

**Minutes:** Minutes of the 22<sup>nd</sup> Meeting of the Maules Creek Coal Community Consultative Committee  
Held at the Boggabri Golf Club, Gunnedah Road, Boggabri NSW 2382

**Wednesday 15 August 2018**

**Members Present:** Darren Swain (DS) – WHC, Peter Wilkinson (PWi) – WHC, Scott Mitchell (SM) – WHC, Jack Warnock (JW) – Community Representative, Carolyn Nancarrow (CN) – Community, Cr Robert Kneale (RK) - Narrabri Shire Council, Libby Laird (LL) – Maules Creek Community Representative, Steve Eather (SE) – Community Representative, Robyn Grover (RG) – Community Alternative Representative

**Guests:** Steve O’Donoghue (SOD) – DPE, Heidi Watters (HW) – DPE, Ben Harrison (BH) – DPE, James Tomlin (JT) and Laura Bellis (LB) – Australasian Groundwater and Environmental Consultants Pty Ltd (AGE)

**Observers:** Nigel Wood (NW) – WHC, Lee Moore (LM) – WHC, Andrew Wright (AW) – WHC, Kirsten Gollogly (KG) – WHC, Roselyn Druce (RD) – Alternative Representative

**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 May 2018	DR
4. Business arising from the previous minutes a. Action list distributed	DR
5. Correspondence	ALL
6. 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 e. Biodiversity Audit Presentation	PWi, DS, SM, AW
7. General Business	ALL
8. Next Meeting – 7 November 2018	ALL

<b>Agenda Item</b>	<b>Discussion</b>	<b>Action/By Whom</b>
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	<b>Welcome by David Ross</b> – DR welcomed everyone to the meeting. He reminded the group about the Code of Conduct and walked people through the Code’s requirements.	
<b>1.</b>	<b>Apologies</b> – Cath Collyer (CC) – Community.  DR also informed the CCC that Kerri Clarke was to attend by phone; however, WHC were not comfortable with this. DR apologised for the situation. SOD – An environmental representative at CCC’s is a part of the Approved Conditions. The Registered organisation can send someone else even if the alternate – Anna in this case – is not available. DS – We didn’t know.	
<b>2.</b>	<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. JW – traded groundwater entitlements with WHC last year.	
<b>3.</b>	<b>Confirmation of the minutes of the previous meetings (16 May 2018)</b> – The CCC endorsed the minutes as an acceptable record of what was discussed.	
<b>4.</b>	<b>Business arising from the previous minutes</b>  Actions from previous May 2018 meeting have been closed with WHC providing CCC members with responses prior to meeting (except for responses to LL’s questions, which were provided subsequent to the BTM Meeting in May. DS advised that he believed will be covered in James’ presentation).	
<b>5.</b>	<b>Correspondence</b>  DR received an email from the EPA regarding their May CCC visit and if they should be involved in future meetings as guests or observers. DR asked what everyone thought?  JW – We have the EPA at our gas meetings in which a monthly report is also produced. RK – Thumbs up from me as they can ensure things are complied with and dealt with straight away.  KG – We run 7 CCC’s in this area and it isn’t standard practice for EPA to attend them. CN & RG – Agree that the EPA should be invited – maybe as Observers.  SM – Maybe not every meeting but as requested and already visit site regularly.  DR – So value in coming to the meetings but maybe on a case by case basis. CN – Observer but if we ask them something, they can address it right there and then at that meeting. DR – It was a generous offer to us but wonder if the practicalities still unclear. Will take it back to the EPA. LL – The EPA should come, and we should hold the meetings on the mine site.	<b>ACTION 1</b> – DR to discuss letter further with EPA

6.

**Groundwater Presentation by Australasian Groundwater and Environmental Consultants Pty Ltd (AGE) – James Tomlin (JT) and Laura Bellis (LB)**

AGE specialise in assessing groundwater impacts for major projects. AGE prepare consulting studies for proponents of major projects including gas companies, agriculture, quarries – bulk of work is mining related. JT from AGE managed the Maules Creek Groundwater Study for the EIS with LB managing the most recent update to the BTM numerical model. LB also worked on the Namoi Catchment Water Study when previously employed by Schlumberger.

**Slide 1 – Conceptual Model (not Maules Creek Mine)**

- Shows all the concepts that commonly influence how a groundwater system works.
- The conceptual model is the basis of the computer numerical model.
- Slide shows graphical concepts including recharge, discharge and flow paths. Flow to creeks etc.
- Important to understand groundwater moves very slowly underground – time frames are years, decades, centuries or millennia – not days.

**Slide 2 – Conceptual Model**

- Presented graphical representation of a creek and potential connections with the water table:
  - Groundwater Source – Flow out of creek into water table.
  - Groundwater Sink – Flow from aquifer into creek.

**Slide 3 – Conceptualisation – 3D graphic of geology and topography**

- BTM mines indicated as occurring within ridge area.
- Described:
  - relative elevations of mines,
  - distance of Maules Creek Mine to Maules Creek – Zone 11 Alluvium,
  - orange zone is volcanic bedrock,
  - blue zones are coal measurers sub basin – coal occurrence in this area,
  - alluvium around ridge area – impact of mining is relative to distance and geology and that’s why this slide helps with this understanding, and
  - large catchment in Maules Creek upstream feeds water down the creek and this seeps in to recharge the alluvial water table.

**Slide 4 – Monitoring Networks**

- JT pointed out network of monitoring bores and described how each has been installed in various campaigns over time and that each campaign has its own purpose.

LL – What is the number of bores operating?

JT – Explained that:

- ‘MAC’ bores for Maules Creek EIS – installed within exploration holes – all ‘MAC’ bores removed by mining except MAC1280 which remains operating.
- In 2014 ‘RB’ series of bores installed – these were to replace mined out ‘MAC’ bores.
- Two ‘RB’ bores have been removed by mining leaving three sites operating – pointed out RB3, RB4, RB5, RB5a.
- At some sites there is multilevel monitoring within coal seams using VWP pressure sensors and PVC cased bores that allow collection of water samples.
- The total number remaining is sites – but some have multi-level monitoring. *(Note – post meeting addition comment from AGE – all remaining sites have multi-level monitoring within coal seams).*

LL – A lot have been removed. Is that appropriate?

PWi – They have been removed because they have been mined and gone past that point.

JT – Explained how the impact of the mining is assessed using all bores within the network not just the ‘RB’ series. The potential for impact on the alluvium is assessed by examining the data from the ‘REG’ (purple dots on slide).

LL – No water in the porous rock?

JT – Definitely water occurs within the porous rock.

LB – The BCM investigation bores located along Back Creek are 10 metres deep and they are dry.

LL – Were the bores dry when you drilled them? When do you stop drilling down?

LB – 10 metres is when they stopped drilling down and they were dry. *(Note – post meeting addition comment from AGE – the purpose of the bores was to determine if a shallow water table occurred under Back Creek. The bores were stopped at 10m whilst dry to allow for monitoring of a shallow water table should it occur over time).*

#### **Slide 5 – Irrigation bores and private monitoring bores**

JT described how the slide showed the locations of irrigation bores and the average extraction rate represented within the numerical modelling.

#### **Slide 6 – Recharge**

JT explained the graph including:

- Water levels measured within alluvial bores.
- Periods where rainfall records indicate the soil profile has become sufficiently saturated for excess water to drain to the water table.
- Rainfall in mid-2016 provided good soaking rain which reached the water table as indicated by rising water levels correlated with this time.
- Records indicate since this time there hasn’t been enough rainfall to generate recharge of the alluvial aquifers.

JT – Years to represent the move of water. Water moves very slowly. Connection exists between stream and aquifer. Flow from run off leaks in. Upstream more likely to have a losing stream (not gaining). At Elfin Crossing the water table is feeding the surface water body.

The mine is located a long way away. The alluvium is quite a distance away from Maules Creek flood plain where sediment is collected. MC sub-basin is deposited. The alluvium sits on top of the Boggabri volcanics.

JT and LB – it takes years to represent the move of water, slowly moves down from upper to lower MC. Lower being Elfin Crossing. It has been 2 years since last significant rain.

LL – The flooding in September 2016 – you say it has been 2 years from when it rained. Not really 2 years as rainfall was occurring in September 2016. Haven't had 2 years to September yet. The crossing ran dry in March 2018. We had water in the creeks until at least Christmas. So it is a lot less than 2 years.

PWi – Look at the graphs to see where the recharge is happening. End of 2016. No significant recharge event since.

JT – Accepted comment from LL and noted the main issue is since the 2016 recharge there has not been enough rainfall to top up the alluvial system.

LL – Similar to what happened in 2017.

JT – The recharge always happens sporadically, and the graphs show how water levels responds to that.

CN – There was a recharge in 2012.

#### **Slide 7 and 8 – Maules Creek Alluvium and Surrounding Alluvium**

JT – Pointed out the distance indicators on the slide that indicate 1, 2, 5 and 10 kms from the edge of the Maules Creek Mine and noted impacts – reduces with distance.

LB – Described water level records within the bores noting:

- Water levels in bores at Thornfield Xing, Green Gully and Elfin Crossing indicate flow downhill from the high country in the east to the low country in the west.
- Alluvial water levels move up and down due to:
  - seasonal irrigation,
  - river flow,
  - rainfall recharge.
- Groundwater levels within the alluvium 'flat-lining' as a general trend.

#### **Slide 9 and 10 – Multi-level sites**

JT / LB – Described:

- The network of vibrating wire pressure sensors and bores that are installed within the bedrock that underlies the alluvial aquifer.
- How these sites were designed to detect the potential for mining to reduce the groundwater pressure within the bedrock and indirectly impact upon the alluvial aquifer.
- How groundwater moves from high level or pressure to areas of low level or pressure – indicated how this is what occurs when a bore starts pumping.

The deeper bores in various coal seams are used to see how the pressure changes over time. The sensors show how this impacts the alluvial water level – pressure level drops as the pressure in the layers underneath drop.

#### **Slide 11 – Permian bores**

JT / LB – Described how:

- Monitoring sites around all the active coal mines are recording reduced groundwater levels over time within the coal seams and Permian strata.
- This occurs around all coal mines and was predicted to occur by modelling for all mining products.

MC project is not directly extracting water from the alluvial aquifer. It can only be indirectly taken.

Back Creek has groundwater dependent ecosystems.

#### **Slide 12 – Boggabri Volcanics bores**

JT / LB – Described how:

- Network of bores occurring within Boggabri Volcanics bedrock.
- How the bores are not recording any notable water level decline.
- Bores put in to measure the potential for drawdown from mining to move to the west.
- Confirmed very low permeability within Boggabri volcanics.
- Volcanics in the western area – mean there is no effect from mining on Water Management Zone 5.

#### **Slide 13 – Sample core – low permeability, mainly fracture flow**

JT / LB – Described how:

- Rock types that occur at the Maules Creek mine. Coal seams separated by low permeability rock, sand and gravel layer.
- How the rocks are categorised as aquitards because they ‘retard’ the flow of groundwater.
- How flow occurs due to primary porosity which is through the spaces between the grains that make up the rock and secondarily porosity due to fractures within the rock.
- Secondary porosity is the main way water flows in these rocks and because of this they do not form good aquifers.

- Coal forms a minor aquifer and can transmit water through the coal seams.
- Understanding the rock types allows us to develop a conceptual model which can then be used as the basis for a computer model.

#### **Slide 14 – Numerical Modelling**

JT – Described:

- The history of numerical modelling conducted for the mining projects within the BTM complex.
- Maules Creek Mine model is required to be continually updated.

#### **Slide 15 – System Stresses**

- JT described the input and outputs to a groundwater system and how these influence water levels within an aquifer.
- JT noted the most recent update to the BTM complex numerical model is almost complete and was going through the final review process.

#### **Slide 16 – 3D model structure**

JT – Described how:

- The image shown on the slides is a graphical representation of the numerical model.
- The model is made up of cells.
- Cells extend down through the layers that represent the main geological units.
- There are millions of these cells and the computer model calculate the water level in each cell by totalling the inputs and outputs to each cell – over time.
- The numerical model starts at 2006 and continues until the approved end of the mining projects.

#### **Slide 17 – Predicted pit inflow – Maules Creek Mine**

JT – Described the table on the slide which indicated:

- Volume of water predicted to enter the mine pit (column 2).
- Volume of water predicted to be removed from each management zone:
  - Porous rock water source is Permian coal measures and Boggabri volcanics
  - Zone 11 covers Maules Creek alluvium
  - Zone 4 is the alluvial system to the south of the BTM complex
- The total number of water units issued for each water source and the number of units held by Whitehaven for Maules Creek Mine.
- How the column for Zone 4 and Zone 11 is the volume of water that the model indicates has been lost from the alluvial aquifer due to the interception by mining.

- The table indicates how Maules Creek mine has enough water licence units to account for the predicted volume of water intercepted from each water source but will need additional entitlements to offset impact on Zone 4 by 2020.
- Zone 5 is not predicted to be significantly impacted due to the presence of the Boggabri volcanics.

**Slide 18 – Namoi Catchment Water Study**

JT – Described how:

- The purpose of the Namoi Catchment Water Study was to examine the catchment scale effects from potential coal mining and coal seam gas projects.
- This required development of large but coarse models.
- Local impacts from mining are best assessed from the local scale model developed around the BTM mining complex.

DR (to JT) – What are the 3 top dot point you want to communicate from presentation:

1. Mining is not occurring within the alluvial aquifers and therefore connectivity between the mining areas and the alluvium can only occur through the bedrock – the properties of the bedrock and the distance control the effect of mining.
2. Receptors of impacts from mining are the alluvial aquifer, flow in creek and private bores. Monitoring is occurring at the receptors, and currently indicates they are not detrimentally affected by the BTM complex.
3. Groundwater models are useful tools, but they are never finished and must be continually updated for the life of the project.

JW – Pleased about the limitations of the system – gravity on the groundwater – lower Maules Creek in Zone 11 and volcanics protects zone 5, in particular. Natural protection on the groundwater. Rainfall or lack of it – big factor in Maules Creek dropping are – comes out the bottom.

LL – Question to Jack – you talked about lower end of Maules Creek – are you saying after seeing this presentation that you see that the Upper Maules Creek in Zone 11 might still be exposed.

JW – Significance of the mine and the groundwater system – that separation from the mining activity and the groundwater system in the Upper Maules creek area. Monitoring bores will help us keep an eye on what’s happening. Drainage 2012 and 2016 – major contributors to groundwater – as soon as they stop recharge, they reduce dramatically.

LL – Q3 from May 2018 meeting – what is the annual water requirement for the mine in ML, including all substantial uses such as dust suppression and the coal wash plant? As per the Annual Reviews & presented at previous CCC meetings: 2016 – 947ML pumped from Namoi River and <10ML pit inflows. 2017 – 1860ML pumped from Namoi River and <10ML pit inflows. 15 ML per month and 1810% increase in pit inflows for 2018 – 1st quarter. Could this change be the reason we have no flow in Maules Creek at Elfin Crossing?



JT – Indicated that in the early stages of developing the Maules Creek mine, the pits were close to but not deep below water table, meaning there was limited groundwater inflow. During these times the groundwater seepage was estimated at <10ML. In 2018 mining has occurred below the water table and about 15ML of groundwater per month has been pumped from the mine pits. This is roughly in line with model predictions.

JW – Libby wrote a letter Section 324 on Maules Creek. People most affected will be the irrigators not these guys. 2007 imposed. Not being able to pump because of that. A ruling the Minister can impose to stop but it has been in place for at least 10 years. Irrigators over Elfin Crossing – someone might start pumping to irrigate their crops. Even though entitlements wouldn't find anyone irrigating in the last 10 years. Section 324 would stop this.

LL – If it was imposed would it impact on Maules Creek mine?

SOD – What restrictions they put on the water and who from a planning point of view – it's through that process. Would need advice from Dept of Industry - Water. My understanding is that it is not in place.

## **Company reports and overview of activities by WHC**

### **Company Report & Overview of Activities for April, May & June 2018**

- June quarter production figure 2.93Mt. FY18 production target of 11Mtpa ROM (Run of Mine) coal achieved.
- Safety record of 5.92 (Total Recordable Injury Frequency Rate (TRIFR) – injuries per million hours worked) at end of June, which is up from the March figure of 2.7.

### **Health & Safety**

- Employee health programs continued focus on personal health: skin cancer checks program; Flu shot program commenced; Fatigue management focus.
- Ongoing Employee Drug and Alcohol testing carried out.

### **Employment**

- Continued focus on local, indigenous and female employment with ongoing training programs undertaken.
- Bus use by employees and contractors the last 5 quarters has been 86.6% (criteria is 70%).
- As of mid-July, on average 12 employees / contractors in 6 vehicles use Rangari Road daily from MCCM.
- 37 new trainees.

### **Approvals & Audits**

- EPL Annual Return submitted during the reporting period. The environmental risk level has reduced to a level 2 classification by the EPA.
- Modification to Project Approval Schedule 3 Condition 12 (Sound power levels) was withdrawn from assessment.

- The Independent Environmental Audit site visit was undertaken during July.
- An NSW Resources Regulator audit undertaken during the period as part of a state-wide compliance program.
- NPI reporting preparation across Whitehaven Coal.
- Management plans progressing including Social Impact Management Plan & Water Management Plan revised and submitted to DP&E for approval. Draft MCC Biodiversity Management Plan for consultation with CCC, and approval of the EMS, Heritage and Blast Plans.

#### **Monitoring and Environmental Performance**

- Monitoring and environmental results previously provided within the distributed information pack.

#### **Environmental Management**

- Publically available results of TEOM1 available on the EPA website. Annual rolling average for TEOM 1 is 11.4ug/m3 at 30 June 2018 (criteria 30ug/m3).
- Dust suppressant application continued across the operation.
- Regulatory agency visits occurred during the quarter period, including the clearing program and other inspections. Feral animal control & weed spraying programs ongoing.
- Progressive overburden emplacement and bulk shaping on the northern dump.
- 6 monthly Registered Aboriginal Parties (RAP's) meeting. Aboriginal representatives also assisted with archaeological surveys within offset area's during the quarter.
- General fencing ongoing in Northern Offset & Biodiversity Offset Revegetation Program scheduled to commence in Autumn 2018.

#### **Groundwater Monitoring**

- Slides on Monitoring Locations, Groundwater Levels, Air Quality Monitoring January 2016 – June 2016.

#### **Community**

- Whitehaven Stretch Reconciliation Action Plan was released.
- Supporting the Future EDU program in Narrabri Shire in promotion of STEM.
- Supporting the Youth Employment Agenda. Whitehaven are currently advertising for Cadetships and Apprentices for 2019.
- 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.

#### **Sponsorship & Donations**

- Sponsorships and donations have been made to the: Tamworth and Region, Narrabri and Gunnedah area communities. Donations are targeted at Health, Education and Community Enhancement. Ongoing VPA payments to Narrabri Shire Council.

### **Voluntary Planning Agreement (VPA) Payments**

- MCCM continues to make contributions to NSC and have been directed to: upgrade of infrastructure including Therribri Road and Tarriaro Bridge (this subsequently changed to portion Baan Baa Water Supply); Narrabri Airport; township of Boggabri and surrounds; Maules Creek Community; Narrabri CBD upgrades; Environmental Trust Fund held by NSC. All have been paid.
- Ongoing monthly payments \$0.075 per saleable coal tonne + CPI – ongoing (FY18 - \$748,000).

### **Looking Forward**

- Continued production targeting 13Mtpa with 3 years.
- FY19 production target is 12.6Mtpa ROM (Run of Mine).
- Continued focus on local recruitment.

### **General Discussion re the WHC Presentation**

LL – (to BH) – Community has asked about the investigation of the sound power levels / independent sound levels. Has it been independently assessed at this stage? Was there any independent testing of the sound power levels for the fixed plant?

HW – Has been done by a contractor.

BH – I have no reason to doubt their figures.

LL – By Maules Creek admission, they were breaching SPL in the Annual Review.

BH – The mine is required to do. No reason to be independently verified. From our perspective, we review and report those – sound power requirements. We assess them and the actions they've taken to bring them down.

LL – So what was the outcome that they were self-reported?

HW – 2016 there was an official caution and 2017 exceedances.

LL – (to HW) – was there any regulatory action? For the fixed plant levels in the Annual Review that were in exceedance of EA levels?

HW – 2016 there was an official caution.

LL – And 2017 exceedances?

HW – 2017 there was no official caution.

LL – Reason for withdrawing – sound power modification?

PWi – Compliant with our EPL and continuing to improve. Working very hard to get the equipment – below right – looking to get it further down. Continually improving the noise impacts on our neighbours.

LL – Sound power modification withdrawn because you believe you were compliant.

PWi – Complaint with our EPL and continuing to improve.

SM – NPI (National Pollution Inventory) reporting – we feed in all the data and they report it each year about the emissions

LL – When is the 2017 Annual Review to be circulated to the community?

HW – One month after we approve it.

LL – Has the DoPE compliance approved the 2017 Annual Review?

HW – Still not approved.

**Update by Andrew Wright on the Biodiversity Management Plan**

AW indicated his role was to supply biodiversity information to the company and manage the biodiversity offsets including Maules Creeks offsets.

DR will forward electronic copies of the revised BMP to everyone. Comments are required prior to 15 September 2018. Approval of Leard Forest Regional Biodiversity Strategy – occurred in September last year and establishes a coordinated approach to biodiversity management between Whitehaven Coal and Boggabri Coal in the Leards Forest Precinct. The main changes to the revised Biodiversity Management Plan was the updating of performance and completion criteria; ecology monitoring programs; weed and feral animal management; fire management; habitat connectivity and joint reporting and communication on biodiversity matters.

LL - Air Quality Monitoring Jan 2016 – June 2018 slide. Can we please just have a slide with Maules Creek data on it.

DR – Send ideas to DS (re possible projects for sponsorship) – looking for more suggestions for infrastructure projects in this area.

JW – We should discuss those sorts of things in a CCC – what the scope would be to suit the whole community – so we could think about and come up with some ideas.

DS – Where you can demonstrate where the community would benefit. Context – project obligation to spend a certain amount of money on projects. Gunnedah, Narrabri and Boggabri – opportunity for Boggabri to think of projects.

DR – A bit more of a discussion on that at our next CCC in November.

DR and DS to discuss if a mini-workshops would work at the next CCC meeting in November to help come up with ideas.

	<p>SE – Want to move a playground from the old area to near the tennis ground – toilets. Fence it in etc.  DS – Exactly what we are talking about.</p>	
<p><b>7.</b></p>	<p><b>General Business</b></p> <p>RK – I read a publication in Australian Mining (14 Aug 18) about the WHC partnership with Hitachi Construction Machinery and automated trucks.</p> <p>PWi – We are investigating automated trucks and working with Hitachi. We were going to start trialling in July 2018 but that has been pushed back to April 2019. Initially, 1 or 2 automated trucks and then 6 trucks. Looking at our Vickery Project and with the Shenhua Project – finding people is an issue. Continuing to train local people. We’ve informed our workforce.</p> <p>LL – I’ve asked that question over the last 4 meetings. The reply is always not, not yet. Not doing it. I’ve read the Washington Examiner USA which has more information on this topic – WHC would have 6 trucks at a Maules Creek mine in 2019 and if it proves a success it will be introduced throughout the mine. Safety is a key driver. Biggest benefits of WHC has given this community jobs – it’s not just the workers.</p> <p>PWi – We are investigating. We’ve kept our workforce informed. Councils have been informed. We are looking at various targets. It’s never been an absolute that we would but as technology is developing as it is in WA – the issue in this region is not jobs but people. It is an advance and remaining competitive and will continue to investigate.</p> <p>RK – The information provided by WHC at previous MCC CCC meetings regarding the trialling of Autonomous trucks has always been satisfactory to me. WHC has said the Autonomous haulage system is being trialled in WA, but not yet in NSW. I believe the questions asked at previous meetings regarding Autonomous trucks have been answered honestly, I would suggest it’s going to happen. Mines are continuously improving systems to make them more efficient and competitive.</p> <p>DR – EPA announced Namoi Regional Air Quality Committee with DR as the Chair. To date, we have had an introductory meeting and will be meeting again in September. Next meeting learning more about the air quality in the area.</p> <p>PWi – Announced this will be his last meeting as he is retiring. He introduced Nigel Wood who is in the process of taking over with the handover effective end of September.</p> <p>DR – Welcomed Nigel to the CCC and thanked Peter for his contribution and attendance.</p> <p>DR – To SOD – CCC having annual reports – gain input from the CCC. Where is that process at? Template developed.  SOD – No annual report template has been developed at this point. SOD to find out about timing for developing an annual return template. However, CCC Guidelines require the chair to prepare an annual report, so chair should aim to have a report covering this calendar year.</p>	<p>ACTION 5 – SOD &amp; DR to discuss template for monthly report.</p>

8.

**Next meeting date to be agreed** - Next meeting Wednesday 7 November 2018 at 2:00pm.

Meeting Closed:

4:54pm

**Appendix 1: Actions**

Page No	Action No	Description	Date Raised
3	1	DR to discuss letter further with EPA	15 August 18
14	2	WHC to include Air Quality Monitoring slide for just Maules Creek.	15 August 18
15	3	ALL – More suggestions for projects for the region.	15 August 18
15	4	DR & DS to discuss workshop for Nov CCC for project ideas.	15 August 18
17	5	SOD & DR to discuss template for monthly report.	15 August 18

## Maules Creek Coal Mine Community Consultative Committee Meeting #22

### Environmental Monitoring Report For the Q2 period, April-June 2018

#### Attended Noise Monitoring

Attended noise monitoring was undertaken at six locations on the 9-10 April; 9-10 May; and 19-20 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 EVENING AND NIGHT NOISE CRITERIA – APRIL TO JUNE 2018.**

**Table 1 - April Noise Monitoring**

		Time	Wind Speed m/s	Rainfall mm	Criterion dB <sup>3</sup>	Criterion Applies <sup>1</sup>	MCC LAeq dB <sup>2,3</sup>	Exceedance dB <sup>3,4</sup>
NM1	10/04/2018	0:04	0.6	0	35	Yes	28	NIL
NM2	9/04/2018	23:09	0.4	0	39	Yes	24	NIL
NM3	9/04/2018	22:07	0.6	0	35	Yes	IA	NIL
NM4	9/04/2018	23:37	0.3	0	35	Yes	<20	NIL
NM5	10/04/2018	0:34	0.7	0	35	Yes	27	NIL
NM6	9/04/2018	22:38	0.5	0	35	Yes	<20	NIL

**Table 2 - May Noise Monitoring**

		Time	Wind Speed m/s	Rainfall mm	Criterion dB <sup>3</sup>	Criterion Applies <sup>1</sup>	MCC LAeq dB <sup>2,3</sup>	Exceedance dB <sup>3,4</sup>
NM1	10/05/2018	0:00	0.5	0	35	Yes	28	Nil
NM2	9/05/2018	23:00	0.4	0	39	Yes	<20	Nil
NM3	9/05/2018	22:02	0.5	0	35	Yes	IA	Nil
NM4	9/05/2018	23:30	0.4	0	35	Yes	<20	Nil
NM5	10/05/2018	0:30	0.4	0	35	Yes	29	Nil
NM6	9/05/2018	22:28	0.4	0	35	Yes	IA	Nil

**Table 3 - June Noise Monitoring**

		Time	Wind Speed m/s	Rainfall mm	Criterion dB <sup>3</sup>	Criterion Applies <sup>1</sup>	MCC LAeq dB <sup>2,3</sup>	Exceedance dB <sup>3,4</sup>
NM1	19/06/2018	22:33	2.5	0	35	Yes	28	Nil
NM2	19/06/2018	23:30	0.5	0	39	Yes	34	Nil
NM3	20/06/2018	0:39	0.8	0	35	Yes	28	Nil
NM4	19/06/2018	23:03	1.4	0	35	Yes	28	Nil
NM5	19/06/2018	22:00	1.6	0	35	Yes	<25	Nil
NM6	19/06/2018	23:58	1.7	0	35	Yes	<20	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 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 Q2 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 Q2 2018.

**LA1, 1minute GENERATED BY MCC AGAINST OPERATIONAL EVENING NOISE CRITERIA – APRIL TO JUNE 2018.**

**Table 4 - April Noise Monitoring – Night**

	L <sub>A1</sub> (1min)	April		Rainfall	Criterion	Criterion	MCC L <sub>A1</sub> (1min)	Exceedance
		Time	Wind Speed					
			m/s	mm	dB <sup>3</sup>	Applies <sup>1</sup>	dB <sup>2,3</sup>	dB <sup>3,4</sup>
NM1	10/04/2018	0:04	0.6	0	45	Yes	36	NIL
NM2	9/04/2018	23:09	0.4	0	45	Yes	39	NIL
NM3	9/04/2018	22:07	0.6	0	45	Yes	IA	NIL
NM4	9/04/2018	23:37	0.3	0	45	Yes	27	NIL
NM5	10/04/2018	0:34	0.7	0	45	Yes	32	NIL
NM6	9/04/2018	22:38	0.5	0	45	Yes	<20	NIL

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

	L <sub>A1</sub> (1min)	May		Rainfall	Criterion	Criterion	MCC L <sub>A1</sub> (1min)	Exceedance
		Time	Wind Speed					
			m/s	mm	dB <sup>3</sup>	Applies <sup>1</sup>	dB <sup>2,3</sup>	dB <sup>3,4</sup>
NM1	10/05/2018	0:00	0.5	0	45	Yes	34	Nil
NM2	9/05/2018	23:00	0.4	0	45	Yes	26	Nil
NM3	9/05/2018	22:02	0.5	0	45	Yes	IA	Nil
NM4	9/05/2018	23:30	0.4	0	45	Yes	20	Nil
NM5	10/05/2018	0:30	0.4	0	45	Yes	38	Nil
NM6	9/05/2018	22:28	0.4	0	45	Yes	IA	Nil

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

	L <sub>A1</sub> (1min)	June		Rainfall	Criterion	Criterion	MCC L <sub>A1</sub> (1min)	Exceedance
		Time	Wind Speed					
			m/s	mm	dB <sup>3</sup>	Applies <sup>1</sup>	dB <sup>2,3</sup>	dB <sup>3,4</sup>
NM1	19/06/2018	22:33	2.5	0	45	Yes	33	Nil
NM2	19/06/2018	23:30	0.5	0	45	Yes	39	Nil
NM3	20/06/2018	0:39	0.8	0	45	Yes	40	Nil
NM4	19/06/2018	23:03	1.4	0	45	Yes	37	Nil
NM5	19/06/2018	22:00	1.6	0	45	Yes	28	Nil
NM6	19/06/2018	23:58	1.7	0	45	Yes	<25	Nil

Notes:

1. Noise emission limits do not apply during periods of rainfall or wind speeds greater than 3 metres per second (at 10 metres);
2. Estimated or measured LAeq,15minute attributed to MCCM;
3. Estimated or measured LA1,1minute attributed to MCCM;



4. *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
9/10 April	ESE, S
9/10 May	ESE
19/20 June	SE

**Blast Monitoring**

There have been 26 blasts at MCCM during Q2 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 2 2018**

Parameter	Units	Frequency	Number	Average	Max	100% Limit	Exceedance (Yes / No)
Noise	dB (Lin Peak)	All	26	91.0	104.4	120	No
Vibration	mm/s		26	0.22	0.7	10	No

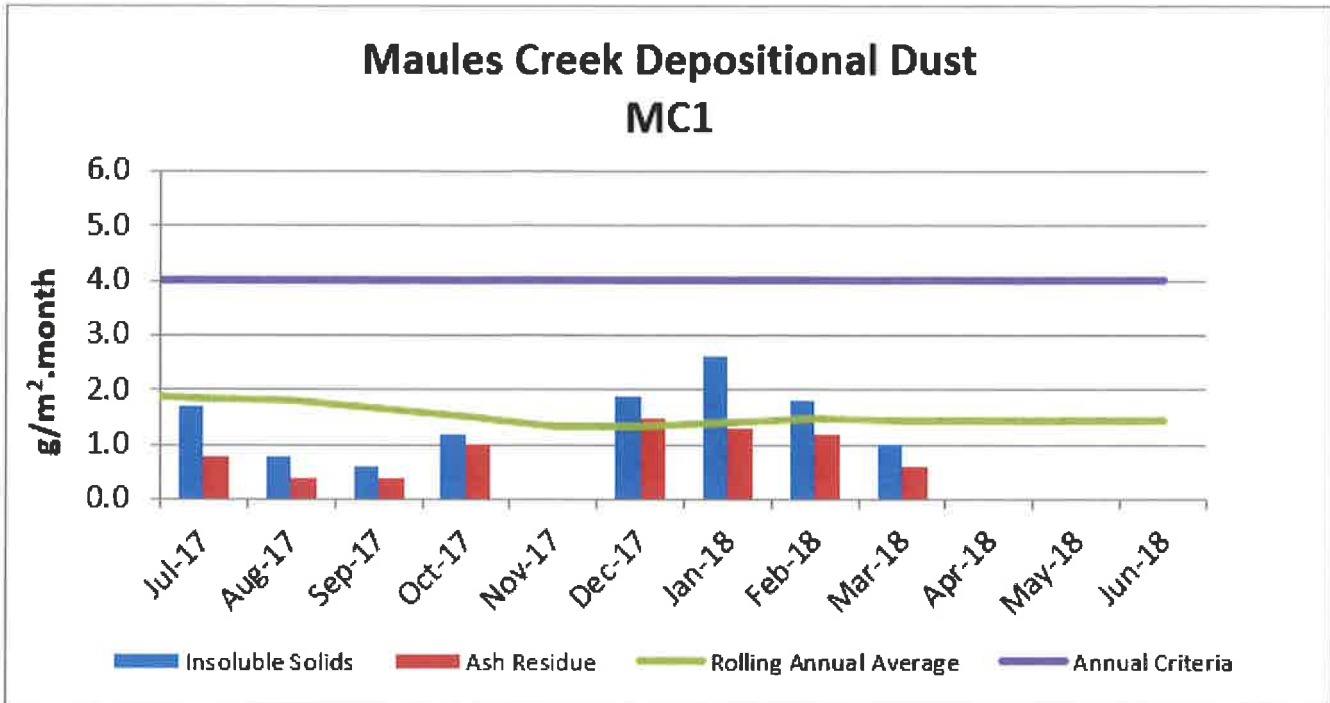
**Air Quality**

**Total Depositional Dust**

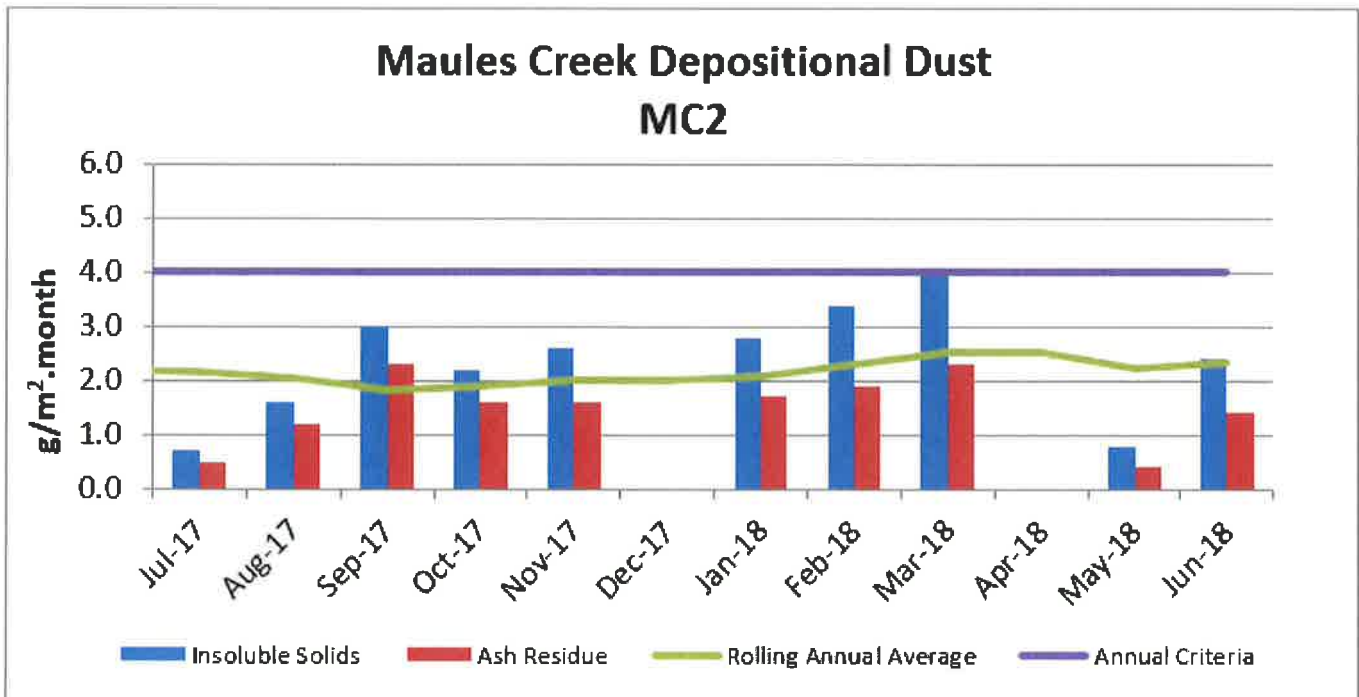
The monthly rolling annual average remains below the relevant Project Approval criteria of 4gm/m<sup>2</sup>/month for the respective monitoring points, as shown on the graphs below. It is noted at point MC3 an elevated result was recorded in July 2017. Following investigation, this result is inconsistent 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)**

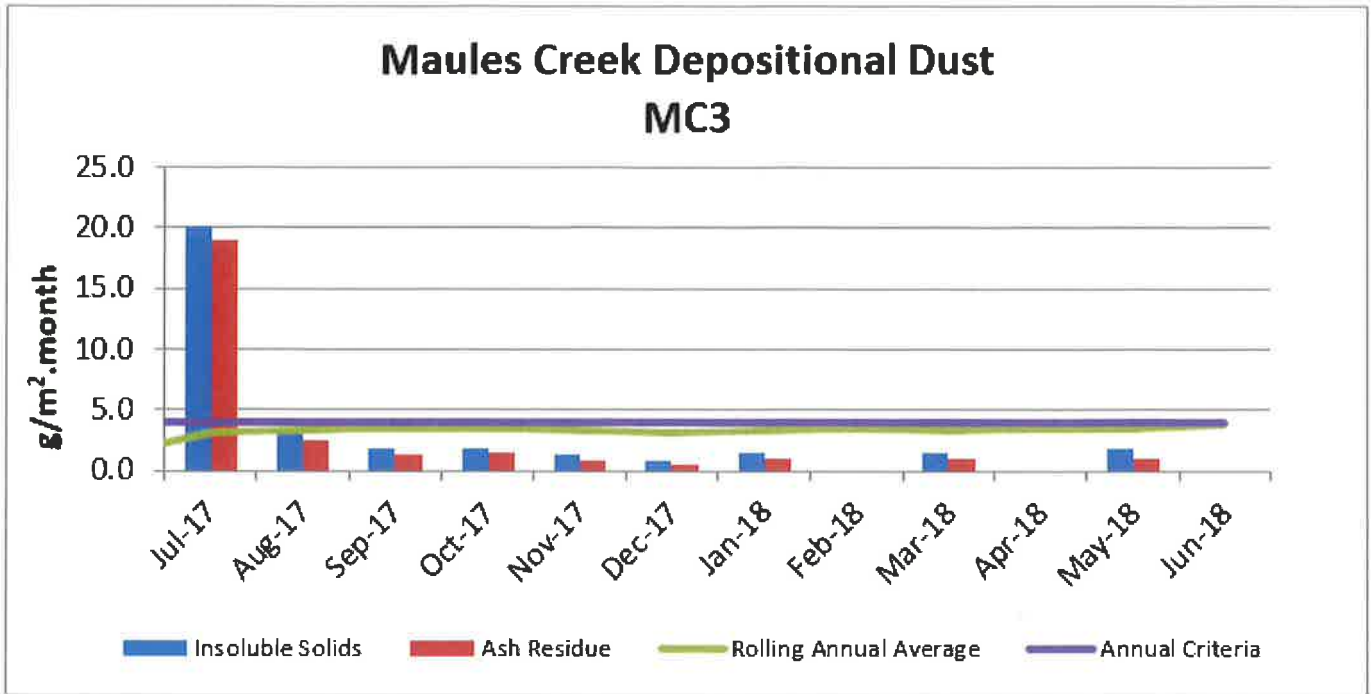
Please refer to the following page.



\* 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.).

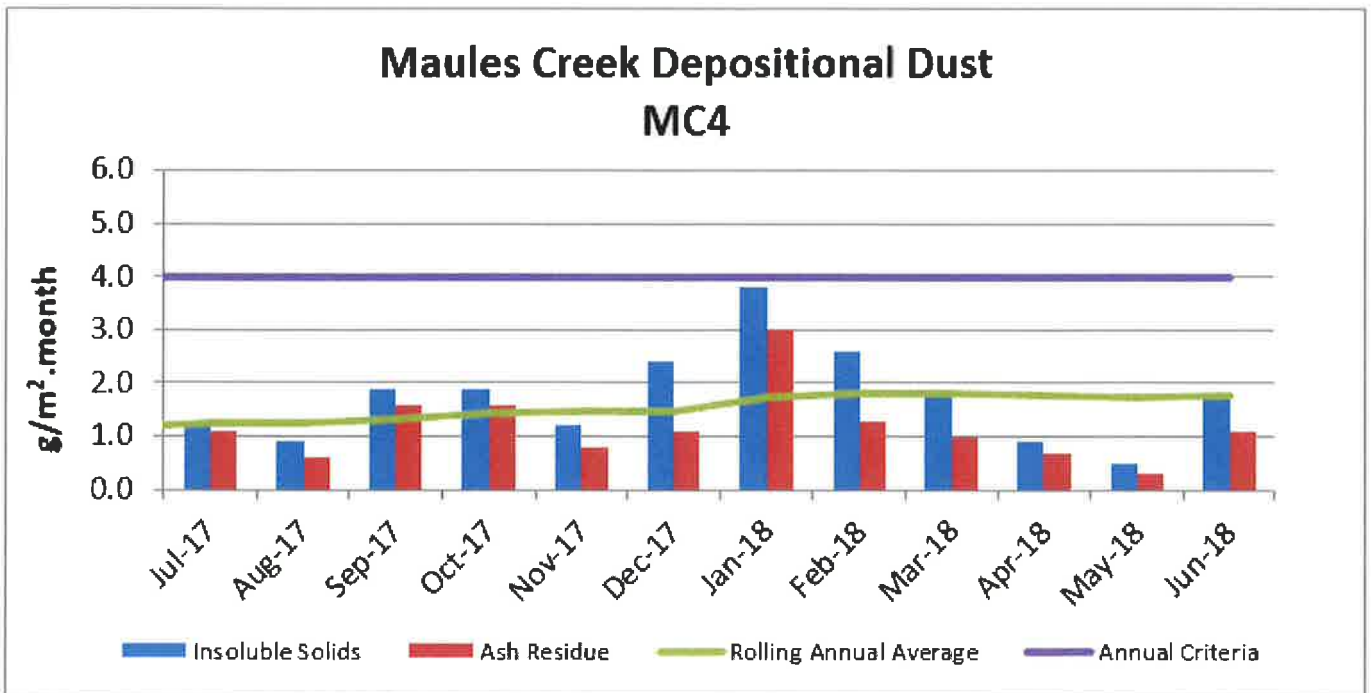


\* Blank cells indicate sample periods where the sample has been contaminated and excluded from the results tables due to contaminated material (insect larvae, bird droppings, vegetation etc.).



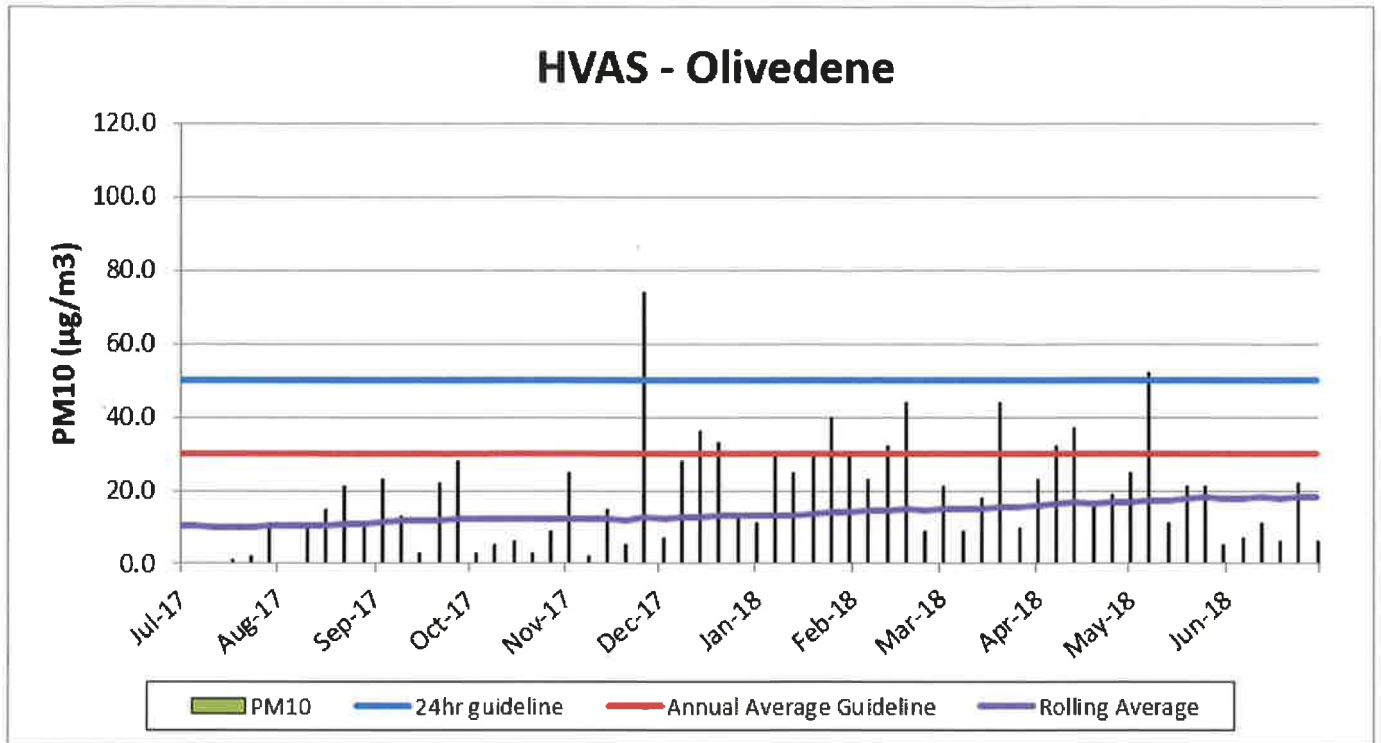
# Investigation notes the result is inconsistent with historical monitoring results at both MC3 and other air quality monitoring locations closer to the operation and unlikely to be attributable to MCCM.

\* 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.).



**High Volume Air Sampling (HVAS)**

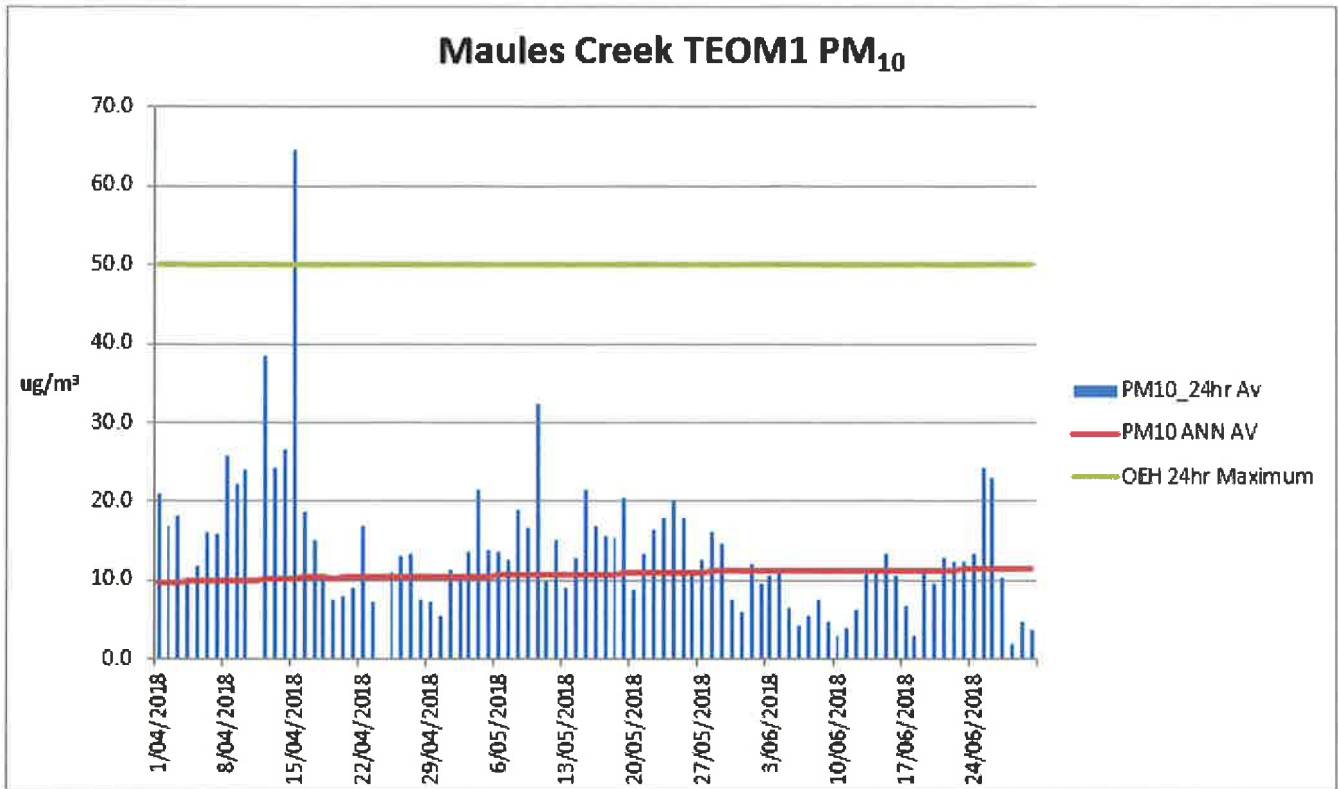
The HVAS monitor is located on the property 'Olivedene,' a mine owned property on Therribri Road.  
 HVAS PM<sub>10</sub> Rolling Annual Average during Q2 2018 remained well below the Annual Average Guideline 30 µg/m<sup>3</sup>.



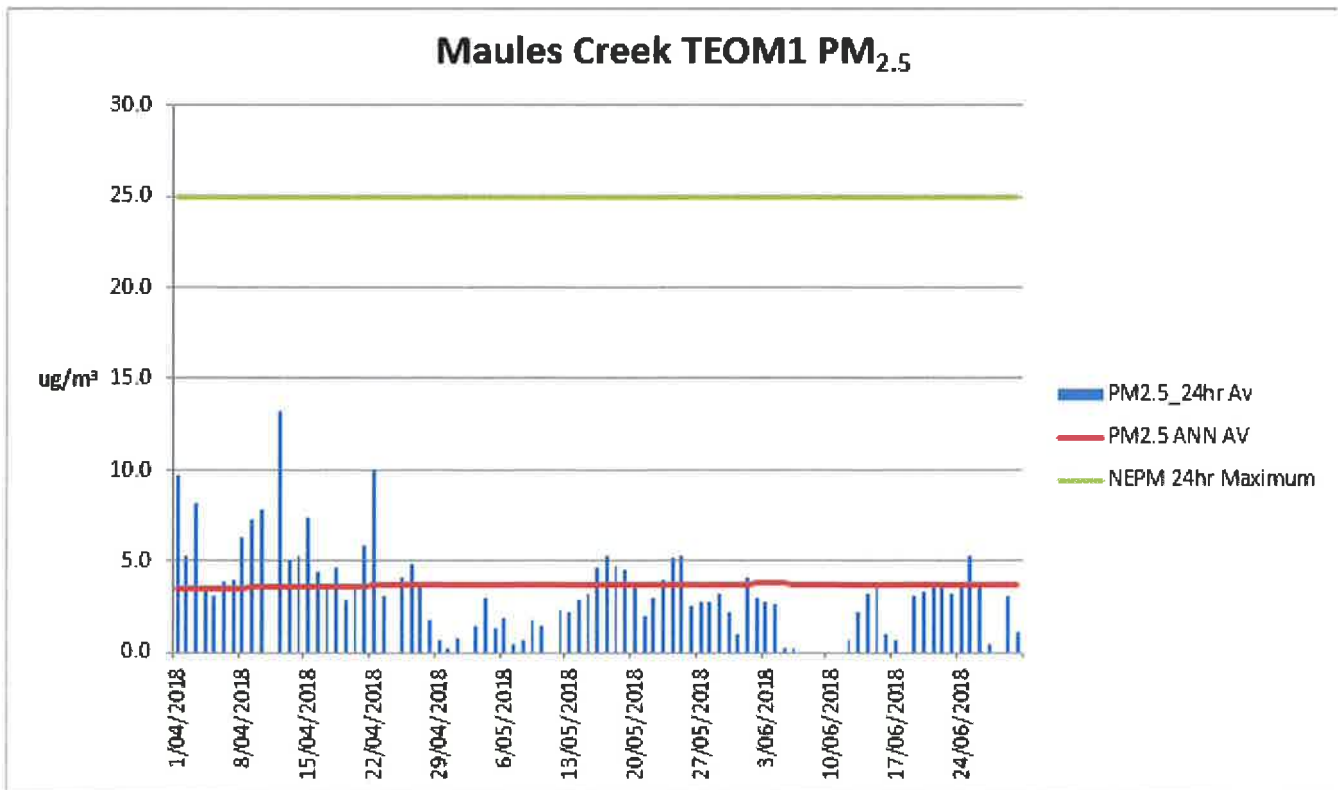
**TEOM - PM<sub>10</sub> Results**

The annual average for PM<sub>10</sub> results at the Maules Creek Coal TEOM remain below the Project Approval annual average criteria of 30µg/m<sup>3</sup> (at 30 June 2018) 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. On the 15 April there was a 24 hour average result of 64.5µg/m<sup>3</sup> which was above the OEH 24hr maximum. This elevated result was not mine related - real time monitoring data, weather conditions and site operations were assessed to ensure air quality contributions were minimised during the regional dust event, where there was strong north westerly winds were predominate.

**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>**



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

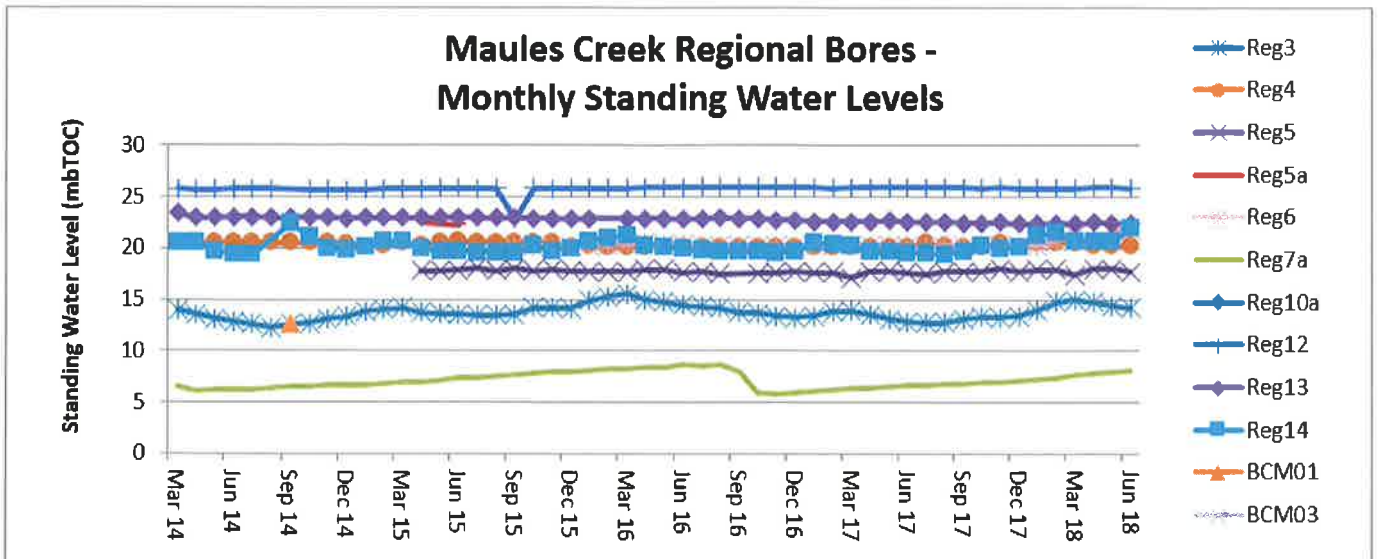


\* Blank columns indicate sample periods where there was either power outage, maintenance or other related causes.

**Water Monitoring**

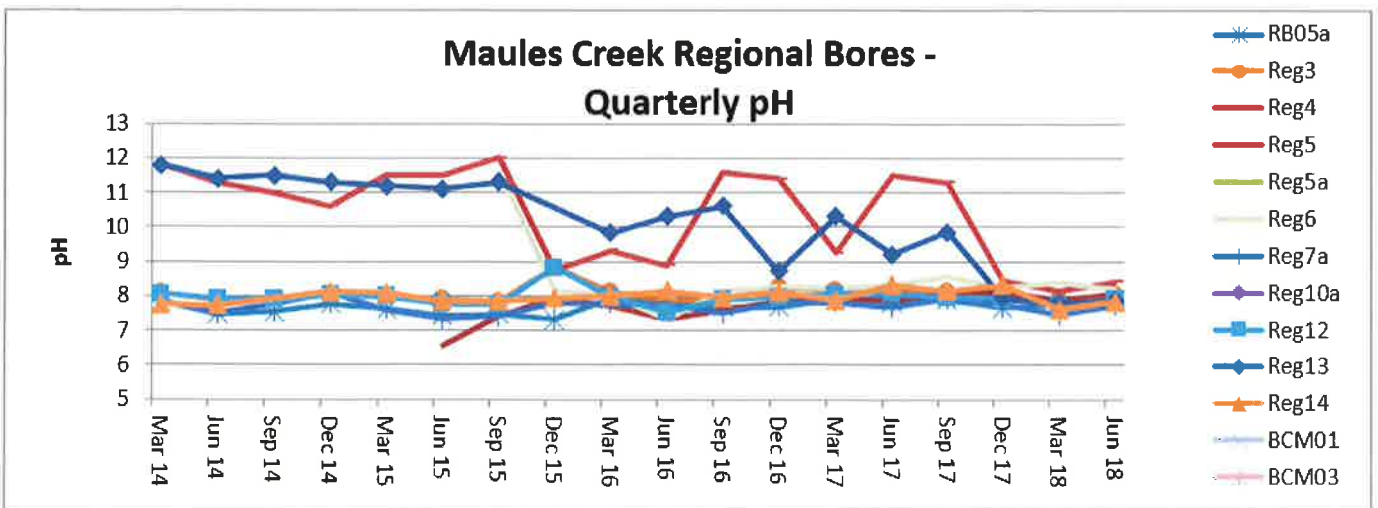
**Groundwater**

Groundwater monitoring results in open standpipe piezometers show levels to be currently 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.



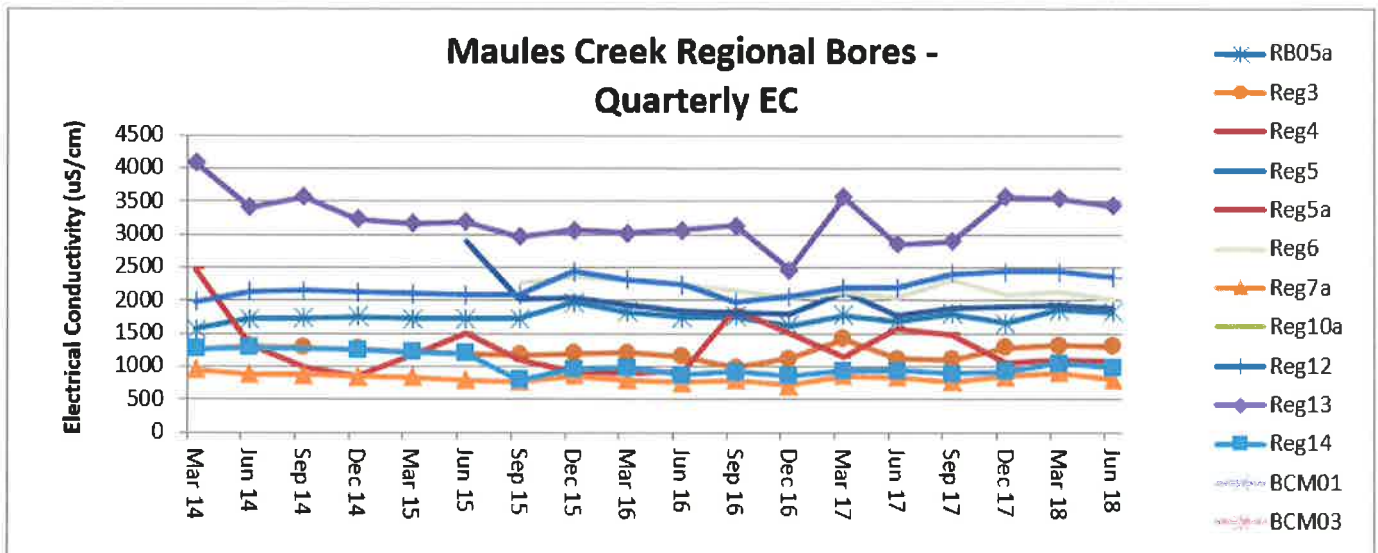
**Acidity / Alkalinity (pH)**

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 and affected by grout within these bores since installation.



### 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 1<sup>st</sup> April and 30<sup>th</sup> June 2018, Maules Creek Coal AWS recorded 14.6mm of rainfall. There were no rainfall events that exceeded the 38.4mm value over a consecutive 5 day period during Q2 2018. There were no wet weather discharge events during Q2 2018 and therefore conditions L2.4 and L2.5 of EPL20221 were not triggered for this quarter.

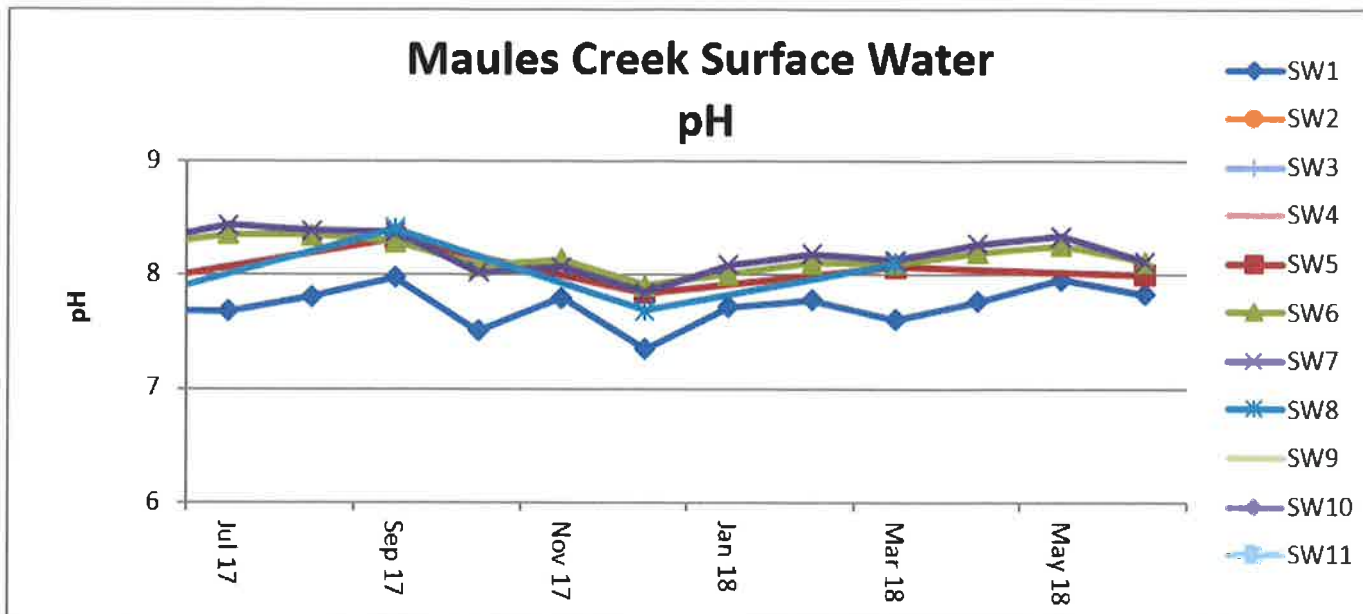
*Note: As per wording of condition L2.5 of EPL20221, 38.4mm equates to the 5 day 90 percentile rainfall for the Gunnedah region.*

### 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.

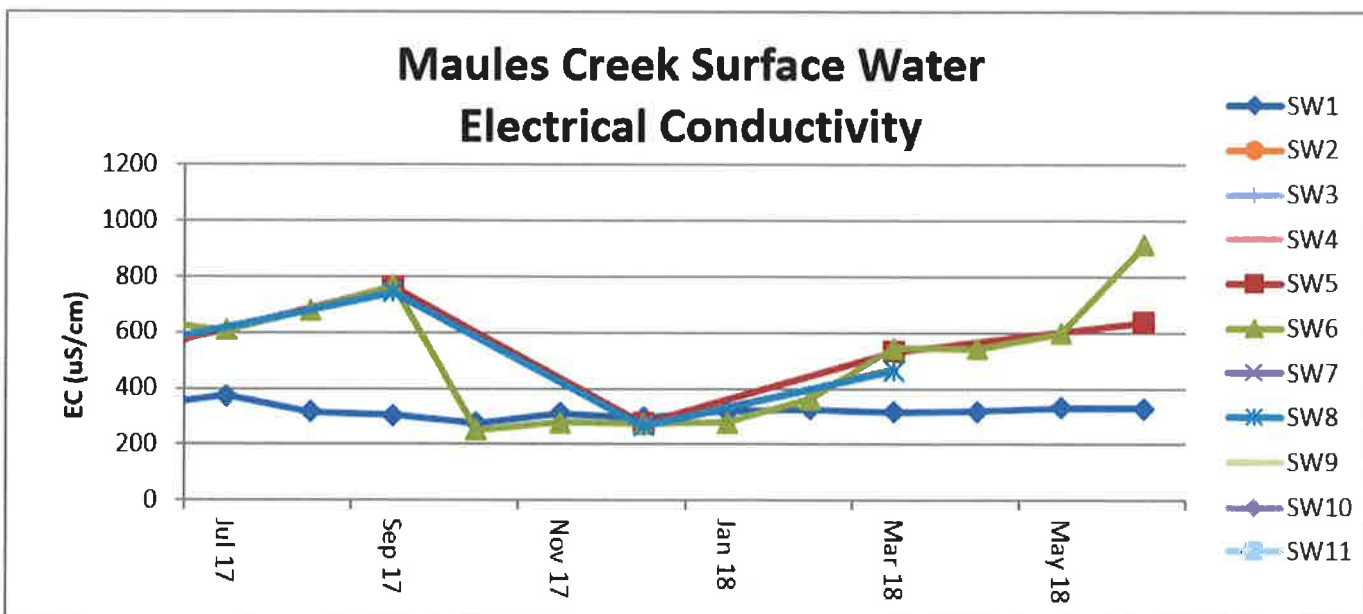
### Acidity / Alkalinity (pH)

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



#### Electrical Conductivity

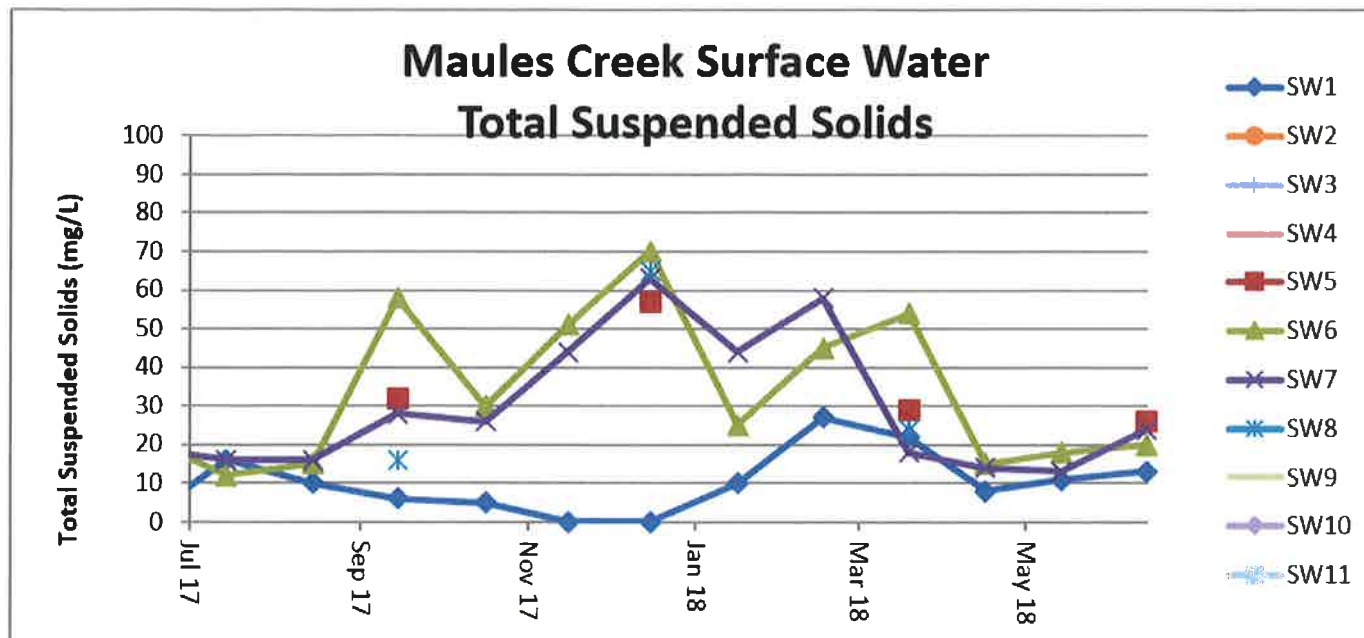
Surface water EC trends have remained consistent with SW5, SW6, SW7 and SW8 all historically variable. SW5, SW6, SW7 and SW8 are points along the Namoi River which is subject to regulated and variable flow regimes.



#### 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.





**Rehabilitation**

Bulk shaping of the lower benches on the northern dump has continued in preparation for rehabilitation.

**Feral Animal Management**

During the most recent routine Whitehaven Offset Area Feral Animal Control program the results included: 76 pigs, (36 were from the Maules Creek area) 68 Foxes, 6 Hares and 26 Rabbits.

**Weed Management**

Broadleaf weed control was undertaken in areas prior to commencement of revegetation works. As conditions become less favourable for broadleaf weed control, spraying targeted Prickly and Tiger Pear. Willow control works were also undertaken.

**Community Complaints**

36 complaints were received during Q2 2018. Please refer to the Community Complaints Register published on the Whitehaven Coal Maules Creek website.