>1.5</b>
<b>Project Avg 2010 - 2017</b>	<b>2.08</b>	<b>2.17</b>	<b>1.77</b>	<b>1.33</b>

\* Blank cells indicate sample periods where the sample has been contaminated and excluded from the results tables due to contaminated material (insect larvae, bird droppings, vegetation etc.).

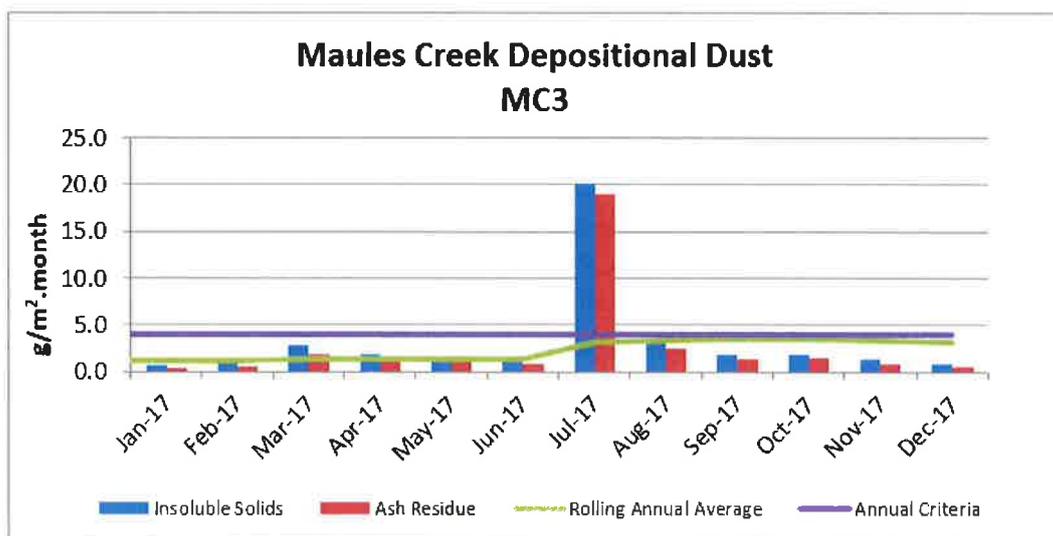
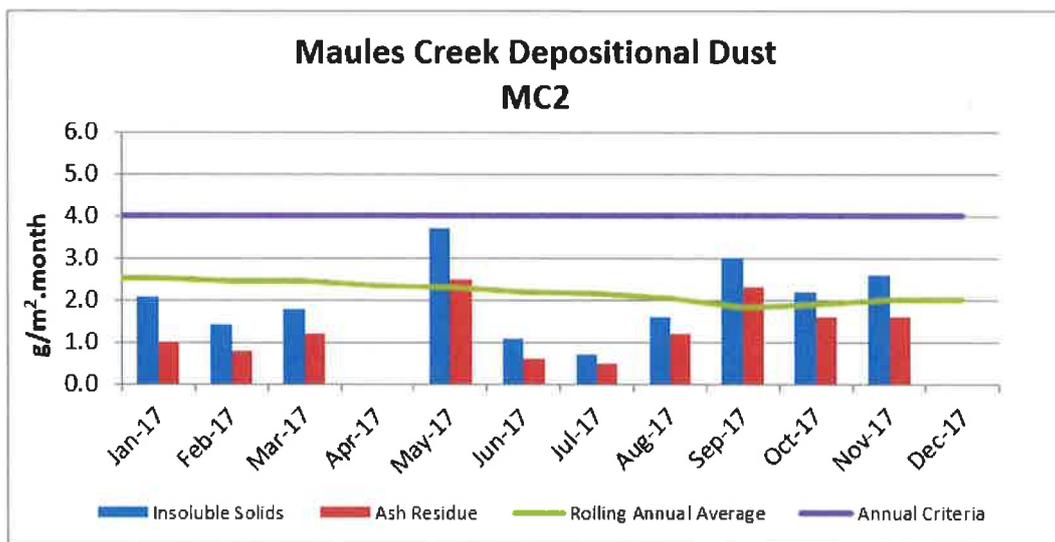
# Investigation notes the result is inconsistent with historical monitoring results at both MC3 and other air quality monitoring locations closer to the operation and unlikely to be attributable to MCCM.

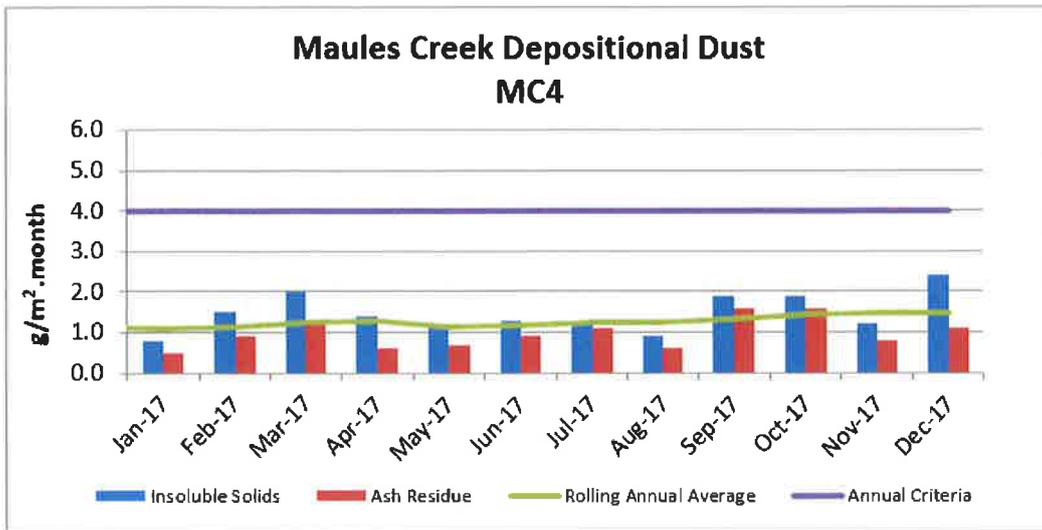
The monthly rolling annual average remains below the relevant Project Approval criteria of 4gm/m<sup>2</sup>/month for the respective monitoring points, as shown on the graphs below. It is noted at point MC3 an elevated result was recorded in July. Following investigation, this result is inconsistent with historical monitoring results for both MC3 and other monitoring locations closer to the operation and therefore unlikely to be attributable to MCCM.

Deposited Dust Monitoring Figures (MC1 – MC4)



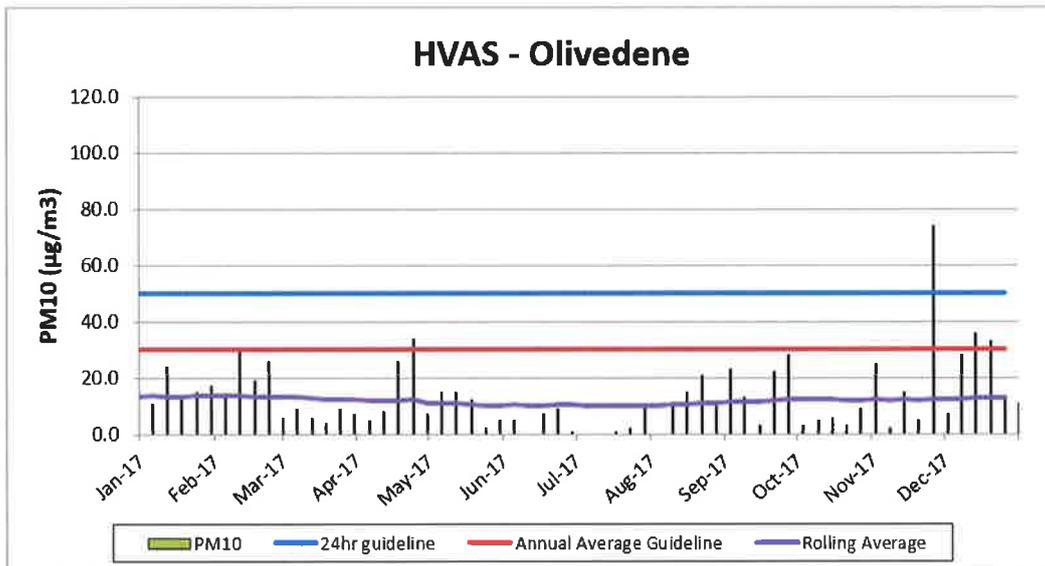
Note: The MC1 dust gauge was contaminated with insect larvae and bird droppings during all monitoring periods of Q2 2017.





### High Volume Air Sampling (HVAS)

The HVAS monitor is located on the property 'Olivedene,' a mine owned property on Therribri Road. HVAS PM<sub>10</sub> Rolling Annual Average during Q4 2017 remained well below the Annual Average Guideline 30 µg/m<sup>3</sup>.

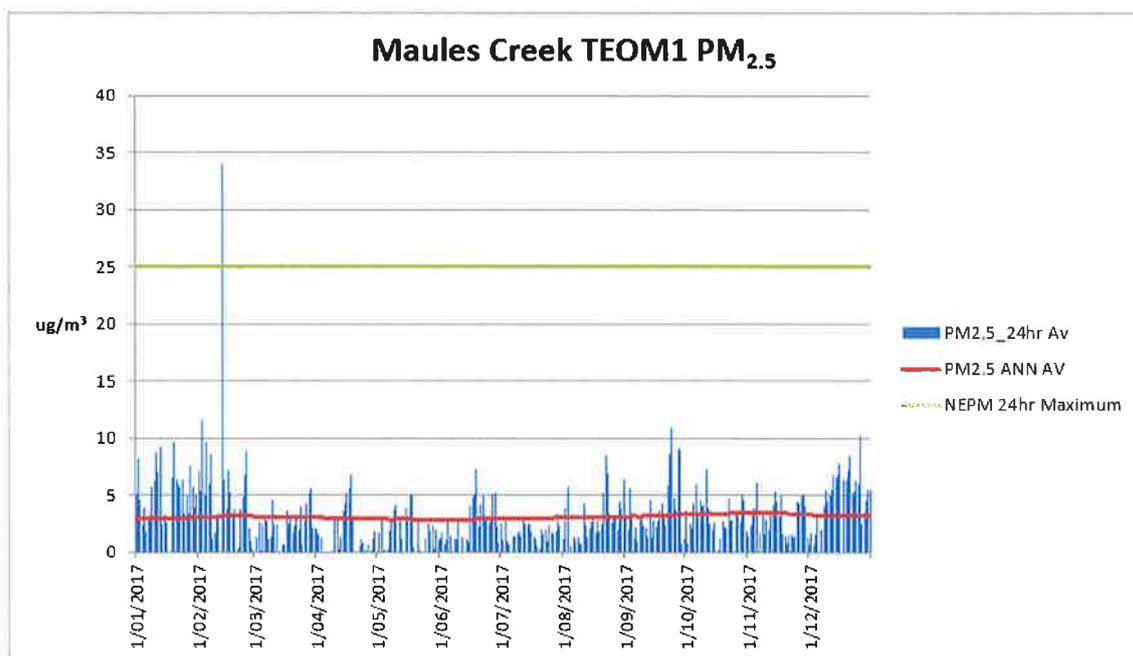
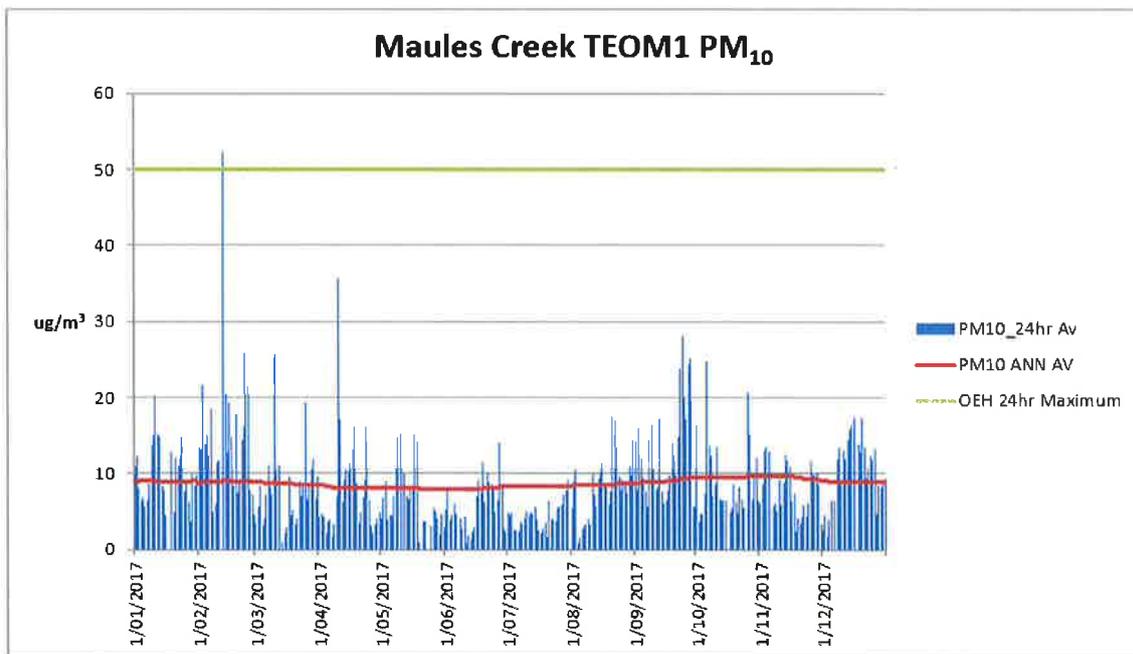


### TEOM - PM<sub>10</sub> Results

The annual average for PM<sub>10</sub> results at the Maules Creek Coal TEOM remain significantly below the Project Approval annual average criteria of 30.0µg/m<sup>3</sup> (at 31 December 2017) as shown in the following figure. The PM<sub>10</sub> average results have remained below this criteria since the TEOM was commissioned in November 2011.

Elevated PM<sub>10</sub> and PM<sub>2.5</sub> results recorded by the TEOM on the 13<sup>th</sup> February 2017 were caused by a bushfire event in the local area. The elevated PM<sub>10</sub> result on the 10<sup>th</sup> April 2017 was caused by an interstate dust storm event.

### TEOM Result Figures – Particulate Matter PM<sub>10</sub>µg/m<sup>3</sup> and PM<sub>2.5</sub>µg/m<sup>3</sup>



**Water Monitoring**

**Groundwater**

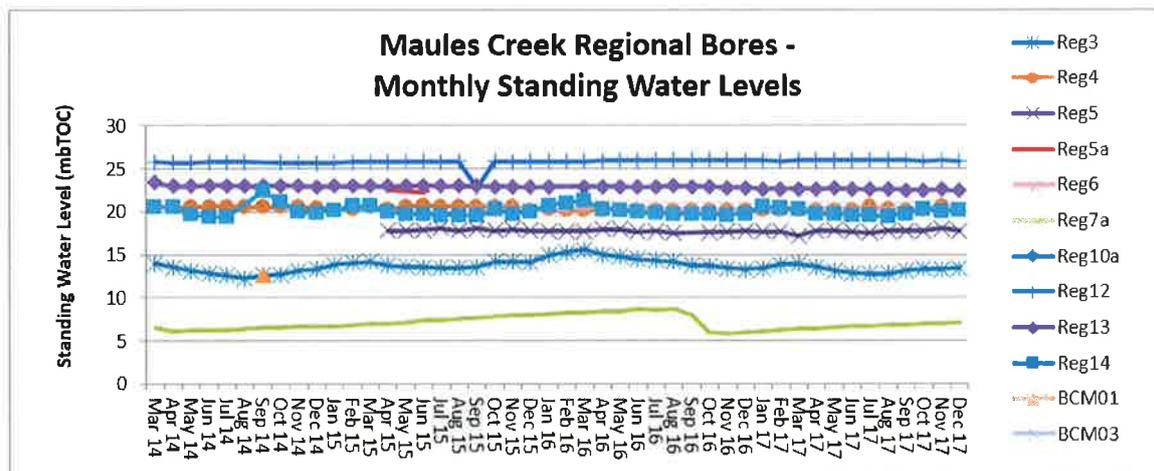
Groundwater monitoring results in open / standpipe piezometers show levels to be currently stable. 'RB' and 'Reg' series bores were installed between Q4 2013 and Q1 2014. BCM01, BCM03, Reg10 are shallow bores which have remained dry since construction in 2013.

**Table 11 - Groundwater Level**

SWL	RB01a	RB02a	RB05a	Reg3	Reg4	Reg5	Reg5a	Reg6	Reg7a	Reg10a	Reg12	Reg13	Reg14	BCM01	BCM03
Jan-17	166.82	138.70	58.07	13.43	20.10	17.65		20.24	6.06		25.9	22.64	20.53		
Feb-17	166.36	138.38	58.59	13.82	20.10	17.64		20.27	6.25		25.88	22.62	20.43		
Mar-17	*	*	59.05	13.91	20.14	17.14		20.3	6.34		25.91	22.6	20.23		
Apr-17	*	*	58.69	13.58	20.16	17.71		20.32	6.45		25.92	22.64	19.7		
May-17	*	*	59.24	13.11	20.19	17.76		20.32	6.61		25.93	22.66	19.72		
Jun-17	*	*	56.86	12.87	20.17	17.68		20.23	6.66		25.89	22.61	19.56		
Jul-17	*	*	59.37	12.78	20.51	17.52		20.19	6.72		25.91	22.52	19.49		
Aug-17	*	*	59.56	12.75	20.22	17.70		20.19	6.8		25.93	22.61	19.42		
Sep-17	*	*	59.22	13.11	20.17	17.73		20.27	6.81		25.9	22.48	19.77		
Oct-17	*	*	59.47	13.35	20.15	17.70		20.23	6.93		25.86	22.49	20.333		
Nov-17	*	*	60.22	13.26	20.59	17.98		20.29	7.01		25.89	22.54	19.97		
Dec-17	*	*	60.58	13.38	20.15	17.70		20.3	7.18		25.84	22.42	20.15		

Blank cells indicate sample periods where bores were dry.

\*Bore decommissioned due to progression of mining area



**Acidity / Alkalinity (pH)**

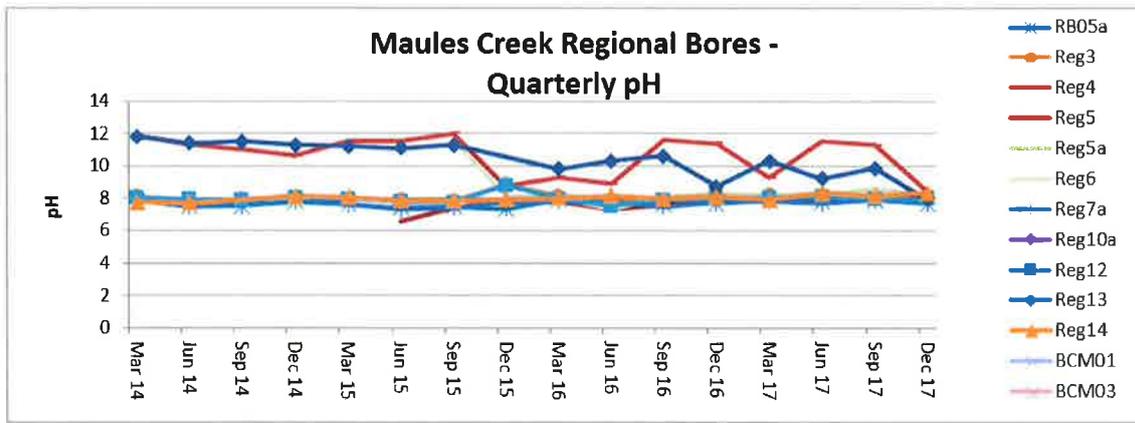
Baseline groundwater conditions are still being established, however, 2 bores (Reg4 and Reg13) show elevated pH levels (above pH 8.5) this has been determined to be as a result of low recharge volumes within these bores since installation.

**Table 12 - Groundwater Results pH**

pH	RB01a	RB02a	RB05a	Reg3	Reg4	Reg5	Reg5a	Reg6	Reg7a	Reg10a	Reg12	Reg13	Reg14	BCM01	BCM03
Mar-17	*	*	7.89	8.17	9.26	7.97		8.23	7.81		8.05	10.3	7.88		
Jun-17	*	*	7.83	8.18	11.5	7.88		8.32	7.67		8.08	9.21	8.34		
Sep-17	*	*	7.89	8.12	11.3	8.12		8.58	7.92		7.96	9.85	8.15		
Dec-17	*	*	7.66	8.1	8.43	8.09		8.25	7.74		7.93	7.94	8.34		

Blank cells indicate sample periods where bores were dry.

\*Bore decommissioned due to progression of mining area



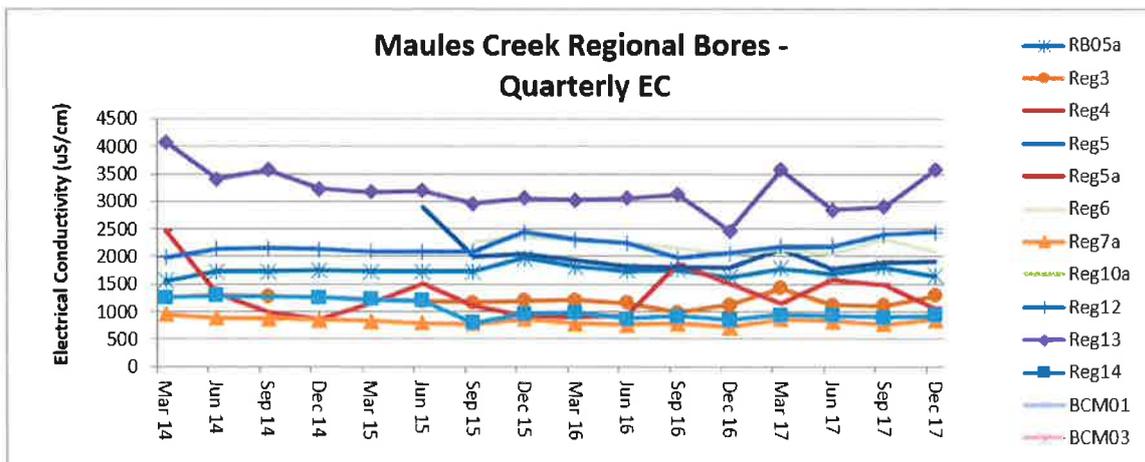
**Electrical Conductivity**

Laboratory Electrical Conductivity (EC) levels are all within historic groundwater EC range of 500 $\mu$ S/cm to 2,500 $\mu$ S/cm, with the exception of monitoring bore Reg13 which has a historic groundwater EC range of 2,000 $\mu$ S/cm to 4,700 $\mu$ S/cm.

**Table 13 – Groundwater Results EC**

EC	RB01a	RB02a	RB05a	Reg3	Reg4	Reg5	Reg5a	Reg6	Reg7a	Reg10a	Reg12	Reg13	Reg14	BCM01	BCM03
Mar-17	*	*	1780	1420	1140	2130		2140	860		2190	3570	938		
Jun-17	*	*	1690	1120	1580	1780		2050	833		2190	2850	935		
Sep-17	*	*	1800	1110	1490	1890		2320	774		2400	2900	893		
Dec-17	*	*	1650	1290	1060	1900		2090	850		2440	3570	928		

Blank cells indicate sample periods where bores were dry.  
\*Bore decommissioned due to progression of mining area



**Wet Weather Discharge Sampling**

Between 1<sup>st</sup> October and 31<sup>st</sup> December 2017, Maules Creek Coal AWS recorded 206.6mm of rainfall. There was one rainfall event that exceeded the 38.4mm value over a consecutive 5 day period during 16-20 November where 64.4mm of rain fell over the five days. There were no wet weather discharge events during Q4 2017 and therefore conditions L2.4 and L2.5 of EPL20221 were not triggered for this quarter.

Note: As per wording of condition L2.5 of EPL20221, 38.4mm equates to the 5 day 90 percentile rainfall for the Gunnedah region.

**Surface Water – Creeks and Rivers**

Routine surface water monitoring is conducted in surrounding creeks and rivers on a monthly basis. Results for parameters including pH, EC and Total Suspended Solids (TSS) are shown in the tables and figures below.

**Acidity / Alkalinity (pH)**

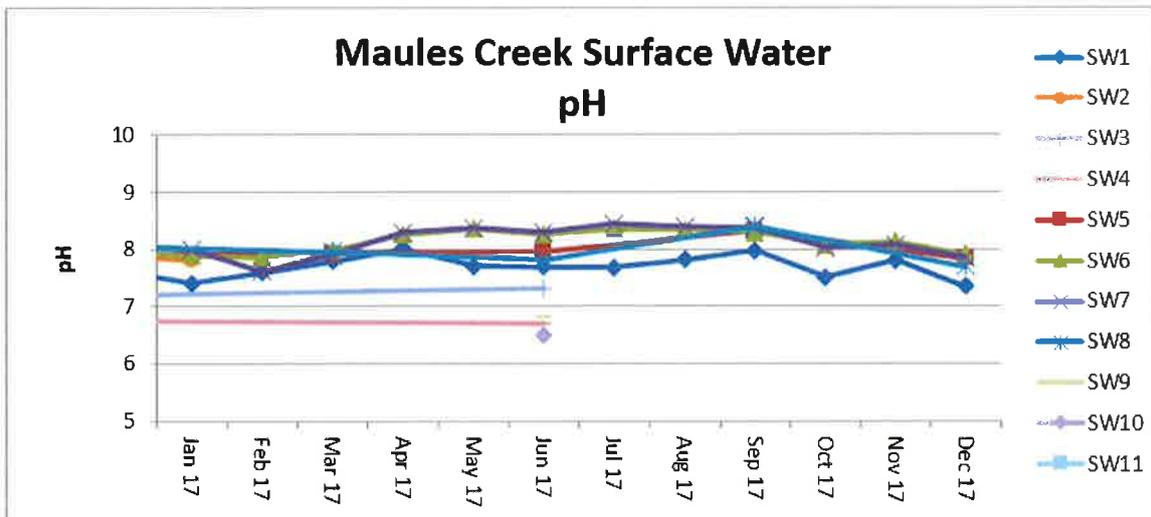
Monitoring results for pH in creeks and rivers surrounding MCCM are all trending within the ANZECC acceptable range for Irrigation, Ecosystem Health and Recreation.

**Table 14 – Surface Water Results pH**

Lab pH	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	SW9	SW10	SW11
Jan-17	7.41	7.82				7.89	8				
Feb-17	7.6					7.86	7.62				
Mar-17	7.79				7.93	7.99	7.9	7.96			
Apr-17	8.01					8.26	8.3				
May-17	7.7					8.36	8.37				
Jun-17	7.69		7.31	6.69	7.95	8.26	8.3	7.81	6.81	6.49	
Jul-17	7.68					8.36	8.44				
Aug-17	7.81					8.35	8.39				
Sep-17	7.98				8.32	8.29	8.38	8.41			
Oct-17	7.51					8.08	8.03				
Nov-17	7.8					8.14	8.07				
Dec-17	7.35				7.84	7.91	7.85	7.69			

Blank cells indicate sample periods where waterways were dry.

\*Too wet to access monitoring locations



**Electrical Conductivity**

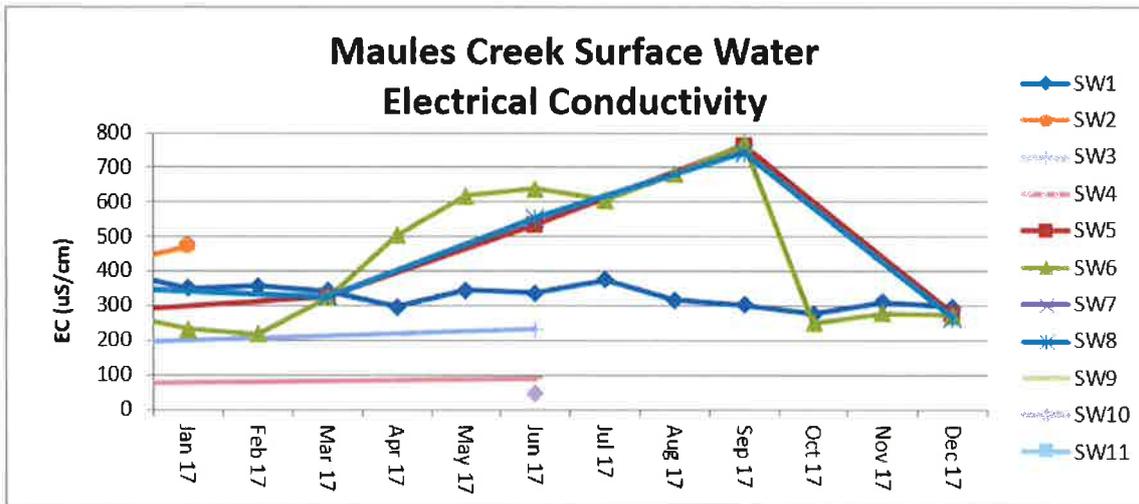
Surface water EC trends have remained consistent with SW5, SW6, SW7 and SW8 all historically variable. SW5, SW6, SW7 and SW8 are points along the Namoi River which is subject to regulated and variable flow regimes.

**Table 15 – Surface Water Results EC**

Lab EC	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	SW9	SW10	SW11
Jan-17	351	472				233	143				
Feb-17	357					218	222				
Mar-17	343				325	322	324	328			
Apr-17	297					503	511				
May-17	345					618	611				
Jun-17	337		232	89	534	639	649	554	40	46	
Jul-17	375					607	612				
Aug-17	317					681	685				
Sep-17	303				763	769	766	742			
Oct-17	277					250	250				
Nov-17	310					278	269				
Dec-17	297				276	273	260	265			

Blank cells indicate sample periods where waterways were dry.

\*Too wet to access monitoring locations



**Total Suspended Solids (TSS)**

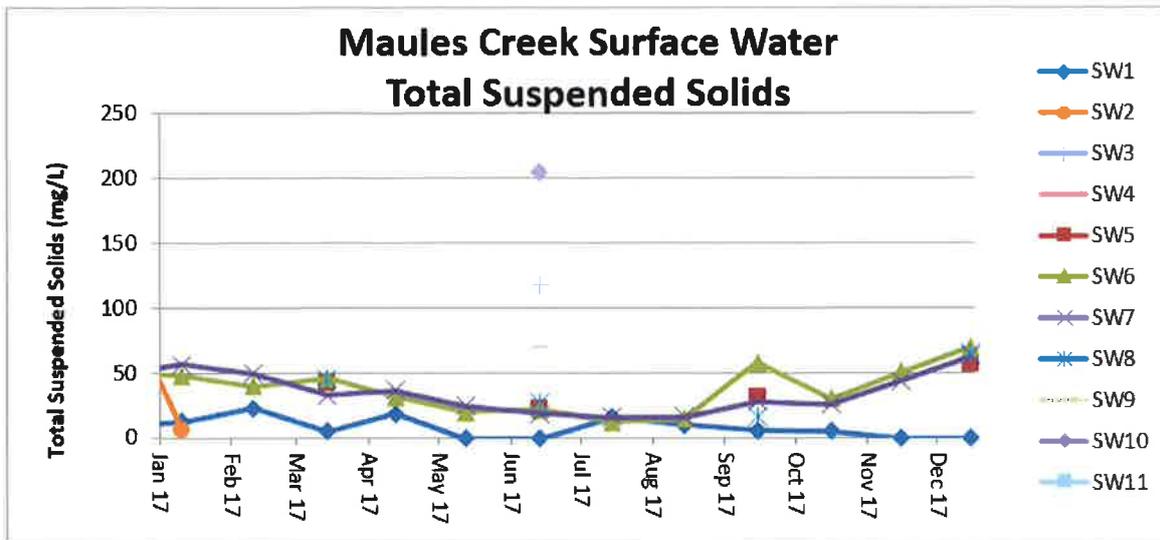
Surface water TSS trends have remained generally consistent with historical results. SW5, SW6, SW7 and SW8 are historically variable as they are located along the Namoi River which is subject to regulated and variable flow regimes. A rainfall event in June 2017 enabled sampling at sites along Back Creek which is ephemeral and generally dry.

**Table 16 – Surface Water Results TSS**

TSS	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	SW9	SW10	SW11
Jan-17	13	7				48	57				
Feb-17	23					40	50				
Mar-17	5				42	46	33	46			
Apr-17	19					32	37				
May-17	<5					20	25				
Jun-17	<5		118	26	23	22	19	27	70	205	
Jul-17	16					12	16				
Aug-17	10					15	16				
Sep-17	6				32	58	28	16			
Oct-17	5					30	26				
Nov-17	<5					51	44				
Dec-17	<5				57	70	63	65			

Blank cells indicate sample periods where waterways were dry.

\*Too wet to access monitoring locations



**Rehabilitation**

No final landform areas are available for rehabilitation since the commencement of mining in August 2014. This work will commence in 2018.

**Feral Animal Management**

During the most recent routine Whitehaven Offset Area Feral Animal Control program, the results were:

- 51 Pigs in total and 27 from the Maules Creek area; and
- 100 foxes and 2 wild dogs controlled.

**Weed Management**

Weed spraying has focused on the revegetation areas including the control of broadleaf weeds and Green Cestrum.

**Community Complaints**

13 complaints were received during Q4 2017. Please refer to the Community Complaints Register published on the Whitehaven Coal Maules Creek website.

