Yancoal
Mount Thorley Warkworth Operations
Community Consultative Committee Meeting
Monday 13 August 2018

Attendance

Chairperson	
Colin Gellatly	Independent Chair MTW CCC
Company Representatives	
Jason McCallum	General Manager - MTW
Gary Mulhearn	Manager Environment & Community
Community Representatives	
Ian Hedley	Community Representative
Adrian Gallagher	Community Representative
Council Representative	
Cr. Hollee Jenkins	Singleton Council
Observers / Presenters	
Andrew Hodge	Environmental Specialist - Operations
Jessica Blair	Environmental Advisor - Land Management & Offsets
Apologies	
Christina Metlikovec	Community Representative
Minutes	Sarah Purser

1. **WELCOME & 2. APOLOGIES;** Col welcomed the CCC, apologies were advised and recorded.

3. **DECLARATION OF PECUNIARY INTEREST / CONFLICT OF INTEREST; *Standing*;** Col advised that both he and Sarah are engaged by Yancoal to provide the services of Independent Chairperson and meeting note taker.
Adrian advised that a family member has had a discussion regarding property acquisition and Ian advised his property is located in the acquisition area and that he had been approached by Yancoal in this regard.

4. **BUSINESS ARISING - Action Items from the previous Meeting**
Action; Yancoal to look into replacing the Australian Flag at the Cockfighter Tavern to improve visual amenity.

✓ Actioned by Hayley who provided confirmation to the CCC on completion along with photos of the new flag flying.

Action; Hayley to investigate re-wording text in the Blast Notification SMS System to indicate "updated" time frames to road closures and the possibility for MTW to differentiate between WML and MTO Blasts.

✓ Hayley has completed an investigation with the System Engineer and Gary advised this upgrade was eminent.

Action; MTW to seek detail on the Property and Expression of Interest / Tender Process for the Cockfighter Tavern from the listing Agent; Manenti Quinlan and provide this to members post Meeting.

✓ Completed. Gary advised the company is now proceeding with the preferred tenderer and some works to the property have commenced.

Action; MTW to review their Consent in relation to Property Acquisition conditions to seek detail around Stewart's interpretation that he felt this had specified that Yancoal owned properties were to be eventually vacated, removed and/or destructed

✓ Completed. Gary advised that they had reviewed their Development Consent and there is no specification around properties being vacated, removed and/or demolished. There is a requirement for Yancoal, as the land owner, to notify prospective tenants of predicted and measured dust and noise limits and they would sign up to residential tenancy on that basis. Yancoal added that they prefer to have their properties occupied so that they are maintained.

5. OUT OF SESSION CORRESPONDENCE:-

✓ Update on "Cockfighter Tavern" Tenement Process; provided 28 June 2018

✓ Response to Ian Hedley Dust Enquiry - Action item 4 in last meeting; 29 June 2018

Gary advised that in response to a request by Ian that Hayley had reviewed information for both MTW's Development Consent (compliance) and EPL (not compliance) dust monitoring for the period 5 to 8 August 2018 and reported on this data and actions undertaken on these days of interest to Ian. As Ian was not entirely happy with the company's response this matter was brought forward for further discussion at today's meeting - Agenda Item 8.

6.. CONFIRMATION OF THE PREVIOUS MEETING'S MINUTES;

Col confirmed that the Minutes for the Meeting 14 May 2018 had been circulated and following the comments period close had been endorsed by Chair, these Meeting Minutes were formally confirmed at today's meeting.

7. PROPONENT REPORTS AND OVERVIEW OF ACTIVITIES

PROGRESS OF THE PROJECT

- Mining continues in Warkworth and Mount Thorley Operations.
- There are normal operations for coal processing and train loading.
- Exploration activities commenced July 2018 with drill rig mobilisation.

Hollee asked with regard to Wallaby Scrub Road if there was test drilling being conducted in the road reserve and MTW advised no, that it is on mine property on the western side.

Rehabilitation

Rehabilitation target for 2018 = 100 ha seeded (outlined in red polygons)

Works completed so far in 2018:

✓ 67.6 hectares bulk shaped

✓ 23.8 hectares topsoiled

✓ 35.5 hectares composted

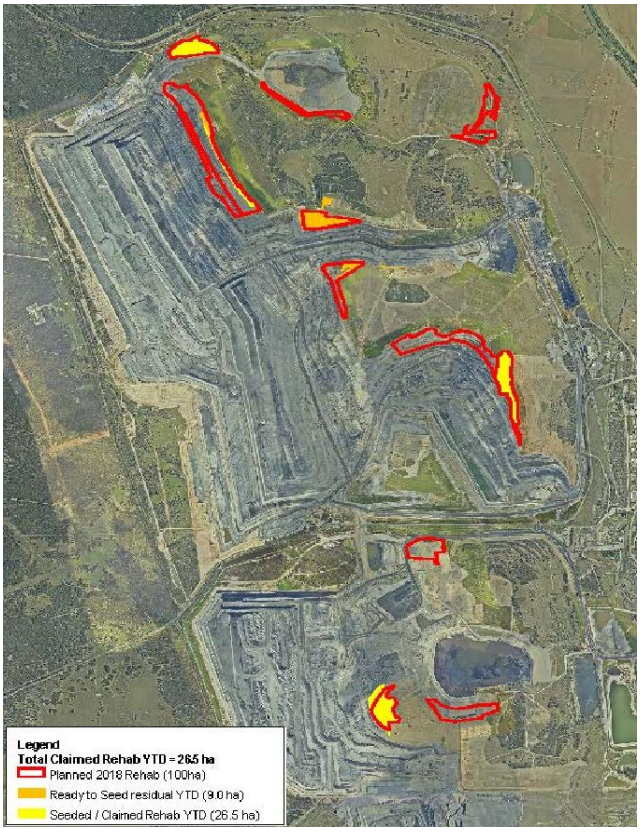
✓ 26.5 hectares seeded

Key works for Quarter 3 2018 (July-September):

✓ Rehabilitation of CD Dump areas (approx. 16 hectares) and North Pit North areas (approx. 15 hectares).

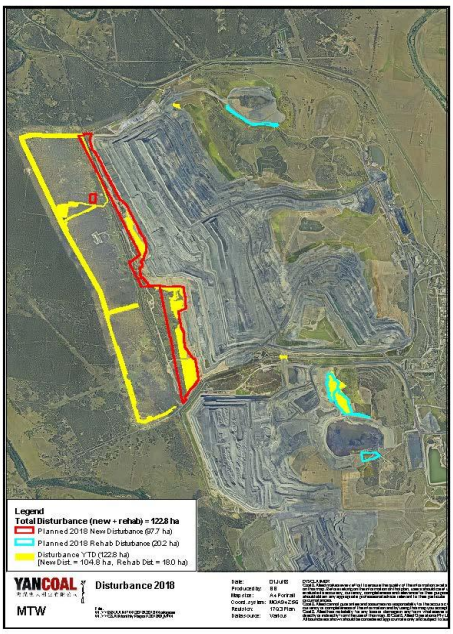
Ian queried the area where MTW were dumping, next to the overhead Bridge on Putty Road near the crossing that was not indicated on this mapping. Ian said quite a bit of vegetation had been removed from there.

Gary explained that this area is not just rehabilitation and that MTW are building up dumps to get to a level for future rehabilitation.



Source : MTW CCC August Presentation
REHABILITATION
Slide Reference #15

West of Wallaby Scrub Road



Source : MTW CCC August Presentation
WEST OF WALLABY SCRUB ROAD
Slide Reference #16

- ✓ The Rural Fire Service track has mostly been completed.

  Adrian asked where the trail will run and how close this will be in proximity of Bulga querying if it will need to be moved again later on as the mine progresses.

  Gary advised the Rural Fire Service trail is outside of the approved mining consent, so this will not have to be moved.

- ✓ Power infrastructure construction is ongoing

  Adrian asked where the power line will run and Gary advised this would be adjacent to the Rural Fire Service Track. Adrian had felt power would go right around the lease, rather than having to be moved again, as that would be a costly exercise.

- ✓ Water infrastructure is about to commence on the eastern side. MTW are starting to clear ahead of dams along to the west of Wallaby Scrub Road.

- ✓ Demolition of old houses and waste cleanup commenced.

Adrian queried how Yancoal is going with regard to the purchase of Wallaby Scrub Road and MTW advised that Singleton Council had an Extraordinary Meeting and had voted in favour to the Consent. Hollee confirmed this Meeting was held on 6 August with the outcome basically to go ahead with the application to close the road.

Adrian was interested if there was a time line and Ian added that is a question most often asked in Bulga. Jason was unable to give a definitive date but the company would like this done by Christmas as if past that date this would start impacting on the mine. Hollee advised there is a legal cut-off date in September that some requirements need to be completed by.

Gary advised the Rural Fire Service had been out to inspect the road and were quite happy with what had been done, he said that was a good part of the process as MTW had to establish a protocol on how the RFS would access through that area there after the road closure.

Business Papers

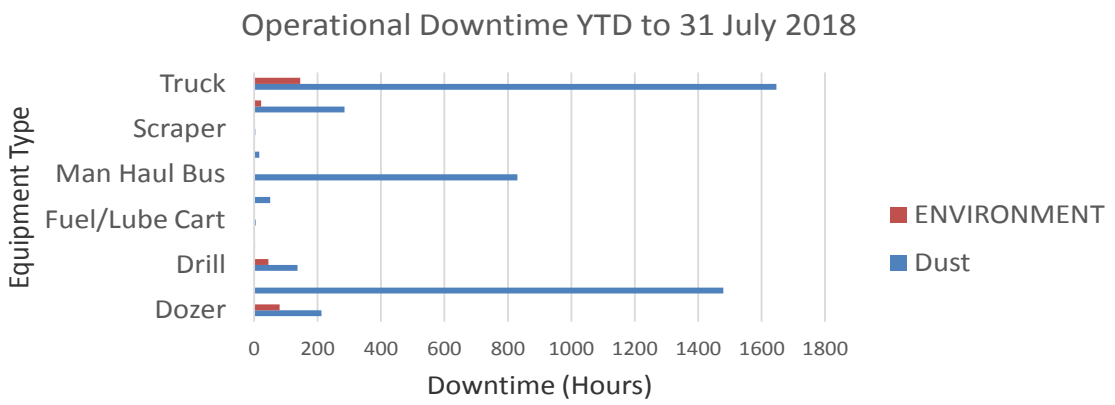
Gary confirmed that the Business papers are provided to the CCC representatives prior to each meeting and include a summary of; Complaints, Incidents, Environmental Monitoring, Rehabilitation, Property Update, Website Uploads and a Community Investment Update.

Adrian asked if there had been any progress in negotiations for the Bulga Service Station and MTW responded that property discussions are confidential in nature.

Operations

MTW are progressing in line with budgeted forecast and look to exceed their operational performance this year. 8 trucks and an excavator have been shut down which should significantly reduce the amount of noise. MTW had a fair share of stoppages associated with dust and Jason spoke about the significant dust associated with drought that had been impacting on NSW in its entirety. MTW advised that they are bound by their consent conditions to shut down, even if the dust coming through is not attributable to their own operations. MTW will probably over-produce this year hitting around 12.1 which is higher than the expected budget of 11.8.

Operational Downtime YTD



Source : MTW CCC August Presentation - Slide Reference #18

Noise Monitoring YTD

MTW Noise Monitoring YTD			
	# CRO Assessments	# Individual assessment above trigger	# Nights above trigger
2018 **YTD**	3824	26	13
2017	5990	18	10
2016	4851	84	34

Source : MTW CCC August Presentation - Slide Reference #18

Update on EPA Penalty Notice

MTW received a penalty notice and official caution from the EPA on 28 May 2018 regarding a self report of water discharge west of WML's North Pit that occurred on 4 December 2017.

- The incident in question was a failure of a catch drain which permitted sediment laden water to cross Wallaby Scrub Road and enter a farm dam on MTW property.
- Penalty Notice – EPL condition O1.1 – which requires activities to be conducted in a competent manner.
- Official Caution – s120 of POEO Act (Pollute Waters).
  The EPA media release noted "no actual environmental harm".

Since this incident MTW have conducted a thorough audit of water management structures west of that area and upgraded some efficiencies.

REGULATOR / AGENCY SITE VISITS

- ***Department of Industry – Lands & Water*** on 13 June 2018; MTW hosted 40 Members from the Department of Industry – Lands & Water for a mine familiarisation tour as an education piece for Departmental Staff from across NSW.
- ***Department of Resources and Geoscience / NSW Department of Planning and Environment*** on 25 June 2018; Routine co-inspection by DRG and DP&E regarding the Annual Environmental Management Review.
- ***Environmental Protection Authority*** – 18 July 2018; Mount Thorley Coal Loader premises site inspection.
- ***Division of Resources and Geoscience*** – 2 August 2018, MTW hosted 14 Members from the Resources Policy / Legal business units for a mine familiarisation tour.

8. Other Agenda Items

Ian Hedley : Air Quality Concerns : Tuesday 8 May 2018

Ian presented photos relating to dust concerns on 8 May that he had raised previously via email. Ian also showed a video of Hot Air Balloons taking off from the Bulga Recreation Grounds on 11 August and advised that this was to support his feelings that the response he had received from Yancoal about dust on 8 May was probably not accurate and to demonstrate why he felt this way. Ian advised that community see where dust is generated, he appreciates there are drought conditions and therefore dust in the air but believes there is a lot of dust generated in Loaders Pit.

Ian provided this explanation of the photos;
Tuesday 8 May 2018; Ian advised in the photo taken on this morning at 7.52 a.m. the amount of dust in the MTW Pit could be seen, then a picture taken at 7.53 a.m. demonstrated the amount of dust haze there was over the Mount Thorley Industrial area itself.
Wednesday 9 May 2108; Ian said this picture was taken from the same view point at around the same time of 8.00 a.m. where the view was perfect.

With regard to his concern about conditions on 8 May, Ian hears the feedback that there may be a difference in wind direction and speed but for the two days of 8 and 9 May, the weather conditions had been very similar. Ian acknowledged that Hayley had come back with wind direction, wind speed and dust monitoring results in Bulga but Ian's concern was not that the dust was going to Bulga but rather Mount Thorley. Ian noted that Hayley had gone out personally and identified a thick fog settling in the pit that had the potential to retain quite a bit of dust and Ian's response was that there was no fog on that day.

Ian noted that when he drove past the mine on 24 July there had been dust blowing out of the Pit. Ian felt there was a distinct difference in dust that comes out of MTW compared to Bulga Coal mine and he felt there was a lot more coming from the MTW Pit than Glencore's.

The reason Ian feels dust monitoring is flawed is due to Yancoal measuring wind direction at ground level and Ian feels that wind direction changes at height, he went on to provide detail around the launching of Hot Air Balloons from Bulga as an example to support this feedback.

Ian explained on 11 August there were Hot Air Balloons taking off from the Bulga Recreational Grounds and on takeoff they had travelled almost directly west, heading straight towards the mountains. At ground level, where Ian believes that Yancoal measure wind direction, this would have indicated that the wind would be blowing east. A second balloon taking off also headed straight to the mountain, then once the first balloon reached a certain height it came back towards Bulga and the two crossed over. So whilst Yancoal have all this monitoring data, Ian believes that it does not provide an accurate reflection on which way dust travels. Adrian noted that it had been raised at a previous meeting, during discussions around blasting, that it may be worthwhile to let a balloon go up and see where it goes as a tool for ascertaining the actual wind direction at height.

Gary confirmed that Hayley had provided data for all locations around the mine and that the levels had been quite within MTW's compliance level, he explained the company uses monitoring as a trigger to change operations if necessary and that is how MTW need to operate and what is done. Gary noted there are also people going out on the mine site all of the time who would see the dust. Gary explained that even though dust could be seen MTW were within their limits.

Ian queried if MTW are saying that the amount of dust going across to Mt Thorley Industrial Estate is within the company levels and that the company is producing acceptable levels of dust. Gary confirmed that Hayley had provided data for the readings from 7 or 8 monitoring locations on 8 May and this was for the whole day and all were within the company's compliance level.

Gary advised that in response to any enquiry, staff do go out and make inspections and that there are company representatives out on site all of the time. Reponses to dust concerns may include a change in operations, even on those days when the company is still within their limits.

Ian felt he only has to look at his car to see the dust and noted it was the same for the cars in MTW's car park. Ian asked if that was not a concern for the company, as if that dust is falling on cars, then both Ian's and Yancoal's company workers are also potentially breathing in that dust.

MTW confirmed that Depositional Dust monitors measure dust, such as what may be seen on a car, the Real Time Air Monitoring Systems are in place to measure airborne dust, and that the company has to meet both limits.

Ian is concerned about the dust issues being experienced at Mt Thorley Industrial Estate and then that MTW's advice is that they are within their limits, he would like to see air quality data from the monitoring at the back of Mt Thorley Industrial Estate. MTW confirmed that they would provide that data for Ian and advised that it was also contained in the Business Papers. Ian queried where this monitor is located and Andrew advised that it is behind the Industrial Estate where the conveyor runs coal from the north to the south plant.

Col had thought the EPA were going to go out to the Mt Thorley Industrial Estate and asked if that ever eventuated, Ian responded no. Ian understands that MTW has a business to run but so does he and all of the equipment produced by his company has to be washed down to ensure it is clean enough to be shipped and that has created a whole additional work process for his business.

Ian felt that if the company believes that dust is at an acceptable level and that he does not, then he will need to take his concern to the EPA and will get some monitoring done in the Mt Thorley Industrial Estate. Ian had hoped that he could have reached an agreement for the company to take more care about the dust that blows through the Mt Thorley Industrial Estate.

Andrew confirmed that there are Community Response Officers in place who are pretty unique in what they do and it is his understanding that not a lot of other mines have them in place, he advised that is another way for MTW to take care of the Bulga community and that the company does try to manage their dust to a reasonable level.

Ian said that he was advised at that time that all machines had been shut down and he had pointed to machines that were still operating. Gary explained that at that time, MTW were just starting operations after being in shut down for a period and this was done sequentially from one end of the pit to see if they could still operate and that they had watched over the situation while that was happening. Ian felt they shouldn't have been started back up as it was still pretty dusty and Jason confirmed that MTW would not have re-started machinery unless the company had been under their limits as that is what their business guidelines give them.

Ian asked if actions are undertaken, such as shutdowns, at night as that is when dust issues tend to be worse. Gary advised the same monitoring and visual inspections are conducted at night time as well. Ian said when he drives to work of a morning he can see the dust coming off the cars in front. Hollee agreed that night time can seem worse due to car lights picking up dust and sometimes it looks like it is raining.

Hollee asked that MTW provide a shift report for Tuesday 8 May to see what actions were undertaken and to indicate that there was a stoppage. Hollee would like to see this put out in a communication and for MTW to present examples of actions that were undertaken. Hollee would also like MTW to provide the readings from the Mt Thorley Monitoring system in an hour by hour breakdown, not the 24 hour average readings. Hollee felt that if the conditions were horrendous at 8.00 a.m. and if the monitoring readings were high, if MTW were still operating there would be an issue.

ACTION 1: MTW to provide the CCC with dust data from the Mt Thorley Monitoring System for 8 May 2018, and provide an Equipment / Shift Report, in an out of session communication.

Adrian queried if MTW had plans to suppress dust from the new bund wall that is on the Putty Road, heading towards Wallaby Scrub Road and Andrew advised yes, that this had just been grass seeded. Adrian asked if MTW do anything other than wait for rain as he felt there was the need to water these new areas. Andrew advised the first stage bund wall that is located closer to the Industrial Estate was sprayed and it was agreed that this does not work as well as seeding and MTW advised they are trying to vegetate this area as quickly as they can.

9. GENERAL BUSINESS

VOLUNTARY PLANNING AGREEMENT

Singleton Council – Mount Thorley Warkworth Voluntary Planning Agreement (VPA) Community Committee

- Yancoal made its first payment of $2,000,000 under the VPA in early 2018

- $1,000,000 of the first payment is to be used exclusively for Bulga

- Committee functions (as set down by Singleton Council)
  - Recommend to Council a set of principles for the prioritisation of projects which would build sustainability and enhance the quality of life within the community
  - Consult with the community to ascertain needs and opportunities as they relate to sustainable community projects to be considered for funding from the VPA
  - Utilising adopted agreed principles and after appropriate consultation with the community develop a prioritised list of projects
  - Recommend to Council an agreed program of prioritised projects
  - Provide an annual report to Council on the deployment of Councils adopted program of prioritised projects

- First VPA committee meeting was held 18 July 2018.

- VPA Committee Members are:-
  - ✓ Adrian Gallagher – Community Member
  - ✓ Pauline Rayner – Community Member
  - ✓ Christina Metlikovec - Community Member
  - ✓ Ian Hedley - Community Member
  - ✓ Judith Leslie - Community Member
  - ✓ Greg Banks – Alternate Community Member
  - ✓ Alan Andrews – Yancoal Australia
  - ✓ Mark Ihlein – Singleton Council
  - ✓ Cr Sue Moore – Singleton Council Mayor

Gary asked how the first VPA committee meeting held on 18 July went and Ian responded there had been a bit of uncertainty about the dates and times that things had been agreed upon. The first Committee was put together around two years ago and they were to determine how the VPA Funding Committee was to be set up. Ian said he had understood from Mark Ihlein from that it had been agreed to a 60 / 40 split of the funding and Ian felt that had never been the case as from his memory people had been very outspoken about that split. Col asked Ian for more detail around the split and Ian advised that of the $11 Million, Council is going to take 40% of it to put into their futures fund and that 60% is to go to Bulga, Milbrodale and surrounding projects.

Ian advised that after reading the terms of Voluntary Planning Agreements, he is not sure how that came about and in response to correspondence to Mark Ihlein questioning this, Sue Moore had replied that this was an agreement between Yancoal and Singleton Council. Ian advised when he tells people about how the VPA funding is split that there are then questions from community if Yancoal had offered 40% of the $11 Million to Singleton Council as part of the payment for closing Wallaby Scrub Road and if that had an impact on the road closure.

Jason advised the VPA Agreement has nothing to do with Wallaby Scrub Road and negotiations around that road were completely separate. Hollee added that the VPA is an agreement between Yancoal and Council and confirmed Jason's response that it has nothing to do with Wallaby Scrub Road. Jason explained that it relates to a Development Consent condition that the company have for their State Significant Development and the company have to come to an agreement with Singleton Council for the VPA and that is for a certain value, in this case $11 Million over 21 years and that was the agreement that went forward and was signed by both the Company and the Council.

Ian questioned the reasoning for the percentage splits in the MTW VPA funding, he had looked at other earlier VPA's where the committee had been the ones to determine where the funds were to be spent and not Council taking a large proportion of it. Ian would like to know why this one is different, as when he had read the terms of VPA's he could not find anything indicating that Council take a percentage.

Hollee advised that Council would typically get 100% of VPA funding the majority of times and they then look to see how it would benefit the community. Ian felt that surely the Funding Committee should have a say and it not be the sole determination of Council on their own, he felt that is why there is a committee in place. Hollee advised that not every VPA has its own committee and confirmed that Yancoal and Bulga Coal do have one each. It was explained that the VPA is an agreement with the Council and the Proponent and it had been decided that MTW's VPA fund was to be administered by a Committee.

Adrian asked that if it was 60 / 40, then why was the first payment 50 / 50 and did that mean that Council was not going to wait 21 years for their share of $4 Million but Bulga has to. Ian and Adrian advised they would leave further discussion about who determines how VPA funding is distributed for the next VPA Meeting on 15 August, Ian does not feel it was right for funding to go to Council as he understood it be a community fund and Adrian would like to know why so much was allocated to Council. Jason felt that the foundation of the agreement regarding where percentages of VPA funding is to be spent had been pre-determined through Rio prior to Yancoal coming on board.

Adrian felt that all surrounding mines need to be put under VPA agreements and should contribute due to the cumulative impacts across the region. Hollee provided the example of HVO who do not have to enter into a new VPA Agreement with Council, even though they are changing their lease consent, as they are going deeper and not to a broader footprint, so their current and existing VPA continues.

Ian's main point is that he would like the funding to go to what the community wants and to see what they would like the funds spent on. Hollee agreed that is the responsibility of the Funding Committee to voice to community that there is funding available and asking what they would like to see. Hollee noted that this funding is not for environmental mitigation but for community amenity and it is up to the community to determine where the funds are distributed.

Col asked if VPA's go through an approval process or is the requirement just for Council and the Company to be in agreement. Hollee responded that any determination with a Development Consent will usually have a VPA section and confirmed that is negotiated between Council and the Proponent and the requirement for a VPA is when negotiations start. Hollee advised also that the word "Voluntary" may be removed as this funding to community is a directive from State Government due to mining impacts. Hollee noted the VPA is a good pool of money that she hopes will have a good impact and that it works well for the community.

Community Relations Update

Near Neighbour Amenity Resource

In 2018 MTW offered installation of under sink filters for residential properties surrounding their operation;

- ✓ 40 properties have had filter systems installed.

Community Investment

MTW site donations program is now accepting applications from local community groups within the Singleton LGA. Please contact Vivien Franklin or Travis Bates for an application form (or from website). Programs supported in 2018 include:

- ✓ Singleton Business Chamber – *Coal Festival*
- ✓ Singleton Business Chamber - *2018 Outstanding Business Awards*
- ✓ Newcastle Combined Schools – *2018 Combined Schools Anzac Service*
- ✓ Wildlife Aid – *Wildlife care and rescue*
- ✓ Greta-Branxton Junior Rugby League – *support towards new dugout*
- ✓ Singleton Golf Club Lady's *Annual Open Day*
- ✓ Wanaruah Local Aboriginal Land Council – *NAIDOC Week Awards*
- ✓ Singleton Theatrical Society *production of 'Mary Poppins'*
- ✓ Rotary Club of Singleton on Hunter Inc – *Yancoal Singleton Art Prize*
- ✓ Mindaribba Warriors – *Indigenous Rugby League Rep Team (Gold Sponsorship)*
- ✓ Singleton Women's Bowls Club – *2018 Kookaburra Carnival*
- ✓ Bulga RFS – *CCTV installation*
- ✓ Milbrodale Public School – *support towards 2018 Family Fun Day*
- ✓ Broke Public School – *K-6 Robotics Program*

- MTW Schools Tour - St Catherine's Catholic College mine site tour as part of the NSW Mining School Tours Program. Year 5 students visited MTW to learn about the mining process as well as about the different career opportunities within the industry. MTW have hosted 2 tours so far with a third to come. MTW are partnered with NSW Mining

- Science and Engineering Challenge
  - 13-15 June: The Yancoal Upper Hunter Science and Engineering Challenge ('The Challenge') is an outreach program of the University of Newcastle (co-hosted by The Rotary Club of Muswellbrook) which directly addresses skills shortages by giving students a unique, fun experience in science and engineering.
  - This year saw more than 700 students attend.

Regent Honeyeater Presentation

Presentation by Jessica Blair; Environmental Advisor - Land Management Offsets

- Attracting critically endangered Regent Honeyeater to offset land – Presentation provided to NSW Minerals Council HSEC conference

Adrian noted the plantings near Bulga Bridge and opposite the Fire Station and Ian added that questioning around those planting was the second most asked from community after the closing of Wallaby Scrub Road. Ian said a lot of people had wondered why the company had planted tube stock in the worst drought conditions ever seen and ask how does MTW plan to keep them alive.

Jess advised that she looks after that area and responded that the company is looking at different ways of watering, including the use of a water tanker that their rehab contractor is utilising to simulate 25 mil of rainfall over that area. Jess noted that freshwater is being used for these plantings and that is what MTW also use for rehab. Each of these new plants were watered on planting, then there is an ongoing watering program in place for over summer. MTW do try to plant after a 25 mil rain event, however the company does have obligations to plant.

Adrian asked what species had been planted and Jess advised that along Wallaby Scrub Road in the sections of sand there will be Warkworth Sands Woodlands then Central Hunter Ironbark communities, so a variety of approximately 20 different species. Jess advised members that there is a species list in MTW's Management Plan.

Jess explained that planting aims for a 70% survival rate and if that is not achieved MTW will go back and infill for the following two years until that target is reached. Ian felt they were planted very close together and Jess explained that MTW have planted an understory as well, so they are not all over-story plants. Ian had concerns around the area below the old Bulga School as it is a flood area and in the past has seen a horrendous speed of water go through there and asked if MTW had taken that into consideration. Jess responded that there are a lot of River Oaks and those types of species going in there and if plantings were wiped out due to flood then there would be the need to start over.

COMMUNITY FEEDBACK

Ian Hedley

Ian noted that he had raised at the February CCC meeting that the people of Bulga would like to meet the new Manager at that time, then he had later suggested to have a meeting at the Bulga Hall about the VPA and invite Yancoal to attend. At that time MTW came back to say there would be a community meeting held by the company in June so Ian held off organising a meeting for both the community and the company.

Jason advised that he had been down to meet some residents at the Community Centre and often drives around Bulga and stops to speak with the community, so quite a few people do know him now but he would be happy to formalise that. Ian advised that people have got genuine questions to ask and if Yancoal wasn't planning on holding a community meeting in the near future then Ian would organise one, in particular he'd like to include the topics of the VPA and Telstra communication issues. Gary noted that the CCC do bring some of the community issues to this forum but would be happy to come out and meet others in the area and said he would organise a catch up with community.

ACTION 2: MTW to organise a Community Information Session and advise the CCC when this is in place.

Cr. Hollee Jenkins

Hollee advised she would like an update on MTW's Apprenticeship Program for next year and to know whether or not Yancoal will be undertaking Glencore's model, or if they have their own training model. Jason responded that for the next 12 months it has been agreed to use the Glencore model at HVO but MTW will stay with their current model and see how the other model works with HVO. Hollee asked how many places will there be for Apprentices next year and where will they come from. Jason advised he would have to take that question on notice to provide exact numbers but felt it was around 20 places across the two sites which is higher than the previous year.

Hollee noted that this is a standing question she asks all mines, as her interest is to keep the focus on employing young Singleton / LGA people rather than importing people from Maitland, Cessnock etc. Jason responded that there are essentially three rings within an area of circumference in place to make sure there is an appropriate intake i.e. if there is not the suitable applicants in the first circle, then go to the next circle, then next circle after that. Hollee hoped that if there are enough applications from Singleton there would not be the need to go outside the first circle.

Ian agreed with Hollee that this is a very important subject as there is a struggle to get skilled labour and Ian advised he had put on 8 Apprentices last year. Ian now conducts training through his business as an Registered Training Office (RTO) and as TAFE's are getting further away he has found this very successful and said he is open to extending this training to others and to site.

Ian's apprenticeship intake will probably look at around 10 places this year and the main reasoning for this is that's a way to build his workforce. Ian finds it difficult when people he has trained then go and drive trucks in mines and is concerned that this de-skills people Ian feels that it is important that mines do their share of training as there is a skills shortage that won't be fixed if the mining industry don't play their part in training Apprentices.

Hollee asked if Yancoal could provide an update on employment and Jason advised there are 1332 full time equivalents working at MTW, these people serve a day to day purpose and are not service providers. On average there are 80% permanent Yancoal employees which is an increase from 40% when they took over the business. Jason advised what the company does know, in terms of maintaining and attracting high calibre employees, is that there has been some success with contractors going on to become permanent workforce.

Ian asked if any of those 1332 were shared resources and Jason advised no and that HVO were around 1,600 and MTW are 1,300 now. In response to a question from Ian, Jason advised 20% of the 1332 are contractors but then on top of that are service contractors that do not constitute a full time equivalent (FTE) under Yancoal's definition as they can't be gainfully employed Monday to Friday.

Jason said there is always a natural attrition of around 11% turnover so the company is continually employing to maintain their workforce, they do this by working on about a 100 float, that is an over employ to maintain that 1332 and ensures that should a person leave there is a potential person already trained up to provide an immediate replacement. Hollee asked if people can apply directly to Yancoal for employment and Jason said yes, that only the Traineeship Applications continue to be run through Programmed.

10. General Business & Future Dates

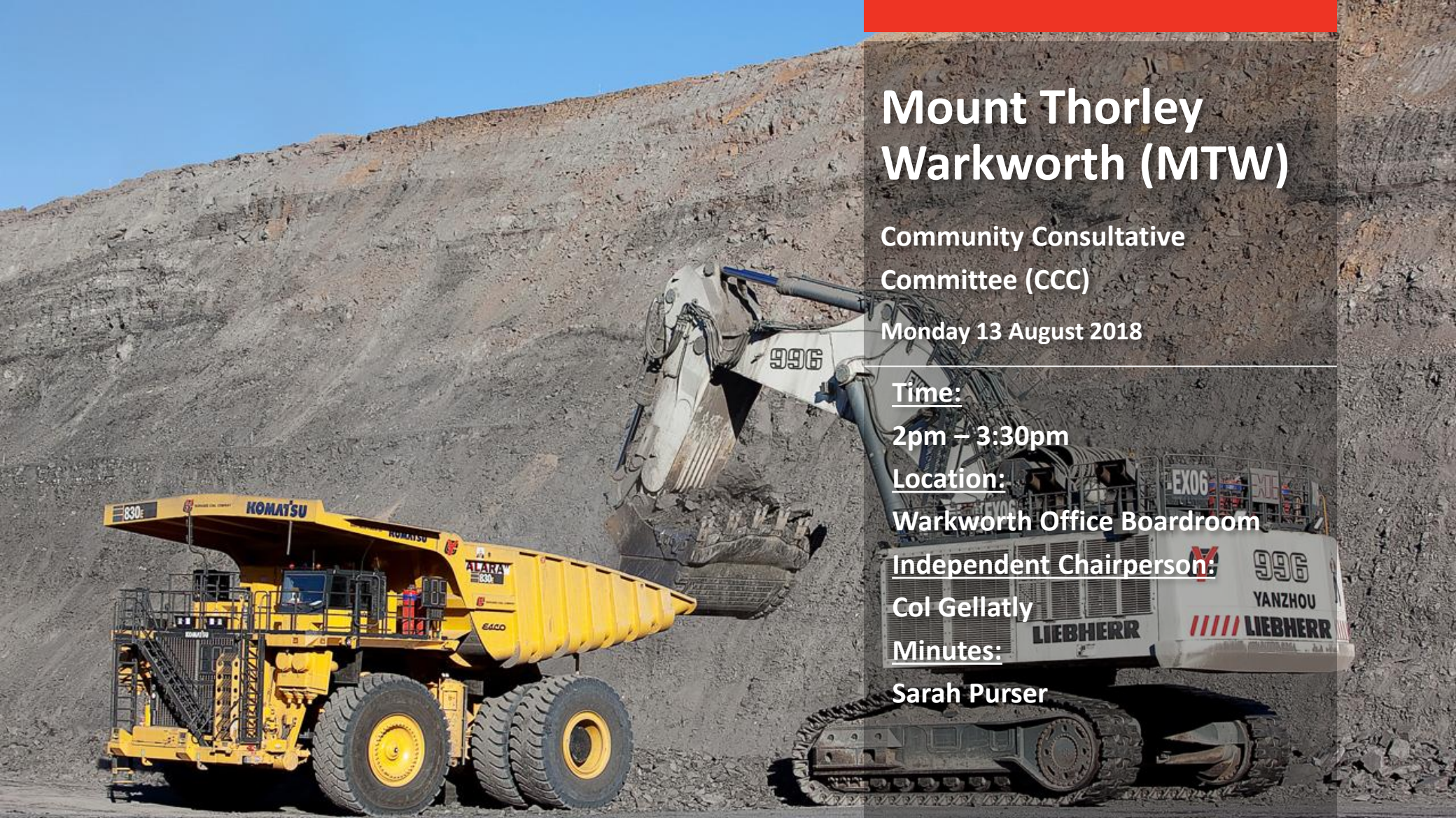
Next Meeting; **Monday 12 November 2018 : 2.00 to 3.30 p.m. at MTW Boardroom**

ACTIONS ARISING FROM THIS MEETING

Action	Page	Description
1	6	**MTW to provide the CCC with dust data from the Mt Thorley Monitoring System for 8 May 2018, and provide an Equipment / Shift Report, in an out of session communication.**
2	10	**MTW to organise a Community Information Session and advise the CCC when this is in place**

ONGOING ACTIONS

From the May 2017 CCC; MTW to keep the CCC up to date in matters pertaining to C&A's application to Singleton Council to close Wallaby Scrub Road, either at a meeting, or out of session should there be any update outside of two weeks prior to the next CCC Meeting.
December 2018 CCC; MTW to keep the CCC posted as to any progress on the Cockfighter Tavern, particularly any anticipated re-opening date.
Ongoing; Update to be provided at each Meeting.



Mount Thorley Warkworth (MTW)

Community Consultative Committee (CCC)

Monday 13 August 2018

Time:

2pm – 3:30pm

Location:

Warkworth Office Boardroom

Independent Chairperson:

Col Gellatly

Minutes:

Sarah Purser

Reaching new horizons together

YANCOAL
兖煤澳大利亚有限公司

Agenda

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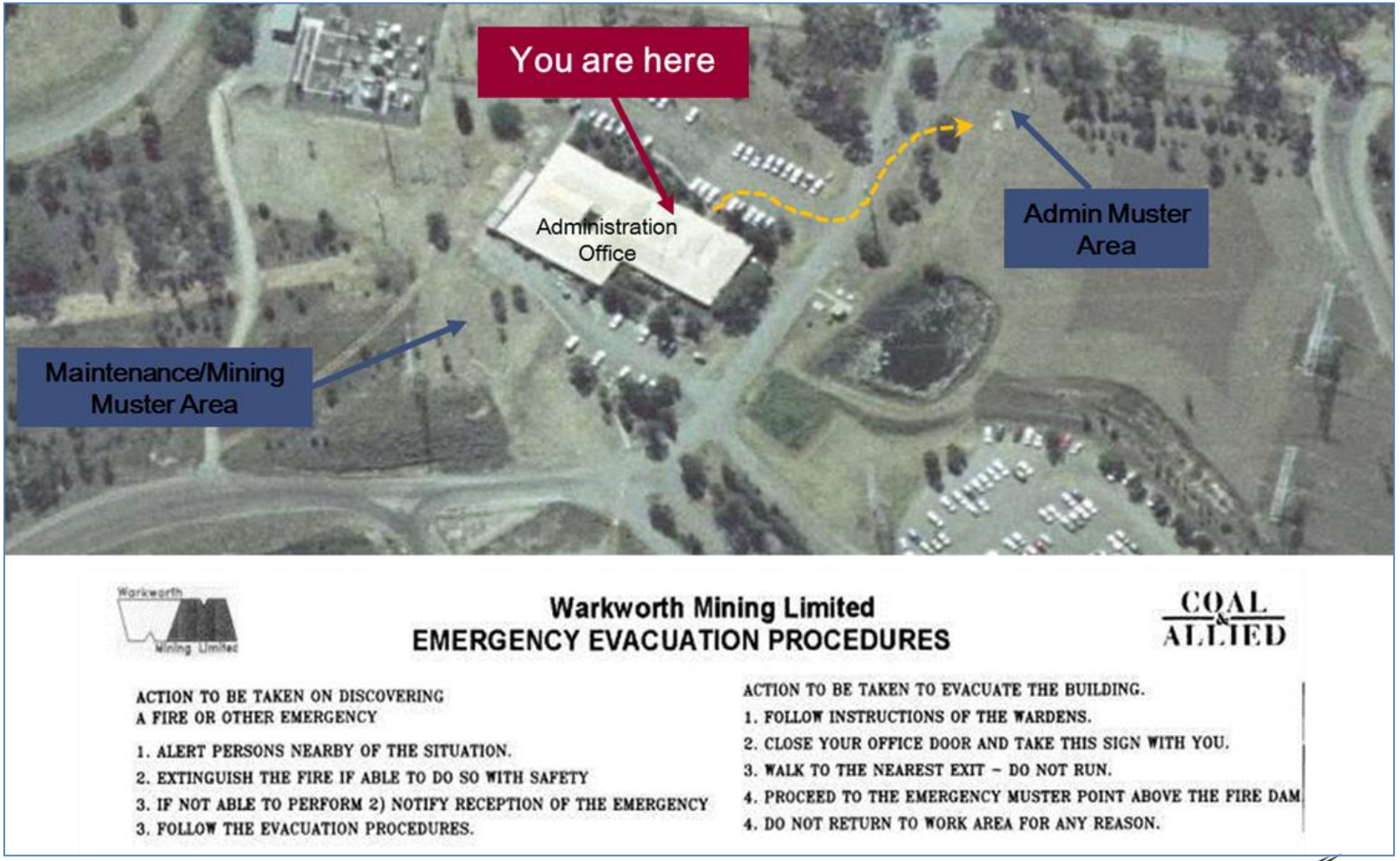
   - Progress of the project
   - Regulator site visits
8. Other agenda items
9. General business
10. Next meeting

YANCOAL 兖煤澳大利亚有限公司

1. Welcome



YANCOAL 兖煤澳大利亚有限公司

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2. Apologies

- Christina Metlikovec

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3. Declaration of pecuniary interests / conflicts of interest

All members must declare interests.

These declarations should include any pecuniary or other interest (including any payment, gift or benefit) intended or likely to influence - or that could be reasonably perceived by an impartial observer as intended or likely to influence - the member to:

- act in a particular way (including making a particular decision);
- fail to act in a particular circumstance; and/or
- otherwise deviate from the proper exercise of their duty as a member.

Examples of pecuniary or other interests include holding shares in an entity carrying out the project, holding a private contract with the proponent, holding voluntary acquisition or mitigation rights under the proponent's consent, or receiving sitting fees or payments of personal expenses from the proponent; and if the member represents a stakeholder group, if the stakeholder group has received funding or a grant from the proponent.

Source: *Community consultative committees Guidelines (State Significant Projects), November 2016.*

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4. Business Arising

Action No.	Actions
0	Yancoal to look into replacing Australian Flag at the Cockfighter Tavern to improve visual amenity. [HF completed]
1	Hayley to investigate re-wording text in the Blast Notification SMS System to indicate "updated" time frames to road closures and the possibility for MTW to differentiate between WML and MTO Blasts [HF completed investigation – planned to occur]
2	MTW seek detail on the Property and Expression of Interest / Tender Process for the Cockfighter Tavern from the listing Agent; Manenti Quinlan and provide this to members post Meeting [Completed]
3	MTW to review their Consent in relation to Property Acquisition conditions to seek detail around Stewart's interpretation that he felt this had specified that Yancoal owned properties were to be eventually vacated, removed and/or destructed [Completed]

YANCOAL 兖煤澳大利亚有限公司

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5. Correspondence

- Previous Minutes (email 16/07/2018)
- Update on “Cockfighter Tavern” Tenement Process (28/06/2018)
- Response to Ian Hedley Dust Enquiry - Action item 4 in last meeting (29/06/2018)
- Agenda & Business Papers (01/08/2018)

YANCOAL 兖煤澳大利亚有限公司

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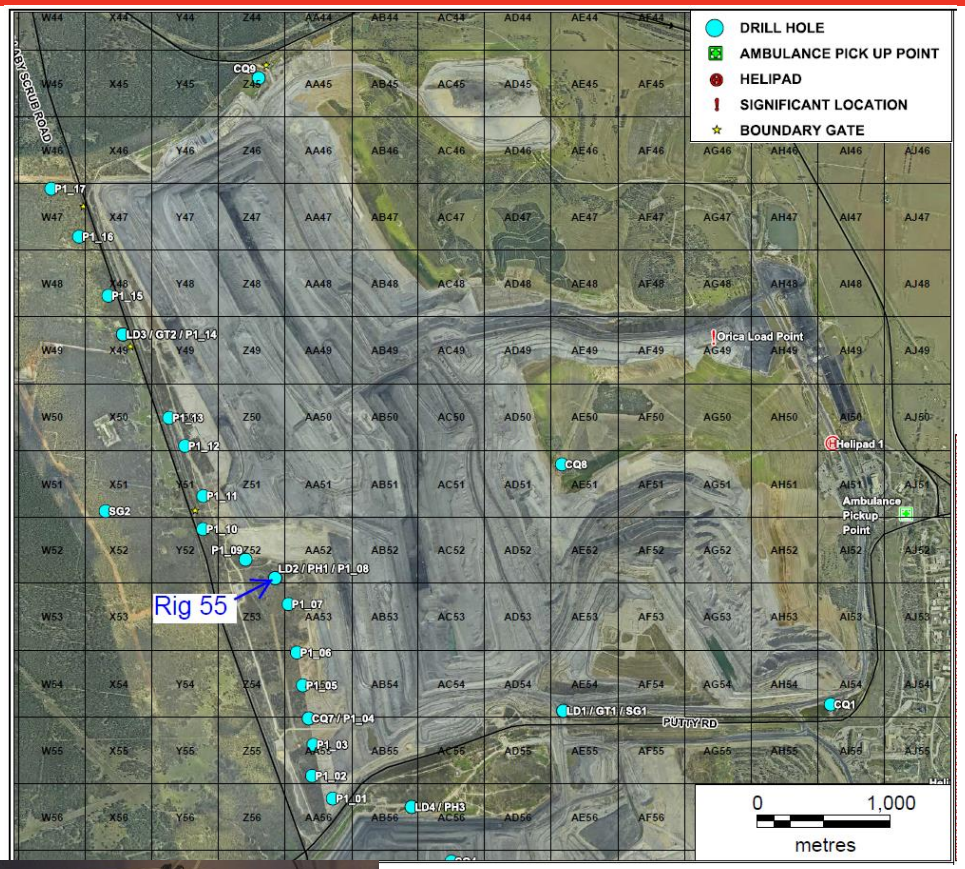
MTW Operations

- Mining continued in Warkworth and Mount Thorley Operations
- Coal processing and train loading normal operations
- Exploration activities commenced July 2018 with drill rig mobilisation.



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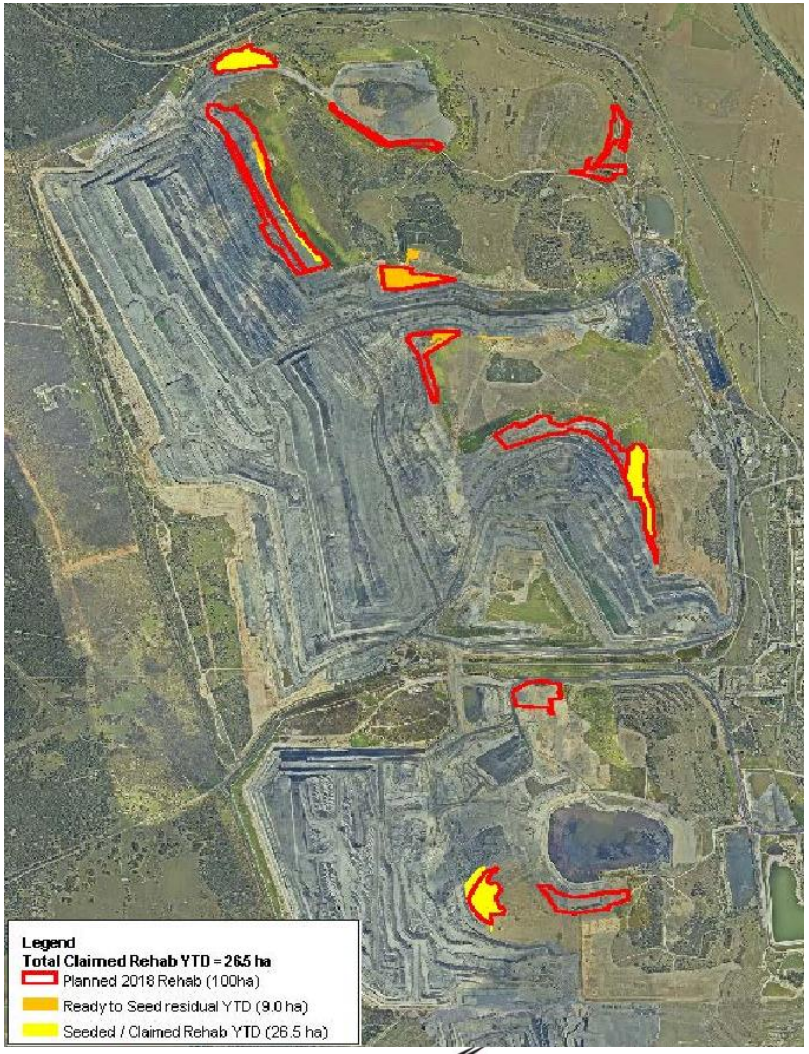
MTW Operations - Rehabilitation

- Rehabilitation target for 2018 = 100 ha seeded (outlined in red)
- <u>Works completed so far in 2018:</u>
  - 67.6 ha bulk shaped
  - 23.8 ha topsoiled
  - 35.5 ha composted
  - 26.5 ha seeded
- <u>Key works for Quarter 3 2018 (July-September):</u>
  - Rehabilitation of CD Dump areas (approx. 16ha) and NPN areas (approx. 15ha).



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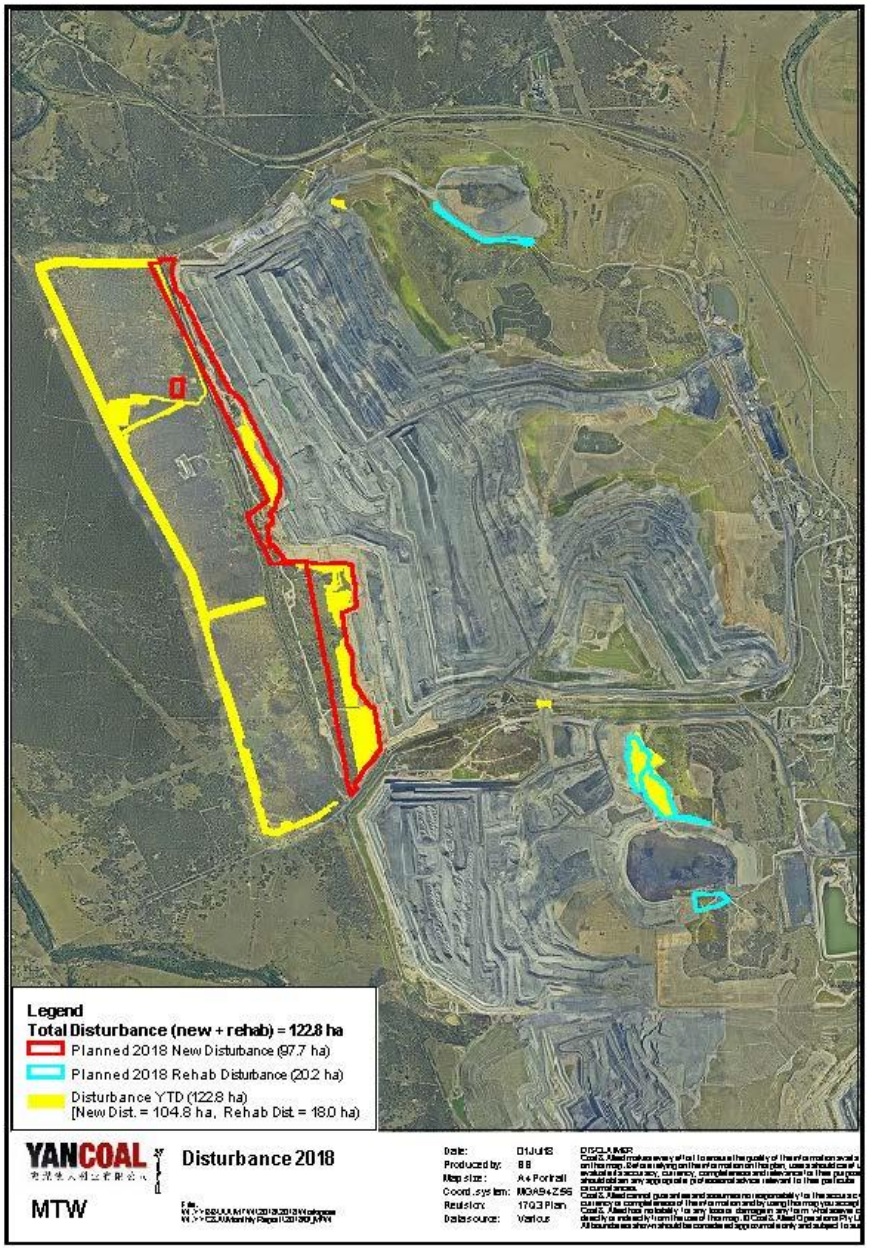
MTW Operations – West of Wallaby Scrub Road

- Rural Fire Service track mostly completed
- Power infrastructure construction ongoing
- Water infrastructure about to commence
- Demolition of old houses and waste cleanup commenced



MTW Operations - Business Papers

- Business papers provided to CCC prior to meeting
- Includes summary of:
- Complaints, Incidents, Environmental Monitoring, Rehabilitation, Property Update, Website Uploads, Community Investment Update

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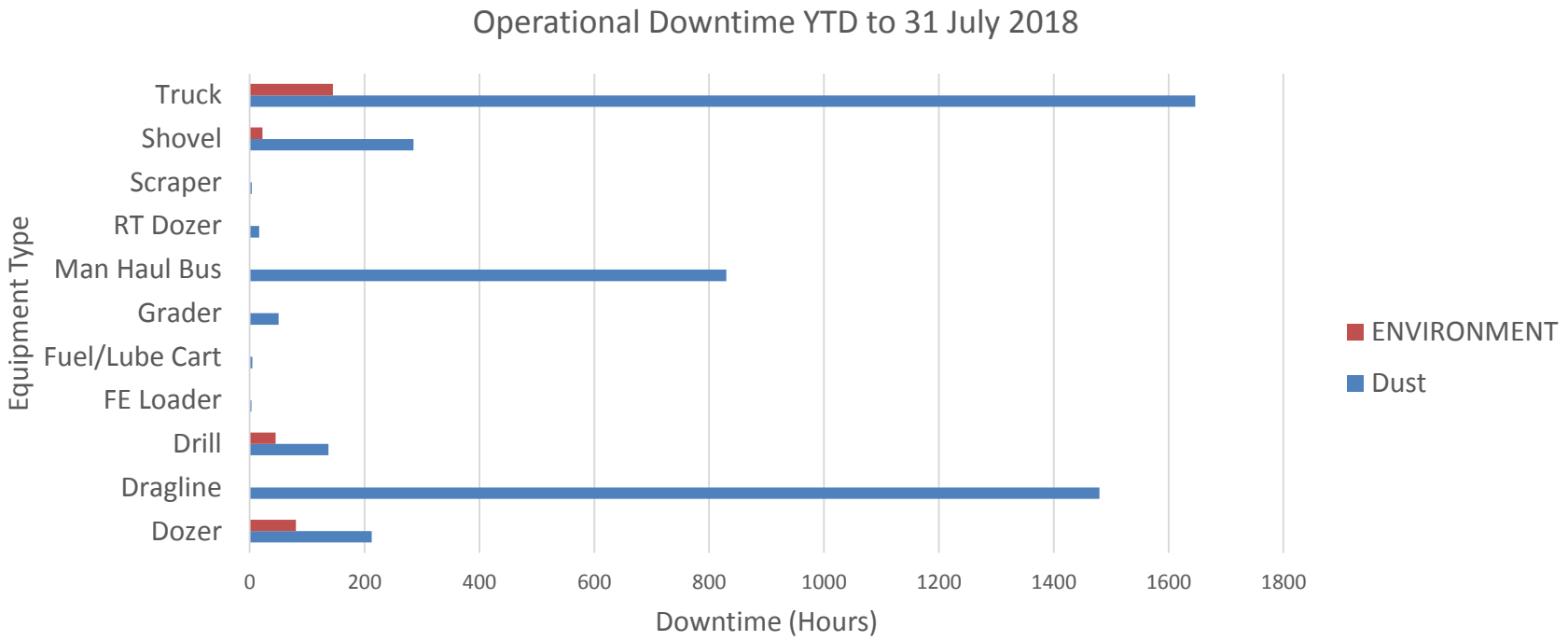
MTW Operations



MTW Noise Monitoring YTD			
	# CRO Assessments	# Individual assessment above trigger	# Nights above trigger
2018 **YTD**	3824	26	13
2017	5990	18	10
2016	4851	84	34

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MTW Operations

- MTW received penalty notice and official caution from EPA (28 May 2018) regarding self report of water discharge west of WML's North Pit (4 Dec 2017).
  - The incident in question was a failure of a catch drain which permitted sediment laden water to cross Wallaby Scrub Road and enter a farm dam (on MTW property).
  - Penalty Notice – EPL condition O1.1 – which requires activities to be conducted in a competent manner
  - Official Caution – s120 of POEO Act (Pollute Waters). EPA media release noted "no actual environmental harm"

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Regulator / Agency Site Visits

- Department of Industry – Lands & Water - 13 June 2018, MTW hosted 40 Members from the Department of Industry – Lands & Water for a mine familiarisation tour as an education piece for departmental staff from across NSW.
- Department of Resources and Geoscience / NSW Department of Planning and Environment – 25 June 2018, Routine co-inspection by DRG and DP&E regarding Annual Environmental Management Review.
- Environmental Protection Authority – 18 July 2018, Mount Thorley Coal Loader premises site inspection

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Regulator / Agency Site Visits

- Division of Resources and Geoscience – 2 August 2018, MTW hosted 14 Members from the Resources Policy / Legal business units for a mine familiarisation tour.

YANCOAL 兖煤澳大利亚有限公司

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8. Other Agenda Items

Items Addressed Post Meeting	
1	Yancoal to look into replacing Australian Flag at the Cockfighter Tavern to improve visual amenity. [HF completed 20/06/2018]

YANCOAL 兖煤澳大利亚有限公司

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YANCOAL 兖煤澳大利亚有限公司

Voluntary Planning Agreement

- Singleton Council – Mount Thorley Warkworth Voluntary Planning Agreement (VPA) Community Committee
  - Yancoal made its first payment of $2,000,000 under the VPA in early 2018
  - $1,000,000 of the first payment is to be used exclusively for Bulga
  - Committee functions (as set down by Singleton Council)
    - Recommend to Council a set of principles for the prioritisation of projects which would build sustainability and enhance the quality of life within the community
    - Consult with the community to ascertain needs and opportunities as they relate to sustainable community projects to be considered for funding form the VPA
    - Utilising adopted agreed principles and after appropriate consultation with the community develop a prioritised list of projects
    - Recommend to Council an agreed program of prioritised projects
    - Provide an annual report to Council on the deployment of Councils adopted program of prioritised projects

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Voluntary Planning Agreement

- First VPA committee meeting was held 18 July 2018.
- VPA Committee Members
  - Adrian Gallagher – Community Member
  - Pauline Rayner – Community Member
  - Christina Metlikovec - Community Member
  - Ian Hedley - Community Member
  - Judith Leslie - Community Member
  - Greg Banks – Alternate Community Member
  - Alan Andrews – Yancoal Australia
  - Mark Ihlein – Singleton Council
  - Cr Sue Moore – Singleton Council Mayor

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Community Relations update

Near Neighbour Amenity Resource

In 2018 MTW have offered installation of under sink filters for residential properties surrounding our operation

- 40 properties have had filter systems installed

Community Investment

MTW site donations program is now accepting applications from local community groups within the Singleton LGA. Please contact Vivien Franklin or Travis Bates for an application form (or from website).
Programs supported in 2018 include:

- Singleton Business Chamber – *Coal Festival*
- Singleton Business Chamber - *2018 Outstanding Business Awards*
- Newcastle Combined Schools – *2018 Combined Schools Anzac Service*
- Wildlife Aid – *Wildlife care and rescue*
- Greta-Branxton Junior Rugby League – *support towards new dugout*
- Singleton Golf Club Lady's *Annual Open Day*
- Wanaruah Local Aboriginal Land Council – *NAIDOC Week Awards*
- Singleton Theatrical Society *production of 'Mary Poppins'*
- Rotary Club of Singleton on Hunter Inc – *Yancoal Singleton Art Prize*
- Mindaribba Warriors – *Indigenous Rugby League Rep Team (Gold Sponsorship)*
- Singleton Women's Bowls Club – *2018 Kookaburra Carnival*
- Bulga RFS – *CCTV installation*
- Milbrodale Public School – *support towards 2018 Family Fun Day*
- Broke Public School – *K-6 Robotics Program*

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Community Relations update

- MTW Schools Tour - St Catherine's Catholic College mine site tour as part of the NSW Mining School Tours Program. Year 5 students visited MTW to learn about the mining process as well as about the different career opportunities within the industry. MTW have hosted 2 tours so far with a third to come. MTW are partnered with NSW Mining

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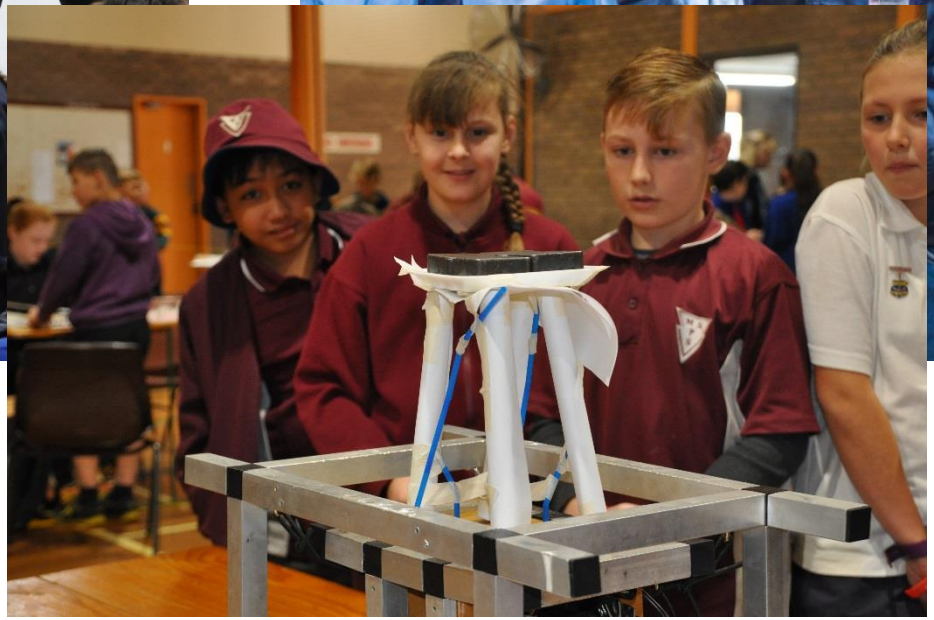
Community Relations update

- Science and Engineering Challenge
  - 13-15 June: The Yancoal Upper Hunter Science and Engineering Challenge (‘The Challenge’) is an outreach program of the University of Newcastle (co-hosted by The Rotary Club of Muswellbrook) which directly addresses skills shortages by giving students a unique, fun experience in science and engineering.
  - This year saw more than 700 students attend.

Community Relations update

- Science and Engineering Challenge



Regent Honeyeater Presentation

- Attracting critically endangered Regent Honeyeater to offset land – Presentation provided to NSW Minerals Council HSEC conference
  - Jessica Blair – Environmental Advisor – Land Management and Offsets

YANCOAL 兖煤澳大利亚有限公司

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YANCOAL 兖煤澳大利亚有限公司

Future Dates

Next Meeting Date

12 November 2018 – MTW Board Room

2:00PM-3:30PM

Thank you. Please travel safely.

YANCOAL 兖煤澳大利亚有限公司

Mount Thorley Warkworth Community Consultative Committee (CCC)

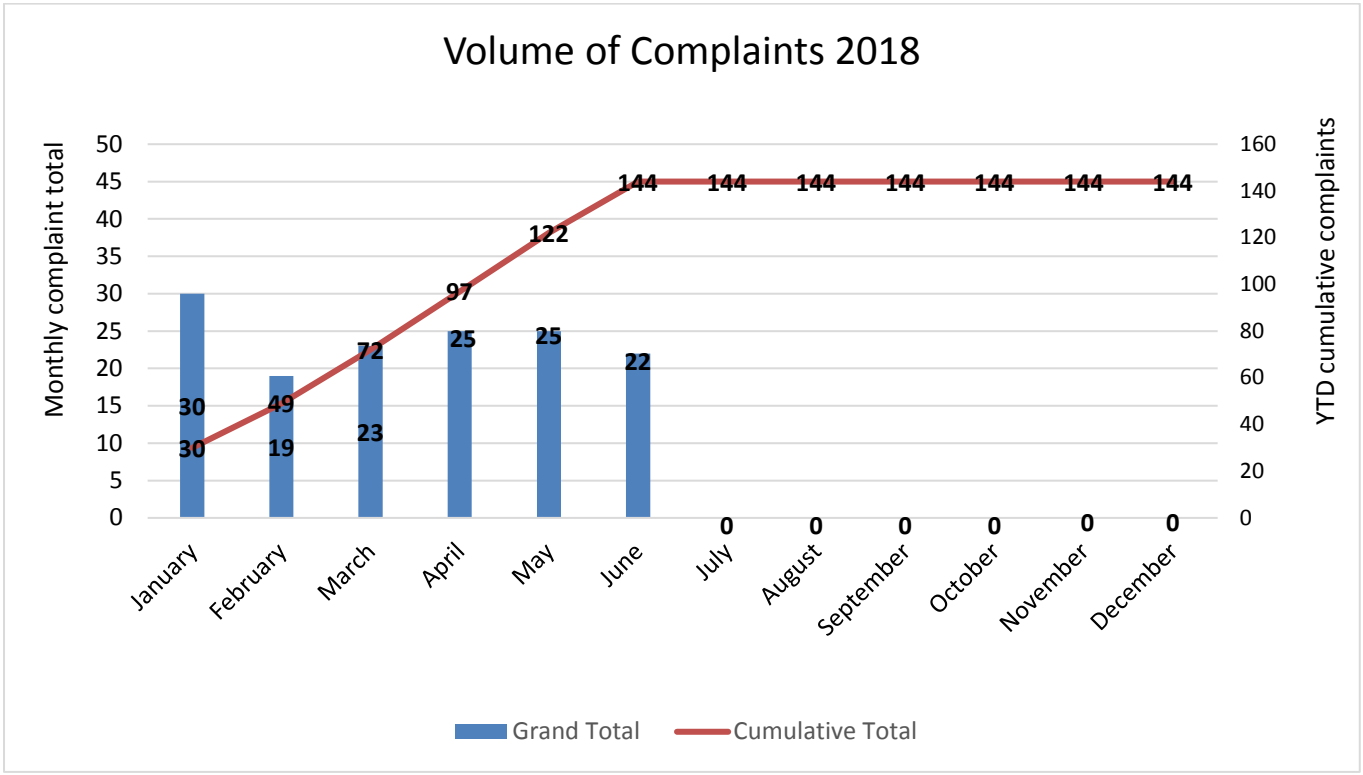
BUSINESS PAPERS – August 2018

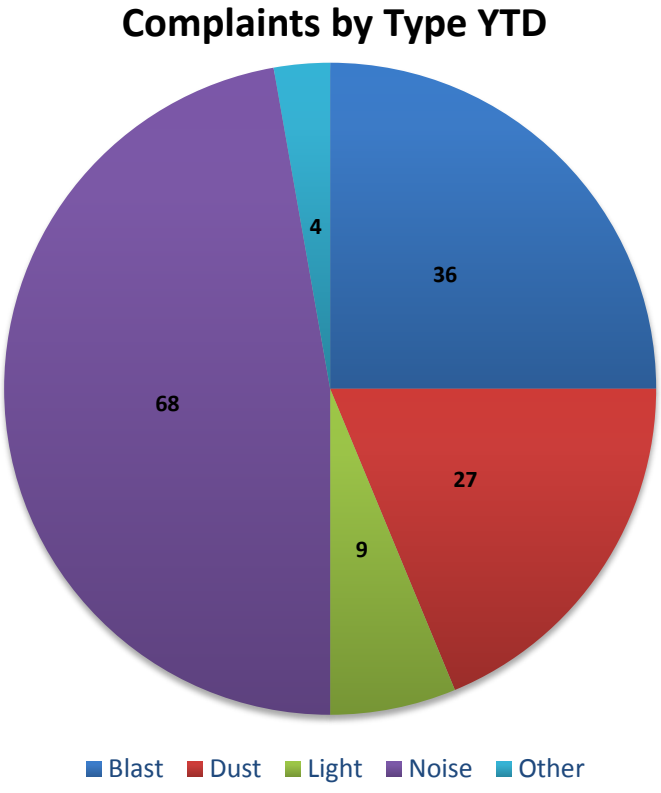
Contents page

Appendices

1 COMPLAINTS

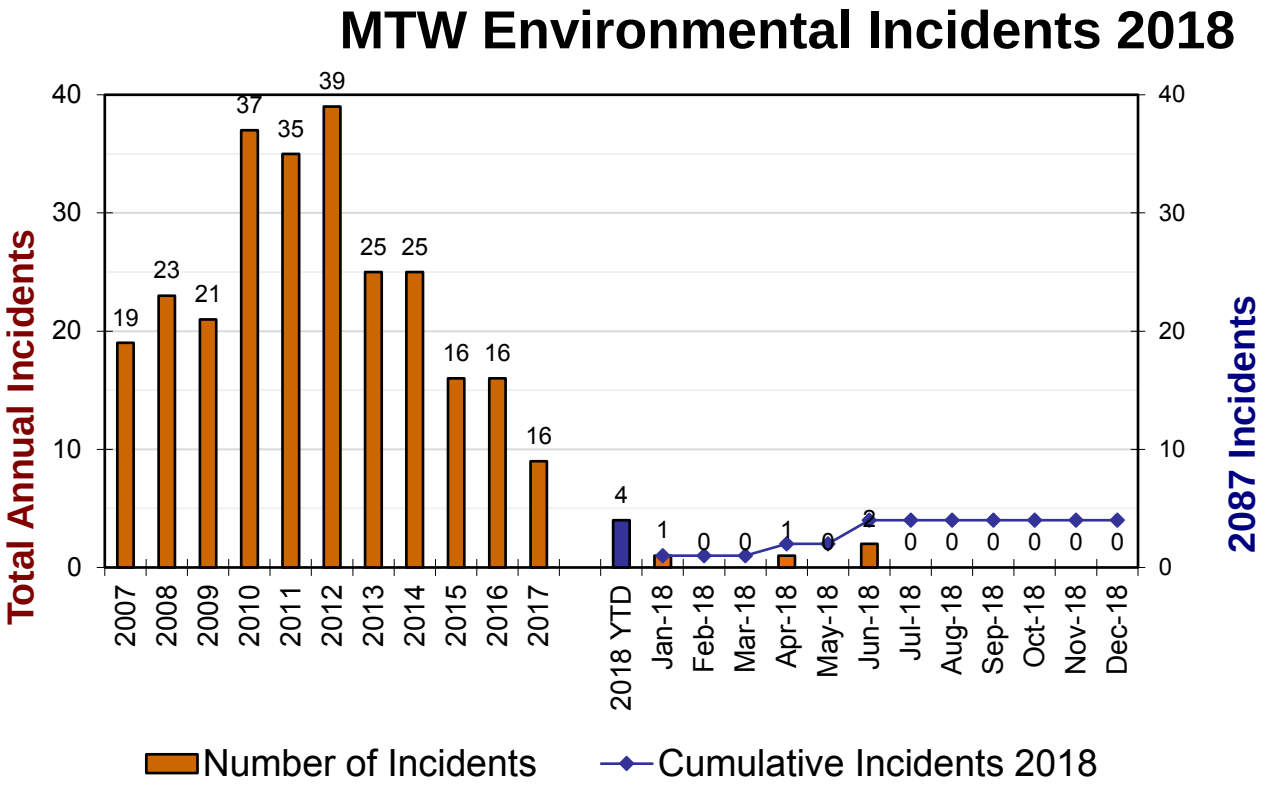
Complaints overview YTD 2018 (01.01.2018 - 30.06.2018)





2 INCIDENTS

Overview of environmental incidents for period first quarter 2018 – 01 January 2018 to 30 March 2018.



Incident Summary for the period of 1 April to 30 June 2018.

Date	Details	Key Actions	Aspect
07-June-2018	Dozer and Truck made contact on interburden emplacement area. Dozer blade contacted Truck fuel tank resulting in diesel spill.	Spill was contained. Incident investigated.	Hydrocarbon
25-June-2018	Contract company incorrectly isolated fuel tanks when delivering diesel to site. As a result, fuel overtopped receiving tank into bunded area. Valve on bunded area had unknowingly deteriorated resulting in diesel spill into earthen containment cell.	Spill was contained and recovered. Incident investigated.	Hydrocarbon

3 ENVIRONMENTAL MONITORING

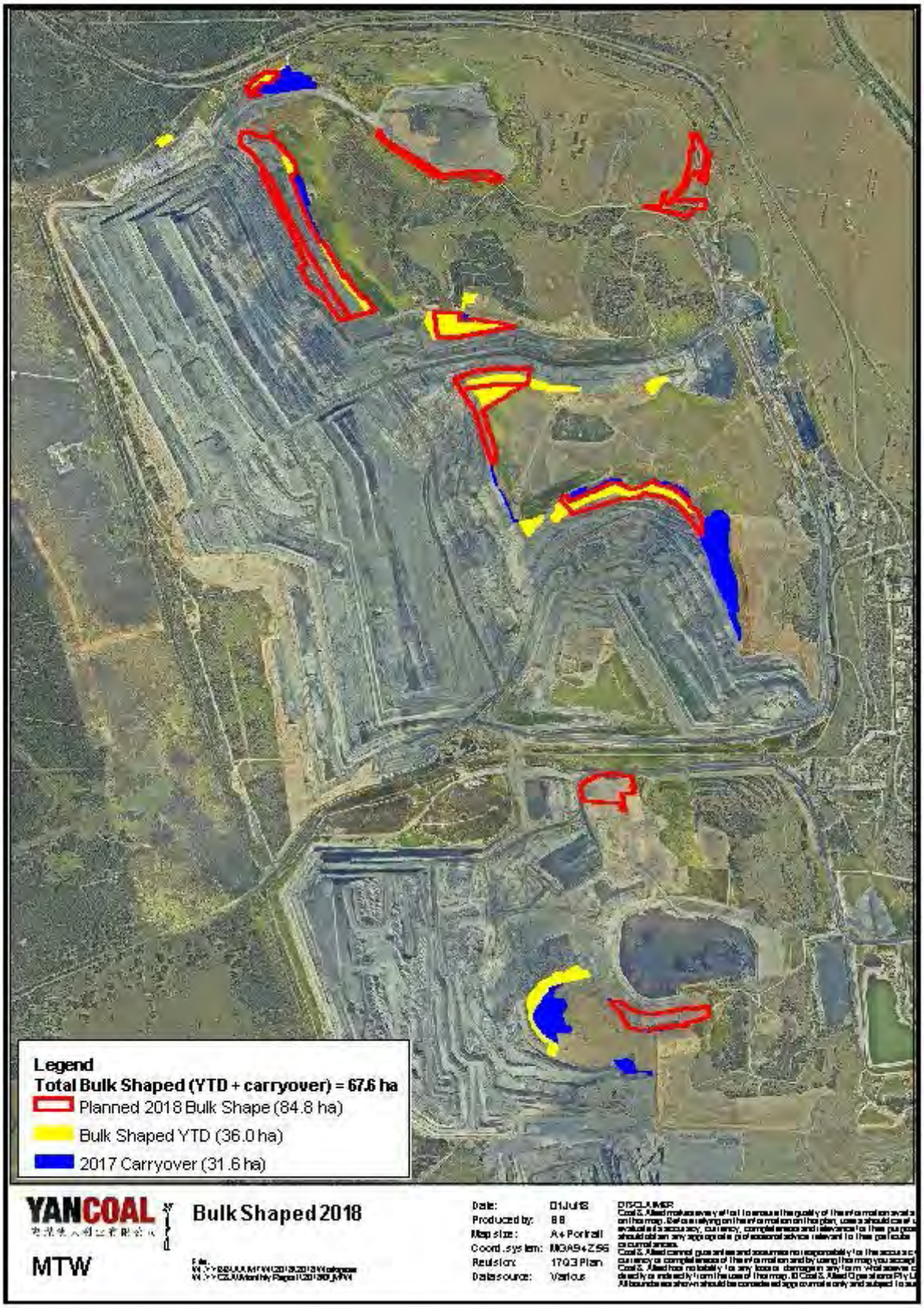
Monthly summaries of environmental monitoring for the period 1 January 2018 to 30 March 2018.

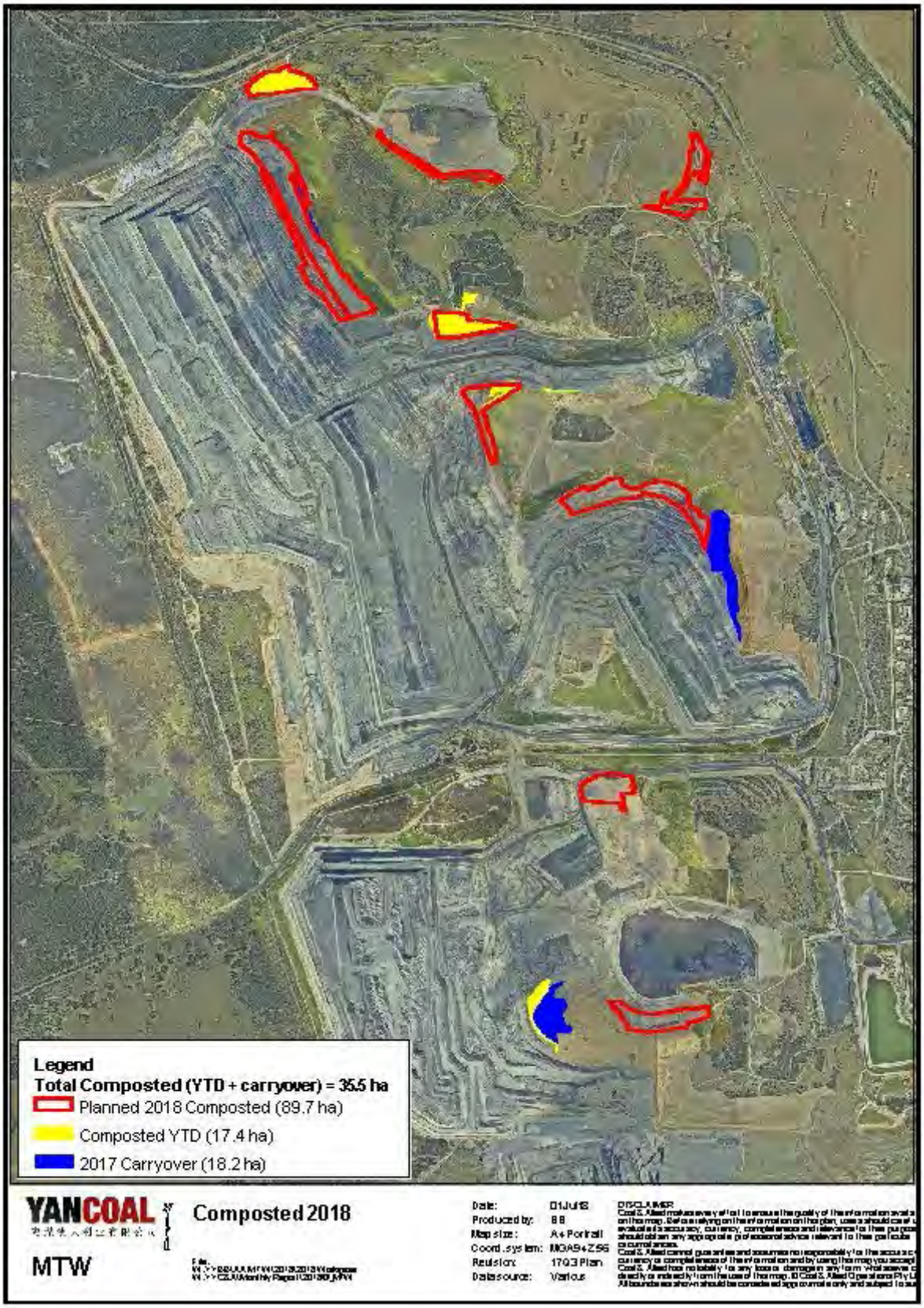
April 2018
Attached as **Appendix A**
May 2018
Attached as **Appendix B**
June 2018
Attached as **Appendix C**

4 REHABILITATION PLAN

Further progress has been made to date against the 2018 MTW rehab target of 100ha, with bulk shaping completed on 67.5ha. Rehabilitation activities have progressed further on many of these areas such that 26.5ha have been seeded and a further 9ha are ready for seeding.

The year to date disturbance is 122.8ha. The bulk of the disturbance that has occurred since the last meeting is due to clearing associated with the construction of the emergency access track/fire trail (schedule 3, cond.50, SSD-6464).


Legend
Total Bulk Shaped (YTD + carryover) = 67.6 ha
Planned 2018 Bulk Shape (84.8 ha)
Bulk Shaped YTD (36.0 ha)
2017 Carryover (31.6 ha)
YANCOAL
Bulk Shaped 2018
MTW
Date: 01Jul18
Produced by: BB
Map size: A4 Portrait
Coord. system: MGA94 Z56
Revision: 17Q3 Plan
Data source: Various
DISCLAIMER


Legend
Total Composted (YTD + carryover) = 35.5 ha
Planned 2018 Composted (89.7 ha)
Composted YTD (17.4 ha)
2017 Carryover (18.2 ha)
YANCOAL
Composted 2018
MTW
Date: 01Jul18
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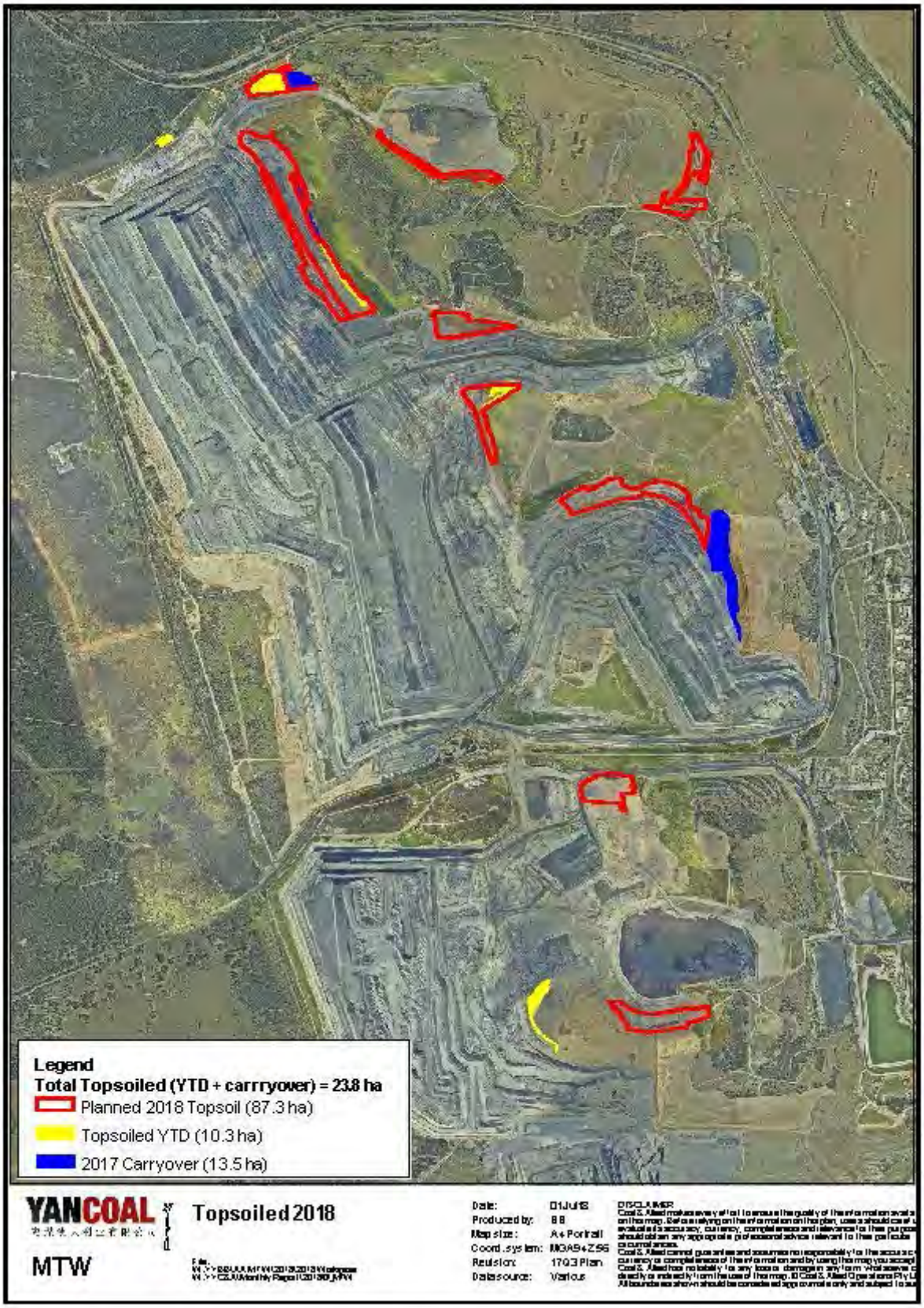
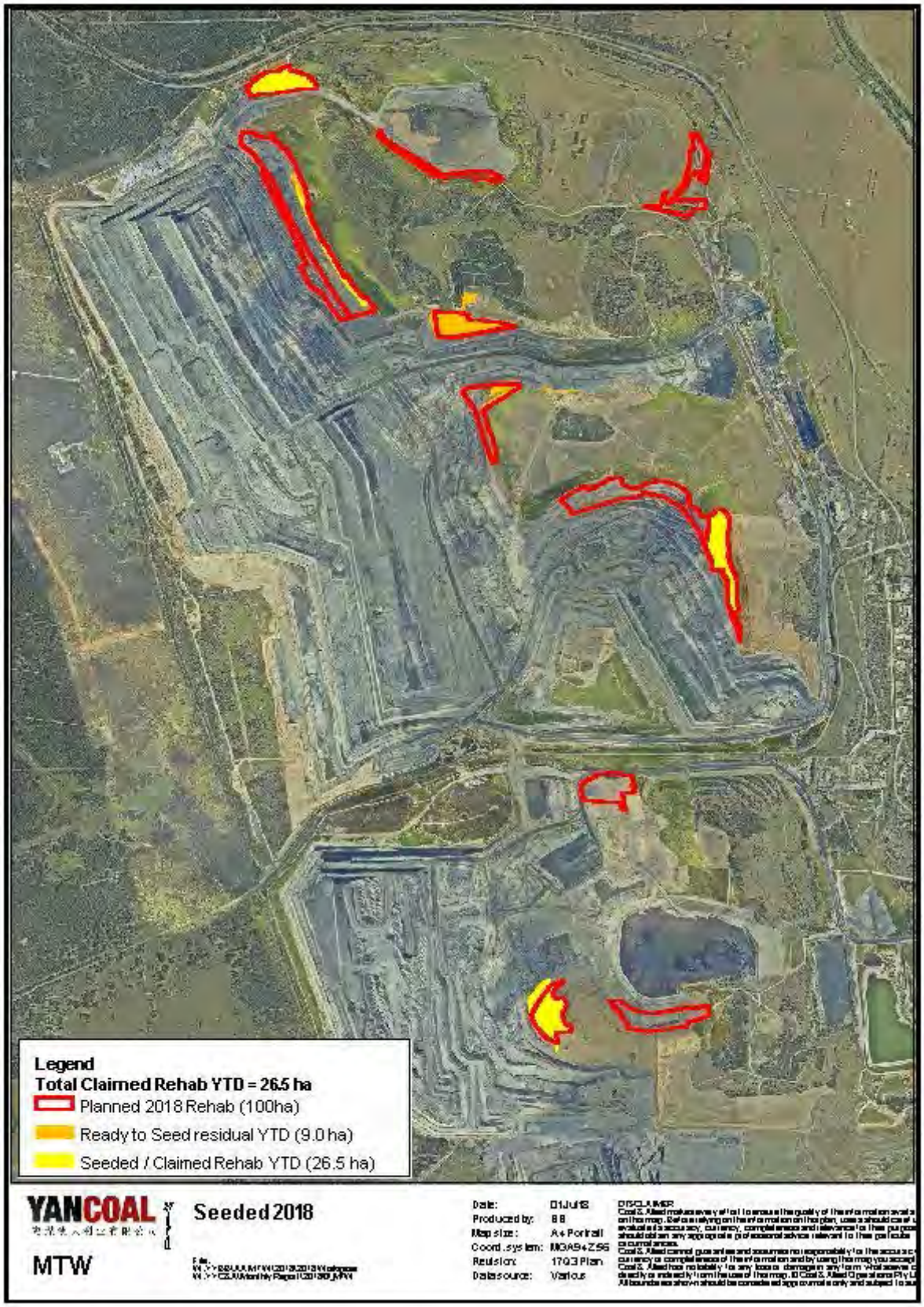
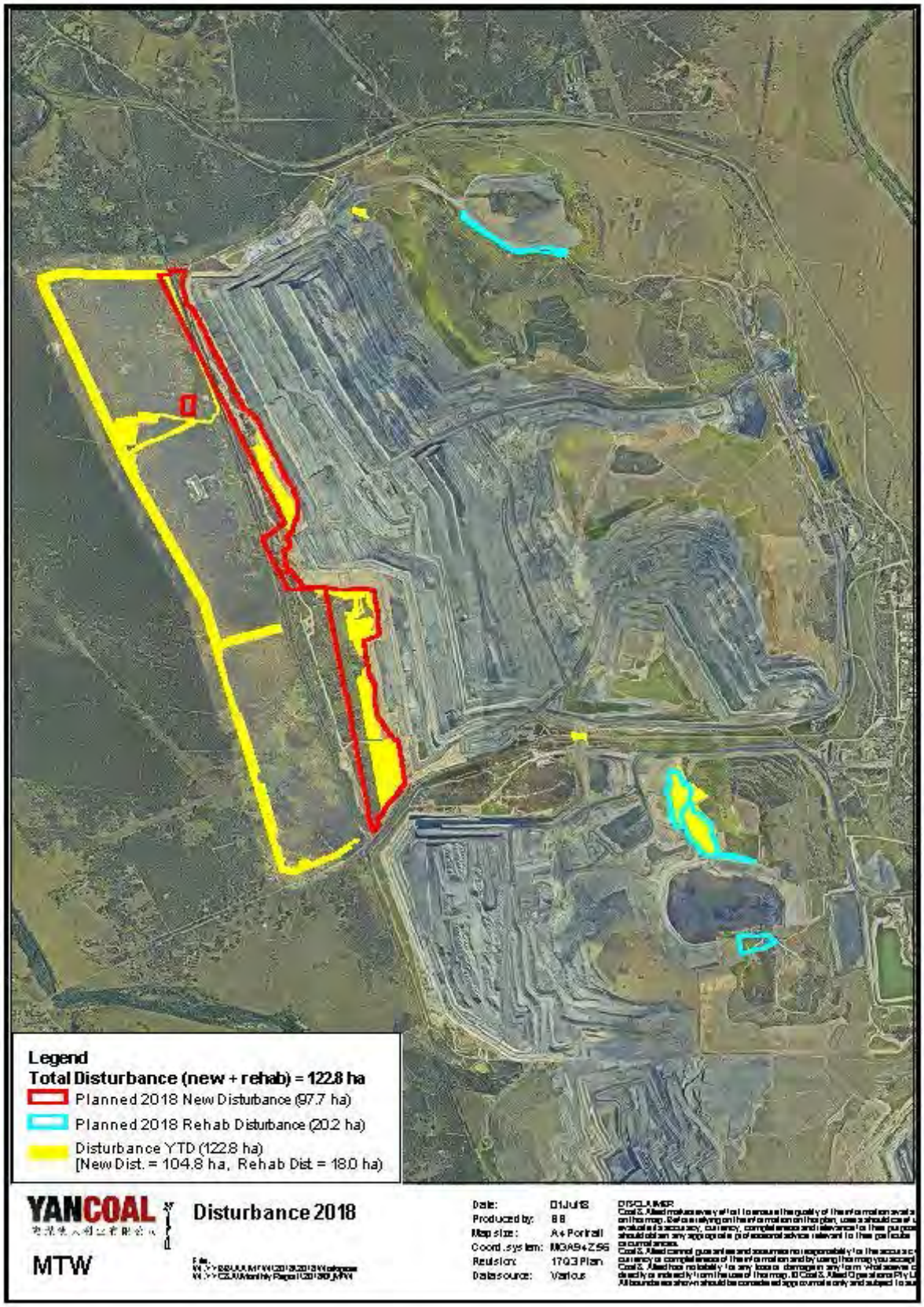
Map size: A4 Portrait
Coord. system: MGA94 Z56
Revision: 17Q3 Plan
Data source: Various
DISCLAIMER


Legend
Total Topsoiled (YTD + carryover) = 23.8 ha
Planned 2018 Topsoil (87.3 ha)
Topsoiled YTD (10.3 ha)
2017 Carryover (13.5 ha)
YANCOAL
Topsoiled 2018
MTW
Date: 01Jul18
Produced by: BB
Map size: A4 Portrait
Coord. system: MGA94 Z56
Revision: 17Q3 Plan
Data source: Various


Legend
Total Claimed Rehab YTD = 26.5 ha
Planned 2018 Rehab (100ha)
Ready to Seed residual YTD (9.0 ha)
Seeded / Claimed Rehab YTD (26.5 ha)
YANCOAL
Seeded 2018
MTW
Date: 01Jul18
Produced by: BB
Map size: A4 Portrait
Coord. system: MGA94Z56
Revision: 1703 Plan
Data source: Various
DISCLAIMER



5 ACQUISITION UPDATE

There have been no new land acquisitions by Yancoal. Full summary included in Appendix D.

6 WEBSITE UPLOADS

Table 1 below is a list of all documents uploaded to the MTW library of the Yancoal Australia InSite website since 30 April 2018 (to 23 July 2018). Uploads have been characterised as Additions, being a new document, or a Change, meaning a new version of an existing document. Please refer to the library page of the website for document contents:

https://insite.yancoal.com.au/document-library/mtw

Document Title	Upload
EPBC 2002/629 and EPBC 2009/5081 Annual Compliance Report - 1 February 2017 to 31 January 2018	3/05/2018
Local Biodiversity Areas Annual Report 2017	3/05/2018
Regional Biodiversity Areas Annual Report 2017	3/05/2018
Mount Thorley Warkworth Environmental Monitoring Report March 2018	3/05/2018
Mount Thorley Warkworth Environment Protection Licence 1376 1976 Monitoring Data April 2018	18/05/2018
Aboriginal Heritage Management Plan	22/05/2018
Warkworth Continuation Project 2014 Environmental Impact Statement - Appendices O to R	22/05/2018
Warkworth Continuation Project 2014 Environmental Impact Statement - Main Report	22/05/2018
Warkworth Continuation Project 2014 Environmental Impact Statement - Appendices A to G	22/05/2018
Warkworth Continuation Project 2014 Environmental Impact Statement - Appendix H	22/05/2018
Warkworth Continuation Project 2014 Environmental Impact Statement - Appendices I to L	22/05/2018
Warkworth Continuation Project 2014 Environmental Impact Statement - Appendices M to N	22/05/2018
Warkworth Continuation 2014 - Response to Submissions	22/05/2018
Mount Thorley Operations 2014 Environmental Impact Statement - Appendices G to J	22/05/2018
Mount Thorley Operations 2014 Environmental Impact Statement - Appendices K to L	22/05/2018
Mount Thorley Operations 2014 Environmental Impact Statement - Appendices M to O	22/05/2018
Mount Thorley Operations 2014 Environmental Impact Statement - Main Report	22/05/2018

Mount Thorley Operations 2014 Environmental Impact Statement - Appendices A to F	22/05/2018
Mount Thorley Operations 2014 - Response to Submissions	22/05/2018
Bowditch Biodiversity Area Management Plan	28/05/2018
Goulburn River Biodiversity Area Management Plan	28/05/2018
North Rothbury Biodiversity Area Management Plan	28/05/2018
Putty Biodiversity Area Management Plan	28/05/2018
Seven Oaks Biodiversity Area Management Plan	28/05/2018
Southern Biodiversity Area Management Plan	28/05/2018
Mount Thorley Warkworth Environmental Monitoring Report April 2018	6/06/2018
Mount Thorley Warkworth Environment Protection Licence 1376 1976 Monitoring Data May 2018	26/06/2018
Mount Thorley Warkworth Environmental Monitoring Report May 2018	12/07/2018
Mount Thorley Warkworth Community Consultative Committee Meeting Business Papers December 2017	12/07/2018
Mount Thorley Warkworth Community Consultative Committee Meeting Minutes December 2017	12/07/2018
Mount Thorley Warkworth Community Consultative Committee Presentation December 2017	12/07/2018
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Mount Thorley Warkworth Community Consultative Committee Presentation May 2018	12/07/2018
Mount Thorley Warkworth Environment Protection Licence 1376 1976 Monitoring Data June 2018	23/07/2018

7 YANCOAL CORPORATE AND COMMUNITY INVESTMENT

The MTW site donations program is active. For information please contact Travis Bates.

Travis Bates
Yancoal Community Relations Specialist
+61 2 6575 5911
Travis.bates@yancoal.com.au

Appendix A: April Monthly Environmental Monitoring Report

Monthly Environmental Monitoring Report

Yancoal Mount Thorley Warkworth

April 2018

CONTENTS

Figures

Tables

Revision History

Version No.	Person Responsible	Document Status	Date
1.0	**Environmental Advisor**	**Draft**	**24/05/2018**
1.1	**Environment & Community Manager**	**Final**	**04/06/2018**

1.0 INTRODUCTION

This report has been compiled to provide a monthly summary of environmental monitoring results for Mount Thorley Warkworth (MTW). This report includes all monitoring data collected for the period 1st April to 30th April 2018.

2.0 AIR QUALITY

2.1 Meteorological Monitoring

Meteorological data is collected at MTW's 'Charlton Ridge' meteorological station (refer to **Figure 3**: Air Quality Monitoring Locations).

2.1.1 Rainfall

Rainfall for the period is summarised in **Table 1**, the year-to-date trend and historical trend are shown in **Figure 1**.

Table 1: Monthly Rainfall MTW

2018	Monthly Rainfall (mm)	Cumulative Rainfall (mm)
April	27	115.5

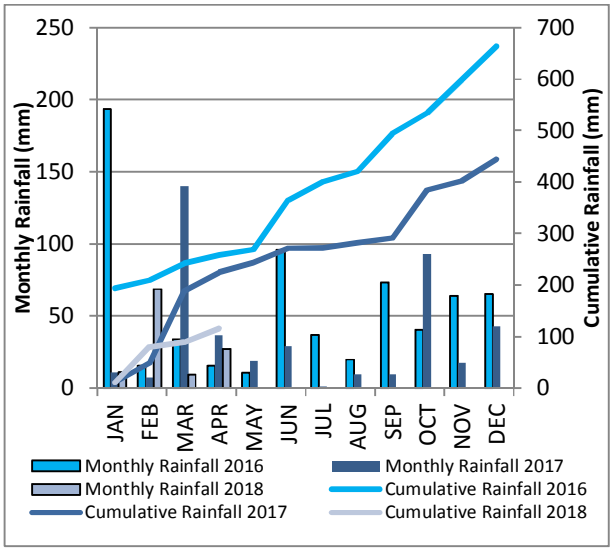

Figure 1: Rainfall Trend YTD

2.1.2 Wind Speed and Direction

Winds from the south were dominant throughout the reporting period as shown in **Figure 2.**

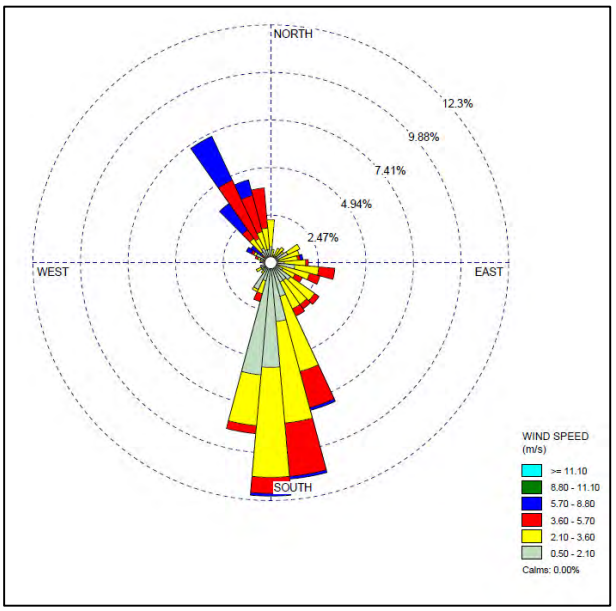

Figure 2: Charlton Ridge Wind Rose – April 2018

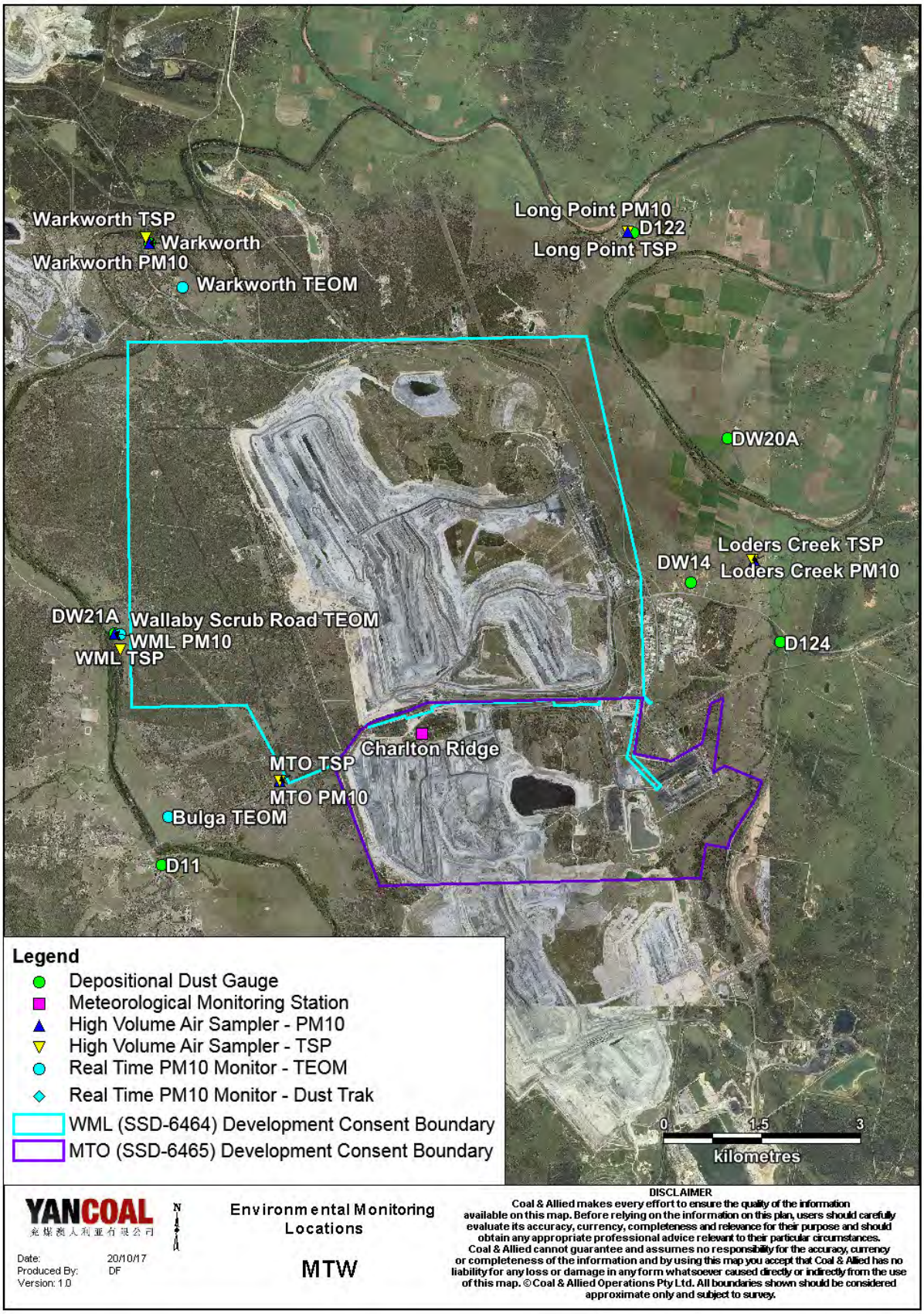

Figure 3: Air Quality Monitoring Locations

2.2 Depositional Dust

To monitor regional air quality, MTW operates and maintains a network of seven depositional dust gauges, situated on private and mine owned land surrounding MTW.

Figure 4 displays insoluble solids results from depositional dust gauges during the reporting period compared against the year-to-date average and the annual impact assessment criteria.

During the reporting period the D122 and DW21a monitors recorded monthly results above the long term impact assessment criteria of 4.0 g/m^2 per month. Field notes associated with D122 confirm the presence of insects and bird droppings. As such the result is considered contaminated and will be excluded from calculation of the annual average. There is no evidence to suggest that the DW21a result is contaminated. Accordingly, the result will be included in the annual average calculation.

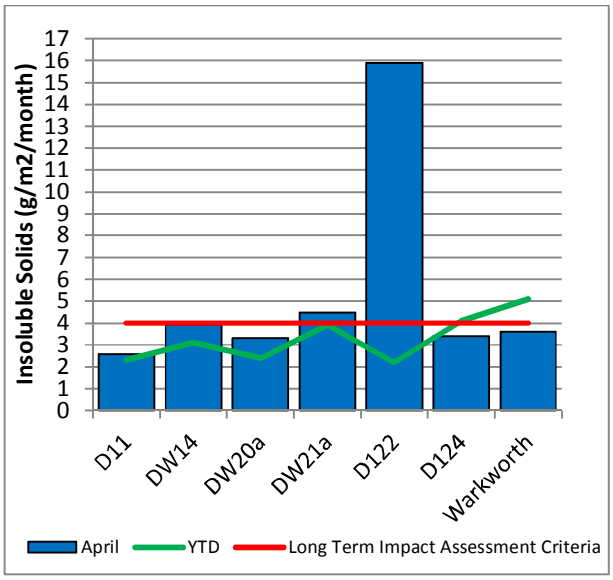

Figure 4: Depositional Dust – April 2018

2.3 Suspended Particulates

Suspended particulates are measured by a network of High Volume Air Samplers (HVAS) measuring Total Suspended Particulates (TSP) and Particulate Matter <10µm (PM_{10}). The location of these monitors can be found in Figure 3. Each HVAS was run for 24 hours on a six-day cycle in accordance with EPA requirements.

2.3.1 HVAS PM_{10} Results

Figure 5 shows the individual PM_{10} results at each monitoring station against the short term impact assessment criteria of 50µg/m^3.

Data was not available on 1st, 19th or 25th April 2018 at the Long Point HVAS due to power related issues.

On 13th April 2018 the Long Point HVAS PM_{10} unit recorded a result of 105 µg/m^3, which is greater than the short term (24hr) PM_{10} impact assessment criteria.

An Investigation determined that the wind direction was generally not from MTW's angle of influence at Long Point on the 13th April. Accordingly, no further action is required.

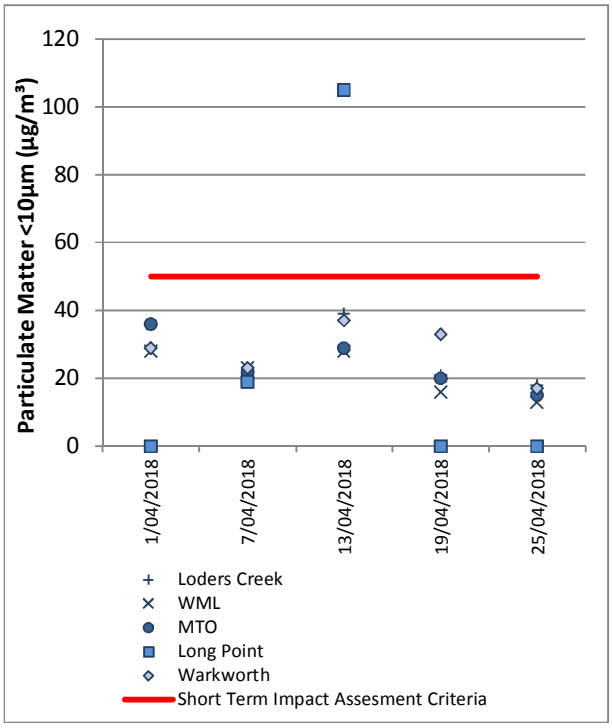

Figure 5: Individual PM10 Results – April 2018

Figure 6 shows the annual average PM10 results against the long term impact assessment criteria.

An assessment of MTW's contribution to the long term assessment criteria will be reported in the 2018 Annual Review Report.

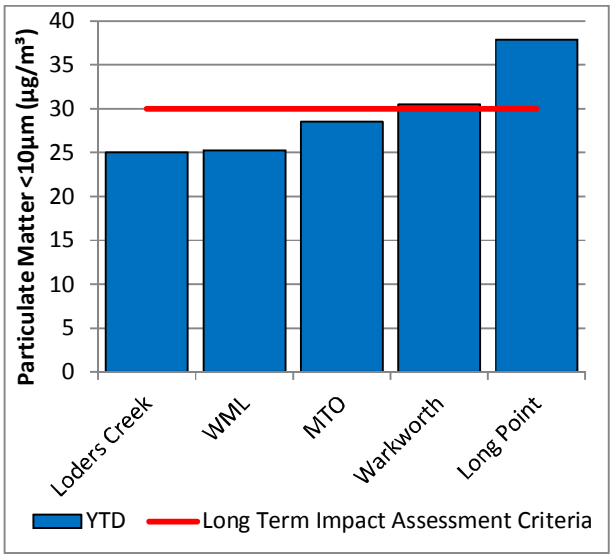

Figure 6: Annual Average PM_{10} – April 2018

2.3.2 TSP Results

Figure 7 shows the annual average TSP results compared against the long-term impact assessment criteria of 90µg/m³.

An assessment of MTW's contribution to the long-term assessment criteria will be reported in the 2018 Annual Review Report.

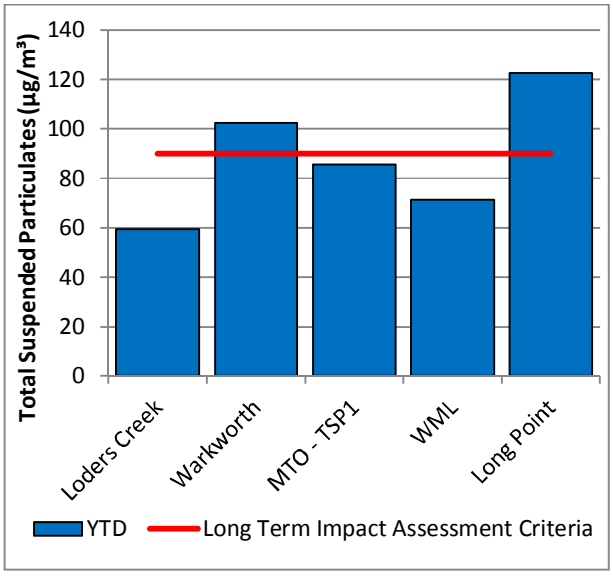

Figure 7: Annual Average Total Suspended Particulates – April 2018

2.3.3 Real Time PM_{10} Results

MTW maintains a network of real time PM_{10} monitors. The real time air quality monitoring stations continuously log information and transmit data to a central database, generating alarms when particulate matter levels exceed internal trigger limits.

Results for real time dust sampling are shown in **Figure 8**, including the daily 24-hour average PM_{10} result and the annual PM_{10} average.

On 15th April 2018, the Bulga OEH (58.9 µg/m³), Wallaby Scrub Road (62.3 µg/m³) and Warkworth (57. 3 µg/m³) TEOM results exceeded the short term (24hr) criteria. An analysis of meteorological data has determined that the Bulga OEH, Wallaby Scrub Road and Warkworth monitoring locations were all generally upwind of MTW throughout the day (for more than 98% of the day). Therefore, it is unlikely that MTW operations was a significant contributor to the results and thus estimations of contribution have not been calculated.

2.3.4 Real Time Alarms for Air Quality

During April, the real time monitoring system generated 113 automated air quality related alerts, including 14 alerts for adverse meteorological conditions and 99 alerts for elevated PM_{10} levels.

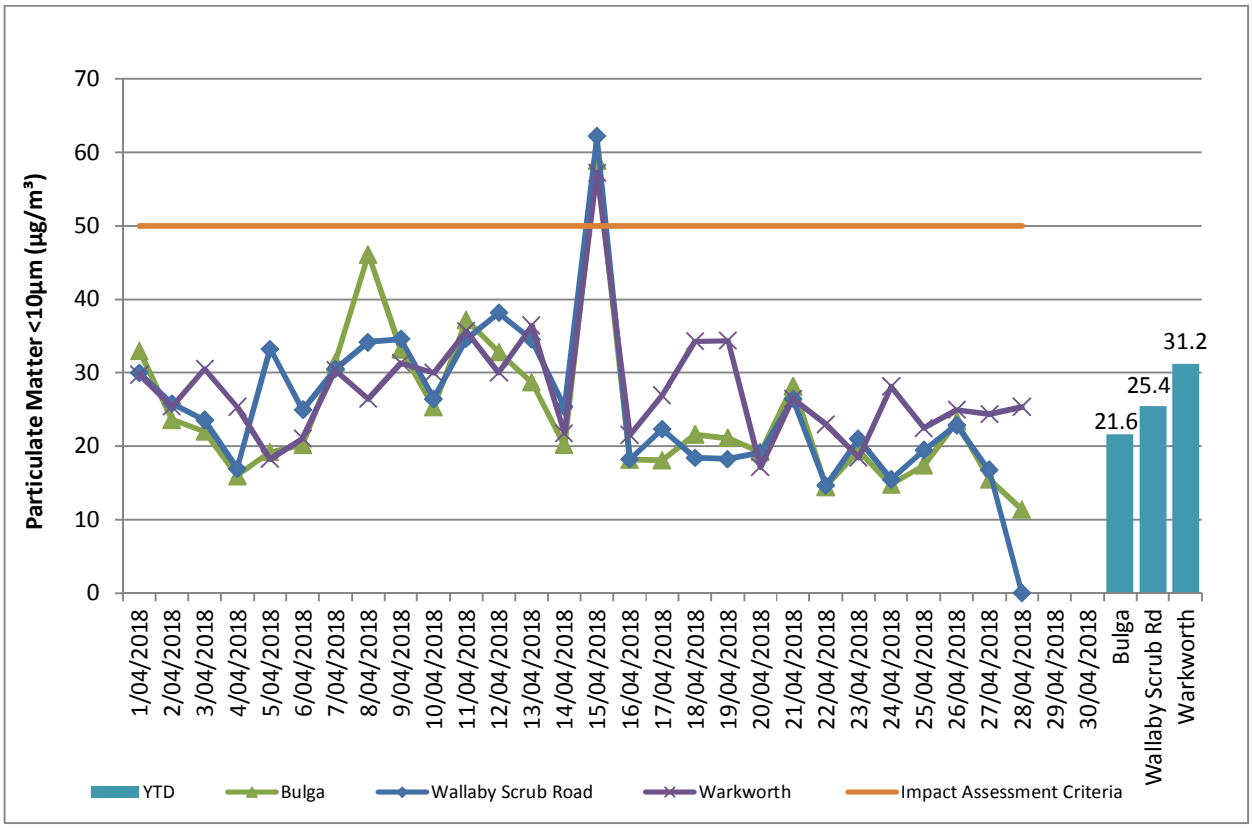

Figure 8: Real Time PM_{10} daily 24hr average (line graphs) and YTD annual average (column graphs) – April 2018

3.0 WATER QUALITY

MTW maintains a network of surface water and groundwater monitoring sites.

3.1 Surface Water

Monitoring is conducted at mine site dams and surrounding natural watercourses.

Surface water courses are sampled on a monthly or quarterly sampling regime. Water quality is evaluated through the parameters of pH, Electrical Conductivity (EC) and Total Suspended Solids (TSS). The Hunter River and the Wollombi Brook are sampled both upstream and downstream of mining operations, to monitor the potential impact of mining on the river. Other Hunter River tributaries are also monitored.

Results of monitoring are reported quarterly, next available in the June 2018 report.

3.2 Groundwater Monitoring

Groundwater monitoring is undertaken on a quarterly basis in accordance with the MTW Groundwater Monitoring Programme.

Groundwater results are reported quarterly, next available in the June 2018 report.

3.3 HRSTS Discharge

MTW participates in the Hunter River Salinity Trading Scheme (HRSTS), allowing discharge from licensed discharge points Dam 1N and Dam 9S. Discharges can only take place subject to HRSTS regulations.

During the reporting period no water was discharged under the HRSTS.

4.0 BLAST MONITORING

MTW have a network of six blast monitoring units. These are located at nearby privately owned residences and function as regulatory compliance monitors.

The location of these monitors can be found in **Figure 15**.

4.1 Blast Monitoring Results

During April 2018, 25 blasts were initiated at MTW. **Figure 9** to **Figure 14** show the blast monitoring results for the reporting period against the impact assessment criteria. The criteria are summarised in **Table 2**.

Table 2: Blasting Limits

Airblast Overpressure (dB(L))	Comments
115	5% of the total number of blasts in a 12 month period
120	0%
Ground Vibration (mm/s)	**Comments**
5	5% of the total number of blasts in a 12 month period
10	0%

During the reporting period no blasts exceeded the 115 dB(L) 5% threshold for airblast overpressure or 5mm/s 5% threshold for ground vibration.

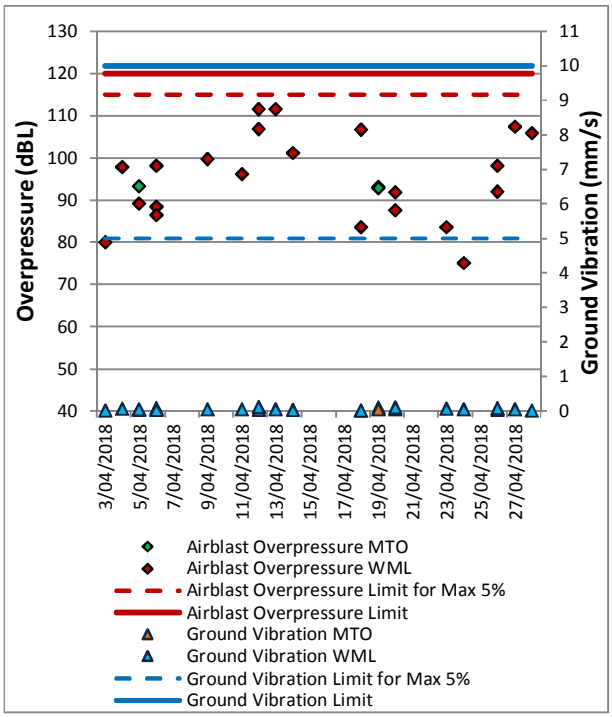

Figure 9: Abbey Green Blast Monitoring Results – April 2018

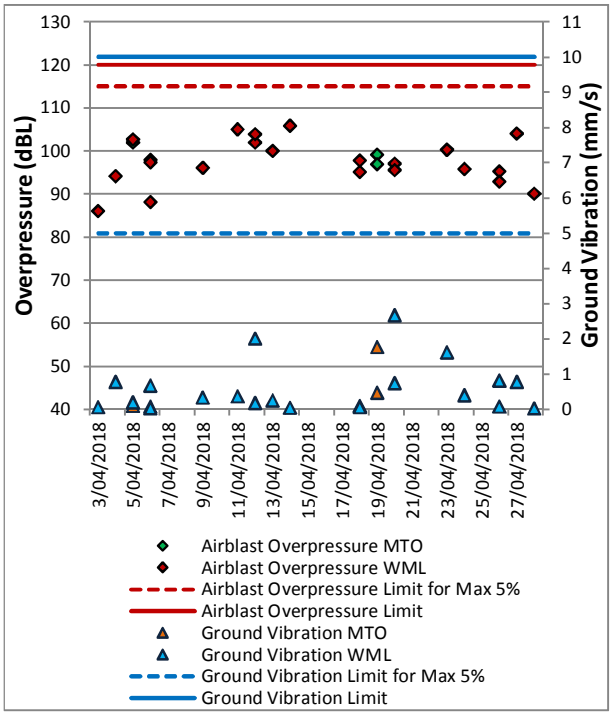

Figure 10: Bulga Village Blast Monitoring Results – April 2018

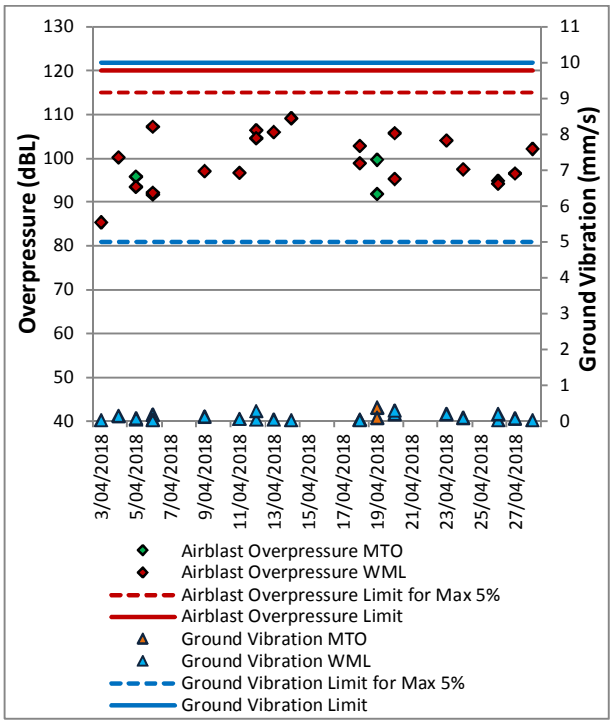

Figure 11: MTIE Blast Monitoring Results – April 2018

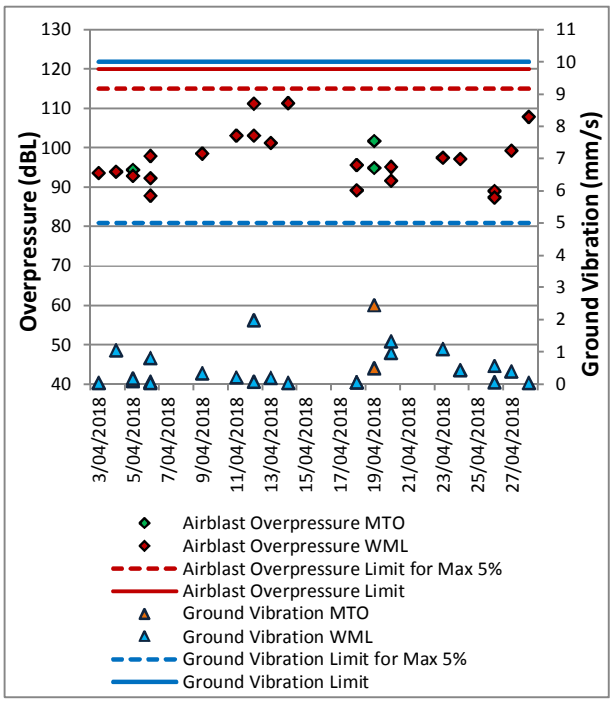

Figure 12: Wollemi Peak Road Blast Monitoring Results – April 2018

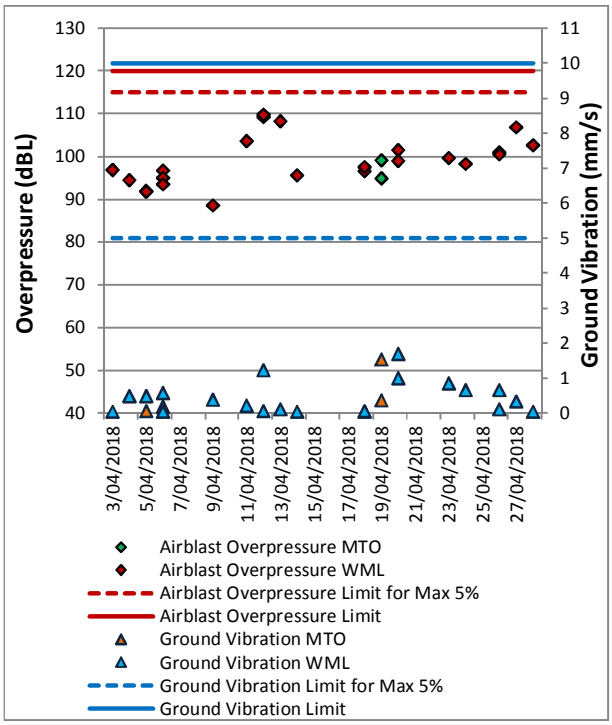

Figure 13: Wambo Road Blast Monitoring Results – April 2018

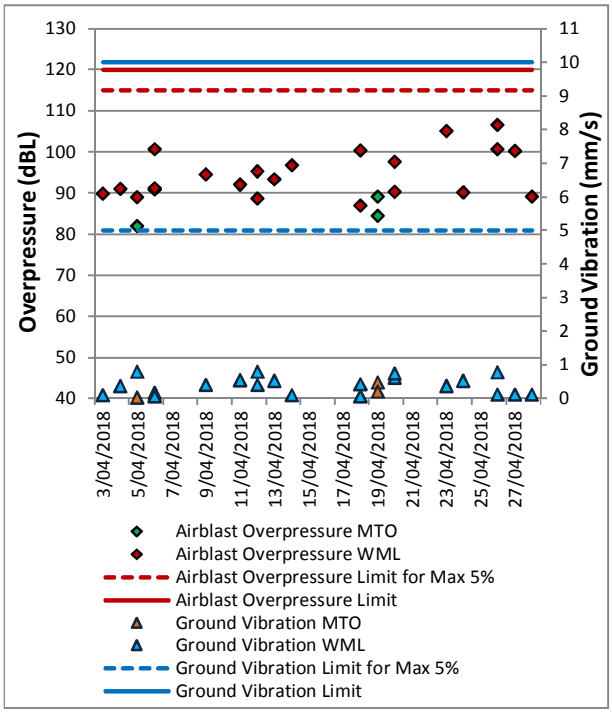

Figure 14: Warkworth Blast Monitoring Results – April 2018

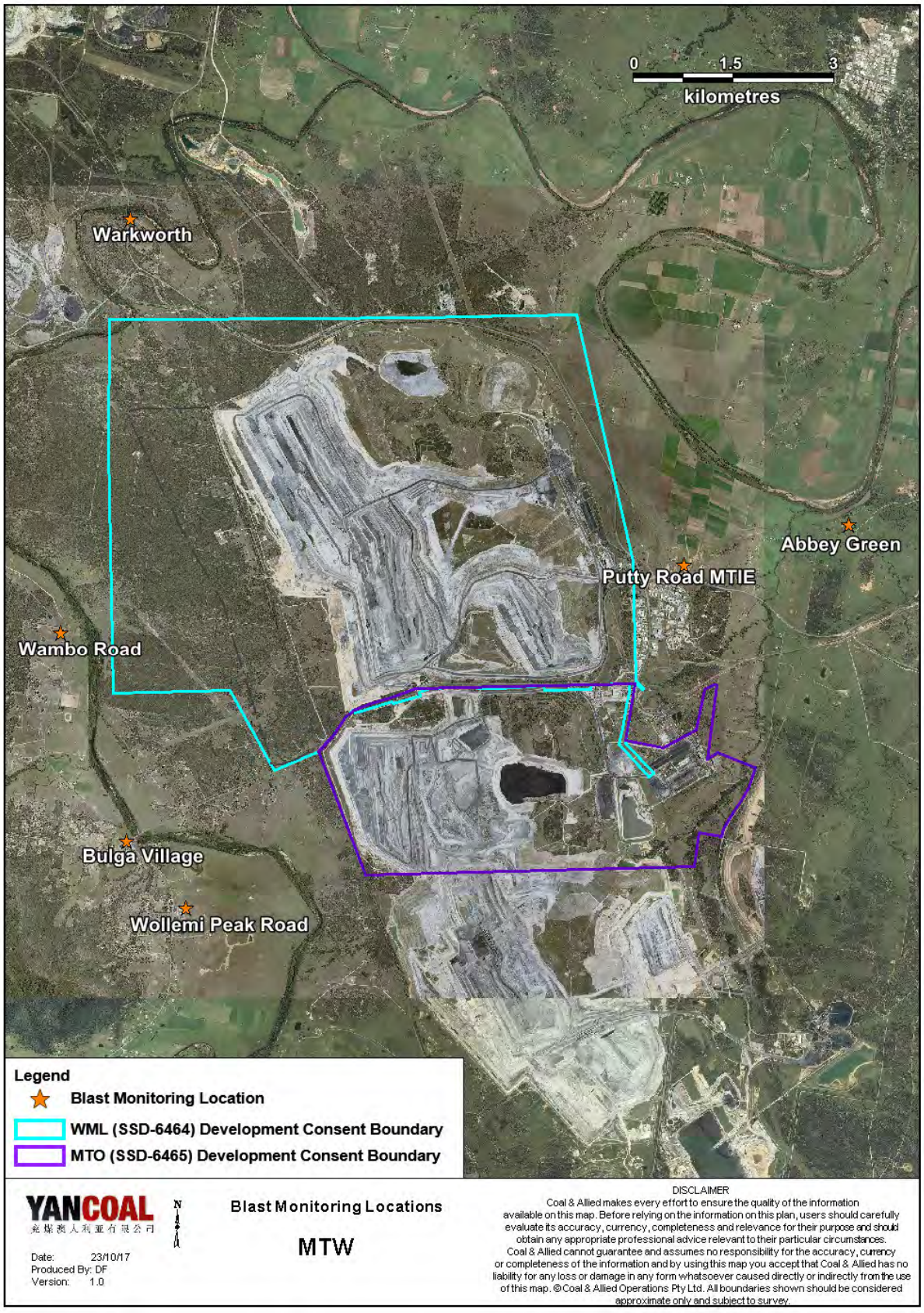

Figure 15: MTW Blast Monitoring Location Plan

5.0 NOISE

Routine attended noise monitoring is carried out in accordance with the MTW Noise Management Plan. A review against EIS predictions will be reported in the Annual Review Report. The purpose of the noise surveys is to quantify and describe the acoustic environment around the site and compare results with specified limits. Real time noise monitoring also occurs at five sites surrounding MTW. Noise monitoring locations are displayed in **Figure 16**.

5.1 Attended Noise Monitoring Results

Attended monitoring was conducted at receiver locations surrounding MTW on the night of 5 April 2018. All measurements complied with the relevant criteria. Results are detailed in **Table 3 to Table 6.**

5.1.1 WML Noise Assessment

Compliance assessments undertaken against the WML noise criteria are presented in **Tables 3** and **4**.

Table 3: $L_{Aeq,\ 15\ minute}$ Warkworth Impact Assessment Criteria – April 2018

Location	Date and Time	Wind Speed (m/s)[5]	Stability Class	Criterion dB(A)	Criterion Applies?[1,5]	WML L_{Aeq} dB[2,4]	Exceedance[3]
Bulga RFS	5/04/2018 21:00	1.5	F	37	Yes	32	Nil
Bulga Village	5/04/2018 22:56	2.4	D	38	Yes	NM	Nil
Gouldsville	5/04/2018 21:03	1.5	F	35	Yes	IA	Nil
Inlet Rd	5/04/2018 21:30	2.3	E	37	Yes	32	Nil
Inlet Rd West	5/04/2018 21:05	1.5	F	35	Yes	31	Nil
Long Point	5/04/2018 21:28	2.3	E	35	Yes	IA	Nil
South Bulga	5/04/2018 21:34	2.3	E	36	Yes	<30	Nil
Wambo Road	5/04/2018 23:22	2.5	D	38	Yes	26	Nil

Notes:
1. Noise emission limits apply during all meteorological conditions except the following: during periods of rain or hail; average wind speed at microphone height exceeds 5 m/s; wind speeds greater than 3 m/s measured at 10 metres above ground level; stability category F temperature inversion conditions and wind speeds greater than 2m/s at 10m above ground level; or stability category G temperature inversion conditions;
2. Estimated or measured LAeq,15minute attributed to WML;
3. NA means atmospheric conditions outside conditions specified in development consent and so criterion is not applicable;
4. Bolded results in red are possible exceedances of relevant criteria; and
5. Criterion may or may not apply due to rounding of meteorological data values.

Table 4: $L_{A1,\ 1\ minute}$ Warkworth - Impact Assessment Criteria – April 2018

Location	Date and Time	Wind Speed (m/s)[5]	Stability Class	Criterion dB(A)	Criterion Applies?[1,5]	WML $L_{A1,\ 1min}$ dB[2,4]	Exceedance[3]
Bulga RFS	5/04/2018 21:00	1.5	F	47	Yes	37	Nil
Bulga Village	5/04/2018 22:56	2.4	D	48	Yes	NM	Nil
Gouldsville	5/04/2018 21:03	1.5	F	48	Yes	IA	Nil
Inlet Rd	5/04/2018 21:30	2.3	E	47	Yes	NM	Nil
Inlet Rd West	5/04/2018 21:05	1.5	F	45	Yes	40	Nil
Long Point	5/04/2018 21:28	2.3	E	45	Yes	IA	Nil
South Bulga	5/04/2018 21:34	2.3	E	45	Yes	32	Nil
Wambo Road	5/04/2018 23:22	2.5	D	48	Yes	31	Nil

Notes
1. Noise emission limits apply during all meteorological conditions except the following: during periods of rain or hail; average wind speed at microphone height exceeds 5 m/s; wind speeds greater than 3 m/s measured at 10 metres above ground level; stability category F temperature inversion conditions and wind speeds greater than 2m/s at 10m above ground level; or stability category G temperature inversion conditions;
2. Estimated or measured LA1,1minute attributed to Warkworth mine (WML);
3. NA in exceedance column means atmospheric conditions outside conditions specified in project approval and so criterion is not applicable. NA (not applicable) in criterion column means criterion not specified for this location;
4. Bolded results in red are possible exceedances of relevant criteria; and
5. Criterion may or may not apply due to rounding of meteorological data values.

5.1.3 MTO Noise Assessment

Compliance assessments undertaken against the MTO noise criteria are presented in **Table 5** and **6**.

Table 5: $L_{Aeq,\ 15minute}$ Mount Thorley - Impact Assessment Criteria – April 2018

Location	Date and Time	Wind Speed (m/s)[5]	Stability Class	Criterion dB	Criterion Applies?[1,5]	MTO L_{Aeq} dB[2,4]	Exceedance[3]
Bulga RFS	5/04/2018 21:00	1.5	F	37	Yes	<30	Nil
Bulga Village	5/04/2018 22:56	2.4	D	38	Yes	IA	Nil
Gouldsville	5/04/2018 21:03	1.5	F	35	Yes	IA	Nil
Inlet Rd	5/04/2018 21:30	2.3	E	37	Yes	IA	Nil
Inlet Rd West	5/04/2018 21:05	1.5	F	35	Yes	IA	Nil
Long Point	5/04/2018 21:28	2.3	E	35	Yes	IA	Nil
South Bulga	5/04/2018 21:34	2.3	E	36	Yes	<30	Nil
Wambo Road	5/04/2018 23:22	2.5	D	38	Yes	IA	Nil

Notes:
1. Noise emission limits apply during all meteorological conditions except the following: during periods of rain or hail; average wind speed at microphone height exceeds 5 m/s; wind speeds greater than 3 m/s measured at 10 metres above ground level; stability category F temperature inversion conditions and wind speeds greater than 2m/s at 10m above ground level; or stability category G temperature inversion conditions;
2. Estimated or measured LAeq,15minute attributed to MTO;
3. NA means atmospheric conditions outside conditions specified in development consent and so criterion is not applicable;
4. Bolded results in red are possible exceedances of relevant criteria; and
5. Criterion may or may not apply due to rounding of meteorological data values.

Table 6: $L_{A1, 1Minute}$ Mount Thorley - Impact Assessment Criteria – April 2018

Location	Date and Time	Wind Speed (m/s)[5]	Stability Class	Criterion dB	Criterion Applies?[1,5]	MTO $L_{A1, 1min}$ dB[2,4]	Exceedance[3]
Bulga RFS	5/04/2018 21:00	1.5	F	47	Yes	32	Nil
Bulga Village	5/04/2018 22:56	2.4	D	48	Yes	IA	Nil
Gouldsville	5/04/2018 21:03	1.5	F	45	Yes	IA	Nil
Inlet Rd	5/04/2018 21:30	2.3	E	47	Yes	IA	Nil
Inlet Rd West	5/04/2018 21:05	1.5	F	45	Yes	IA	Nil
Long Point	5/04/2018 21:28	2.3	E	45	Yes	IA	Nil
South Bulga	5/04/2018 21:34	2.3	E	46	Yes	<30	Nil
Wambo Road	5/04/2018 23:22	2.5	D	48	Yes	IA	Nil

Notes
1. Noise emission limits apply during all meteorological conditions except the following: during periods of rain or hail; average wind speed at microphone height exceeds 5 m/s; wind speeds greater than 3 m/s measured at 10 metres above ground level; stability category F temperature inversion conditions and wind speeds greater than 2m/s at 10m above ground level; or stability category G temperature inversion conditions;
2. Estimated or measured LA1,1minute attributed to Mt Thorley Operations (MTO);
3. NA in exceedance column means atmospheric conditions outside conditions specified in project approval and so criterion is not applicable. NA (not applicable) in criterion column means criterion not specified for this location;
4. Bolded results in red are possible exceedances of relevant criteria; and
5. Criterion may or may not apply due to rounding of meteorological data values.

5.1.4 NPfI Low Frequency Assessment

In accordance with the requirements of the EPA's Noise Policy for Industry (NPfI), the applicability of the low frequency modification penalty has been assessed. During April 2018 no measurements required the penalty to be applied. The assessment for low frequency noise is shown in **Table 7**.

Table 7: Low Frequency Noise Modifying Factor Assessment – April 2018

Location	Date and Time	Measured Site Only LA_{eq} dB (WML/MTO)	Site Only L_{Ceq} dB[4] (WML/MTO)	Site Only LCeq – LAeq dB[1,4] (WML/MTO)	Result Max exceedance of ref spectrum dB (WML/MTO)[2,3,4]	Penalty dB(A)	Exceedance
Bulga RFS	5/04/2018 21:00	32/<30	NA/NA	NA/NA	NA/NA	NA/NA	NA
Bulga Village	5/04/2018 22:56	NM/IA	NA/NA	NA/NA	NA/NA	NA/NA	NA
Gouldsville	5/04/2018 21:03	IA/IA	NA/NA	NA/NA	NA/NA	NA/NA	NA
Inlet Rd	5/04/2018 21:30	32/IA	NA/NA	NA/NA	NA/NA	NA/NA	NA
Inlet Rd West	5/04/2018 21:05	31/IA	51/NA	20/NA	0/NA	Nil/NA	NA
Long Point	5/04/2018 21:28	IA/IA	NA/NA	NA/NA	NA/NA	NA/NA	NA
South Bulga	5/04/2018 21:34	<30/<30	NA/NA	NA/NA	NA/NA	NA/NA	NA
Wambo Road	5/04/2018 23:22	26/IA	NA/NA	NA/NA	NA/NA	NA/NA	NA

Notes:
1. As per NPfI, if LCeq – LAeq >= 15 dB further assessment of low frequency noise required.
2. As per NPfI, compare measured spectrum against reference spectrum to determine if the low frequency modifying factor is triggered and application of penalty is required;
3. Bold results and penalties in red are where the relevant modifying factor trigger was exceeded; and
4. Where it is not possible to determine the site only result due to the presence of other low frequency noise sources occurring during the measurement, or where criteria were not applicable due to meteorological conditions, this is noted as NA (not available) and no further assessment has been undertaken.

Figure 16: Noise Monitoring Location Plan

5.2 Noise Management Measures

A program of targeted supplementary attended noise monitoring is in place at MTW, supported by the real-time directional monitoring network and ensuring the highest level of noise management is maintained. The supplementary program is undertaken by MTW personnel and involves:

- Routine inspections from both inside and outside the mine boundary;
- Routine and as-required handheld noise assessments (undertaken in response to noise alarm and/or community complaint), comparing measured levels against consent noise limits; and
- Validation monitoring following operational modifications to assess the adequacy of the modifications.

Where a noise assessment identifies noise emissions which are exceeding the relevant noise limit(s) for any particular residence, modifications will be made so as to ensure that the noise event is resolved within 75 minutes of identification. The actions taken are commensurate with the nature and severity of the noise event, but can include:

- Changing the haul route to a less noise sensitive haul;
- Changing dump locations (in-pit or less exposed dump option);
- Reducing equipment numbers;
- Shut down of task; or
- Site shut down.
- A summary of these assessments undertaken during April are provided in **Table 8**.

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Table 8: Supplementary Attended Noise Monitoring Data – April 2018

No. of assessments	No. of assessments > trigger	No. of nights where assessments > trigger	% greater than trigger
498	1	1	0.2

Note: Measurements are taken under all meteorological conditions, including conditions under which the consent noise criteria do not apply.

6.0 OPERATIONAL DOWNTIME

During April, a total of 168 hours of equipment downtime was logged in response to environmental events such as dust, noise and adverse meteorological conditions. Operational downtime by equipment type is shown in **Figure 17**.

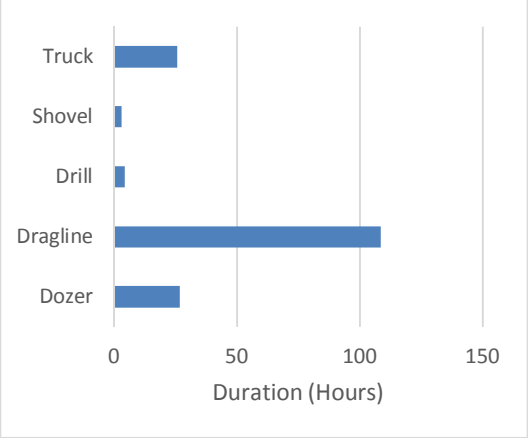


Figure 17: Operational Downtime by Equipment Type – April 2018

7.0 REHABILITATION

During April 2018, 8.1 Ha of land was released, 0.9 Ha of land was bulk shaped, 6.2 Ha of land was topsoiled, 4.6 Ha of land was composted and 7.0 Ha of land was rehabilitated.

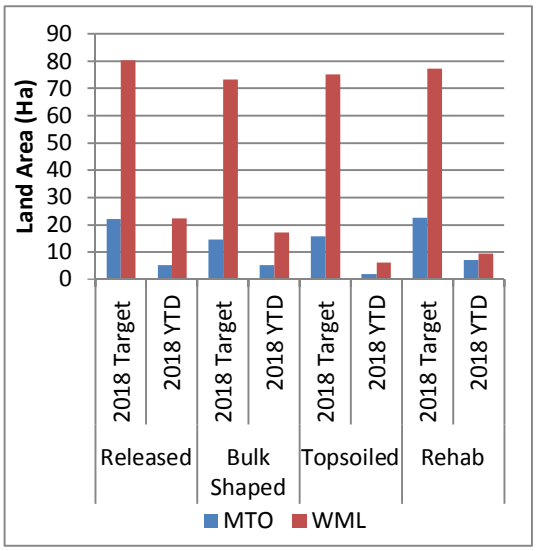


Figure 18: Rehabilitation YTD – April 2018

8.0 ENVIRONMENTAL INCIDENTS

During the reporting period there were no reportable environmental incidents.

9.0 COMPLAINTS

During the reporting period 27 complaints were received. Details of these complaints are shown in **Table 9** below.

Table 9: Complaints Summary YTD

	Noise	Dust	Blast	Lighting	Other	Total
January	9	6	14	0	1	30
February	8	5	1	3	1	18
March	22	0	0	2	0	24
April	8	4	9	6	0	27
May	-	-	-	-	-	-
June	-	-	-	-	-	-
July	-	-	-	-	-	-
August	-	-	-	-	-	-
September	-	-	-	-	-	-
October	-	-	-	-	-	-
November	-	-	-	-	-	-
December	-	-	-	-	-	-
Total	47	15	24	11	2	99

Appendix A: Meteorological Data

Table 10: Meteorological Data – Charlton Ridge Meteorological Station – April 2018

Date	Air Temperature Maximum (°C)	Air Temperature Minimum (°C)	Relative Humidity Maximum (%)	Relative Humidity Minimum (%)	Solar Radiation Maximum (W/Sq. M)	Wind Direction Average (°)	Wind Speed Average (m/sec)	Rainfall(mm)
1/04/2018	32	17	96	29	843	169	1.7	0.0
2/04/2018	33	16	87	28	1201	230	2.4	13.2
3/04/2018	26	18	87	52	1102	145	2.8	0.0
4/04/2018	27	17	84	46	1165	151	2.9	0.0
5/04/2018	28	16	92	38	998	147	1.9	0.0
6/04/2018	30	14	92	35	838	165	1.8	0.0
7/04/2018	29	17	88	35	817	159	2.0	0.0
8/04/2018	32	14	87	21	809	166	1.5	0.0
9/04/2018	34	14	79	14	836	202	3.0	0.0
10/04/2018	27	16	79	41	1005	137	2.6	0.0
11/04/2018	30	14	90	33	798	155	1.9	0.0
12/04/2018	31	15	86	27	823	290	3.7	0.0
13/04/2018	31	19	43	26	815	299	5.1	0.0
14/04/2018	30	17	82	35	991	300	5.3	2.6
15/04/2018	24	15	54	32	883	310	5.7	0.0
16/04/2018	29	18	53	30	680	290	4.1	0.0
17/04/2018	24	14	77	39	1005	153	2.7	0.0
18/04/2018	23	14	73	41	1132	141	2.5	0.0
19/04/2018	28	11	92	37	783	188	2.3	9.0
20/04/2018	26	12	96	43	775	162	1.7	0.0
21/04/2018	24	15	91	53	968	141	2.4	0.6
22/04/2018	24	12	94	47	1085	154	2.0	0.0
23/04/2018	25	12	95	41	823	165	1.7	0.0
24/04/2018	25	12	94	31	771	161	2.0	0.0
25/04/2018	21	12	94	64	912	186	2.3	1.4
26/04/2018	27	13	98	29	727	214	2.5	0.2
27/04/2018	21	14	83	48	1016	168	3.6	0.0
28/04/2018	21	12	82	47	855	166	4.0	0.0
29/04/2018	20	11	84	49	1086	153	2.5	0.0
30/04/2018	21	9	86	47	1000	166	2.8	0.0

"-" Indicates that data was not available due to technical issues.

Appendix B: May Monthly Environmental Monitoring Report

Monthly Environmental Monitoring Report

Yancoal Mount Thorley Warkworth

May 2018

CONTENTS

Figures

Tables

Revision History

Version No.	Person Responsible	Document Status	Date
1.0	**Environmental Advisor**	**Draft**	**28/06/2018**
1.1	**Environmental Specialist**	**Final**	**29/06/2018**

1.0 INTRODUCTION

This report has been compiled to provide a monthly summary of environmental monitoring results for Mount Thorley Warkworth (MTW). This report includes all monitoring data collected for the period 1st May to 31st May 2018.

2.0 AIR QUALITY

2.1 Meteorological Monitoring

Meteorological data is collected at MTW's 'Charlton Ridge' meteorological station (refer to **Figure 3**: Air Quality Monitoring Locations).

2.1.1 Rainfall

Rainfall for the period is summarised in **Table 1**, the year-to-date trend and historical trend are shown in **Figure 1**.

Table 1: Monthly Rainfall MTW

2018	Monthly Rainfall (mm)	Cumulative Rainfall (mm)
May	9	125

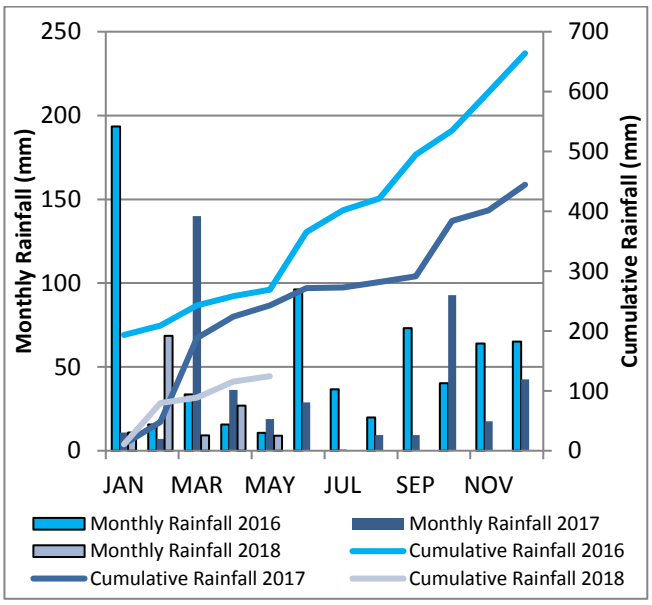


Figure 1: Rainfall Trend YTD

2.1.2 Wind Speed and Direction

Winds from the south and northwest were dominant throughout the reporting period as shown in **Figure 2.**

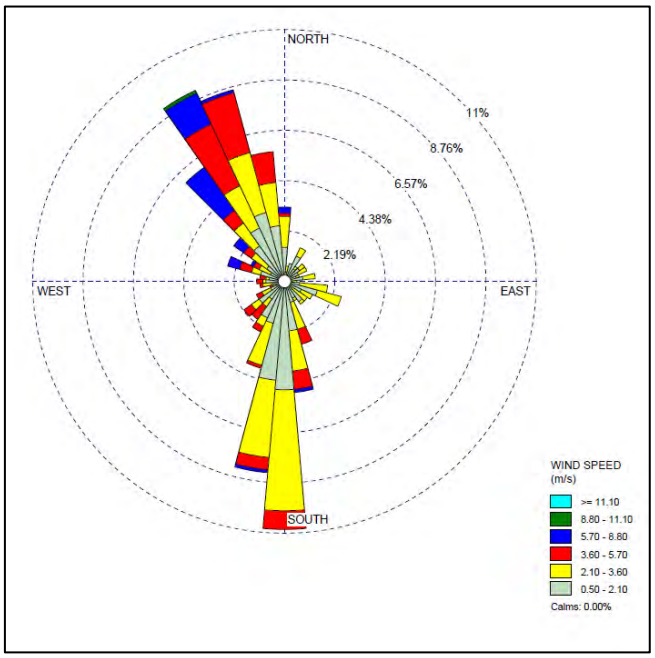


Figure 2: Charlton Ridge Wind Rose – May 2018

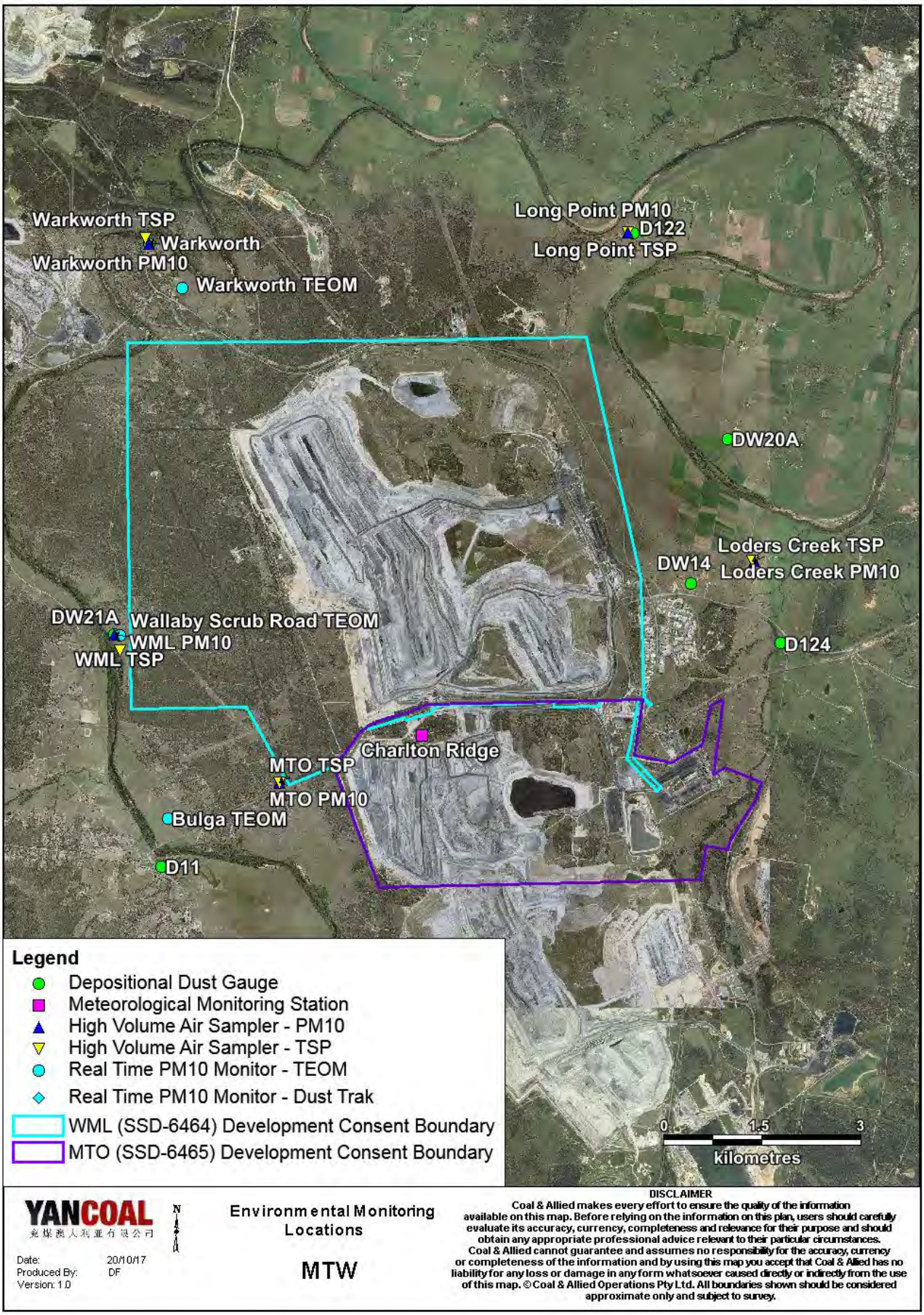


Figure 3: Air Quality Monitoring Locations

2.2 Depositional Dust

To monitor regional air quality, MTW operates and maintains a network of seven depositional dust gauges, situated on private and mine owned land surrounding MTW.

Figure 4 displays insoluble solids results from depositional dust gauges during the reporting period compared against the year-to-date average and the annual impact assessment criteria.

During the reporting period the D11, D122 and D124 monitors recorded monthly results above the long term impact assessment criteria of 4.0 g/m^2 per month. Field notes associated with D122 and D124 confirm the presence of insects and bird droppings. As such the results are considered contaminated and will be excluded from calculation of the annual average. There is no evidence to suggest that the D11 result is contaminated. Accordingly, the result will be included in the annual average calculation.

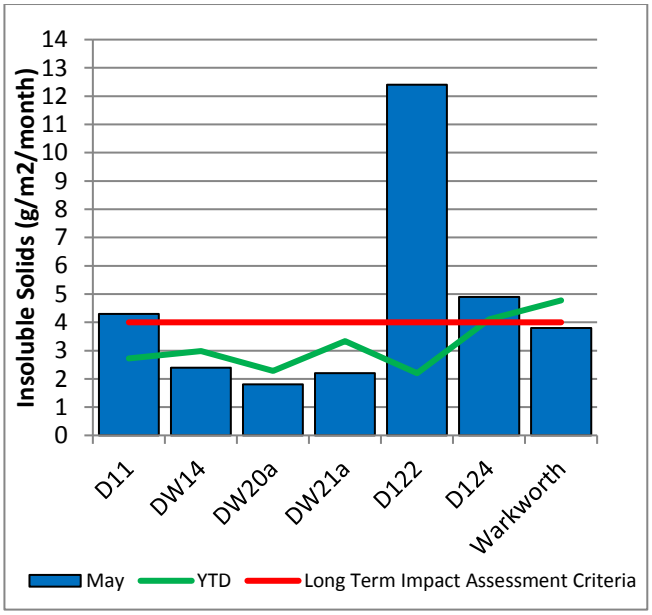


Figure 4: Depositional Dust – May 2018

2.3 Suspended Particulates

Suspended particulates are measured by a network of High Volume Air Samplers (HVAS) measuring Total Suspended Particulates (TSP) and Particulate Matter <10µm (PM_{10}). The location of these monitors can be found in Figure 3. Each HVAS was run for 24 hours on a six-day cycle in accordance with EPA requirements.

2.3.1 HVAS PM_{10} Results

Figure 5 shows the individual PM_{10} results at each monitoring station against the short term impact assessment criteria of 50µg/m^3.

On 19th May 2018 the Long Point HVAS PM_{10} unit recorded a result of 52 µg/m^3, which is greater than the short term (24hr) PM_{10} impact assessment criteria.

Investigation indicates that the likely MTW contribution to the results at Long Point on the 19th May is less than 40%. Accordingly, no further action is required (as per approved Air Quality Monitoring Programme).

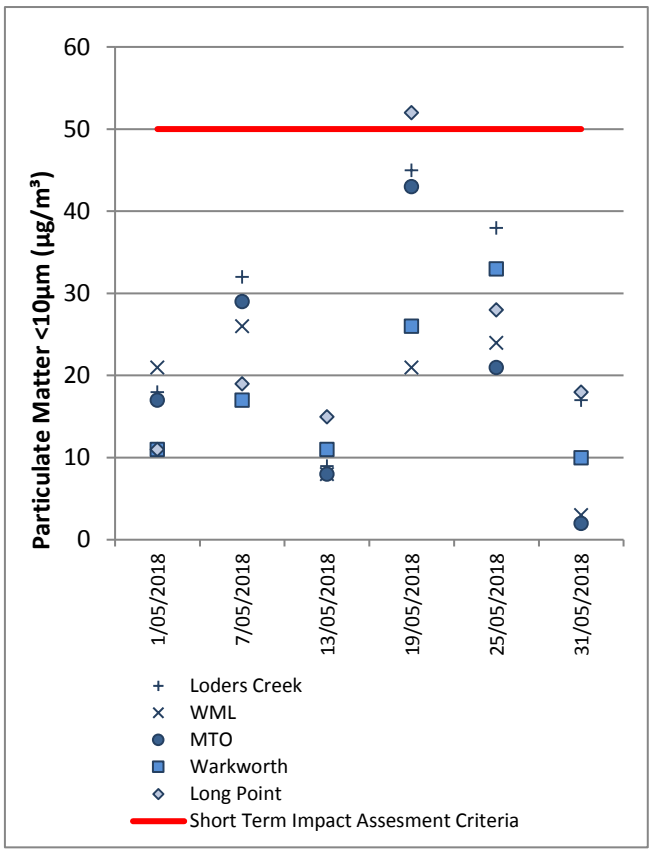


Figure 5: Individual PM10 Results – May 2018

Figure 6 shows the annual average PM10 results against the long term impact assessment criteria.

An assessment of MTW's contribution to the long term assessment criteria will be reported in the 2018 Annual Review Report.

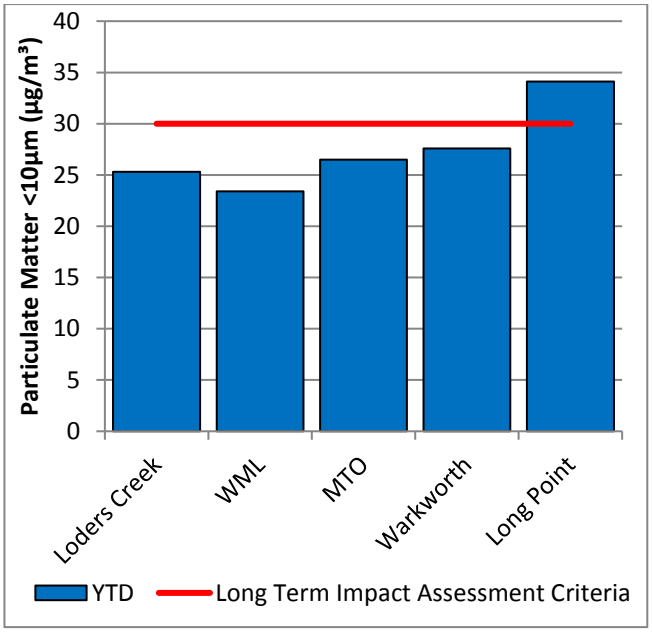


Figure 6: Annual Average PM_{10} – May 2018

2.3.2 TSP Results

Figure 7 shows the annual average TSP results compared against the long-term impact assessment criteria of 90µg/m³.

An assessment of MTW's contribution to the long-term assessment criteria will be reported in the 2018 Annual Review Report.

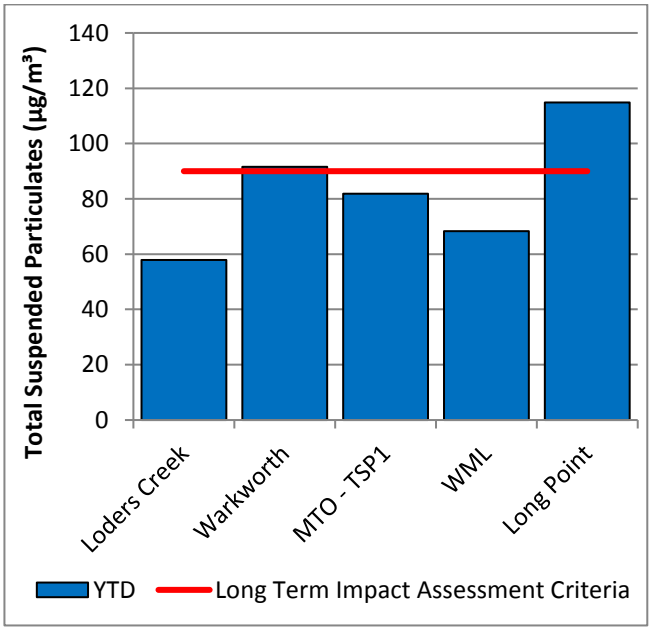


Figure 7: Annual Average Total Suspended Particulates – May 2018

2.3.3 Real Time PM_{10} Results

MTW maintains a network of real time PM_{10} monitors. The real time air quality monitoring stations continuously log information and transmit data to a central database, generating alarms when particulate matter levels exceed internal trigger limits.

Results for real time dust sampling are shown in **Figure 8**, including the daily 24-hour average PM_{10} result and the annual PM_{10} average.

Data was not available on 7th to 9th May 2018 from the Wallaby Scrub Road monitor due to a communications issue. Data was also not available on 31st May 2018 from the Warkworth monitor due to equipment issues.

2.3.4 Real Time Alarms for Air Quality

During May, the real time monitoring system generated 74 automated air quality related alerts, including 11 alerts for adverse meteorological conditions and 63 alerts for elevated PM_{10} levels.

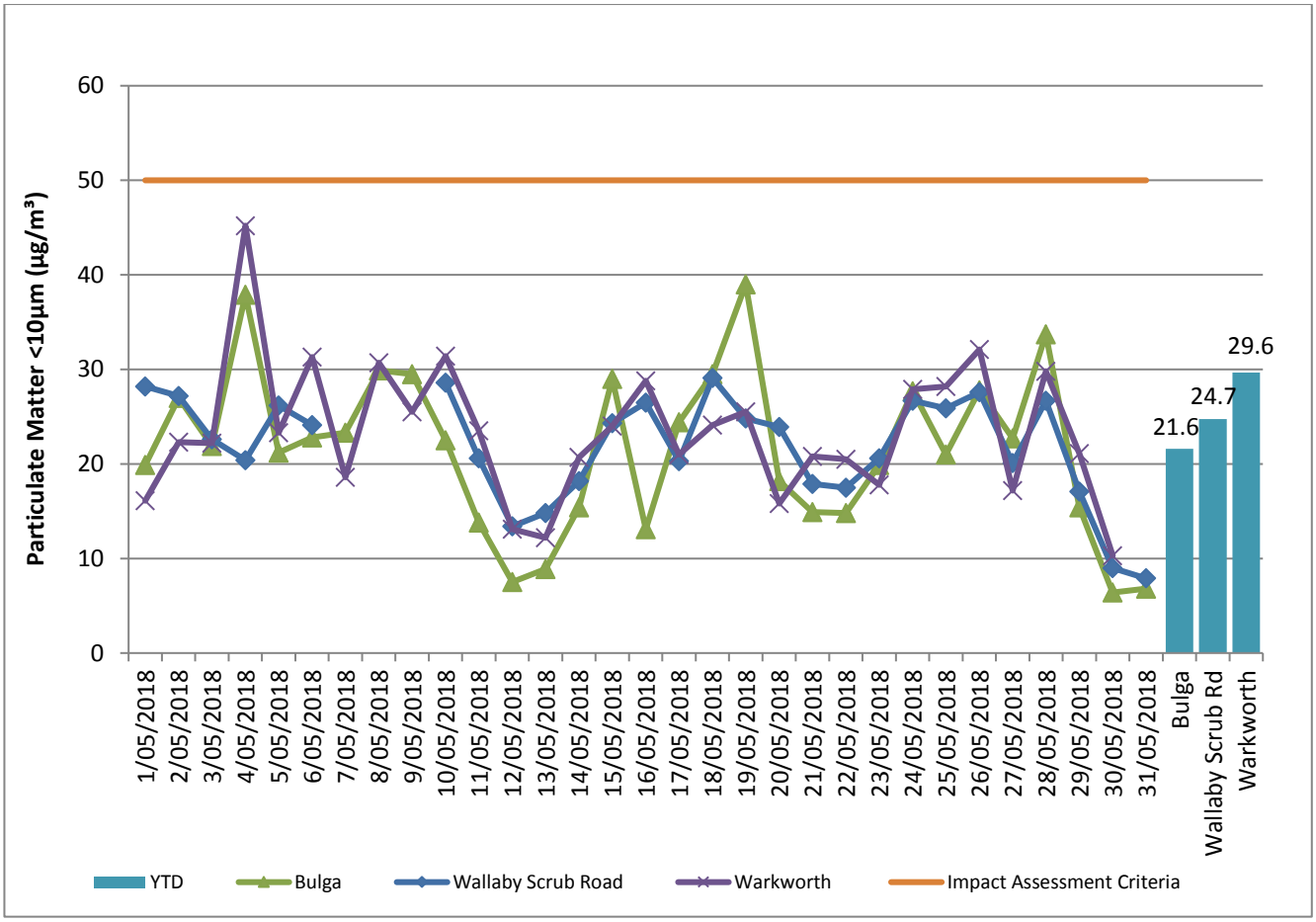


Figure 8: Real Time PM_{10} daily 24hr average (line graphs) and YTD annual average (column graphs) – May 2018

3.0 WATER QUALITY

MTW maintains a network of surface water and groundwater monitoring sites.

3.1 Surface Water

Monitoring is conducted at mine site dams and surrounding natural watercourses.

Surface water courses are sampled on a monthly or quarterly sampling regime. Water quality is evaluated through the parameters of pH, Electrical Conductivity (EC) and Total Suspended Solids (TSS). The Hunter River and the Wollombi Brook are sampled both upstream and downstream of mining operations, to monitor the potential impact of mining on the river. Other Hunter River tributaries are also monitored.

Results of monitoring are reported quarterly, next available in the June 2018 report.

3.2 Groundwater Monitoring

Groundwater monitoring is undertaken on a quarterly basis in accordance with the MTW Groundwater Monitoring Programme.

Groundwater results are reported quarterly, next available in the June 2018 report.

3.3 HRSTS Discharge

MTW participates in the Hunter River Salinity Trading Scheme (HRSTS), allowing discharge from licensed discharge points located at Dam 1N and Dam 9S. Discharges can only take place subject to HRSTS regulations.

During the reporting period no water was discharged under the HRSTS.

4.0 BLAST MONITORING

MTW have a network of six blast monitoring units. These are located at nearby privately owned residences and function as regulatory compliance monitors.

The location of these monitors can be found in **Figure 15**.

4.1 Blast Monitoring Results

During May 2018, 24 blasts were initiated at MTW. **Figure 9** to **Figure 14** show the blast monitoring results for the reporting period against the impact assessment criteria. The criteria are summarised in **Table 2**.

Table 2: Blasting Limits

Airblast Overpressure (dB(L))	Comments
115	5% of the total number of blasts in a 12 month period
120	0%
Ground Vibration (mm/s)	**Comments**
5	5% of the total number of blasts in a 12 month period
10	0%

During the reporting period one blast exceeded the 115 dB(L) threshold for airblast overpressure at the Putty Road MTIE blast monitor on 22 May 2018 at 13:30. No blast exceeded the 5mm/s criteria for ground vibration.

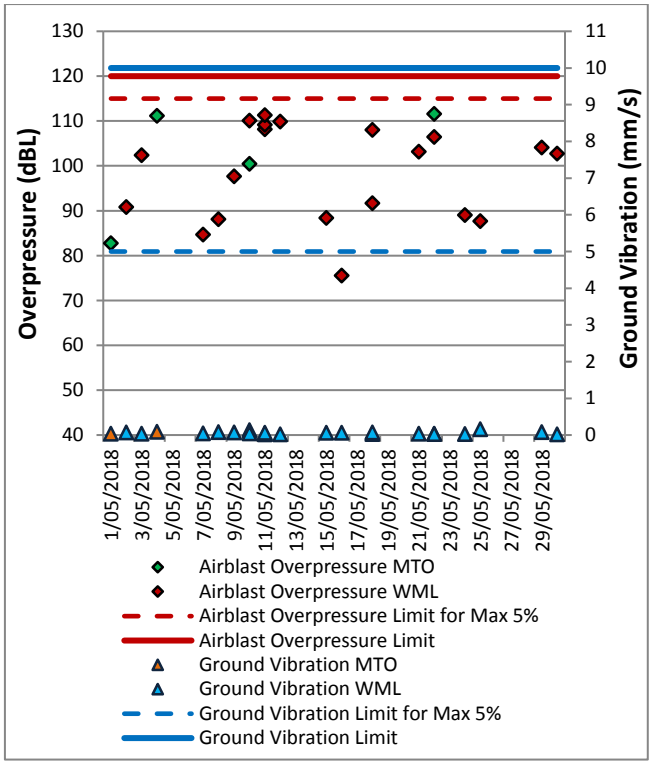


Figure 9: Abbey Green Blast Monitoring Results – May 2018

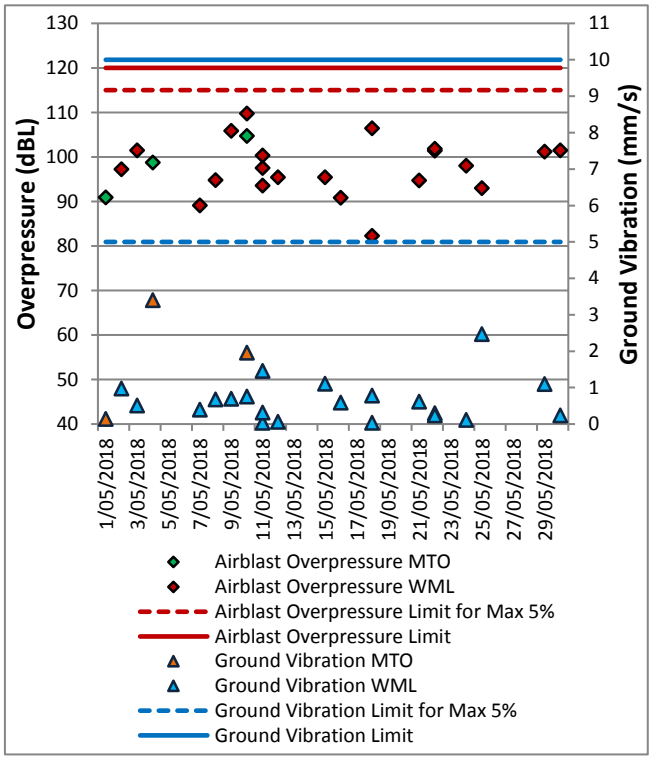


Figure 10: Bulga Village Blast Monitoring Results – May 2018

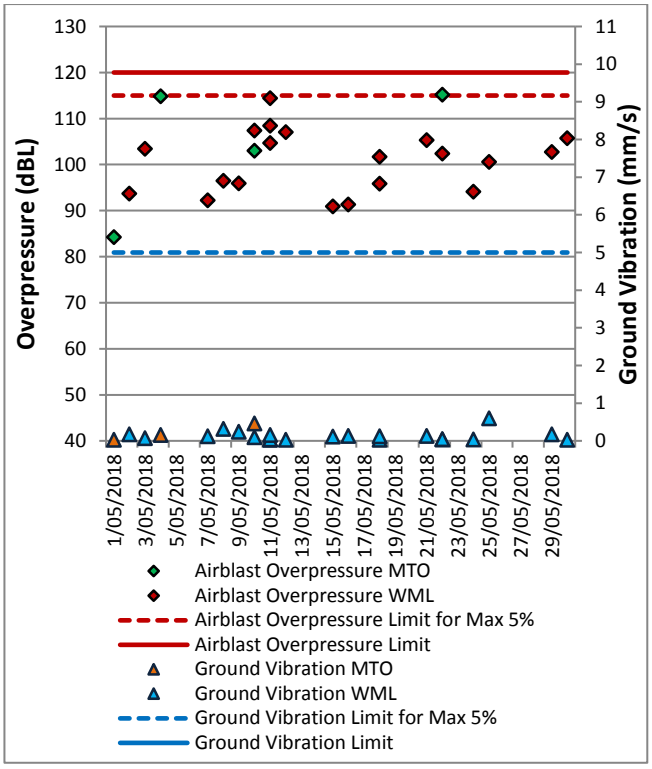


Figure 11: MTIE Blast Monitoring Results – May 2018

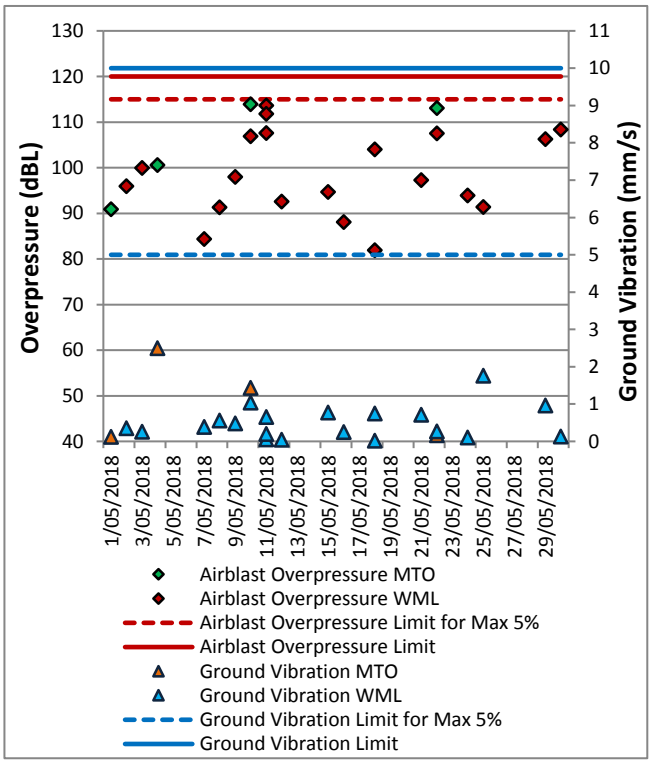


Figure 12: Wollemi Peak Road Blast Monitoring Results – May 2018

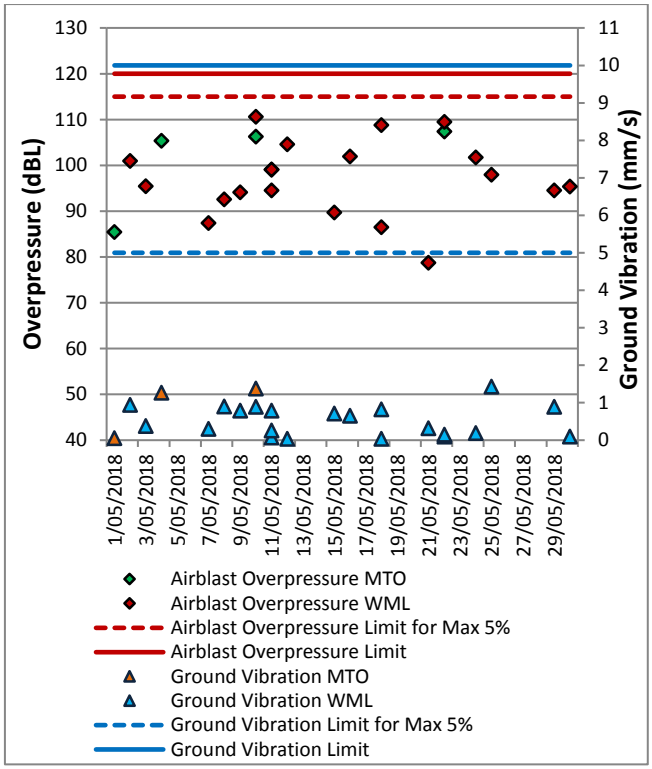


Figure 13: Wambo Road Blast Monitoring Results – May 2018

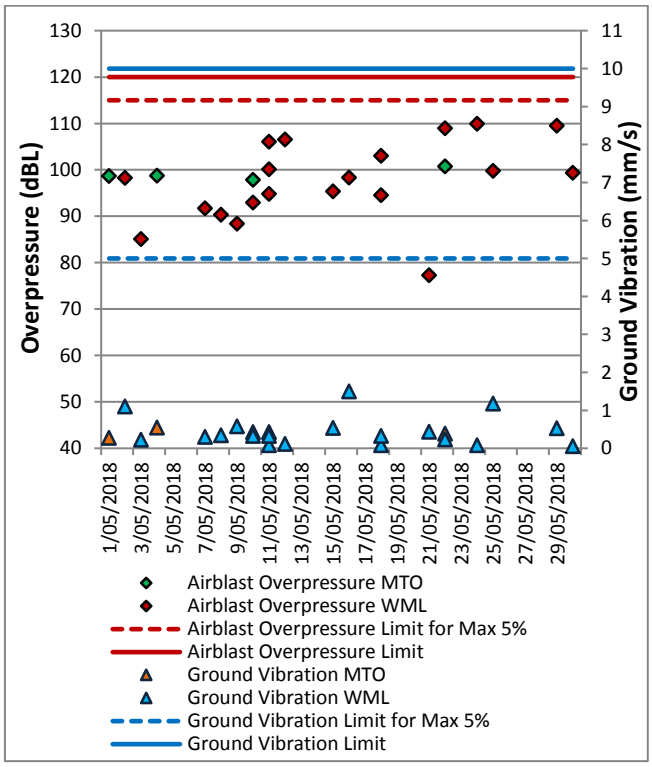


Figure 14: Warkworth Blast Monitoring Results – May 2018

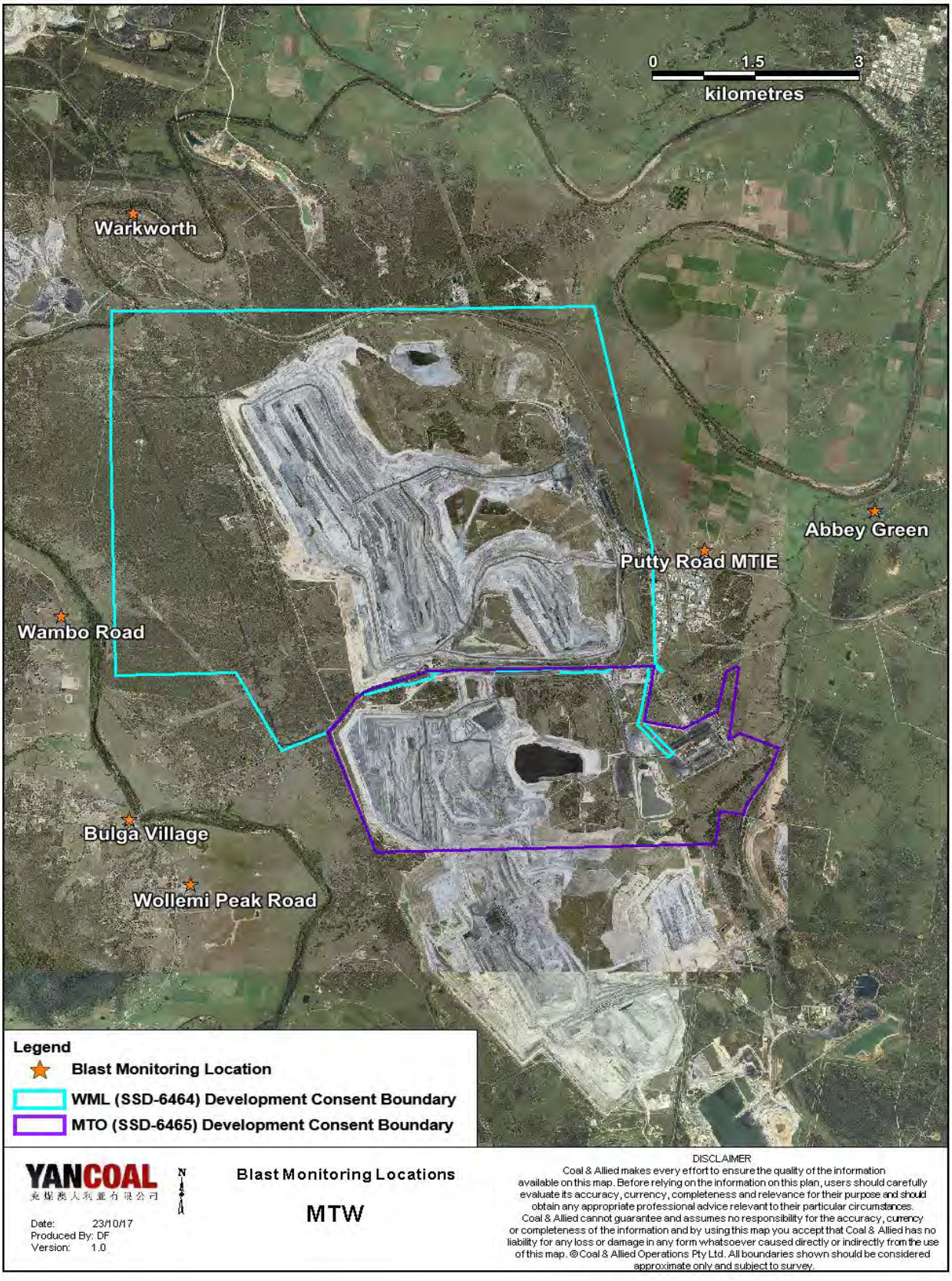


Figure 15: MTW Blast Monitoring Location Plan

5.0 NOISE

Routine attended noise monitoring is carried out in accordance with the MTW Noise Management Plan. A review against EIS predictions will be reported in the Annual Review Report. The purpose of the noise surveys is to quantify and describe the acoustic environment around the site and compare results with specified limits. Real time noise monitoring also occurs at five sites surrounding MTW. Noise monitoring locations are displayed in **Figure 16**.

5.1 Attended Noise Monitoring Results

Attended monitoring was conducted at receiver locations surrounding MTW on the night of 17 May 2018. All measurements complied with the relevant criteria. Results are detailed in **Table 3 to Table 6.**

5.1.1 WML Noise Assessment

Compliance assessments undertaken against the WML noise criteria are presented in **Tables 3** and **4**.

Table 3: $L_{Aeq,\ 15\ minute}$ Warkworth Impact Assessment Criteria – May 2018

Location	Date and Time	Wind Speed (m/s)[5]	Stability Class	Criterion dB(A)	Criterion Applies?[1,5]	WML L_{Aeq} dB[2,4]	Exceedance[3]
Bulga RFS	17/05/2018 21:00	1.5	E	37	Yes	IA	Nil
Bulga Village	17/05/2018 23:23	2.2	E	38	Yes	<30	Nil
Gouldsville	18/05/2018 0:47	1.5	F	38	Yes	29	Nil
Inlet Rd	17/05/2018 21:23	1.6	F	37	Yes	32	Nil
Inlet Rd West	17/05/2018 21:00	1.5	E	35	Yes	28	Nil
Long Point	18/05/2018 0:20	1.6	F	35	Yes	<25	Nil
South Bulga	17/05/2018 21:24	1.9	E	35	Yes	IA	Nil
Wambo Road	17/05/2018 23:02	2.2	E	38	Yes	<30	Nil

Notes:
1. Noise emission limits apply during all meteorological conditions except the following: during periods of rain or hail; average wind speed at microphone height exceeds 5 m/s; wind speeds greater than 3 m/s measured at 10 metres above ground level; stability category F temperature inversion conditions and wind speeds greater than 2m/s at 10m above ground level; or stability category G temperature inversion conditions;
2. Estimated or measured LAeq,15minute attributed to WML;
3. NA means atmospheric conditions outside conditions specified in development consent and so criterion is not applicable;
4. Bolded results in red are possible exceedances of relevant criteria; and
5. Criterion may or may not apply due to rounding of meteorological data values.

Table 4: $L_{A1,\ 1\ minute}$ Warkworth - Impact Assessment Criteria – May 2018

Location	Date and Time	Wind Speed (m/s)[5]	Stability Class	Criterion dB(A)	Criterion Applies?[1,5]	WML $L_{A1,\ 1min}$ dB[2,4]	Exceedance[3]
Bulga RFS	17/05/2018 21:00	1.5	E	47	Yes	IA	Nil
Bulga Village	17/05/2018 23:23	2.2	E	48	Yes	32	Nil
Gouldsville	18/05/2018 0:47	1.5	F	48	Yes	33	Nil
Inlet Rd	17/05/2018 21:23	1.6	F	47	Yes	37	Nil
Inlet Rd West	17/05/2018 21:00	1.5	E	45	Yes	32	Nil
Long Point	18/05/2018 0:20	1.6	F	45	Yes	<25	Nil
South Bulga	17/05/2018 21:24	1.9	E	45	Yes	IA	Nil
Wambo Road	17/05/2018 23:02	2.2	E	48	Yes	32	Nil

Notes
1. Noise emission limits apply during all meteorological conditions except the following: during periods of rain or hail; average wind speed at microphone height exceeds 5 m/s; wind speeds greater than 3 m/s measured at 10 metres above ground level; stability category F temperature inversion conditions and wind speeds greater than 2m/s at 10m above ground level; or stability category G temperature inversion conditions;
2. Estimated or measured LA1,1minute attributed to Warkworth mine (WML);
3. NA in exceedance column means atmospheric conditions outside conditions specified in project approval and so criterion is not applicable. NA (not applicable) in criterion column means criterion not specified for this location;
4. Bolded results in red are possible exceedances of relevant criteria; and
5. Criterion may or may not apply due to rounding of meteorological data values.

5.1.3 MTO Noise Assessment

Compliance assessments undertaken against the MTO noise criteria are presented in **Table 5** and **6**.

Table 5: $L_{Aeq,\ 15minute}$ Mount Thorley - Impact Assessment Criteria – May 2018

Location	Date and Time	Wind Speed (m/s)[5]	Stability Class	Criterion dB	Criterion Applies?[1,5]	MTO L_{Aeq} dB[2,4]	Exceedance[3]
Bulga RFS	17/05/2018 21:00	1.5	E	37	Yes	36	Nil
Bulga Village	17/05/2018 23:23	2.2	E	38	Yes	<30	Nil
Gouldsville	18/05/2018 0:47	1.5	F	35	Yes	IA	Nil
Inlet Rd	17/05/2018 21:23	1.6	F	37	Yes	<30	Nil
Inlet Rd West	17/05/2018 21:00	1.5	E	35	Yes	NM	Nil
Long Point	18/05/2018 0:20	1.6	F	35	Yes	IA	Nil
South Bulga	17/05/2018 21:24	1.9	E	36	Yes	33	Nil
Wambo Road	17/05/2018 23:02	2.2	E	38	Yes	<30	Nil

Notes:
1. Noise emission limits apply during all meteorological conditions except the following: during periods of rain or hail; average wind speed at microphone height exceeds 5 m/s; wind speeds greater than 3 m/s measured at 10 metres above ground level; stability category F temperature inversion conditions and wind speeds greater than 2m/s at 10m above ground level; or stability category G temperature inversion conditions;
2. Estimated or measured LAeq,15minute attributed to MTO;
3. NA means atmospheric conditions outside conditions specified in development consent and so criterion is not applicable;
4. Bolded results in red are possible exceedances of relevant criteria; and
5. Criterion may or may not apply due to rounding of meteorological data values.

Table 6: $L_{A1, 1Minute}$ Mount Thorley - Impact Assessment Criteria – May 2018

Location	Date and Time	Wind Speed (m/s)[5]	Stability Class	Criterion dB	Criterion Applies?[1,5]	MTO $L_{A1, 1min}$ dB[2,4]	Exceedance[3]
Bulga RFS	17/05/2018 21:00	1.5	E	47	Yes	42	Nil
Bulga Village	17/05/2018 23:23	2.2	E	48	Yes	34	Nil
Gouldsville	18/05/2018 0:47	1.5	F	45	Yes	IA	Nil
Inlet Rd	17/05/2018 21:23	1.6	F	47	Yes	32	Nil
Inlet Rd West	17/05/2018 21:00	1.5	E	45	Yes	NM	Nil
Long Point	18/05/2018 0:20	1.6	F	45	Yes	IA	Nil
South Bulga	17/05/2018 21:24	1.9	E	46	Yes	34	Nil
Wambo Road	17/05/2018 23:02	2.2	E	48	Yes	33	Nil

Notes
1. Noise emission limits apply during all meteorological conditions except the following: during periods of rain or hail; average wind speed at microphone height exceeds 5 m/s; wind speeds greater than 3 m/s measured at 10 metres above ground level; stability category F temperature inversion conditions and wind speeds greater than 2m/s at 10m above ground level; or stability category G temperature inversion conditions;
2. Estimated or measured LA1,1minute attributed to Mt Thorley Operations (MTO);
3. NA in exceedance column means atmospheric conditions outside conditions specified in project approval and so criterion is not applicable. NA (not applicable) in criterion column means criterion not specified for this location;
4. Bolded results in red are possible exceedances of relevant criteria; and
5. Criterion may or may not apply due to rounding of meteorological data values.

5.1.4 NPfI Low Frequency Assessment

In accordance with the requirements of the EPA's Noise Policy for Industry (NPfI), the applicability of the low frequency modification penalty has been assessed. There were no noise measurements taken during the reporting period which required the penalty to be applied. The assessment for low frequency noise is shown in **Table 7**.

Table 7: Low Frequency Noise Modifying Factor Assessment – May 2018

Location	Date and Time	Measured Site Only LA_{eq} dB (WML/MTO)	Site Only L_{Ceq} dB[4] (WML/MTO)	Site Only LCeq – LAeq dB[1,4] (WML/MTO)	Result Max exceedance of ref spectrum dB (WML/MTO)[2,3,4]	Penalty dB(A)	Exceedance
Bulga RFS	17/05/2018 21:00	IA/36	NA/52	NA/16	NA/0	NA/Nil	NA
Bulga Village	17/05/2018 23:23	<30/<30	NA/NA	NA/NA	NA/NA	NA/NA	NA
Gouldsville	18/05/2018 0:47	29/IA	NA/NA	NA/NA	NA/NA	NA/NA	NA
Inlet Rd	17/05/2018 21:23	32/<30	NA/NA	NA/NA	NA/NA	NA/NA	NA
Inlet Rd West	17/05/2018 21:00	28/NM	NA/NA	NA/NA	NA/NA	NA/NA	NA
Long Point	18/05/2018 0:20	<25/IA	NA/NA	NA/NA	NA/NA	NA/NA	NA
South Bulga	17/05/2018 21:24	IA/33	NA/49	NA/16	NA/0	NA/Nil	NA
Wambo Road	17/05/2018 23:02	<30/<30	NA/NA	NA/NA	NA/NA	NA/NA	NA

Notes:
1. As per NPfI, if LCeq – LAeq >= 15 dB further assessment of low frequency noise required.
2. As per NPfI, compare measured spectrum against reference spectrum to determine if the low frequency modifying factor is triggered and application of penalty is required;
3. Bold results and penalties in red are where the relevant modifying factor trigger was exceeded; and
4. Where it is not possible to determine the site only result due to the presence of other low frequency noise sources occurring during the measurement, or where criteria were not applicable due to meteorological conditions, this is noted as NA (not available) and no further assessment has been undertaken.

Figure 16: Noise Monitoring Location Plan

5.2 Noise Management Measures

A program of targeted supplementary attended noise monitoring is in place at MTW, supported by the real-time directional monitoring network and ensuring the highest level of noise management is maintained. The supplementary program is undertaken by MTW personnel and involves:

- Routine inspections from both inside and outside the mine boundary;
- Routine and as-required handheld noise assessments (undertaken in response to noise alarm and/or community complaint), comparing measured levels against consent noise limits; and
- Validation monitoring following operational modifications to assess the adequacy of the modifications.

Where a noise assessment identifies noise emissions which are exceeding the relevant noise limit(s) for any particular residence, modifications will be made so as to ensure that the noise event is resolved within 75 minutes of identification. The actions taken are commensurate with the nature and severity of the noise event, but can include:

- Changing the haul route to a less noise sensitive haul;
- Changing dump locations (in-pit or less exposed dump option);
- Reducing equipment numbers;
- Shut down of task; or
- Site shut down.
- A summary of these assessments undertaken during May are provided in **Table 8**.

.

Table 8: Supplementary Attended Noise Monitoring Data – May 2018

No. of assessments	No. of assessments > trigger	No. of nights where assessments > trigger	% greater than trigger
483	3	2	0.6

Note: Measurements are taken under all meteorological conditions, including conditions under which the consent noise criteria do not apply.

6.0 OPERATIONAL DOWNTIME

During May, a total of 1220 hours of equipment downtime was logged in response to environmental events such as dust, noise and adverse meteorological conditions. Operational downtime by equipment type is shown in **Figure 17**.

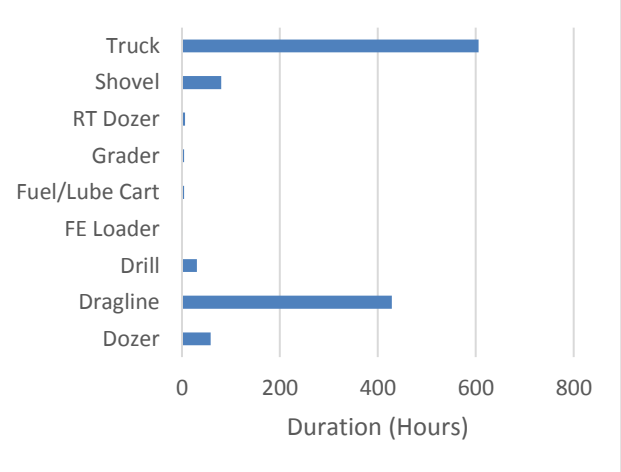


Figure 17: Operational Downtime by Equipment Type – May 2018

7.0 REHABILITATION

During May 2018, 20.4 Ha of land was released for rehabilitation, 9.6 Ha of land was bulk shaped, 2.2 Ha of land was topsoiled, 10.0 Ha of land was composted and 6.2 Ha of land was rehabilitated.

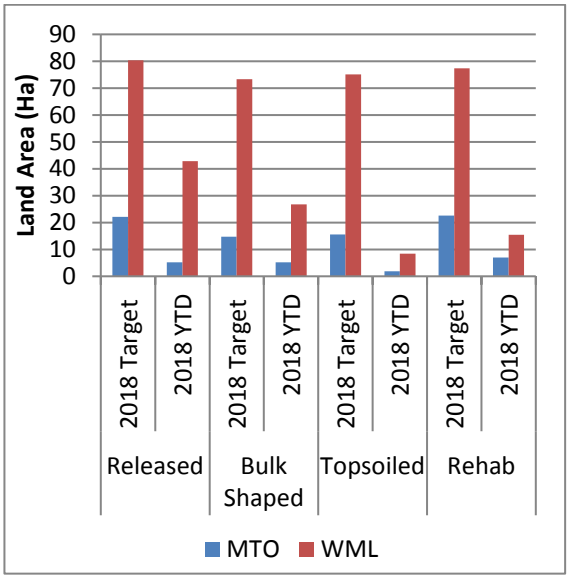


Figure 18: Rehabilitation YTD – May 2018

8.0 ENVIRONMENTAL INCIDENTS

During the reporting period there were no reportable environmental incidents.

9.0 COMPLAINTS

During the reporting period 25 complaints were received. Details of these complaints are shown in **Table 9** below.

Table 9: Complaints Summary YTD

	Noise	Dust	Blast	Lighting	Other	Total
January	9	6	14	0	1	30
February	8	5	2	3	1	19
March	21	0	0	2	0	23
April	8	3	9	3	2	25
May	10	11	3	1	0	25
June						
July						
August						
September						
October						
November						
December						
Total	56	25	28	9	4	122

Appendix A: Meteorological Data

Table 10: Meteorological Data – Charlton Ridge Meteorological Station – May 2018

Date	Air Temperature Maximum (°C)	Air Temperature Minimum (°C)	Relative Humidity Maximum (%)	Relative Humidity Minimum (%)	Solar Radiation Maximum (W/Sq. M)	Wind Direction Average (°)	Wind Speed Average (m/sec)	Rainfall(mm)
1/05/2018	23	9	91	39	712	161	1.7	0.0
2/05/2018	24	10	93	44	830	182	1.6	0.0
3/05/2018	27	9	92	28	689	215	2.0	0.0
4/05/2018	28	13	72	23	767	261	3.7	0.0
5/05/2018	23	6	68	22	704	209	2.1	0.0
6/05/2018	22	5	83	25	702	159	2.2	0.0
7/05/2018	25	8	94	21	665	200	2.0	0.0
8/05/2018	25	8	84	31	739	184	1.6	0.0
9/05/2018	25	9	83	30	643	199	1.8	0.0
10/05/2018	25	10	71	21	799	293	4.1	0.0
11/05/2018	15	6	62	27	870	310	6.2	0.0
12/05/2018	19	8	86	36	978	273	5.3	0.6
13/05/2018	19	10	73	45	929	218	3.1	0.0
14/05/2018	18	9	72	41	554	179	3.4	0.0
15/05/2018	21	7	80	28	663	207	1.7	0.0
16/05/2018	20	8	86	38	772	160	2.4	0.0
17/05/2018	20	6	93	37	669	176	1.6	0.0
18/05/2018	22	4	84	17	640	224	2.0	0.0
19/05/2018	21	5	77	31	620	191	1.6	0.0
20/05/2018	20	4	78	28	655	283	3.2	0.0
21/05/2018	21	6	70	25	647	293	3.8	0.0
22/05/2018	22	7	72	32	629	289	3.3	0.0
23/05/2018	21	7	83	40	621	199	1.5	0.0
24/05/2018	22	6	91	35	598	189	1.6	0.0
25/05/2018	21	10	84	36	760	159	2.4	0.0
26/05/2018	21	8	90	44	595	160	2.0	0.0
27/05/2018	18	7	98	55	721	187	1.6	0.0
28/05/2018	20	7	93	44	784	179	1.6	0.0
29/05/2018	23	7	93	29	599	269	2.1	0.0
30/05/2018	18	8	96	28	704	231	3.0	8.4
31/05/2018	17	5	79	28	847	247	3.6	0.0

"-" Indicates that data was not available due to technical issues.

Appendix C: June Monthly Environmental Monitoring Report

Monthly Environmental Monitoring Report

Yancoal Mt Thorley Warkworth

June 2018

CONTENTS

Figures

Tables

Revision History

Version No.	Person Responsible	Document Status	Date
1.0	**Environmental Advisor**	**Draft**	**30/07/2018**
1.1	**Environmental Specialist**	**Final**	**31/07/2018**

1.0 INTRODUCTION

This report has been compiled to provide a monthly summary of environmental monitoring results for Mt Thorley Warkworth (MTW). This report includes all monitoring data collected for the period 1st June to 30th June 2018.

2.0 AIR QUALITY

2.1 Meteorological Monitoring

Meteorological data is collected at MTW's 'Charlton Ridge' meteorological station (refer to **Figure 3**: Air Quality Monitoring Locations).

2.1.1 Rainfall

Rainfall for the period is summarised in **Table 1**, the year-to-date trend and historical trend are shown in **Figure 1**.

Table 1: Monthly Rainfall MTW

2018	Monthly Rainfall (mm)	Cumulative Rainfall (mm)
June	32.4	156.9

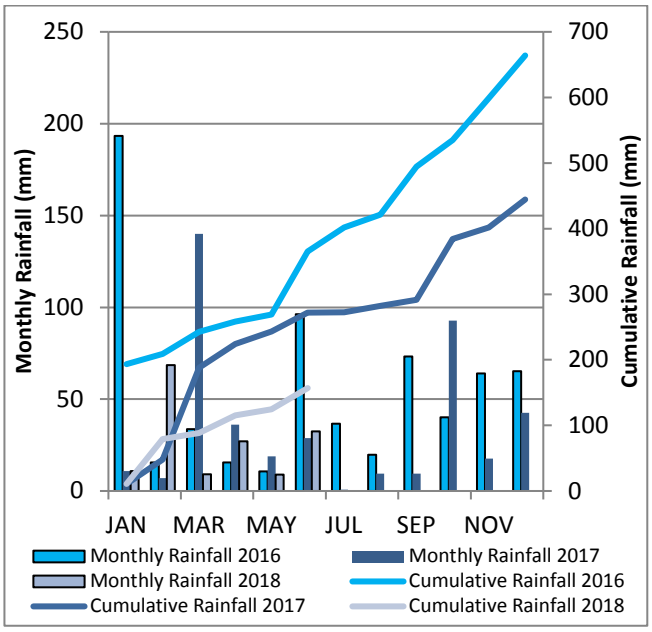


Figure 1: Rainfall Trends YTD

2.1.2 Wind Speed and Direction

Winds from the South were dominant throughout the reporting period as shown in **Figure 2**.

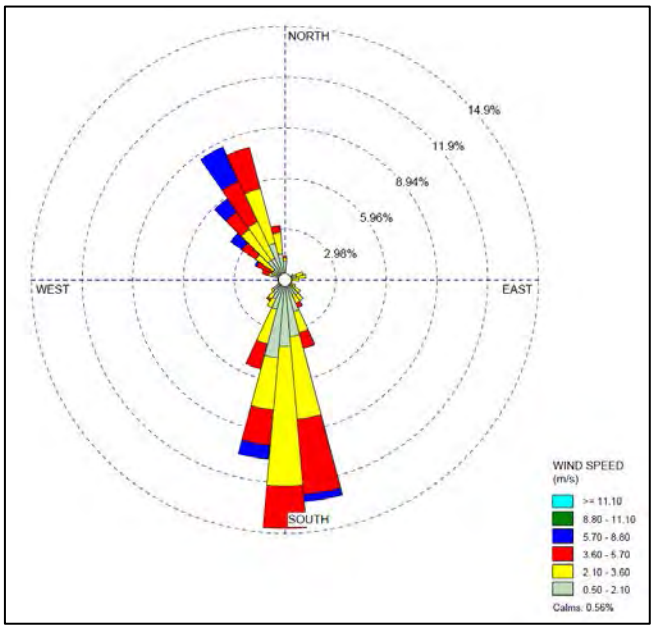


Figure 2: Charlton Ridge Wind Rose – June 2018

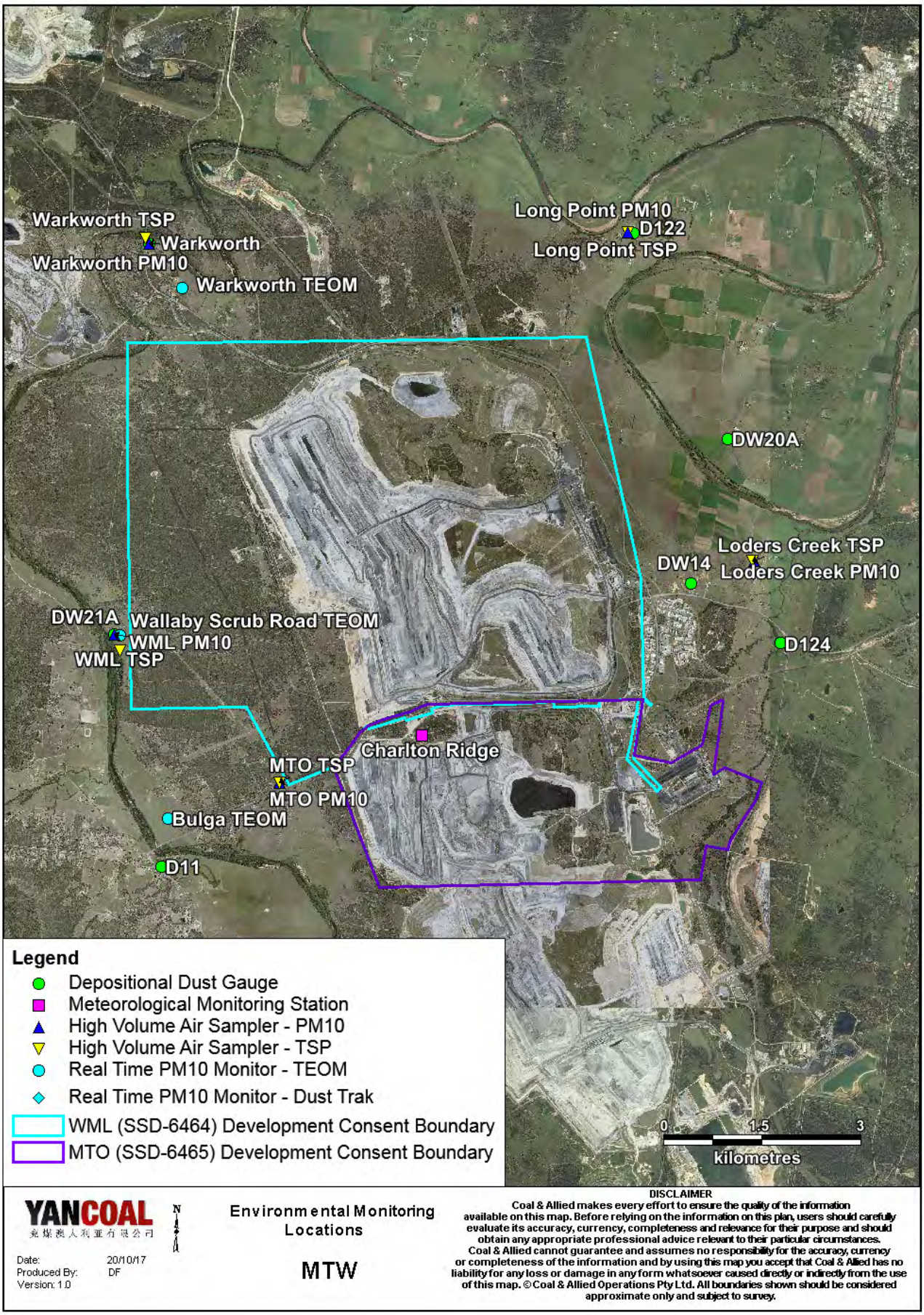


Figure 3: Air Quality Monitoring Locations

2.2 Depositional Dust

To monitor regional air quality, MTW operates and maintains a network of seven depositional dust gauges, situated on private and mine owned land surrounding MTW.

Figure 4 displays insoluble solids results from depositional dust gauges during the reporting period compared against the year-to-date average and the annual impact assessment criteria.

During the reporting period the D122 and D124 monitors recorded monthly results above the long term impact assessment criteria of 4.0 g/m^2 per month. Field notes associated with monitor D124 result confirms the presence of insects and bird droppings. As such the result is considered contaminated and will be excluded from calculation of the annual average. There is no evidence to suggest that the D122 result is contaminated. Accordingly, the result will be included in the annual average calculation.

An assessment of MTW's contribution to the long term Impact assessment criteria will be provided in the 2018 Annual Review Report.

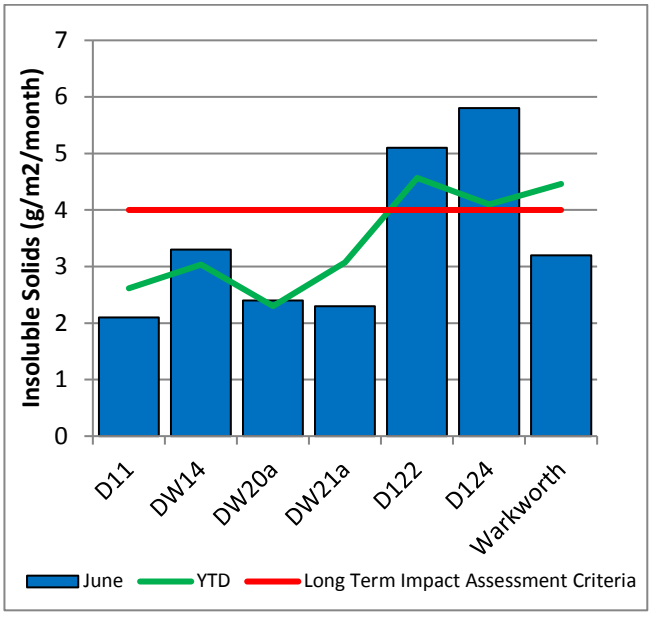


Figure 4: Depositional Dust – June 2018

2.3 Suspended Particulates

Suspended particulates are measured by a network of High Volume Air Samplers (HVAS) measuring Total Suspended Particulates (TSP) and Particulate Matter <10µm (PM_{10}). The location of these monitors can be found in Figure 3. Each HVAS was run for 24 hours on a six-day cycle in accordance with EPA requirements.

2.3.1 HVAS PM_{10} Results

Figure 5 shows the individual PM_{10} results at each monitoring station against the short term impact assessment criteria of 50µg/m^3.

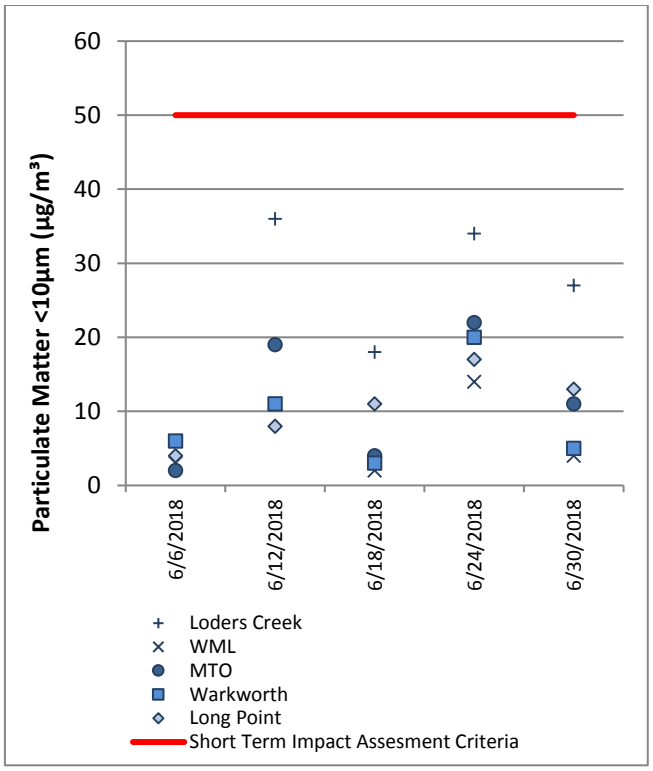


Figure 5: Individual PM_{10} Results – June 2018

Figure 6 shows the annual average PM_{10} results against the long term impact assessment criteria.

An assessment of MTW's contribution to the long term Impact assessment criteria will be provided in the 2018 Annual Review Report.

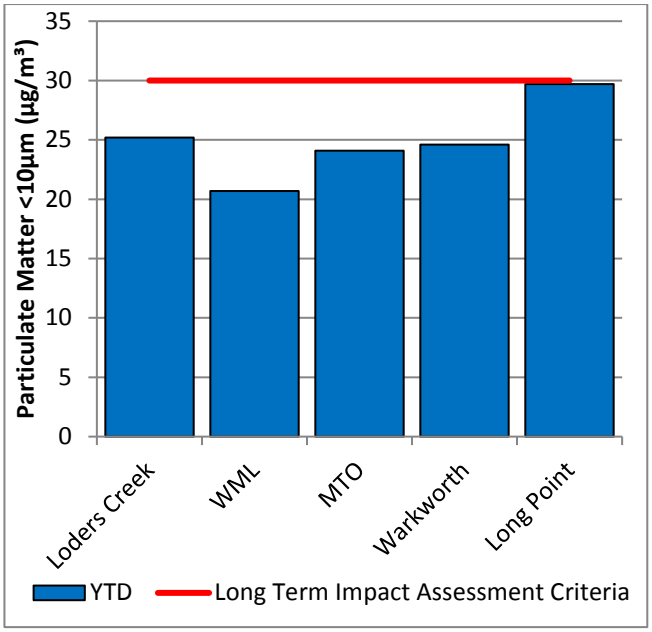


Figure 6: Annual Average PM_{10} – June 2018

2.3.2 TSP Results

Figure 7 shows the annual average TSP results compared against the long term impact assessment criteria of 90µg/m³.

An assessment of MTW's contribution to the long-term assessment criteria will be reported in the 2018 Annual Review Report.

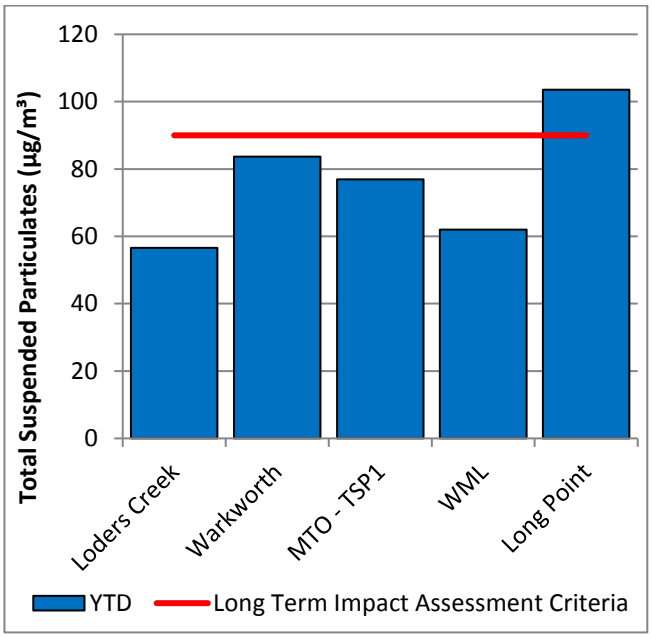


Figure 7: Annual Average Total Suspended Particulates – June 2018

2.3.3 Real Time PM_{10} Results

Mt Thorley Warkworth maintains a network of real time PM_{10} monitors. The real time air quality monitoring stations continuously log information and transmit data to a central database, generating alarms when particulate matter levels exceed internal trigger limits.

Results for real time dust sampling are shown in **Figure 8**, including the daily 24 hour average PM_{10} result and the annual PM_{10} average.

2.3.4 Real Time Alarms for Air Quality

During July, the real time monitoring system generated 52 automated air quality related alerts, including 12 alerts for adverse meteorological conditions and 40 alerts for elevated PM_{10} levels.

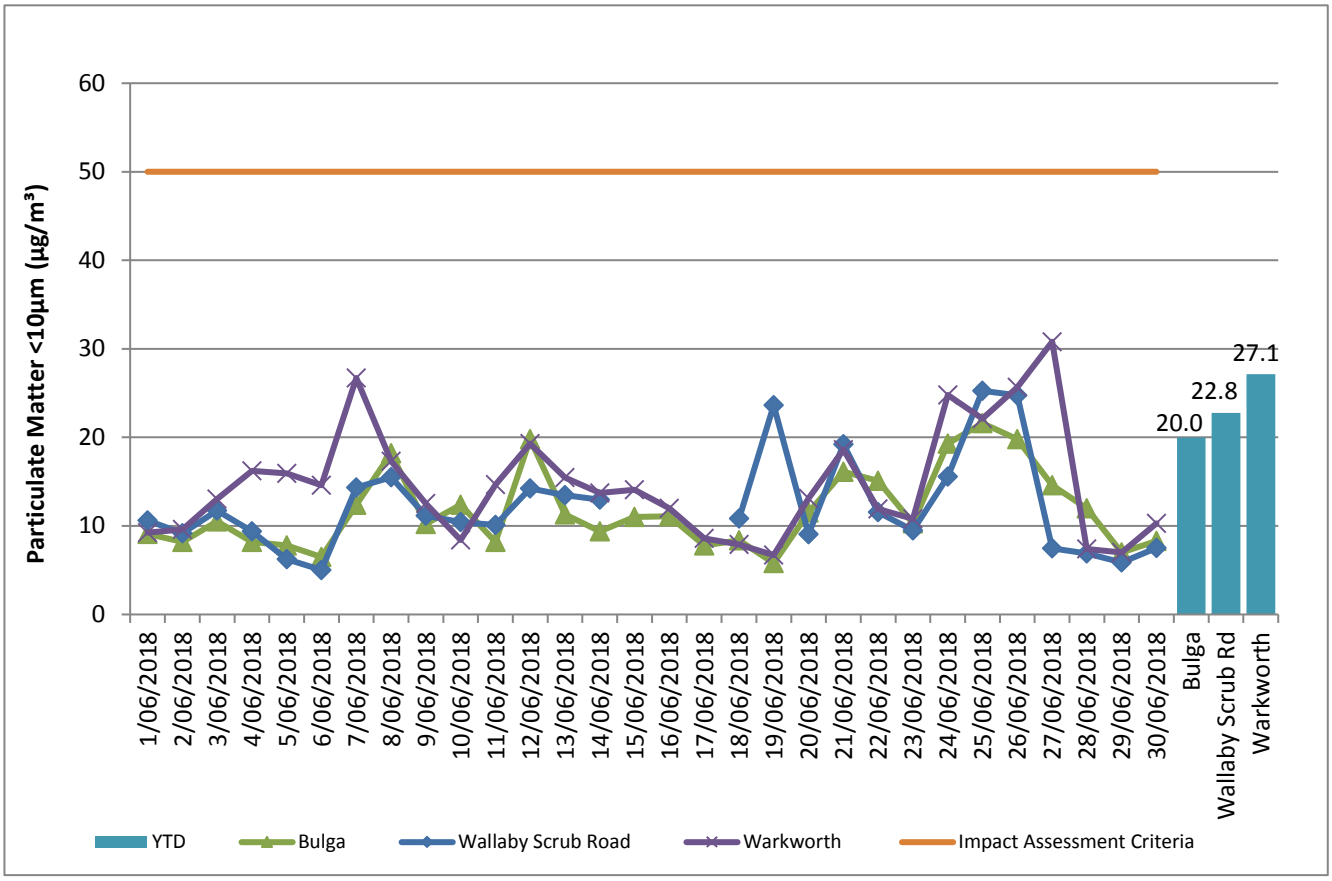


Figure 8: Real Time PM_{10} 24hr average and Year-to-date average – June 2018

3.0 WATER QUALITY

MTW maintains a network of surface water and groundwater monitoring sites.

3.1 Surface Water

Monitoring is conducted at mine site dams and surrounding natural watercourses. The surface water monitoring locations are outlined in Figure 15.

Surface water courses are sampled on a monthly or quarterly sampling regime. Water quality is evaluated through the parameters of pH, Electrical Conductivity (EC) and Total Suspended Solids (TSS). The Hunter River and the Wollombi Brook are sampled both upstream and downstream of mining operations, to monitor the potential impact of mining. Other Hunter River tributaries are also monitored.

3.1.1 Surface Water Monitoring Results

Figure 9 to **Figure 11** show the long term surface water trend (2015 – current) within MTW mine dams. **Figure 12** to **Figure 14** show the long term surface water trend (2015 - current) in surrounding watercourses.

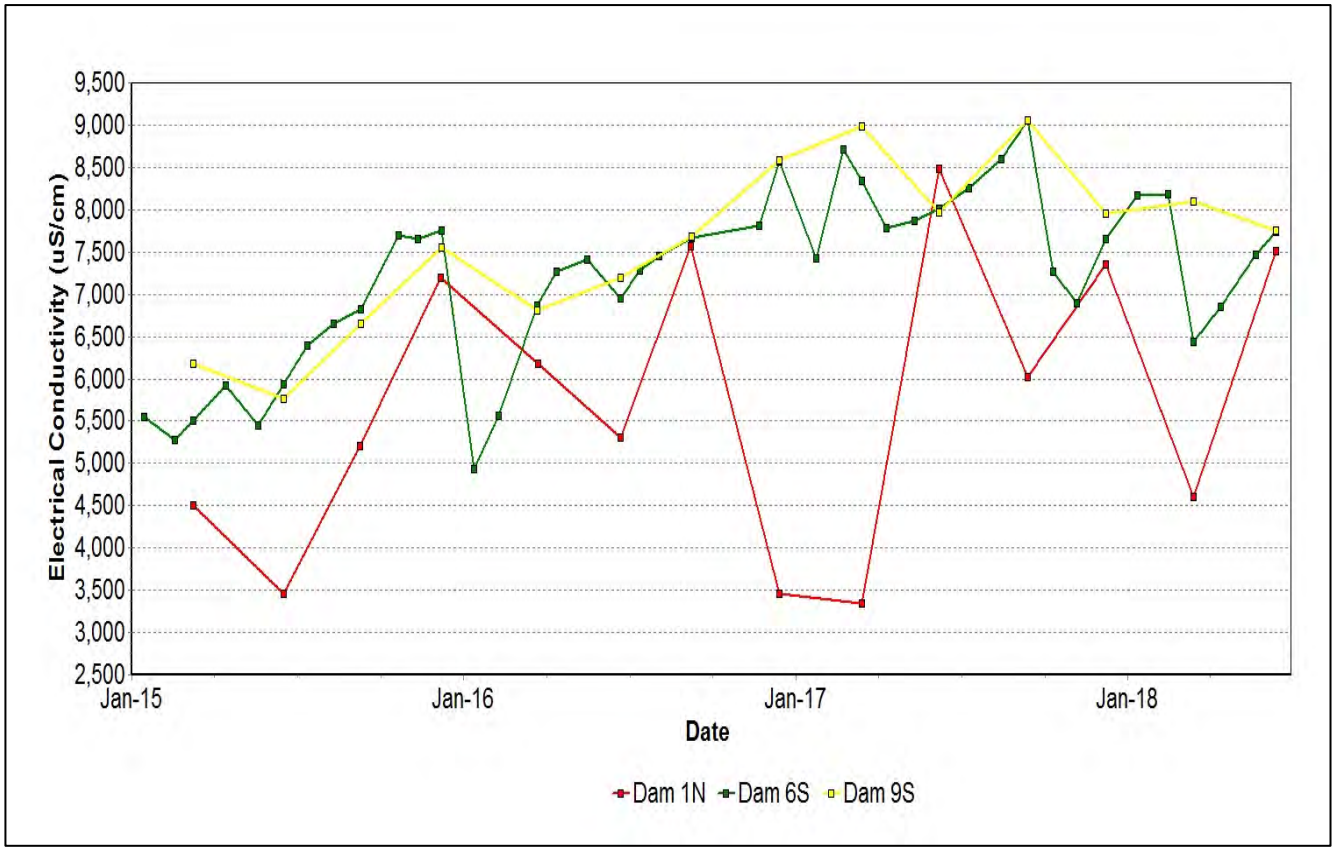


Figure 9: Site Dams Electrical Conductivity Trend – June 2018

Figure 10: Site Dams pH Trend – June 2018

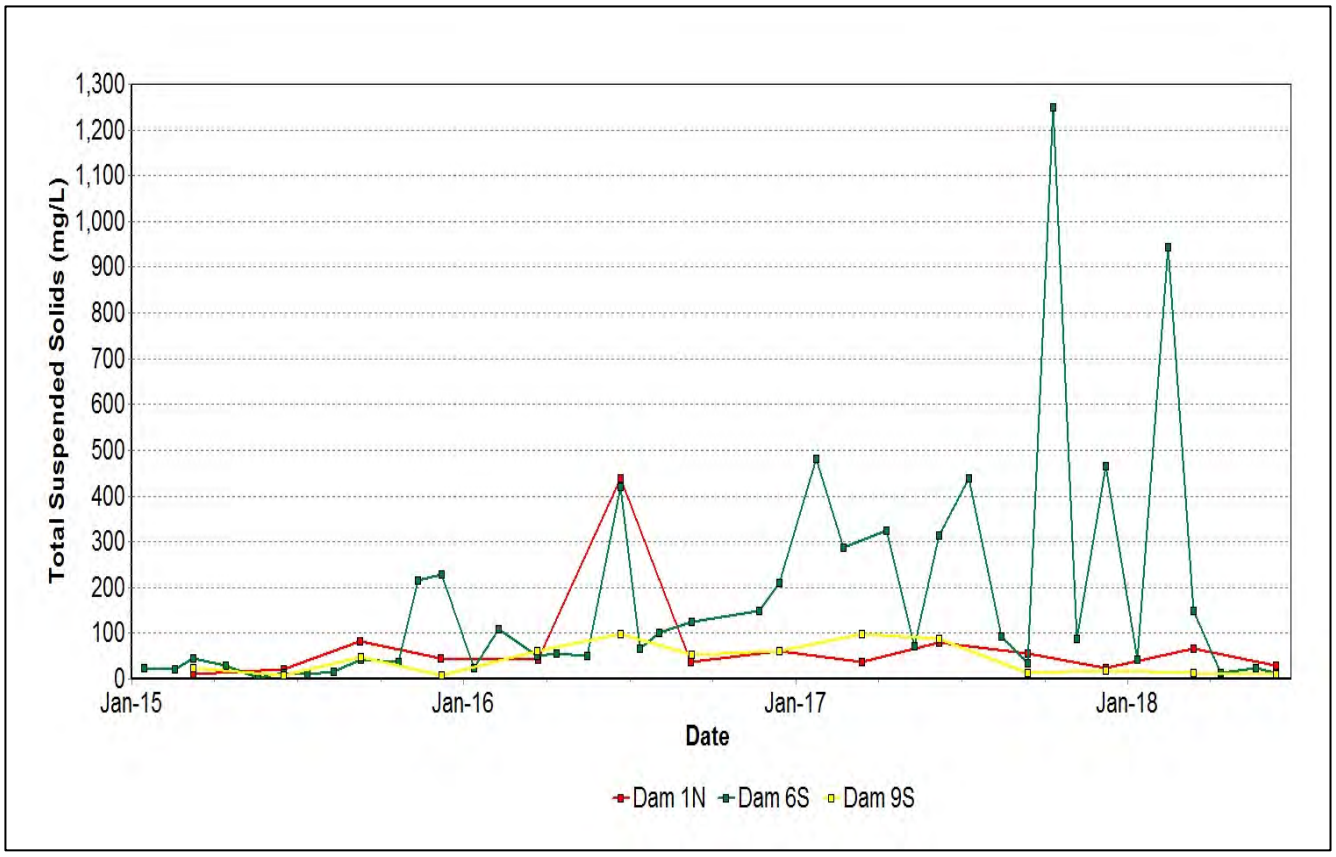


Figure 11: Site Dams Total Suspended Solids Trend – June 2018

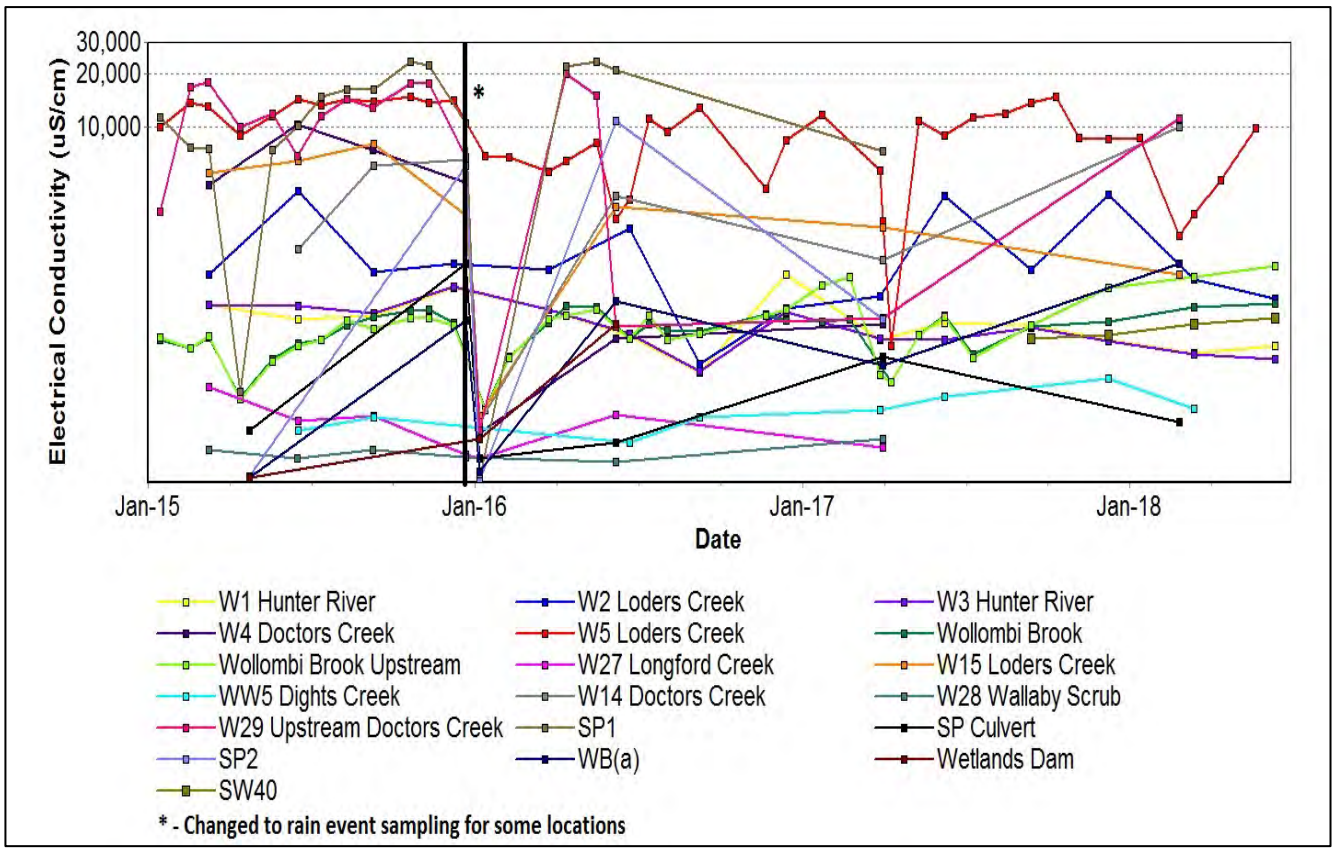


Figure 12: Watercourse Electrical Conductivity Trend – June 2018

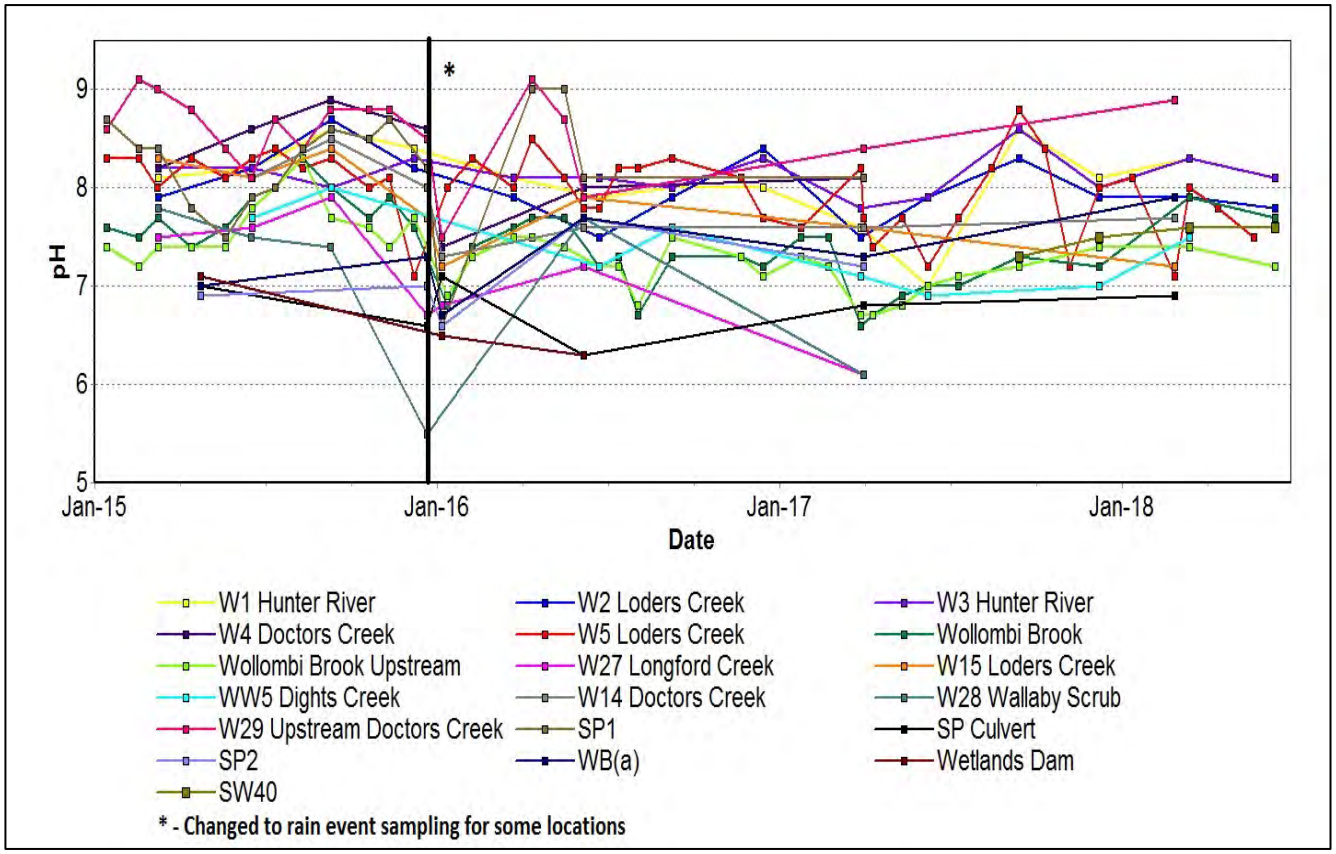


Figure 13: Watercourse pH Trend – June 2018

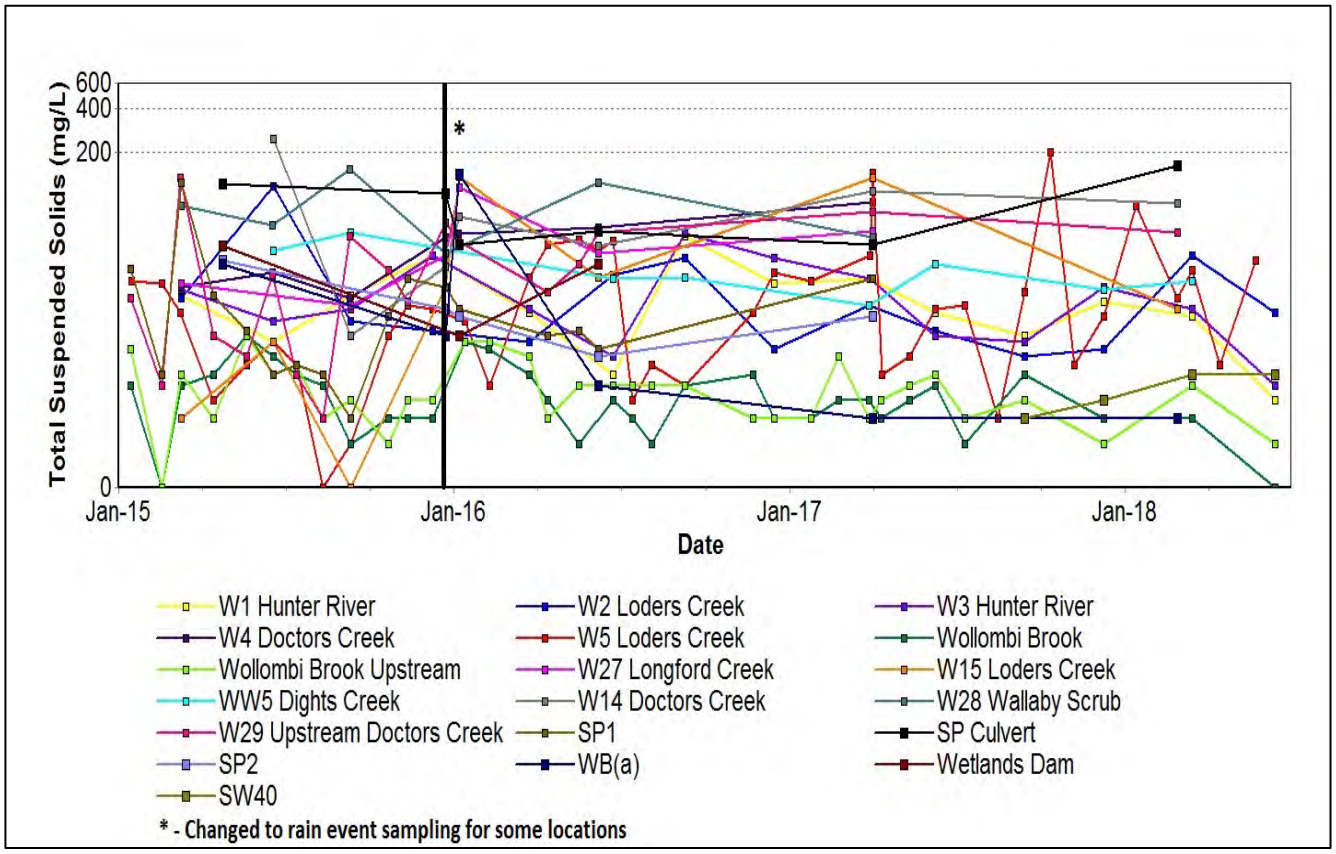


Figure 14: Watercourse Total Suspended Solids Trend – June 2018

3.1.2 Surface Water Trigger Tracking

Internal trigger limits have been developed to assess monitoring data on an on-going basis, and to highlight potentially adverse surface water impacts. The process for evaluating monitoring results against the internal triggers and subsequent responses are outlined in the MTW Water Management Plan.

Current internal surface water trigger limit breaches are summarised in **Table 3**.

Table 2: Surface Water Trigger Tracking – June YTD 2018

Site	Date	Trigger Limit Breached	Action Taken in Response
W14	26/02/2018	EC –95th Percentile	Watching Brief*
Wollombi Brook	14/03/2018	EC –95th Percentile	Watching Brief*
Wollombi Brook	13/06/2018	EC –95th Percentile	Watching Brief*
Wollombi Brook Upstream	14/03/2018	EC –95th Percentile	Watching Brief*
Wollombi Brook Upstream	13/06/2018	EC –95th Percentile	Elevated EC is considered attributable to prolonged dry climatic conditions, and not related to mining related impacts. Continue to watch and monitor.
W5	14/02/2018	pH –5th Percentile	Watching Brief*
W5	22/05/2018	pH –5th Percentile	Watching Brief*
W15	26/02/2018	pH –5th Percentile	Watching Brief*
W5	12/01/2018	TSS – 50mg/L (ANZECC criteria)	Field investigation did not identify any mining related sources of sediment. Elevated TSS associated with high intensity rainfall event after prolonged dry period. No further action taken
W14	26/02/2018	TSS – 50mg/L (ANZECC criteria)	Field investigation did not identify any mining related sources of sediment. Elevated TSS associated with high intensity rainfall event after prolonged dry period. No further action taken
W29	26/02/2018	TSS – 50mg/L (ANZECC criteria)	Field investigation did not identify any mining related sources of sediment. Elevated TSS associated with high intensity rainfall event after prolonged dry period. No further action taken

* = Watching brief established pending outcomes of subsequent monitoring events. No specific actions required.

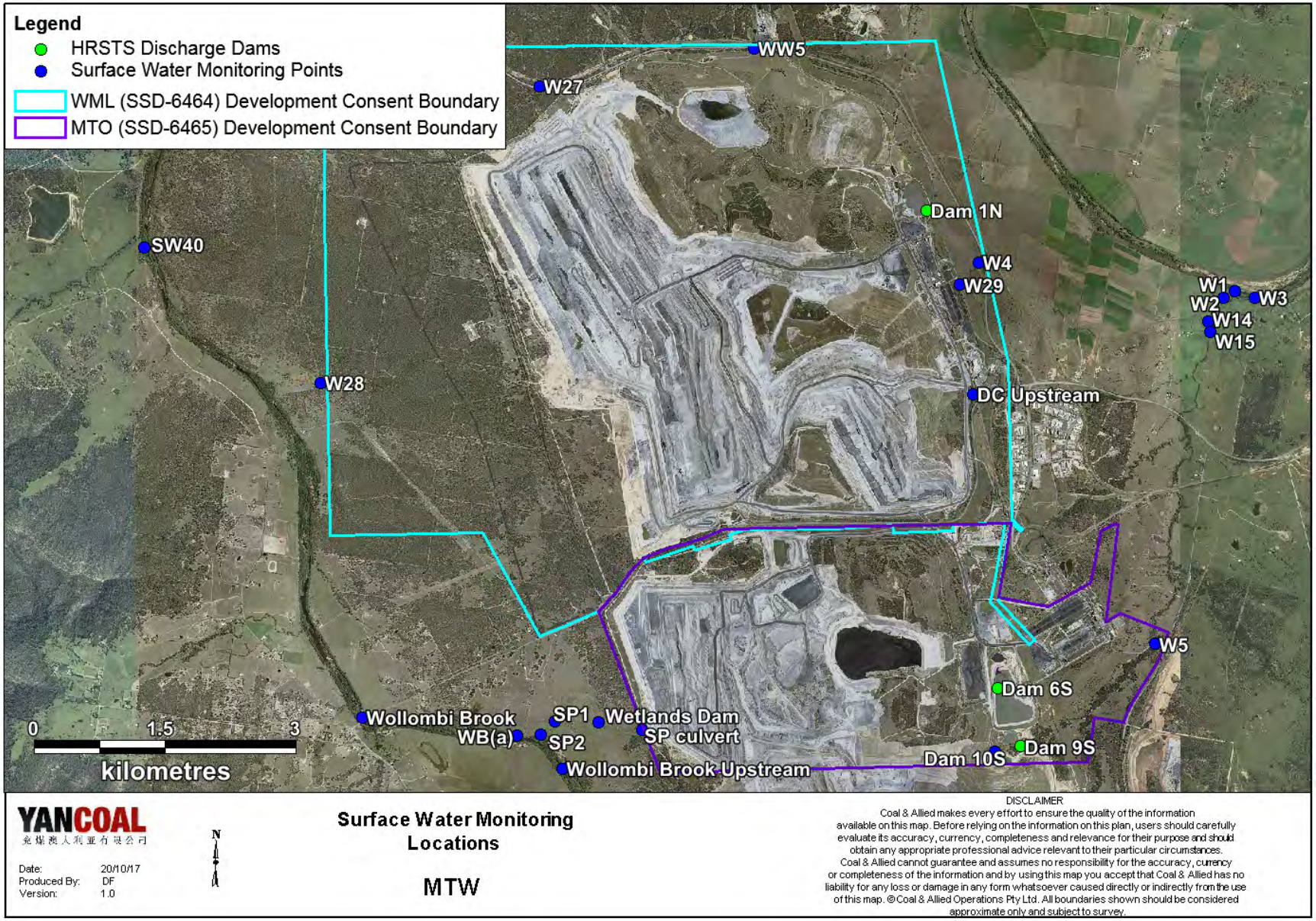


Figure 15: Surface Water Monitoring Location Plan

3.2 Groundwater Monitoring

Groundwater monitoring is undertaken on a quarterly basis in accordance with the MTW Groundwater Monitoring Programme.

Figure 16 to **Figure 60** show the long term water quality trends (2015 – current) for groundwater bores monitored at MTW.

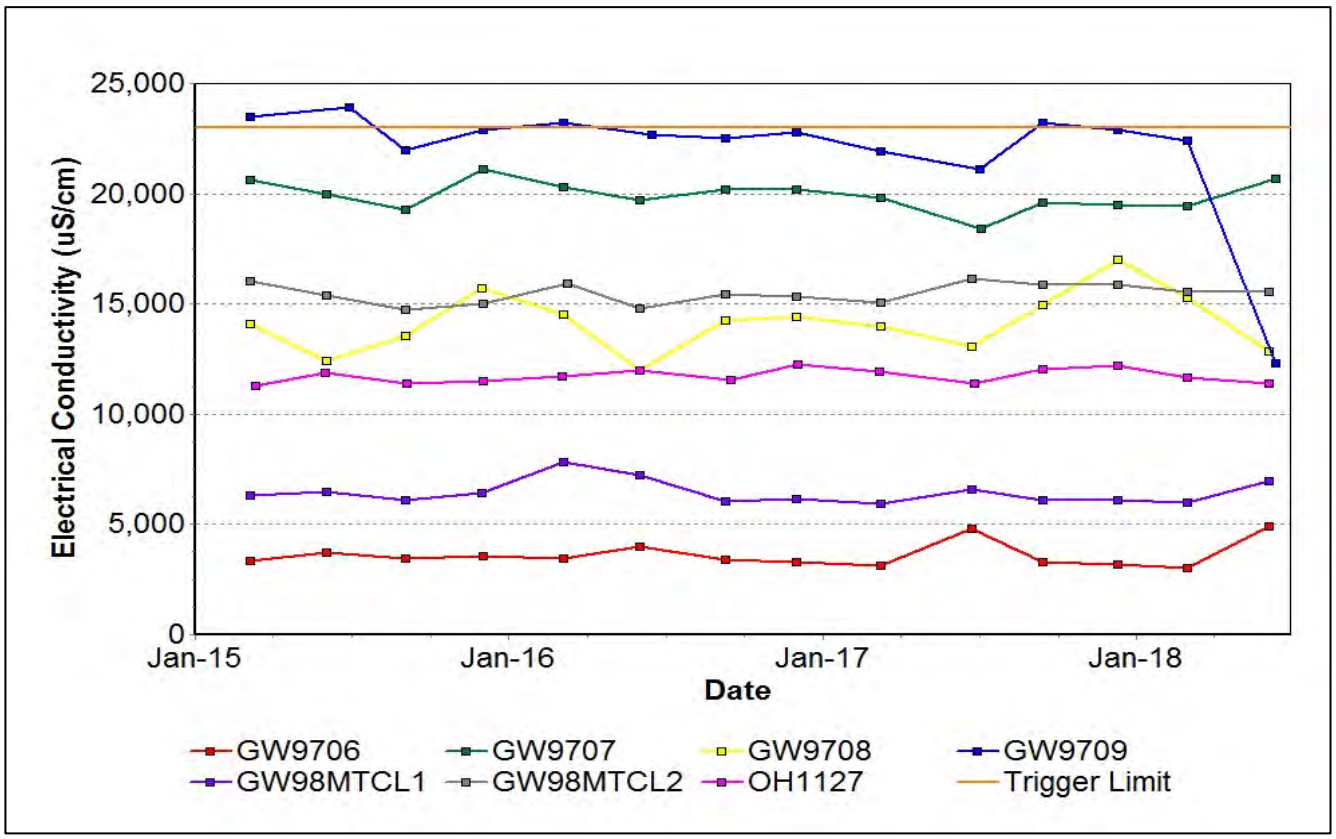


Figure 16: Bayswater Seam Electrical Conductivity Trend – June 2018

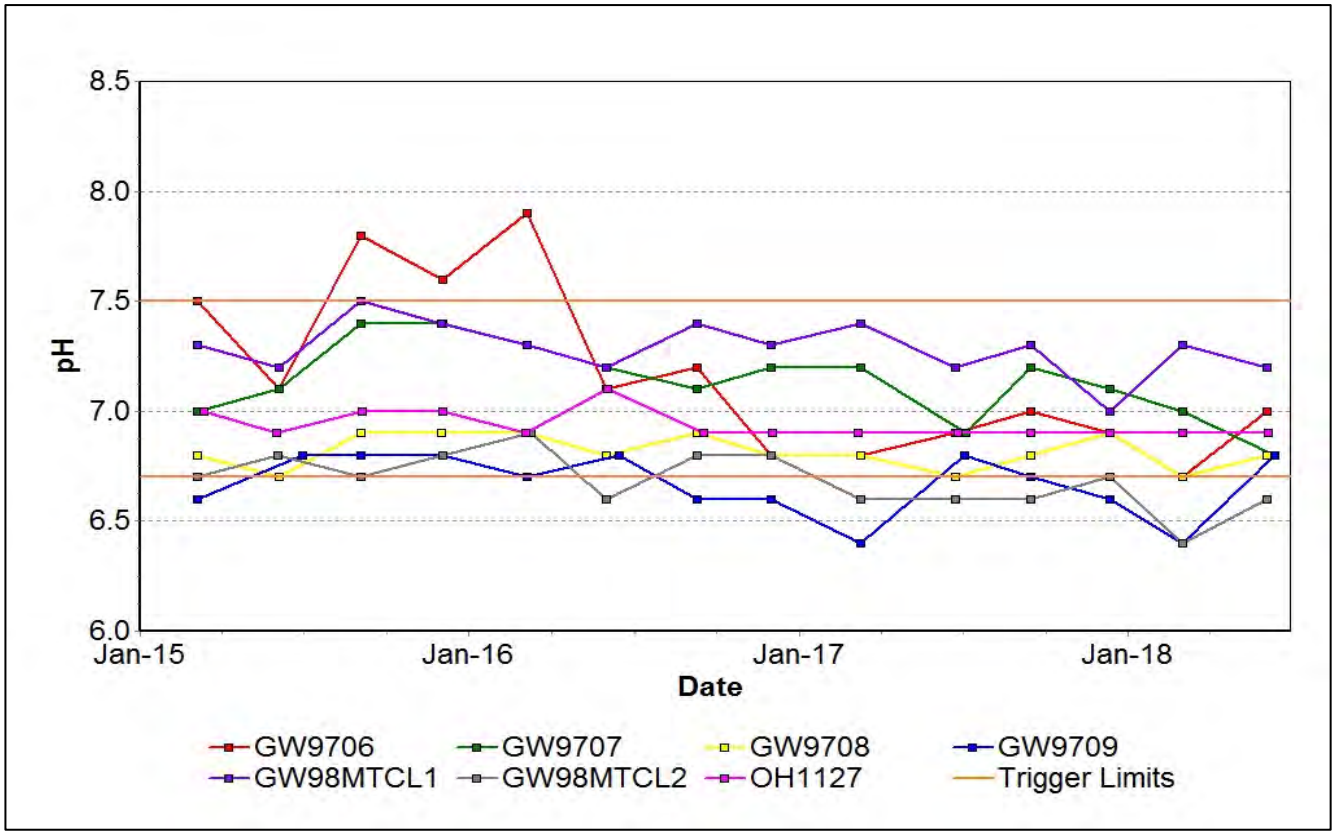


Figure 17: Bayswater Seam pH Trend – June 2018

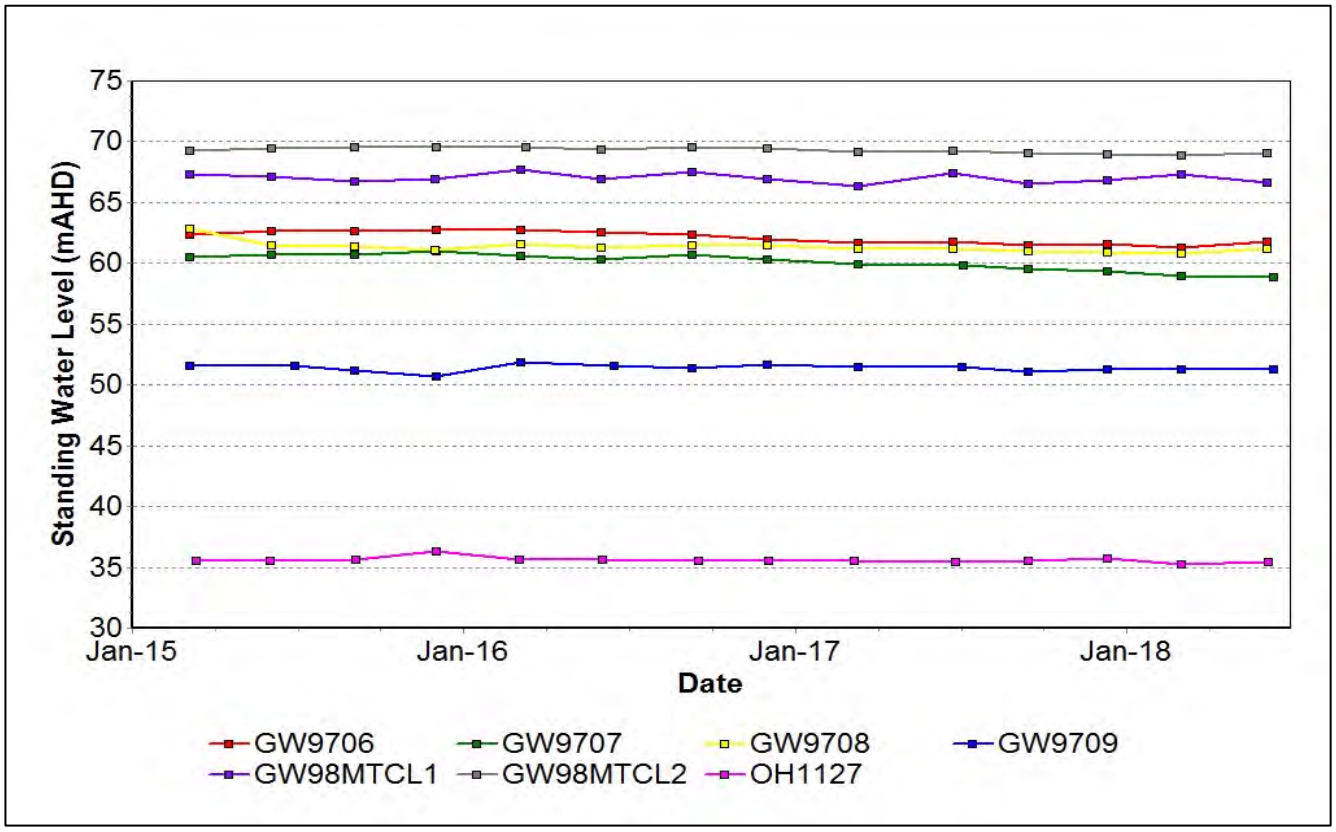


Figure 18: Bayswater Seam Standing Water Level Trend – June 2018

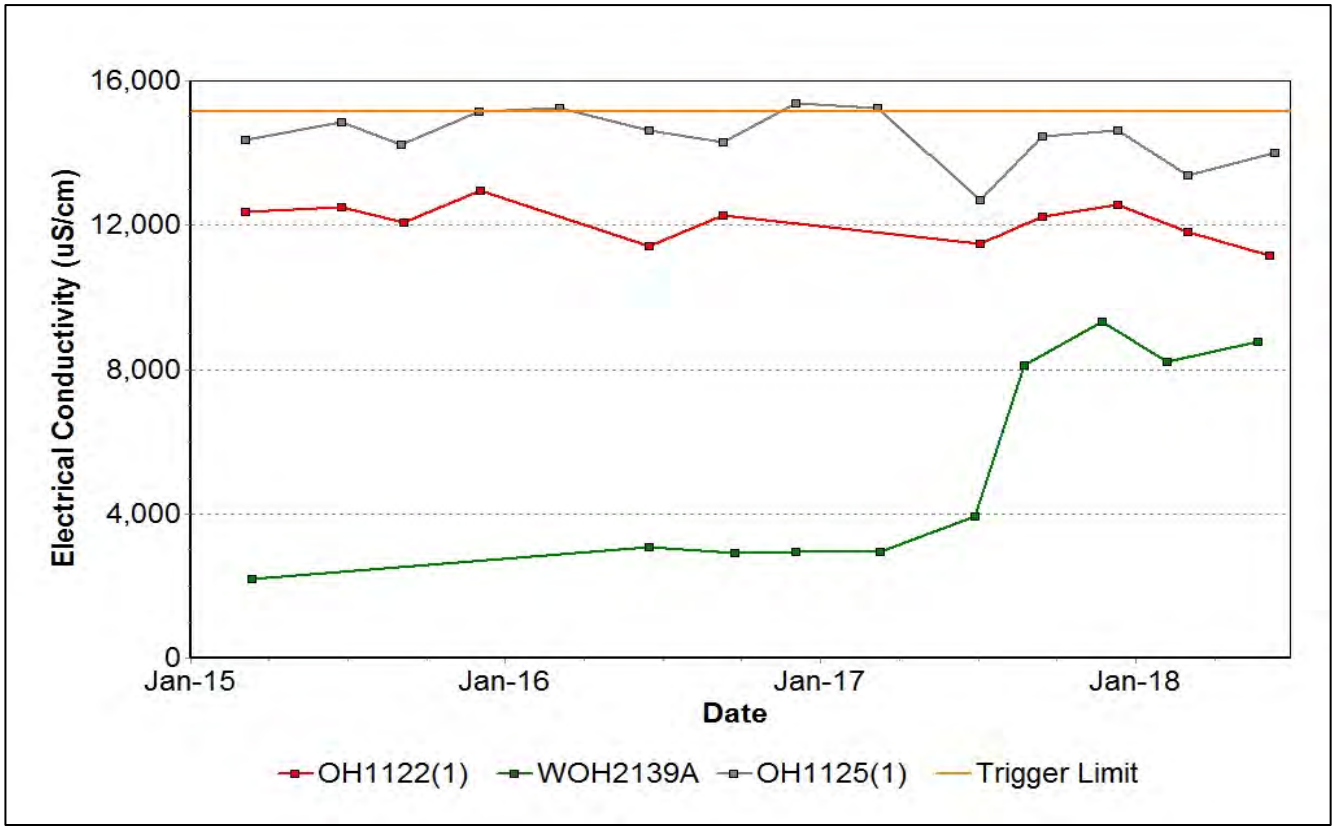


Figure 19: Blakefield Seam Electrical Conductivity Trend – June 2018

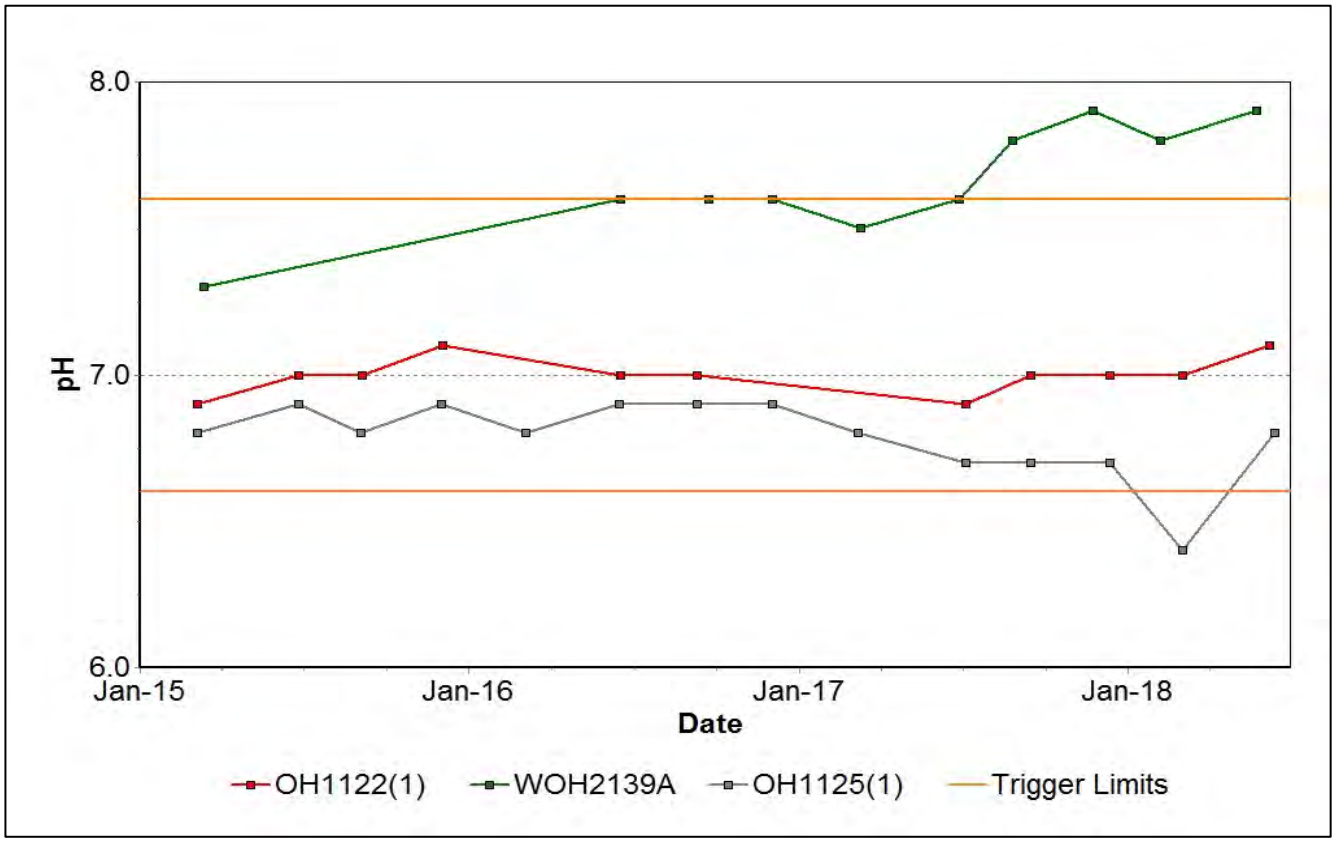


Figure 20: Blakefield Seam pH Trend – June 2018

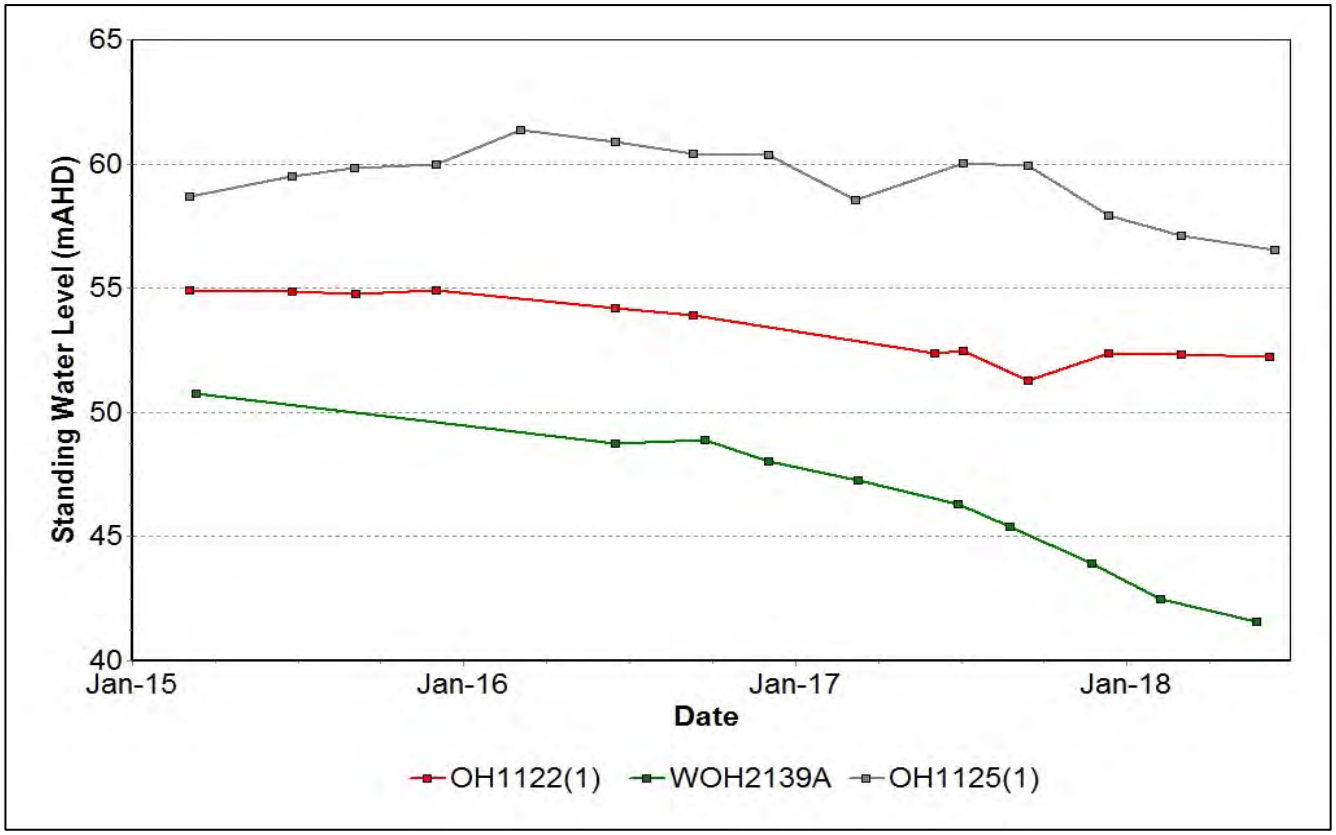


Figure 21: Blakefield Seam Standing Water Level Trend – June 2018

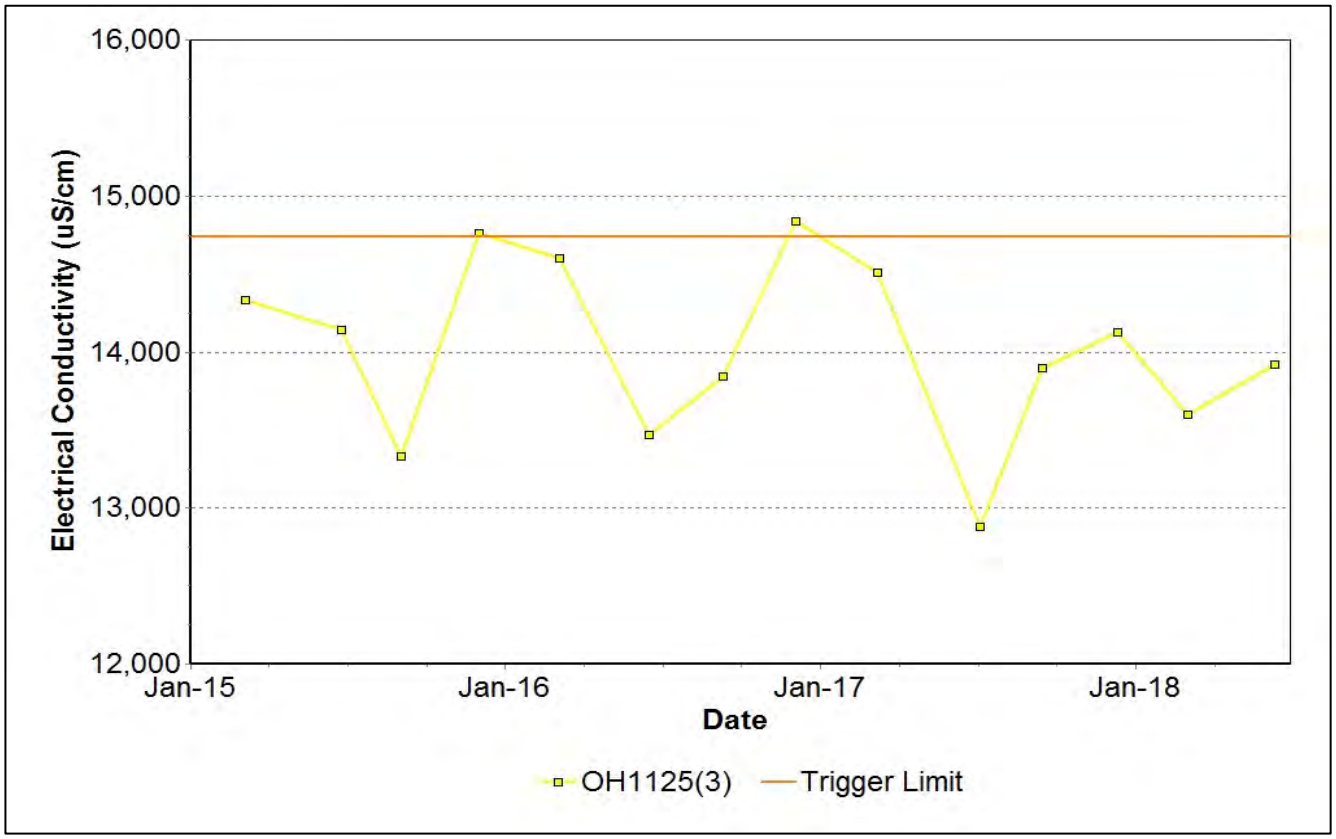


Figure 22: Bowfield Seam Electrical Conductivity Trend – June 2018

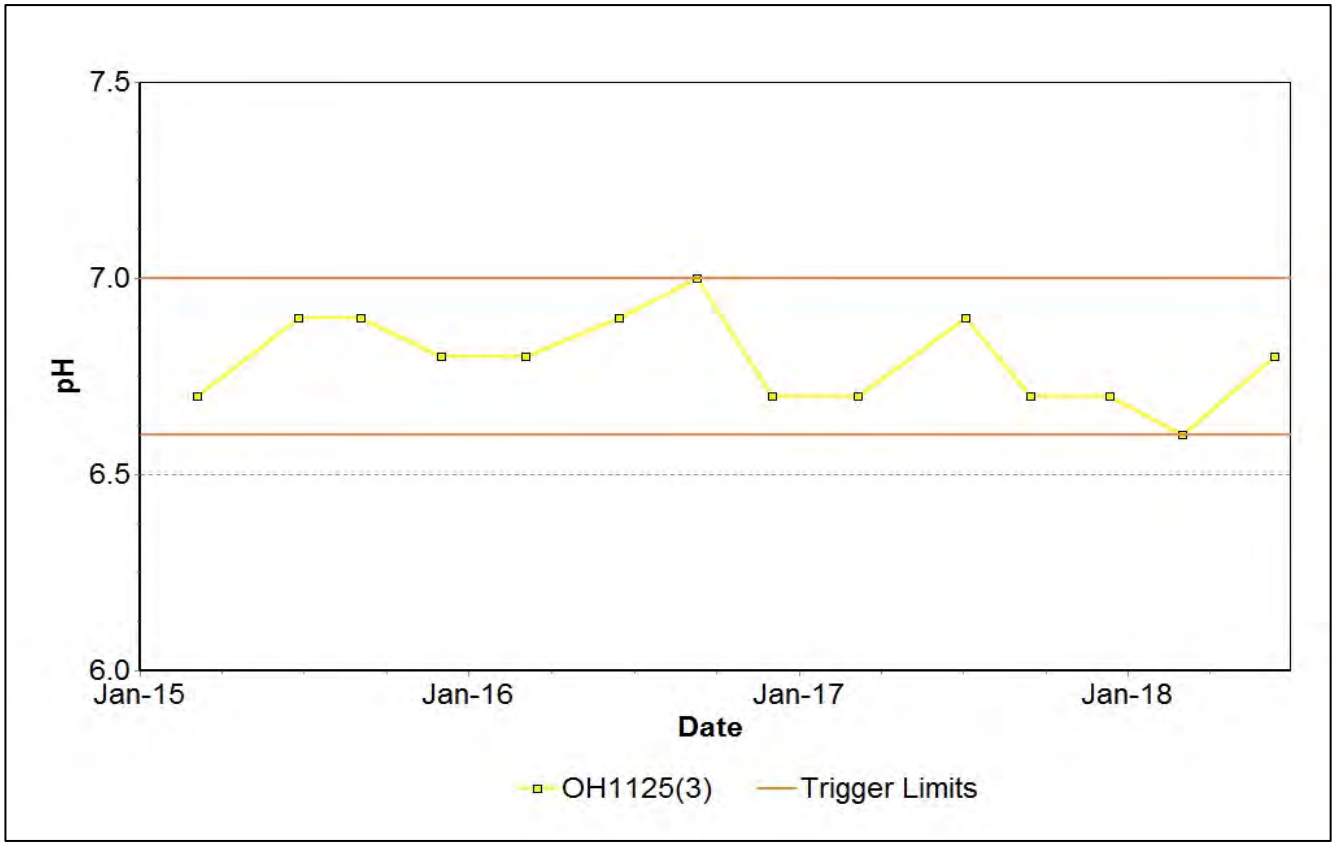


Figure 23: Bowfield Seam pH Trend – June 2018

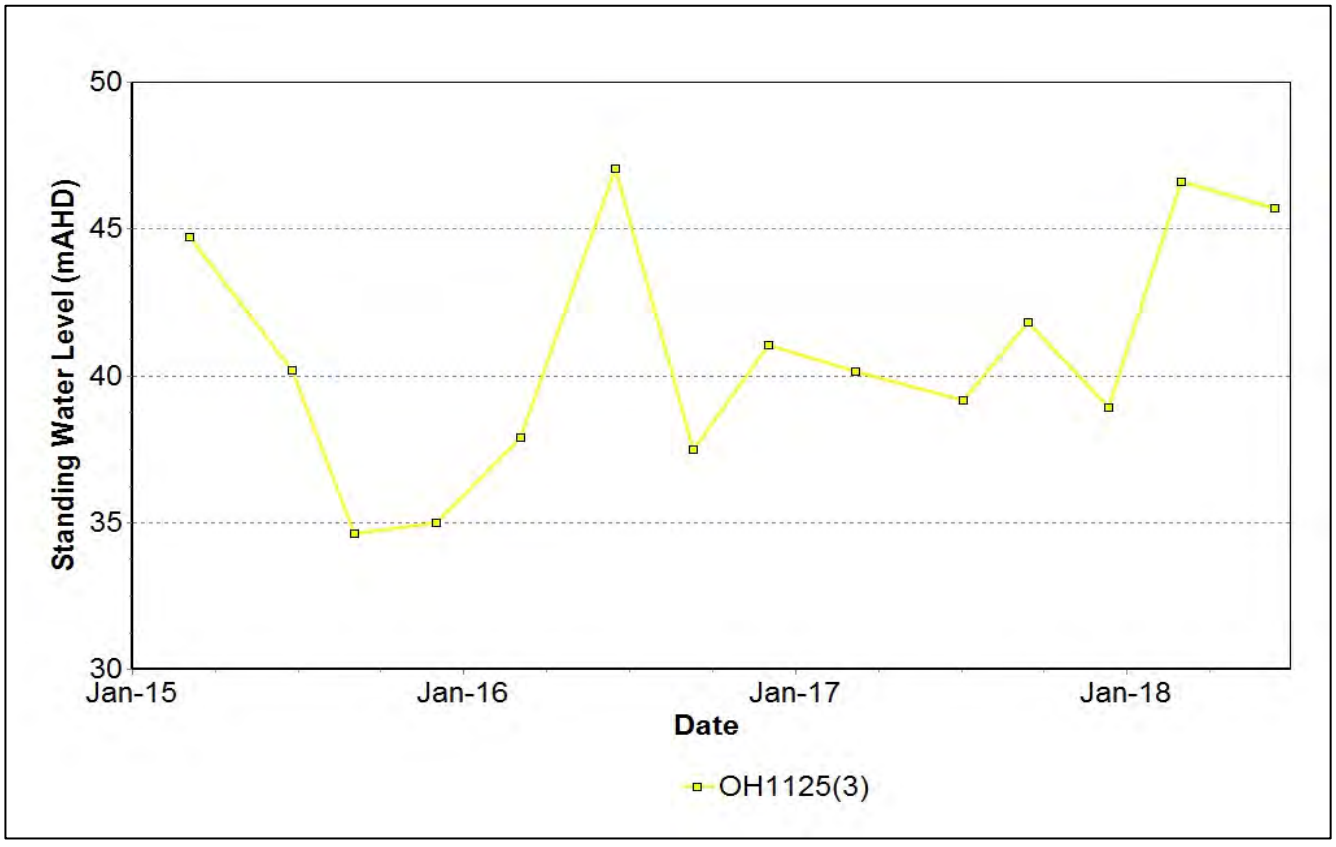


Figure 24: Bowfield Seam Standing Water Level Trend – June 2018

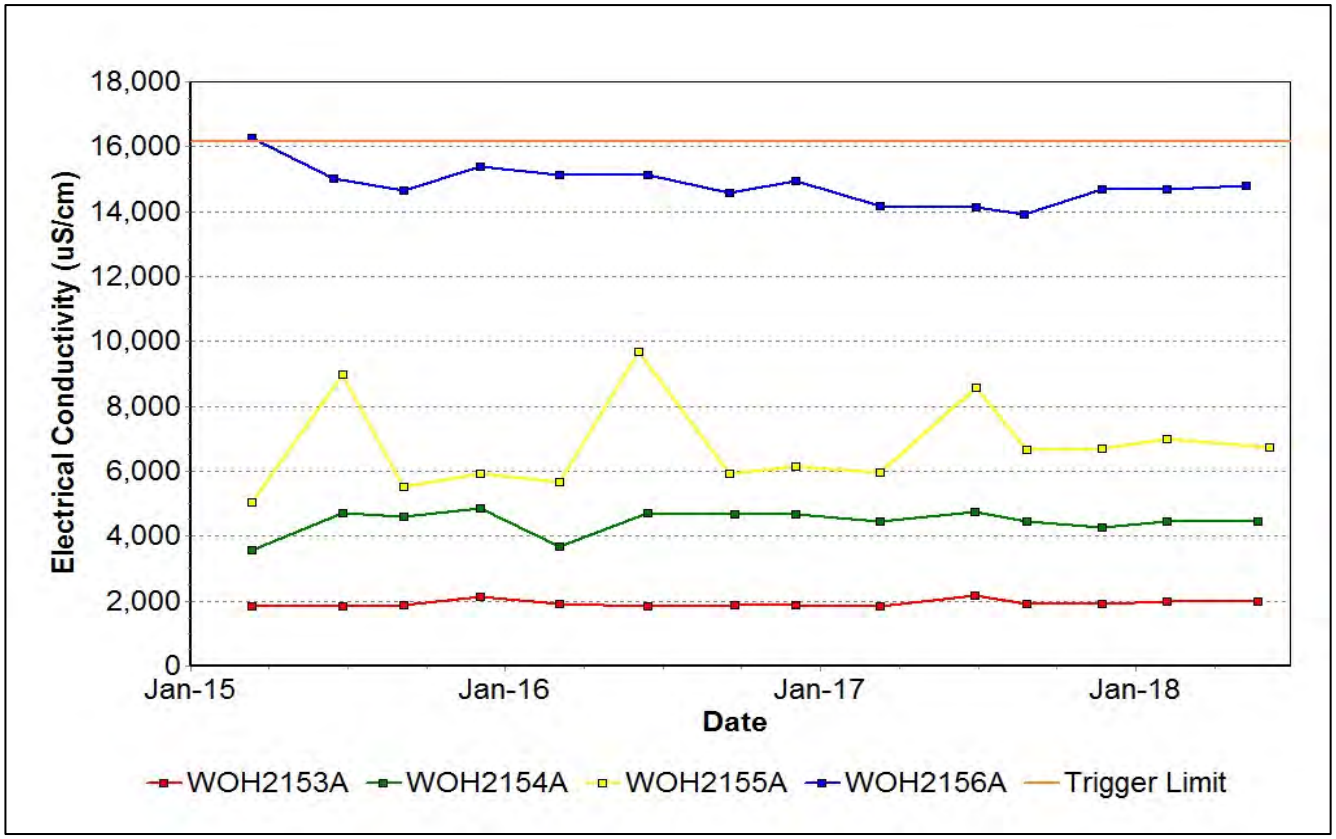


Figure 25: Redbank Seam Electrical Conductivity Trend – June 2018

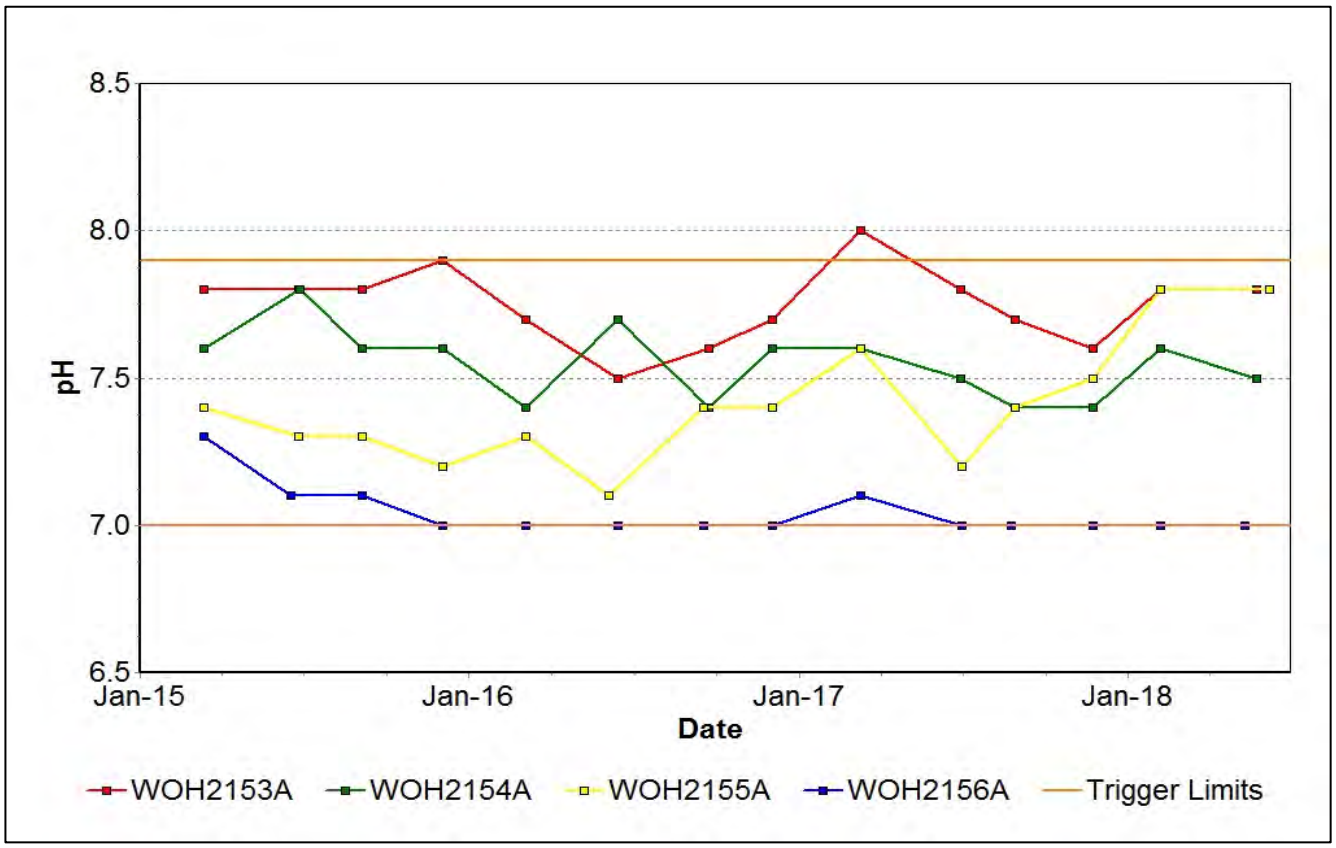


Figure 26: Redbank Seam pH Trend – June 2018

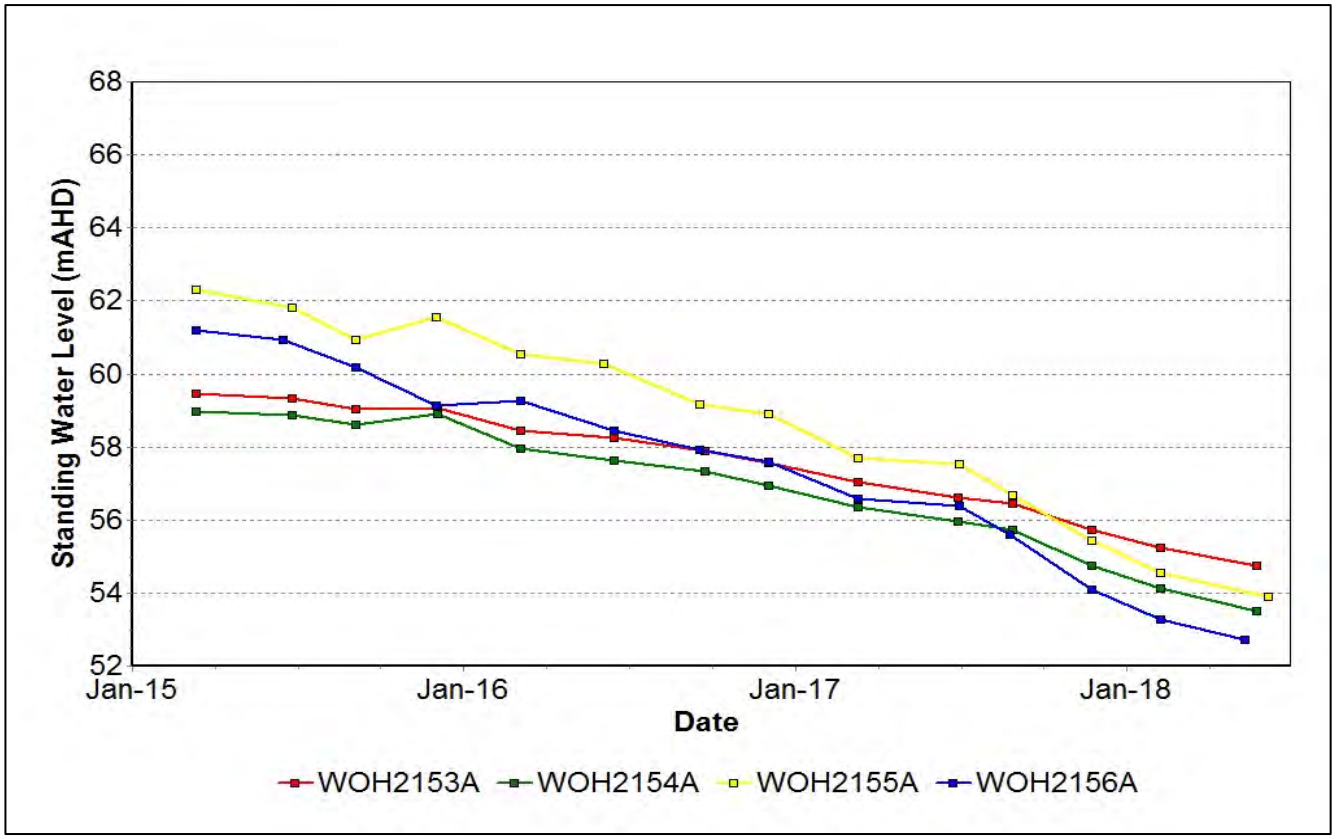


Figure 27: Redbank Seam Standing Water Level Trend – June 2018

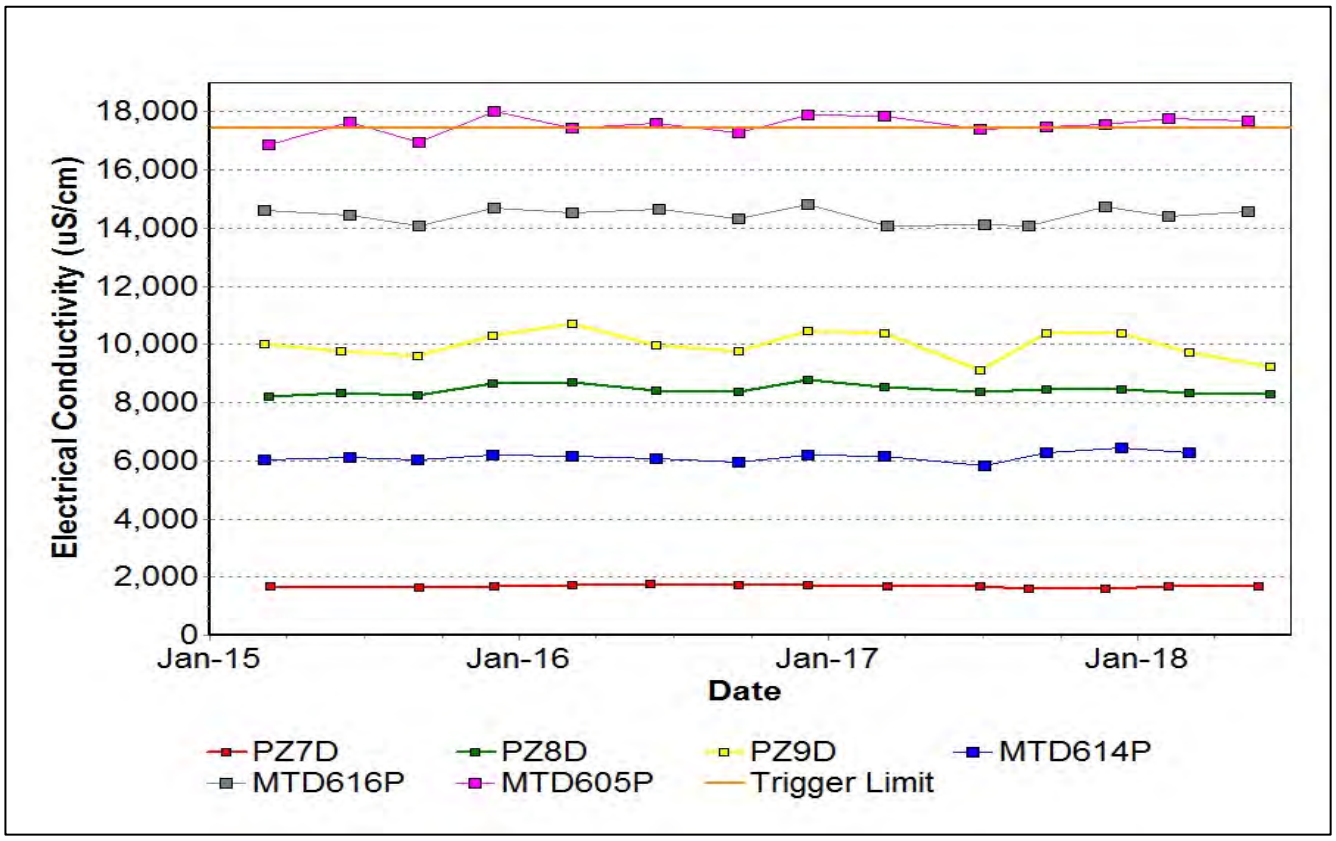


Figure 28: Shallow Overburden Seam Electrical Conductivity Trend – June 2018

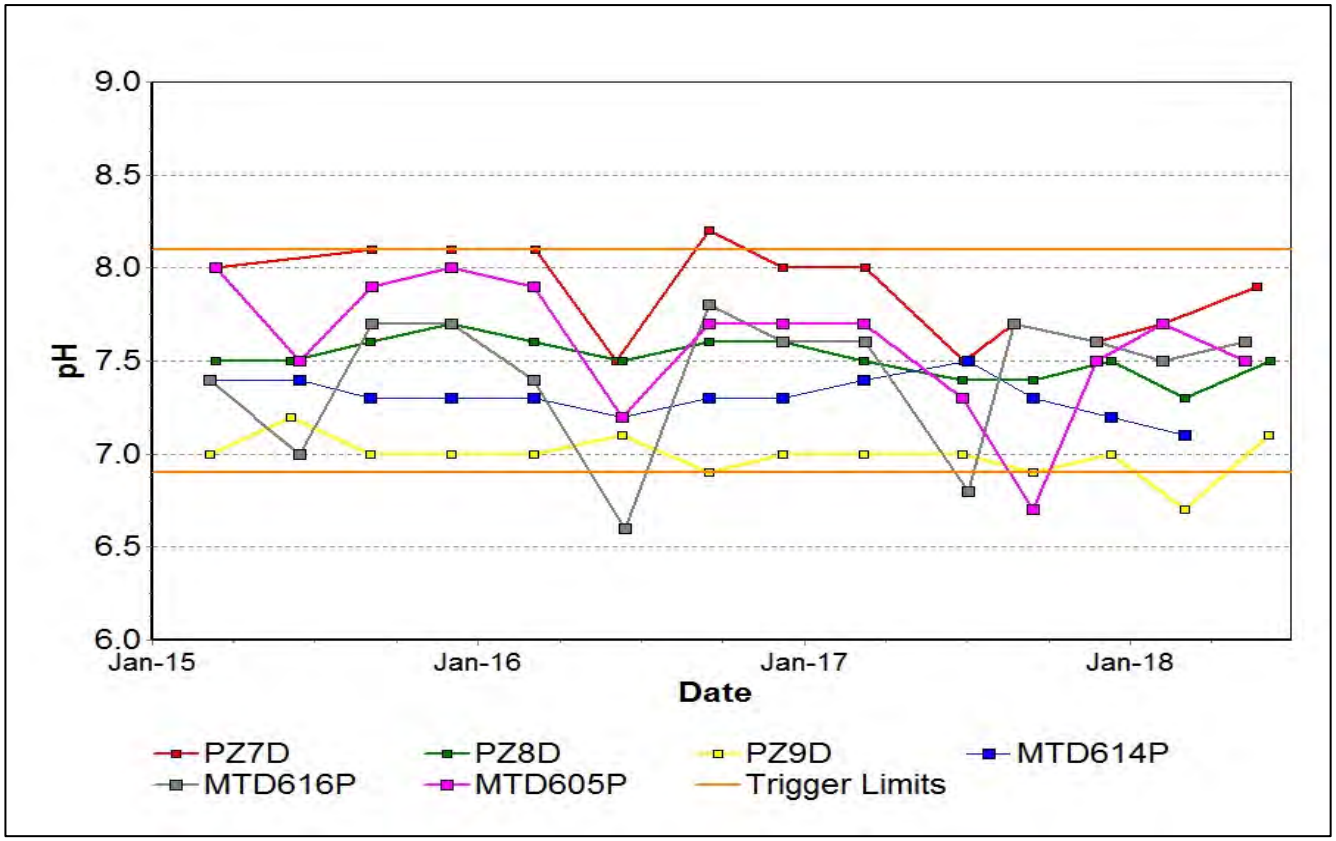


Figure 29: Shallow Overburden Seam pH Trend – June 2018

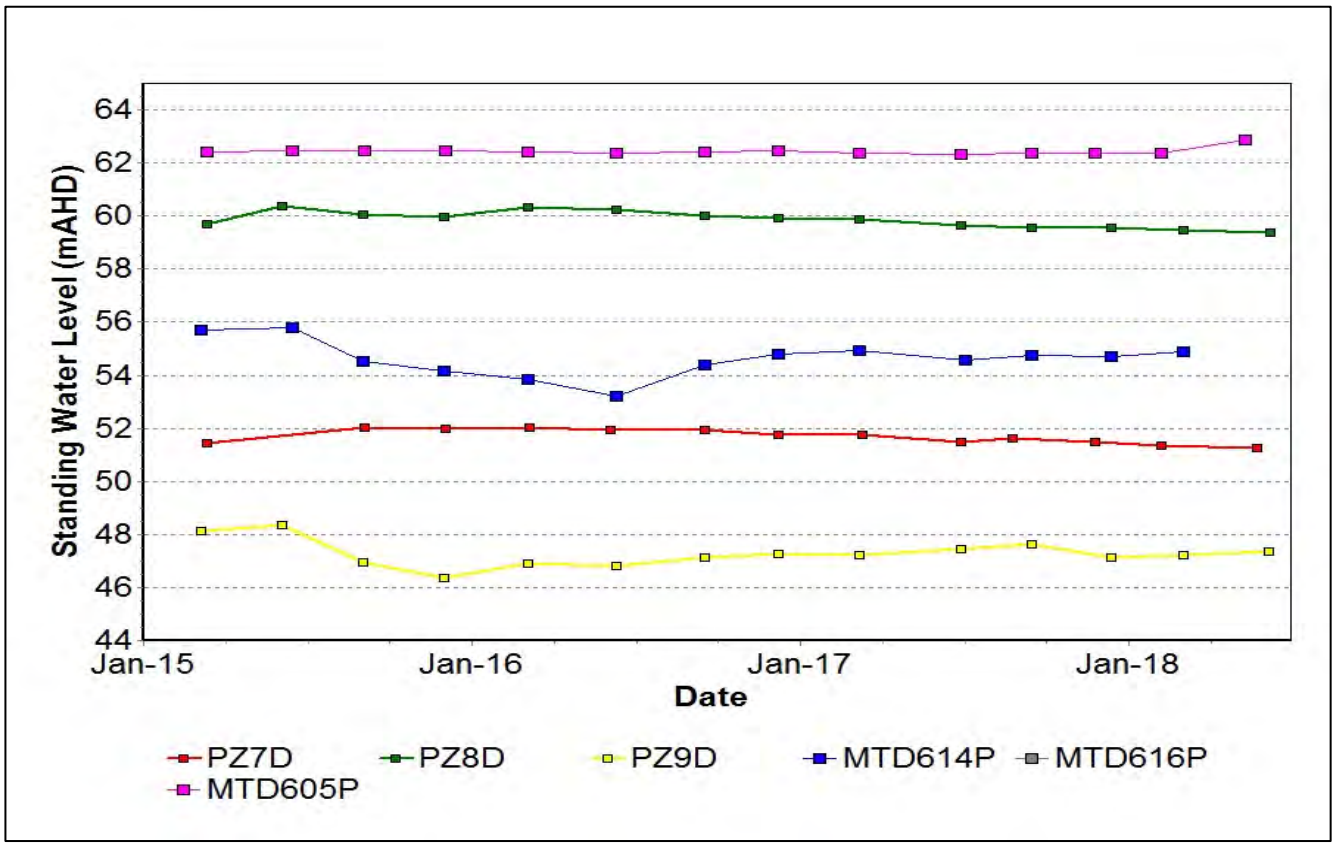


Figure 30: Shallow Overburden Seam Standing Water Level Trend – June 2018

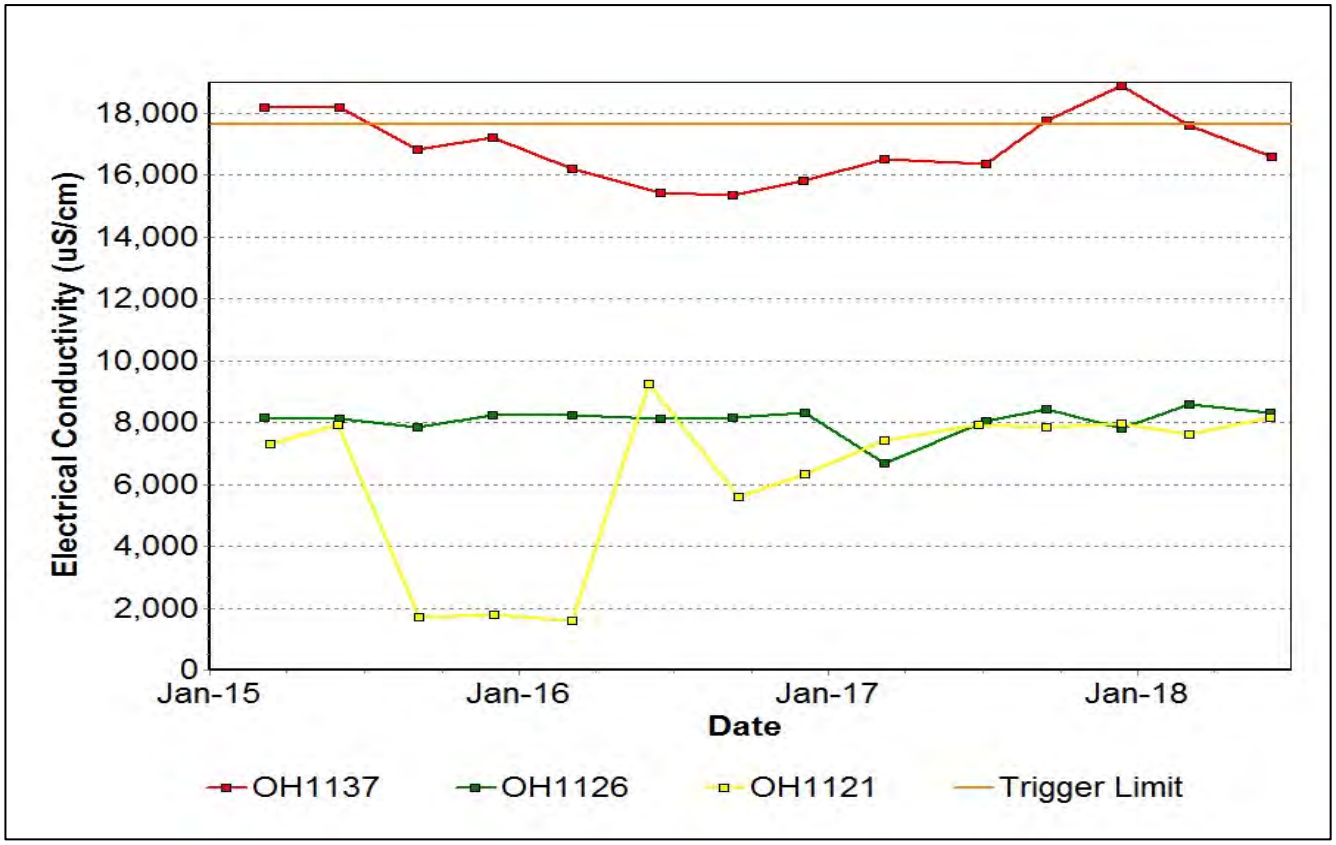


Figure 31: Vaux Seam Electrical Conductivity Trend – June 2018

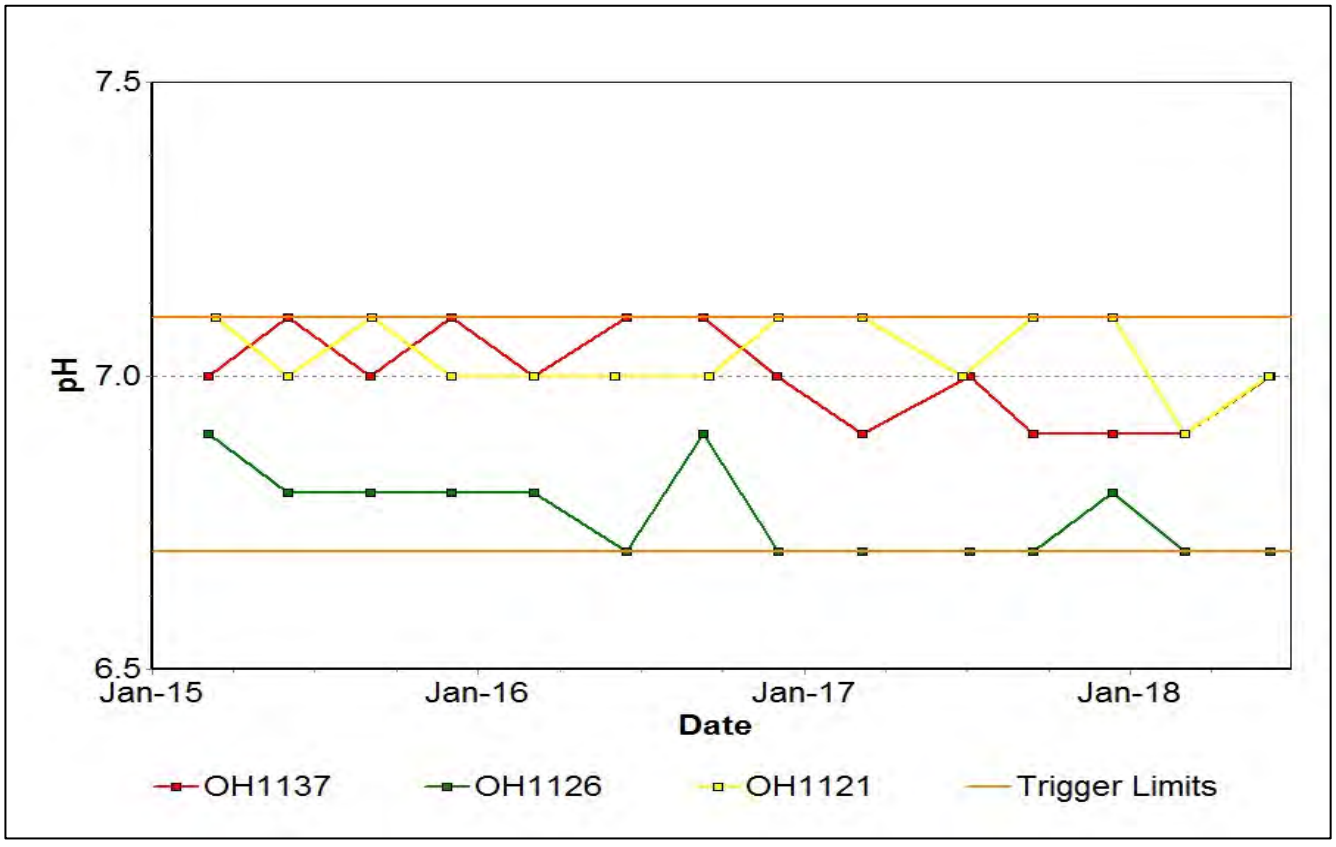


Figure 32: Vaux Seam pH Trend – June 2018

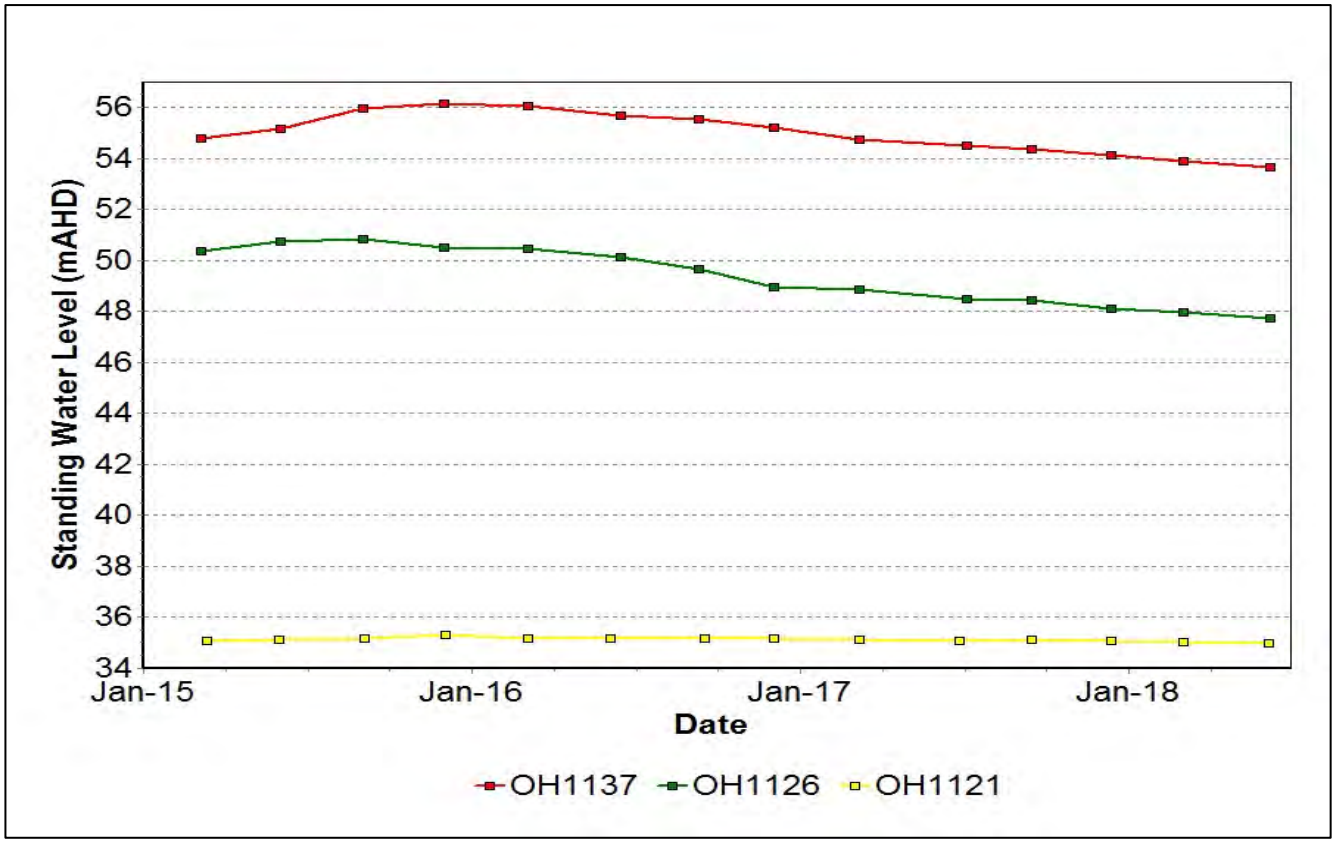


Figure 33: Vaux Seam Standing Water Level Trend – June 2018

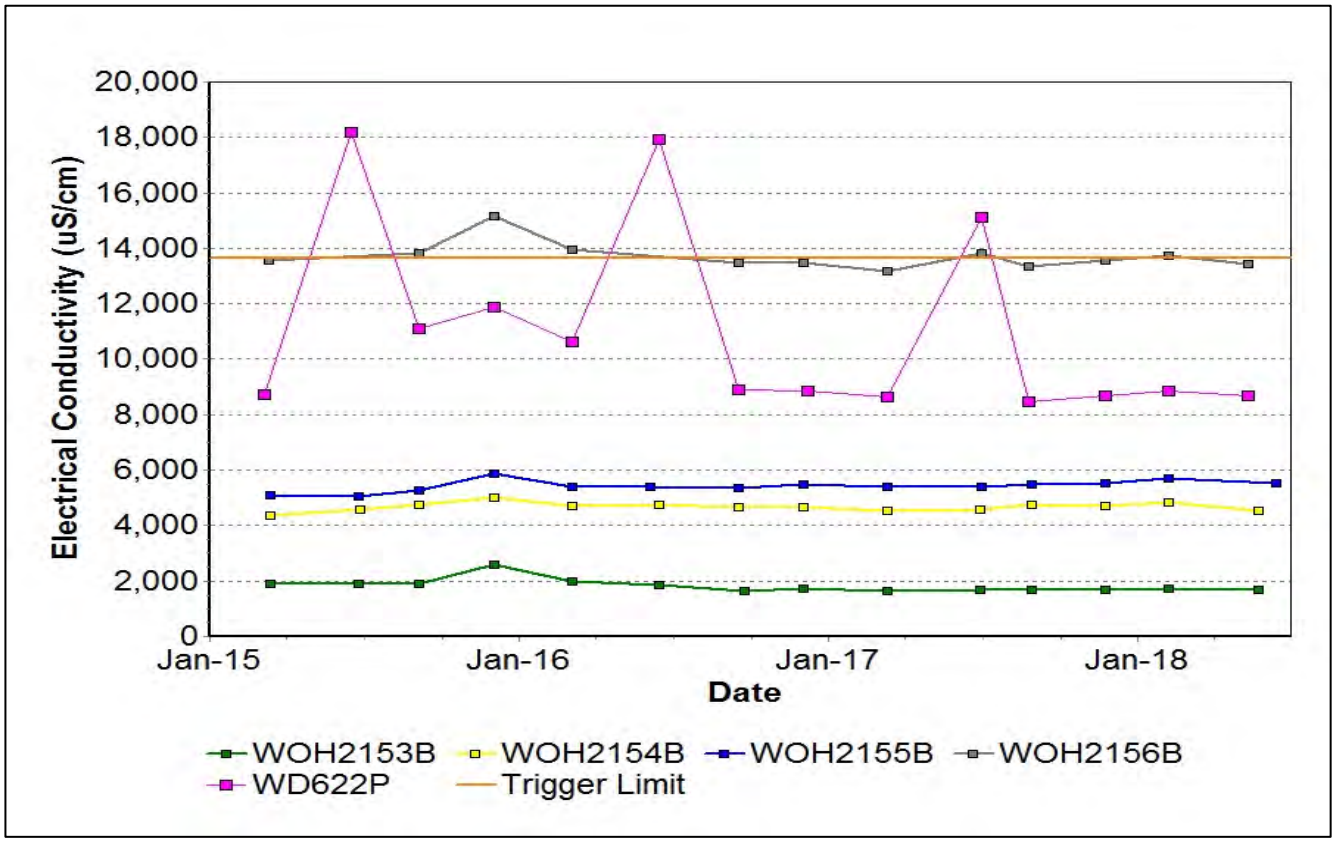


Figure 34: Wambo Seam Electrical Conductivity Trend – June 2018

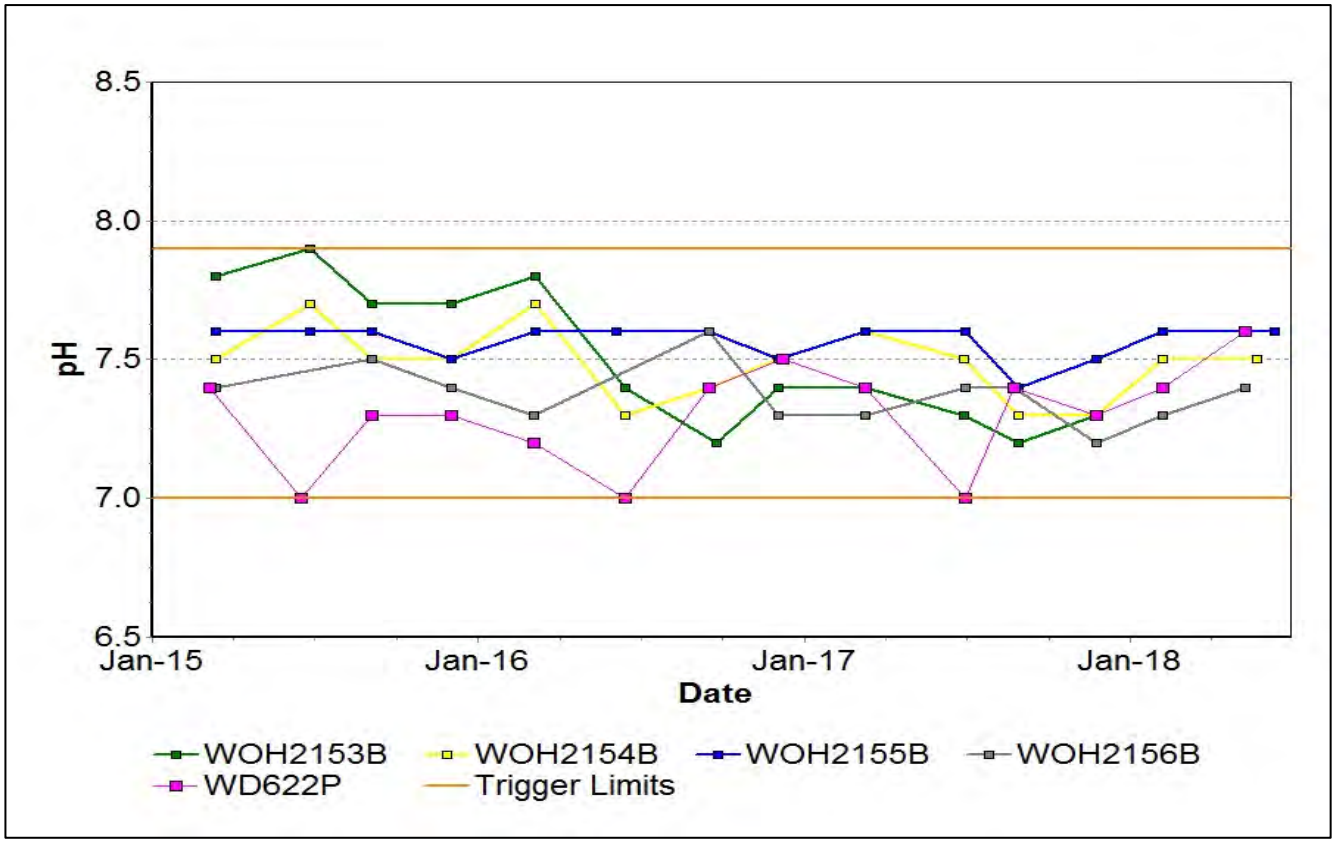


Figure 35: Wambo Seam pH Trend – June 2018

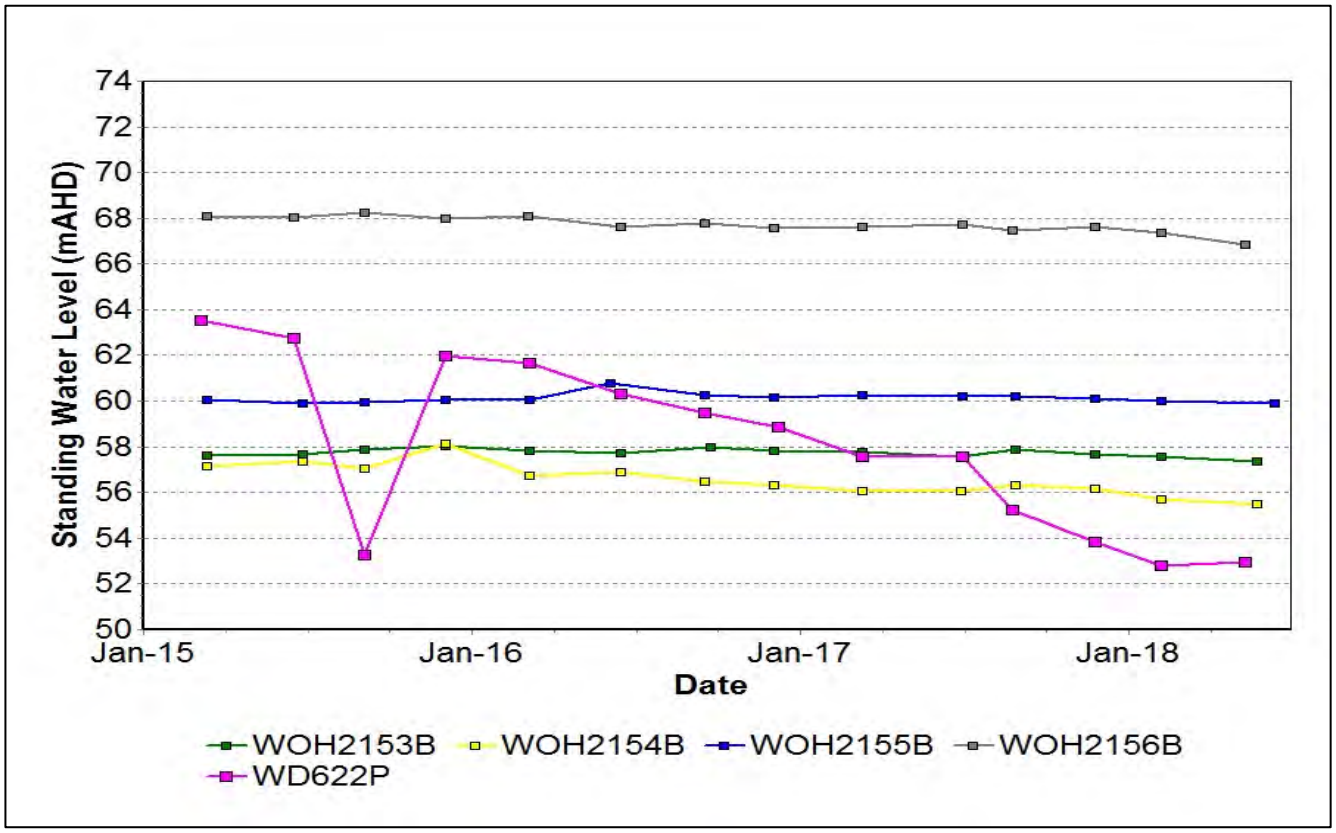


Figure 36: Wambo Seam Standing Water Level Trend – June 2018

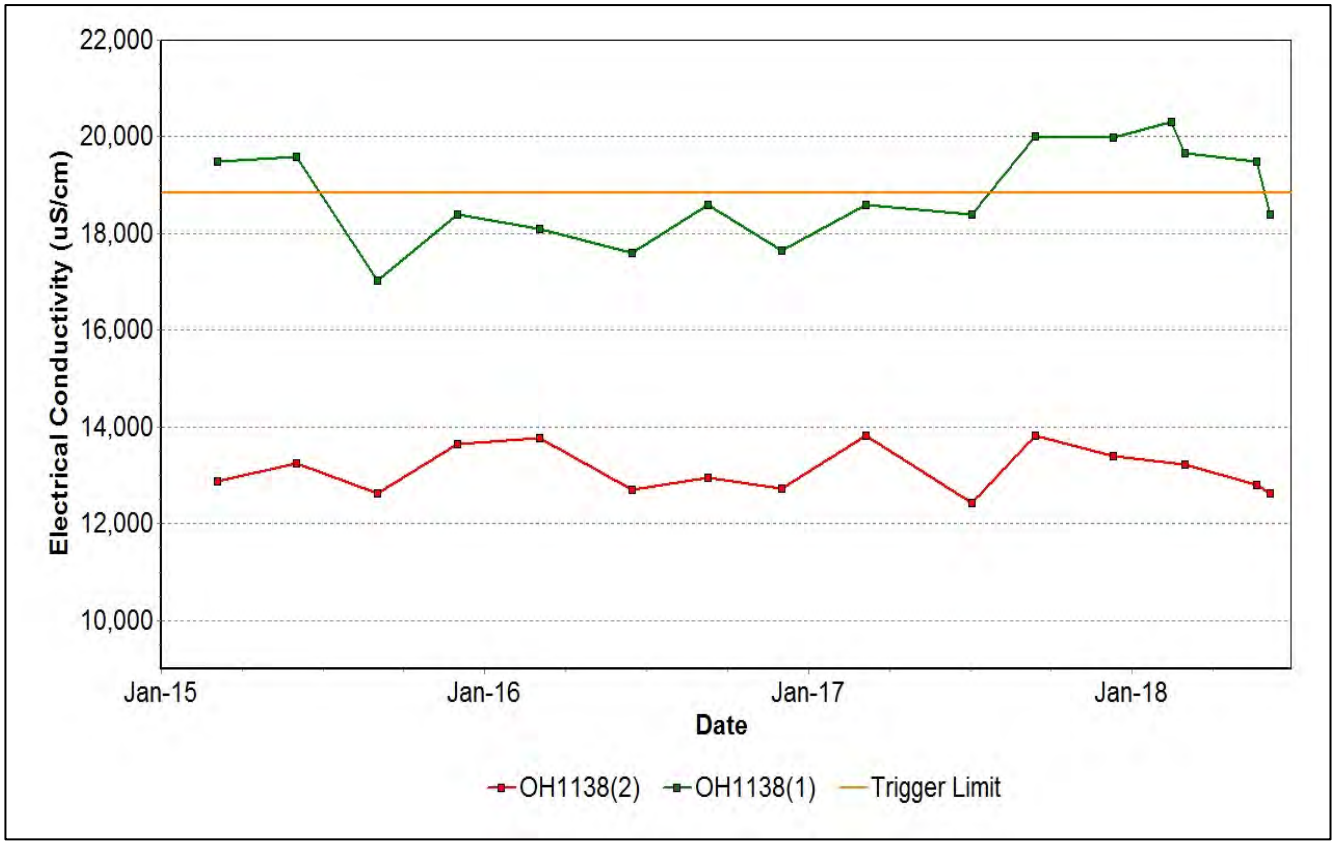


Figure 37: Warkworth Seam Electrical Conductivity Trend – June 2018

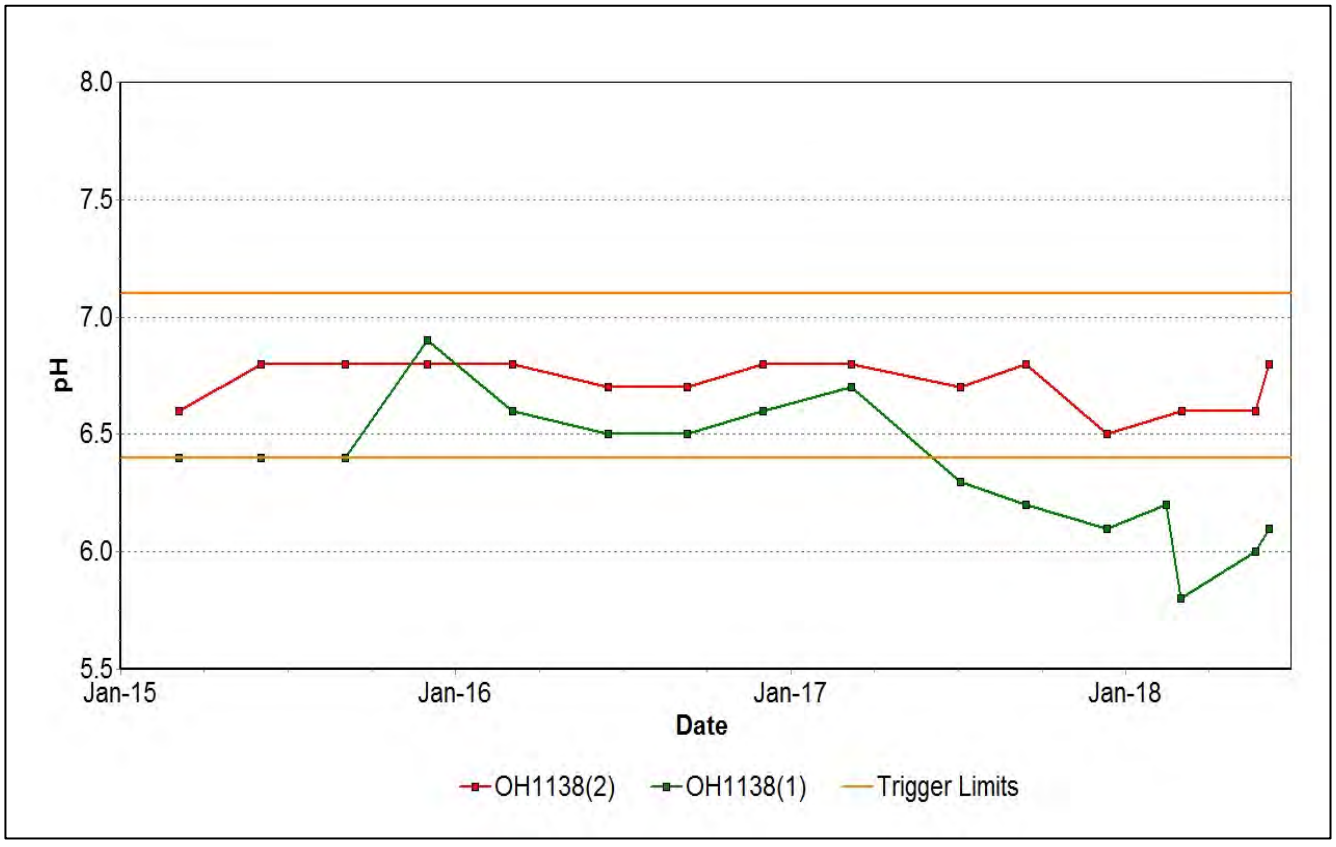


Figure 38: Warkworth Seam pH Trend – June 2018

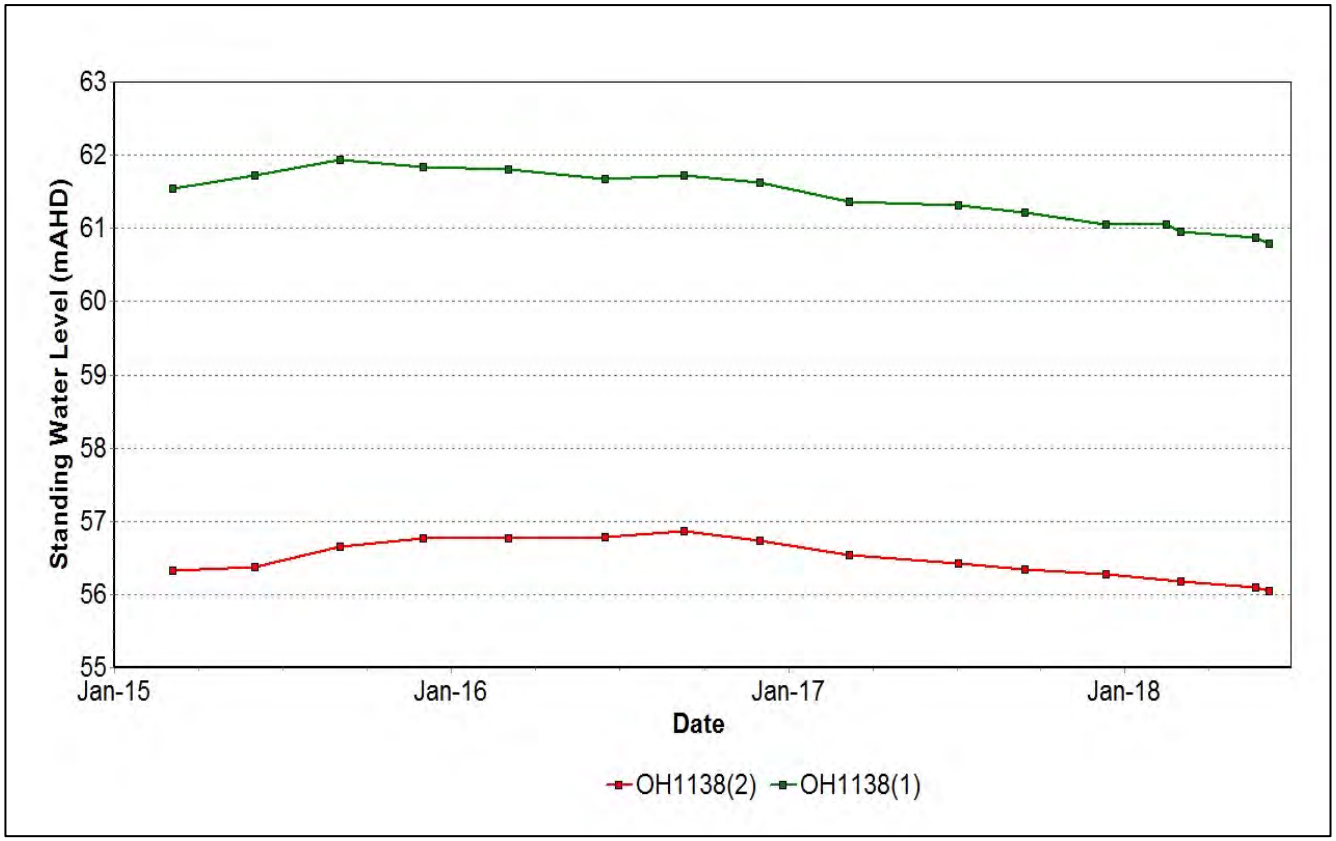


Figure 39: Warkworth Seam Standing Water Level Trend – June 2018

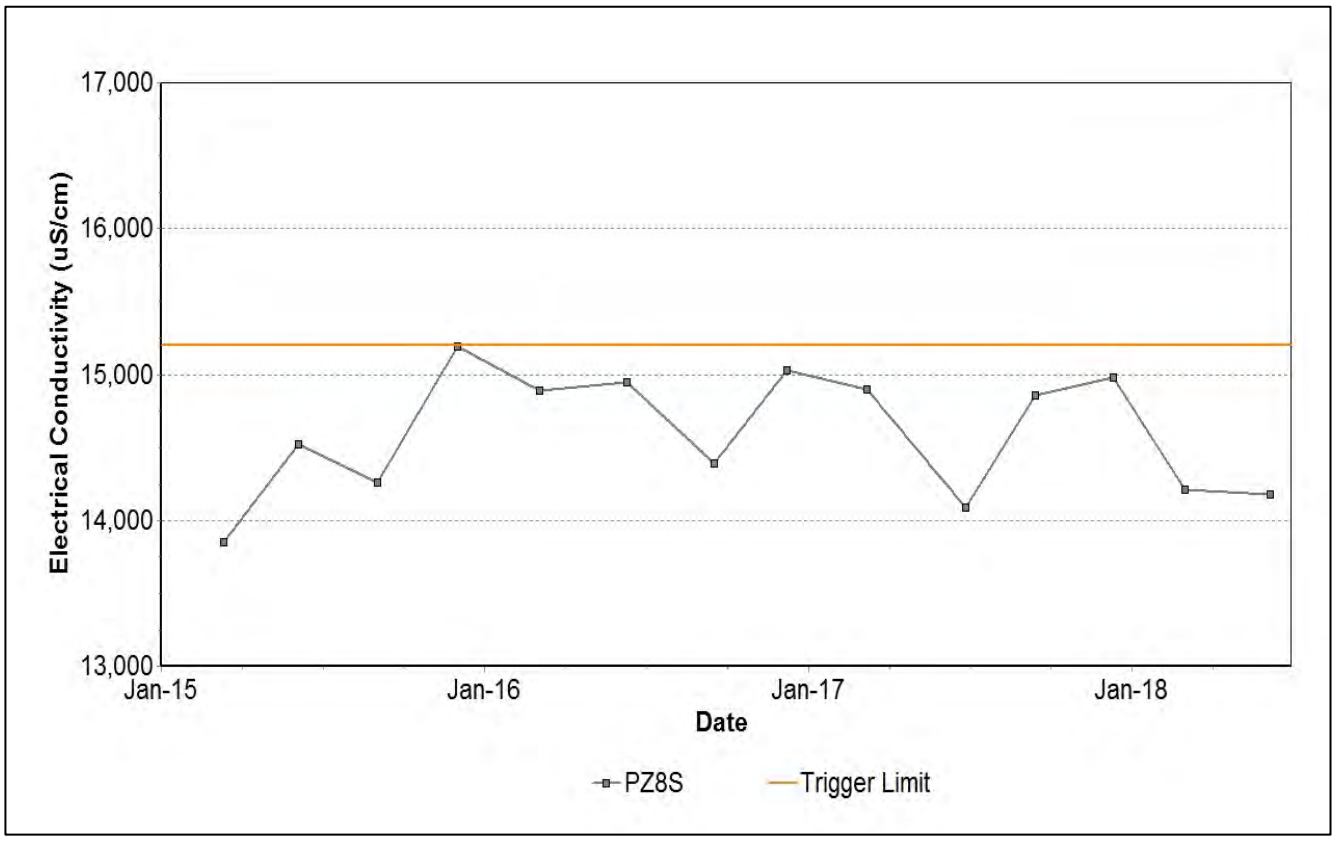


Figure 40: Wollombi Alluvium 1 Electrical Conductivity Trend – June 2018

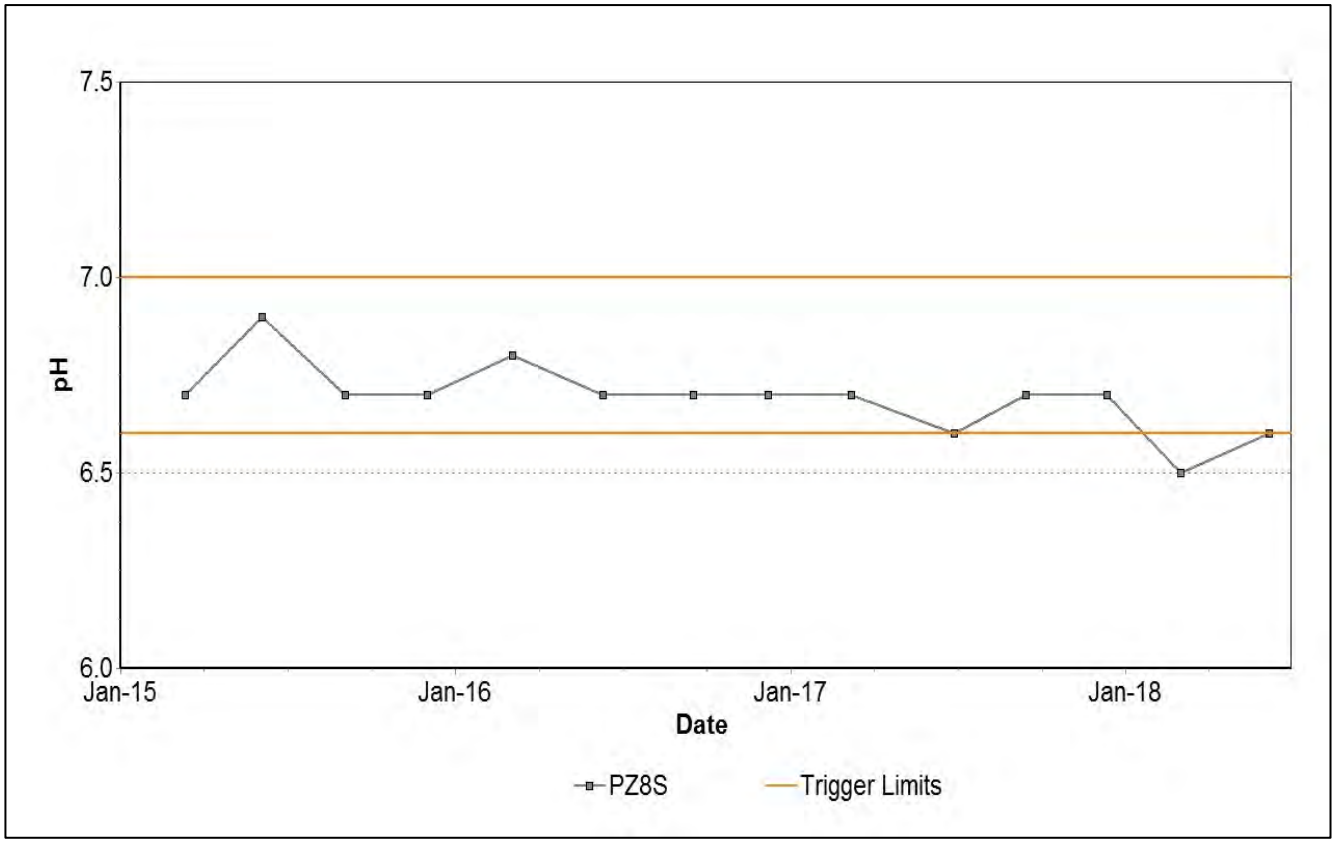


Figure 41: Wollombi Alluvium 1 pH Trend – June 2018

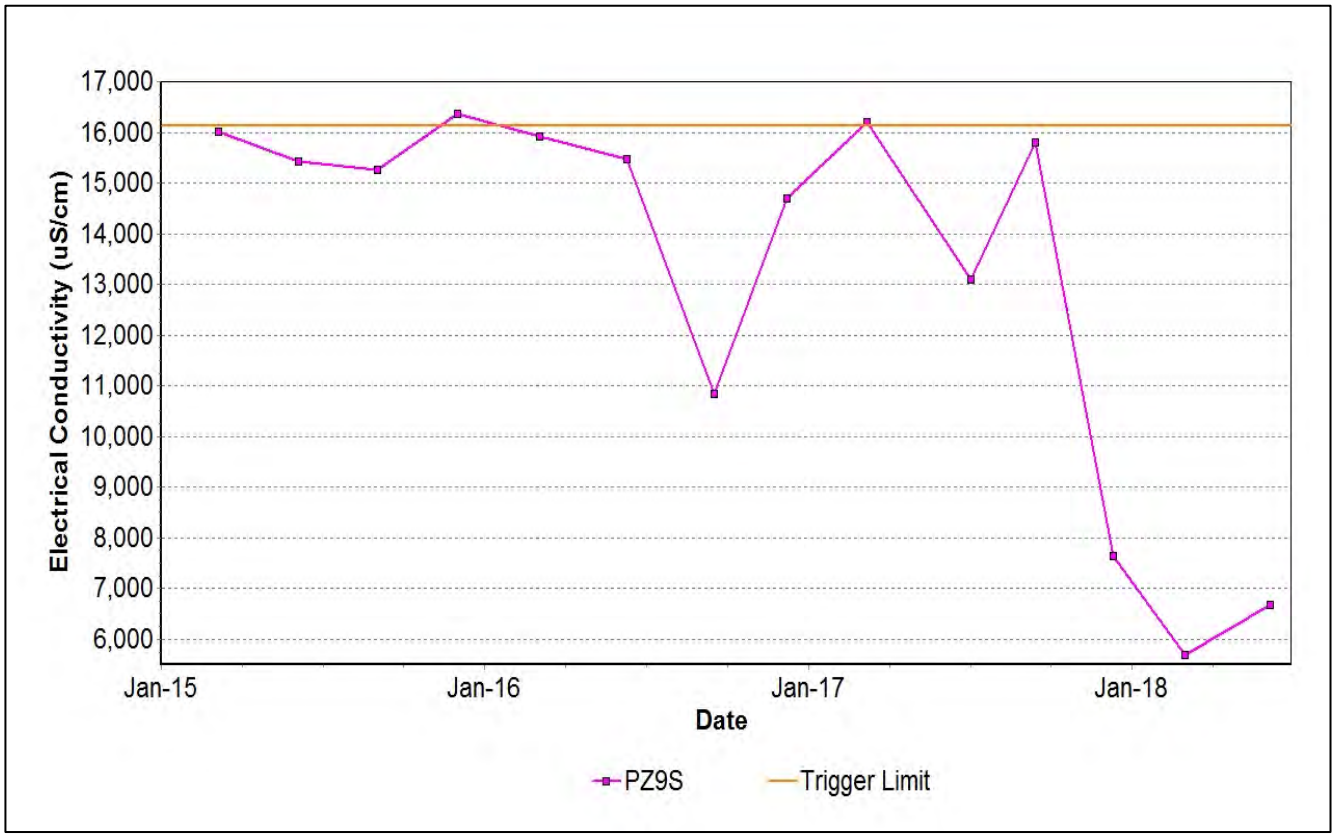


Figure 42: Wollombi Alluvium 2 Electrical Conductivity Trend – June 2018

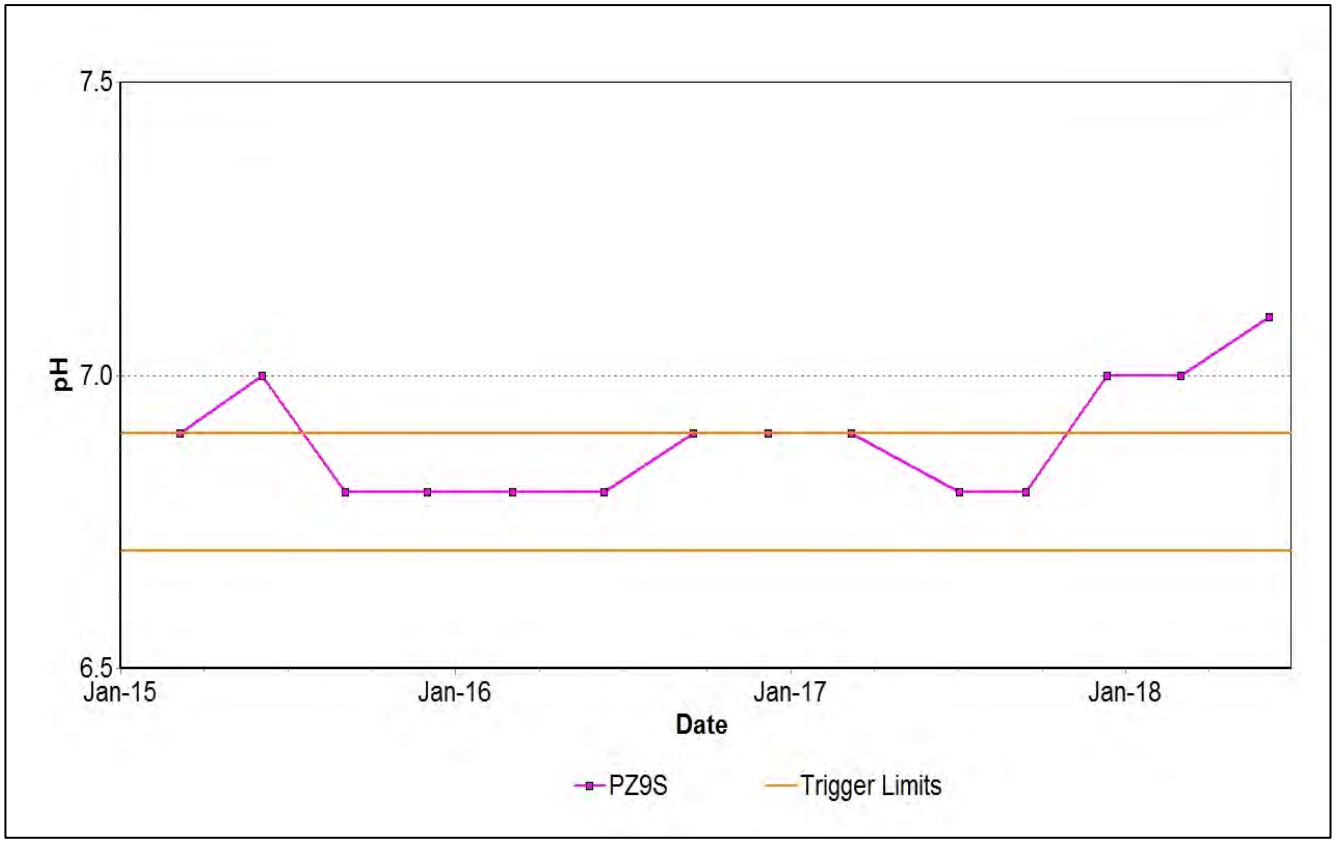


Figure 43: Wollombi Alluvium 2 pH Trend – June 2018

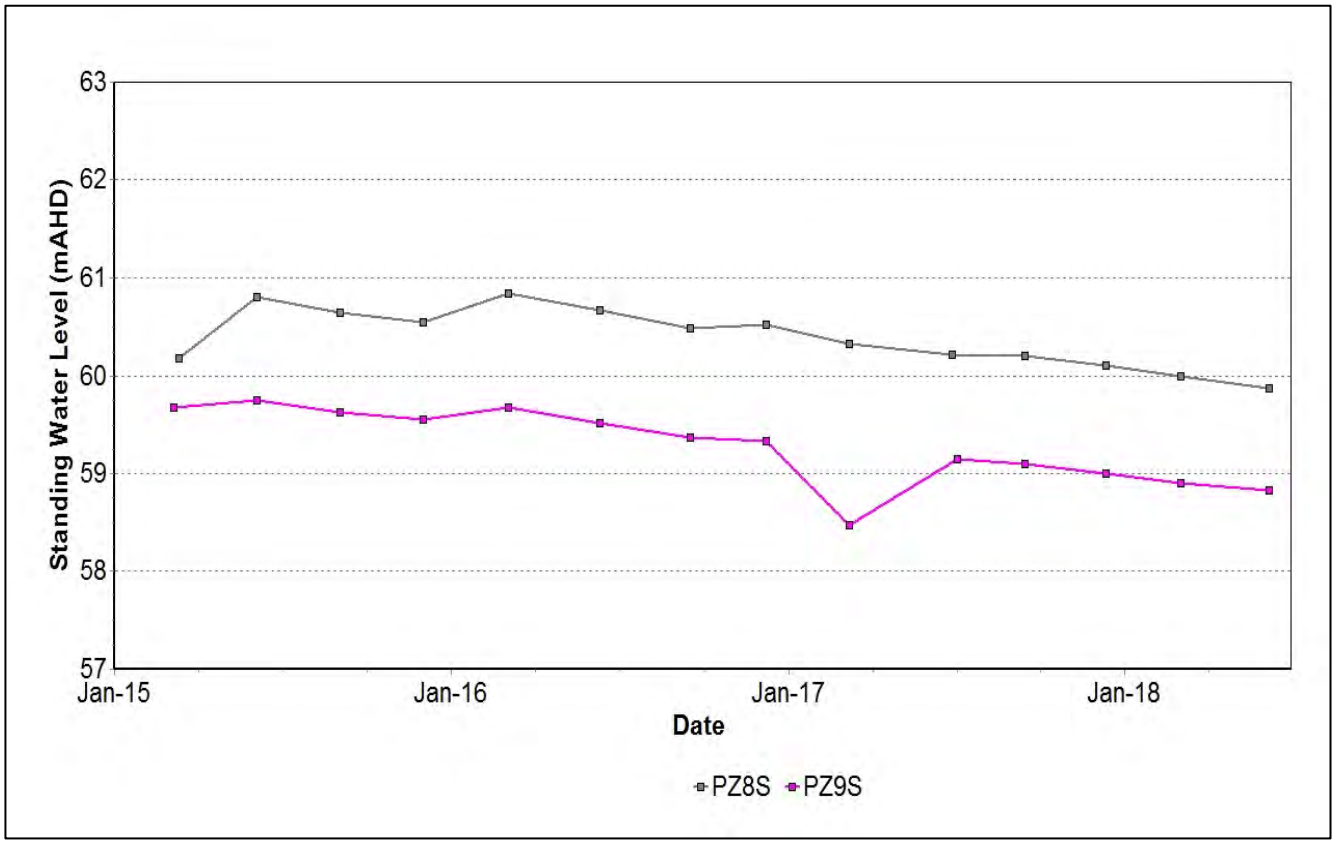


Figure 44: Wollombi Alluvium Standing Water Level Trend – June 2018

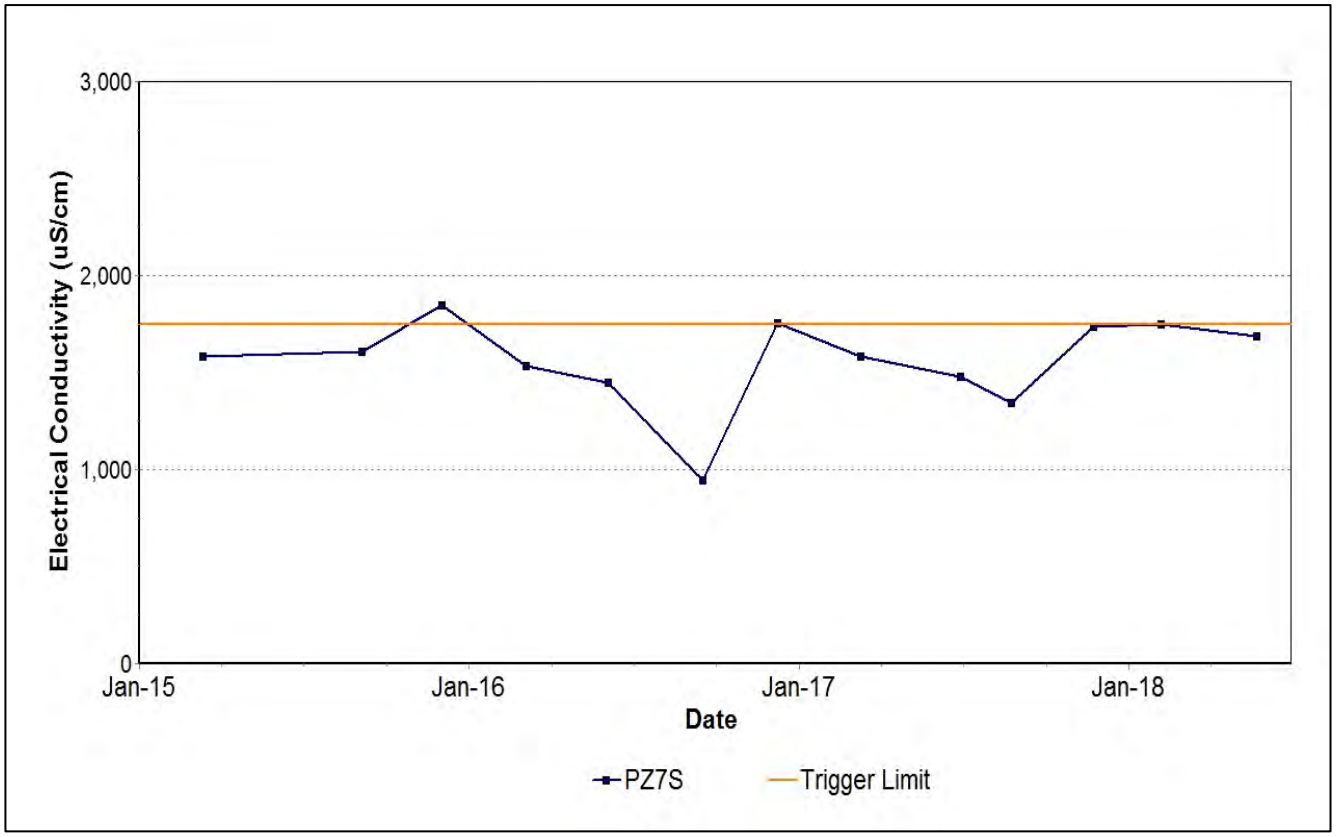


Figure 45: Aeolian Warkworth Sands Electrical Conductivity Trend – June 2018

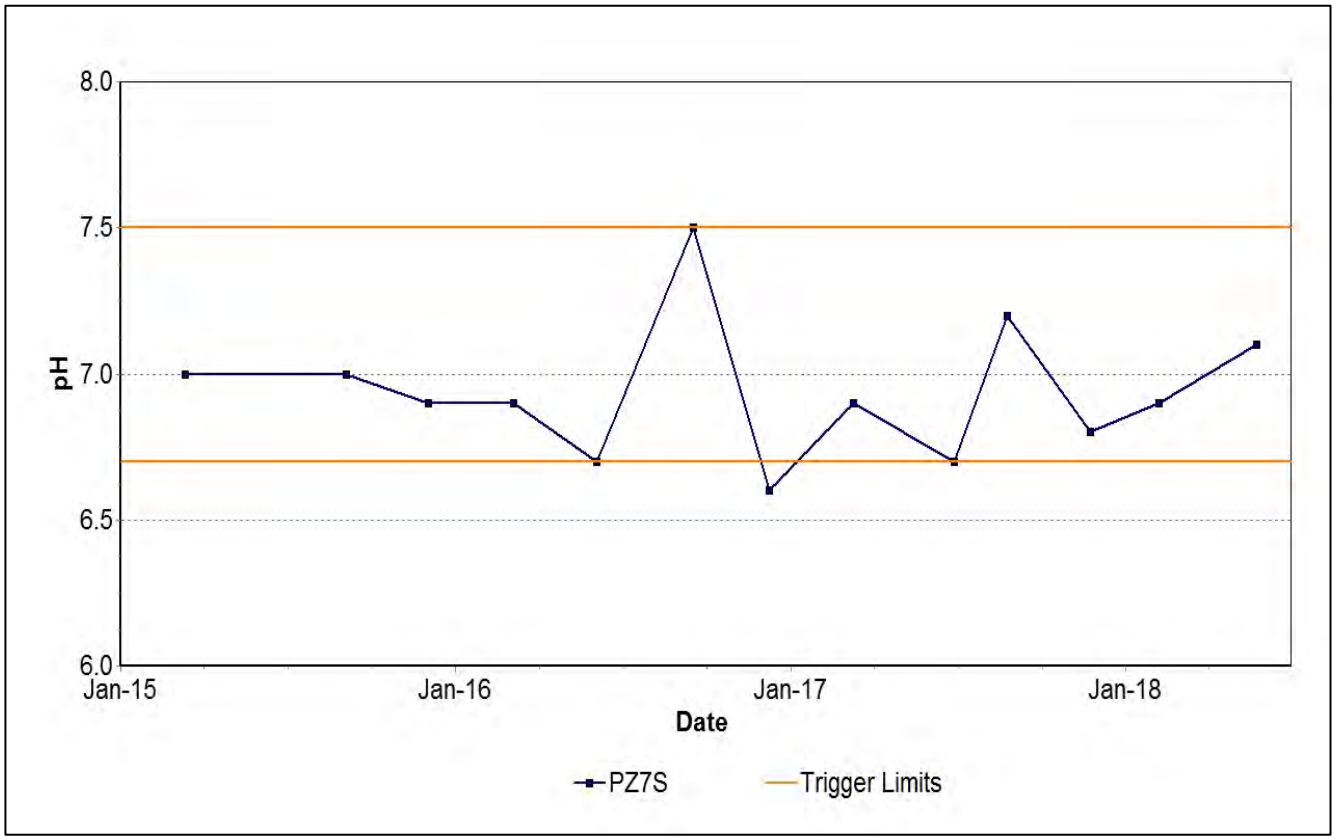


Figure 46: Aeolian Warkworth Sands pH Trend – June 2018

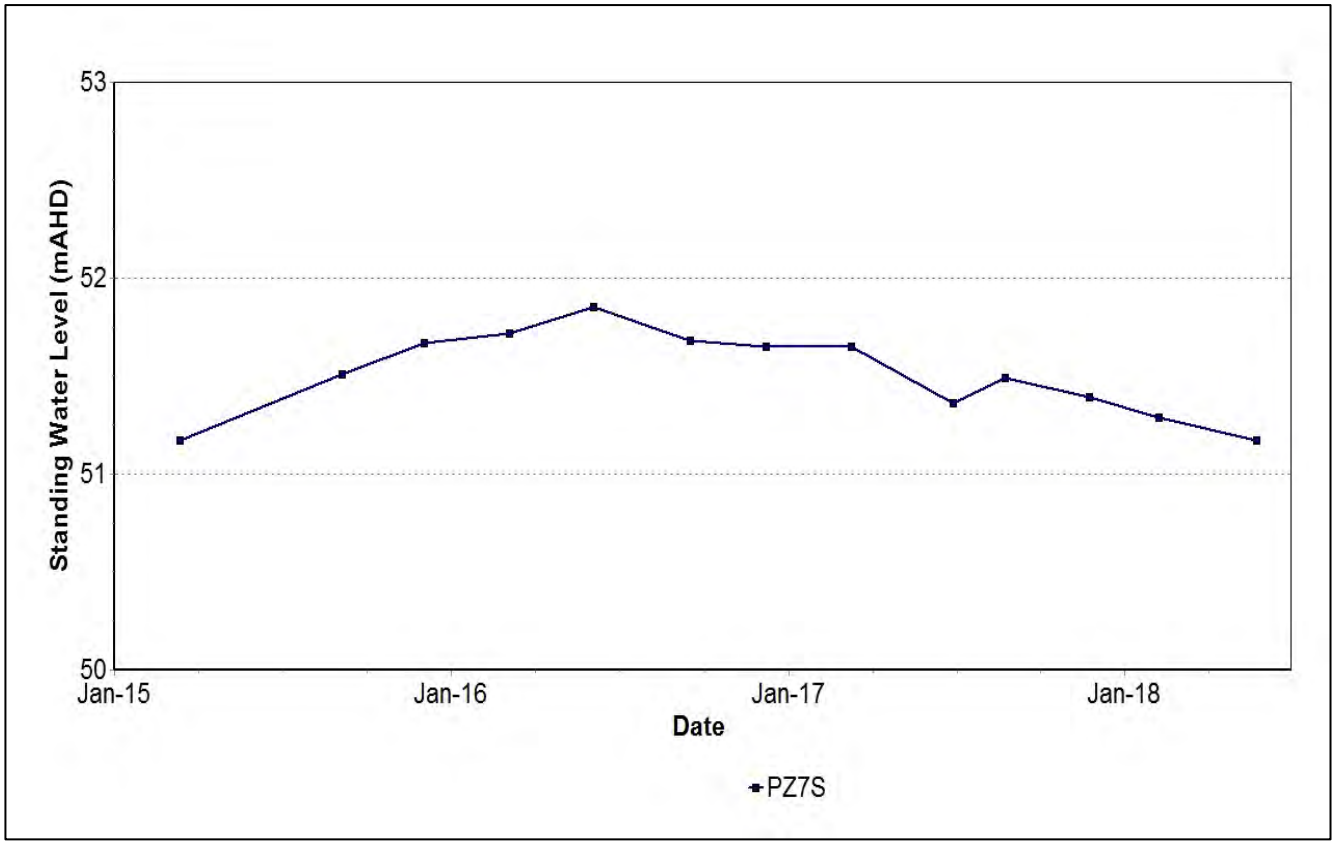


Figure 47: Aeolian Warkworth Sands Standing Water Level Trend – June 2018

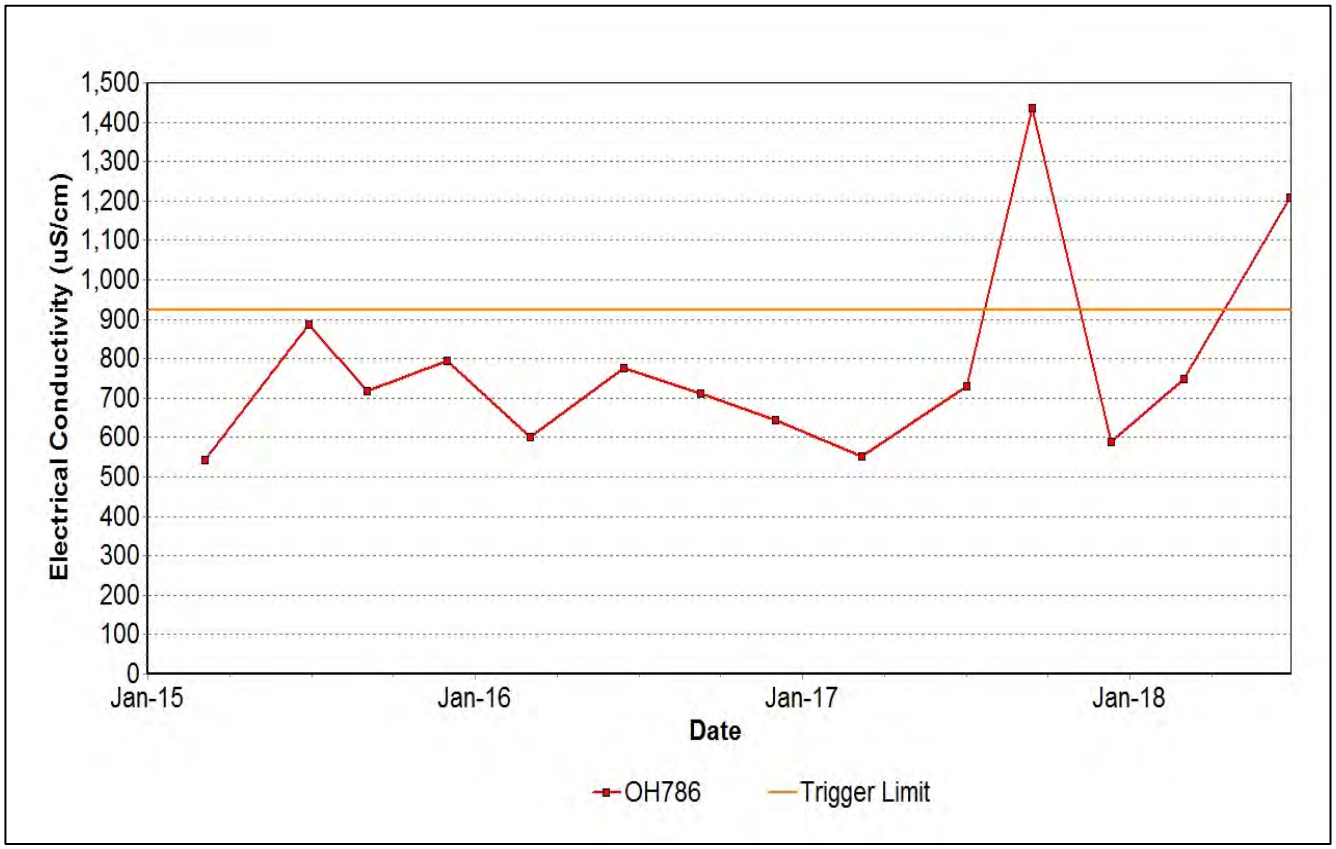


Figure 48: Hunter River Alluvium 1 Seam Electrical Conductivity Trend – June 2018

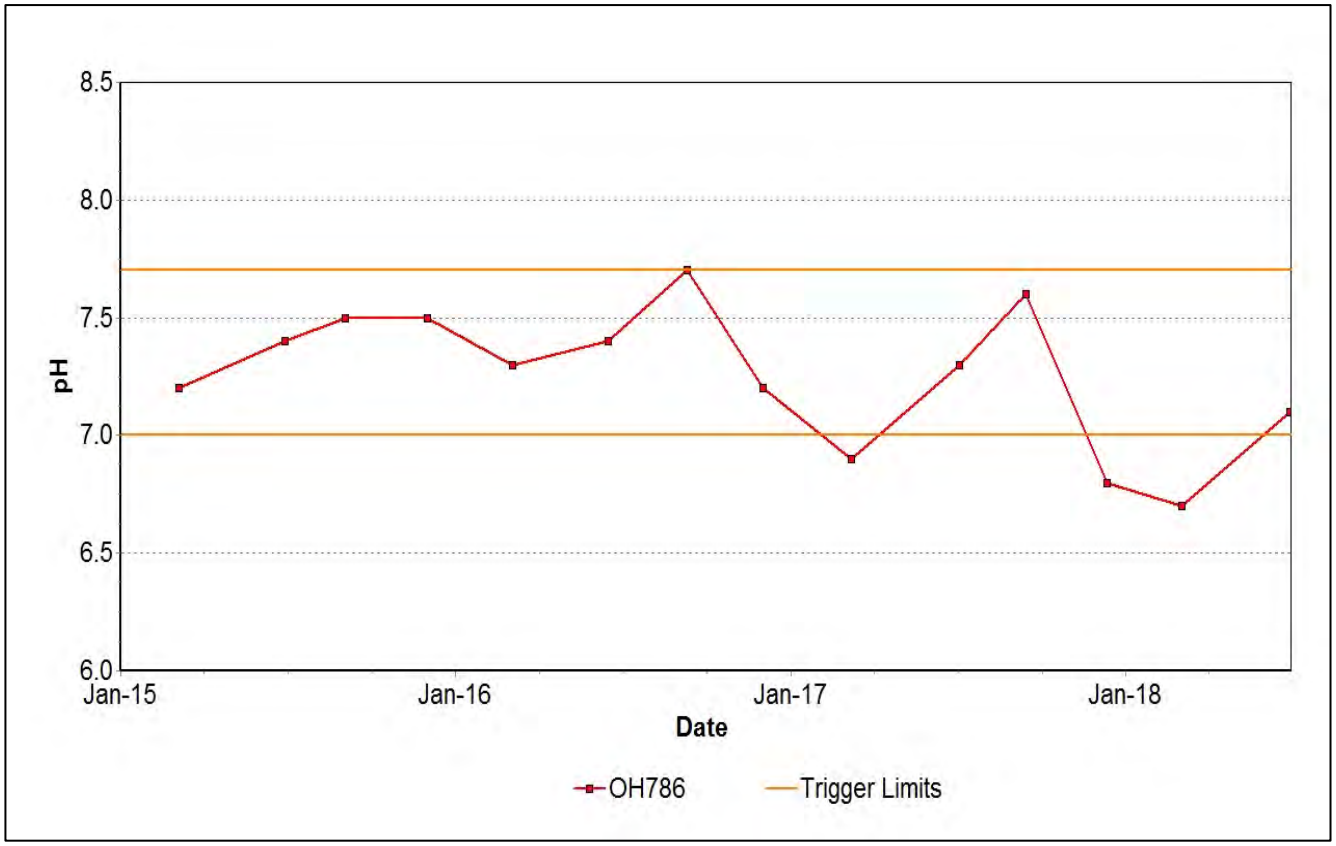


Figure 49: Hunter River Alluvium 1 Seam pH Trend – June 2018

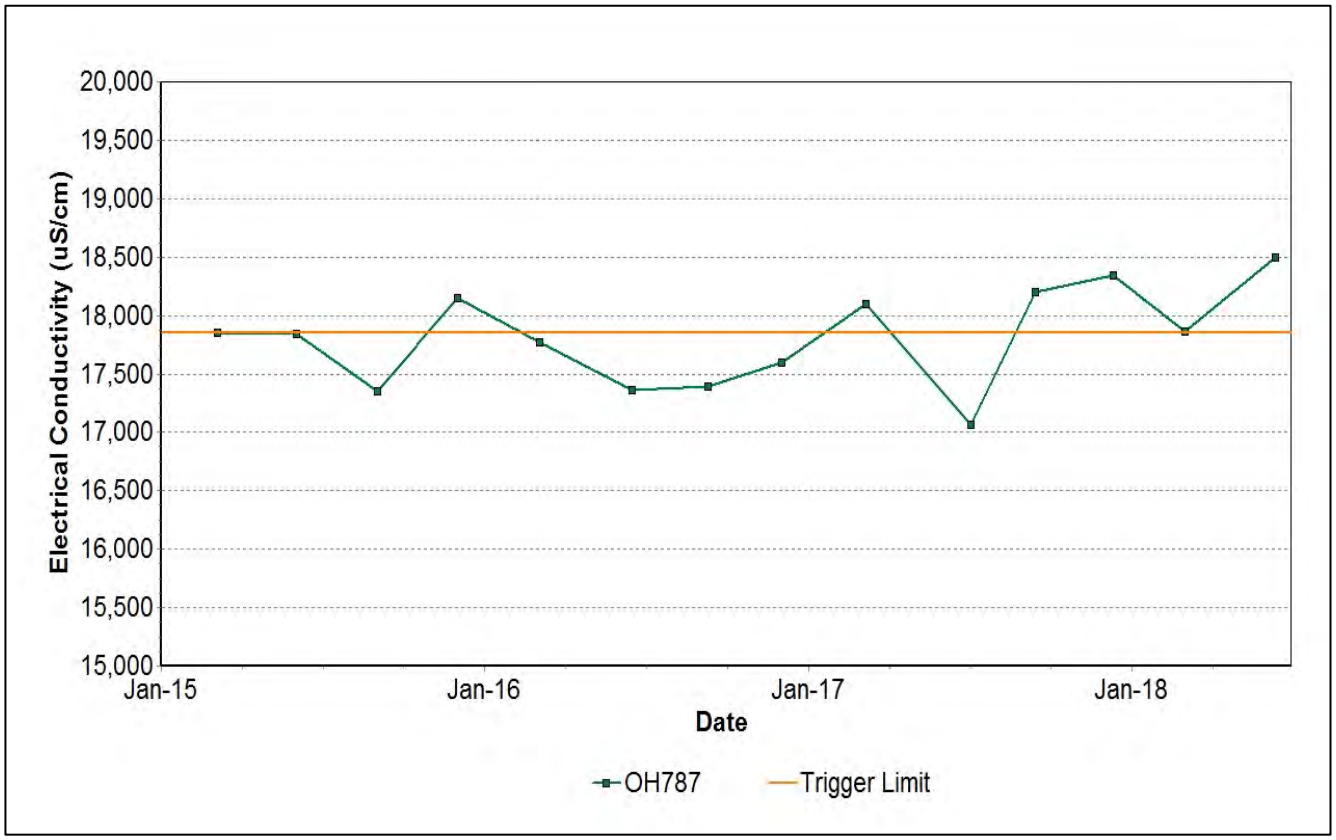


Figure 50: Hunter River Alluvium 2 Seam Electrical Conductivity Trend – June 2018

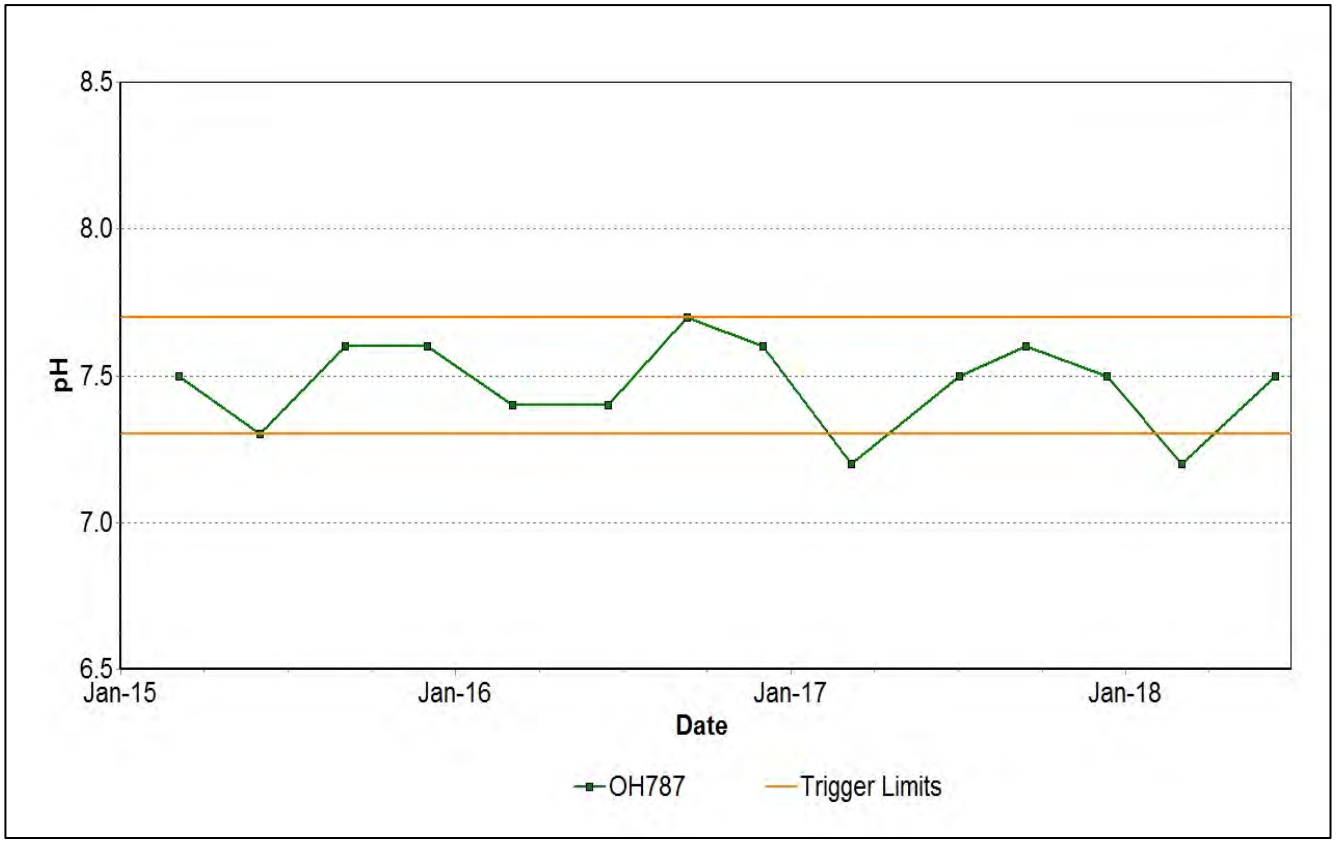


Figure 51: Hunter River Alluvium 2 Seam pH Trend – June 2018

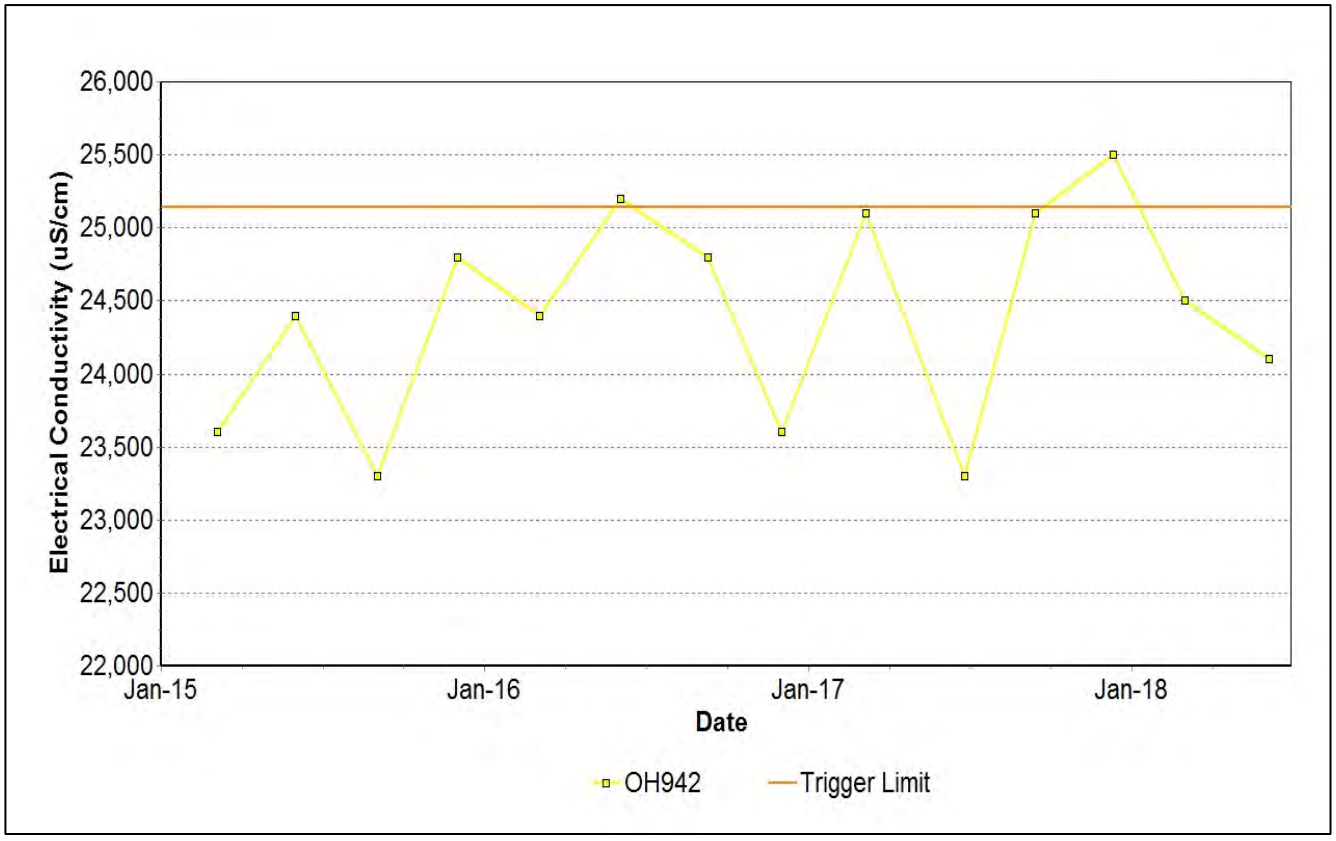


Figure 52: Hunter River Alluvium 3 Seam Electrical Conductivity Trend – June 2018

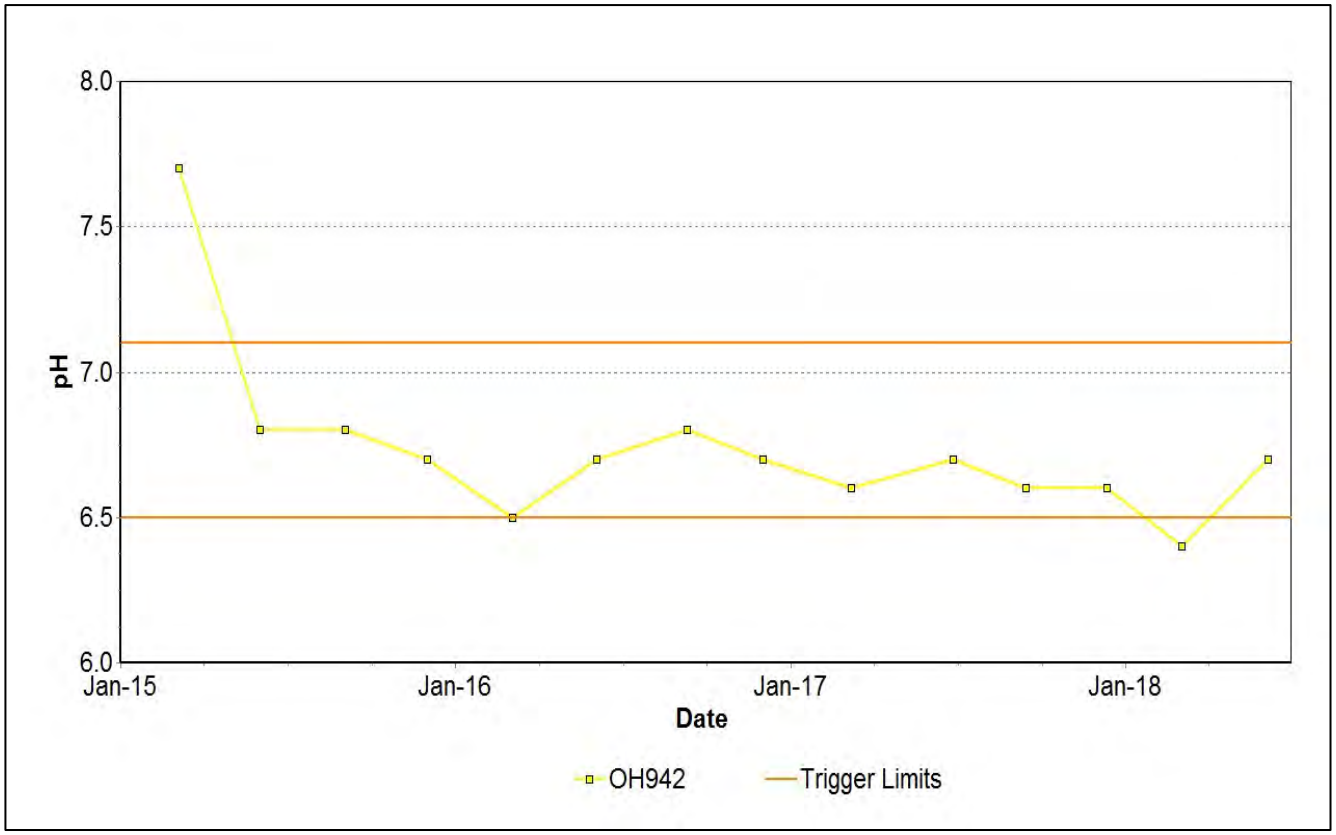


Figure 53: Hunter River Alluvium 3 Seam pH Trend – June 2018

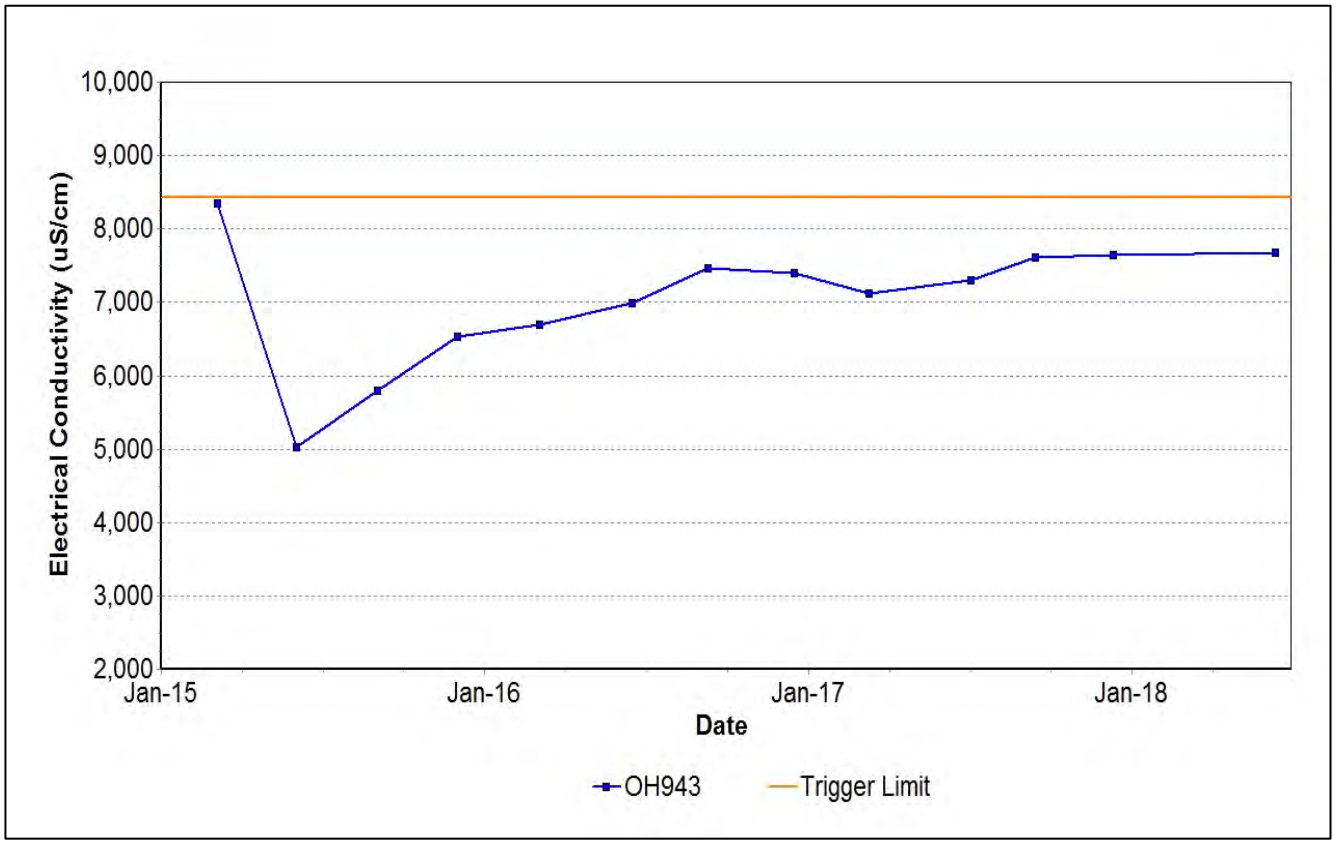


Figure 54: Hunter River Alluvium 4 Seam Electrical Conductivity Trend – June 2018

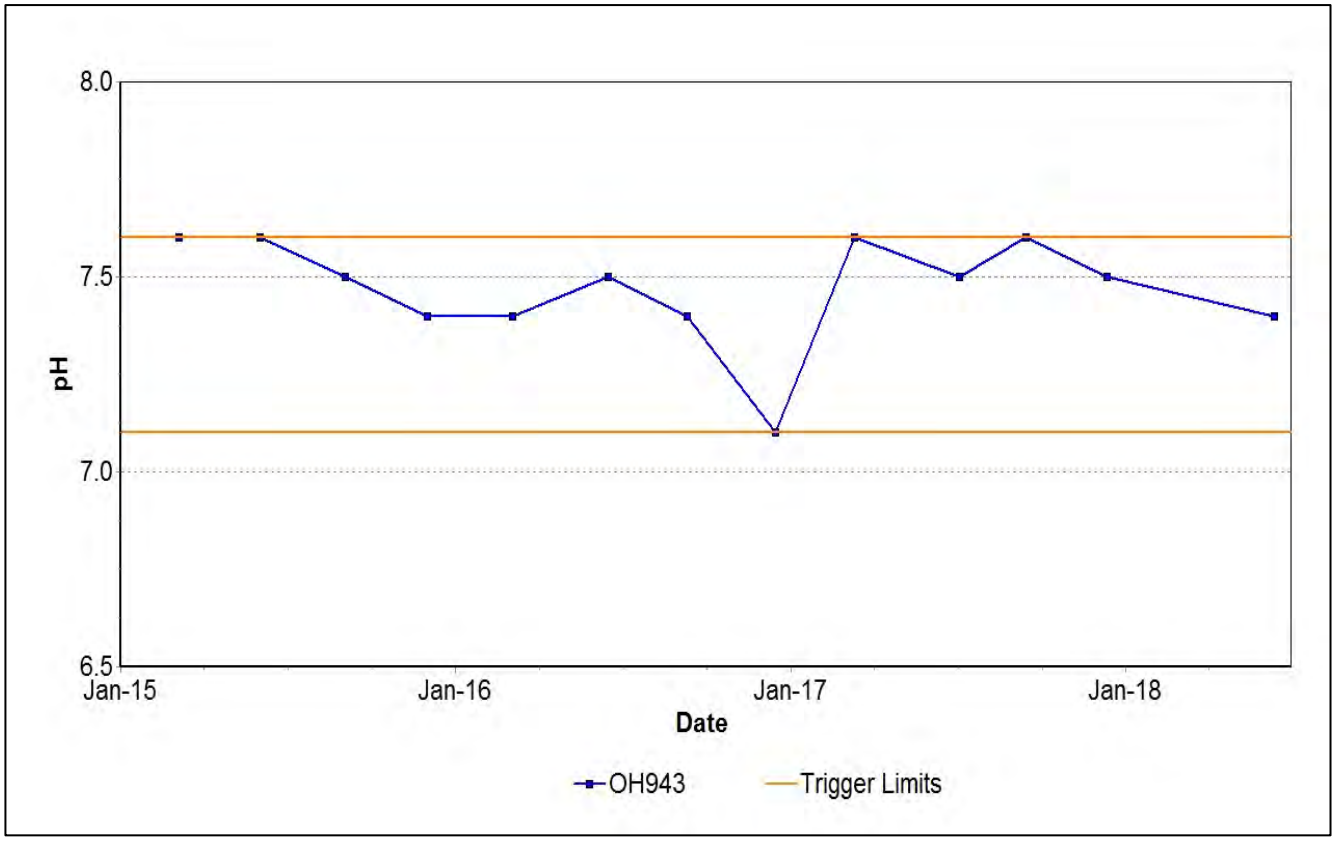
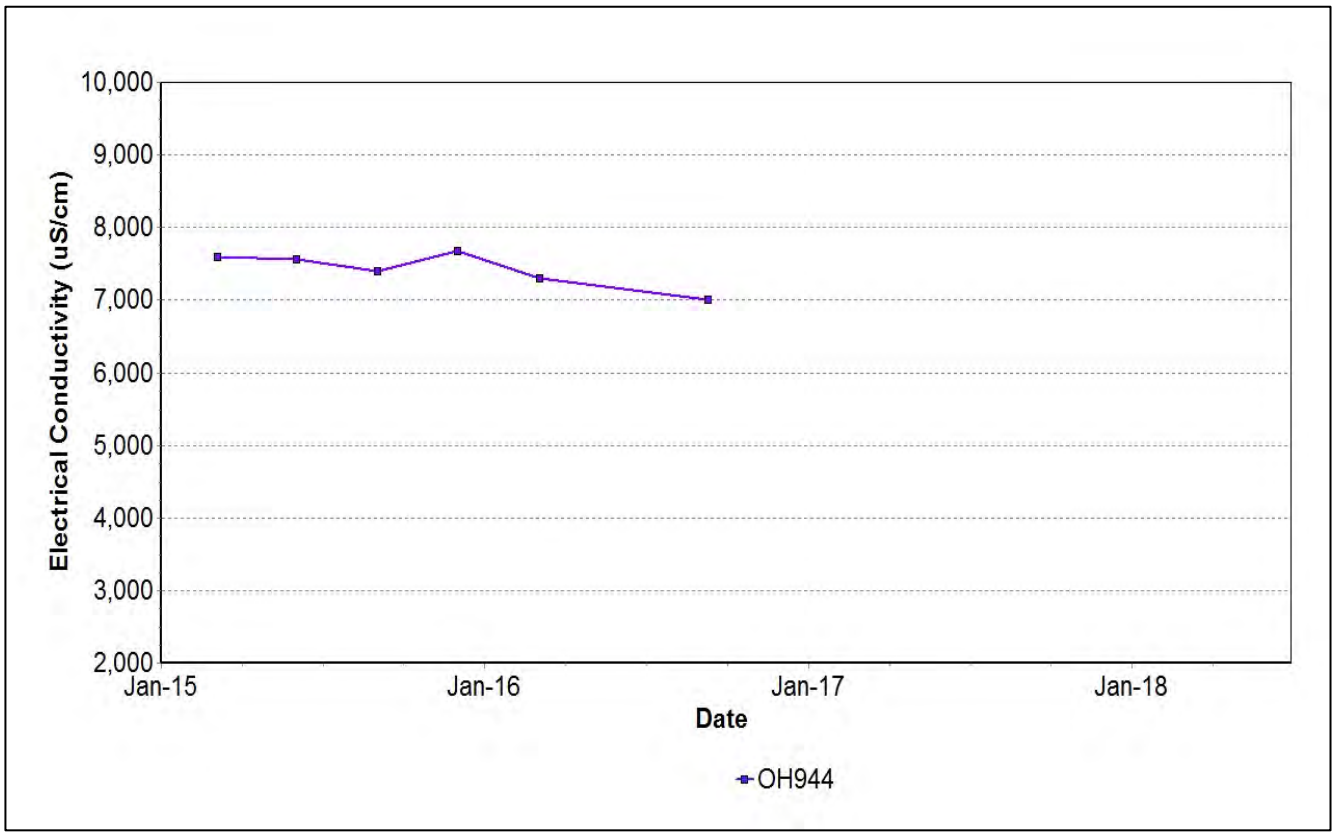
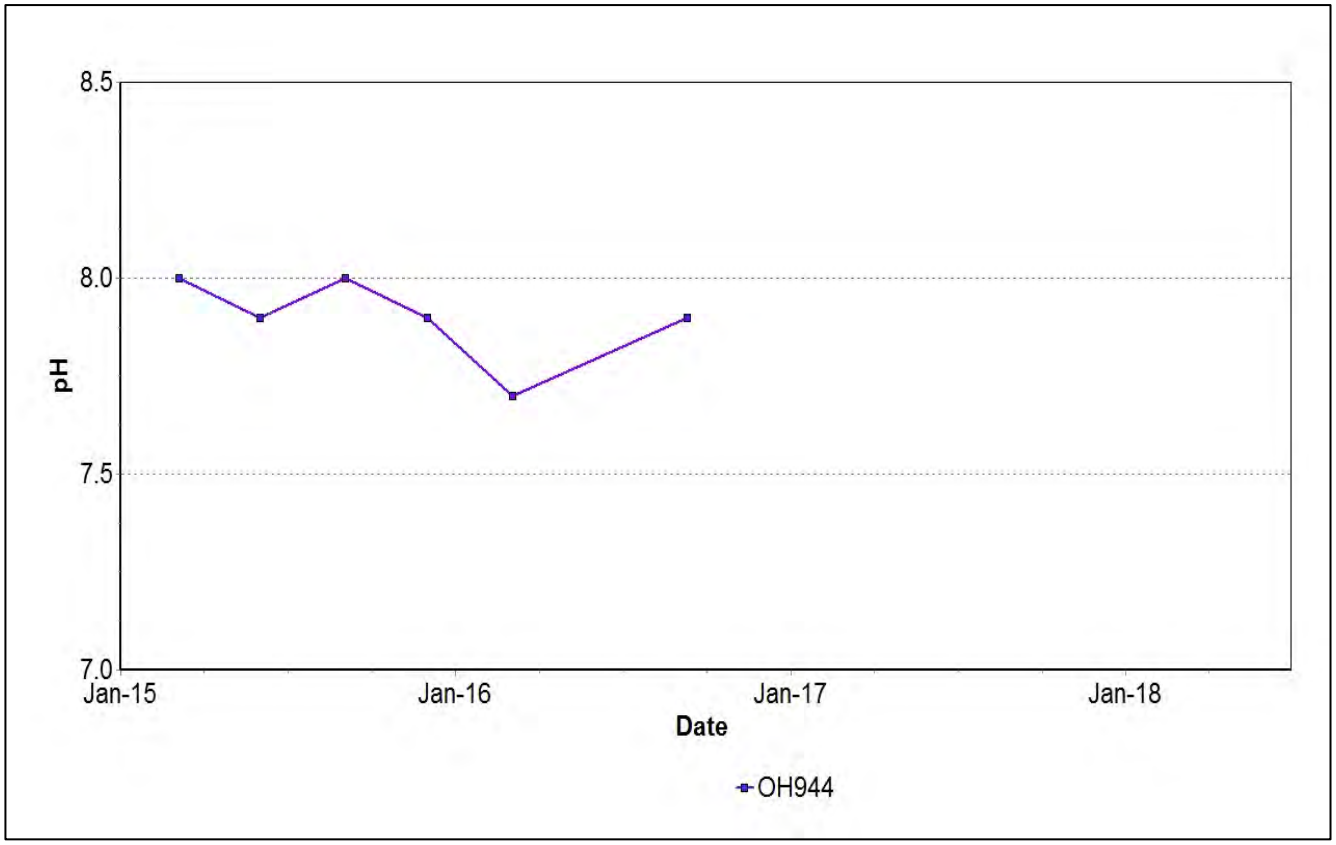


Figure 55: Hunter River Alluvium 4 Seam pH Trend – June 2018



Note: There has been insufficient water to sample since September 2016.

Figure 56: Hunter River Alluvium 5 Seam Electrical Conductivity Trend – June 2018



Note: There has been insufficient water to sample since September 2016.

Figure 57: Hunter River Alluvium 5 Seam pH Trend – June 2018

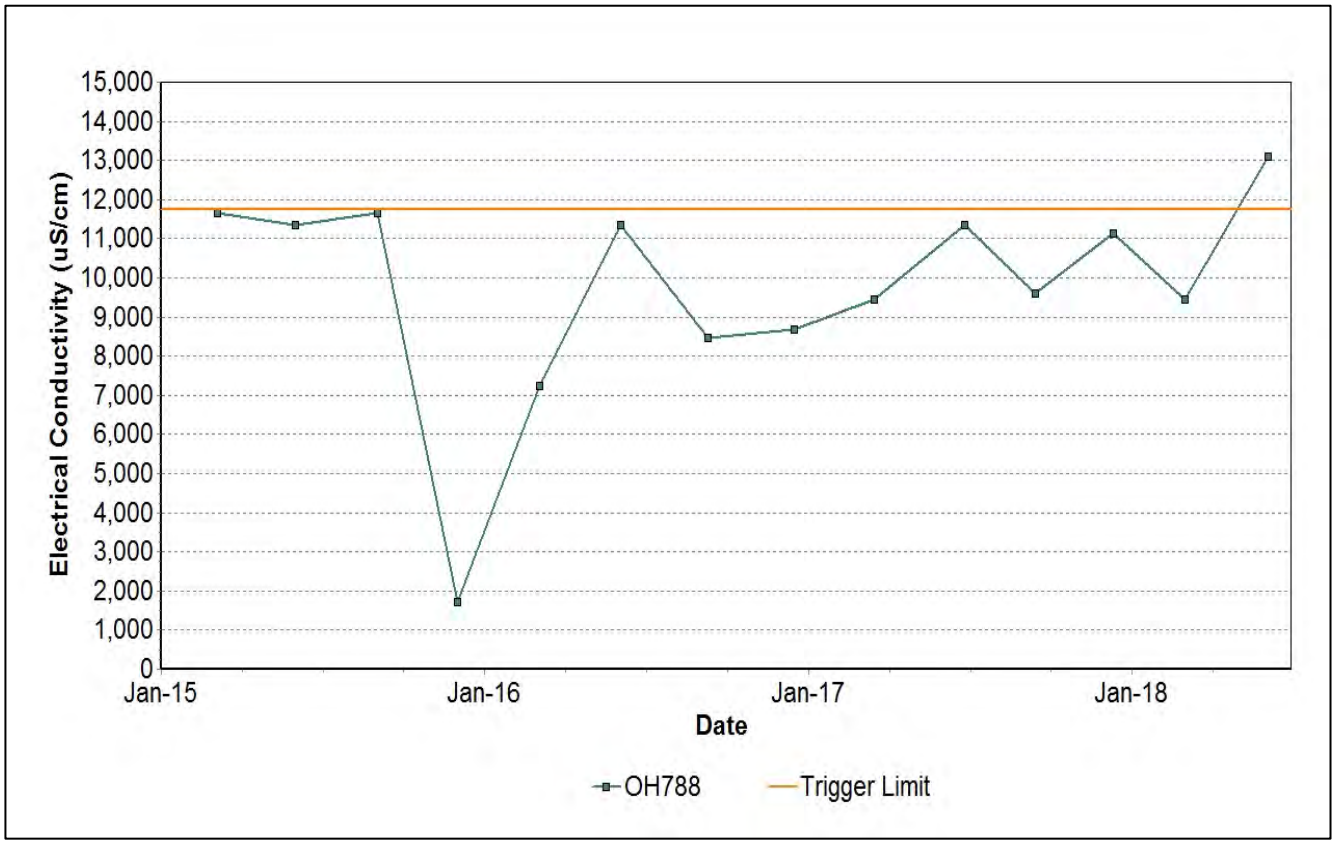


Figure 58: Hunter River Alluvium 6 Seam Electrical Conductivity – June 2018

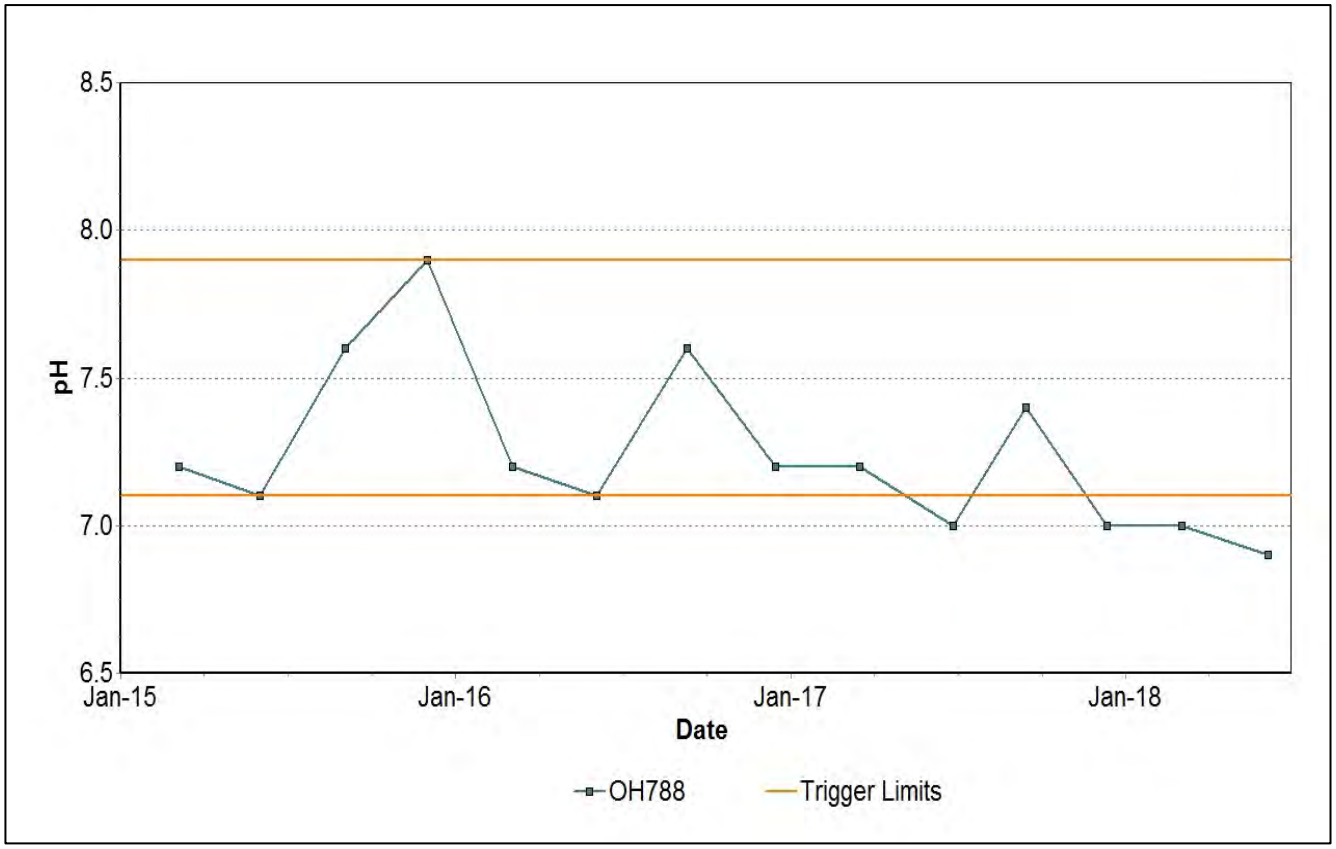


Figure 59: Hunter River Alluvium 6 Seam pH Trend – June 2018

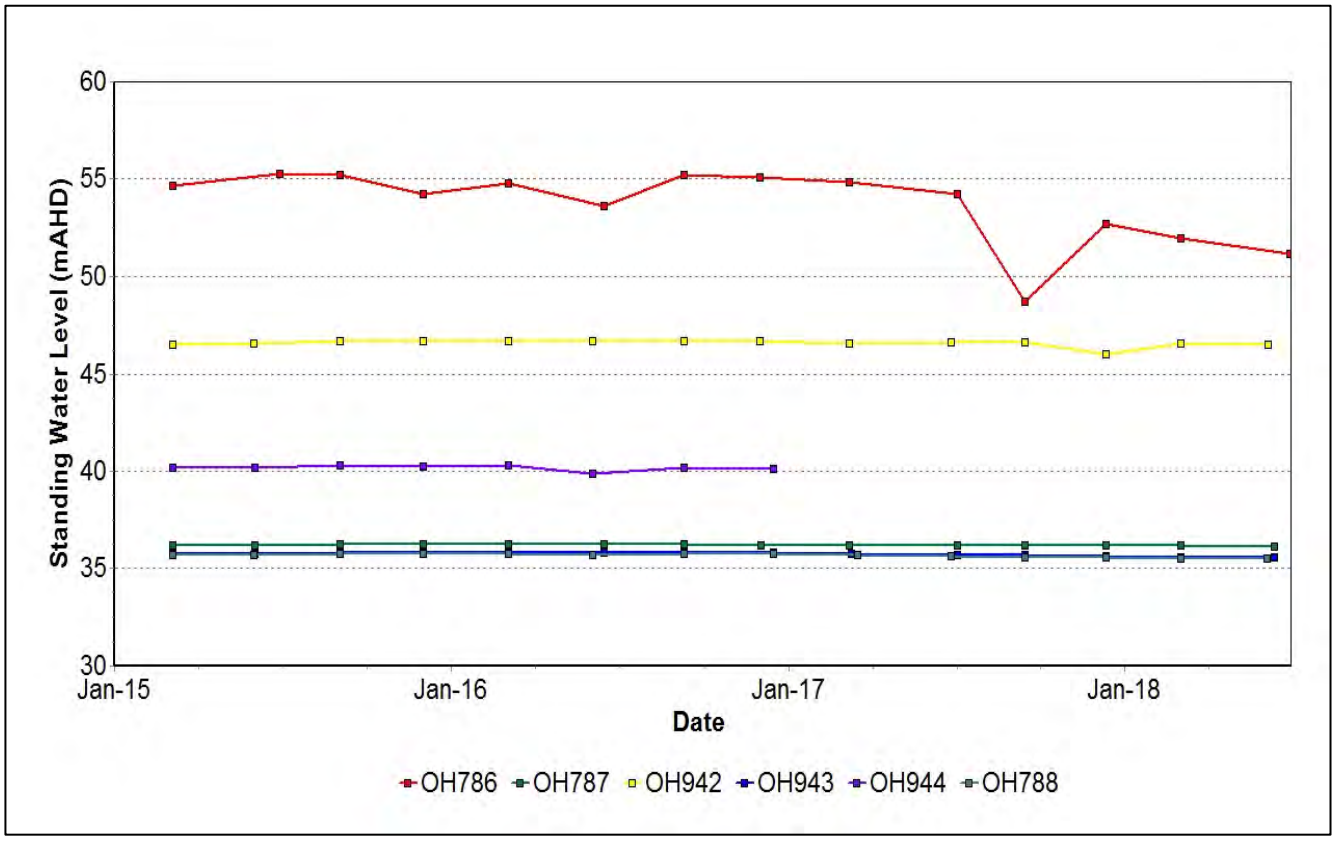


Figure 60: Hunter River Alluvium Standing Water Level Trend – June 2018

3.2.1 Groundwater Trigger Tracking

Internal trigger limits have been developed to assess monitoring data on an on-going basis, and to highlight potentially adverse groundwater impacts. The process for evaluating monitoring results against the internal triggers and subsequent responses are outlined in the MTW Water Management Plan. Locations of groundwater bores are shown in **Figure 61**.

Current internal groundwater trigger limit breaches are summarised in **Table 4**.

Table 3: Groundwater Triggers - 2018

Site	Date	Trigger Limit Breached	Action Taken in Response
OH 786	June	EC – 95th Percentile	Watching Brief*
OH 787	02/03/2018	EC – 95th Percentile	Data is stable and consistent with historical trend; no further action
OH 787	12/06/2018	EC – 95th Percentile	Elevated EC is considered attributable to prolonged dry climatic conditions, and not related to mining related impacts. Continue to watch and monitor
OH788	04/06/2018	EC – 95th Percentile	Watching Brief*
MTD605P	06/02/2018	EC – 95th Percentile	Data is stable and consistent with historical trend; no further action
MTD605P	10/05/2018	EC – 95th Percentile	Data is stable and consistent with historical trend, other bores within the Shallow Overburden are stable; no further action required
WOH2156B	06/02/2018	EC – 95th Percentile	Data is stable and consistent with historical trend; no further action
OH 1138(1)	02/03/2018	EC – 95th Percentile	Data is stable and consistent with historical trend; no further action
OH 786	02/03/2018	pH –5th Percentile	Watching Brief*
OH 787	02/03/2018	pH –5th Percentile	Watching Brief*
OH 942	02/03/2018	pH –5th Percentile	Watching Brief*
OH 788	02/03/2018	pH –5th Percentile	Watching Brief*
OH 788	04/06/2018	pH –5th Percentile	Investigation commenced
PZ8S	02/03/2018	pH –5th Percentile	Watching Brief*
PZ9S	02/03/2018	pH – 95th Percentile	Watching Brief*
PZ9S	06/06/2018	pH – 95th Percentile	Investigation commenced
GW9709	02/03/2018	pH –5th Percentile	Watching Brief*
GW98MTCL2	02/03/2018	pH –5th Percentile	Watching Brief*
GW98MTCL2	04/06/2018	pH –5th Percentile	Watching Brief*
WOH2139A	06/02/2018	pH – 95th Percentile	Data is stable and consistent with historical trend; no further action

WOH2139A	23/05/2018	pH – 95th Percentile	Data is stable and consistent with historical trend. Other bores within the Blakefield seam are stable; no further action required
OH 1125(1)	02/03/2018	pH –5th Percentile	Watching Brief*
MB15MTW01D	06/02/2018	pH –5th Percentile	Watching Brief*
MB15MTW01D	10/05/2018	pH –5th Percentile	Data is stable and consistent with historical trend, other bores within the Shallow Overburden are stable; no further action required
PZ9D	02/03/2018	pH –5th Percentile	Watching Brief*
OH 1138(1)	06/02/2018	pH –5th Percentile	Investigation commenced.
OH 1138(1)	06/06/2018	pH –5th Percentile	pH beginning to recover to historic levels. Continue to monitor on increased frequency

* = Watching brief established pending outcomes of subsequent monitoring events. No specific actions required.

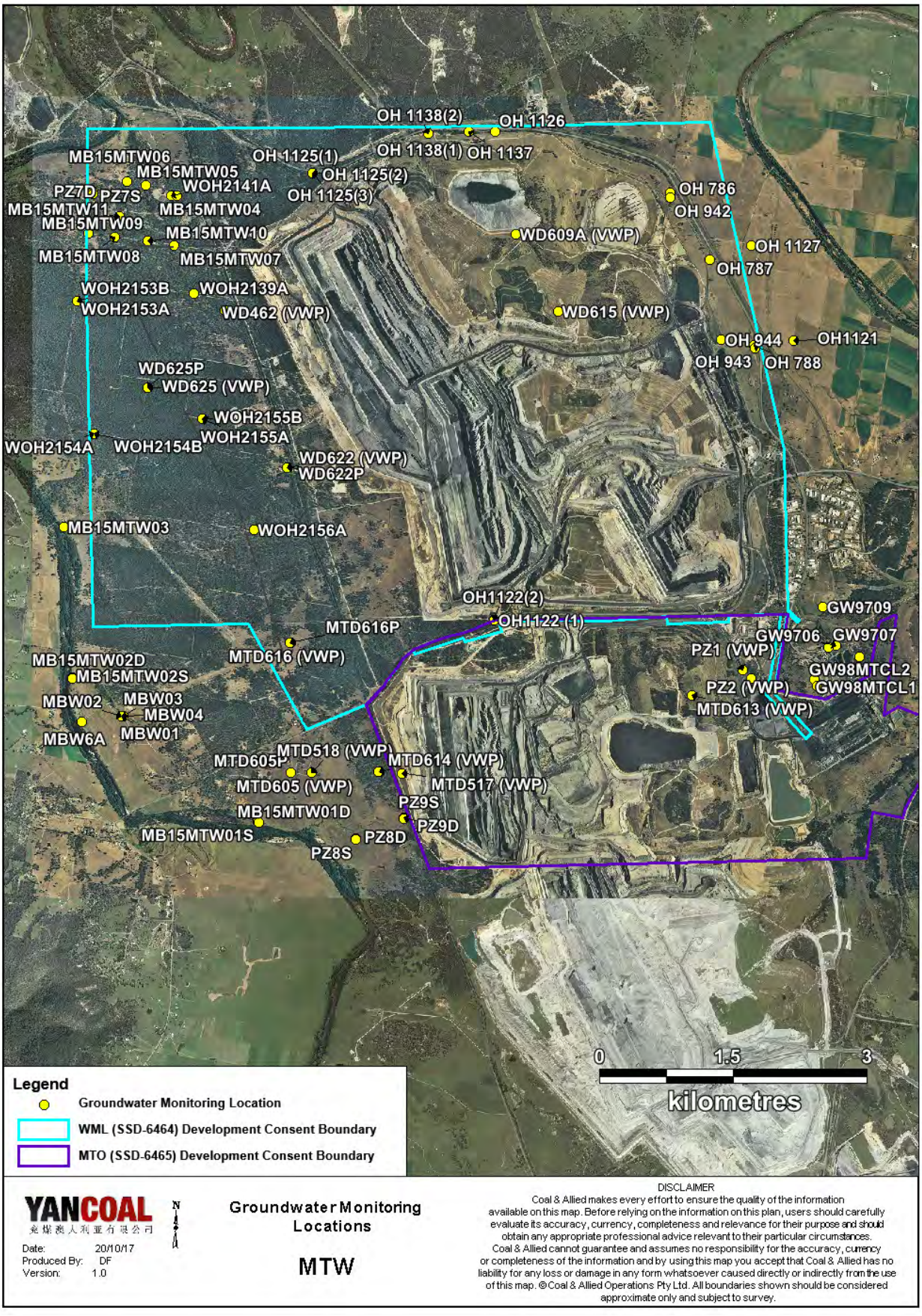


Figure 61: Groundwater Monitoring Location Plan

4.0 BLAST MONITORING

MTW have a network of six blast monitoring units. These are located at nearby privately owned residences and function as regulatory compliance monitors.

The location of these monitors can be found in **Figure 68**.

4.1 Blast Monitoring Results

During June 2018, 18 blasts were initiated at MTW. **Figure 62** to **Figure 67** show the blast monitoring results for the reporting period against the impact assessment criteria. The criteria are summarised in **Table 5**.

Table 4: Blasting Limits

Airblast Overpressure (dB(L))	Comments
115	5% of the total number of blasts in a 12 month period
120	0%
Ground Vibration (mm/s)	**Comments**
5	5% of the total number of blasts in a 12 month period
10	0%

During the reporting period no blasts exceeded the 115 dB(L) 5% threshold for airblast overpressure or 5mm/s-5% threshold for ground vibration

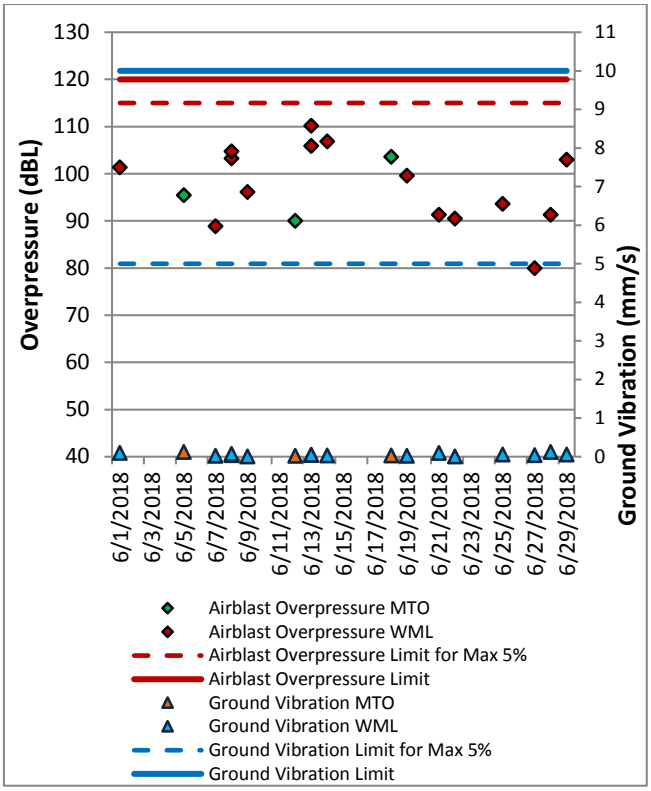


Figure 62: Abbey Green Blast Monitoring Results – June 2018

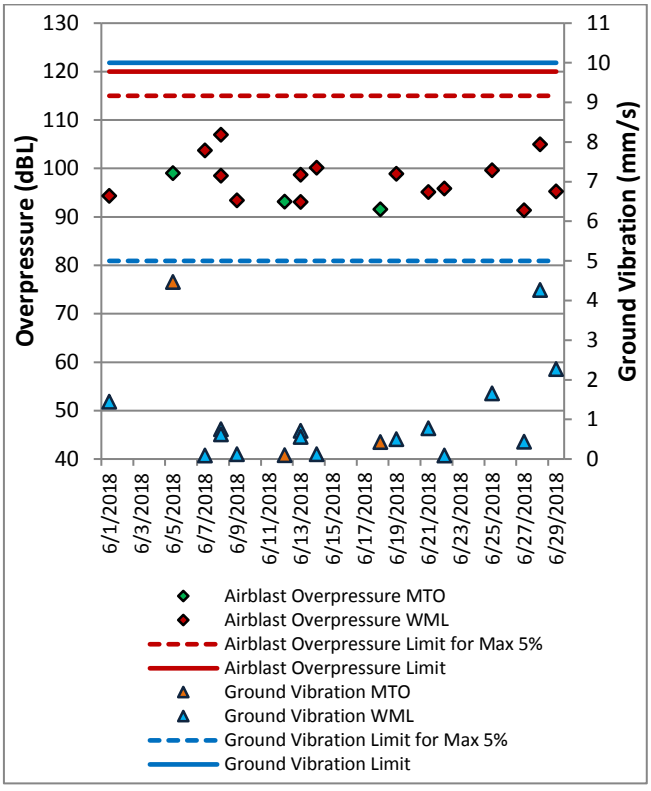


Figure 63: Bulga Village Blast Monitoring Results – June 2018

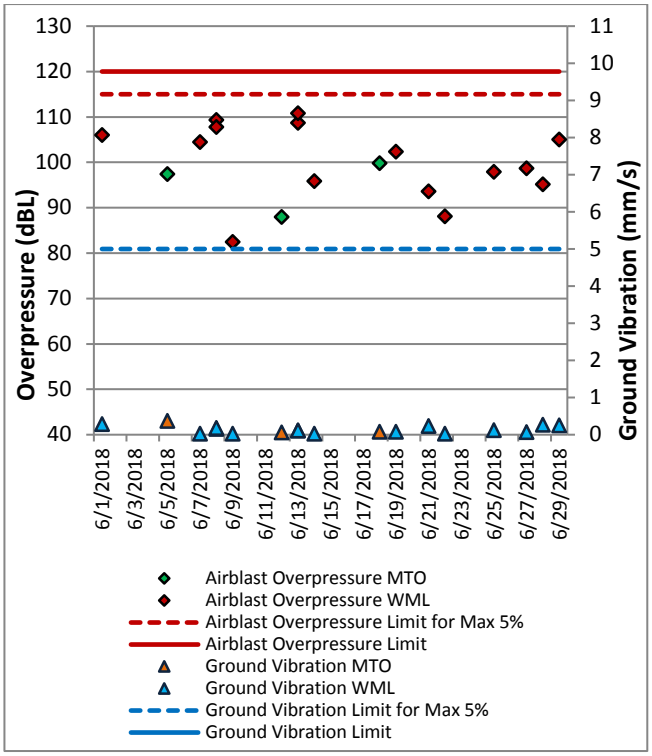


Figure 64: MTIE Blast Monitoring Results – June 2018

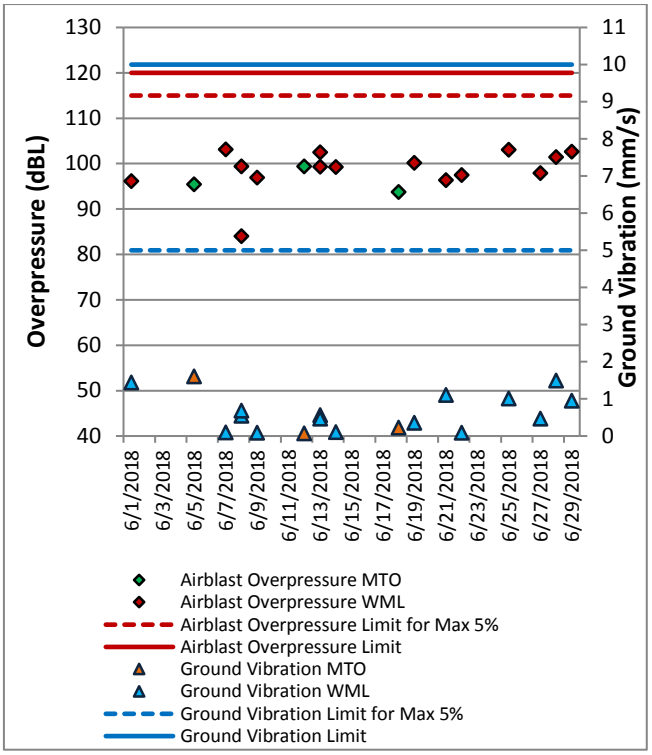


Figure 66: Wambo Road Blast Monitoring Results – June 2018

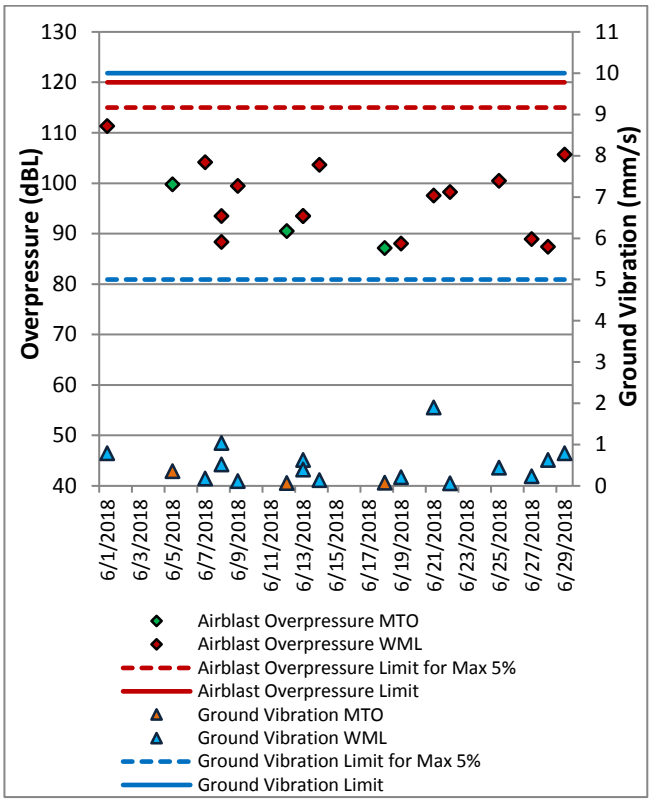


Figure 65: Warkworth Blast Monitoring Results - June 2018

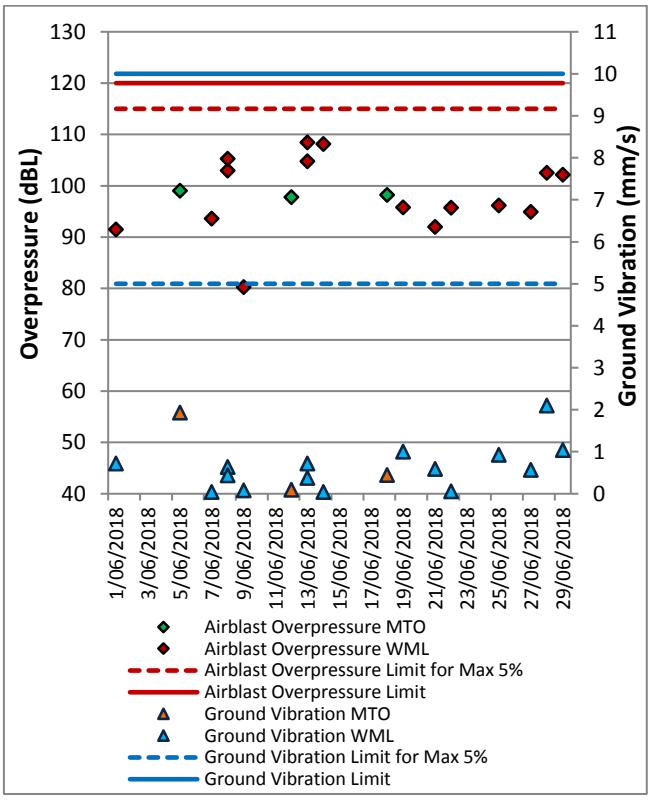


Figure 67: Wollemi Peak Road Blast Monitoring Results - June 2018

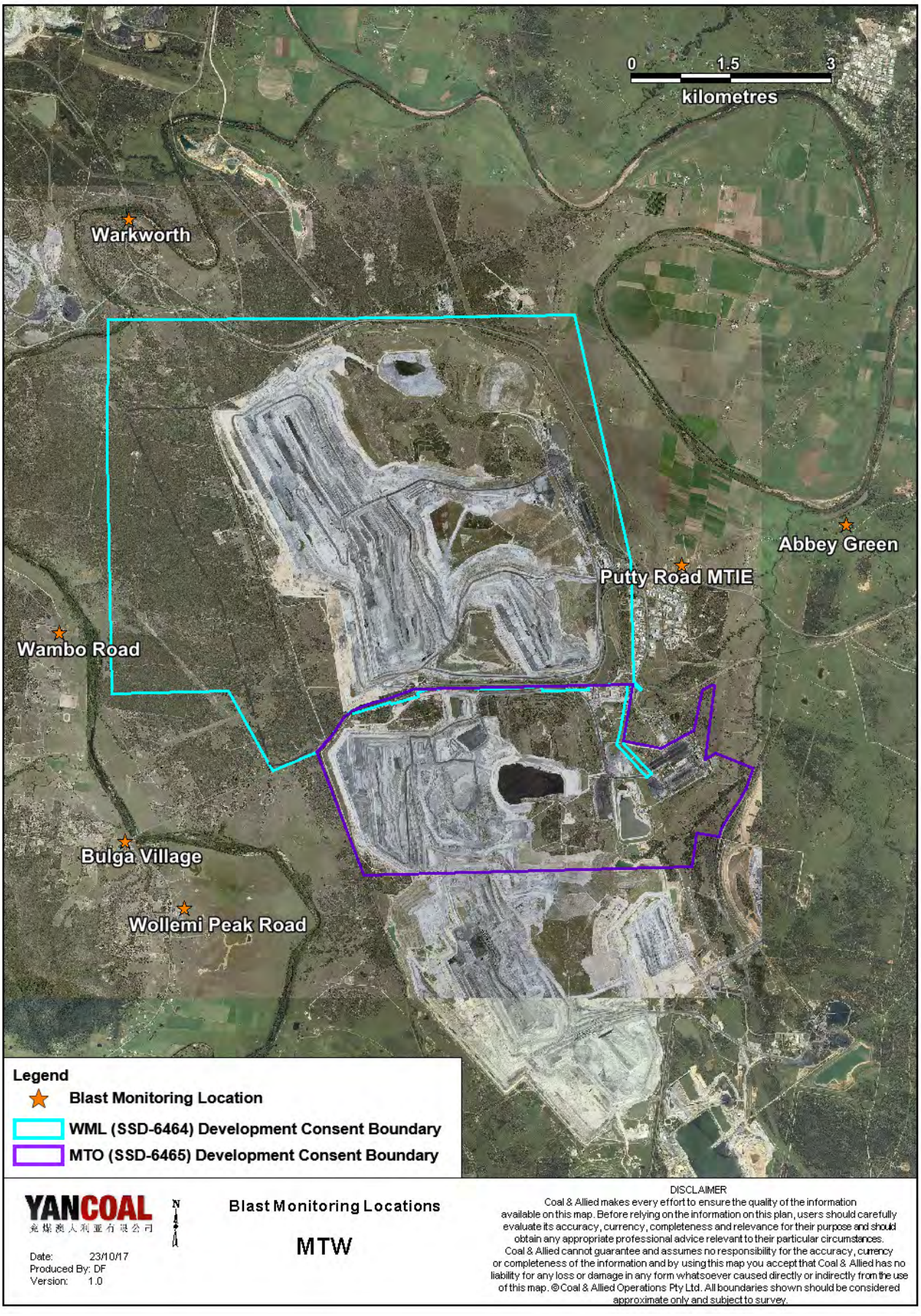


Figure 68: Blast and Vibration Monitoring Location Plan

5.0 NOISE

Routine attended noise monitoring is carried out in accordance with the MTW Noise Management Plan. A review against EIS predictions will be reported in the Annual Review Report. The purpose of the noise surveys is to quantify and describe the acoustic environment around the site and compare results with specified limits. Unattended monitoring (real time noise monitoring) also occurs at five sites surrounding MTW. The attended noise monitoring locations are displayed in **Figure 69**.

5.1 Attended Noise Monitoring Results

Attended monitoring was conducted at receiver locations surrounding MTW on the night of 21 June 2018. All measurements complied with the relevant criteria. Results are detailed in **Table 6** to **Table 9**.

5.1.1 WML Noise Assessment

Compliance assessments undertaken against the WML noise criteria are presented in **Table 6** and **Table 7**.

Table 5: $L_{Aeq,\ 15\ minute}$ Warkworth Impact Assessment Criteria – June 2018

Location	Date and Time	Wind Speed (m/s)[5]	Stability Class	Criterion (dB(A))	Criterion Applies?[1,5]	WML L_{Aeq} dB[2,4]	Exceedance[3]
Bulga RFS	21/06/2018 21:00	1.5	D	37	Yes	<30	Nil
Bulga Village	21/06/2018 23:18	2.3	D	38	Yes	34	Nil
Gouldsville	21/06/2018 23:56	2.5	D	38	Yes	<30	Nil
Inlet Rd	21/06/2018 21:27	1.7	E	37	Yes	33	Nil
Inlet Rd West	21/06/2018 21:00	1.5	D	35	Yes	30	Nil
Long Point	22/06/2018 0:20	2.4	D	35	Yes	IA	Nil
South Bulga	21/06/2018 21:21	1.7	D	35	Yes	IA	Nil
Wambo Road	21/06/2018 21:56	1.9	E	38	Yes	32	Nil

Notes:
1. Noise emission limits apply during all meteorological conditions except the following: during periods of rain or hail; average wind speed at microphone height exceeds 5 m/s; wind speeds greater than 3 m/s measured at 10 metres above ground level; stability category F temperature inversion conditions and wind speeds greater than 2m/s at 10m above ground level; or stability category G temperature inversion conditions;
2. Estimated or measured LAeq,15minute attributed to WML;
3. NA means atmospheric conditions outside conditions specified in development consent and so criterion is not applicable;
4. Bolded results in red are possible exceedances of relevant criteria; and
5. Criterion may or may not apply due to rounding of meteorological data values.

Table 6: $L_{A1,\ 1\ minute}$ Warkworth Impact Assessment Criteria – June 2018

Location	Date and Time	Wind Speed (m/s)[5]	Stability Class	Criterion (dB(A))	Criterion Applies?[1,5]	WML L_{Aeq} dB[2,4]	Exceedance[3]
Bulga RFS	21/06/2018 21:00	1.5	D	47	Yes	<30	Nil
Bulga Village	21/06/2018 23:18	2.3	D	48	Yes	41	Nil
Gouldsville	21/06/2018 23:56	2.5	D	48	Yes	32	Nil
Inlet Rd	21/06/2018 21:27	1.7	E	47	Yes	43	Nil
Inlet Rd West	21/06/2018 21:00	1.5	D	45	Yes	41	Nil
Long Point	22/06/2018 0:20	2.4	D	45	Yes	IA	Nil
South Bulga	21/06/2018 21:21	1.7	D	45	Yes	IA	Nil
Wambo Road	21/06/2018 21:56	1.9	E	48	Yes	44	Nil

Notes:
1. Noise emission limits apply during all meteorological conditions except the following: during periods of rain or hail; average wind speed at microphone height exceeds 5 m/s; wind speeds greater than 3 m/s measured at 10 metres above ground level; stability category F temperature inversion conditions and wind speeds greater than 2m/s at 10m above ground level; or stability category G temperature inversion conditions;
2. Estimated or measured LA1,1minute attributed to Warkworth mine (WML);
3. NA in exceedance column means atmospheric conditions outside conditions specified in project approval and so criterion is not applicable.
4. Bolded results in red are possible exceedances of relevant criteria; and
5. Criterion may or may not apply due to rounding of meteorological data values.

5.1.2 MTO Noise Assessment

Compliance assessments undertaken against the MTO noise criteria are presented in **Table 8** and **Table 9**.

Table 7: $L_{Aeq, 15minute}$ Mount Thorley Operations - Impact Assessment Criteria – June 2018

Location	Date and Time	Wind Speed (m/s)[5]	Stability Class	Criterion dB	Criterion Applies?[1,5]	MTO L_{Aeq} dB[2,4]	Exceedance[3]
Bulga RFS	21/06/2018 21:00	1.5	D	37	Yes	IA	Nil
Bulga Village	21/06/2018 23:18	2.3	D	38	Yes	IA	Nil
Gouldsville	21/06/2018 23:56	2.5	D	35	Yes	IA	Nil
Inlet Rd	21/06/2018 21:27	1.7	E	37	Yes	IA	Nil
Inlet Rd West	21/06/2018 21:00	1.5	D	35	Yes	IA	Nil
Long Point	22/06/2018 0:20	2.4	D	35	Yes	<25	Nil
South Bulga	21/06/2018 21:21	1.7	D	36	Yes	IA	Nil
Wambo Road	21/06/2018 21:56	1.9	E	38	Yes	IA	Nil

Notes:
1. Noise emission limits apply during all meteorological conditions except the following: during periods of rain or hail; average wind speed at microphone height exceeds 5 m/s; wind speeds greater than 3 m/s measured at 10 metres above ground level; stability category F temperature inversion conditions and wind speeds greater than 2m/s at 10m above ground level; or stability category G temperature inversion conditions;
2. Estimated or measured LAeq,15minute attributed to MTO;
3. NA means atmospheric conditions outside conditions specified in development consent and so criterion is not applicable;
4. Bolded results in red are possible exceedances of relevant criteria; and
5. Criterion may or may not apply due to rounding of meteorological data values.

Table 8: $L_{A1, 1Minute}$ Mount Thorley Operations - Impact Assessment Criteria – June 2018

Location	Date and Time	Wind Speed (m/s)[5]	Stability Class	Criterion dB	Criterion Applies?[1,5]	MTO $L_{A1, 1min}$ dB[2,4]	Exceedance[3]
Bulga RFS	21/06/2018 21:00	1.5	D	47	Yes	IA	Nil
Bulga Village	21/06/2018 23:18	2.3	D	48	Yes	IA	Nil
Gouldsville	21/06/2018 23:56	2.5	D	45	Yes	IA	Nil
Inlet Rd	21/06/2018 21:27	1.7	E	47	Yes	IA	Nil
Inlet Rd West	21/06/2018 21:00	1.5	D	45	Yes	IA	Nil
Long Point	22/06/2018 0:20	2.4	D	45	Yes	<25	Nil
South Bulga	21/06/2018 21:21	1.7	D	46	Yes	IA	Nil
Wambo Road	21/06/2018 21:56	1.9	E	48	Yes	IA	Nil

Notes
1. Noise emission limits apply during all meteorological conditions except the following: during periods of rain or hail; average wind speed at microphone height exceeds 5 m/s; wind speeds greater than 3 m/s measured at 10 metres above ground level; stability category F temperature inversion conditions and wind speeds greater than 2m/s at 10m above ground level; or stability category G temperature inversion conditions;
2. Estimated or measured LA1,1minute attributed to MTO;
3. NA in exceedance column means atmospheric conditions outside conditions specified in project approval and so criterion is not applicable.
4. Bolded results in red are possible exceedances of relevant criteria; and
5. Criterion may or may not apply due to rounding of meteorological data values.

5.1.3 Low Frequency Assessment

In accordance with the requirements of the EPA's Noise Policy for Industry (NPfI), the applicability of the low frequency modification penalty has been assessed. There were no noise measurements taken during the reporting period which required the penalty to be applied. The assessment for low frequency noise is shown in **Table 10**.

Table 9: Low Frequency Noise Assessment - June 2018

Location	Date and Time	Measured Site Only LA_{eq} dB (WML/MTO)	Site Only LC_{eq} dB[4] (WML/MTO)	Site Only LC_{eq} - LA_{eq} dB [1,4] (WML/MTO)	Result Max exceedance of ref spectrum dB[2,3,4] (WML/MTO)	Penalty dB(A) (WML/MTO)	Exceedance
Bulga RFS	21/06/2018 21:00	<30/IA	NA/NA	NA/NA	NA/NA	NA/NA	NA
Bulga Village	21/06/2018 23:18	34/IA	53/NA	19/NA	0/NA	Nil/NA	NA
Gouldsville	21/06/2018 23:56	<30/IA	NA/NA	NA/NA	NA/NA	NA/NA	NA
Inlet Rd	21/06/2018 21:27	33/IA	52/NA	19/NA	0/NA	Nil/NA	NA
Inlet Rd West	21/06/2018 21:00	30/IA	47/NA	17/NA	0/NA	Nil/NA	NA
Long Point	22/06/2018 0:20	IA/<25	NA/NA	NA/NA	NA/NA	NA/NA	NA
South Bulga	21/06/2018 21:21	IA/IA	NA/NA	NA/NA	NA/NA	NA/NA	NA
Wambo Road	21/06/2018 21:56	32/IA	50/NA	18/NA	0/NA	Nil/NA	NA

Notes:
1. As per NPfI, if LCeq – LAeq >= 15 dB further assessment of low frequency noise required.
2. As per NPfI, compare measured spectrum against reference spectrum to determine if the low frequency modifying factor is triggered and application of penalty is required;
3. Bold results and penalties in red are where the relevant modifying factor trigger was exceeded; and
4. Where it is not possible to determine the site only result due to the presence of other low frequency noise sources occurring during the measurement, or where criteria were not applicable due to meteorological conditions, this is noted as NA (not available) and no further assessment has been undertaken.

Figure 69: Noise Monitoring Location Plan

5.2 Noise Management Measures

A program of targeted supplementary attended noise monitoring is in place at MTW, supported by the real-time directional monitoring network and ensuring the highest level of noise management is maintained. The supplementary program is undertaken by MTW personnel and involves:

- Routine inspections from both inside and outside the mine boundary;
- Routine and as-required handheld noise assessments (undertaken in response to noise alarm and/or community complaint), comparing measured levels against consent noise limits; and
- Validation monitoring following operational modifications to assess the adequacy of the modifications.

Where a noise assessment identifies noise emissions which are exceeding the relevant noise limit(s) for any particular residence, modifications will be made so as to ensure that the noise event is resolved within 75 minutes of identification. The actions taken are commensurate with the nature and severity of the noise event, but can include:

- Changing the haul route to a less noise sensitive haul;
- Changing dump locations (in-pit or less exposed dump option)
- Reducing equipment numbers;
- Shut down of task; or
- Site shut down.

A summary of these assessments undertaken during June are provided in **Table 11**.

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Table 10: Supplementary Attended Noise Monitoring Data – June 2018

No. of assessments	No. of assessments > trigger	No. of nights where assessments > trigger	% greater than trigger
582	3	1	0.5

Note: Measurements are taken under all meteorological conditions, including conditions under which the consent noise criteria do not apply.

6.0 OPERATIONAL DOWNTIME

During June a total of 413 hours of equipment downtime was logged in response to environmental events such as dust, noise and elevated wind impacts. Operational downtime by equipment type is shown in **Figure 70**.

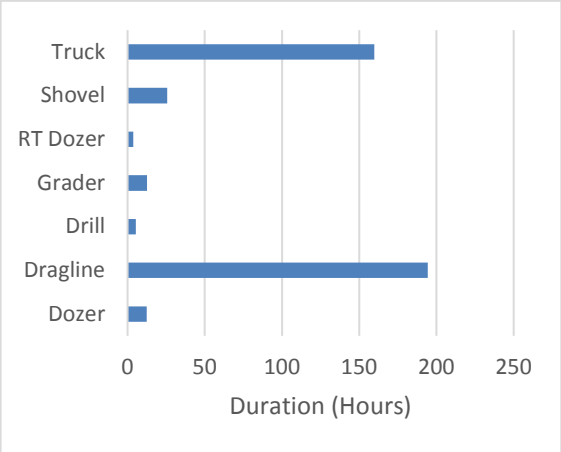

Figure 70: Operational Downtime by Equipment Type – June 2018

7.0 REHABILITATION

During June, 2.3Ha of land was released, 4.0Ha was bulk shaped, 0.4 Ha was composted and 4.1Ha was rehabilitated. Year-to-date progress can be viewed in **Figure 71**

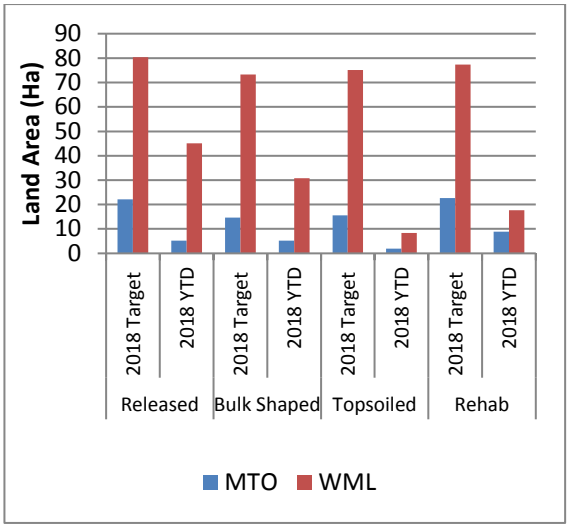

Figure 71: Rehabilitation YTD - June 2018

8.0 ENVIRONMENTAL INCIDENTS

There were no reportable environmental incidents during the reporting period.

9.0 COMPLAINTS

During the reporting period 22 complaints were received, details of these complaints are displayed in **Figure 72** below.

	Noise	Dust	Blast	Lighting	Other	Total
January	9	6	14	0	1	30
February	8	5	2	3	1	19
March	21	0	0	2	0	23
April	8	3	9	3	2	25
May	10	11	3	1	0	25
June	12	2	8	0	0	22
July						
August						
September						
October						
November						
December						
Total	68	27	36	9	4	144

Figure 72: Complaints Summary - YTD June 2018

Appendix A: Meteorological Data

Table 11: Meteorological Data – Charlton Ridge Meteorological Station – June 2018

Date	Air Temperature Maximum (°C)	Air Temperature Minimum (°C)	Relative Humidity Maximum (%)	Relative Humidity Minimum (%)	Solar Radiation Maximum (W/Sq. M)	Wind Direction Average (°)	Wind Speed Average (m/sec)	Rainfall(mm)
1/06/2018	16	8	65	41	881	198	3.9	0.0
2/06/2018	16	8	78	47	782	200	3.6	0.2
3/06/2018	20	11	82	42	751	171	4.1	0.0
4/06/2018	19	8	84	45	777	173	2.5	0.0
5/06/2018	17	10	92	53	830	169	3.2	0.4
6/06/2018	14	9	95	80	332	170	2.6	3.2
7/06/2018	19	9	93	49	795	145	2.5	0.0
8/06/2018	16	6	96	54	310	206	1.4	0.6
9/06/2018	15	9	96	78	183	238	1.4	1.8
10/06/2018	14	8	97	77	712	176	2.6	1.2
11/06/2018	18	6	92	47	862	168	2.4	0.0
12/06/2018	17	4	98	52	751	203	1.7	0.2
13/06/2018	17	5	91	39	614	308	3.0	0.0
14/06/2018	18	4	82	32	567	295	2.9	0.0
15/06/2018	19	7	62	27	602	303	4.2	0.0
16/06/2018	17	7	69	27	591	310	5.2	0.0
17/06/2018	14	6	74	37	727	304	5.9	0.0
18/06/2018	16	7	83	37	621	246	3.8	0.4
19/06/2018	14	6	93	55	844	193	3.8	13.2
20/06/2018	17	9	93	56	868	173	3.3	1.2
21/06/2018	16	7	93	54	597	173	1.3	0.0
22/06/2018	16	4	99	66	676	199	1.6	0.2
23/06/2018	20	3	98	31	443	261	2.2	0.2
24/06/2018	17	3	86	36	429	186	1.4	0.0
25/06/2018	17	3	88	37	439	166	1.8	0.0
26/06/2018	18	3	90	41	437	164	1.8	0.0
27/06/2018	17	5	93	60	509	148	2.0	0.0
28/06/2018	17	7	97	55	620	200	1.4	9.4
29/06/2018	14	5	100	47	670	303	2.6	0.2
30/06/2018	19	4	88	33	583	296	3.1	0.0

"-" Indicates that data was not available due to technical issues.

Appendix D: Land Acquisition Update

Mount Thorley Warkworth
Property Update

July 2018

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Current Property Issues

- Singleton Council – Mount Thorley Warkworth Voluntary Planning Agreement (VPA) Community Committee

  - Yancoal made its first payment of $4,000,000 under the VPA in early 2018
  - $2,000,000 of the first payment is to be used exclusively for Bulga
  - Committee functions (as set down by Singleton Council)
    - Recommend to Council a set of principles for the prioritisation of projects which would build sustainability and enhance the quality of life within the community
    - Consult with the community to ascertain needs and opportunities as they relate to sustainable community projects to be considered for funding form the VPA
    - Utilising adopted agreed principles and after appropriate consultation with the community develop a prioritised list of projects
    - Recommend to Council an agreed program of prioritised projects
    - Provide an annual report to Council on the deployment of Councils adopted program of prioritised projects
  - First committee meeting to be held 18 July 2018.

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Current Property Issues -

- VPA Committee Members
  - Adrian Gallagher – Community Member
  - Pauline Rayner – Community Member
  - Christina Metlikovec - Community Member
  - Ian Hedley - Community Member
  - Judith Leslie - Community Member
  - Greg Banks – Alternate Community Member
  - Alan Andrews – Yancoal Australia
  - Mark Ihlein – Singleton Council
  - Cr Sue Moore – Singleton Council Mayor

- Singleton Council – Proposed Bulga Water Supply Scheme
  - Yancoal is generally supportive of the proposed scheme.

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Current Property Issues -

- Bulga Property Agreements
  - Engagement continues with landholders listed in consent conditions, and to finalise discretionary undertakings commenced by the previous mine owners
  - Generally covers landholdings within the Bulga village and Wambo Rd area

- Bulga Tavern
  - Progress continues to bring about a reopening
  - Currently working with a preferred tenderer

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