

Minutes: Minutes of the 24th Meeting of the Maules Creek Coal Community Consultative Committee
Held at the Boggabri Golf Club, Gunnedah Road, Boggabri NSW 2382

Wednesday 13 February 2019

Members Present: Darren Swain (DS) – WHC, Nigel Wood (NW) – WHC, Scott Mitchell (SM) – WHC, Jack Warnock (JW) – Community Representative, Lloyd Finlay (LF) – Narrabri Shire Council, Cath Collyer (CC) – Community Representative, Robyn Grover (RG) – Community Alternative Representative, Simone Moodie (SMo) – Community Aboriginal Representative, Kerri Clarke (KC) – Environmental Representative

Apologies: Cr Robert Kneale (RK) – Narrabri Shire Council, Libby Laird (LL) – Maules Creek Community Representative, Steve Eather (SE) – Community Representative

Observers: Ross Wilson (RW) – WHC

Independent Chair: David Ross (DR)

Independent Secretary: Debbie Corlet (DC)

Agenda Items	Who to Present
1. Apologies	DR
2. Declaration of pecuniary or other interests	DR
3. Confirmation and Discussion of the minutes of the previous meetings – 7 November 2018	DR
4. Business arising from the previous minutes – Action List Distributed	DR
5. Correspondence	ALL
6. Questions and Answers Session	ALL
7. Company Reports and 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	
8. Review of 2018 CCC meetings	
9. General Business	ALL
10. Next Meeting – 15 May 2019	ALL

Agenda Item	Discussion	Action/By Whom
	<p>Welcome – DR welcomed everyone to the first meeting of the year.</p> <p>DR – Advised that since Caz Nancarrow’s resignation at the end of 2018, the Progress Association will not put any name forward for the CCC until after next week’s AGM. Then explained that Ross Wilson from WHC who has attended today’s meeting as an Observer will formerly join the MCCC at the May meeting.</p> <p>DR – Advised that AC put in an application to be an Observer at the meetings. WHC sought clarification through DR about the ability for AC to attend. DR sought advice from DPE who noted that AC should not attend as an Observer due to her being an alternate. David Paull who represents SLA on biodiversity issues can attend where there are discussions on biodiversity and offsets, DPE believes that it is reasonable for him to attend the CCC.</p>	
1.	<p>Apologies – Cr Robert Kneale (RK) – Narrabri Shire Council, Libby Laird (LL) – Maules Creek Community Representative, Steve Eather (SE) – Community Representative.</p>	
2.	<p>Declaration of pecuniary or other interests – DR advised he is paid a fee to chair these meetings as is DC for typing the Minutes. RG has a daughter at Maules Creek and a grandson at Boggabri Coal. SMO has a son working for the mine. LF leases property from WHC.</p>	
3.	<p>Confirmation of the minutes of the previous meetings (7 November 2018) – The CCC endorsed the minutes as an acceptable record of what was discussed.</p>	
4.	<p>Business arising from the previous minutes – DR discussed the actions from the previous minutes.</p> <p>DR – Mentioned that the questions provided 3 weeks in advance of meetings will be a work in progress. Anyone can ask one or two questions that DR will forward to WHC. Was expecting far less questions.</p> <p>DR – Noted that there was an action on him to organise an overview presentation, possibly at Joint CCC, on the compliance process. Have commenced discussing this with Lindsay Fulloon at EPA. Ongoing Action on DR to work with Lindsay.</p> <p>DR – Advised CCC of the conversation he had with Libby after November meeting re Heidi Watters at DP&E and reference re a caution in April 2017 to WHC (re sound power exceedances) as it wasn’t in the August minutes. DR had spoken to Heidi who noted that she may have talked about it.</p>	
5.	<p>Correspondence - Questions to WHC from the community.</p> <p>LL request for letter from CWA re land clearing to DR be tabled and read for a response from WHC. LL sent a revised copy this morning. DR has forwarded to WHC this morning.</p>	
6.	<p>Company Reports and Overview of Activities</p> <p>) December 2018 quarter production figure 4Mt. FY19 production target of 12.2Mtpa ROM (Run of Mine) coal.</p>	

Agenda Item	Discussion	Action/By Whom
	<p data-bbox="421 165 887 197">) Continued focus to improve safety.</p> <p data-bbox="367 240 562 272">Health & Safety</p> <p data-bbox="421 277 1666 341">) Employee health programs continued focus on personal health, including safety coaching training for supervisors; fatigue management focus continued; and skin check program.</p> <p data-bbox="367 384 786 416">Drug and Alcohol Testing Program</p> <p data-bbox="421 421 1133 453">) Ongoing Employee Drug and Alcohol testing carried out.</p> <p data-bbox="421 458 1256 596">) Our program of testing includes:</p> <ul style="list-style-type: none"> <li data-bbox="510 496 1256 528">○ Random testing (conducted by an independent company). <li data-bbox="510 533 1128 564">○ Blanket testing (everyone on site as requested). <li data-bbox="510 569 1048 601">○ 'For Cause' testing, e.g. after an incident. <p data-bbox="421 606 1585 638">) All of our Supervisors are trained in drug screening and fitness for work assessment processes.</p> <p data-bbox="367 681 528 713">Employment</p> <p data-bbox="421 718 1733 750">) Continued focus on local, Indigenous and female employment with ongoing training programs undertaken.</p> <p data-bbox="421 754 1753 786">) There have been 25 new trainees employed (Sept-Dec 2018). 8 of these have been new Indigenous trainees.</p> <p data-bbox="367 829 674 861">Air Quality Management</p> <p data-bbox="421 866 1771 930">) Publicly available results of TEOM1 available on the EPA website. Annual rolling average for TEOM1 is 16.7ug/m3 at 31 December 2018 (criteria 30ug/m3). Increased dust suppressant application across operation.</p> <p data-bbox="421 935 1592 967">) MCC air emissions are lower (over 30% than those modelled in the Environmental Assessment).</p> <p data-bbox="367 1010 909 1042">Monitoring and Environmental Performance</p> <p data-bbox="421 1046 1644 1078">) Monitoring and environmental results previously provided within the distributed information pack.</p> <p data-bbox="367 1121 685 1153">Biodiversity Management</p> <p data-bbox="421 1158 797 1190">) Feral Animal Management.</p> <ul style="list-style-type: none"> <li data-bbox="510 1195 1778 1334">○ During the most recent routine Whitehaven Offset Area Feral Animal Control program (November and December 2018) the results included: <ul style="list-style-type: none"> <li data-bbox="607 1262 1173 1294">▪ 18 pigs from the Maules Creek Offsets; and <li data-bbox="607 1299 763 1331">▪ 25 foxes. <p data-bbox="421 1339 719 1370">) Weed Management:</p> <ul style="list-style-type: none"> <li data-bbox="510 1375 1765 1473">○ Broadleaf weed control of revegetation areas and Green Cestrum along riparian areas plus Box Thorn were targeted for spraying prior to Christmas. Targeted Tiger Pear spraying has been ongoing for the Southern Offsets. 	

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	<p>) Revegetation:</p> <ul style="list-style-type: none"> o During the prevailing conditions; resources deployed to undertake tree watering of Maules offset. <p>) Monitoring</p> <ul style="list-style-type: none"> o Annual ecological monitoring of Maules Offsets was completed in November 2018 including flora and fauna surveys in accordance with the Biodiversity Management Plan. <p>) Upcoming Works</p> <ul style="list-style-type: none"> o Feral animal control in March 2019. Weed spraying ongoing. o Planning for FY19 Controlled / Ecological Burns in Autumn 2019 and Revegetation Program in late Autumn 2019. Vegetation monitoring to be undertaken in Autumn 2019. o Annual reporting and communication in accordance with Regional Biodiversity Strategy. <p>Groundwater Monitoring</p> <p>) Slides presented on groundwater and standing water levels.</p> <p>Autonomous Haulage</p> <p>) Phased introduction of AHS pending evaluation over the next few years. Supporting employees in affected roles to transition into jobs operating the new technology or be redeployed to Whitehaven’s other local mines.</p> <p>) AHS will create new and highly skilled jobs at Maules Creek in haulage systems integration and operation.</p> <p>Community</p> <p>) Complaint details were provided to CCC in Environmental Monitoring Report.</p> <p>) DS described support to the Future EDU program in Narrabri Shire in promotion of STEM as well as Work Experience Students from nearby high schools. WHC are still taking for Cadetships for 2019.</p> <p>) Requesting suggestions of suitable Infrastructure Projects in the NSC and GSC areas. Ideally, they would target Health, Education or whole of Community benefit as per Whitehaven Sponsorship programs.</p> <p>) 6-monthly RAP meeting held in Boggabri.</p> <p>) Participated in the Narrabri Street Fair.</p> <p>Voluntary Planning Agreement (VPA) Payments</p> <p>) MCCM were required to negotiate a VPA with Narrabri Shire Council (NSC) as per Project Approval. Completed in 2014. Contributions have been paid to Narrabri Shire Council of <u>\$13,425,000</u> paid in lump sum contributions. Ongoing monthly payments \$0.075 per saleable coal tonne + CPI – ongoing. FY19 <u>>\$400,000</u></p> <p>Local Spend</p> <p>) DS described sponsorships and donations made to the Tamworth and Region; Narrabri area; Gunnedah area over September to December. Donations are targeted at Health, Education and Community Enhancement.</p> <p>) Whitehaven has spent \$1.5 billion in the North West NSW economy since 2013.</p>	

Agenda Item	Discussion	Action/By Whom
	<p>General Discussion re the WHC Presentation</p> <p>Drug and Alcohol slide – SMO – Asked what happens when they test positive – is it just an official warning. NW – Explained the process and that it takes 3 to 4 weeks and if they test positive again then they’ll lose their job. They can be in the hat so to speak for up to 18 months. If blanket testing occurs, then everyone on site is tested which starts with me. KC – Do you have statistical data to show us? NW – No. KC – Data was requested at the last meeting and was going to be provided to us (DS was to bring to February meeting).</p> <p>Employment slide – DR asked if WHC have difficulties finding employees? NW – When Cargill closed down, staff were transferred to us after quick interviews. Some of the local people had worked for the business for 20 years and after it closed moved to MCC. JW – Bad news that Cargill shut down but good news that some were picked up by the mines. Did you plan to put anything in the paper about that as a good news story? CC – Is there still availability of jobs going? NW – Yes there is.</p> <p>Biodiversity slide – DS - There is a lot of work going on. JW – Do you have a contractor or staff doing this? DS – There are a few different contractors – maybe 2 to 4 including Indigenous contractors which we then help them to set up businesses and provide them work. WHC – Still bulk shaping and dumps so no revegetation done yet. Offsets replanting and surprised by how many are surviving, but not much growth yet. Offsets on the range are in better condition than other areas. SM - Significant number of trees planted. There is a maintenance program in place.</p> <p>Groundwater Monitoring A discussion was then held with respect to the slides on groundwater monitoring and groundwater levels, clarifying results and noting some monitoring sites which would have reacted to irrigation. Drawdowns are seasonal. KC – Is any water owned by WHC irrigation bores pumped out of Zone 11? NW – Not used, and I don’t think anyone on those properties are pumping either. Will discuss later.</p>	<p>ACTION 1 – What is the retention rate of employees</p>

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	<p>Autonomous Haulage NW and DS uses LiDAR front and back for detection. Noted that truck drivers will be retrained, potentially, to learn how to control these trucks. DS – People are moving all the time (into different roles). NW – Small step and a bit behind from where we thought we'd be. It's quite a complex project.</p> <p>CC – Can there be a Media Release concerning this so the wider community can understand. NW - We want people to stay.</p> <p>Regional Air Quality DR – Attended the quarterly Namoi Region Air Quality Meeting with CC yesterday. CC – Discussed how to get information out quarterly - OEH and EPA do a summary sheet. How can we further the knowledge for everyone? CC will give everyone reports which can then be shared with wider community. It is more regional than CCC – Narrabri to Tamworth down past Quirindi.</p> <p>The monitors are not real-time yet. Hopefully coming on board soon – so it is like the Hunter where you can just push in what you need. Very hard to get this information out.</p> <p>KC – Can you download this handout from the website? DR – Send link to the CCC for the appropriate EPA pages around Naomi Regional Air Quality.</p> <p>DR – OEH have accepted to prepare a 1-pager and this 1-pager which will meet different peoples' needs. CC – Just working out the processes and putting it together. Looking for feedback.</p> <p>DR – If you have feedback please bring it to me. Spikes in the graphs all those relate to dust storms – like from Adelaide. CC – They are happy to come along and give presentations to the CCC. Leanne Graham is happy to come along. DR – One Joint CCC update per year.</p> <p>Dust Management DS – re Dust-a-Side suppressant, quite a significant effort of work into that program. It's having a positive - water use, dust management, working into the construction roads as well.</p> <p>KC – Do you have a list of chemical constituents to show what is in the Dust-a-Side and how would it impact the environment?</p>	<p>ACTION 2 – DR to send link to the CCC for the appropriate EPA pages around Namoi Regional Air Quality</p>

Agenda Item	Discussion	Action/By Whom
	<p>SM – Wholly biodegradable used over 12 months and is good. Made of molasses and tree sap. It is a water-soluble polymer and we use around 1% and it binds to the surface for dust management.</p> <p>DR – This has been discussed at Tarrawonga.</p> <p>CC – Will it affect pumps - no it won't have any affect. At Tarrawonga CCC discussed having Dust-a-Side presentation to the Joint CCC. Great success rate. Good to have someone come and explain that and what they are made up of.</p> <p>KC - How often do you need to spray it?</p> <p>SM – It reduces water by a large percentage - they do maintenance coats as and when required.</p> <p>JW – If you're reducing water use - what does it do to your overall water on site?</p> <p>NW – Expected 80-90% reduction in water used- top it up. Hard coat on top - then the dust all sticks together and forms a crust. Watering during each shift. Do it as you need, e.g. if wet then reapply. Mostly not used on haul roads, only some; for new areas just use plain water.</p> <p>CC – How much water actually saved for overall mine usage?</p> <p>KC – How much water used on coal?</p> <p>DS – Request for us to add website links to presentations.</p> <p>KC – Think it was links to documents to websites to make it easier for the community members to find information and communicate? Shouldn't be too difficult.</p> <p>DR – If link is difficult, then provide web address.</p> <p>KC – And page number in document.</p> <p>DS – Will do our best if links can't be used.</p> <p>Responses to CCC Questions</p> <p><i>Carbon Emissions</i></p> <p>SM – there was a question regarding Carbon Emissions and reference to 2016 Annual Review - Scope 1 – relates to direct emissions from activity (mining equipment, fugitive emissions from mining). Scope 2 – relates to indirect emission sources – both regulated. The National Greenhouse & Energy Reporting Act 2007 and reporting scheme stipulates</p>	<p>ACTION 3 – WHC to provide details on</p>

Agenda Item	Discussion	Action/By Whom
	<p>different calculation methodologies for various emissions. The words “scope” and “method” are not used interchangeably. Have very clear definitions in the legislation.</p> <p>Re methane and carbon (dioxide emissions which should be reported to the Clean Energy Regulator) - we report through clear reporting requirements - NPI - and the NGER Scheme – there are facility triggers at 100,000 tonnes CO2-e for example.</p> <p>Re Quality Control checks (done for carbon accounting) per question received - We report using methodologies of the NPI - they are quite specific about how you report your emissions.</p> <p>Re 4th question (has WHC compared bottom up emission estimates versus top down), we weren’t sure what that meant and needed clarification - we report as any other facility would.</p> <p>DR – Methodology you use - very clearly spelt out for you through legal requirements.</p> <p>SM – Yes. Use Method 1. Calculation method to measure fugitives – default methods. Emissions lower than estimated, i.e. default rate for open cut mines, but WHC would definitely be lower.</p> <p><i>Water and Production</i></p> <p>DS –(Re how the mine will manage production with reduced access to water due to drought) Through this drought – we do recycle a lot of water through our plan. There’s work understanding water efficiencies. Looking how to reduce evaporation. Dust suppressants. Investigating other water sources. Multipronged approach – water stored, dust suppressants and other due to mitigation (e.g. direction of water nozzles makes a difference and assessing these). Work to understand water efficiencies, decrease evaporation measures, water supply options.</p> <p>JW - What is your expectations on your continuing use - are you covered. How’s it going to go?</p> <p>NW - We are looking at everything we can to reduce our water consumption. We have to keep investigating.</p> <p>JW – If it doesn’t rain – could it impact the business?</p> <p>NW – Yes it could.</p> <p>CC – How long is your water supply for current capacity before you run out of water without rain, i.e. production rate? Will water supply last? I know you are doing measures to help, but how long do you anticipate you can keep production? Are you looking to reduce your level of production and expand the time you keep your employees on?</p> <p>NW – Not considered at this stage. There are lots of options out there. We don’t want to frighten people.</p> <p>SMo – There’s been word out in the community.</p> <p>NW – We haven’t spoken to the workforce at all.</p>	<p>water savings and water needed/day</p>

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	<p>SMo – Mines shutting down / workforce forced to take leave are the rumours going around at the moment. DS - No intent at this stage. Tarrawonga now has 190 ML water storage.</p> <p>KC – At what point would production have to stop? If not in production, and what is needed to keep everything under control? What would you need to keep up with general mine maintenance, e.g. dust suppression? CC - How much water do you need a day? Approximately. NW – Used for coal washing, depends on weather. Will take the question on notice. Business can change how it operates depending on circumstances. For example, may not wash the coal and sell to a different market. Buyer would need a washer that can take coal.</p> <p>NW – If people ask you - tell them not to believe rumours. JW - See that is an important statement - try to keep reducing.</p> <p>SM – How many megalitres (are held in river licences) – 3,000 megalitres is one of our licences (= units), for river licence. DS - Based on units and then multiply based on dry conditions. 2018, 3,000 ML (multiplier by 1).</p> <p>JW - Have you been able to have 3,000 megalitres delivered? NW – Not to date.</p> <p>CC – 3,000 megalitres - is that all your licences. SM – Just one licence plus other licences on top of that for other water sources. All detailed in our Annual Report. We'll continue to consult with all agencies as required. Last report with numbers is available on the website.</p> <p>KC – So you are not looking to get any other allocations from Split Rock? Are you looking to get more water? DS – There are no releases that we are aware of. SM – Releases are managed by Water NSW. NW – Continual water discussions with Water NSW, but no releases anticipated.</p> <p>SM – (Re has any water from Chaffey Dam been released for the mine or partners) Nil to Maules Creek - 2017 – 1,860 megalitres - we haven't used all of our licence allocation in 2018 and 2019. CC – You haven't used your 3,000 megalitres? How much were you able to access? SM – It'll be in the Annual Review when it comes out. We submit at the end of March 2019.</p>	<p>ACTION 4 – WHC to report on storage capacity of water</p> <p>ACTION 5 – Annual Review to be tabled at the next meeting</p> <p>ACTION 6 – WHC to report back on the offsets</p> <p>ACTION 7 – KC to provide list of 8 questions</p>

Agenda Item	Discussion	Action/By Whom
	<p>CC – Hydrologist - James. Part of your licence is the seepage. Seepage incorporated. No. 5 - 2017 Annual less than 10 megalitres. 2018 Annual Review will come out with that number. SM - Calendar year 2017 was included in the Annual Review. We'll include report of value in our Annual Review for 2018.</p> <p>CC – How many bores do you have to use each year? SM - We're not pumping anything from any bores.</p> <p><i>Trucks</i> DS – Regarding the question re large number of truck movements occurring on Maules Creek Road (are they related to mine activity)– answer is no, not related to mine activity. LF – Council trucks carting out of NSC's Tikki gravel pit. That is reason for truck movements.</p> <p><i>Dust and Pollution</i> SM – regarding the question on cameras (has MCCM been required by EPA to install cameras to monitor dust producing activities) - no cameras have been required to be installed re dust and regarding questions on pollution reduction studies, we have no requirements to provide those reports within our EPL – not prepared to disclose that information. We have regular visits from regulators. We are not proposing to provide numbers and breakdowns.</p> <p>SM – regarding the question on alleged masses of dust being pushed into the district, we note the regional and national dry conditions over the last quarter the monitoring results relate to (even longer). There are a number of dust sources.</p> <p><i>Extra Water Questions</i> The question around where we are sourcing water, all listed in our Annual Reviews. Details of completed or proposed water transfers is business related information and we are not going to provide detail on that sorry.</p> <p>The question relating to pipelines – we construct pipelines across all our sites to transfer water and again is business related information and not going to provide further information.</p> <p>CC – Are you looking to help Tarrawonga Mine? DS – As part of our approvals - we can consult across the 3 businesses and is ongoing.</p> <p>CC – Do you look to help them out. NW – We do look at that as a large group. We look at all options.</p>	<p>ACTION 8 – WHC to give a presentation on Infrastructure Fund project ideas</p>

Agenda Item	Discussion	Action/By Whom
	<p>CC – Your water capacity and what you are at. DS – Business related information. This is commercial and how the business is operating – we don't want to give you false hope.</p> <p>DR – Thanked WHC as they got more questions provided late to me and so we thank you for putting in the effort to try and answer those extra questions.</p> <p>KC – WHC was actioned from November 2018 meeting to report back on the update of offsets? DS – Already did that earlier in the Biodiversity Report. KC – No you didn't. DS – State offsets are all finalised.</p> <p>KC – WHC to report back on the offsets? They are overdue. 5,000 hectares of 9,000 legally binding due by 2018 - compliance has not been treated. Commonwealth. How much has been cleared to date without the commercial being finalised. Clearing a 1/3 - what's been cleared and what's about to be cleared – Commonwealth offsets – hasn't been established yet and has been breached. DS – Primarily a Government run process which doesn't preclude us from working within our offsets under the BMP and our Regional Biodiversity Strategy.</p> <p>Other questions then provided by KC to be taken on notice: Question: What in perpetuity covenants have been established? Question: What is the areal extent of offset CEEC and how does this compare with CEEC cleared to date and in the future? Question: Is WHC including rehabilitation in this total and how much land has received successful rehabilitation actions? Question: How does the purchase of Pat Murphy's property factor into offsets?</p> <p>JW – Infrastructure Funds - miners supporting community. Like improved telecommunications - NBN quality internet services – any opportunities to do that? Improving electricity - we've lived here for 35 years. Small business – to upgrade the electricity grid. Roads upgraded.</p> <p>DS – WHC have criteria for funding. DS – To give a presentation on what they think at the next meeting.</p>	
7.	<p>General Business</p> <p>RW – introduced himself as the Health, Safety & Environment Community Manager at Maules Creek.</p>	

Agenda Item	Discussion	Action/By Whom
	SM – Advised that he is transitioning from Maules Creek to a different role. Thanked everyone for the opportunity to be on the CCC. DR – Thanked Scott and acknowledged how much he puts in behind the scenes. DR – Chair report will be made publically available.	
8.	Next meeting date to be agreed - Next meeting Wednesday 15 May 2019 at 2:00pm.	

Meeting Closed: 4:35pm

Appendix 1: Actions

Page No	Action No	Description	Date Raised
5	1	What is the retention rate of employees?	13 February 2019
6	2	DR to send link to the CCC for the appropriate EPA pages around Namoi Regional Air Quality Network.	13 February 2019
8	3	WHC to provide details on water savings and water needed / day.	13 February 2019
9	4	WHC to report on storage capacity of water.	13 February 2019
9	5	Annual Review to be tabled at the next meeting.	13 February 2019
10	6	WHC to report back on the offsets.	13 February 2019
10	7	KC to provide list of 8 questions.	13 February 2019
10	8	WHC to give a presentation on Infrastructure Fund Project ideas.	13 February 2019
	9	DR to invite members to provide questions 3 weeks in advance of meetings (ongoing).	7 November 2019
	10	DR to look into a presentation on compliance from EPA in late 2019.	7 November 2019

Maules Creek Coal Mine Community Consultative Committee Meeting #24

Environmental Monitoring Report For the Q4 period, October-December 2018

Attended Noise Monitoring

Attended noise monitoring was undertaken at six locations during October, November, and December 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 MCCM AGAINST OPERATIONAL NIGHT NOISE CRITERIA – OCTOBER TO DECEMBER 2018.

Table 1 - October Noise Monitoring

		Time	Wind Speed	Rainfall	Criterion	Criterion	MCC LAeq	Exceedance
			m/s	mm	dB ³	Applies ¹	dB ^{2,3}	dB ^{3,4}
NM1	15/10/2018	22:15	3.3	0	35	Yes	IA	NA
NM2	15/10/2018	23:46	4	0	39	Yes	<25	NA
NM3	16/10/2018	0:53	3	0	35	Yes	<25	Nil
NM4	15/10/2018	23:22	3.5	0	35	Yes	<20	NA
NM5	15/10/2018	22:45	3.7	0	35	Yes	IA	NA
NM6	16/10/2018	0:21	1.9	0	35	Yes	<25	Nil

Table 2 - November Noise Monitoring

		Time	Wind Speed	Rainfall	Criterion	Criterion	MCC LAeq	Exceedance
			m/s	mm	dB ³	Applies ¹	dB ^{2,3}	dB ^{3,4}
NM1	22/11/2018	22:30	1.7	0	35	Yes	IA	Nil
NM2	22/11/2018	23:30	1.4	0	39	Yes	<20	Nil
NM3	22/11/2018	23:45	1.5	0	35	Yes	IA	Nil
NM4	22/11/2018	23:00	1.7	0	35	Yes	IA	Nil
NM5	22/11/2018	22:00	1.8	0	35	Yes	28	Nil
NM6	22/11/2018	23:55	1.4	0	35	Yes	IA	Nil

Table 3 - December Noise Monitoring

		Time	Wind Speed	Rainfall	Criterion	Criterion	MCC LAeq	Exceedance
			m/s	mm	dB ³	Applies ¹	dB ^{2,3}	dB ^{3,4}
NM1	10/12/2018	22:00	4.4	0	35	Yes	NM	NA
NM2	10/12/2018	23:00	3.8	0	39	Yes	<25	NA
NM3	10/12/2018	0:00	4	0	35	Yes	IA	NA
NM4	10/12/2018	22:30	5.2	0	35	Yes	NM	NA
NM5	10/12/2018	22:00	4.4	0	35	Yes	IA	NA
NM6	10/12/2018	23:26	4.1	0	35	Yes	NM	NA

(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 MCCM;

(3). 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 MCC; and

(4). Bold results indicate exceedance of criterion.

IA – Inaudible NM – Not measurable

None of the measurements during Q4 satisfied the conditions for further assessment when assessed for the applicability of low frequency modification factors in accordance with the EPA's Noise Policy for Industry. Therefore, no further assessment of modifying factors was needed to be undertaken.

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 2018.

LA1, 1minute GENERATED BY MCC AGAINST OPERATIONAL NIGHT NOISE CRITERIA – OCTOBER TO DECEMBER 2018.

Table 4 - October Noise Monitoring – Night

L _{A1} (1min)		October						
		Time	Wind Speed m/s	Rainfall mm	Criterion dB ³	Criterion Applies ¹	MCC L _{A1(1min)} dB ^{2,3}	Exceedance dB ^{3,4}
NM1	15/10/2018	22:15	3.3	0	45	Yes	IA	NA
NM2	15/10/2018	23:46	4	0	45	Yes	<30	NA
NM3	16/10/2018	0:53	3	0	45	Yes	26	Nil
NM4	15/10/2018	23:22	3.5	0	45	Yes	<20	NA
NM5	15/10/2018	22:45	3.7	0	45	Yes	IA	NA
NM6	16/10/2018	0:21	1.9	0	45	Yes	32	Nil

Table 5 - November Noise Monitoring – Night

L _{A1} (1min)		November						
		Time	Wind Speed m/s	Rainfall mm	Criterion dB ³	Criterion Applies ¹	MCC L _{A1(1min)} dB ^{2,3}	Exceedance dB ^{3,4}
NM1	22/11/2018	22:30	1.7	0	45	Yes	IA	Nil
NM2	22/11/2018	23:30	1.4	0	45	Yes	<20	Nil
NM3	22/11/2018	23:45	1.5	0	45	Yes	IA	Nil
NM4	22/11/2018	23:00	1.7	0	45	Yes	IA	Nil
NM5	22/11/2018	22:00	1.8	0	45	Yes	30	Nil
NM6	22/11/2018	23:55	1.4	0	45	Yes	IA	Nil

Table 6 - December Noise Monitoring – Night

L _{A1} (1min)		December						
		Time	Wind Speed m/s	Rainfall mm	Criterion dB ³	Criterion Applies ¹	MCC L _{A1(1min)} dB ^{2,3}	Exceedance dB ^{3,4}
NM1	10/12/2018	22:00	4.4	0	45	Yes	NM	NA
NM2	10/12/2018	23:00	3.8	0	45	Yes	35	NA
NM3	10/12/2018	0:00	4	0	45	Yes	IA	NA
NM4	10/12/2018	22:30	5.2	0	45	Yes	NM	NA
NM5	10/12/2018	22:00	4.4	0	45	Yes	IA	NA
NM6	10/12/2018	23:26	4.1	0	45	Yes	NM	NA

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 LAeq,15minute attributed to MCCM;
 - Estimated or measured LA1,1minute 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 7 - Prevailing Wind Direction

Monitoring Date	Prevailing Wind Direction
October	E, SSE
November	W, NW
December	NW, ESE

Blast Monitoring

There have been 22 blasts at MCCM during Q4 2018. 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 8 - Blast Results Summary Quarter 4 2018

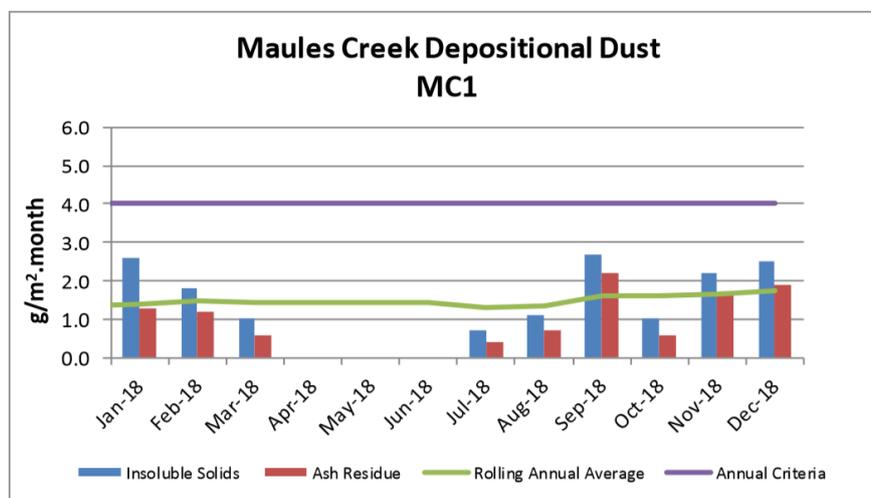
Parameter	Units	Frequency	Number	Average	Max	100% Limit	Exceedance (Yes / No)
Noise	dB (Lin Peak)	All	22	93.12	117.6	120	No
Vibration	mm/s		22	0.23	0.65	10	No

Air Quality

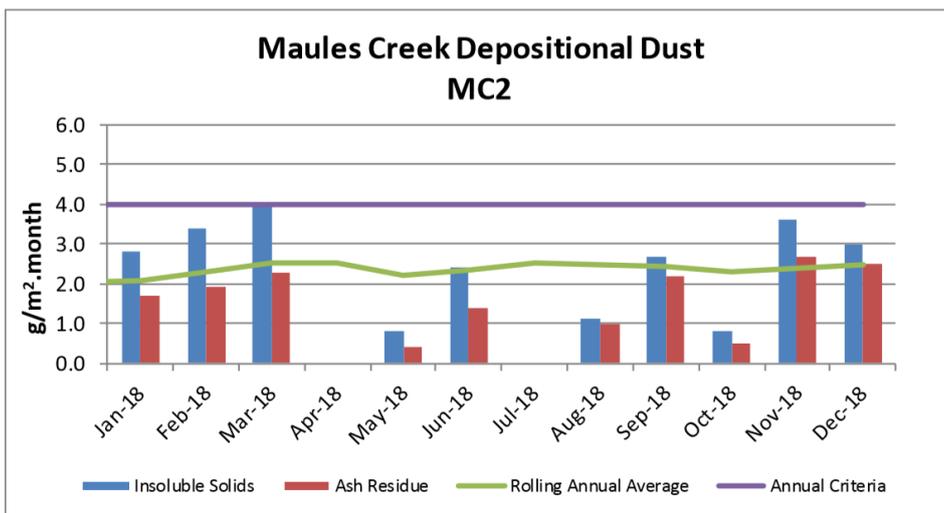
Total Depositional Dust

The monthly rolling annual average remains below the relevant Project Approval criteria of 4gm/m²/month for the respective monitoring points, as shown on the graphs below. Depositional dust at MC4 was elevated during December 2018 attributable to dust conditions across the region.

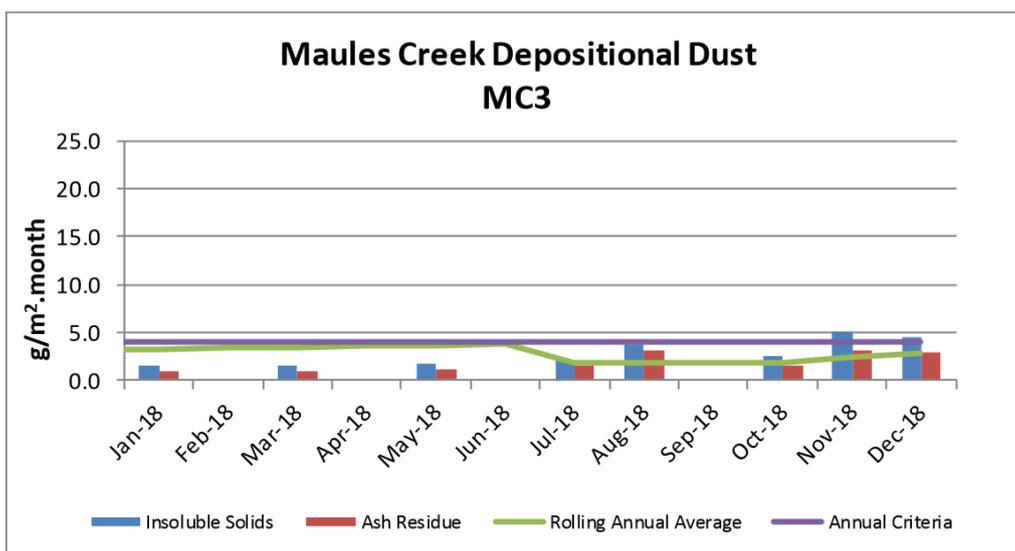
Deposited Dust Monitoring Figures (MC1 – MC4)



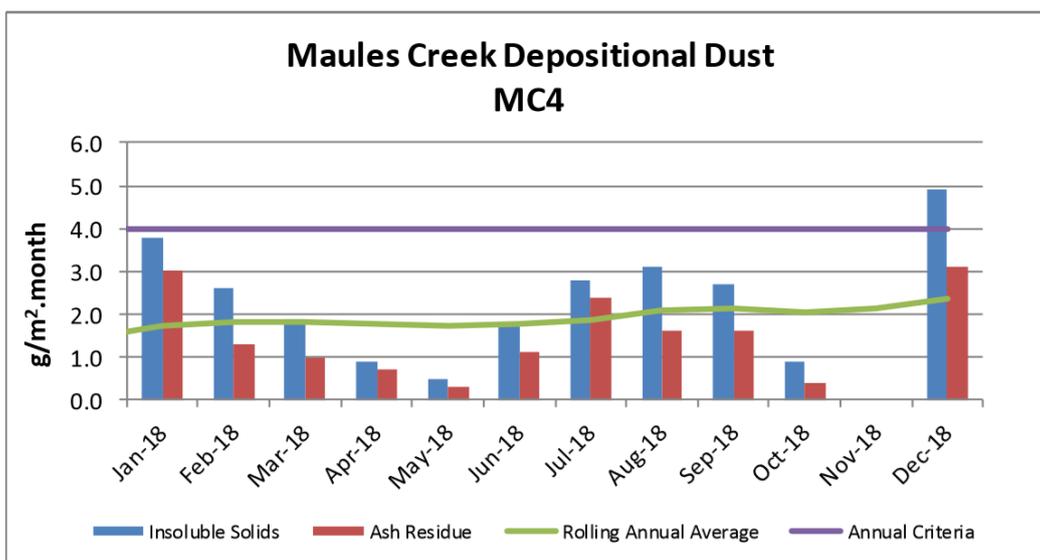
* Blank cells indicate sample periods where the sample has been contaminated and excluded from the results tables due to contaminated material (insect larvae, bird droppings, vegetation etc.).



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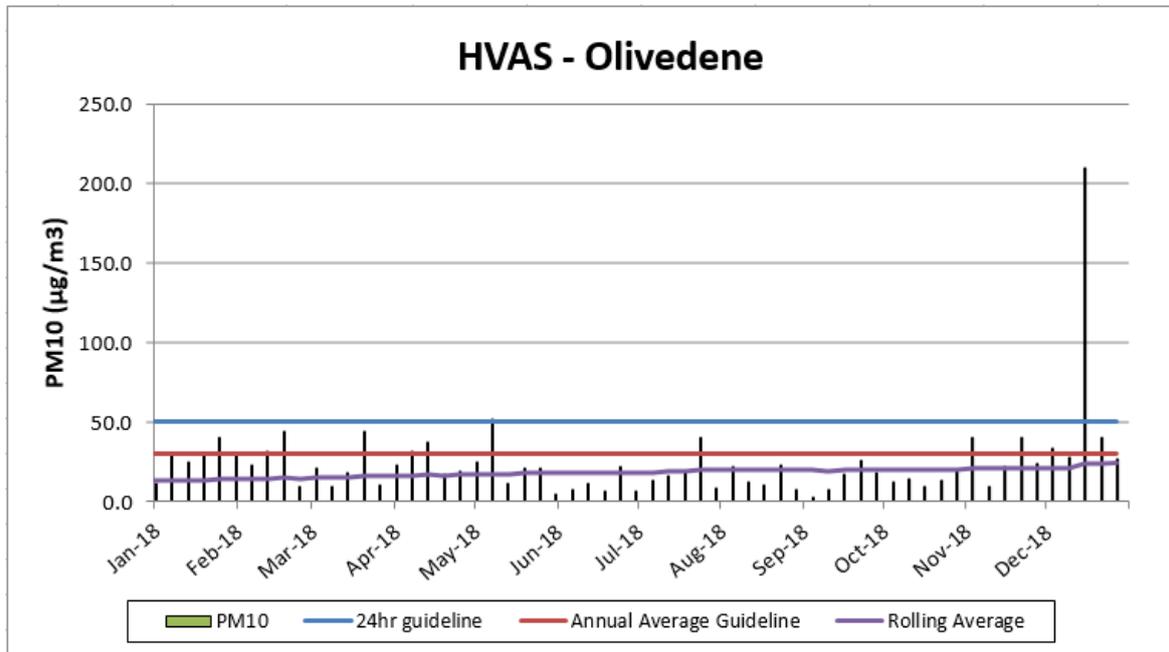
* Blank cells indicate sample periods where the sample has been contaminated and excluded from the results tables due to contaminated material (insect larvae, bird droppings, vegetation etc.).



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High Volume Air Sampling (HVAS)

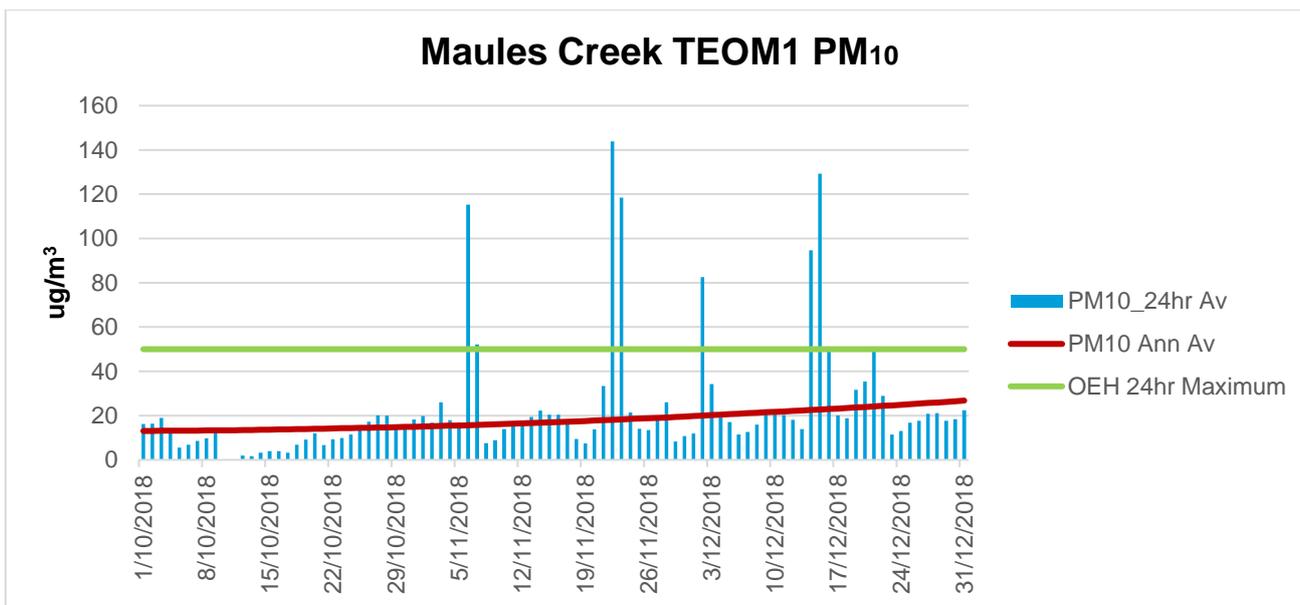
The HVAS monitor is located on the property 'Olivedene,' a mine owned property on Therribri Road. HVAS PM₁₀ Rolling Annual Average during Q4 2018 remained well below the Annual Average Guideline 30 µg/m³. An elevated result was recorded on 21 December 2018, which was attributed to regional weather conditions.



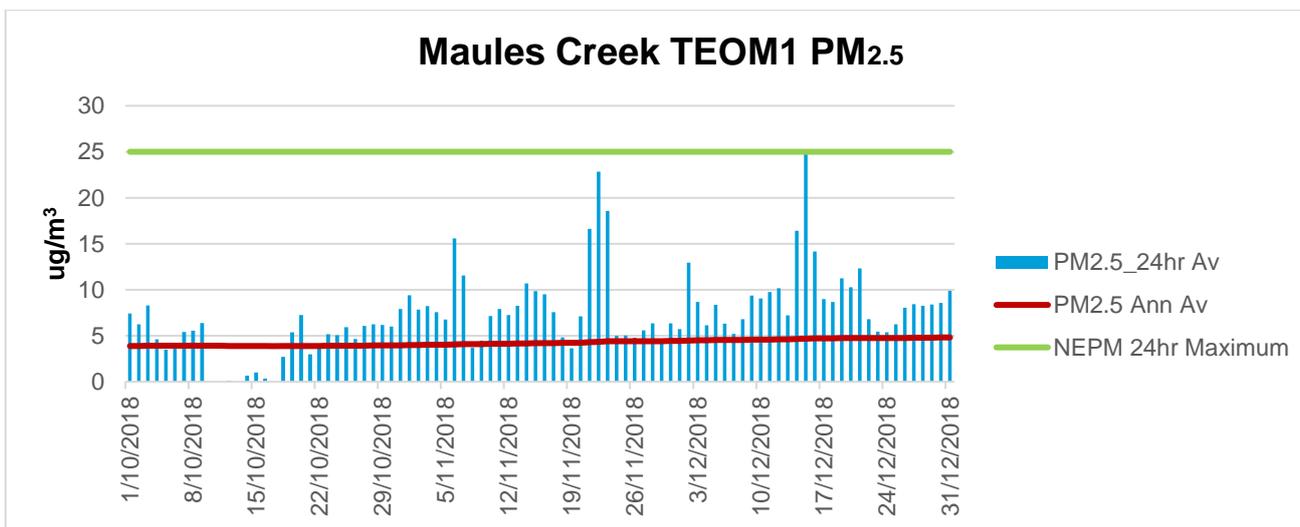
TEOM - PM₁₀ Results

The annual average for PM₁₀ results at the Maules Creek Coal TEOM remain below the Project Approval annual average criteria of 30µg/m³ (at 31 December 2018) as shown in the following figure. The PM₁₀ average results have remained below this criteria since the TEOM was commissioned in November 2011. On the 6th, 7th, 22nd and 23rd of November and the 2nd, 14th, 15th, 16th and 21st of December, there were 24 hour average result of 115.24µg/m³, 52.16µg/m³, 143.84µg/m³, 118.46µg/m³, 82.63µg/m³, 94.6 µg/m³, 129.25µg/m³, 50.3 µg/m³, 51.13µg/m³ and 193.2µg/m³ respectively which were above the OEH 24hr maximum. These elevated results were not mine related and attributable to regional dust events.

TEOM Result Figures – Particulate Matter PM₁₀µg/m³ and PM_{2.5}µg/m³



* Blank columns indicate sample periods where there was either power outage, maintenance or other related causes.

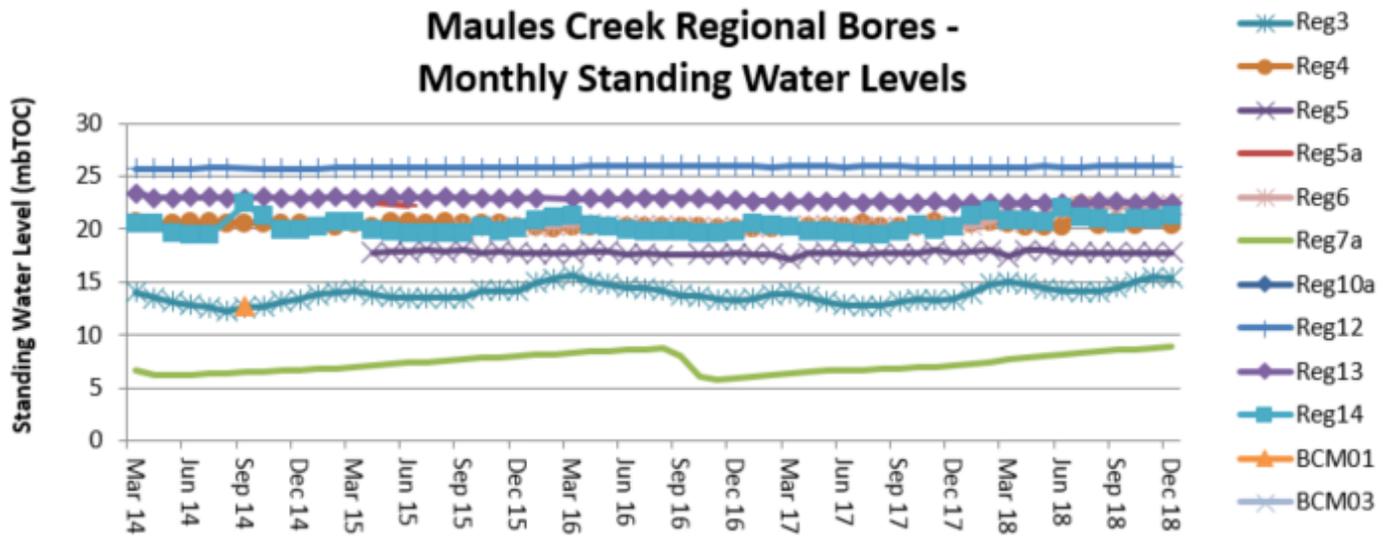


* Blank columns indicate sample periods where there was either power outage, maintenance or other related causes.

Water Monitoring

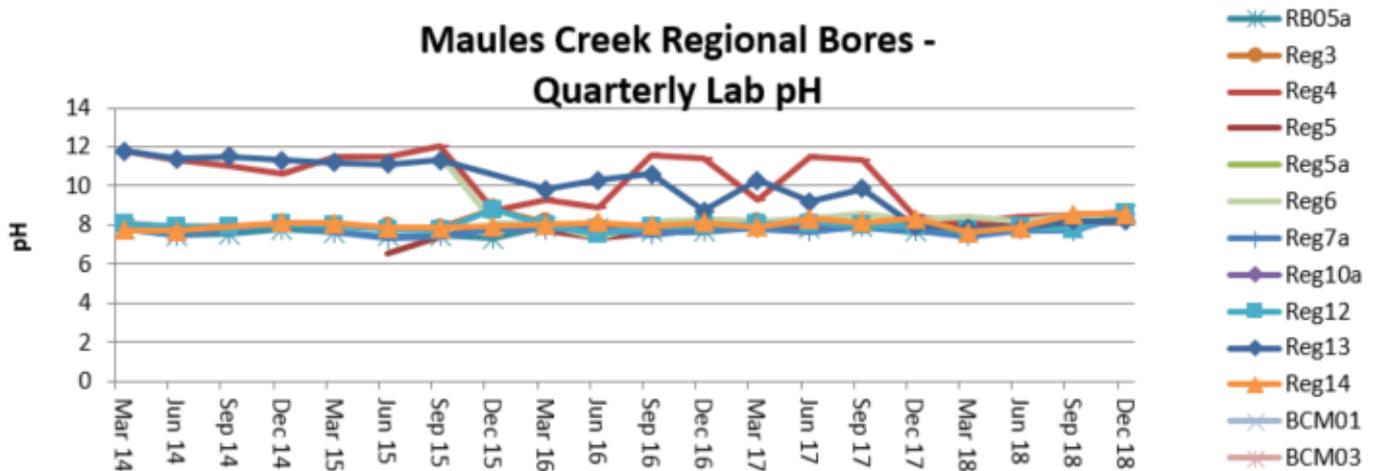
Groundwater

Groundwater monitoring results in open standpipe piezometers show levels to be relatively stable. The Regional bores were installed between Q4, 2013 and Q1, 2014. BCM01, BCM03, Reg10 are shallow bores which have remained dry since construction in 2013.



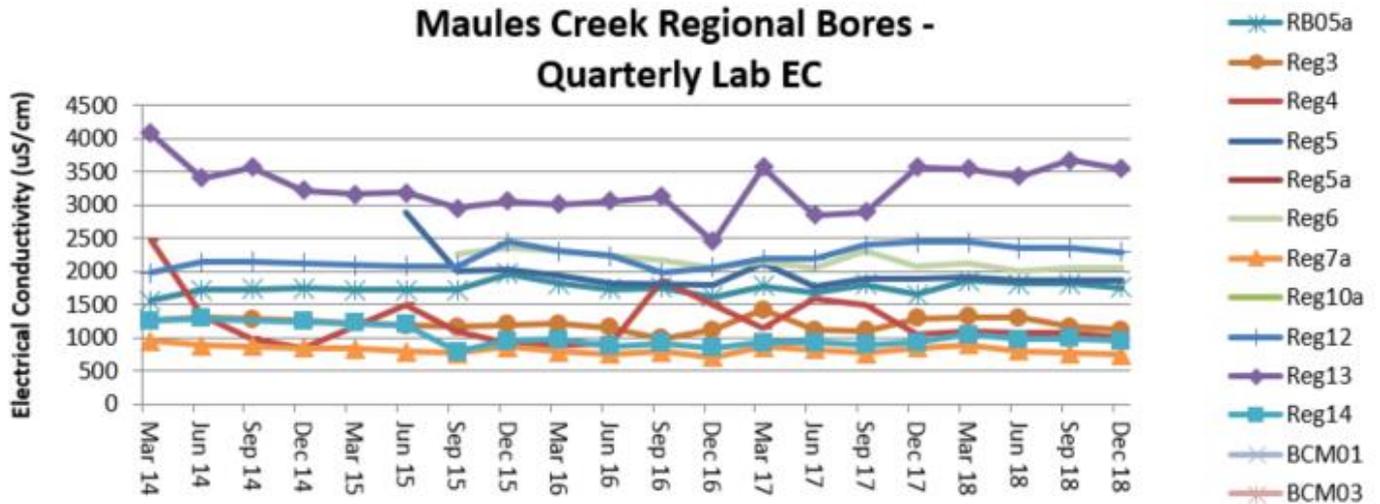
Acidity / Alkalinity (pH)

Initially bores Reg4 and Reg13 showed elevated pH levels (above pH 8.5) that has been determined to be likely as a result of low recharge volumes and affected by grout within these bores at installation, however for the past 12 months pH levels for both of these bores have stabilised.



Electrical Conductivity

Laboratory Electrical Conductivity (EC) levels are all within historic groundwater EC range of 500 $\mu\text{S}/\text{cm}$ to 2,500 $\mu\text{S}/\text{cm}$, with the exception of monitoring bore Reg13 which has a historic groundwater EC range of 2,500 $\mu\text{S}/\text{cm}$ to 4,100 $\mu\text{S}/\text{cm}$.



Wet Weather Discharge Sampling

Between 1st October and 31st December 2018, Maules Creek Coal AWS recorded 134 mm of rainfall. There were no rainfall events that exceeded the 38.4mm value over a consecutive 5 day period during Q4 2018. There were no wet weather discharge events during Q4 2018.

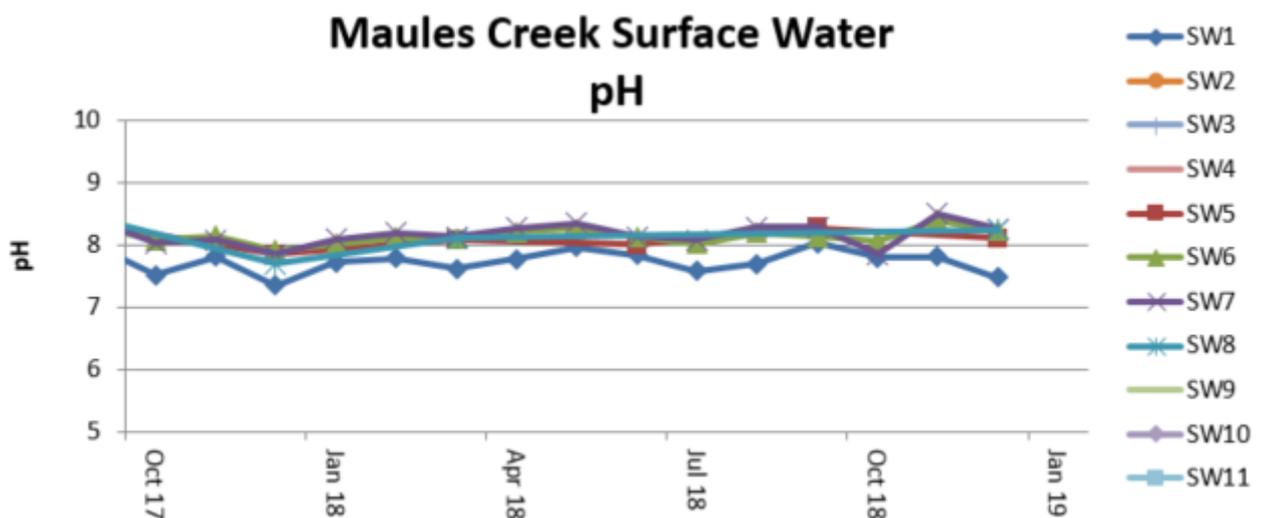
Note: As per wording of condition L2.5 of EPL20221, 38.4mm equates to the 5 day 90 percentile rainfall for the Gunnedah region.

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 figures below.

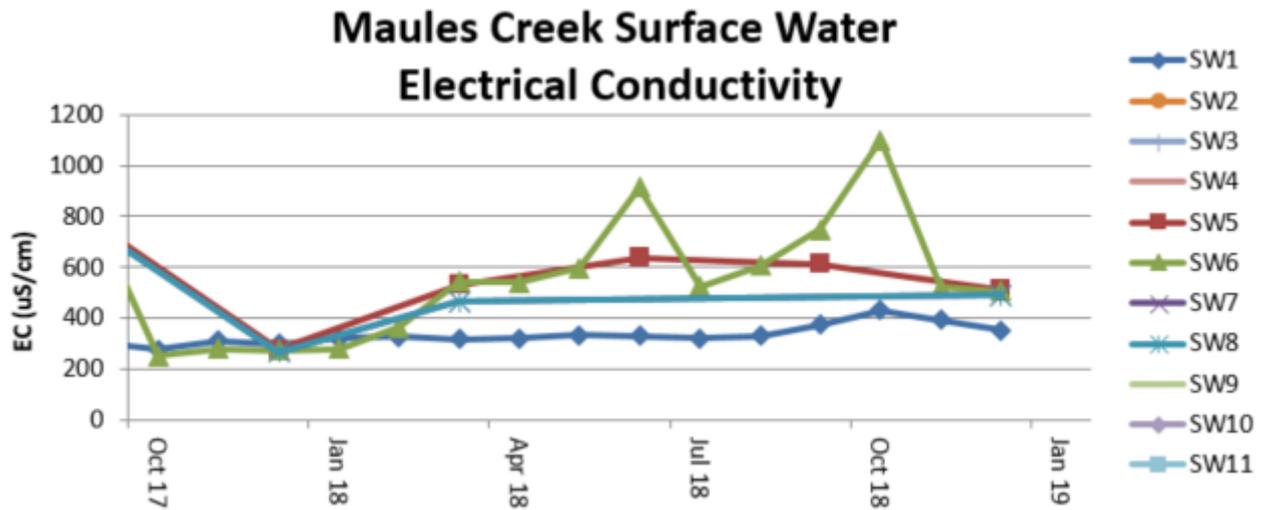
Acidity / Alkalinity (pH)

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



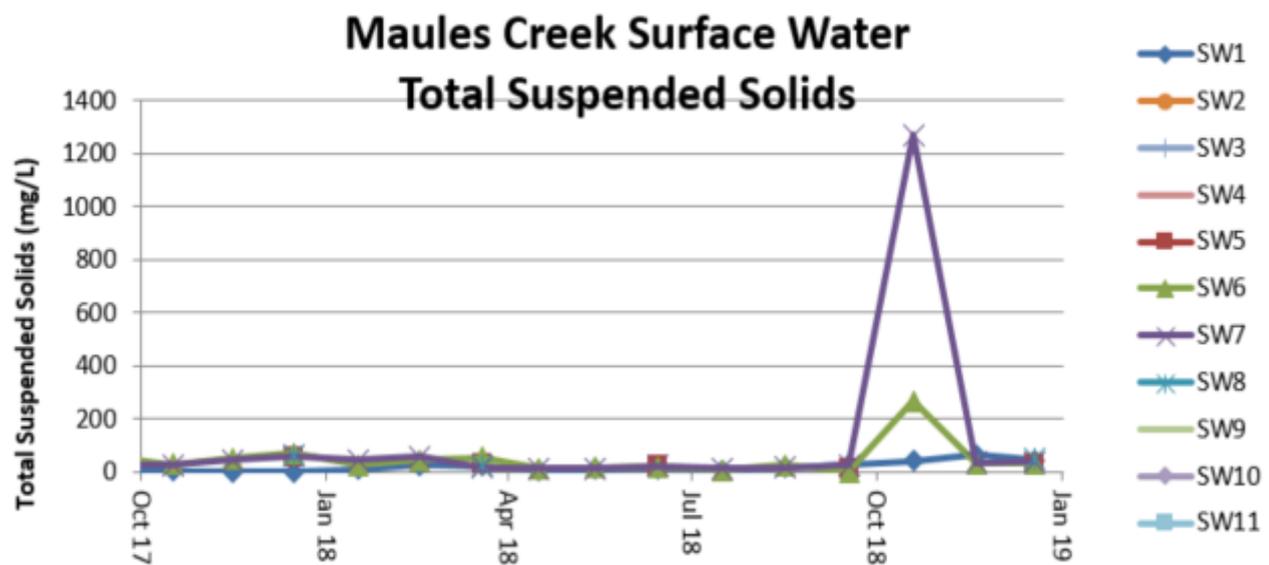
Electrical Conductivity

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.



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. Elevated levels of TSS are likely due to a release of dam water into the Namoi River during November.



Rehabilitation

The rehabilitation phase of bulk shaping of the lower benches on the northern and south west out of pit dumps is ongoing. At the end of 2018 approximately 62.89 hectares of bulk shaping had been completed.

Feral Animal Management

During the most recent routine Whitehaven Offset Area Feral Animal Control program (November and December 2018) the results included: 16 pigs from the Maules Creek Offsets (from 56 trap days however there were few trap sites due to majority of dams being dry at the time) and 25 Foxes (7% bait take rate).

Weed Management

Broadleaf weed control of revegetation areas and Green Cestrum along riparian areas plus Box Thorn were targeted for spraying prior to Xmas. Targeted Tiger Pear spraying has been ongoing for the Southern Offsets otherwise resources have been utilised for tree watering.

Revegetation

During the prevailing hot/dry conditions; resources have been deployed to undertake tree watering of the Maules Offset FY18 revegetation areas to minimise mortality given the unknown duration of the current climatic/weather patterns.

Monitoring

Annual ecological monitoring of Maules Offsets was completed in November 2018 including flora and fauna surveys in accordance with the Biodiversity Management Plan.