Coal & Allied – Mount Thorley Warkworth Operations

Community Consultative Committee Meeting – Monday 22 February 2016

Attendance

Chairperson	
Colin Gellatly	Independent Chair MTW CCC
Company Representatives	
Mark Rodgers	General Manager Operations – MTW
Travis Bates	Specialist, Community Relations
Andrew Speechly	Manager Environmental Services – NSW
Community Representatives	
Stewart Mitchell	Community Representative
Ian Hedley	Community Representative
Christina Metlikovec	Community Representative
Graeme O'Brien	Community Representative
Neville Hodkinson	Community Representative – Alternate for Adrian Gallagher
Observers / Presenters	
Adrian Gallagher	Community Representative
Robert Gothard	Environmental Advisor – MTW / CCC Secretary
Travis Bates	Manager Community Relations (Acting)
Minutes	Sarah Purser - e) sarah.purser@bigpond.com

1. **Welcome**
   Col welcomed the group and approved Neville's attendance as the alternate for Adrian. Neville will provide an update from the Singleton Shire Healthy Environment Group (SSHEG) at today's meeting.

2. **Apologies;**
   No apologies received.

3. **Declaration of Pecuniary Interests / Conflict of Interest**
   Ongoing; Col advised that both he and Sarah are engaged by Coal & Allied to provide the roles of independent Chairperson and meeting note taking.

4. **Correspondence**
   Feedback from Stewart regarding the 9 November 2015 MTW CCC Draft for Comment Meeting Minutes
   Col advised that Stewart had requested for additional comments to be incorporated into the previous Meeting's Minutes regarding the Mine being potentially for sale and that continued employment numbers could not be guaranteed if the Mine was sold. After some discussion, Col agreed to prepare new wording for the relevant section of the November Minutes for review by Stewart and Mark.

5. **Matters arising from the previous Meeting (Actions)**

   ACTION 1: MTW to investigate if any external contamination sources near Monitor D124 can be eliminated, or look to relocate.
   Ongoing Action; Work has commenced in relocating this monitor.
   Andrew advised that this monitor is located east of operations, near the grouping of properties on Putty Road near Mount Thorley, he identified its placement on an aerial map.

ACTION 2: MTW to discuss air quality monitoring on the Mount Thorley Industrial Estate with Ian.
Ongoing Action; MTW had made requests to meet with Ian, no date has been set.

ACTION 1: MTW to continue efforts to meet with Ian to discuss Air Quality Monitoring on the MTIE.

ACTION 3: MTW to provide the percentage of total area rehabilitated compared with total mine footprint.
✓ **Completed**; Based on the 2015 Annual Environmental Management Report mapping the percentage is 28.6% rehabilitated land of total disturbance.

ACTION 4: MTW to provide a breakdown on the 12 properties purchased by those that were in the zone of acquisition and those that were not in the zone.
✓ **Completed Action;** MTW has made 5 discretionary purchases of properties outside of the ZoA.

ACTION 5: MTW to discuss mobile network coverage issues in Bulga with Telstra.
Ongoing Action; The Rio Tinto Telephony Services Manager is in discussions with Telstra.

Telstra Survey for Black Spots; Members were encouraged to keep records of locations where there is poor or no mobile reception and report these to Telstra via this Survey.

ACTION 6: MTW to advise of an estimated time frame that Wallaby Scrub Road is planned to be closed, in view of the delay in consent.
✓ **Completed**; Estimated to be closed in mid 2017.

Graeme asked how long Wallaby Scrub Road would be closed for? Mark and Andrew explained that this closure will be forever. Mid 2017 is when this road will be mined through and ultimately it will sit in the final void.

ACTION 7: MTW to share their Emergency Plan, particularly in relation to Blasting Incidents/Fume Events with Ian Hedley.
Ongoing Action; MTW had made requests to meet with Ian, no date has been set.

Ian asked when the Emergency Plan would be available? and advised there had been another fume incident since the last meeting, occurring about a month ago, Ian had copied Mark in on the photos. Ian does not want his request delayed in case an accident happens and he would just like to see the MTW Emergency Plan. Andrew advised that this would tie in with a meeting to discuss Air Quality Monitoring. Mark explained that there are not only Emergency Plans but also Procedures as well and felt it best to get MTW representatives to walk Ian through these.

ACTION 2: MTW to arrange for their Blast Crew to meet with Ian Hedley's Safety Committee to review Emergency Plans & Procedures.

In response to Neville, Mark confirmed that the blast on the 4th of November 2015 was reported as required. ***Neville asked if the licence accounts for fume events and does the Environmental Protection Licence have conditions around blasting fumes / odour?*** Andrew confirmed that this is covered in the EPL. Neville noted that fume events were a big topic for the SSHEG, as they don't have to be coloured to cause concern i.e. they can also be colourless.

ACTION 8: MTW to use different colours to separately indicate Warkworth and Mount Thorley in future Blast Monitoring Results Tables.
✓ **Completed**; From the February 2016 Report onwards.

6. Company Reports – Mark Rodgers, General Manager

6.1 Overview of activities - Operational Update

Rehabilitation

- The Rehabilitation Target of 74ha for 2015 was achieved prior to year end which was pleasing.
  This area is outlined in red on Slide 11 of the Company Presentation
- Works completed in 2015; 93.8 ha released for shaping, 6.1ha bulk shaped and 75.7 ha completed rehab.
- MTW are well set up for the bulk of Rehabilitation on Tailings Dam 1.
- Rehabilitation Target for 2016 is 83ha.
- MTW's goal is to follow the Rehabilitation Plan.
- The area of rehab that is currently brown, South Pit North rehabilitation area, is deliberately in that state. This land has been sprayed to take out competition for Native Species and to stabilize the ground. This area is now ready for the next stage of rehab where MTW will put Natives in. This process may seem costly but the company needs to do this for the long term benefits and MTW will be happy when this is visually green again.

Operational Downtime

- Total for 2015 was 11895.92 hours.
- MTW have also reviewed Operational Downtime on a month by month basis to ascertain if noise attenuation is having the desired effect.
- MTW saw lesser downtime numbers in December 2015 compared to January 2016, however this may have had a lot to do with weather conditions.

Noise Attenuation

- MTW achieved attenuation on 40 of the targeted 41 haul trucks in 2015.
- This brings the total attenuated number of trucks to 55 with the remaining Haul Trucks, Dozers, Drills and Excavators due for completion in 2016.
- There is a Consent requirement to complete all attenuation by the end of 2016 and MTW hope to see a difference in the hours of downtime at the end of 2016. MTW has completed attenuation to a couple of units in January, plus 7 in February, and from there the attenuation program evens out.
- One water cart remains in the fleet to be attenuated.

Weather Conditions

- Loaders and South Pit were affected by wet weather in November & December 2015 and January 2016 and have only just started to recover.

6.2 Approvals Update – Warkworth Continuation Progress

Approval for the extension was issued in November 2015

✓ ***Email Update from Travis Bates, 17 February 2015:-***

Since receiving approval at the end of November from the Planning Assessment Commission to continue mining, MTW has been working to ensure the management plans and subsidiary approvals meet all of the relevant requirements. On the 16th of February 2015, the Aboriginal cultural heritage management programme, the final step MTW needed to take before starting pre-mining activities in the approved consent area, was completed.

Next Steps – MTW implementing the approved Management Plans

- As per the Mining Plan submitted, there will be an extra strip of mining in 2016 and operations will next be seen pushing out on the West Pit in April. MTW confirmed that this area is beyond Modification 6.

- MTW confirmed that the company had submitted plans that have now been signed off by the Department and these came through the previous week, including Commonwealth approval with the Minister's advice that the Consent is approved, and would be following the plan for 2016.

7. Community Feedback

Christina Metlikovec

Christina advised that four properties on Inlet Road that are not in the Zone of Acquisition had received letters to say they are in an Impact Area and asked what does that mean? Travis responded that would mean these properties are in a Mitigation Zone, where they now may be eligible for mitigation such as; double glazed windows, ceiling insulation and ducted air-conditioning.

How much does MTW pay in rates to Singleton Council and has the Council offered a rate reduction instead of an increase as they have to others i.e. the 9.75% Rating? Mark is not aware of any rate adjustment and agreed with Stewart's comments that there would probably be a special Council rating for mining and that would be different to general rates for urban or rural land. Stewart is not sure if the 9.75% would apply to all.

Graeme O'Brien

Graeme had been informed that for a property that had been given mitigation rights and fitted out, that if this property is subsequently purchased under acquisition rights, that the value of mitigation is deducted from the price of the property. Travis would have to look at an Agreement but believes that it is in the Policy that any value added that is subsequent, comes off the purchase price. Graeme noted that prices rise and fall and questioned how MTW would quantify that.

Neville Hodkinson

Presentation and update from the Singleton Shire Healthy Environment Group
Calling for Minimisation of Air & Noise Pollution
By Amber Alarm Systems

Neville advised the SSHEG is aiming for the minimisation of Air and Noise Pollution and that his presentation is to provide an update for the CCC to see what has happened since 2013.

- ***October 2013***; the World Health Organisation (WHO) came out with what is going on with Air Pollution & Health, and also Noise & Health.
- ***May 2015***; the World Health Assembly documented all issues raised and is going through a list of approximately 40 to 50 resolutions with eminent bodies in the world, reviewing how to look at the relationship between Air Quality & Health, and how to plan for the future.
- ***December 2015***; Australian NEPM Standards, reducing PM 10 and PM2.5 over 10 years.

Neville's question is how will MTW deal with these new conditions and Col queried the link between NEPM Standards. Andrew advised that the NEPM Standards are used for assessment through the Department of Planning.

Neville feels that as the EPA look at this, that they may lower levels in terms of compliance. Neville believes the recommended 20 micrograms of PM 2.5 particles per day is too high and feels that there will be a gradual downward movement of this figure.

Neville is interested in what impact Air Quality Standards will have on MTW, as regulations will not be so much a matter of compliance any more but rather a requirement.

Neville noted that submissions targeted both Air & Noise, as both have a health component associated with them Neville feels Air Quality targeting PM 2.5's is where the real movement is worldwide. Graeme asked if there was any research with respect to the impact of noise on health.

World Health Assembly; There is a list of resolutions to understand the depth of what is being looked at and Neville feels this will certainly impact on the Mining Industry. Neville advised this will be followed by another World Health Assembly in two to three years time.

Amber Alarm Systems; The SSHEG would like Rio Management to consider a cultural change away from the present "compliance limits" and "all reasonable and feasible measures" to "implement all reasonable and feasible measures to minimise the operational low frequency and road noise of the Development".

Andrew responded that there are a lot of "amber alerts" in their "triggers" with a one hour average for PM10 greater than 50 micrograms in place. MTW gets these alerts throughout a 24 hour period to avoid hitting the average at the end of the day. Neville feels the 24 hour average does not matter, he is more concerned about "by the minute" or as often as people breathe. Neville feels it is not going to work if at the end of the day the mine works out that their average is acceptable.

Neville is suggesting that the introduction of an "Amber Alert", as an interim specification, would get a better response from the community as they would then know there is a much earlier detection system in place. The community would then be aware when there is a problem and that the company would be working on it, rather than waiting for a red alert. Neville understands this is a technical issue and not easy to implement. If there was a subsequent complaint the company could respond that they know they are sitting close to a level and are doing something about it.

Ian Hedley

Ian feels it takes a call to Planning before the mine will stop operations and gave an example of an incident where trucks were being loaded and he could barely see the truck and shovel. Ian has footage of this to show Mark. These operations stopped about 10 minutes after Ian made a complaint. Planning advised Ian he had taken the right action by complaining but Ian's concern is that it was only after he complained that action was taken by the mine. Ian felt everyone out in the Pit would have known there was a horrendous amount of dust and feels in this instance it should not have taken a complaint from the public before vehicles were stopped.

Ian has a copy of the response from Planning and acknowledged that MTW took action but felt this was way too late as Bulga was already a dust bowl. Ian believes if this situation had been viewed from Bulga or from the hut at the top of the hill, the dust issue that needed to be addressed would have been seen. Ian understands there are rules and regulations in place but a "similar set of eyes" could have avoided the situation getting so bad. Ian feels it does take a complaint from the public for MTW to take action.

Andrew responded that with regard to aligning a complaint with a response, there are many other occasions when equipment has been shut down before a complaint. There are a lot of shut downs, many alert driven rather than complaint driven.

Andrew advised when an alert is received, there is a visual inspection of equipment and MTW would then either modify or shut it down.

Ian will show the company the video of the dust concern incident to see if MTW feel that it was fair that they were still running. Mark confirmed that he would take a look at this. Andrew advised that as some conditions may rapidly change, sometimes it does take time to affect a shut down.

Graeme O'Brien

Noise concerns in Inlet Road

Graeme advised that there are properties on Inlet Road where "echoing" is a problem, with noise coming back off the hills at the rear. 339 Inlet Road are continually affected by low frequency noise, whilst they are the furthest away from operations, being located up against the mountain is causing noise impacts. Graeme understands there are no amber alerts on this property and asked if MTW were proposing one.

Graeme explained that these residents have to use earplugs and take sleeping pills and Neville advised he would like MTW to address this matter. Graeme's concern is that MTW measure Inlet Road west at the bottom near Hearses property. 339 the Inlet is located about half way between this and Graeme's property. The Compliance people never take readings at Graeme's location.

Andrew advised that MTW has done some comparison monitoring between the BarnOwl at 339 Inlet Road, attended noise measurements at nearby locations used by MTW Community Response Officers and attended monitoring at the residence and these readings have shown to align. MTW can't always monitor each residence, so they choose a location representative for a number of properties.

Neville understands from some people that he has contacted that a possible technical solution would be to use monitoring with some advanced electronics to see what is coming off the mountain in terms of low frequency and this may assist to ascertain what is affecting these Inlet Road residents, seeing that the current monitoring is directional without low frequency.

Neville feels this noise concern needs proper technical investigation by experts, other than the people taking the readings for Environmental Impact Statements, he feels this issue is different to compliance. If an amber alert was in place at least the company could get to the residents before they become annoyed and complain. Neville feels 488 noise complaints in 2015 is very poor and that they are a result of MTW not addressing the cause.

Graeme gets a sense of what the source of noise is and can hear it from his veranda. Graeme measures low frequency which is around the 60 dB(C) mark, however this is of no benefit when the low frequency penalty formula is applied. Graeme advised that he is mostly impacted by truck engine noise when they are fully laden and working flat out going up a hill. Graeme is not impacted by noise from dozers or beepers.

Andrew advised that as part of the conditions in the new Noise Management Plan, within 6 months MTW are required to go out and talk to community about how low frequency measurements are applied. Andrew advised there have been some changes and MTW will provide an insight into how noise monitoring is undertaken and how low frequency noise is assessed during the period February to May 2016.

Graeme noted that on a personal level he cannot open bedroom doors in summer, which he would like to do, and has to put the radio on to cover mining noise on occasions. Andrew advised that the new Industrial Noise Policy is still not finalised but he believes this Policy is pretty well advanced.

Stewart Mitchell

With the company receiving approval to continue mining for another 20 years, Stewart would like to see MTW give the local community a bit more consideration than is currently the case. Stewart feels with sophisticated monitoring, there is no reason why MTW cannot proactively stop any potential impacts before they happen. Stewart believes this is not currently the case, particularly in relation to night time noise when it is easy to tell on what occasions there are going to be a line up of complaints, he added that sometimes it is two to three hours before the noise is toned down.

From a House-Keeping perspective, Stewart has been told by MTW employees that Supervisors in the field have said don't stop and keep going, this leads Stewart to agree with Ian that nothing ever happens until a complaint is received from the public. Stewart feels that this is not good enough and in an effort to live harmoniously, he would like MTW to get things running a bit better.

As MTW are now at the stage of going forward, Mark felt that it is now timely for the CCC to talk to Elizabeth and Travis about what MTW could do differently to engage with the community. Mark advised that when community consultation had been raised previously, the company was asked to wait for the outcome of the approval.

MTW's website "InSite" http://insite.riotinto.com/ went live on the 1st of March 2015 and Mark hopes this will show MTW's responses to complaints and also enable the community to see over a 24 hour period where the company has made adjustments to operations without receiving a complaint.

Stewart feels if these adjustments were being made that MTW would not receive any complaints. If it is in real time that an alert indicates a problem is about to happen, then Stewart would like MTW to fix it before it happens.

MTW would like the group to see this data flow out as on any given night there may be confirmation that MTW has made operational changes without a complaint. This site will also log a Complaints Summary. Graeme feels that it should not be up to the community to look up this site to see if MTW are doing the right thing. Andrew responded that the intent of the company is to offer information to those that it is of interest to.

Mark hears that there is a lot of belief that nothing ever happens with operations unless there is a complaint and hopes the detail on InSite will indicate that a lot of changes are made. Mark confirmed that along with complaints data there will be response times as well and Andrew advised that MTW have a response limit of 75 minutes.

Speed Zones on the Putty Road

Stewart advised some local residents had queried the new 60 kilometre speed zones and asked if this related to the extended blasting time being between 9.00 a.m. and 5.00 p.m. MTW advised that there had been some road works being conducted and will check into this. Stewart said that the zones appear along the full length of the Putty Road, going up at times and are there for quite some time, Stewart had just wondered if this related to the extended blasting time frame.

ACTION 3: MTW to investigate the reason for the temporary speed zones on the Putty Road.

Dump Heights

Stewart advised that he was shocked at the previous meeting when he learned that MTW can now go to RL180 on the dump at Warkworth, he asked who approved this new height as he understood the height was always set at RL160. Andrew answered that this detail had gone through all the planning process, particularly in relation to noise and dust.

Stewart and Neville did not see anything regarding RL180 in the approvals and Stewart is concerned that this was not mentioned anywhere. Andrew advised that typically the company does not specifically reference dump heights. Neville noted there had been exactly the same problem at HVO and the Department of Planning's Office had a bit to say about it at the time, there was a feeling that it had been sneaked through there.

Stewart understood from the EIS that MTW was going to use the Mount Thorley void for dumping of overburden, so there would not need to be an increase from RL160 to RL180, now it seems this is not the case and MTW can go and add 20 metres in height. ***Stewart asked why is this necessary and how did this happen?*** Andrew advised the additional height is needed for dump capacity, part of the obligation to do this is the requirement for MTW to develop a landform that has micro relief that emulates a more natural landform (Carlson Natural Regrade). MTW are to submit another MOP in 18 months with that landform in it.

Stewart feels the Department would not approve of this kind of thing, MTW were given consent at RL160, and then the company changed its mind and were allowed to get to RL180. Stewart feels that it is everyone's opinion that the height would be at RL160.

Andrew advised that the RL180 has been approved as part of the consent. Neville is concerned that the only thing that was approved was the drawing and there is no text on it anywhere indicating that the height is RL180 with the drawing only showing a profile.

Andrew advised that in the Environmental Assessment; visual, noise and air quality have been assessed based on that landform.

Addendum; Actions from the December 2015 Extraordinary Meeting

ACTION 1: MTW to improve mapping to indicate more clearly where landforms will reach RL180.

✓ ***Completed*****;** *New plans were updated to clearly show the RL180 landforms. These plans were included in the MOP and resubmitted to the Department of Resources and Energy on the 15th of January 2016.*

Col asked if it was written anywhere that the final landform would be at RL180 and Mark advised that Planning staff are aware of the RL180 and there will be opportunities to do better as the Mine Plan develops.

Neville feels that the Department of Planning should be written to regarding the anomaly that the height of RL180 has not been mentioned anywhere. CCC members asked if the Department of Planning could be invited to the next meeting and Col acknowledged this is an important issue.

ACTION 4: Col to invite Representative from the Department of Planning to the next CCC Meeting on the 9th of May 2016, to speak to the final dump height of RL180 / final landforms.

(Representatives names put forward were Chris Knight being Scott's replacement or Ben Harrison from Sydney)

Stewart asked if Environmental Reports were issued monthly and MTW confirmed this is the case with the Business Papers containing the previous three months. MTW advised the AEMR will come out at the end of March 2016.

Cultural Heritage Working Group

Stewart noted that back in the approvals process there was a Cultural Heritage Working Group formed for European Heritage items and Neville confirmed that he was part of that group. Stewart doesn't think that this group has met for over 18 months/2 years and asked if this group is still active as he hasn't received any further invites to another meeting. Neville responded that this group went into recess about 12 months ago. Mark advised that matters around heritage do come out of the consent and this covers all Rio mines in the area.

ACTION 5: Travis to follow up on the status of the Cultural Heritage Group and to look at the potential for reconvening this with the same participants.

Graeme noted that there are signs where heritage is marked i.e. the airport, but this will not be the case for the Great North Road as it will disappear into the void. Graeme feels that parts of the Northern Road have archaeological significance.

8. General Business

Gear Oil Odour

Ian raised that a number of people in Bulga had noted that there had been a strong odour like gear oil apparent around Friday the 19th of February. Ian said that it is not the same smell that is generated when fertiliser or mulch are put down and considering the wind direction at the time it seemed to come more from the direction of the Bulga Coal area. Ian asked if anyone knew of the cause of this as two of his employees had complained about a gear oil type smell.

ACTION 6: MTW to review wind direction on the 19th of February, to try and ascertain direction of the potential source of a gear oil type odour. Ian will note the date and time should the odour be experienced in the future.

339 Inlet Road

Neville would like to see some actions undertaken regarding the issues raised about the residents at this address.

New CCC Guidelines

Col advised that new Draft CCC Guidelines are on the Department of Planning's website and that the Department has called for feedback from the community by the 31st of March 2016.

Graeme had heard some talk about the potential amalgamation of CCC's in the upper Hunter and Mark noted that he would not like to see an amalgamation. Col agreed given that his experience has been that each mine does tend to have significantly different issues.

Addendum; Actions form the December 2015 Extraordinary Meeting

Andrew confirmed that this Addendum had been provided to the CCC at today's meeting with feedback to Actions raised by the group at this Extraordinary Meeting.

Andrew noted one key item was **ACTION 2: MTW to look into options to accelerate rehabilitation of the advancing face at MTO**. In 18 months, MTW will apply to amend the MOP with a new progressive Rehabilitation Plan. This will identify the western side of Loders Pit dump face being rehabilitated as fast as possible. Some of the void may need to be filled to enable the exposed dump face to be worked on. This remains an ongoing action item.

Air Quality Project

Andrew advised that the EPA & Department of Planning would like to attend a future meeting to talk about an Air Quality Project across the Valley that has more reliance on Real Time Monitoring than static Depositional Dust Monitors and the potential to bring this in concert with Hunter Air Quality Monitoring.

ACTION 7: MTW to schedule time for the EPA & Department of Planning to update the CCC on an Air Quality Project across the Valley at a future meeting.

9. Next Meeting – Monday 9 May 2016

Meet Warkworth Boardroom; 2.00 p.m. to 4.00 p.m.

10. Meeting Close

ACTIONS ARISING FROM THIS MEETING

Action	Page Ref	Description	Who
1	2	MTW to continue efforts to meet with Ian to discuss Air Quality Monitoring on the MTIE	Andrew Speechly
2	2	MTW to arrange for their Blast Crew to meet with Ian Hedley's Safety Committee to review Emergency Plans & Procedures	Travis Bates
3	8	MTW to investigate the reason for the temporary speed zones on the Putty Road	Robert Gothard
4	9	Col to invite Representative from the Department of Planning to the next CCC Meeting on the 9th of May 2016, to speak to the final dump height of RL180 / final landforms.	Col Gelatly
5	9	Travis to follow up on the status of the Cultural Heritage Group and to look at the potential for reconvening this with the same participants	Travis Bates
6	9	MTW to review wind direction on the 19th of February, to try and ascertain direction of the potential source of a gear oil type odour. Ian will note the date and time should the odour be experienced in the future	Robert Gothard
7	9	MTW to schedule time for the EPA & Department of Planning to update the CCC on an Air Quality Project across the Valley at a future meeting	Andrew Speechly

LONG TERM ACTIONS

Description	Who
Provide a list of all documents uploaded to the RTCA website in the period since the last meeting.	Robert – Business Papers

Mount Thorley Warkworth Community Consultative Committee

Monday 22 February 2016

Independent Chair: Col Gellatly

Agenda

1. Welcome
2. Apologies
3. Declaration of pecuniary interests / conflicts of interest
4. Correspondence
5. Matters arising from previous meeting (Actions)
6. Company reports
7. Community feedback
8. General business & Future Dates

COAL & ALLIED
Managed by Rio Tinto Coal Australia

1.0 Welcome & Safety Share

Warkworth Mining Limited

Warkworth Mining Limited
EMERGENCY EVACUATION PROCEDURES

COAL & ALLIED

ACTION TO BE TAKEN ON DISCOVERING
A FIRE OR OTHER EMERGENCY

1. ALERT PERSONS NEARBY OF THE SITUATION.
2. EXTINGUISH THE FIRE IF ABLE TO DO SO WITH SAFETY
3. IF NOT ABLE TO PERFORM 2) NOTIFY RECEPTION OF THE EMERGENCY
3. FOLLOW THE EVACUATION PROCEDURES.

ACTION TO BE TAKEN TO EVACUATE THE BUILDING.

1. FOLLOW INSTRUCTIONS OF THE WARDENS.
2. CLOSE YOUR OFFICE DOOR AND TAKE THIS SIGN WITH YOU.
3. WALK TO THE NEAREST EXIT – DO NOT RUN.
4. PROCEED TO THE EMERGENCY MUSTER POINT ABOVE THE FIRE DAM
4. DO NOT RETURN TO WORK AREA FOR ANY REASON.

2.0 Apologies & others

Apologies

3.0 Declaration of interests

PECUNIARY AND OTHER INTERESTS

Members should declare any pecuniary or other interest which may be considered to prevent them undertaking their role impartially and in the best interests of the local and broader communities. Examples include holding a private contract with the company or holding voluntary acquisition rights. These guidelines establish no requirement in respect of personal interests other than declaration. However, the committee may determine that a personal interest is sufficient that a member should withdraw from discussion on a particular issue.

Source: *Guidelines for establishing and operating community consultative committees for mining projects, June 2007*

4.0 Correspondence

4.1 Business papers

4.2 Correspondence to the committee

5.0 Matters arising from previous meetings

Item	Action
1	MTW to investigate if any external contamination sources near Monitor D124 can be eliminated, or look to relocate *[**Ongoing**: Work has commenced in relocating this monitor]*
2	MTW to discuss air quality monitoring in the MTIE with Ian. *[**Ongoing**: MTW has made requests to meet with Ian. No date has been set.]*
3	MTW to provide the percentage of total area rehabilitated compared with total mine footprint. *[**Complete**: Based on the 2015 Annual Environmental Management Report mapping the percentage is 28.6% rehabilitated land of total disturbance.]*
4	MTW to provide a breakdown on the 12 properties purchased by those that were in the zone of acquisition and those were not in the zone *[**Ongoing**: MTW has made 5 discretionary purchases of properties outside of ZoA.]*

5.0 Matters arising from previous meetings

Item	Action
5	MTW to discuss mobile network coverage issues in Bulga with Telstra *[**Ongoing:** The Rio Tinto Telephony Services Manager in discussions with Telstra]*
6	MTW to advise of an estimated time frame that Wallaby Scrub Road is planned to be closed, in view of the delay in consent *[**Complete:** Estimated to be closed in mid 2017.]*
7	MTW to share their Emergency Plan, particularly in relation to Blasting Incidents / Fume Events with Ian Hedley. *[**Ongoing:** MTW has made requests to meet with Ian. No date has been set.]*
8	MTW to use different colours to separately indicate Warkworth and Mount Thorley in future Blast Monitoring Results Tables. *[**Complete:** From the February Report onwards.]*

6.0 Company Reports

6.1 GM Overview of activities

Mark Rodgers – General Manager

6.2 Approvals Update


N
0
3,000
metres
Scale: 1:75,000

Operational Update

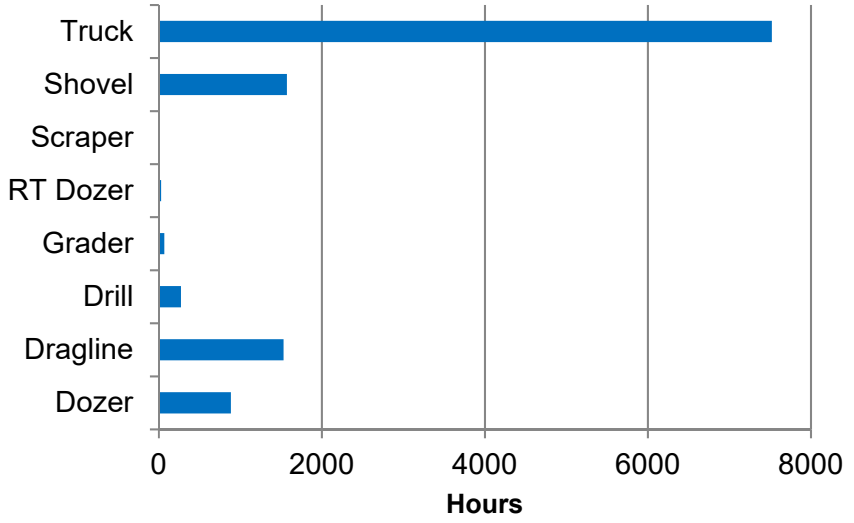
Rehabilitation

Rehabilitation target for 2015 = 74 ha
(outlined in red)

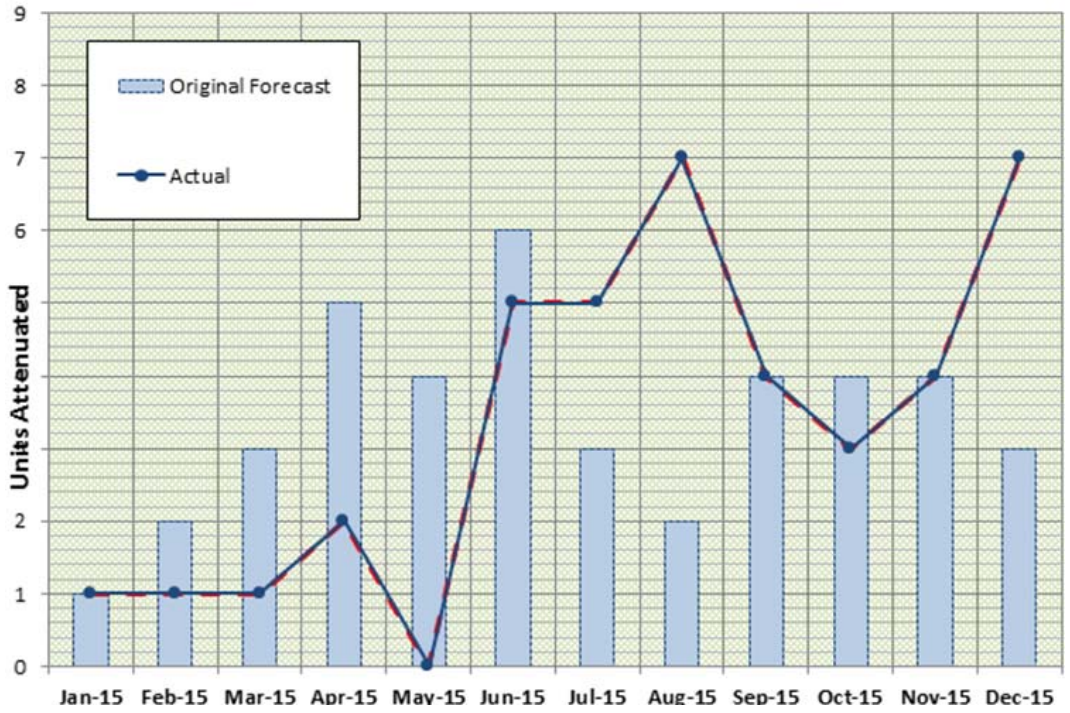
Works completed 2015:
93.8 ha released for shaping
86.1 ha bulk shaped
75.7 ha completed rehab

Operational Downtime

Total 2015 = 11895.92 hours



2015 - MTW Sound Program Plan



COAL & ALLIED
Managed by Rio Tinto Coal Australia

6.0 Company Reports

6.1 GM Overview of activities
Mark Rodgers – General Manager

6.2 Approvals Update

6.2 Warkworth Continuation Update

Update

- Approval for the extension was issued in November 2015.

Next steps

- MTW working to the approved Management Plans.

7.0 Feedback from community representatives

End of meeting – please travel safely

COAL & ALLIED

Managed by Rio Tinto Coal Australia

Mount Thorley Warkworth

Community Consultative Committee

Business Papers – February 2016

Materials ahead of meeting of the committee on 22 February 2016

Contents page

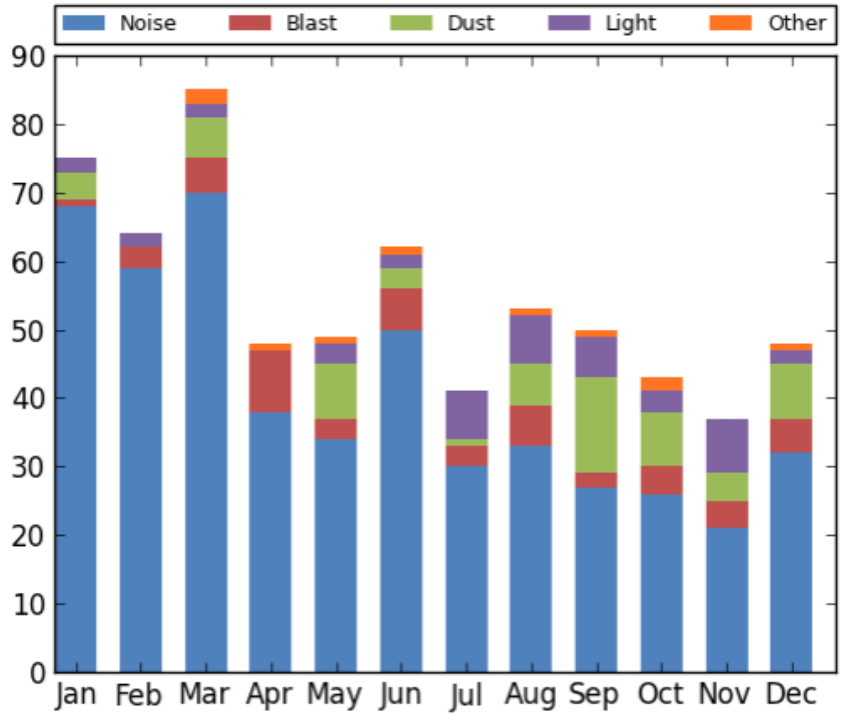
Appendices

1.0 Complaints

Complaints overview for period 1 October to 31 December 2015

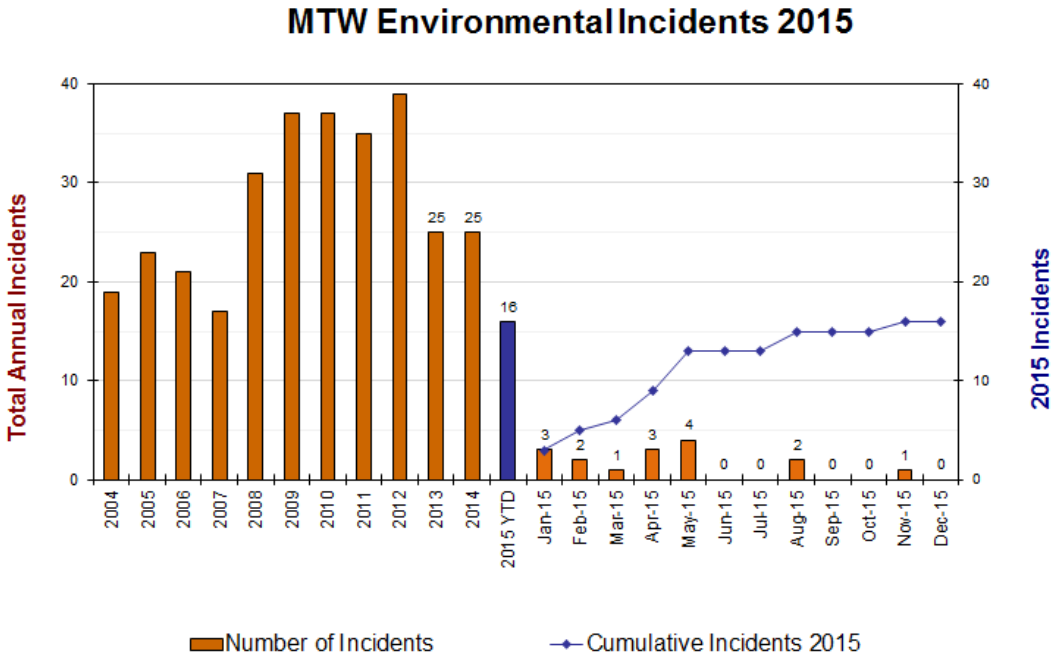
Mount Thorley Warkworth Monthly Complaints Summary

	Noise	Dust	Blast	Lighting	Other	Total
January	68	4	1	2	0	75
February	59	0	3	2	0	64
March	70	6	5	2	2	85
April	38	0	9	0	1	48
May	34	8	3	3	1	49
June	50	3	6	2	1	62
July	30	1	3	7	0	41
August	33	6	6	7	1	53
September	27	14	2	6	1	50
October	26	8	4	3	2	43
November	21	4	4	8	0	37
December	32	8	5	2	1	48
Total	488	62	51	44	10	655



2.0 Incidents

Overview of environmental incidents for period 1 October to 31 December 2015



Incident summary for the period 1 October to 31 December 2015

Date	Details	Key Actions	Aspect
04-November-2016	**South Pit Level 3 Fume Event Migrated Offsite** Visible fume was generated from a blast fired in the South Pit of the Warkworth Mine (WML) at 12:30pm. The fume was ranked as a 3B event on the AEISG. The fume cloud migrated to the North-North-East, passing through the Putty Road at or about the location of the road closure point, and dissipated over lands owned by Warkworth Mining Limited to the east of WML. The incident was notified to the DP&E.	Incident investigated The MTW Blast Management Plan was revised, submitted and have been approved	Air

3.0 Environmental monitoring

Monthly summaries of environmental monitoring for the period 1 October 2015 to 31 December 2015

October 2015

Attached as **Appendix A**

November 2015

Attached as **Appendix B**

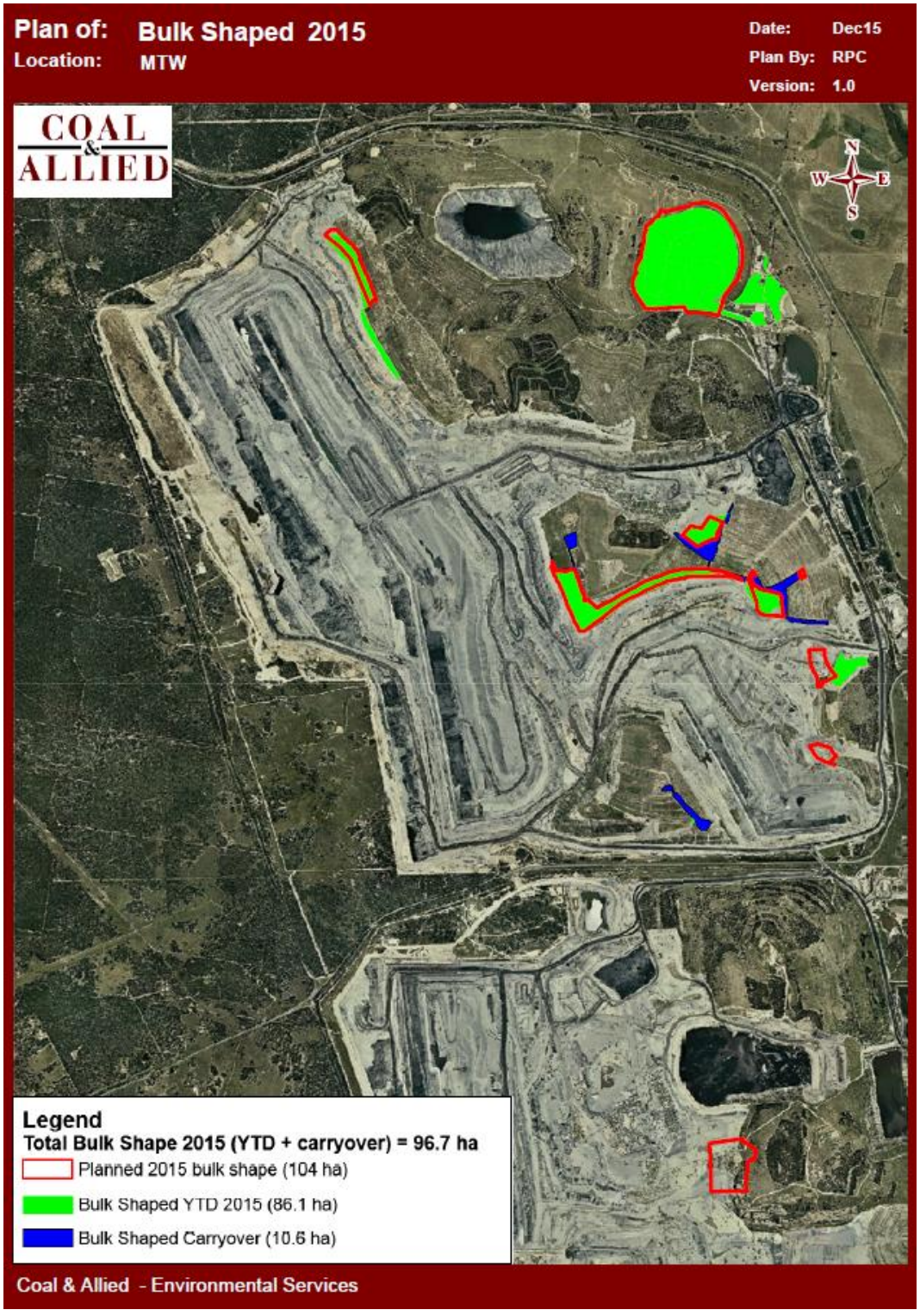
December 2015

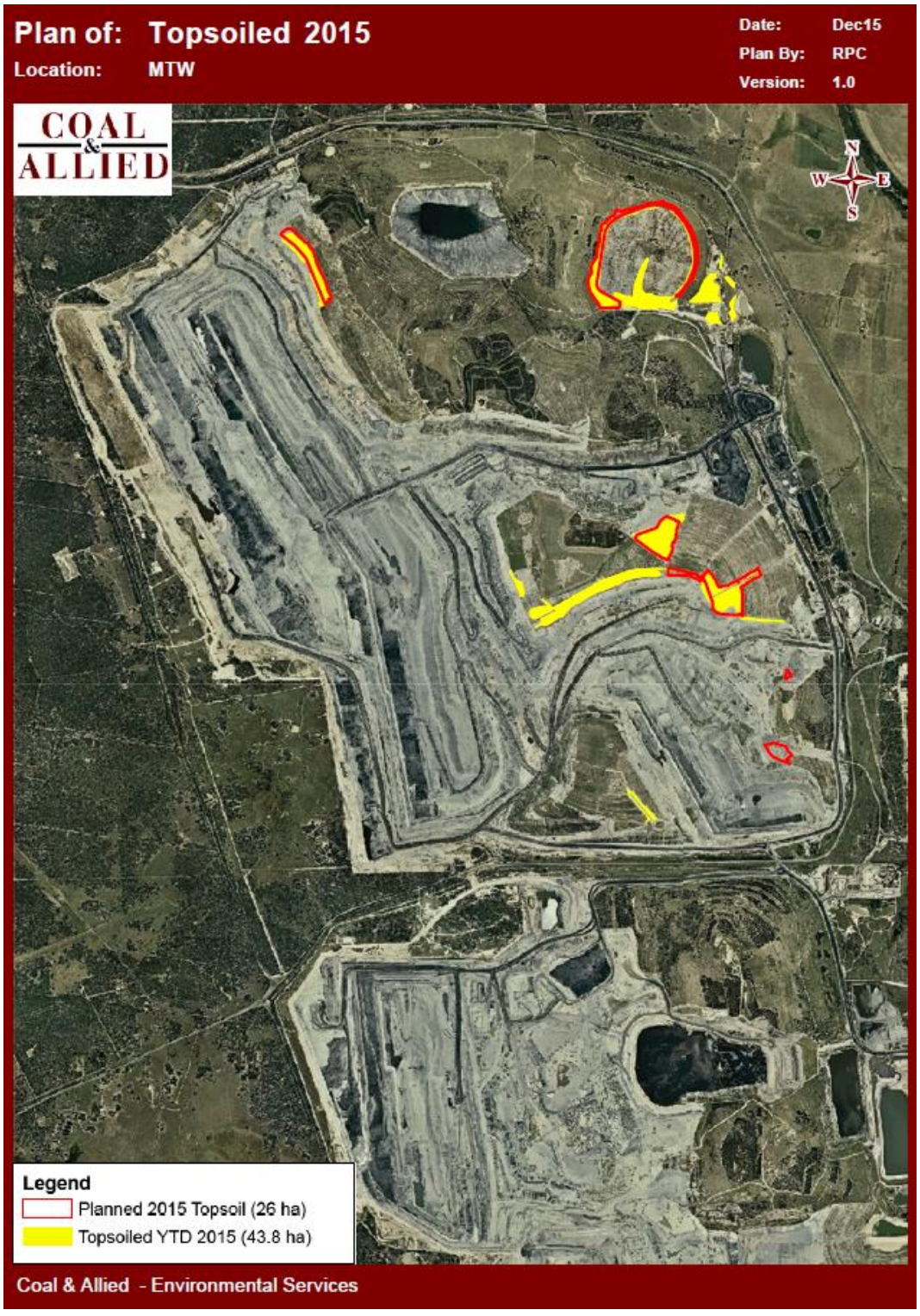
Attached as **Appendix C**

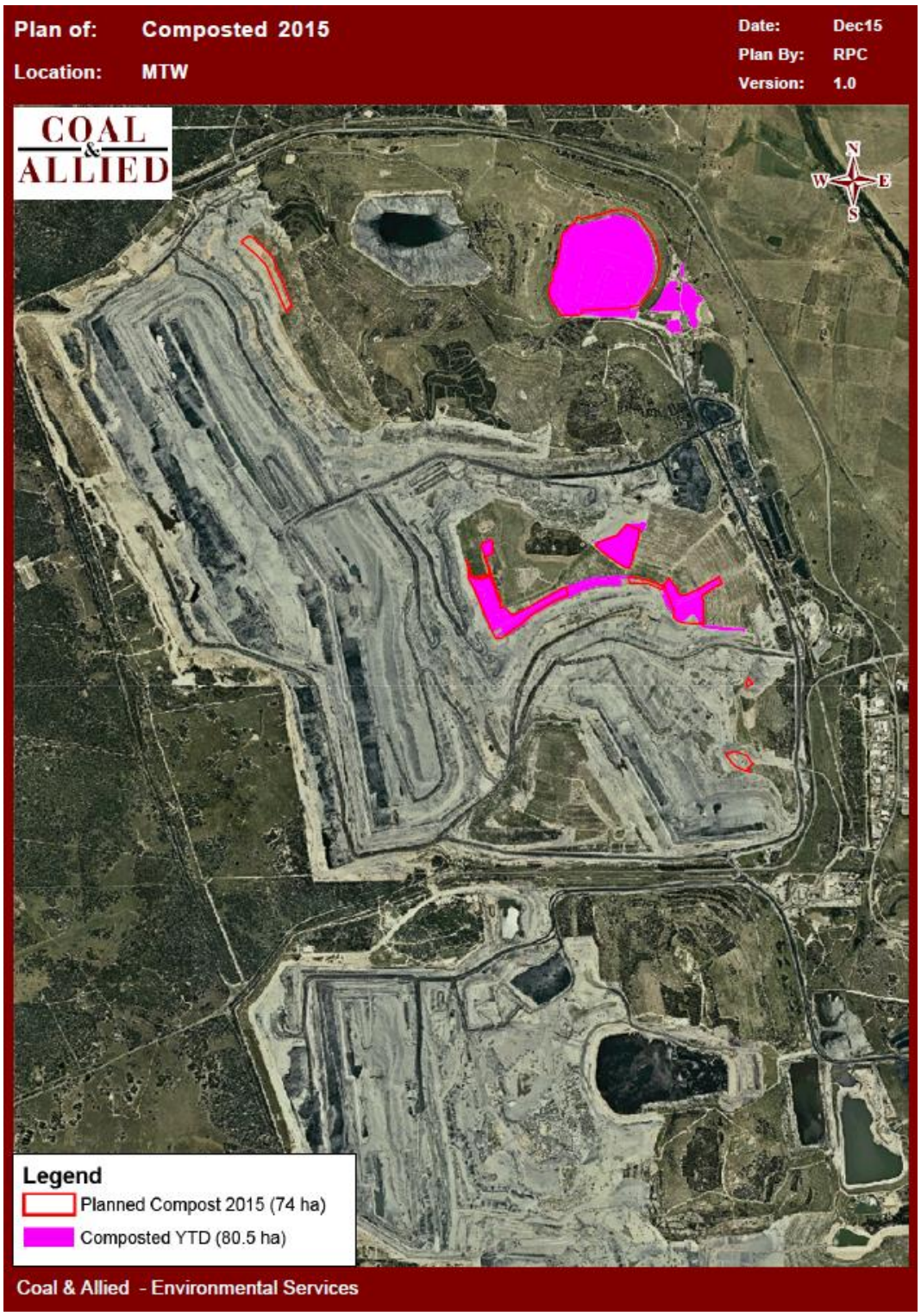
4.0 Rehabilitation plan

At the end of the December 75.7 ha of seeding was completed compared with 32.9 ha of disturbance.

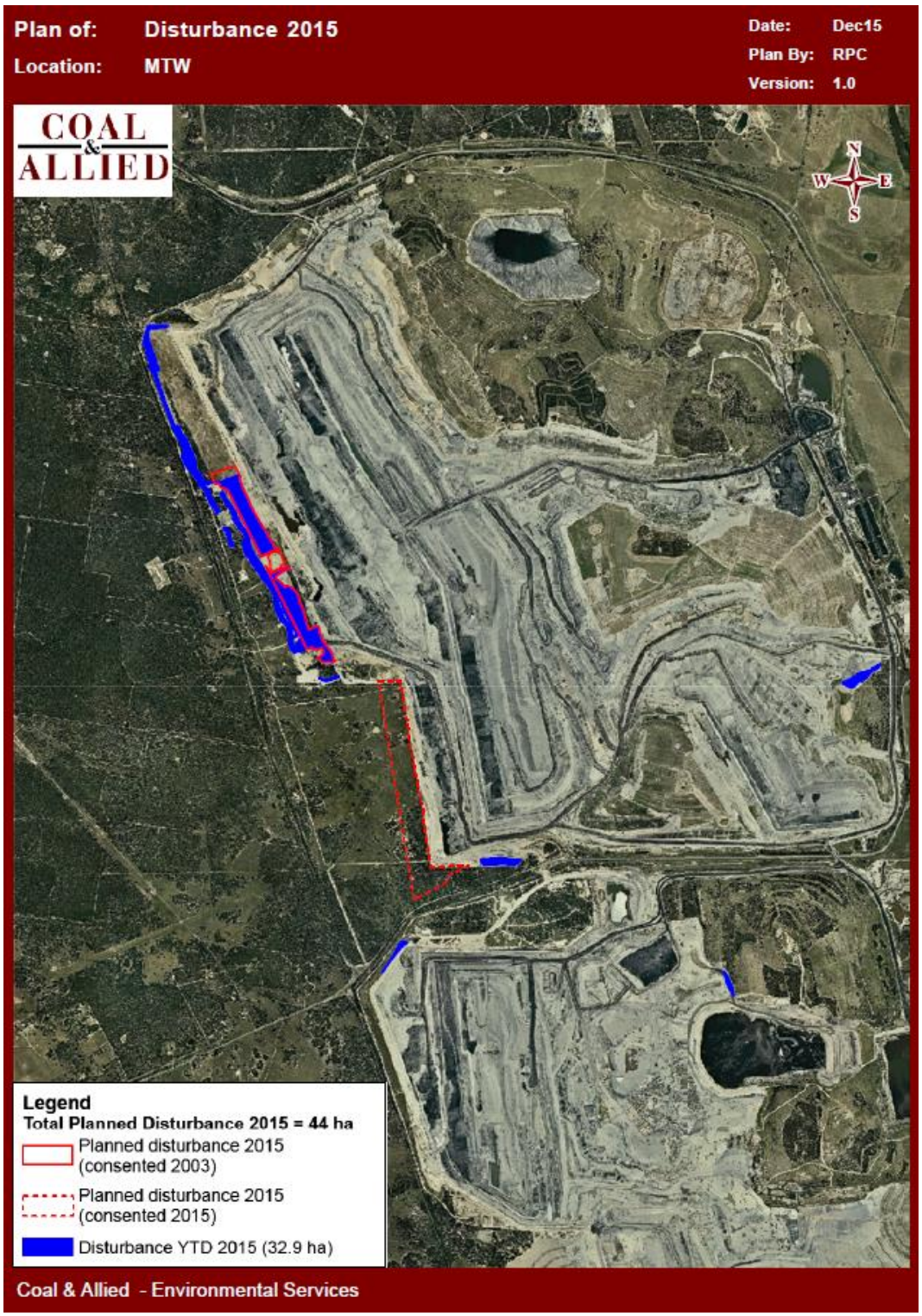
Disturbance was predominantly in Warkworth's West Pit area, for mine advance, and to construct a water management contour along to western extent of the disturbance plan to manage water off pre-strip activities.




Plan of: Topsoiled 2015
Location: MTW
Date: Dec15
Plan By: RPC
Version: 1.0
COAL & ALLIED
N
W
E
S
Legend
Planned 2015 Topsoil (26 ha)
Topsoiled YTD 2015 (43.8 ha)
Coal & Allied - Environmental Services


Plan of: Composted 2015
Location: MTW
Date: Dec15
Plan By: RPC
Version: 1.0
COAL & ALLIED
N
W
E
S
Legend
Planned Compost 2015 (74 ha)
Composted YTD (80.5 ha)
Coal & Allied - Environmental Services


Plan of: Seeded 2015 (completed rehab)
Location: MTW
Date: Dec15
Plan By: RPC
Version: 1.0
COAL & ALLIED
N
W
E
S
Legend
Planned seeding 2015 (74 ha)
Seeding YTD (75.7 ha)
Coal & Allied - Environmental Services


Plan of: Disturbance 2015
Location: MTW
Date: Dec15
Plan By: RPC
Version: 1.0
COAL & ALLIED
N
W
E
S
Legend
Total Planned Disturbance 2015 = 44 ha
Planned disturbance 2015 (consented 2003)
Planned disturbance 2015 (consented 2015)
Disturbance YTD 2015 (32.9 ha)
Coal & Allied - Environmental Services

5.0 Sound Attenuation Update

During 2015 MTW attenuated 40 haul trucks bringing the total attenuated to 55. The remainder are due for completion in 2016 along with the remainder of the dozers, drills and excavators. Overall approximately 70% of the heavy mobile equipment has been attenuated. One watercart remains in the fleet to be attenuated.

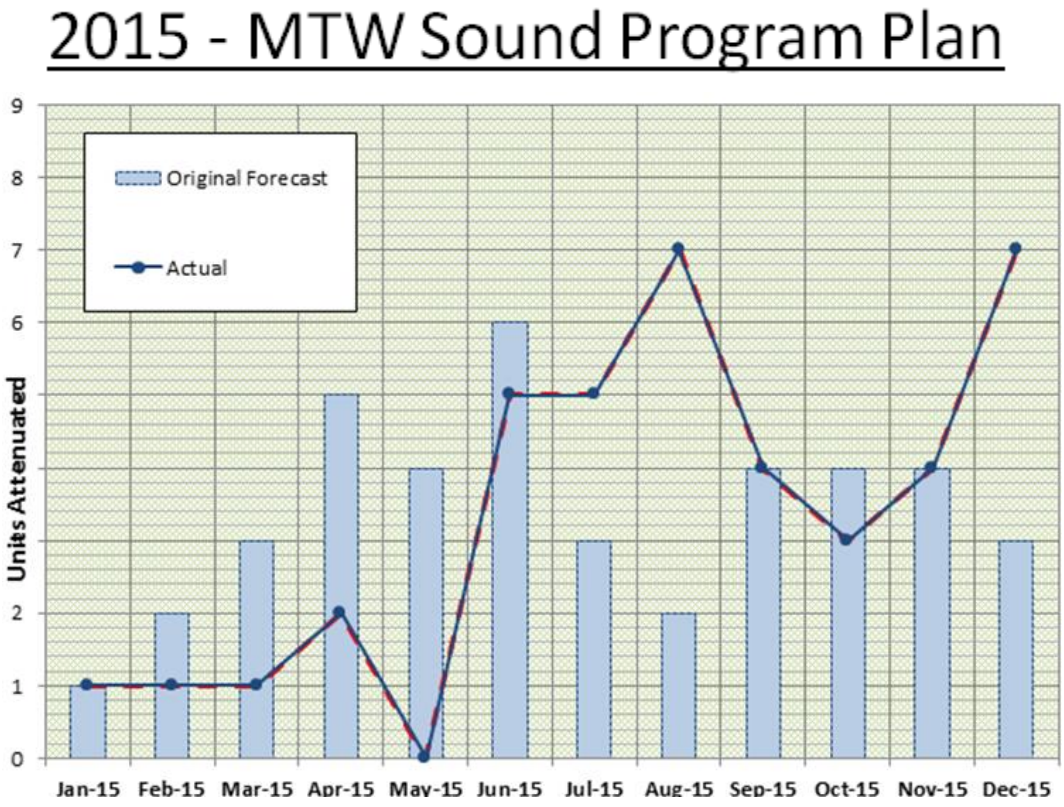


Figure 1: Haul Truck Sound Attenuation Plan

6.0 Acquisition Update

A presentation with a property acquisition update for Mount Thorley Warkworth is included in **Appendix D** of this Business Paper. No updates have been made to the property portfolio since the last CCC meeting.

7.0 Website Uploads

The following is a list of all documents uploaded to the MTW library of the Rio Tinto website between the period of 1 October to 31 December 2015. 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: http://www.riotinto.com/copperandcoal/documents-10401.aspx

Table 1: Uploaded Documents

Document Title	Upload type
Mount Thorley Warkworth Environmental Protection Licence 1376 1976 Monthly Meaningful Summary August 2015	Addition
Mount Thorley Warkworth Environmental Protection Licence 1376 1976 Monthly Obtained Data SummaryAugust 2015	Addition
Mount Thorley Warkworth Environmental Monitoring Report August 2015	Addition
Mount Thorley Warkworth Environmental Monitoring Report September 2015	Addition
Extension of Warkworth Coal Mine Green Offsets Strategy	Addition
Warworth Mining Limited Archaeological & Cultural Heritage Management Plan	Addition
Warkworth Mining Limited Independent Environmental Audit Report February 2006	Addition
Mount Thorley Operations Independent Environmental Audit Report March 2007	Addition
Warkworth Mining Limited Independent Environmental Audit Report February 2011	Addition
Warkworth Mining Limited Independent Environmental Audit Response to recommendations February 2011	Addition
Mount Thorley Operations Independent Environmental Audit Report April 2012	Addition
Warkworth Mining Limited Specialist Independent Environmental Audit Report September 2012	Addition

Warkworth Mining Limited Specialist Independent Environmental Audit Response to recommendations September 2012	Addition
Mount Thorley Operations Independent Environmental Audit Response to recommendations April 2012	Addition
Mount Thorley Warkworth Environmental Protection Licence 1376 1976 Monthly Obtained Data Summary April 2012	Addition
Mount Thorley Warkworth Environmental Protection Licence 1376 1976 Monthly Obtained Data Summary May 2012	Addition
Warkworth Modification 6 Environmental Assessment	Addition
Mount Thorley Operations Heritage Management Plan	Addition
Warkworth Mining Limited Environmental Protection Licence 1376	Addition
Mount Thorley Operations Environmental Protection Licence 1976	Addition
Mount Thorley Coal Loading Environmental Protection Licence 24	Addition
Mount Thorley Warkworth Community Consultative Committee Meeting Presentation February 2015	Addition
Mount Thorley Warkworth Community Consultative Committee Meeting Presentation May 2015	Addition
Mount Thorley Warkworth Community Consultative Committee Meeting Presentation August 2015	Addition
Mount Thorley Warkworth Environmental Protection Licence 1376 1976 Monthly Meaningful Summary September 2015	Addition
Mount Thorley Warkworth Environmental Protection Licence 1376 1976 Monthly Obtained Data Summary September 2015	Addition
Warkworth Continuation Project Development Consent (SSD-6464)	Addition
Mount Thorley Continuation Project Development Consent (SSD-6465)	Addition
Mount Thorley Warkworth Environmental Monitoring Report October 2015	Addition
Mount Thorley Warkworth Environmental Protection Licence 1376 1976 Monthly Meaningful Summary October 2015	Addition
Mount Thorley Warkworth Environmental Protection Licence 1376 1976 Monthly Obtained Data Summary October 2015	Addition

Mount Thorley Warkworth Community Consultative Committee Meeting Business Papers August 2015	Addition
Mount Thorley Warkworth Community Consultative Committee Meeting Business Papers May 2015	Addition
Mount Thorley Warkworth Community Consultative Committee Meeting Business Papers February 2015	Addition
Mount Thorley Warkworth Complaints Register 2015	Change
Mount Thorley Warkworth Environmental Protection Licence 1376 1976 Monthly Meaningful Summary November 2015	Addition
Mount Thorley Warkworth Environmental Protection Licence 1376 1976 Monthly Obtained Data Summary November 2015	Addition

8.0 Community investment & support

Mount Thorley Warkworth (MTW) site donations

The site donations committee provides an opportunity for employees to assess and make recommendations on requests for sponsorship and donations received by MTW.

Funding is provided in the form of sponsorship or a donation to assist local, community-based organisations. The funding criteria for site donations has been updated to reflect MTW's focus on funding projects and initiatives from the Bulga, Milbrodale, Broke and Singleton area.

Application forms can be requested by emailing CNACommunityRelation@riotinto.com. Alternatively, potential projects and opportunities for support from Coal & Allied can be discussed with Travis Bates – Community Relations Specialist, Singleton.

In 2015, MTW provided almost $100,000 to 43 local projects and initiatives, including:

- Singleton Art Prize
- WildLife Aid
- Singleton Show
- Singleton Beef and Land Management Prime Stock Competition
- Singleton Bulls Junior Rugby Club
- Singleton Council Mayoral Scholarships
- Cancer Council NSW Relay for Life
- Darlington Rural Fire Brigade
- Westpac Rescue Helicopter Service Mining Rugby League Knockout Competition
- Branxton Greta Community Business Chamber Umbrella Festival
- Australian Families of the Military Research and Support Foundation (AFOM) – Invisible Wounds Community Workshop (mental health)

Coal & Allied Community Development Fund (CDF)

The year 2015 marks 17 years of operation of the CDF, which has invested $14.5 million to support over 120 community projects in the Hunter Valley since its establishment in 1999, across the areas of health, education, environment and economic development.

In 2014, Coal & Allied announced that a further $3 million would be made available to the CDF over a three year period (2015 – 2017) for projects in the Singleton, Muswellbrook and Upper Hunter LGAs. Strategic priority areas have been refined for the 2015-2017 funding cycle to enable a more targeted approach to addressing identified community need and to leverage other resources Coal and Allied may be able to offer to strengthen community partnerships.

Priority areas for the 2015-2017 funding cycle include:

- Economic Development: encouraging the diversity and competitiveness of the Upper Hunter economy
- Community Health: Supporting projects which target health, safety and social wellbeing of the community
- Education: Promoting the value of education and building skills within our community
- Environment and Land Management: Supporting projects that can make a difference on a greater scale. i.e. beyond C&A mining operations

In 2015, the CDF has committed more than $900,000 to 10 new programmes aimed at delivering long term benefits for communities in the CDF catchment, which include the Singleton, Muswellbrook and Upper Hunter LGAs. A further $1.5 million is available for allocation in 2016-2017.

Table 2: Coal & Allied CDF projects approved in 2015

Programme	Partner
Enterprise Facilitation	Sirolli Institute
Supporting Children's Developing Social Competence	Early Links Inclusion Support Service
Science and Engineering Challenge, and SMART Program (2015 - 2017)	University of Newcastle
Upper Hunter Education Fund Scholarships (2015 - 2017)	Upper Hunter Education Fund
Upper Hunter Beef Bonanza	Upper Hunter Beef Bonanza
Singleton High School Agricultural Course	Singleton High School
University of Newcastle Scholarships	University of Newcastle
Singleton Community College Strategic Plan	Singleton Community College
HSC Study Camps	Upper Hunter Education Fund
Ready 4 School Program	Jerrys Plains Public School

Table 3: Active Coal & Allied CDF programmes running throughout 2015.

Programme	Partner
Upper Hunter Shire Council Community Engagement	Upper Hunter Shire Council
Building Skills and Leadership Capacity in Rural NSW	Royal Agricultural Society (NSW)Foundation
Hunter Youth Leadership Program	The Australian Outward Bound Development Fund
People in Your Neighbourhood- Sustainability Street	Muswellbrook Shire Council
Tocal Schools Steer Challenge	Department of Primary Industries Tocal College
Local SME Supply Chain Participant project	HunterNet
Scholarship Program	University of Newcastle
Economic Development and Funding Coordinator	Singleton Council
Business Development Officer	Singleton Business Chamber
Singleton Place Making (ends in July 2015)	Singleton Council
Science and Engineering Challenge and SMART Program	University of Newcastle
Enterprise Facilitation	Sirolli Institute
Upper Hunter Beef Bonanza	UHBB
Supporting Children's Developing Social Competence	Early Links
Upper Hunter Education Fund Scholarships	UHEF

Coal & Allied Aboriginal Community Development Fund (ACDF)

In 2015, the ACDF invested almost $490,000 through 22 partnerships in education, community and business development and culture. This represented approximately 90% of available funds. These partnerships demonstrated strong potential to deliver meaningful benefit and/or long-term sustainable outcomes for Aboriginal communities in the Singleton, Muswellbrook and Upper Hunter Local Government Areas (LGA).

All flagship partnerships were aligned to ACDF strategic investment priorities, whilst smaller projects reflected a broad range of community needs and interests within established ACDF funding categories.

A longstanding and highly valued partnership is the Singleton Schools Dance Program. Through this program, Singleton High School and two town and rural primary schools employ a dance teacher each fortnight to educate and engage Aboriginal students in their culture. The participating schools have established dance groups which perform at school assemblies for NAIDOC and Reconciliation Week. A larger, inter-school dance group come together to perform at significant community events.

Now in its 6th year, the program has made a significant contribution to a visible and positive presence for Aboriginal peoples and culture within the schools and through the community performances, helped to build awareness and understanding between the school community, local Aboriginal and wider communities.

The ACDF is accessible to any Aboriginal person residing in, or who is from, the Upper Hunter Valley, or organisation undertaking a project to benefit specific Aboriginal target groups or wider Aboriginal communities in the Upper Hunter Valley.

Figure 2: Distribution of ACDF by Category

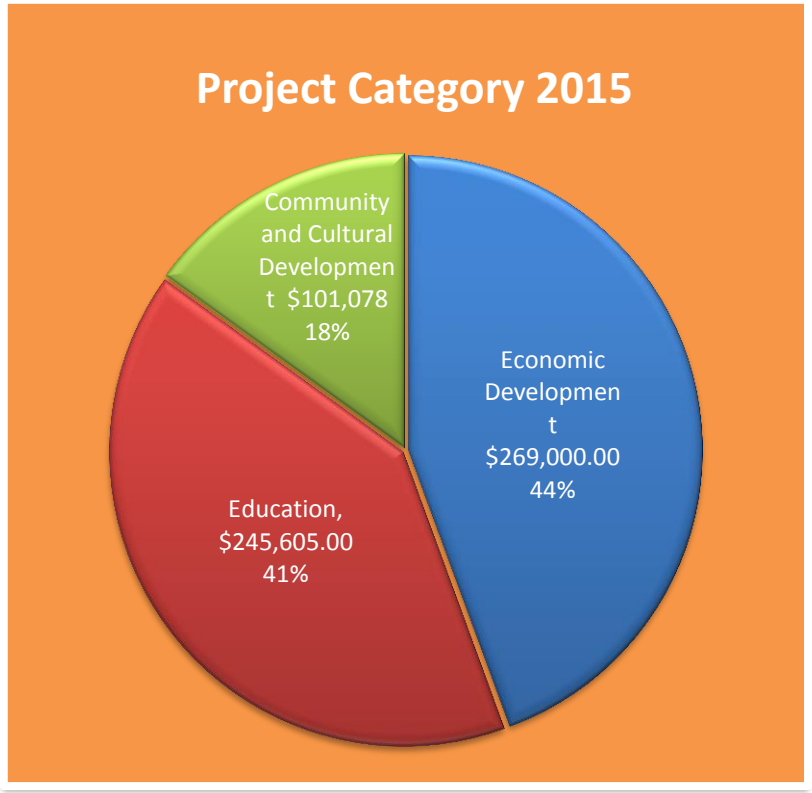


Figure 3: Distribution of ACDF by LGA

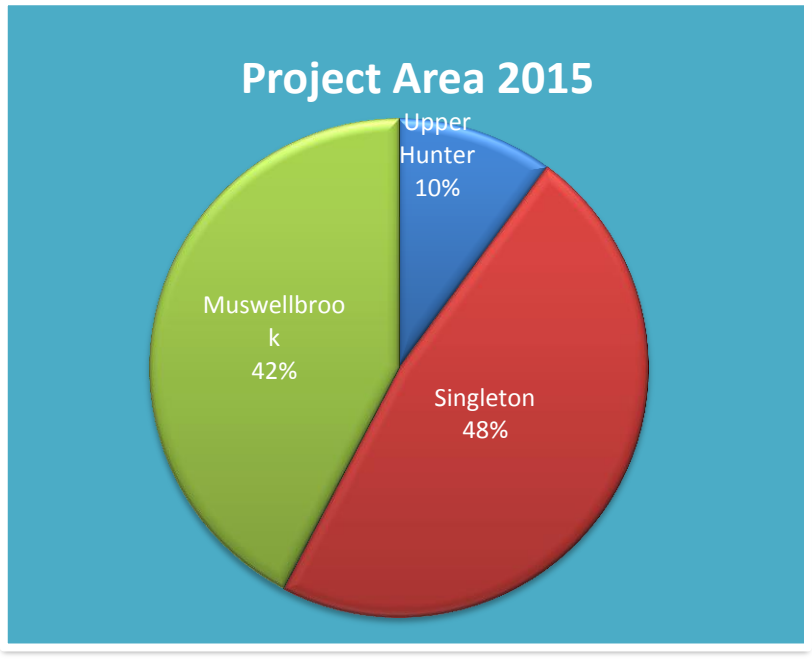


Table 4: ACDF projects approved in 2015 & prior funding cycles

Programme	Partner
Max Potential	Future Achievement Australia Foundation
Microenterprise Development in the Upper Hunter (Renewed)	Many Rivers Microfinance
Wonnarua Mining Rehabilitation Operations	Wonnarua Mining Rehab Pty Ltd (Wonnarua Nation Aboriginal Corp)
Study Assistance	Fiona Murray
The Australian Outward Bound Scholarships	Australian Outward Bound
Ka Wul - New Definition (Renewed)	Singleton High School
Singleton Art Prize	Rotary Club of Singleton on Hunter Inc.
Aboriginal Business Development and Employment Forum	NSW Indigenous Chamber of Commerce
Partnerships for Success (Renewed)	Polly Farmer Foundation
Administration Traineeship	Wanaruah Local Aboriginal Land Council
Muswellbrook Youth Workshop	Bangarra Dance Theatre
NAIDOC Celebrations	St James Primary School
Les Elvin Funeral Expenses	NSW Indigenous Chamber of Commerce
Strategic planning and operational support	Wonnarua Nation Aboriginal Corp
Ka-wul New Beginnings	Singleton High School
NAIDOC Week	Singleton Schools Management Group
YINPI - Post School Pathways Program	Singleton High School
Warrae Wanni School Readiness (renewed 2014-2015)	Muswellbrook South School
Kawul - New Directions	Singleton High School
Parents and Learning (PAL)	Napranum Pre-School
Dookal Group Pty Ltd	Ungooroo Aboriginal Corporation
NAIDOC week activities	Wanaruah Local Aboriginal Land Council
Singleton Schools Aboriginal Dance Group (renewed)	Broke Public School
The Gundi Programme	St Heliers Correctional Centre
Industry scholarships	University of Newcastle
Wupa@Wanaruah Art and Cultural Event	Ungooroo Aboriginal Corporation

COAL & ALLIED

Managed by Rio Tinto Coal Australia

Appendix A

Environmental Monitoring
October 2015

COAL & ALLIED

Managed by Rio Tinto Coal Australia

Mount Thorley Warkworth

Monthly Environmental Report

October 2015

Coal & Allied Operations Pty Ltd

ABN 16 000 023 656

Lemington Road, Ravensworth via Singleton NSW 2330 Australia

PO Box 315 Singleton NSW 2330 Australia

Telephone +61 2 6570 0300 Facsimile +61 2 6570 0399

CONTENTS

Figures

Tables

Revision History

Version No.	Person Responsible	Document Status	Date
1.0	**Environmental Advisor**	**Draft**	**20/11/2015**
1.1	**Environmental Specialist**	**Final**	**26/11/2015**

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 October to 31st October 2015.

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

2015	Monthly Rainfall (mm)	Cumulative Rainfall (mm)
October	18.4	560.0

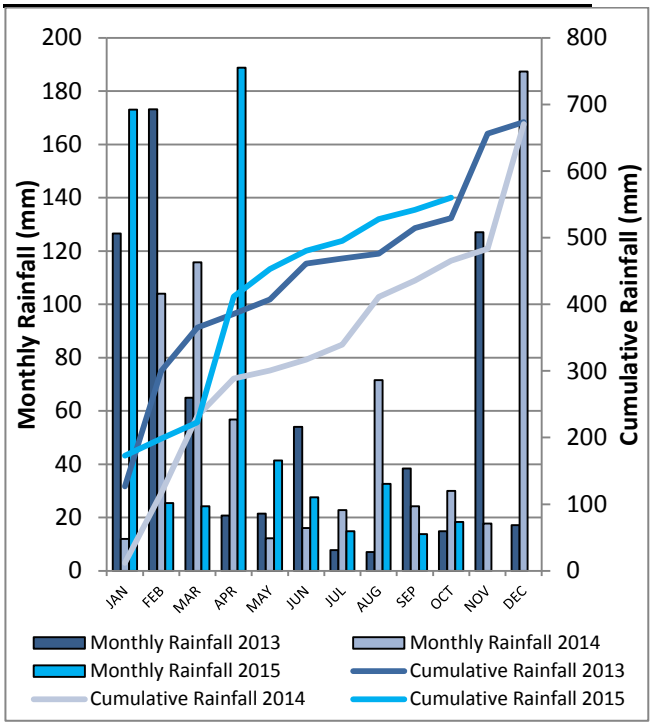


Figure 1: Rainfall Trend YTD

2.1.2 Wind Speed and Direction

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

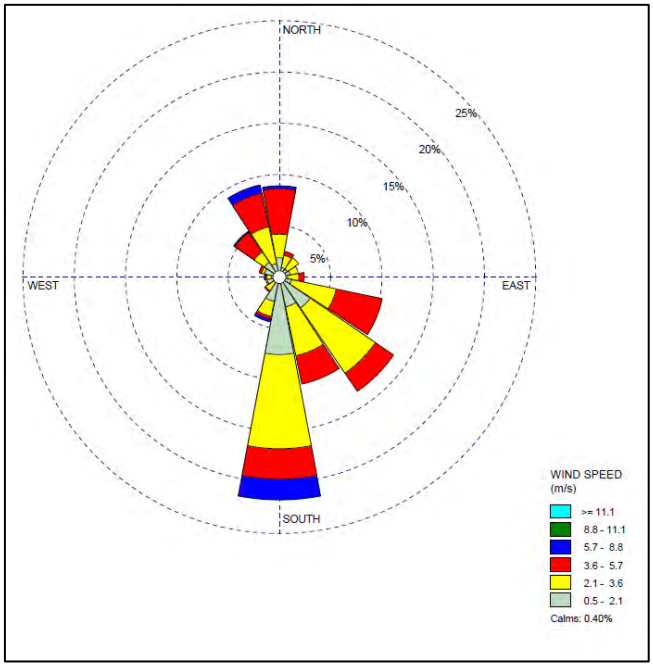


Figure 2: Charlton Ridge Wind Rose – October 2015

Figure 3: Air Quality Monitoring Locations

2.2 Depositional Dust

To monitor regional air quality, MTW operates and maintains a network of nine 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.

Monitors D11 and Warkworth recorded results of 9.2 and 5.2g/m^2 for the month respectively. The field notes associated with the D11 result 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.

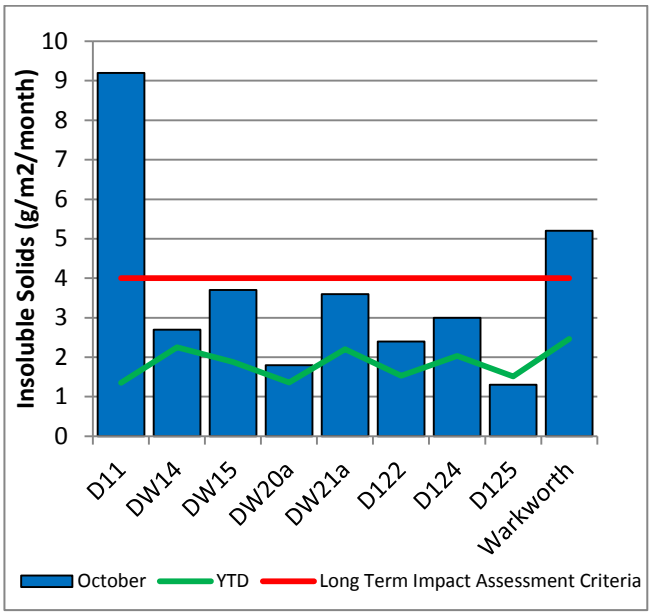


Figure 4: Depositional Dust – October 2015

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.

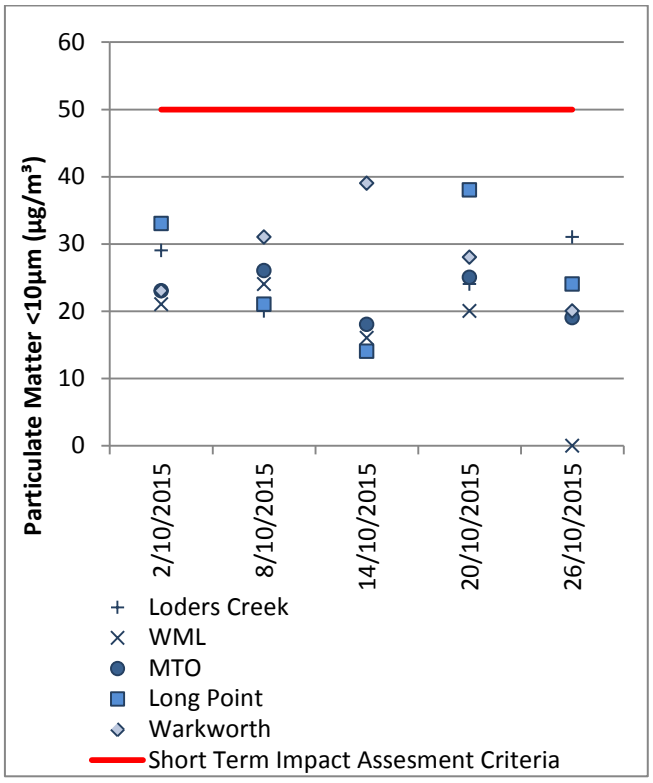


Figure 5: Individual PM_{10} Results – October 2015

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

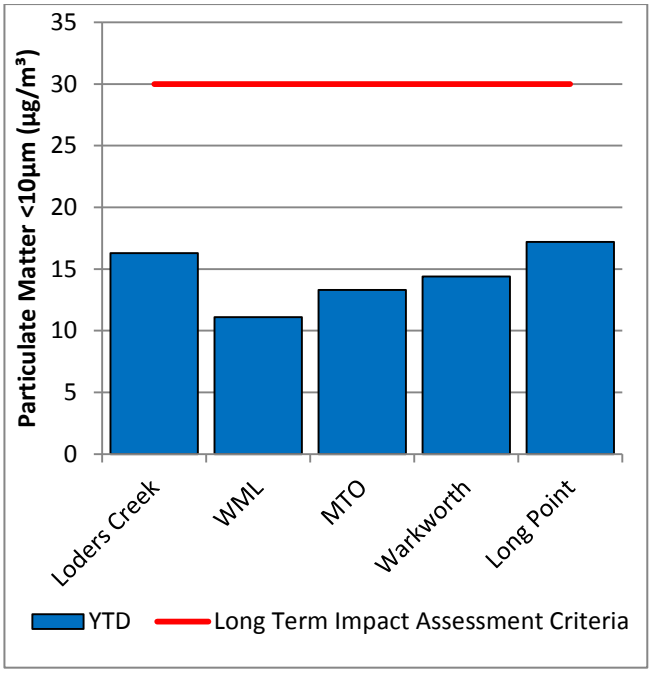


Figure 6: Annual Average PM_{10} – October 2015

2.3.2 TSP Results

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

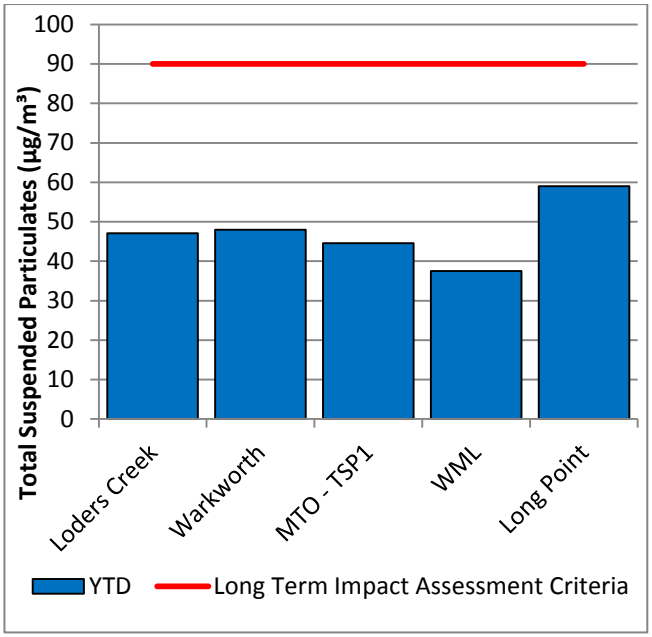


Figure 7: Annual Average Total Suspended Particulates – October 2015

2.3.3 Real Time PM_{10} Results

Mount 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. There were four results recorded which exceeded the short term (24hr) criteria during the reporting period. Measurements of 70.0µg/m³, 72.0µg/m³, 81.0µg/m³ and 51.0µg/m³ were recorded at the Mount Thorley Industrial Estate (MTIE) TEOM location on the 5th, 6th, 7th and 17th October 2015 respectively.

After an internal investigation it was determined that the maximum MTW contribution to the results is in the order of 43.2 µg/m³ (5th), 33.8 µg/m³ (6th), 38.8 µg/m³ (7th) and 17.1 µg/m³ (17th) respectively. The Department of Planning and Environment has been notified in writing of these measurements. No further information has been requested from the Department in relation to these results at the time of preparation of this report.

2.3.4 Real Time Alarms for Air Quality

During October, the real time monitoring system generated 69 automated air quality related alerts, including 8 alerts for adverse meteorological conditions and 61 alerts for elevated PM_{10} levels.

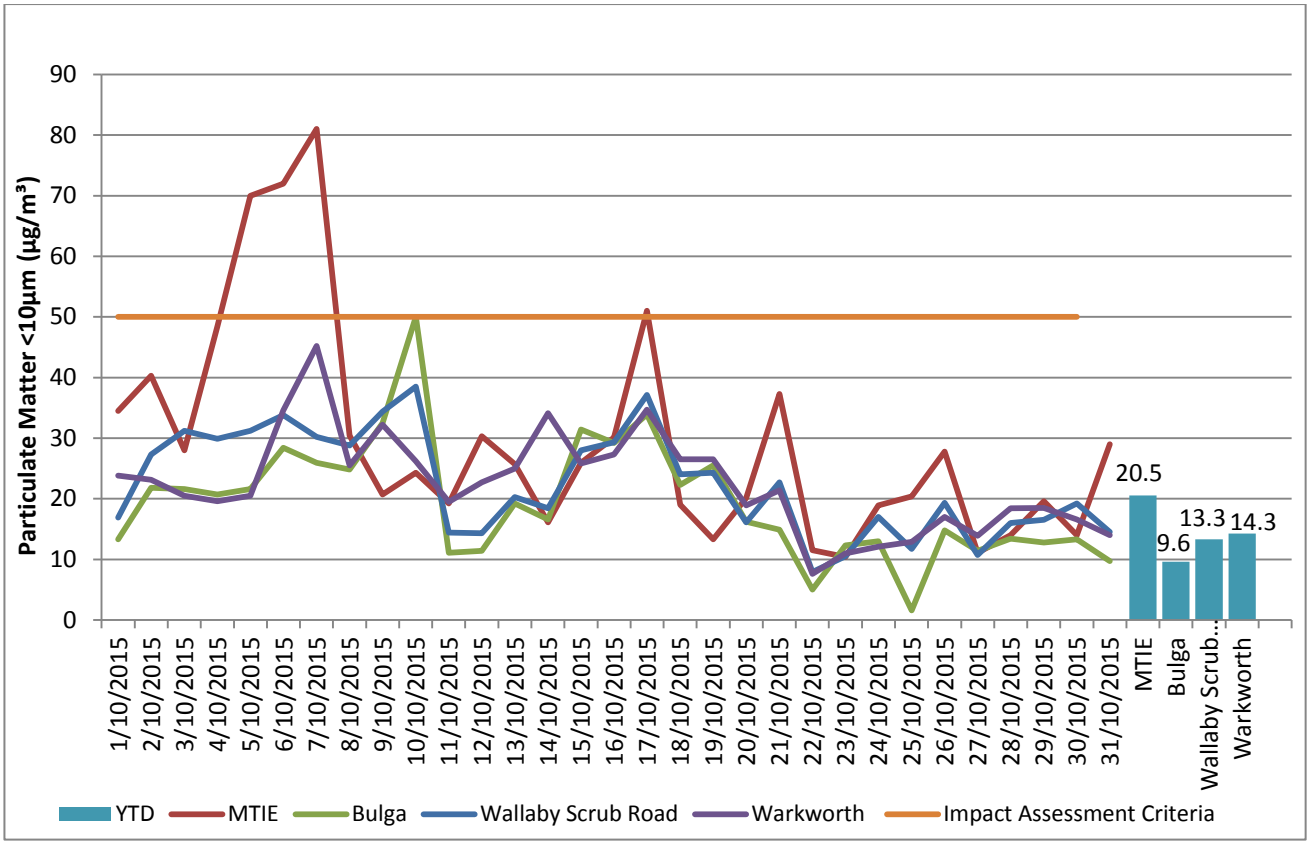


Figure 8: Real Time PM_{10} daily 24hr average and annual average – October 2015

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 December 2015 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 December 2015 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 October 2015, 33 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%

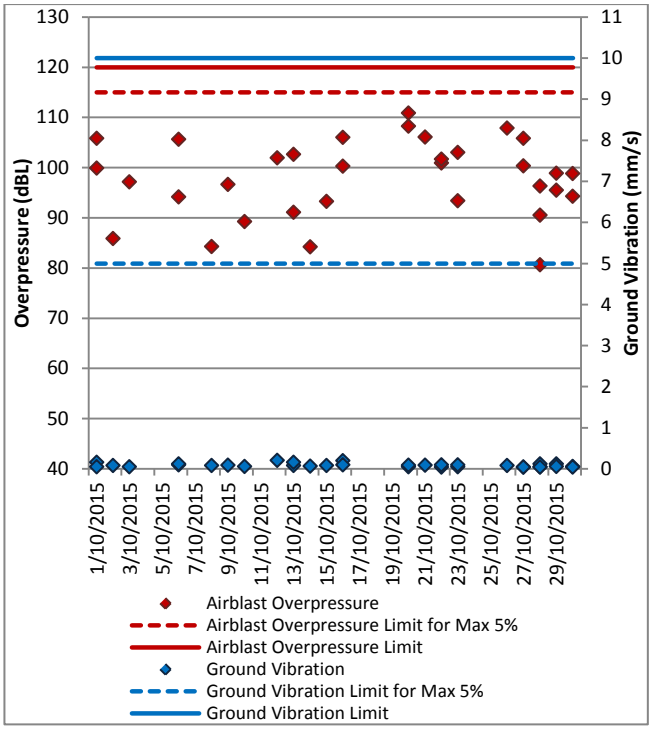


Figure 9: Abbey Green Blast Monitoring Results – October 2015

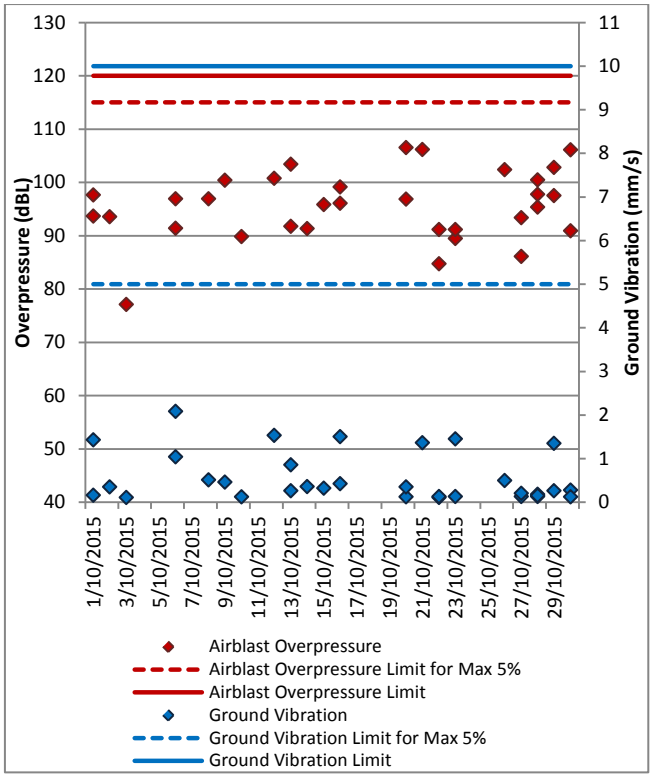


Figure 10: Bulga Village Blast Monitoring Results – October 2015

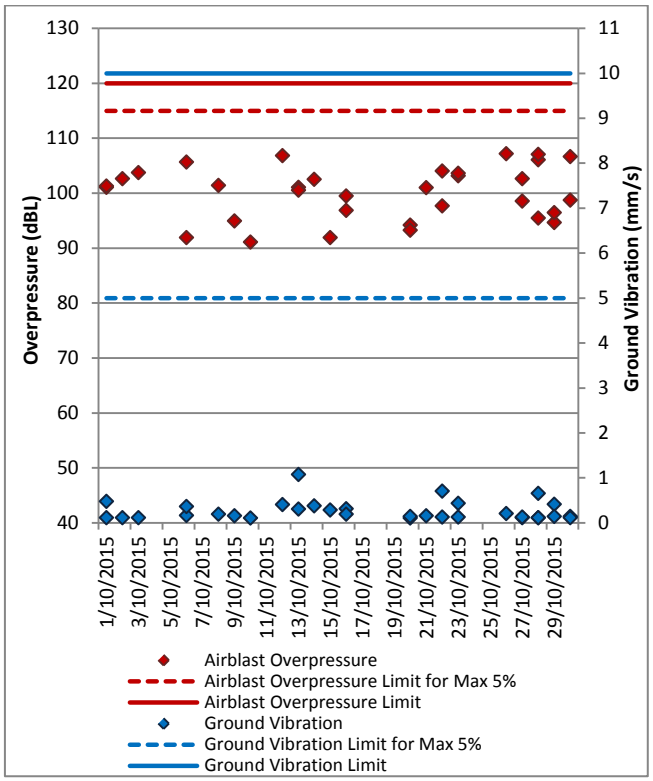


Figure 11: MTIE Blast Monitoring Results – October 2015

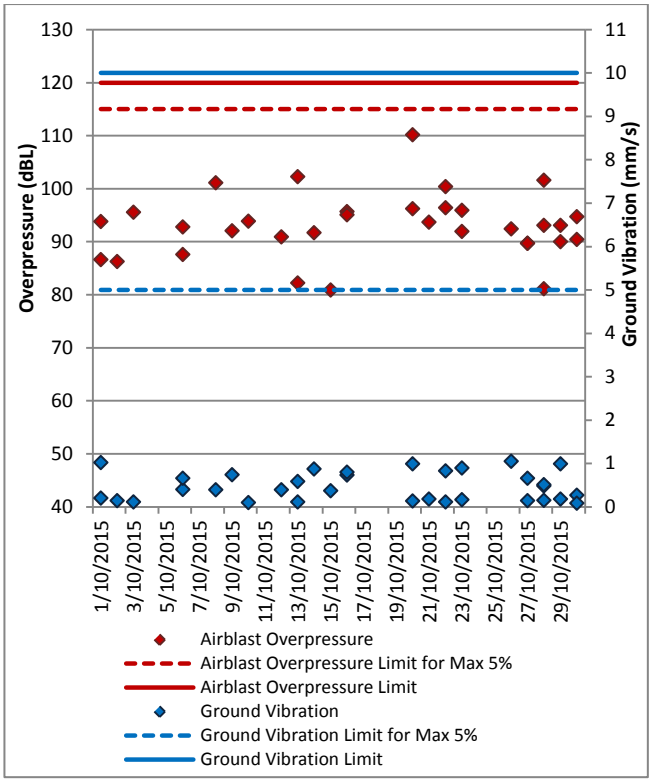


Figure 12: Warkworth Blast Monitoring Results - October 2015

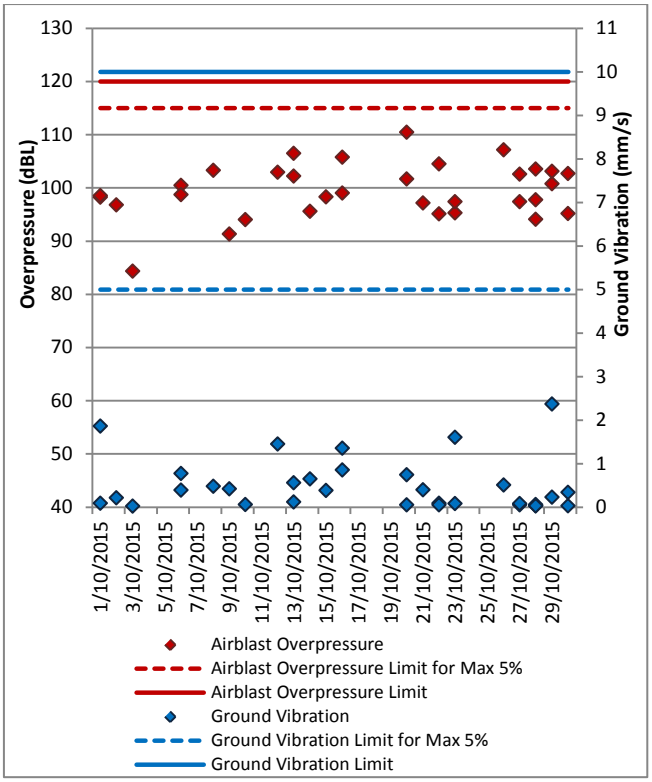


Figure 13: Wambo Road Blast Monitoring Results - October 2015

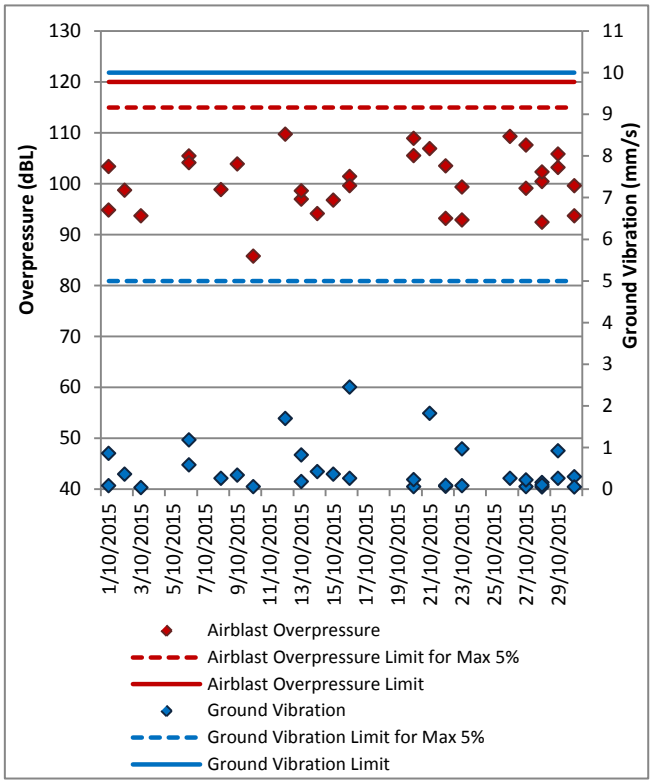


Figure 14: Wollemi Peak Road Blast Monitoring Results – October 2015.

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. 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 nine 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 8/9 October 2015. All measurements complied with the relevant criteria. Results are detailed in Table 3 to Table 7.

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 – October 2015

Location	Date and Time	Wind Speed (m/s)[5]	VTG	Criterion (dB(A))	Criterion Applies?[1,6]	WML L_{Aeq} dB[2,4]	Exceedance[3]	Total L_{Ceq} – L_{Aeq}	Revised WML L_{Aeq}[5,6]
MTIE	8/10/2015 22:04	2.3	3.0	NA	NA	IA	NA	14	IA
Bulga Village	8/10/2015 22:35	2.1	3.0	38	Yes	28	Nil	21	33
Gouldsville Road	9/10/2015 00:44	2.2	3.0	NA	NA	NM	NA	25	NM
Inlet Road West	8/10/2015 23:53	2.4	-1.0	35	Yes	<25	Nil	23	<30
Long Point	8/10/2015 23:53	2.4	-1.0	37	Yes	NM	Nil	21	NM
Wollemi Peak Road	9/10/2015 00:47	2.2	3.0	35	Yes	IA	Nil	20	IA
South Bulga	9/10/2015 00:23	2.1	3.0	35	Yes	IA	Nil	14	IA
Wambo Road	8/10/2015 22:59	2.6	0.5	38	Yes	29	Nil	21	34

Table 4: $L_{Aeq,\ 15\ minute}$ Warkworth - Land Acquisition Criteria – October 2015

Location	Date and Time	Wind Speed (m/s)[5]	VTG	Criterion (dB(A))	Criterion Applies?[1,6]	WML L_{Aeq} dB[2,4]	Exceedance[3]	Total L_{Ceq} – L_{Aeq}[7]	Revised WML L_{Aeq}[5,6]
MTIE	8/10/2015 22:04	2.3	3.0	44	Yes	IA	Nil	14	IA
Bulga Village	8/10/2015 22:35	2.1	3.0	43	Yes	28	Nil	21	33
Gouldsville Road	9/10/2015 00:44	2.2	3.0	43	Yes	NM	Nil	25	NM
Inlet Road West	8/10/2015 23:53	2.4	-1.0	40	Yes	<25	Nil	23	<30
Long Point	8/10/2015 23:53	2.4	-1.0	40	Yes	NM	Nil	21	NM
Wollemi Peak Road	9/10/2015 00:47	2.2	3.0	40	Yes	IA	Nil	20	IA
South Bulga	9/10/2015 00:23	2.1	3.0	40	Yes	IA	Nil	14	IA
Wambo Road	8/10/2015 22:59	2.6	0.5	40	Yes	29	Nil	21	34

Notes

1. *Application of Criterion as per meteorological exclusions set out in the Approvals;*
2. *These are measured A-weighted noise levels (professional assessment of noise contribution from the target source (WML / MTO) only);*
3. *Exceedance is defined in the MTW Noise Management Plan. Bolded results in red are those greater than the relevant criterion;*
4. *Results denoted by "<" indicate that the relative contribution of the target consent area could not be absolutely determined, but is assessed up to a maximum of the recorded value. "IA" means that the target consent area was inaudible during the assessment. "NM" means that the target consent area was audible, but at such low levels that an accurate assessment of noise level could not be determined;*
5. *Revised WML L_{Aeq} includes application of the INP Low Frequency modification factor penalty where applicable;*
6. *Low Frequency Penalty is not be applied where external noise sources influence the L_{Ceq} measurement, or during instances where the noise criteria do not apply (see note 1); and*
7. *INP assessment of Total L_{Ceq} minus Total L_{Aeq}. INP Low Frequency Penalty is applicable where this exceeds 15*
8. *INP modification factor has not been applied as noise levels attributable (in part) to mine noise from non-CNA mine*

5.1.3 MTO Noise Assessment

Compliance assessments undertaken against the MTO noise criteria are presented in Table 5 to Table 7.

Table 5: $L_{Aeq,\ 15minute}$ Mount Thorley - Impact Assessment Criteria –October 2015

Location	Date and Time	Wind Speed (m/s)[5]	VTG	Criterion dB	Criterion Applies?[1,6]	MTO L_{Aeq} dB[2,4]	Exceedance[3]	Total L_{Ceq} – L_{Aeq}[7]	Revised MTO L_{Aeq}[5,6]
MTIE	8/10/2015 22:04	2.3	3.0	NA	NA	<30	NA	14	<30
Bulga Village	8/10/2015 22:35	2.1	3.0	40	Yes	28	Nil	21	33
Gouldsville Road	9/10/2015 00:44	2.2	3.0	44	Yes	IA	Nil	25	IA
Inlet Road West	8/10/2015 23:53	2.4	-1.0	35	Yes	<25	Nil	23	<30
Long Point	8/10/2015 23:53	2.4	-1.0	39	Yes	IA	Nil	21	IA
Wollemi Peak Road	9/10/2015 00:47	2.2	3.0	38	Yes	32	Nil	20	37
South Bulga	9/10/2015 00:23	2.1	3.0	37	Yes	28	Nil	14	33
Wambo Road	8/10/2015 22:59	2.6	0.5	40	Yes	IA	Nil	21	IA

Table 6: $L_{Aeq,15minute}$ Mount Thorley – Land Acquisition Criteria –October 2015

Location	Date and Time	Wind Speed (m/s)[5]	VTG[5]	Criterion dB	Criterion Applies?[1,6]	MTO L_{Aeq} dB[2,4]	Exceedance[3]	Total L_{Ceq} – L_{Aeq}[7]	Revised MTO L_{Aeq}[5,6]
MTIE	8/10/2015 22:04	2.3	3.0	NA	NA	<30	NA	14	<30
Bulga Village	8/10/2015 22:35	2.1	3.0	43	Yes	28	Nil	21	33
Gouldsville Road	9/10/2015 00:44	2.2	3.0	45	Yes	IA	Nil	25	IA
Inlet Road West	8/10/2015 23:53	2.4	-1.0	43	Yes	<25	Nil	23	<30
Long Point	8/10/2015 23:53	2.4	-1.0	43	Yes	IA	Nil	21	IA
Wollemi Peak Road	9/10/2015 00:47	2.2	3.0	43	Yes	32	Nil	20	37
South Bulga	9/10/2015 00:23	2.1	3.0	43	Yes	28	Nil	14	33
Wambo Road	8/10/2015 22:59	2.6	0.5	43	Yes	IA	Nil	21	IA

Table 7: $L_{A1,\ 1Minute}$ Mount Thorley - Impact Assessment Criteria – October 2015

Location	Date and Time	Wind Speed (m/s)[5]	VTG[5]	Criterion dB	Criterion Applies?[1,6]	MTO $L_{A1,\ 1min}$ dB[2,4]	Exceedance[3]
MTIE	8/10/2015 22:04	2.3	3.0	NA	NA	30	NA
Bulga Village	8/10/2015 22:35	2.1	3.0	48	Yes	32	Nil
Gouldsville Road	9/10/2015 00:44	2.2	3.0	47	Yes	IA	Nil
Inlet Road West	8/10/2015 23:53	2.4	-1.0	48	Yes	<25	Nil
Long Point	8/10/2015 23:53	2.4	-1.0	47	Yes	IA	Nil
Wollemi Peak Road	9/10/2015 00:47	2.2	3.0	48	Yes	38	Nil
South Bulga	9/10/2015 00:23	2.1	3.0	48	Yes	31	Nil
Wambo Road	8/10/2015 22:59	2.6	0.5	48	Yes	IA	Nil

Notes

1. *Application of Criterion as per meteorological exclusions set out in the Approvals;*
2. *These are measured A-weighted noise levels (professional assessment of noise contribution from the target source (WML / MTO) only);*
3. *Exceedance is defined in the MTW Noise Management Plan. Bolded results in red are those greater than the relevant criterion;*
4. *Results denoted by "<" indicate that the relative contribution of the target consent area could not be absolutely determined, but is assessed up to a maximum of the recorded value. "IA" means that the target consent area as inaudible during the assessment. "NM" means that the target consent area was audible, but at such low levels that an accurate assessment of noise level could not be determined;*
5. *Revised WML L_{Aeq} includes application of the INP Low Frequency modification factor penalty where applicable;*
6. *Low Frequency Penalty is not be applied where external noise sources influence the L_{Ceq} measurement, or during instances where the noise criteria do not apply (see note 1);*
7. *INP assessment of Total L_{Ceq} minus Total L_{Aeq}. INP Low Frequency Penalty is applicable where this exceeds 15; and*
8. *INP modification factor has not been applied as noise levels attributable (in part) to mine noise from non-CNA mine*

5.1.4 INP Low Frequency Assessment

In accordance with the requirements of the NSW Industrial Noise Policy (INP), the low frequency modification factor has been applied where appropriate. It should be noted that the Industrial Noise Policy does not give guidance on the application of the penalty where more than one target noise source is audible. The L_{Ceq} levels reported above are “Total”, or “Total mine noise” at best, and cannot be attributed accurately to a single mine. Accordingly, where the INP criteria for the application of the Low Frequency modification factor is triggered, the penalty has been applied to the dominant mine noise source (either of WML or MTO).

There were no exceedances of criteria recorded during the reporting period.

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:

- Replacement of non-attenuated equipment with sound attenuated equipment;
- 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 October are provided in Table 8.

Table 8: Supplementary Attended Noise Monitoring Data – October 2015

No. of assessments	No. of assessments > trigger	No. of nights where assessments > trigger	% greater than trigger
638	28	8	4.4

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

6.0 OPERATIONAL DOWNTIME

During October, a total of 1877.3 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 17.

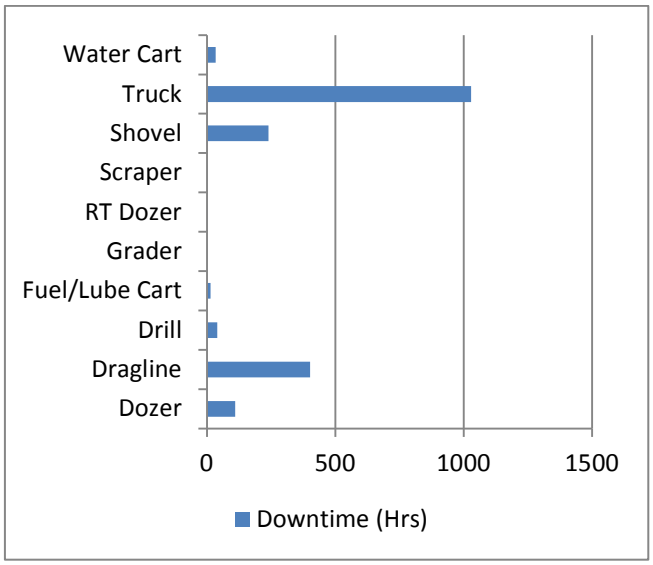


Figure 17: Operational Downtime by Equipment Type – October 2015

7.0 REHABILITATION

During October, 19.70 Ha of land was released, 8.12 Ha of land was bulk-shaped, 0.78 Ha was topsoiled, 22.81 Ha of land was composted and 13.06 Ha of land was rehabbed. Year-to-date progress can be viewed in Figure 18.

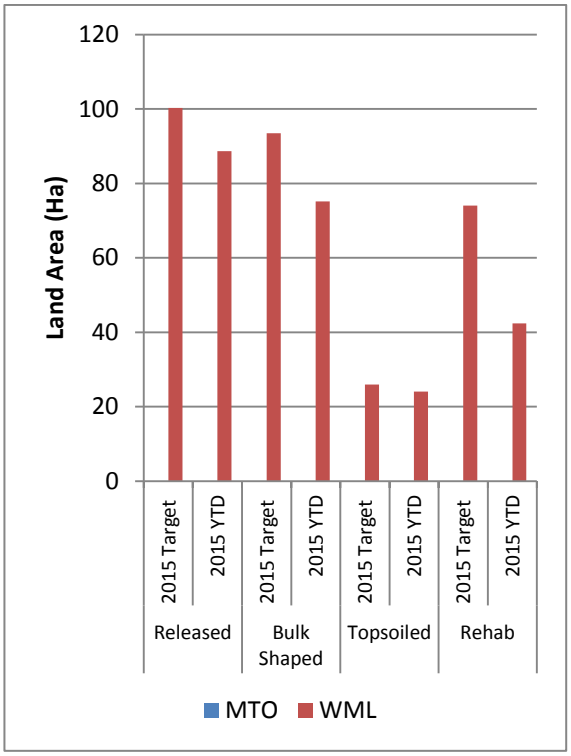


Figure 18: Rehabilitation YTD - October 2015

8.0 ENVIRONMENTAL INCIDENTS

During the reporting period there were no reportable environmental incidents.

9.0 COMPLAINTS

During the reporting period 41 complaints were received, details of these complaints are displayed on the Rio Tinto website via the following link and are also shown in Figure 19 below.

http://www.riotinto.com/documents/Mount_Thorley_Warkworth_Complaints_Register_2015.pdf

	Noise	Dust	Blast	Lighting	Other	Total
January	68	4	1	2	0	75
February	59	0	3	2	0	64
March	70	6	5	2	2	85
April	38	0	9	0	1	48
May	34	8	3	3	1	49
June	50	3	6	2	1	62
July	30	1	3	7	0	41
August	31	6	5	7	2	51
September	25	10	2	6	1	44
October	24	8	4	3	2	41
November	-	-	-	-	-	-
December	-	-	-	-	-	-
Total	429	46	41	34	10	560

Figure 19: Complaints Summary - YTD October 2015

Appendix A: Meteorological Data

Table 9: Meteorological Data – Charlton Ridge Meteorological Station – October 2015

Date	Air Temperature Maximum (°C)	Air Temperature Minimum (°C)	Relative Humidity Maximum (%)	Relative Humidity Minimum (%)	Wind Direction Average (°)	Wind Speed Average (m/sec)	Rainfall(mm)
1/10/2015	30.0	14.6	61.5	-	216.8	2.8	0.0
2/10/2015	26.9	12.4	88.0	36.0	145.7	2.9	0.0
3/10/2015	32.3	10.8	95.4	17.8	247.1	2.9	0.0
4/10/2015	35.7	15.6	53.5	8.2	300.0	1.8	0.0
5/10/2015	37.0	14.2	53.5	5.3	234.9	3.0	0.0
6/10/2015	36.8	14.7	54.8	6.5	209.6	2.6	0.0
7/10/2015	23.2	14.4	70.0	30.3	181.2	3.8	0.0
8/10/2015	21.1	12.9	80.9	49.3	137.3	3.4	0.0
9/10/2015	26.6	12.5	77.5	35.2	129.0	2.2	0.0
10/10/2015	30.0	13.7	92.7	22.8	184.0	2.0	1.6
11/10/2015	30.1	12.0	94.7	28.7	216.1	2.9	0.0
12/10/2015	33.6	13.3	90.3	13.7	257.4	3.3	0.0
13/10/2015	25.1	16.5	87.6	47.5	151.7	3.6	0.8
14/10/2015	26.8	15.5	89.0	38.8	127.8	3.1	0.0
15/10/2015	29.7	12.3	92.9	27.9	139.7	1.9	0.0
16/10/2015	34.4	12.7	87.4	15.4	156.8	2.4	0.0
17/10/2015	33.1	15.0	89.0	28.5	158.9	2.2	1.2
18/10/2015	23.2	17.3	90.9	59.8	143.0	3.1	3.8
19/10/2015	29.9	15.8	92.7	30.1	138.0	2.0	0.2
20/10/2015	34.1	14.6	87.7	19.7	176.9	2.6	0.0
21/10/2015	34.1	16.4	79.3	16.3	224.4	3.1	1.0
22/10/2015	25.7	14.6	93.4	42.9	222.7	4.0	2.6
23/10/2015	21.7	12.3	81.3	41.4	163.0	3.8	0.0
24/10/2015	26.6	9.6	89.2	28.0	143.4	2.5	0.0
25/10/2015	31.7	11.2	91.5	21.7	182.0	2.4	0.0
26/10/2015	33.2	13.6	89.8	27.2	222.6	3.2	4.0
27/10/2015	18.5	13.1	91.6	58.2	166.1	4.5	2.0
28/10/2015	22.2	10.9	73.8	37.8	146.1	3.1	0.0
29/10/2015	26.0	9.3	83.7	30.7	149.0	3.0	0.0
30/10/2015	26.8	10.0	87.8	26.1	144.6	2.5	0.0
31/10/2015	22.5	12.5	93.4	48.5	183.5	1.6	1.2

"-" indicates no data available due to sensor maintenance work

COAL & ALLIED

Managed by Rio Tinto Coal Australia

Appendix B

Environmental Monitoring
November 2015

COAL & ALLIED

Managed by Rio Tinto Coal Australia

Mount Thorley Warkworth

Monthly Environmental Report

November 2015

Coal & Allied Operations Pty Ltd

ABN 16 000 023 656

Lemington Road, Ravensworth via Singleton NSW 2330 Australia

PO Box 315 Singleton NSW 2330 Australia

Telephone +61 2 6570 0300 Facsimile +61 2 6570 0399

CONTENTS

Figures

Tables

Revision History

Version No.	Person Responsible	Document Status	Date
1.0	**Environmental Advisor**	**Draft**	**17/12/2015**
1.1	**Environmental Specialist**	**Final**	**18/12/2015**

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 November to 30th November 2015.

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

2015	Monthly Rainfall (mm)	Cumulative Rainfall (mm)
November	90.6	650.6

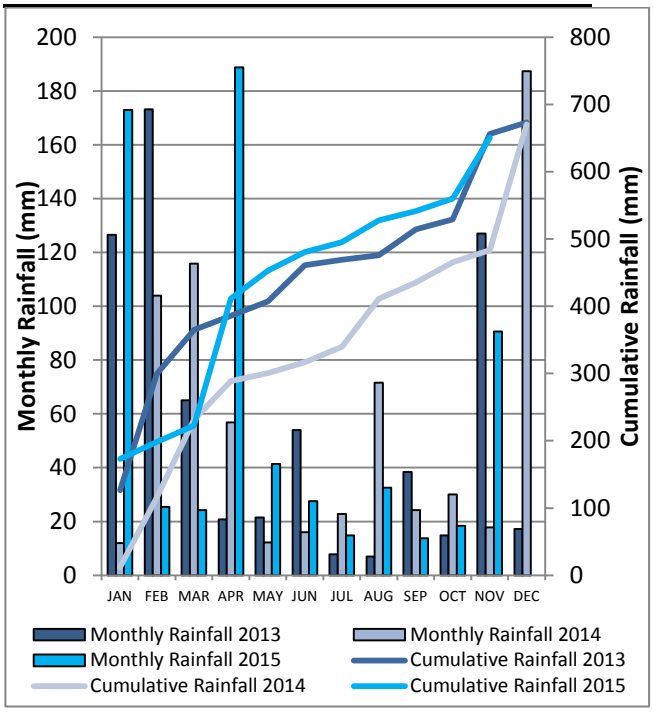


Figure 1: Rainfall Trend YTD

2.1.2 Wind Speed and Direction

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

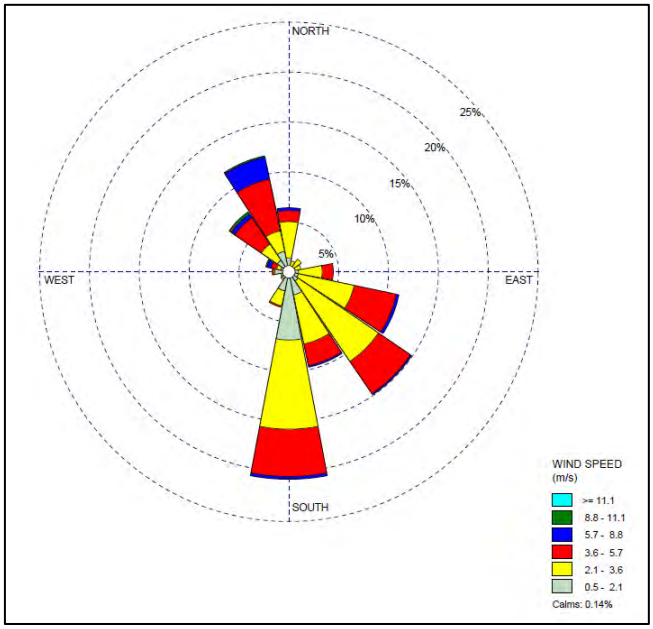


Figure 2: Charlton Ridge Wind Rose – November 2015

Figure 3: Air Quality Monitoring Locations

2.2 Depositional Dust

To monitor regional air quality, MTW operates and maintains a network of nine 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 D124 and Warkworth monitors recorded monthly results above the long term impact assessment criteria of 4.0 g/m^2 per month.

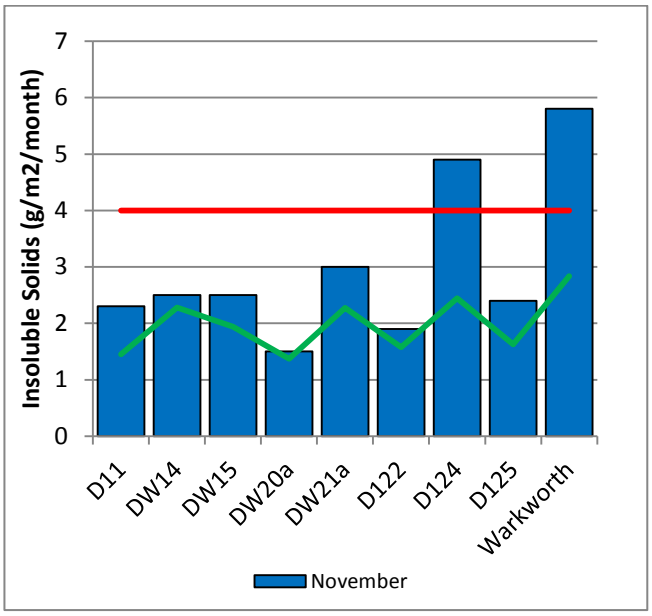


Figure 4: Depositional Dust – November 2015

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.

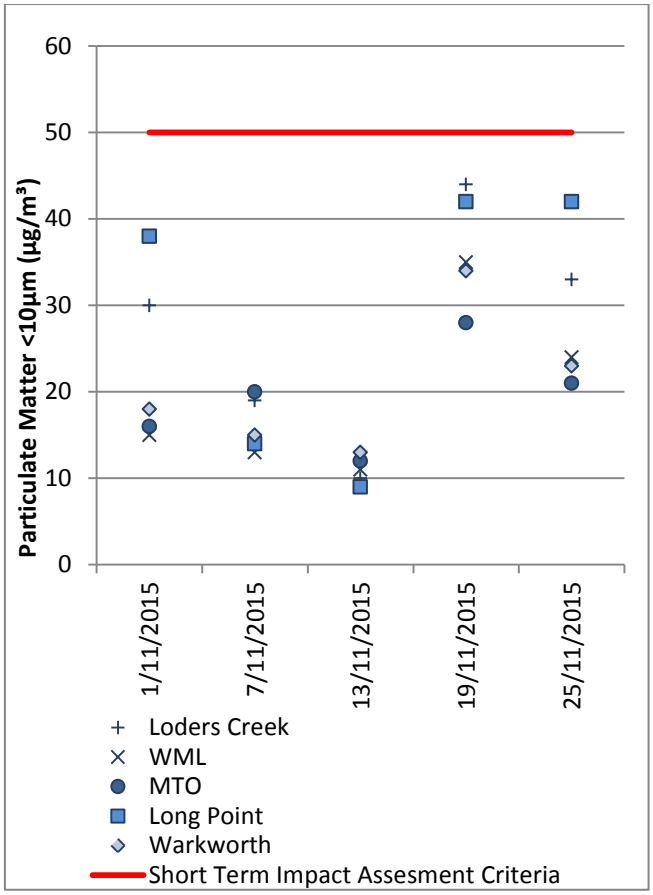


Figure 5: Individual PM_{10} Results – November 2015

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

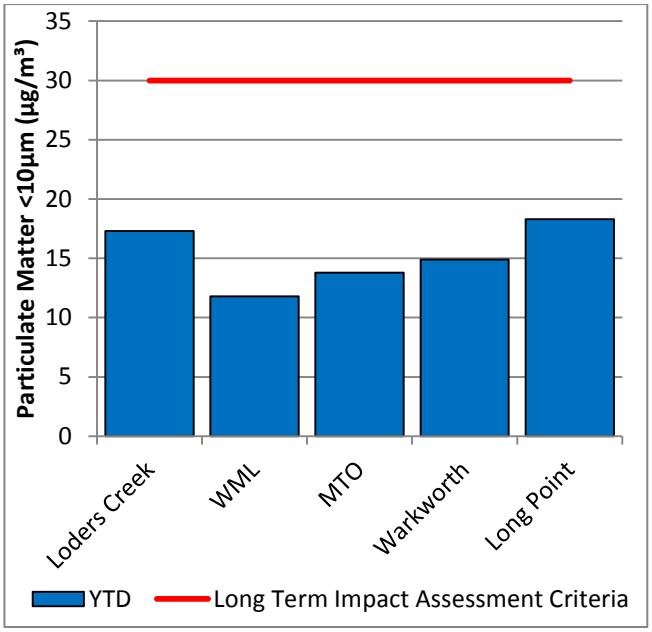


Figure 6: Annual Average PM_{10} – November 2015

2.3.2 TSP Results

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

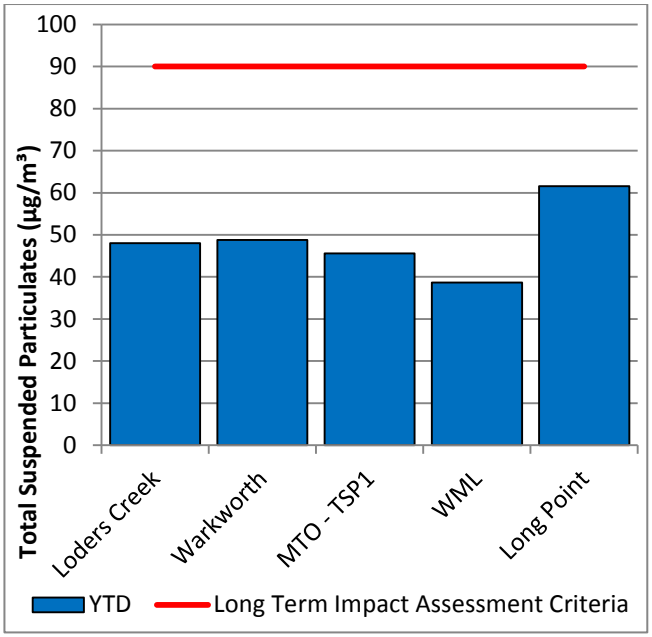


Figure 7: Annual Average Total Suspended Particulates – November 2015

2.3.3 Real Time PM_{10} Results

Mount 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. There were two results recorded which exceeded the short term (24hr) criteria during the reporting period. Measurements of 53.3µg/m³ and 88.1µg/m³ were recorded at the Mount Thorley Industrial Estate (MTIE) TEOM location on the 20th and 26th November 2015 respectively.

The maximum MTW contribution to the result on 20th November was found to be in the order of 29.0 µg/m³. Significant actions were undertaken to minimise MTW's contribution including implementation of lower dump options early in the day, and equipment stoppages (Dozers, Draglines, Drills, Graders, Shovels, Excavators, Trucks) totalling 164 hours on the day.

Difficult Air Quality conditions were witnessed across the Upper Hunter on 26th November. To ensure MTW contribution to conditions was minimised, a complete site shutdown was ordered at approximately 8:00am (124 pieces of equipment, for a total of 890 hours). Progressive restart of equipment commenced at approximately 3:00pm in low / protected areas, and under close supervision of supervisors and the Community Response Officer.

The Department of Planning and Environment has been notified in writing of these measurements. No further information has been requested from the Department in relation to these results at the time of preparation of this report.

2.3.4 Real Time Alarms for Air Quality

During November, the real time monitoring system generated 61 automated air quality related alerts, including 19 alerts for adverse meteorological conditions and 42 alerts for elevated PM_{10} levels.

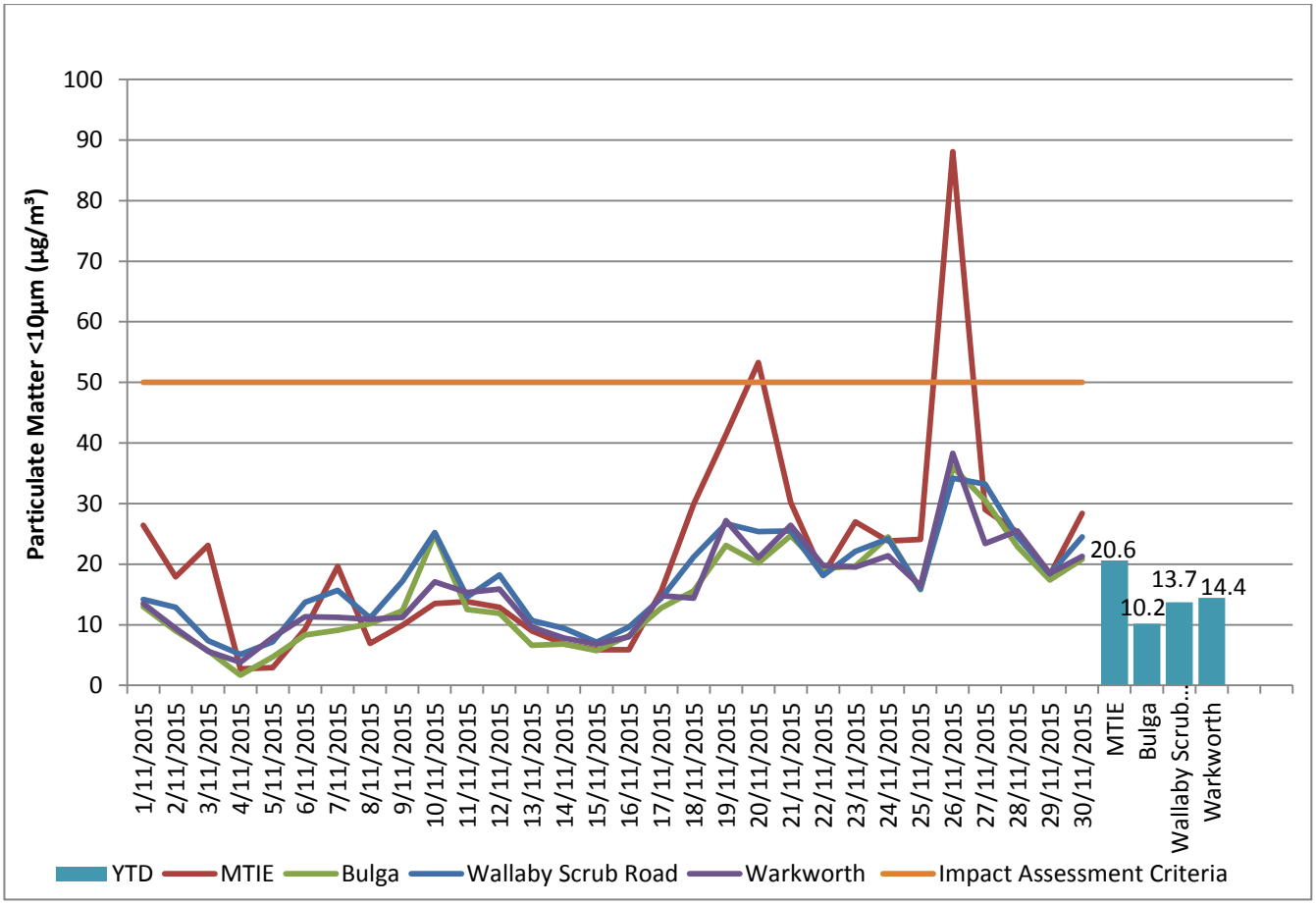


Figure 8: Real Time PM_{10} daily 24hr average and annual average – November 2015

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 December 2015 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 December 2015 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 November 2015, 31 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%

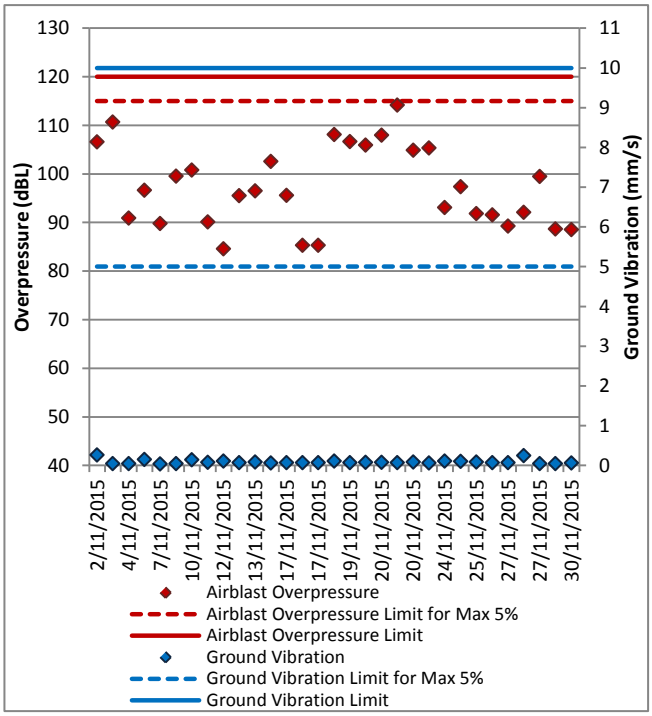


Figure 9: Abbey Green Blast Monitoring Results – November 2015

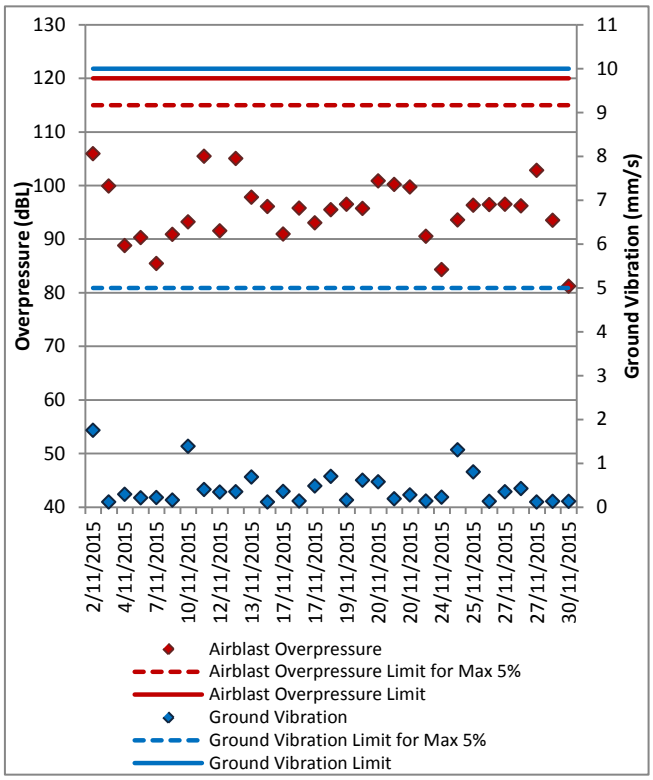


Figure 10: Bulga Village Blast Monitoring Results – November 2015

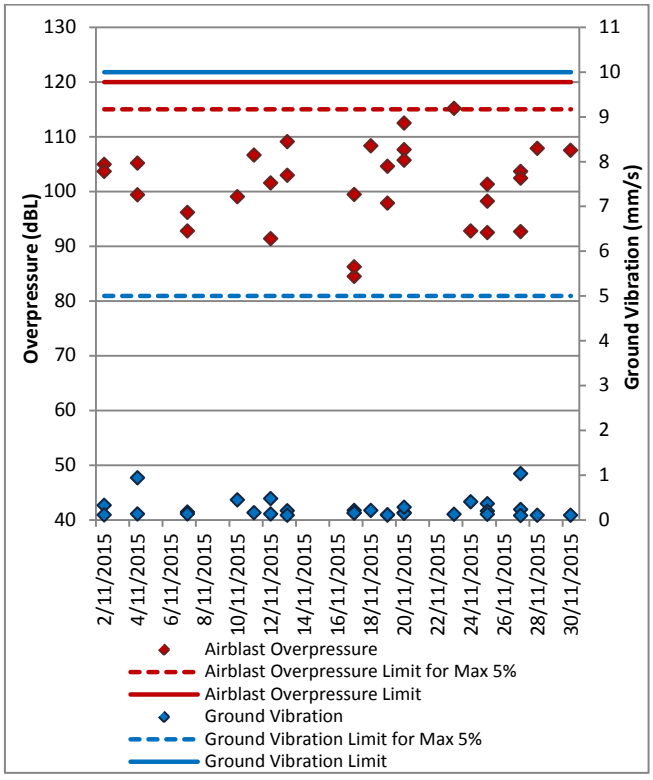


Figure 11: MTIE Blast Monitoring Results – November 2015

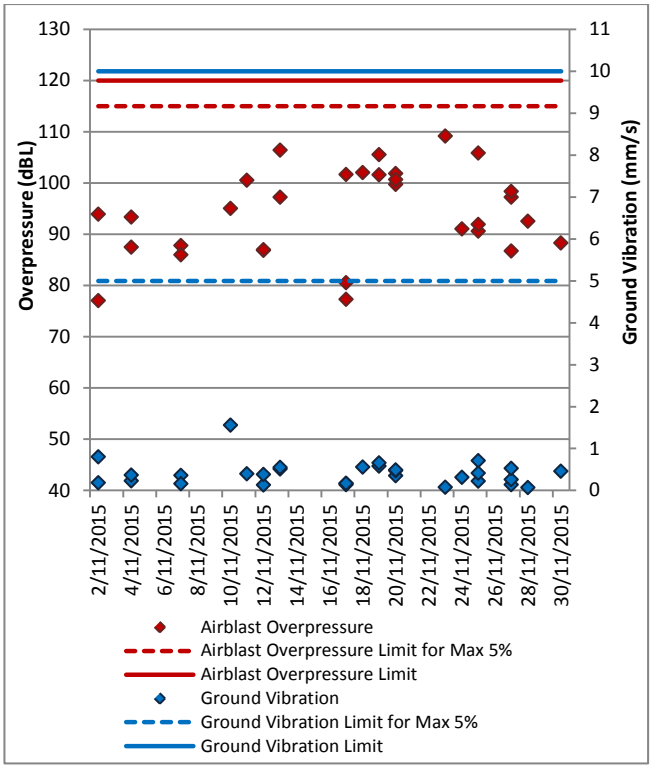


Figure 12: Warkworth Blast Monitoring Results - November 2015

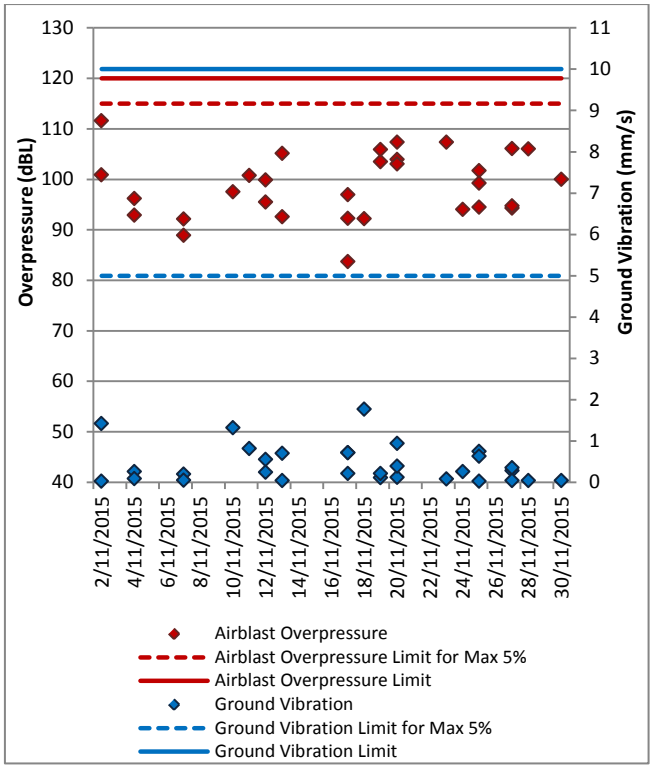


Figure 13: Wambo Road Blast Monitoring Results - November 2015

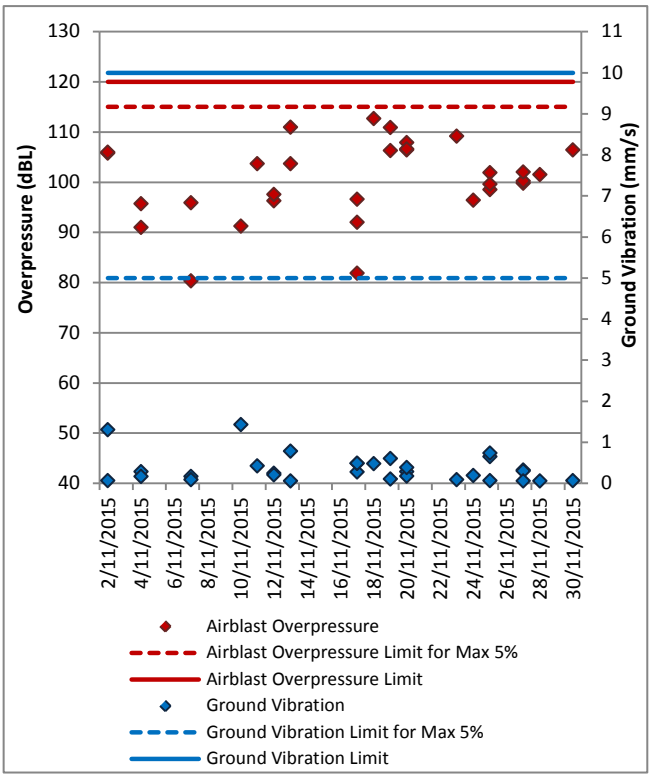


Figure 14: Wollemi Peak Road Blast Monitoring Results – November 2015.

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. 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 nine 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 8/9 November 2015. All measurements complied with the relevant criteria. Results are detailed in Table 3 to Table 7.

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 – November 2015

Location	Date and Time	Wind Speed (m/s)[5]	VTG	Criterion (dB(A))	Criterion Applies?[1,6]	WML L_{Aeq} dB[2,4]	Exceedance[3]	Total L_{Ceq} – L_{Aeq}	Revised WML L_{Aeq}[5,6]
Long Point	8/11/2015 22:48	2.7	-1	37	Yes	NM	Nil	22	NM
Gouldsville Road	8/11/2015 22:19	1.9	3	NA	No	33	NA	25	38
MTIE	9/11/2015 1:38	2.3	0.5	NA	No	IA	NA	19	IA
Bulga Village	8/11/2015 23:23	1.5	3	38	Yes	IA	Nil	19	IA
Wambo Road	8/11/2015 23:48	2	0.5	38	Yes	IA	Nil	22	IA
Inlet Road West	9/11/2015 1:05	2.7	-1	35	Yes	<25	Nil	22	<25
Wollemi Peak Road	9/11/2015 0:40	3	-1	35	Yes	IA	Nil	20	IA
South Bulga	9/11/2015 0:18	2.2	0.5	35	Yes	IA	Nil	18	IA

Table 4: $L_{Aeq,\ 15\ minute}$ Warkworth - Land Acquisition Criteria – November 2015

Location	Date and Time	Wind Speed (m/s)[5]	VTG	Criterion (dB(A))	Criterion Applies?[1,6]	WML L_{Aeq} dB[2,4]	Exceedance[3]	Total L_{Ceq} – L_{Aeq}[7]	Revised WML L_{Aeq}[5,6]
Long Point	8/11/2015 22:48	2.7	-1	40	Yes	NM	Nil	22	NM
Gouldsville Road	8/11/2015 22:19	1.9	3	43	Yes	33	Nil	25	38
MTIE	9/11/2015 1:38	2.3	0.5	44	Yes	IA	Nil	19	IA
Bulga Village	8/11/2015 23:23	1.5	3	43	Yes	IA	Nil	19	IA
Wambo Road	8/11/2015 23:48	2	0.5	40	Yes	IA	Nil	22	IA
Inlet Road West	9/11/2015 1:05	2.7	-1	40	Yes	<25	Nil	22	<25
Wollemi Peak Road	9/11/2015 0:40	3	-1	40	Yes	IA	Nil	20	IA
South Bulga	9/11/2015 0:18	2.2	0.5	40	Yes	IA	Nil	18	IA

Notes

1. *Application of Criterion as per meteorological exclusions set out in the Approvals;*
2. *These are measured A-weighted noise levels (professional assessment of noise contribution from the target source (WML / MTO) only);*
3. *Exceedance is defined in the MTW Noise Management Plan. Bolded results in red are those greater than the relevant criterion;*
4. *Results denoted by "<" indicate that the relative contribution of the target consent area could not be absolutely determined, but is assessed up to a maximum of the recorded value. "IA" means that the target consent area was inaudible during the assessment. "NM" means that the target consent area was audible, but at such low levels that an accurate assessment of noise level could not be determined;*
5. *Revised WML L_{Aeq} includes application of the INP Low Frequency modification factor penalty where applicable;*
6. *Low Frequency Penalty is not be applied where external noise sources influence the L_{Ceq} measurement, or during instances where the noise criteria do not apply (see note 1); and*
7. *INP assessment of Total L_{Ceq} minus Total L_{Aeq}. INP Low Frequency Penalty is applicable where this exceeds 15*
8. *INP modification factor has not been applied as noise levels attributable (in part) to mine noise from non-CNA mine*

5.1.3 MTO Noise Assessment

Compliance assessments undertaken against the MTO noise criteria are presented in Table 5 to Table 7.

Table 5: $L_{Aeq,\ 15minute}$ Mount Thorley - Impact Assessment Criteria – November 2015

Location	Date and Time	Wind Speed (m/s)[5]	VTG	Criterion dB	Criterion Applies?[1,6]	MTO L_{Aeq} dB[2,4]	Exceedance[3]	Total L_{Ceq} – L_{Aeq}[7]	Revised MTO L_{Aeq}[5,6]
Long Point	8/11/2015 22:48	2.7	-1	39	Yes	NM	Nil	22	NM
Gouldsville Road	8/11/2015 22:19	1.9	3	44	Yes	IA	Nil	25	IA
MTIE	9/11/2015 1:38	2.3	0.5	NA	No	40	NA	19	45
Bulga Village	8/11/2015 23:23	1.5	3	40	Yes	29	Nil	19	34
Wambo Road	8/11/2015 23:48	2	0.5	40	Yes	29	Nil	22	34
Inlet Road West	9/11/2015 1:05	2.7	-1	35	Yes	33	Nil	22	**38**
Wollemi Peak Road	9/11/2015 0:40	3	-1	38	Yes	NM	Nil	20	NM
South Bulga	9/11/2015 0:18	2.2	0.5	37	Yes	NM	Nil	18	NM

Table 6: $L_{Aeq,15minute}$ Mount Thorley – Land Acquisition Criteria –November 2015

Location	Date and Time	Wind Speed (m/s)[5]	VTG[5]	Criterion dB	Criterion Applies?[1,6]	MTO L_{Aeq} dB[2,4]	Exceedance[3]	Total L_{Ceq} – L_{Aeq}[7]	Revised MTO L_{Aeq}[5,6]
Long Point	8/11/2015 22:48	2.7	-1	43	Yes	NM	Nil	22	NM
Gouldsville Road	8/11/2015 22:19	1.9	3	45	Yes	IA	Nil	25	IA
MTIE	9/11/2015 1:38	2.3	0.5	NA	No	40	NA	19	45
Bulga Village	8/11/2015 23:23	1.5	3	43	Yes	29	Nil	19	34
Wambo Road	8/11/2015 23:48	2	0.5	43	Yes	29	Nil	22	34
Inlet Road West	9/11/2015 1:05	2.7	-1	43	Yes	33	Nil	22	38
Wollemi Peak Road	9/11/2015 0:40	3	-1	43	Yes	NM	Nil	20	NM
South Bulga	9/11/2015 0:18	2.2	0.5	43	Yes	NM	Nil	18	NM

Table 7: $L_{A1,\ 1Minute}$ Mount Thorley - Impact Assessment Criteria – November 2015

Location	Date and Time	Wind Speed (m/s)[5]	VTG[5]	Criterion dB	Criterion Applies?[1,6]	MTO $L_{A1,\ 1min}$ dB[2,4]	Exceedance[3]
Long Point	8/11/2015 22:48	2.7	-1	47	Yes	NM	Nil
Gouldsville Road	8/11/2015 22:19	1.9	3	47	Yes	IA	Nil
MTIE	9/11/2015 1:38	2.3	0.5	NA	No	46	NA
Bulga Village	8/11/2015 23:23	1.5	3	48	Yes	30	Nil
Wambo Road	8/11/2015 23:48	2	0.5	48	Yes	34	Nil
Inlet Road West	9/11/2015 1:05	2.7	-1	48	Yes	42	Nil
Wollemi Peak Road	9/11/2015 0:40	3	-1	48	Yes	NM	Nil
South Bulga	9/11/2015 0:18	2.2	0.5	48	Yes	NM	Nil

Notes

1. *Application of Criterion as per meteorological exclusions set out in the Approvals;*
2. *These are measured A-weighted noise levels (professional assessment of noise contribution from the target source (WML / MTO) only);*
3. *Exceedance is defined in the MTW Noise Management Plan. Bolded results in red are those greater than the relevant criterion;*
4. *Results denoted by "<" indicate that the relative contribution of the target consent area could not be absolutely determined, but is assessed up to a maximum of the recorded value. "IA" means that the target consent area as inaudible during the assessment. "NM" means that the target consent area was audible, but at such low levels that an accurate assessment of noise level could not be determined;*
5. *Revised WML L_{Aeq} includes application of the INP Low Frequency modification factor penalty where applicable;*
6. *Low Frequency Penalty is not be applied where external noise sources influence the L_{Ceq} measurement, or during instances where the noise criteria do not apply (see note 1);*
7. *INP assessment of Total L_{Ceq} minus Total L_{Aeq}. INP Low Frequency Penalty is applicable where this exceeds 15; and*
8. *INP modification factor has not been applied as noise levels attributable (in part) to mine noise from non-CNA mine*

5.1.4 INP Low Frequency Assessment

In accordance with the requirements of the NSW Industrial Noise Policy (INP), the low frequency modification factor has been applied where appropriate. It should be noted that the Industrial Noise Policy does not give guidance on the application of the penalty where more than one target noise source is audible. The L_{Ceq} levels reported above are "Total", or "Total mine noise" at best, and cannot be attributed accurately to a single mine. Accordingly, where the INP criteria for the application of the Low Frequency modification factor is triggered, the penalty has been applied to the dominant mine noise source (either of WML or MTO).

Application of the low frequency modification factor during November 2015 results in a 3dB exceedance of the Mt Thorley L_{Aeq} criteria at the Inlet Road West monitoring location. This result has been reported in writing to the Department of Planning & Environment.

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:

- Replacement of non-attenuated equipment with sound attenuated equipment;
- 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 November are provided in Table 8.

Table 8: Supplementary Attended Noise Monitoring Data – November 2015

No. of assessments	No. of assessments > trigger	No. of nights where assessments > trigger	% greater than trigger
450	13	4	2.9

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

6.0 OPERATIONAL DOWNTIME

During November, a total of 1580.8 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 17.

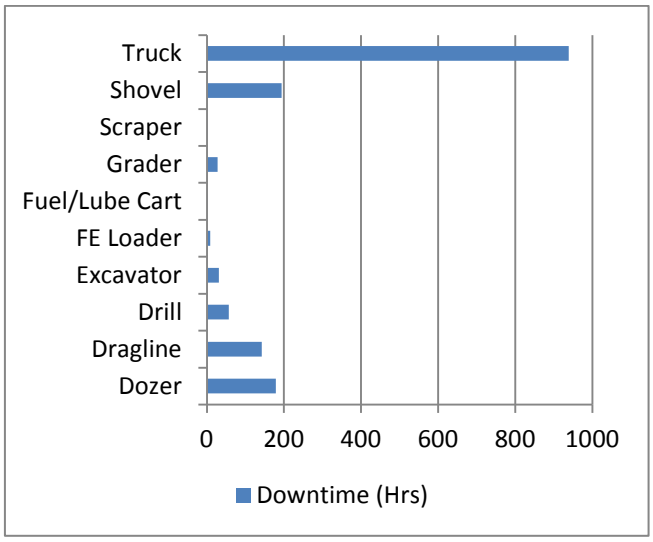


Figure 17: Operational Downtime by Equipment Type – November 2015

7.0 REHABILITATION

During November, 2.54 Ha of land was released, 8.25 Ha of land was bulk-shaped, 14.48 Ha was topsoiled, 26.42 Ha of land was composted and 14.36 Ha of land was rehabbed. Year-to-date progress can be viewed in Figure 18.

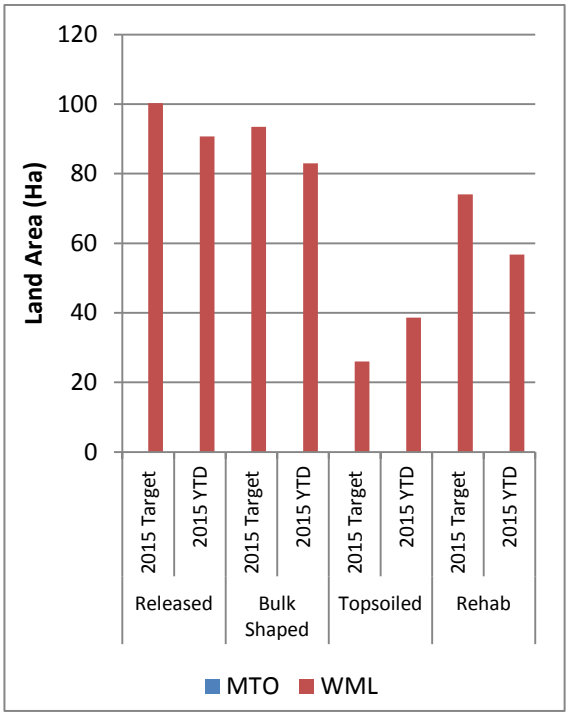


Figure 18: Rehabilitation YTD - November 2015

8.0 ENVIRONMENTAL INCIDENTS

During the reporting period MTW recorded one reportable environmental incident.

At 12:30pm on the 4 November 2015 a blast identified as S21E-BFF-MD10 was fired in the South Pit of the Warkworth Mine (WML).

Visible fume was generated by the blast which was ranked as a Level 3B event on the AEISG scale.

The fume cloud migrated to the North–North-East, passing through the Putty Road at or about the location of the road closure point, and dissipated over lands owned by Warkworth Mining Limited to the east of WML.

The incident was reported to the Department of Planning and Environment (DP&E) and Environment Protection Authority on the 4th November 2015. An incident report was submitted to DP&E on 11th November 2015.

9.0 COMPLAINTS

During the reporting period 37 complaints were received, details of these complaints are displayed on the Rio Tinto website via the following link and are also shown in Figure 19 below.

http://www.riotinto.com/documents/Mount_Thorley_Warkworth_Complaints_Register_2015.pdf

	Noise	Dust	Blast	Lighting	Other	Total
January	68	4	1	2	0	75
February	59	0	3	2	0	64
March	70	6	5	2	2	85
April	38	0	9	0	1	48
May	34	8	3	3	1	49
June	50	3	6	2	1	62
July	30	1	3	7	0	41
August	31	6	5	7	2	51
September	25	10	2	6	1	44
October	24	8	4	3	2	41
November	21	4	4	8	0	37
December	-	-	-	-	-	-
Total	450	50	45	42	10	597

Figure 19: Complaints Summary - YTD November 2015

Appendix A: Meteorological Data

Table 9: Meteorological Data – Charlton Ridge Meteorological Station – November 2015

Date	Air Temperature Maximum (°C)	Air Temperature Minimum (°C)	Relative Humidity Maximum (%)	Relative Humidity Minimum (%)	Wind Direction Average (°)	Wind Speed Average (m/sec)	Rainfall(mm)
1/11/2015	31.1	13.2	96.3	32.1	242.2	2.8	0.0
2/11/2015	30.9	17.0	93.7	39.7	232.1	4.0	6.4
3/11/2015	21.3	16.2	96.1	76.1	182.0	3.3	6.2
4/11/2015	20.7	14.6	96.7	81.9	166.9	3.5	7.6
5/11/2015	26.3	14.9	95.9	54.7	128.2	2.9	3.6
6/11/2015	28.1	17.2	96.1	51.5	218.8	3.0	2.6
7/11/2015	29.7	15.1	94.0	36.3	171.3	2.4	3.6
8/11/2015	19.7	13.8	91.1	63.3	162.8	3.3	0.4
9/11/2015	25.1	12.1	89.6	35.5	144.3	2.4	0.0
10/11/2015	29.5	11.2	93.8	29.5	155.6	2.2	0.0
11/11/2015	28.0	15.8	85.7	27.2	138.3	3.4	0.0
12/11/2015	28.8	15.0	96.0	36.7	166.0	2.3	27.2
13/11/2015	30.2	15.4	95.4	36.2	196.1	3.6	14.2
14/11/2015	21.0	14.0	95.9	62.6	157.1	2.7	18.0
15/11/2015	20.7	12.7	90.4	58.6	170.4	3.9	0.6
16/11/2015	24.3	11.5	94.0	39.0	151.2	2.9	0.2
17/11/2015	27.3	9.9	93.1	22.6	134.0	2.2	0.0
18/11/2015	35.3	13.0	77.3	12.7	283.4	3.4	0.0
19/11/2015	38.7	15.9	67.6	11.9	229.9	3.1	0.0
20/11/2015	40.1	28.9	28.5	10.4	296.8	4.9	0.0
21/11/2015	30.2	16.8	73.0	23.4	141.8	4.2	0.0
22/11/2015	23.7	15.5	83.7	50.8	133.5	3.0	0.0
23/11/2015	32.6	12.9	93.2	12.4	197.9	2.9	0.0
24/11/2015	29.6	17.4	79.4	29.5	121.5	3.1	0.0
25/11/2015	35.2	19.7	73.5	9.9	210.5	3.3	0.0
26/11/2015	40.0	18.2	75.4	4.1	250.4	5.6	0.0
27/11/2015	24.7	15.9	78.6	45.6	116.8	3.3	0.0
28/11/2015	24.4	16.1	82.5	58.0	129.5	3.8	0.0
29/11/2015	32.6	17.2	84.5	22.0	173.0	2.4	0.0
30/11/2015	35.6	17.5	93.6	8.4	201.4	2.7	0.0

COAL & ALLIED

Managed by Rio Tinto Coal Australia

Appendix C

Environmental Monitoring
December 2015

COAL & ALLIED

Managed by Rio Tinto Coal Australia

Mount Thorley Warkworth

Monthly Environmental Report

December 2015

Coal & Allied Operations Pty Ltd

ABN 16 000 023 656

Lemington Road, Ravensworth via Singleton NSW 2330 Australia

PO Box 315 Singleton NSW 2330 Australia

Telephone +61 2 6570 0300 Facsimile +61 2 6570 0399

CONTENTS

Figures

Tables

Revision History

Version No.	Person Responsible	Document Status	Date
1.0	**Environmental Advisor**	**Draft**	**02/02/2016**
1.1	**Environmental Specialist**	**Final**	**02/02/2016**

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 1 December to 31 December 2015.

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

2015	Monthly Rainfall (mm)	Cumulative Rainfall (mm)
December	118.6	769.2

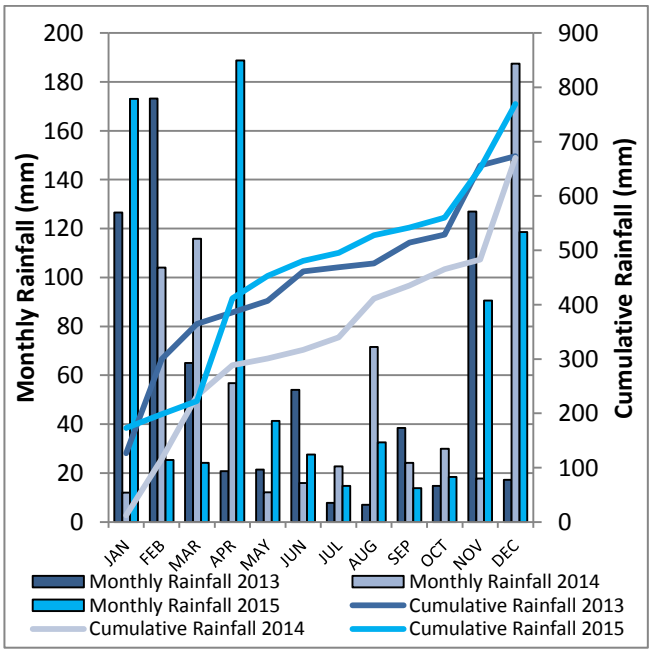


Figure 1: Rainfall Trends YTD

2.1.2 Wind Speed and Direction

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

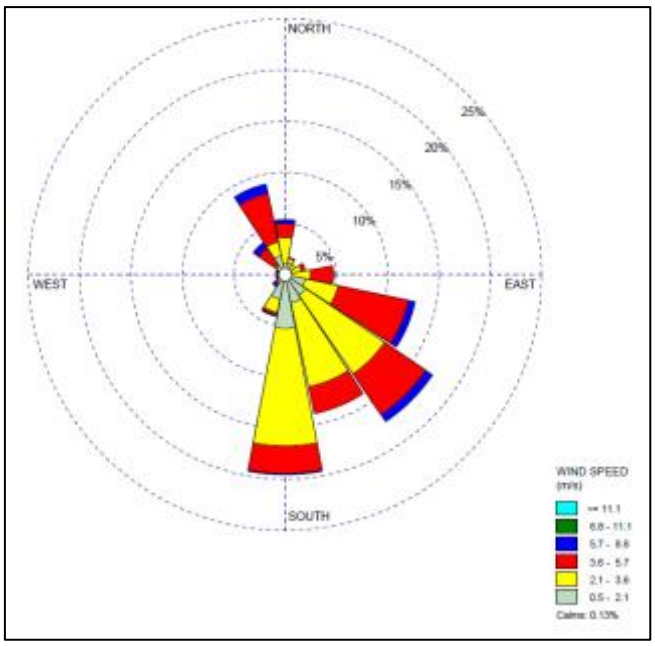


Figure 2: Charlton Ridge Wind Rose – December 2015

Figure 3: Air Quality Monitoring Locations

2.2 Depositional Dust

To monitor regional air quality, MTW operates and maintains a network of nine 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.

Monitors DW14, D124 and Warkworth recorded results of 4.2, 7.2 and 4.8 g/m² respectively for the month. The field notes associated with the DW14 and D124 results 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.

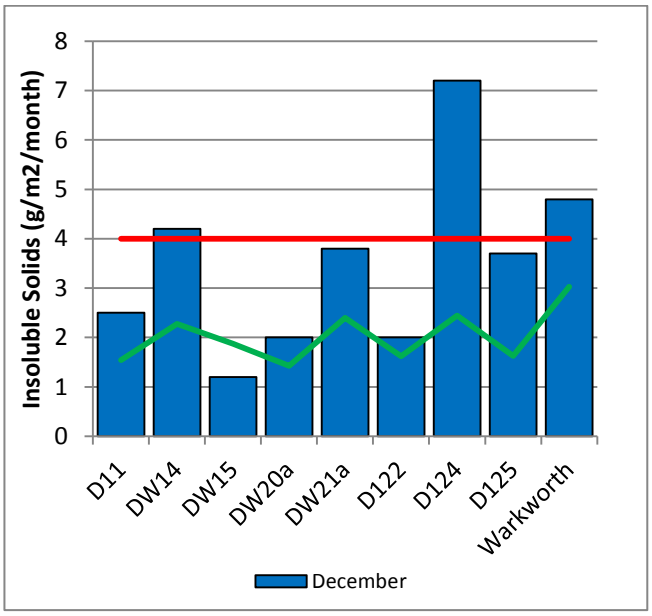


Figure 4: Depositional Dust – December 2015

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/m³.

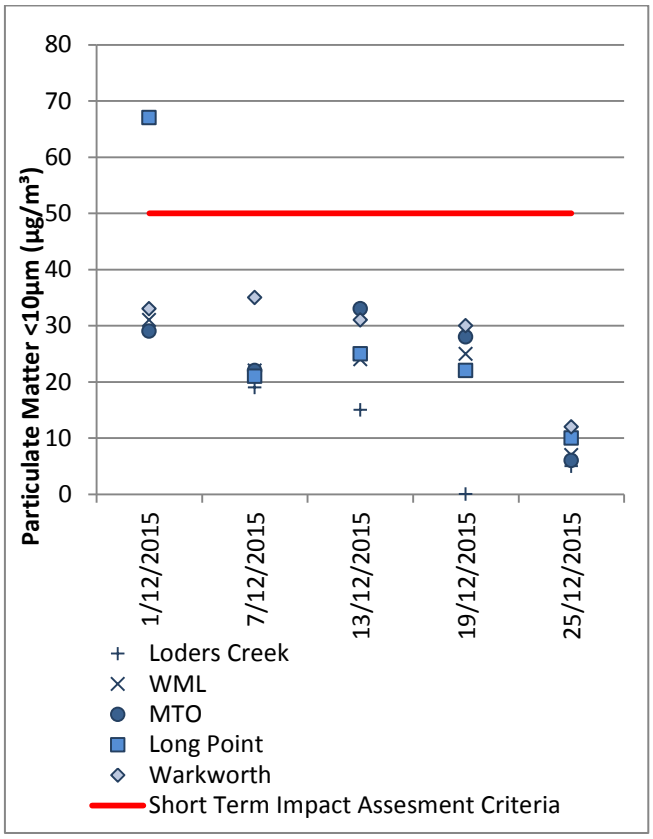


Figure 5: Individual PM_{10} Results – December 2015

An exceedance of the short term (24hr) PM_{10} criteria was measured at the Long Point PM_{10} monitoring location on 1st December 2015. There were prevailing North Westerly winds on the day, indicating significant contribution from MTW is unlikely.

This result was reported to the Department of Planning & Environment for review. No further information has been requested from the Department in relation to this result.

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

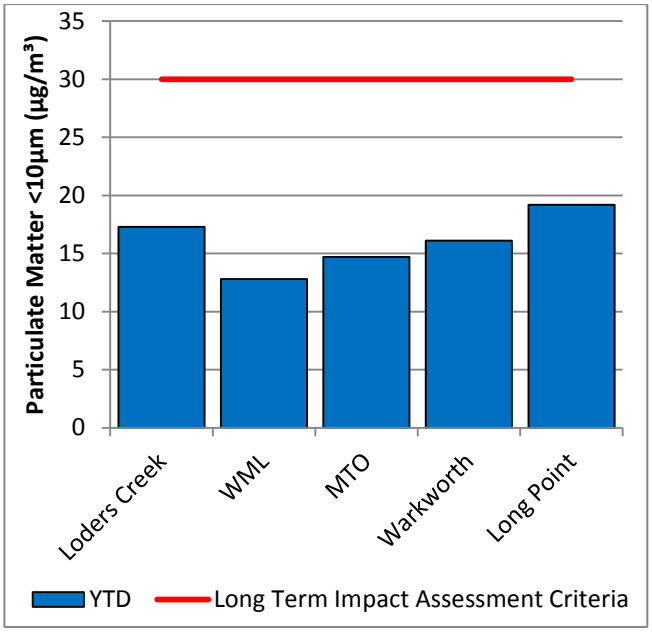


Figure 6: Annual Average PM_{10} – December 2015

2.3.2 TSP Results

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

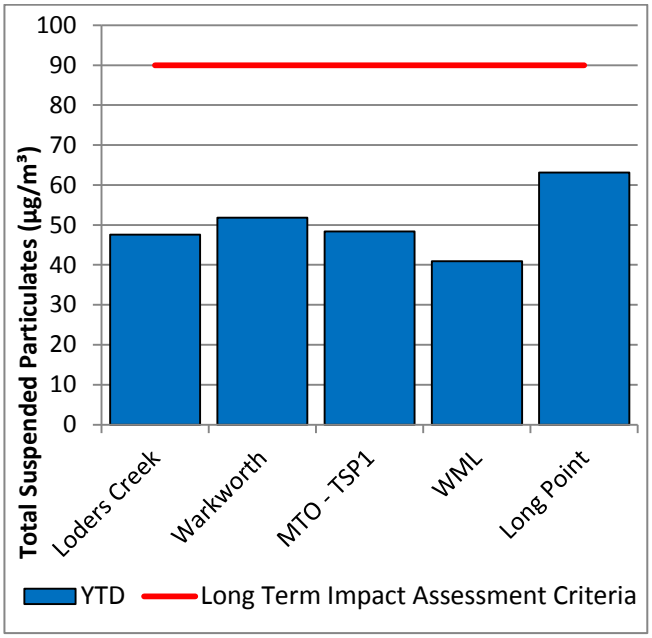


Figure 7: Annual Average Total Suspended Particulates – December 2015

2.3.3 Real Time PM_{10} Results

Mount 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. There were four exceedances of the short term impact assessment criteria recorded. A measurement of 55.1µg/m³ was recorded at the Mount Thorley Industrial Estate (MTIE) TEOM location on the 12th December 2015 and measurements of 59.5, 67.2 and 53.0 µg/m³ were recorded at the MTIE, Bulga and Wallaby Scrub Road TEOM locations respectively on the 15th December.

After internal investigations it was determined that the maximum MTW contribution to the result on the 12th December at MTIE is in the order of 6.4µg/m³. On the 15th December, measurements were impacted by smoke/regional haze. Winds were from the South throughout the day, indicating significant contribution from MTW is unlikely. The Department of Planning and Environment were notified in writing of the measurements on the 15th and 16th December 2015 respectively. No further information has been requested from the Department in relation to these results.

2.3.4 Real Time Alarms for Air Quality

During December, the real time monitoring system generated 61 automated air quality related alerts, including 13 alerts for adverse meteorological conditions and 48 alerts for elevated PM_{10} levels.

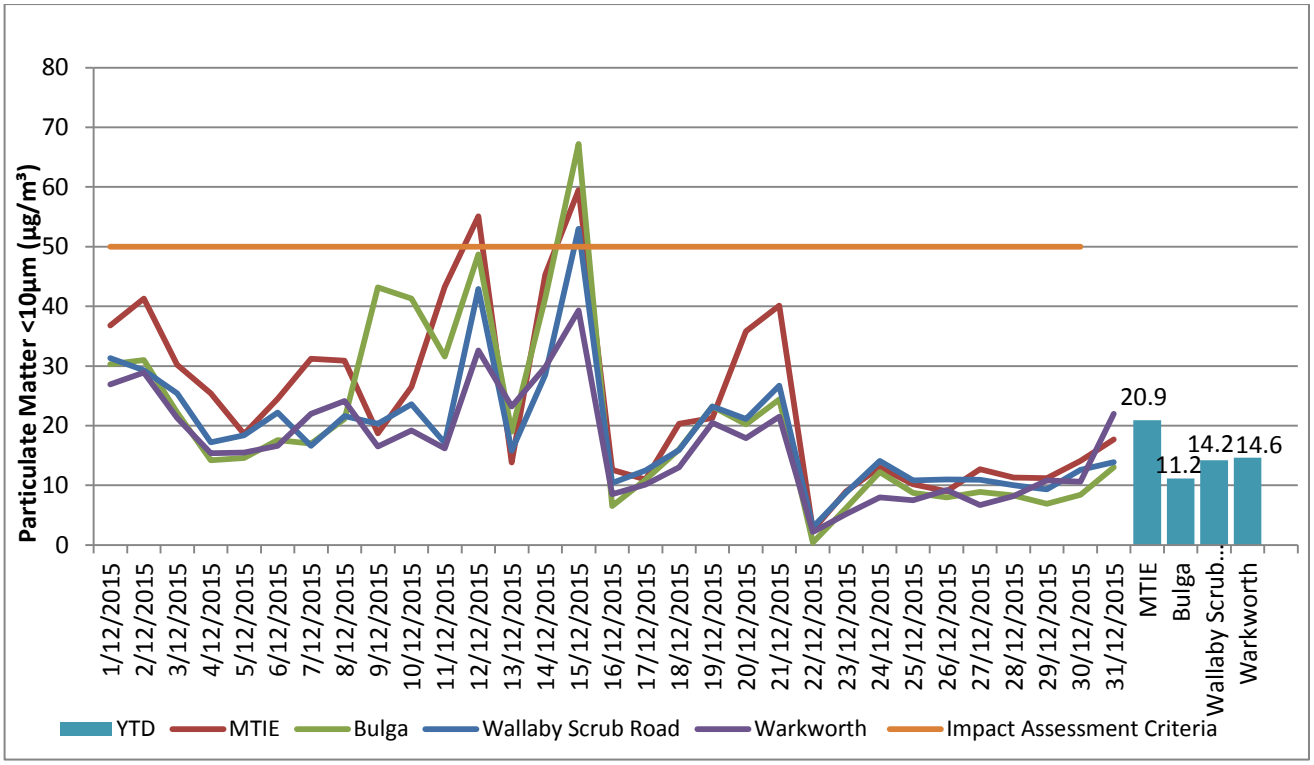


Figure 8: Real Time PM_{10} 24hr average and Year-to-date average – December 2015

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 on the river. 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 (2012 – current) within MTW mine dams. Figure 12 to Figure 14 show the long term surface water trend (2012 - current) in surrounding watercourses.

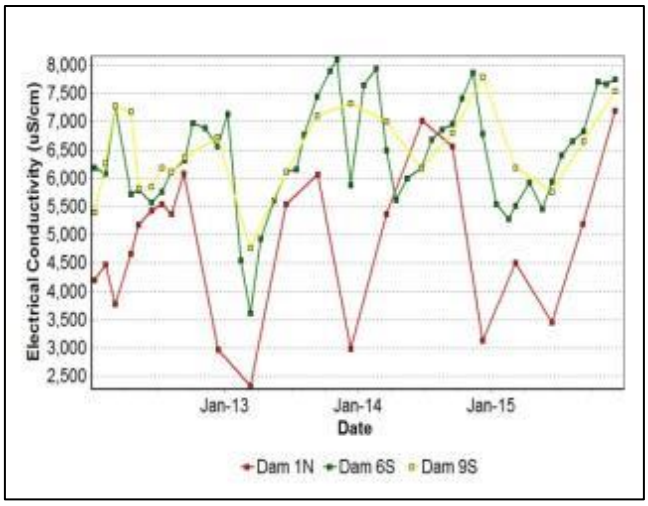


Figure 9: Site Dams Electrical Conductivity Trend 2012 – Current

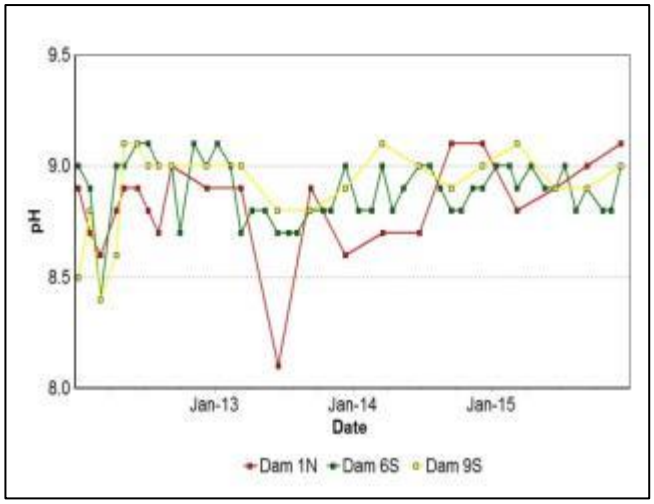


Figure 10: Site Dams pH Trend 2012 - Current

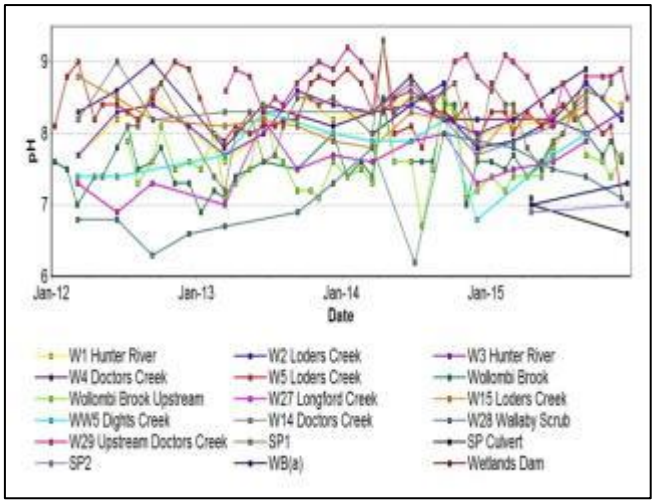


Figure 13: Watercourse pH Trend 2012 - Current

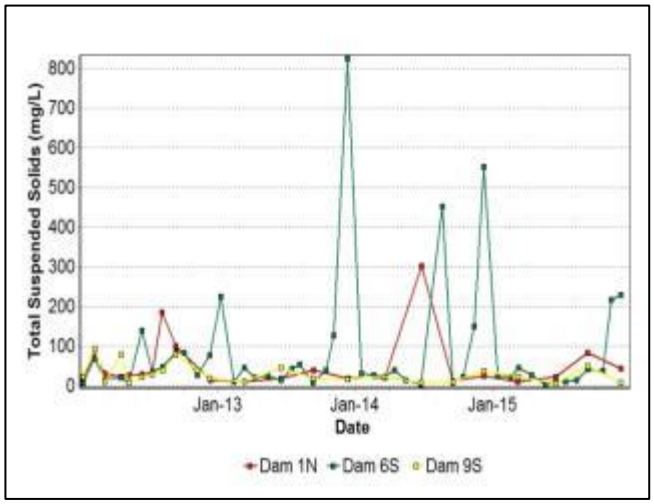


Figure 11: Site Dams Total Suspended Solids Trend 2012 – Current

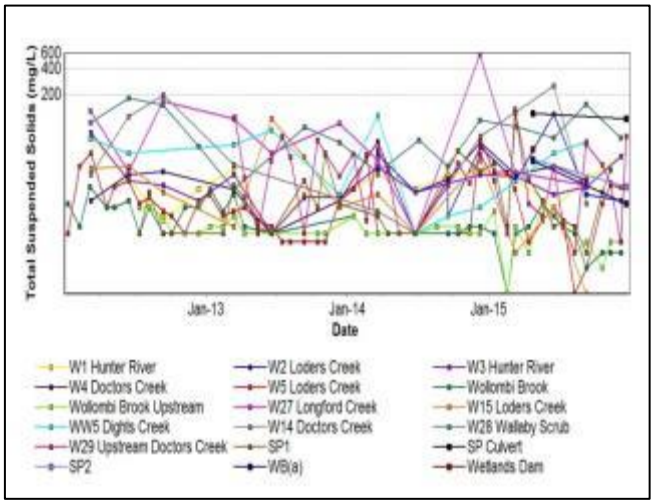


Figure 14: Watercourse Total Suspended Solids Trend 2012 - Current

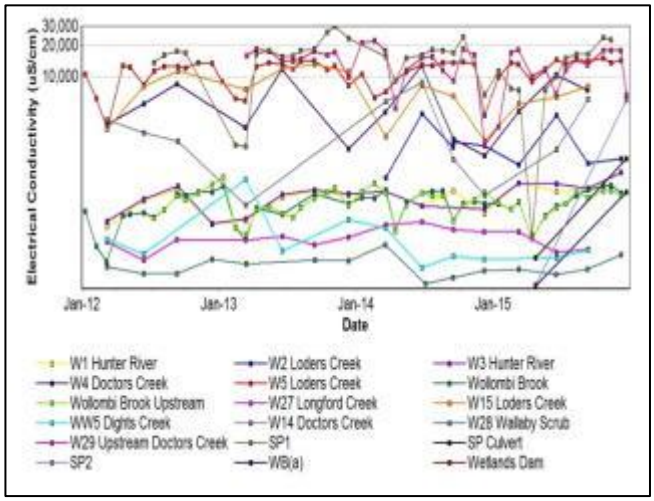


Figure 12: Watercourse Electrical Conductivity Trend 2012 - Current

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.

During 2015 27 internal trigger limits were breached, summarised in Table 2.

Table 2: Surface Water Trigger Tracking - December 2015

Site	Date	Trigger Limit Breached	Action Taken in Response
W1	10/03/2015	EC –95th Percentile	Watching Brief*
W1	10/09/2015	EC –95th Percentile	Watching Brief*
W1	8/12/2015	EC –95th Percentile	Watching Brief*
W1	10/09/2015	pH –95th Percentile	Watching Brief*
W2	18/06/2015	EC –95th Percentile	Watching Brief*
W2	18/06/2015	TSS –95th Percentile	Watching Brief*
W2	10/09/2015	pH –95th Percentile	Watching Brief*
W3	10/03/2015	EC –95th Percentile	Watching Brief*
W3	18/06/2015	EC –95th Percentile	Watching Brief*
W3	8/12/2015	EC –95th Percentile	Watching Brief*
W4	9/09/2015	pH –95th Percentile	Watching Brief*
W5	18/06/2015	EC –95th Percentile	Watching Brief*
W5	11/08/2015	EC –95th Percentile	Watching Brief*
W5	10/09/2015	EC –95th Percentile	Watching Brief*
W5	21/10/2015	EC –95th Percentile	Elevated EC due to low flow conditions associated with limited rainfall runoff. Data consistent with historical trend. No further action required.
W5	8/12/2015	EC –95th Percentile	Watching Brief maintained.
SP1	10/03/2015	TSS –95th Percentile	Watching Brief*
W14	18/06/2015	TSS –95th Percentile	Watching Brief* Resampling occurred.
W28	09/09/2015	TSS – 50mg/L (ANZECC criteria)	Re-assess immediately following next event-based sampling run, and undertake field investigations where repeat exceedance identified.

W28	8/12/2015	TSS – 50mg/L (ANZECC criteria)	TSS recorded is consistent with historical trend; sample taken from dam, not flowing at time of sampling. No further action required.
W29	17/06/2015	pH –5th Percentile	Watching Brief*
W29	09/03/2015	TSS –95th Percentile	Watching Brief*
W29	09/09/2015	TSS – 50mg/L (ANZECC criteria)	Re-assess immediately following next event-based sampling run, and undertake field investigations where repeat exceedance identified.
Wollombi Brook	21/10/2015	EC –95th Percentile	Watching Brief*
Wollombi Brook	11/11/2015	EC –95th Percentile	Watching Brief*
Wollombi Brook Upstream	18/06/2015	TSS –95th Percentile	Watching Brief*
WW5	10/09/2015	TSS – 50mg/L (ANZECC criteria)	Re-assess immediately following next event-based sampling run, and undertake field investigations where repeat exceedance identified.

* = 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.

Figures 16 to 48 show the long term water quality trends (2012 – current) for groundwater bores monitored at MTW.

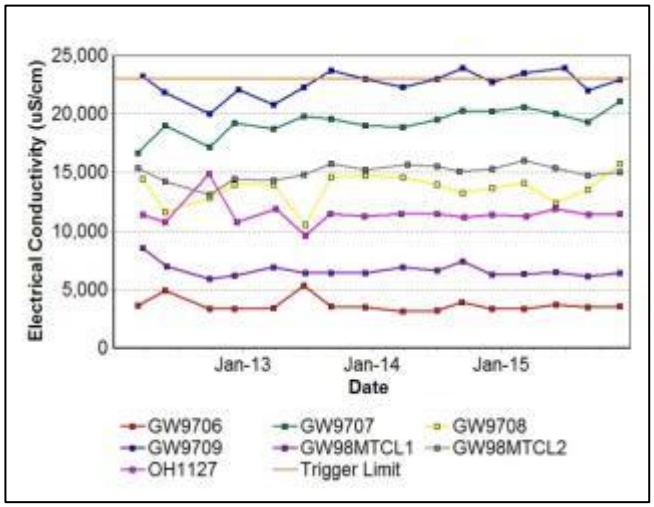


Figure 16: Bayswater Seam Electrical Conductivity Trend – December 2015

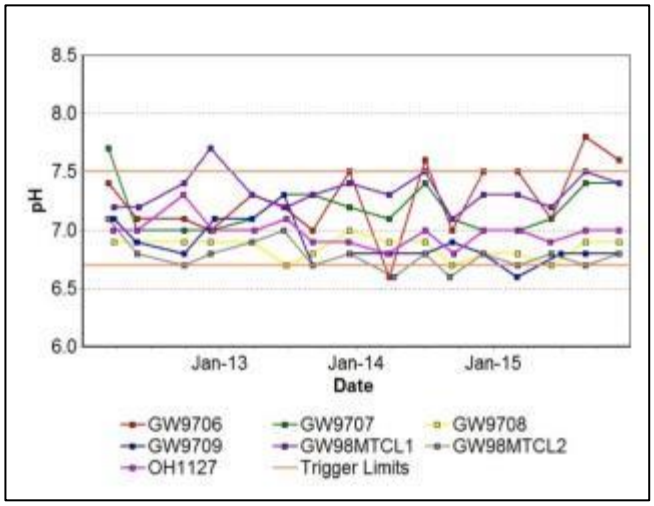


Figure 17: Bayswater Seam pH Trend - December 2015

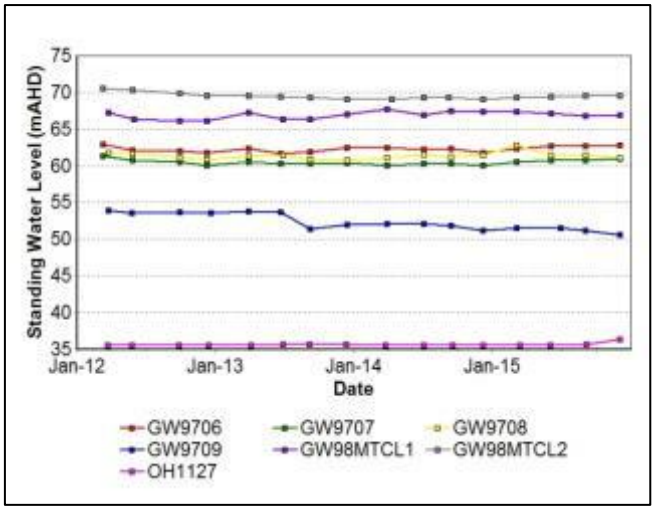


Figure 18: Bayswater Seam Standing Water Level - December 2015

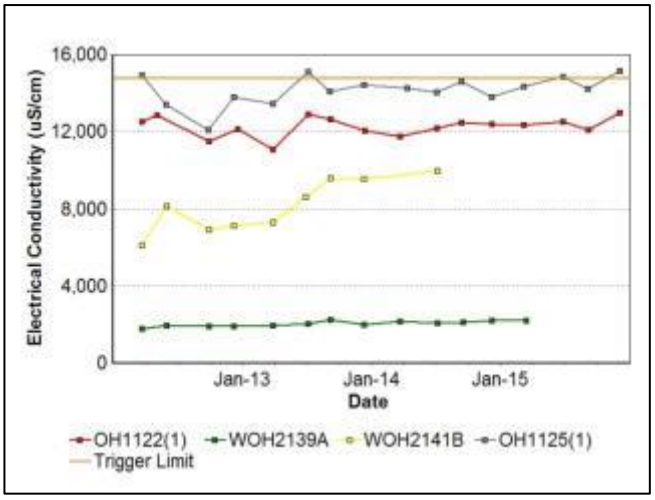


Figure 19: Blakefield Seam Electrical Conductivity Trend - December 2015

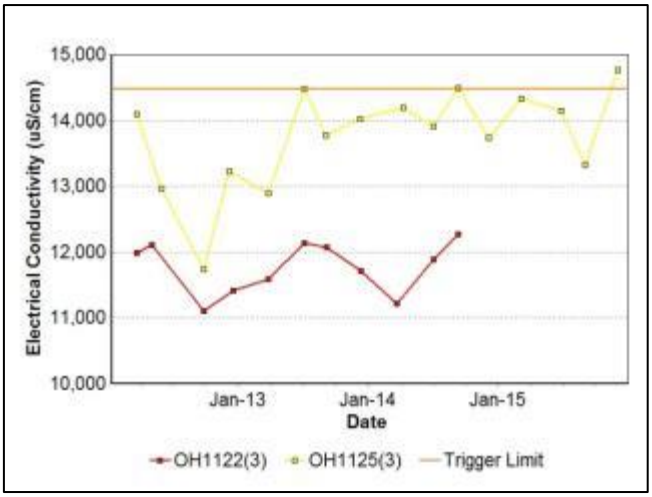


Figure 22: Bowfield Seam Electrical Conductivity Trend - December 2015

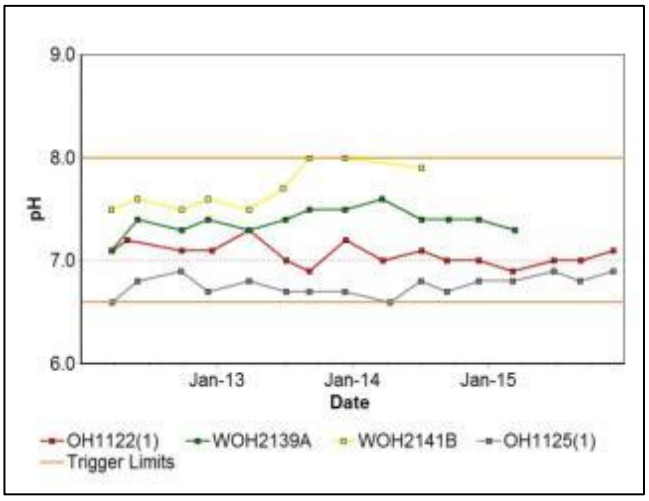


Figure 20: Blakefield Seam pH Trend - December 2015

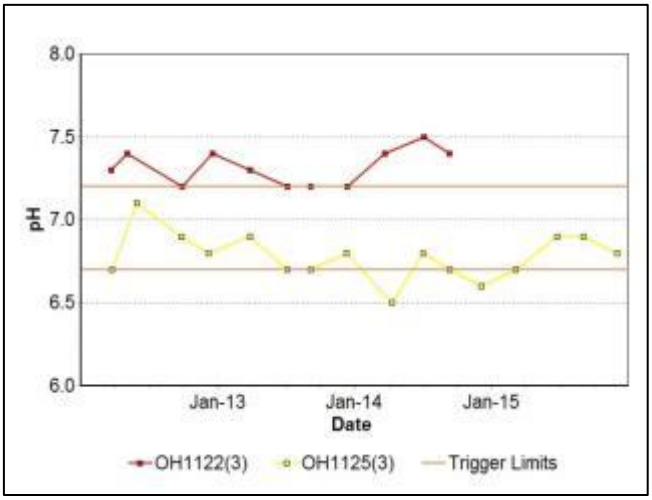


Figure 23: Bowfield Seam pH Trend – December 2015

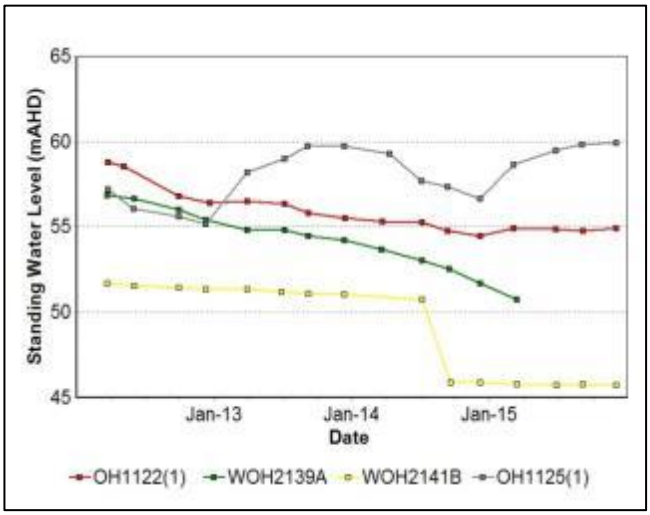


Figure 21: Blakefield Seam Standing Water Level Trend - December 2015

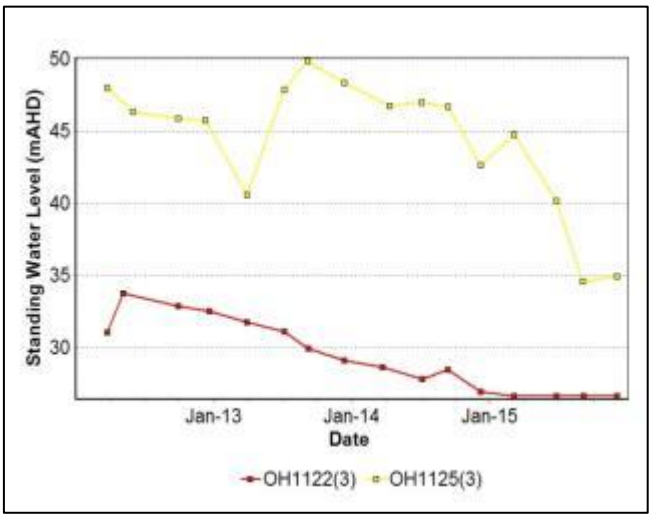


Figure 24: Bowfield Seam Standing Water Level Trend - December 2015

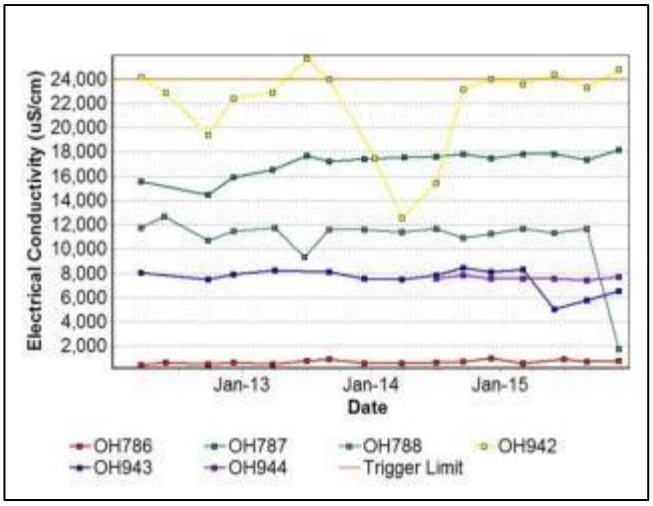


Figure 25: Hunter River Alluvium Seam Electrical Conductivity - December 2015

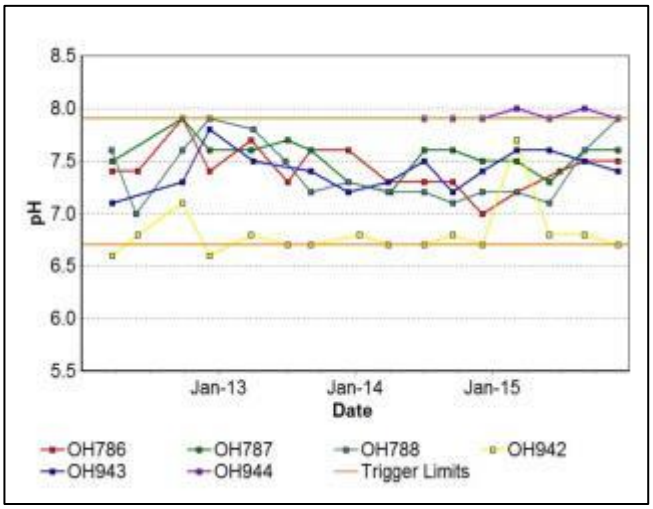


Figure 26: Hunter River Alluvium Seam pH Trend - December 2015

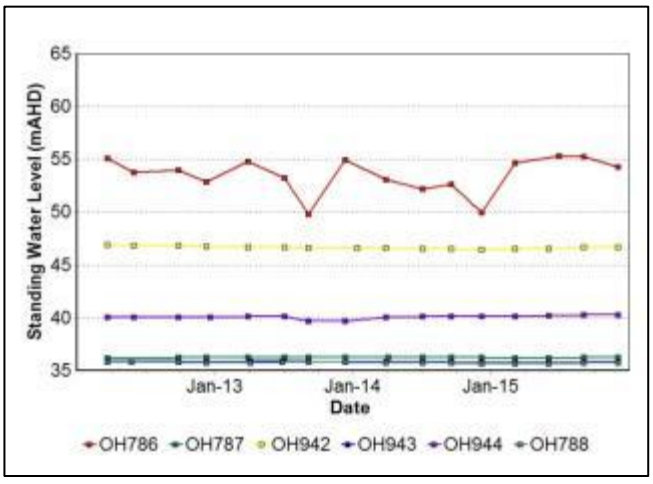


Figure 27: Hunter River Alluvium Standing Water Level Trend - December 2015

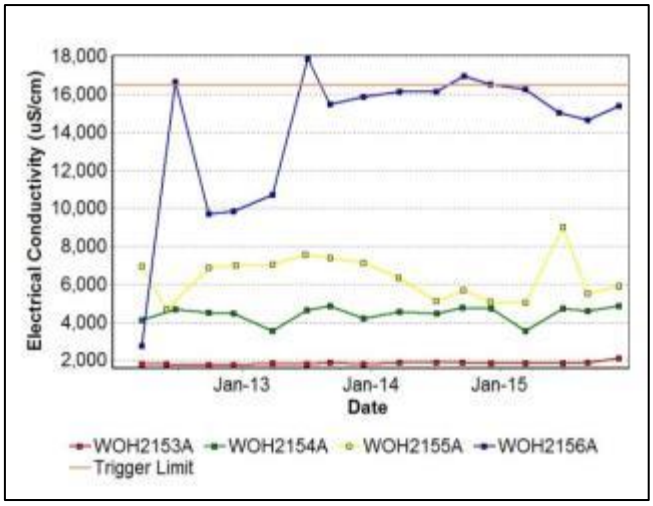


Figure 28: Redbank Seam Electrical Conductivity Trend - December 2015

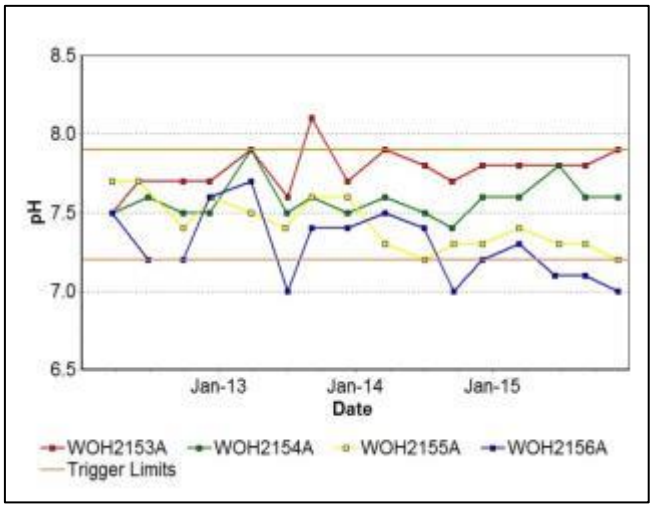


Figure 29: Redbank Seam pH Trend – December 2015

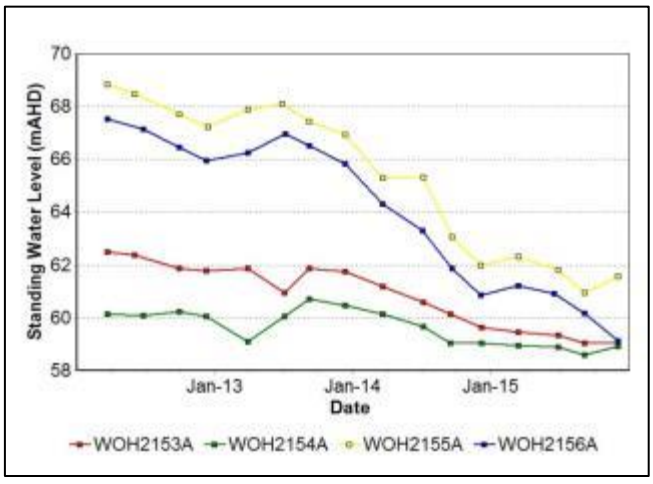


Figure 30: Redbank Seam Standing Water Level - December 2015

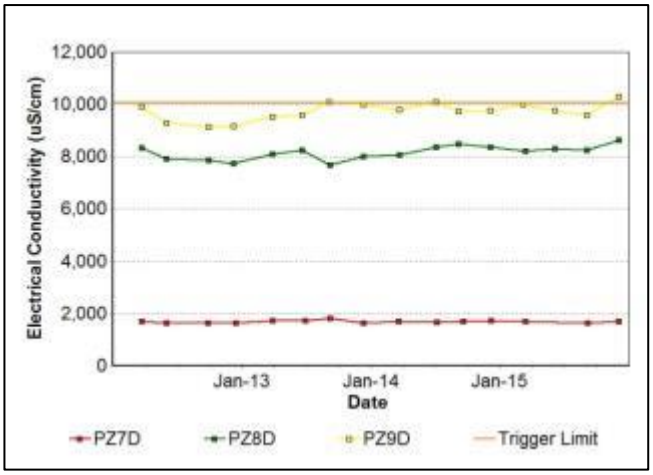


Figure 31: Shallow Overburden Seam Electrical Conductivity Trend - December 2015

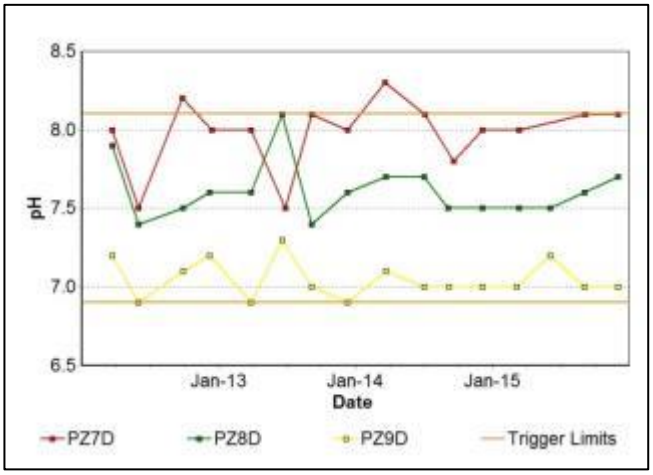


Figure 32: Shallow Overburden Seam pH Trend - December 2015

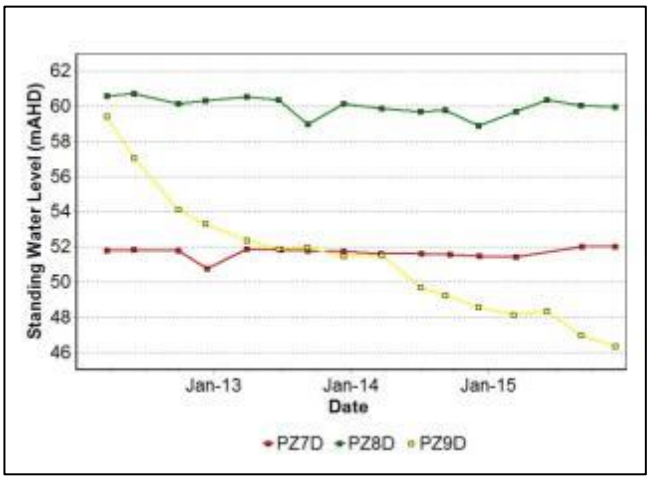


Figure 33: Shallow Overburden Seam Standing Water Level Trend - December 2015

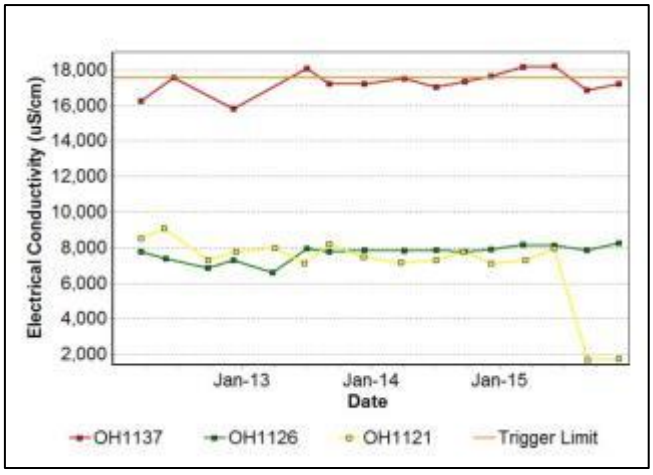


Figure 34: Vaux Seam Electrical Conductivity Trend - December 2015

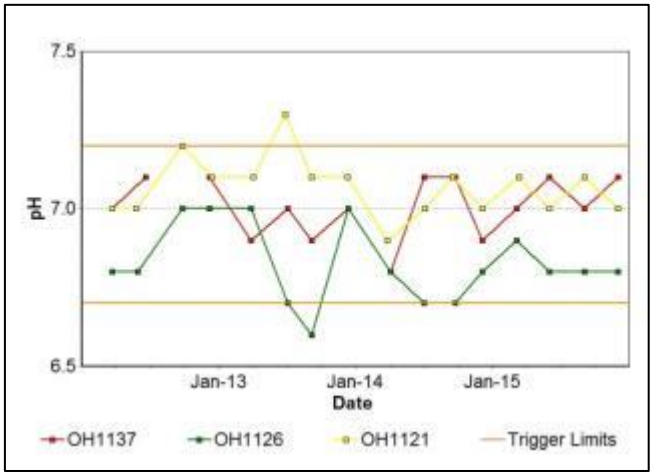


Figure 35: Vaux Seam pH Trend - December 2015

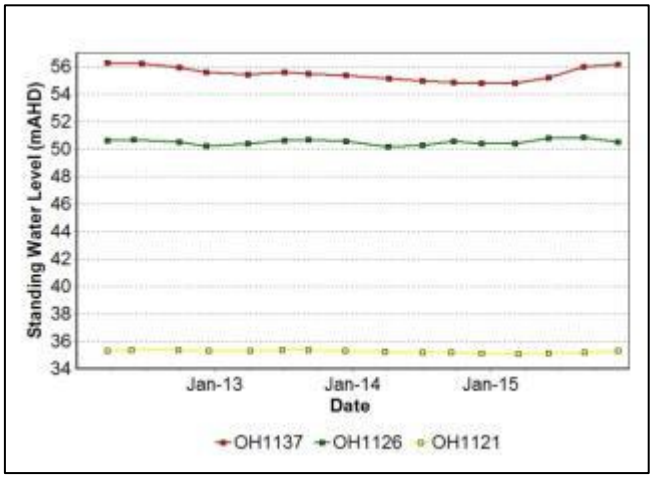


Figure 36: Vaux Seam Standing Water Level Trend - December 2015

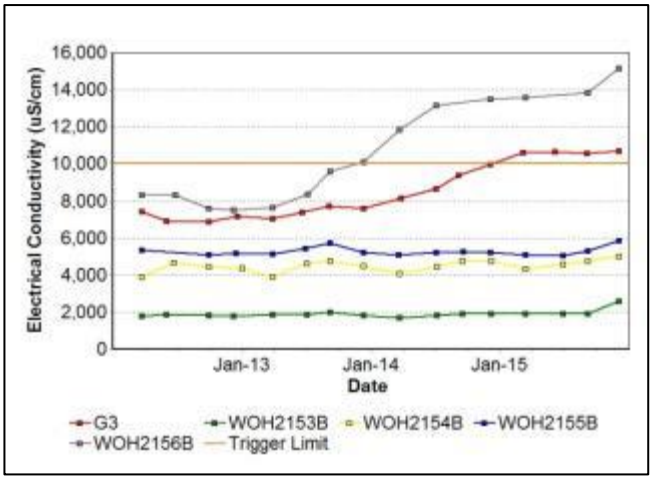


Figure 37: Wambo Seam Electrical Conductivity Trend - December 2015

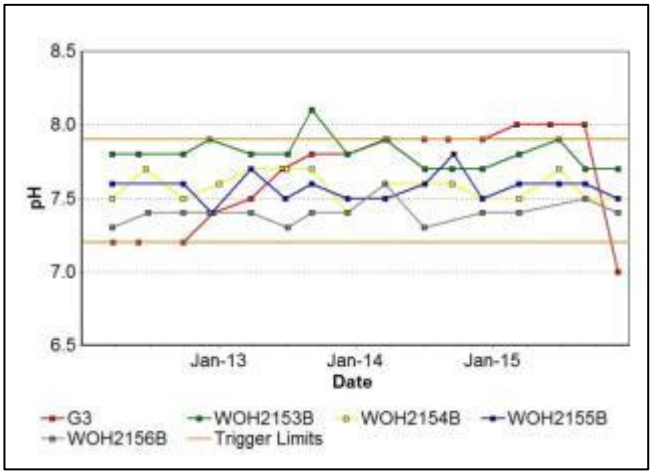


Figure 38: Wambo Seam pH Trend - December 2015

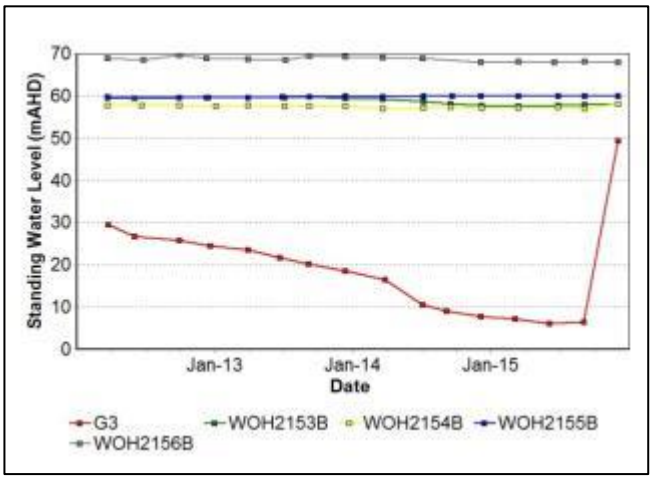


Figure 39: Wambo Seam Standing Water Level Trend - December 2015

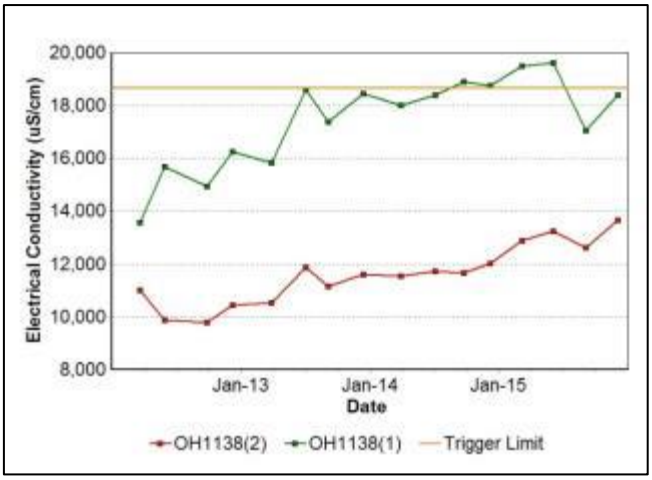


Figure 40: Warkworth Seam Electrical Conductivity Trend - December 2015

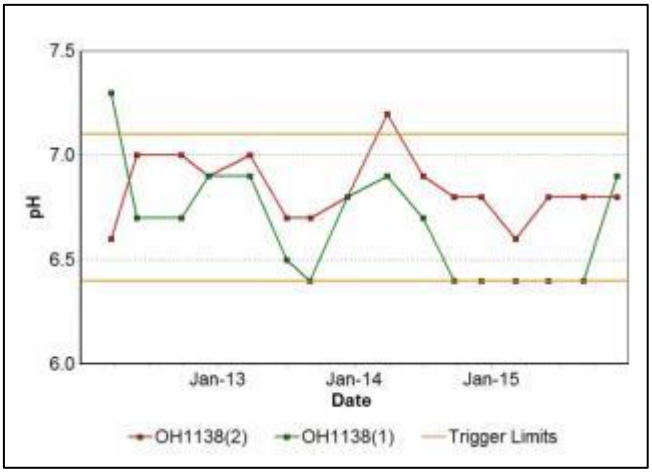


Figure 41: Warkworth Seam pH Trend - December 2015

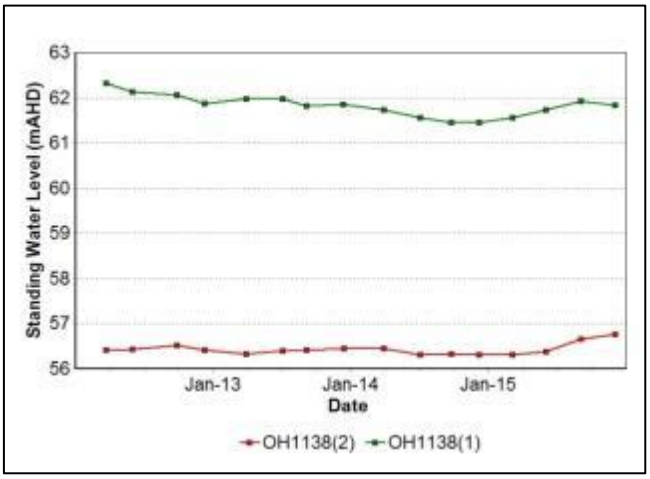


Figure 42: Warkworth Seam Standing Water Level Trend - December 2015

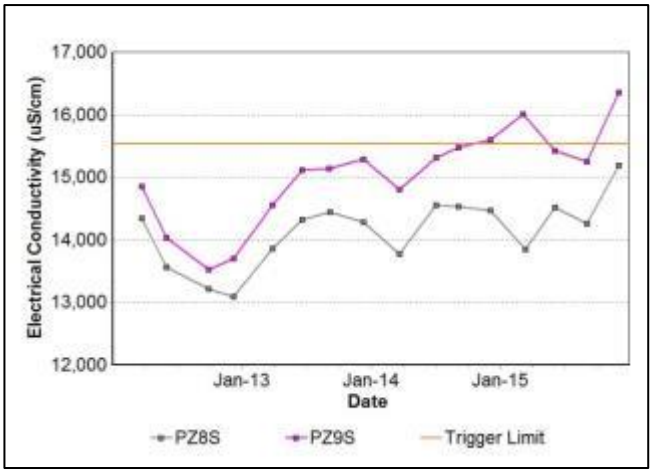


Figure 43: Wollombi Alluvium Electrical Conductivity Trend - December 2015

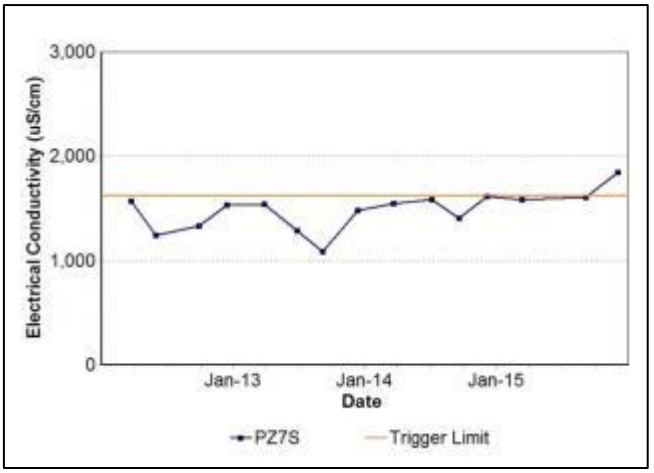


Figure 46: Aeolian Warkworth Sands Electrical Conductivity Trend – December 2015

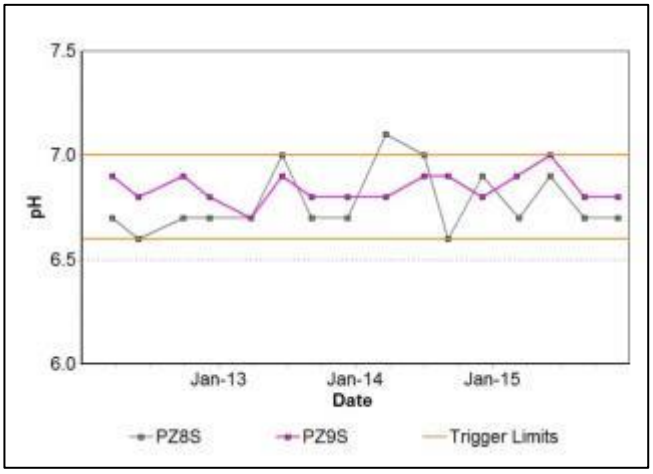


Figure 44: Wollombi Alluvium pH Trend – December 2015

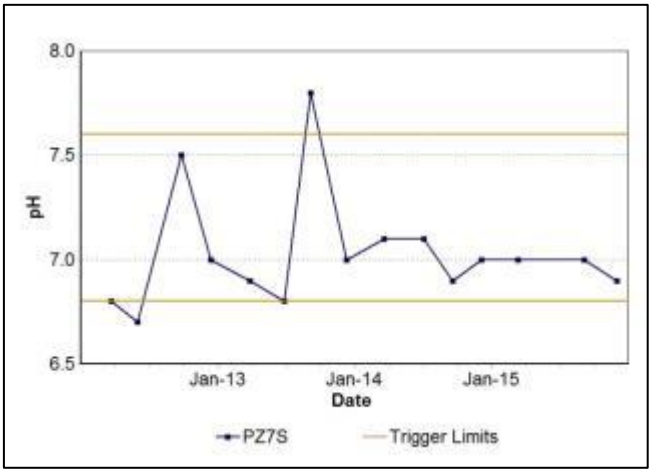


Figure 47: Aeolian Warkworth Sands pH Trend - December 2015

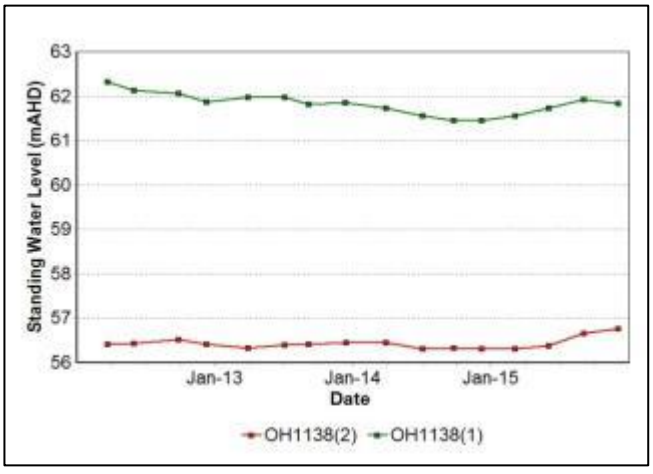


Figure 45: Wollombi Alluvium Standing Water Level Trend - December 2015

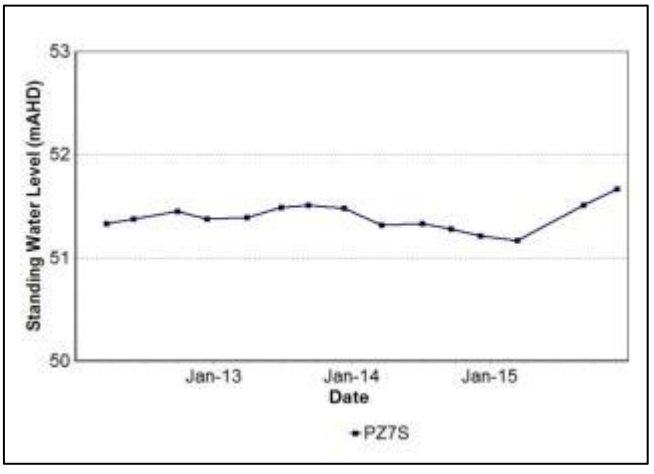


Figure 48: Aeolian Warkworth Sands Standing Water Level Trend - December 2015

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 49.

During 2015 multiple trigger limits were breached, summarised in Table 3.

Table 3: Groundwater Triggers - 2015

Site	Date	Trigger Limit Breached	Action Taken in Response
OH942	01/06/2015	EC – 95th Percentile	Watching Brief*
OH942	01/12/2015	EC – 95th Percentile	Watching Brief*
PZ9S	06/03/2015	EC – 95th Percentile	Watching Brief*
PZ9S	1/12/2015	EC – 95th Percentile	Watching Brief*
PZ7S	2/12/2015	EC – 95th Percentile	Watching Brief*
GW9709	05/03/2015	EC – 95th Percentile	Watching Brief*
GW9709	29/06/2015	EC – 95th Percentile	Watching Brief*
GW9709	05/03/2015	PH – 5th Percentile	Watching Brief*
OH1125(3)	1/12/2015	EC – 95th Percentile	Watching Brief*
OH1125(1)	25/06/2015	EC – 95th Percentile	Watching Brief*
OH1125(1)	1/12/2015	EC – 95th Percentile	Watching Brief*
PZ9D	1/12/2015	EC – 95th Percentile	Watching Brief*
OH1137	05/03/2015	EC – 95th Percentile	Watching Brief*
OH1137	02/06/2015	EC – 95th Percentile	Watching Brief*
G3	05/03/2015	EC – 95th Percentile	Watching Brief*
G3	04/06/2015	EC – 95th Percentile	Watching Brief*
G3	02/09/2015	EC – 95th Percentile	Elevated EC is likely the result of coal seam depressurisation, as evidenced by falling water level. This trend is consistent with effects of

			nearby mining. No further action required.
G3	1/12/2015	EC – 95th Percentile	Elevated EC and low pH is likely the result of coal seam depressurisation due to nearby mining. No further action required.
G3	05/03/2015	PH – 95th Percentile	Watching Brief*
G3	04/06/2015	PH – 95th Percentile	Watching Brief*
G3	02/09/2015	PH – 95th Percentile	Elevated pH is likely the result of coal seam depressurisation, as evidenced by falling water level. This trend is consistent with effects of nearby mining. No further action required.
G3	1/12/2015	PH – 5th Percentile	Low pH is likely the result of coal seam depressurisation due to nearby mining. No further action required.
G3	1/12/2015	SWL - Spike	Watching brief pending further investigation.
WOH2156A	16/06/2015	PH – 5th Percentile	Watching Brief*
WOH2156A	04/09/2015	PH – 5th Percentile	Watching Brief*
WOH2156A	2/12/2015	PH – 5th Percentile	Low pH is likely the result of coal seam depressurisation, as evidenced by falling water level. This trend is consistent with effects of nearby mining. No further action required.
WOH2156B	12/03/2015	EC – 95th Percentile	Watching Brief*
WOH2156B	04/09/2015	EC – 95th Percentile	Watching Brief*
WOH2156B	2/12/2015	EC – 95th Percentile	Elevated EC is likely the result of coal seam depressurisation, as evidenced by falling water level. This trend is consistent with effects of nearby mining. No further action required.
OH1138(1)	05/03/2015	EC – 95th Percentile	Watching Brief*
OH1138(1)	02/06/2015	EC – 95th Percentile	Watching Brief*
OH944	05/03/2015	PH – 95th Percentile	Watching Brief*
OH944	02/09/2015	PH – 95th Percentile	Watching Brief*
GW 9706	02/09/2015	PH – 95th Percentile	Watching Brief*
GW 9706	2/12/2015	PH – 95th Percentile	Watching Brief*

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

Figure 49: 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 56.

4.1 Blast Monitoring Results

During December 2015, 32 blasts were initiated at MTW. Figure 50 to Figure 55 show the blast monitoring results for the reporting period against the impact assessment criteria. The criteria are summarised in Table 4.

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.

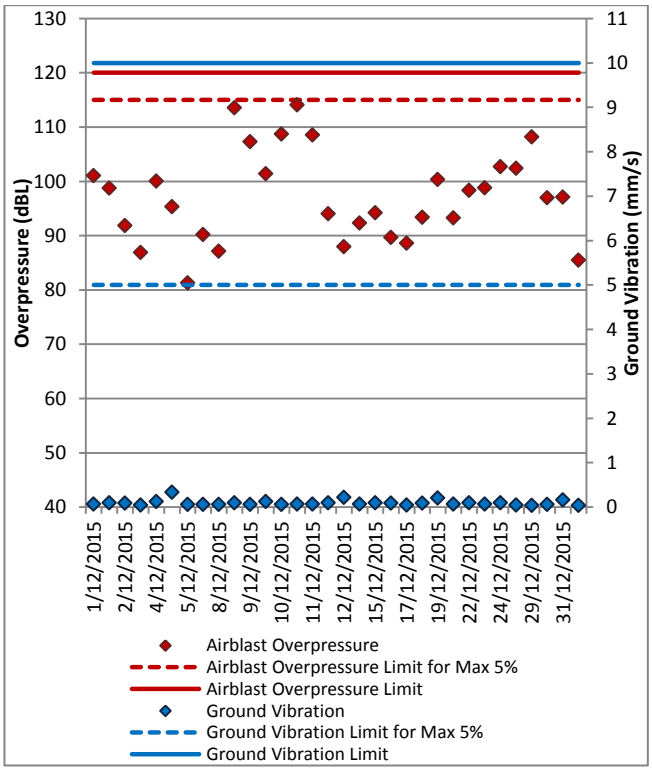


Figure 50: Abbey Green Blast Monitoring Results - December 2015

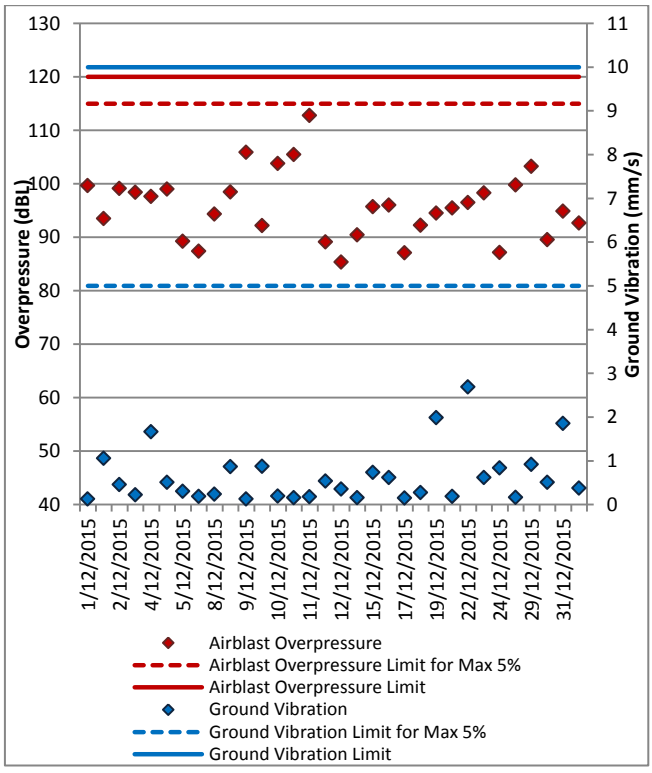


Figure 51: Bulga Village Blast Monitoring Results - December 2015

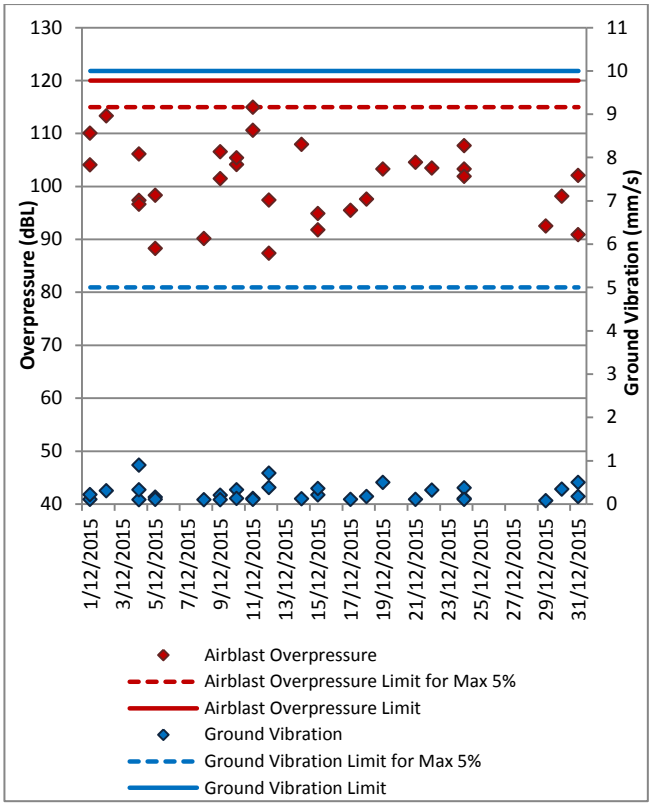


Figure 52: MTIE Blast Monitoring Results – December 2015

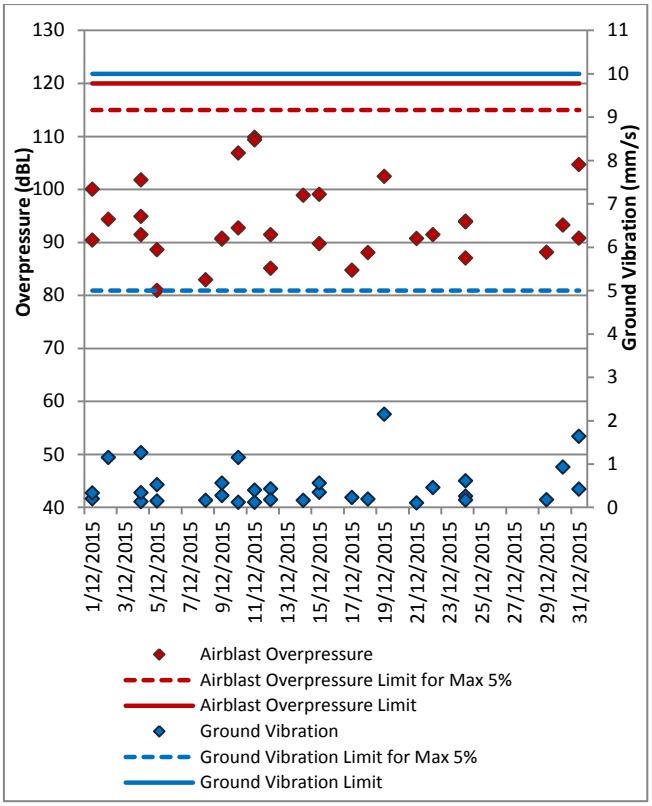


Figure 54: Warkworth Blast Monitoring Results - December 2015

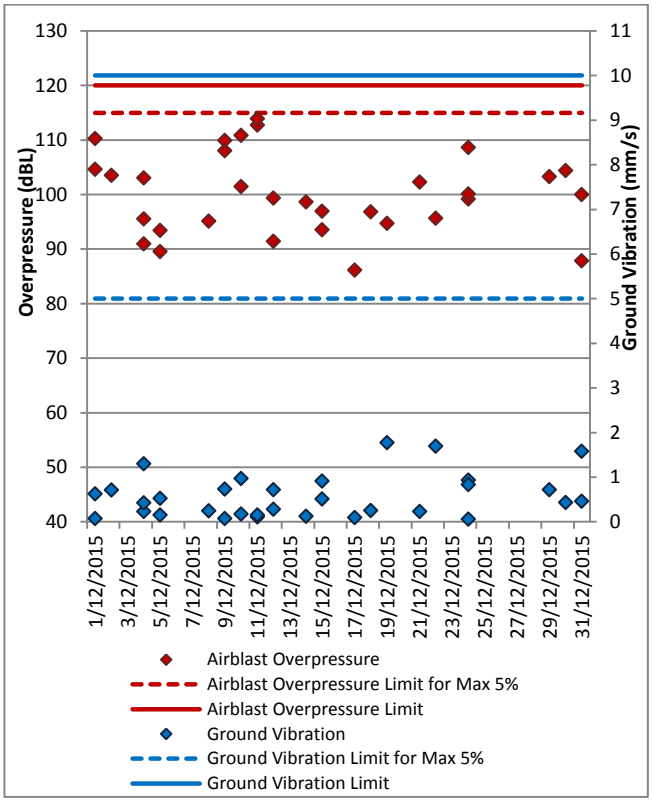


Figure 53: Wollemi Peak Road Blast Monitoring Results - December 2015

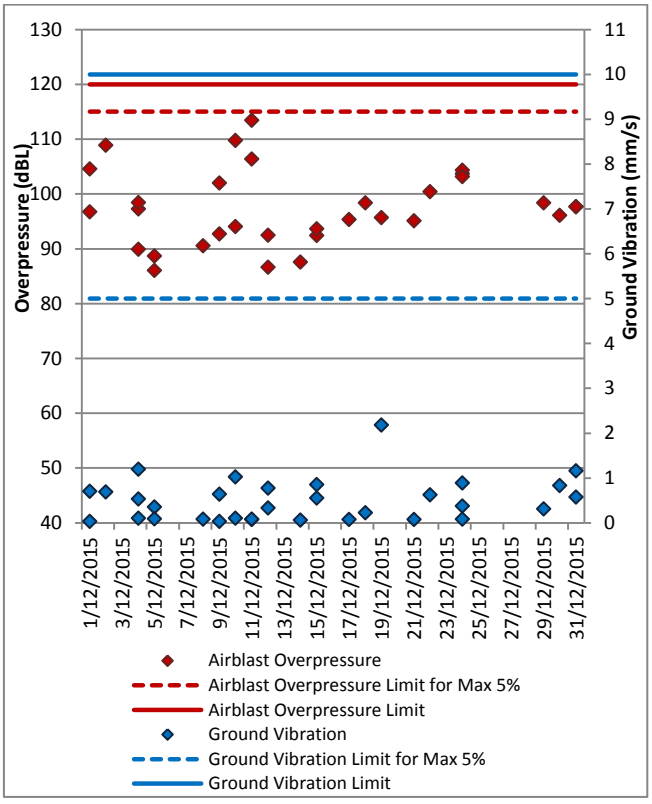


Figure 55: Wambo Road Blast Monitoring Results - December 2015

Figure 56: 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. 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 nine sites surrounding MTW. The attended noise monitoring locations are displayed in Figure 57.

5.1 Attended Noise Monitoring Results

Attended monitoring was conducted at receiver locations surrounding MTW on the night of 10/11 December 2015. All measurements complied with the relevant criteria. Results are detailed in **Error! Reference source not found.**5 to **Error! Reference source not found.**9.

5.1.1 WML Noise Assessment

Compliance assessments undertaken against the WML noise criteria are presented in Tables 5 and 6.

Table 5: LAeq, 15 minute Warkworth Impact Assessment Criteria – December 2015

Location	Date and Time	Wind Speed (m/s)[5]	VTG	Criterion (dB(A))	Criterion Applies?[1,6]	WML L_{Aeq} dB[2,4]	Exceedance[3]	Total L_{Ceq} – L_{Aeq}	Revised WML L_{Aeq}[5,6]
MTIE	11/12/2015 1:13	0.7	3	NA	NA	38	NA	21	43
Bulga Village	11/12/2015 0:14	0.6	3	38	Yes	32	Nil	18	37
Gouldsville Road	11/12/2015 2:27	0.5	3	NA	NA	NM	NA	22	NM
Inlet Road West	10/12/2015 23:50	1.8	-1	35	Yes	25	Nil	15	25
Long Point	11/12/2015 2:01	0.4	3	37	Yes	IA	Nil	19	IA
Wollemi Peak Road	10/12/2015 22:55	2	0.5	35	Yes	IA	Nil	13	IA
South Bulga	10/12/2015 22:27	2	-1	35	Yes	IA	Nil	12	IA
Wambo Road	11/12/2015 0:42	1.2	3	38	Yes	<20	Nil	17	<25

Table 6: LAeq, 15 minute Warkworth - Land Acquisition Criteria – December 2015

Location	Date and Time	Wind Speed (m/s)[5]	VTG	Criterion (dB(A))	Criterion Applies?[1,6]	WML L_{Aeq} dB[2,4]	Exceedance[3]	Total L_{Ceq} – L_{Aeq}[7]	Revised WML L_{Aeq}[5,6]
MTIE	11/12/2015 1:13	0.7	3	44	Yes	38	Nil	21	43
Bulga Village	11/12/2015 0:14	0.6	3	43	Yes	32	Nil	18	37
Gouldsville Road	11/12/2015 2:27	0.5	3	43	Yes	NM	Nil	22	NM
Inlet Road West	10/12/2015 23:50	1.8	-1	40	Yes	25	Nil	15	25
Long Point	11/12/2015 2:01	0.4	3	40	Yes	IA	Nil	19	IA
Wollemi Peak Road	10/12/2015 22:55	2	0.5	40	Yes	IA	Nil	13	IA
South Bulga	10/12/2015 22:27	2	-1	40	Yes	IA	Nil	12	IA
Wambo Road	11/12/2015 0:42	1.2	3	40	Yes	<20	Nil	17	<25

Notes

1. *Application of Criterion as per meteorological exclusions set out in the Approvals;*
2. *These are measured A-weighted noise levels (professional assessment of noise contribution from the target source (WML / MTO) only);*
3. *Exceedance is defined in the MTW Noise Management Plan. Bolded results in red are those greater than the relevant criterion;*
4. *Results denoted by "<" indicate that the relative contribution of the target consent area could not be absolutely determined, but is assessed up to a maximum of the recorded value. "IA" means that the target consent area was inaudible during the assessment. "NM" means that the target consent area was audible, but at such low levels that an accurate assessment of noise level could not be determined;*
5. *Revised WML L_{Aeq} includes application of the INP Low Frequency modification factor penalty where applicable;*
6. *Low Frequency Penalty is not be applied where external noise sources influence the L_{Ceq} measurement, or during instances where the noise criteria do not apply (see note 1); and*

7. *INP assessment of Total L_{Ceq} minus Total L_{Aeq}. INP Low Frequency Penalty is applicable where this exceeds 15*

5.1.2 MTO Noise Assessment

Compliance assessments undertaken against the MTO noise criteria are presented in **Error! Reference source not found.**7 to **Error! Reference source not found.**9**.**

Table 7: LAeq, 15minute Mount Thorley - Impact Assessment Criteria – December 2015

Location	Date and Time	Wind Speed (m/s)[5]	VTG	Criterion dB	Criterion Applies?[1,6]	MTO L_{Aeq} dB[2,4]	Exceedance[3]	Total L_{Ceq} – L_{Aeq}[7]	Revised MTO L_{Aeq}[5,6]
MTIE	11/12/2015 1:13	0.7	3	NA	NA	IA	NA	21	IA
Bulga Village	11/12/2015 0:14	0.6	3	40	Yes	27	Nil	18	27
Gouldsville Road	11/12/2015 2:27	0.5	3	44	Yes	IA	Nil	22	IA
Inlet Road West	10/12/2015 23:50	1.8	-1	35	Yes	IA	Nil	15	IA
Long Point	11/12/2015 2:01	0.4	3	39	Yes	IA	Nil	19	IA
Wollemi Peak Road	10/12/2015 22:55	2	0.5	38	Yes	37	Nil	13	37
South Bulga	10/12/2015 22:27	2	-1	37	Yes	36	Nil	12	36
Wambo Road	11/12/2015 0:42	1.2	3	40	Yes	IA	Nil	17	IA

Table 8: LAeq,15minute Mount Thorley – Land Acquisition Criteria – December 2015

Location	Date and Time	Wind Speed (m/s)[5]	VTG[5]	Criterion dB	Criterion Applies?[1,6]	MTO L_{Aeq} dB[2,4]	Exceedance[3]	Total L_{Ceq} – L_{Aeq}[7]	Revised MTO L_{Aeq}[5,6]
MTIE	11/12/2015 1:13	0.7	3	NA	NA	IA	NA	21	IA
Bulga Village	11/12/2015 0:14	0.6	3	43	Yes	27	Nil	18	27
Gouldsville Road	11/12/2015 2:27	0.5	3	45	Yes	IA	Nil	22	IA
Inlet Road West	10/12/2015 23:50	1.8	-1	43	Yes	IA	Nil	15	IA
Long Point	11/12/2015 2:01	0.4	3	43	Yes	IA	Nil	19	IA
Wollemi Peak Road	10/12/2015 22:55	2	0.5	43	Yes	37	Nil	13	37
South Bulga	10/12/2015 22:27	2	-1	43	Yes	36	Nil	12	36
Wambo Road	11/12/2015 0:42	1.2	3	43	Yes	IA	Nil	17	IA

Table 9: LA1, 1Minute Mount Thorley - Impact Assessment Criteria – December 2015

Location	Date and Time	Wind Speed (m/s)[5]	VTG[5]	Criterion dB	Criterion Applies?[1,6]	MTO $L_{A1,\ 1min}$ dB[2,4]	Exceedance[3]
MTIE	11/12/2015 1:13	0.7	3	NA	NA	IA	NA
Bulga Village	11/12/2015 0:14	0.6	3	48	Yes	33	Nil
Gouldsville Road	11/12/2015 2:27	0.5	3	47	Yes	IA	Nil
Inlet Road West	10/12/2015 23:50	1.8	-1	48	Yes	IA	Nil
Long Point	11/12/2015 2:01	0.4	3	47	Yes	IA	Nil
Wollemi Peak Road	10/12/2015 22:55	2	0.5	48	Yes	42	Nil
South Bulga	10/12/2015 22:27	2	-1	48	Yes	41	Nil
Wambo Road	11/12/2015 0:42	1.2	3	48	Yes	IA	Nil

Notes

1. *Application of Criterion as per meteorological exclusions set out in the Approvals;*
2. *These are measured A-weighted noise levels (professional assessment of noise contribution from the target source (WML / MTO) only);*
3. *Exceedance is defined in the MTW Noise Management Plan. Bolded results in red are those greater than the relevant criterion;*
4. *Results denoted by "<" indicate that the relative contribution of the target consent area could not be absolutely determined, but is assessed up to a maximum of the recorded value. "IA" means that the target consent area as inaudible during the assessment. "NM" means that the target consent area was audible, but at such low levels that an accurate assessment of noise level could not be determined;*
5. *Revised WML L_{Aeq} includes application of the INP Low Frequency modification factor penalty where applicable;*

6. *Low Frequency Penalty is not be applied where external noise sources influence the L_{Ceq} measurement, or during instances where the noise criteria do not apply (see note 1); and*
7. *INP assessment of Total L_{Ceq} minus Total L_{Aeq}. INP Low Frequency Penalty is applicable where this exceeds 15*

5.1.3 INP Low Frequency Assessment

In accordance with the requirements of the Industrial Noise Policy, the low frequency modification factor has been applied where appropriate. It should be noted that the Industrial Noise Policy does not give guidance on the application of the penalty where more than one target source is audible. The L_{Ceq} levels reported above are "Total", or "Total mine noise" at best, and cannot be attributed accurately to a single mine. Accordingly, where the INP criteria for the application of the Low Frequency penalty is triggered, the penalty has been applied to the dominant mine noise source (either of WML or MTO).

There were no exceedances of criteria recorded during the reporting period.

Figure 57: 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:

- Replacement of non-attenuated equipment with sound attenuated equipment;
- 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 December are provided in Table 10.

Table 10: Supplementary Attended Noise Monitoring Data –December 2015

No. of assessments	No. of assessments > trigger	No. of nights where assessments > trigger	% greater than trigger
464	13	7	2.8

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

6.0 OPERATIONAL DOWNTIME

During December, a total of 1063.4 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 58.

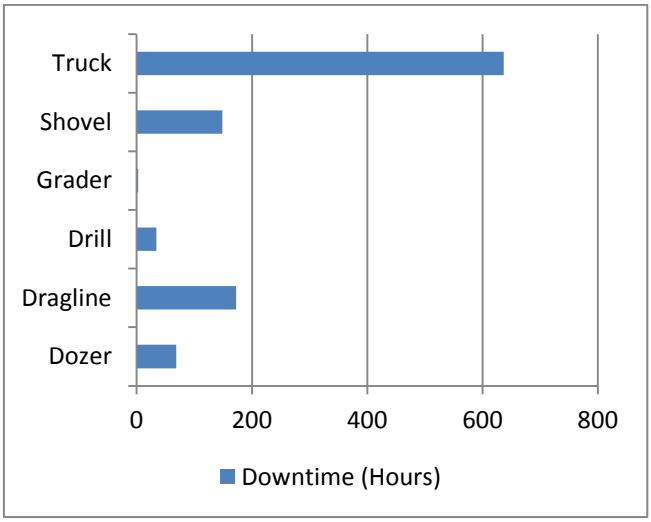


Figure 58: Operational Downtime by Equipment Type – December 2015

7.0 REHABILITATION

During December, 3.01 Ha of land was released and 3.10 Ha of land was bulk-shaped, 5.17 Ha was topsoiled, 1.19 Ha of land was composted & 18.99Ha of land was seeded. Year-to-date progress can be viewed in Figure 59.

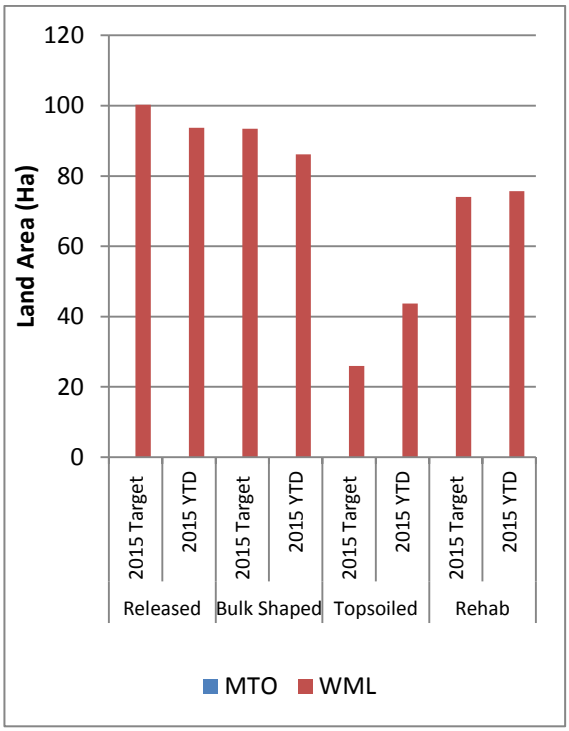


Figure 59: Rehabilitation YTD - December 2015

8.0 ENVIRONMENTAL INCIDENTS

During the reporting period there were no reportable environmental incidents.

9.0 COMPLAINTS

During the reporting period 48 complaints were received, details of these complaints are displayed on the Rio Tinto website via the following link and are also shown in Figure 60 below.
http://www.riotinto.com/documents/Mount_Thorley_Warkworth_Complaints_Register_2015.pdf

	Noise	Dust	Blast	Lighting	Other	Total
January	53	4	1	1	0	59
February	59	0	3	2	0	64
March	70	6	5	2	2	85
April	38	0	9	0	1	48
May	34	8	3	3	1	49
June	50	3	6	2	1	62
July	30	1	3	7	0	41
August	33	6	6	7	1	53
September	27	14	2	6	1	50
October	26	8	4	3	2	43
November	21	4	4	8	0	37
December	32	8	5	2	1	48
Total	473	62	51	43	10	639

Figure 60: Complaints Summary - YTD December 2015

Appendix A: Meteorological Data

Table 11: Meteorological Data – Charlton Ridge Meteorological Station – December 2015

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)
1/12/2015	37.4	16.2	89.6	7.9	1202	255.5	3.5	0.0
2/12/2015	29.7	15.4	88.9	30.3	1354	174.3	4.0	0.6
3/12/2015	24.4	14.1	75.0	39.4	1557	135.4	3.4	0.0
4/12/2015	25.8	10.7	85.9	33.7	1489	145.1	3.0	0.0
5/12/2015	31.2	11.8	86.4	20.6	1099	141.2	2.4	0.0
6/12/2015	32.4	13.4	90.7	15.3	1062	160.1	2.2	0.0
7/12/2015	29.7	15.4	87.2	34.0	1072	147.9	3.7	0.0
8/12/2015	32.9	15.9	83.3	29.9	1078	164.8	1.9	0.0
9/12/2015	35.4	20.6	86.2	25.5	1434	251.7	4.0	0.2
10/12/2015	36.1	18.6	86.5	24.9	1211	162.3	3.0	0.0
11/12/2015	38.2	16.2	89.3	5.7	1207	249.6	4.7	0.0
12/12/2015	29.4	15.5	82.8	19.3	1238	126.0	3.8	0.0
13/12/2015	30.9	15.3	82.7	25.3	1329	132.3	3.0	0.0
14/12/2015	36.7	16.2	86.0	13.4	1276	210.6	3.6	0.0
15/12/2015	36.2	15.0	96.6	14.1	1219	156.9	2.8	15.0
16/12/2015	24.6	15.0	95.5	67.7	834	163.6	2.2	9.6
17/12/2015	29.5	14.7	94.1	37.5	1386	142.0	2.7	0.2
18/12/2015	34.0	14.8	92.0	23.6	1103	138.9	2.3	0.0
19/12/2015	35.9	17.2	86.8	15.0	1078	157.8	2.4	0.0
20/12/2015	38.2	16.4	77.5	14.4	1102	246.7	3.7	0.0
21/12/2015	36.7	18.2	97.0	20.5	1241	220.0	4.3	23.8
22/12/2015	19.0	15.0	98.0	95.6	257	162.6	3.1	51.8
23/12/2015	20.1	14.5	98.0	76.8	376	164.3	3.1	3.6
24/12/2015	24.1	15.7	92.6	44.8	1333	144.8	3.4	0.0
25/12/2015	27.1	15.2	88.7	47.2	1524	137.9	3.1	0.0
26/12/2015	31.0	15.2	95.9	43.5	1464	165.9	1.7	9.2
27/12/2015	21.8	14.2	96.3	56.3	1490	173.2	3.0	2.0
28/12/2015	21.4	13.4	94.3	56.8	1569	158.2	3.1	2.6
29/12/2015	26.2	12.6	87.8	35.1	1594	152.0	3.2	0.0
30/12/2015	28.3	11.1	92.4	33.4	1139	141.6	2.1	0.0
31/12/2015	29.1	13.7	84.9	37.9	1487	141.3	2.8	0.0

COAL & ALLIED

Managed by Rio Tinto Coal Australia

Appendix D

Acquisition Update - Mount Thorley Warkworth Property Portfolio

Mount Thorley Warkworth property portfolio update

December 2015

Approach

Property purchases are based on the following:

- Regulatory criteria (those properties identified as being within a zone of acquisition due to predicted impacts under current operating consent. The majority of properties owned by Coal & Allied fall into this category);

How are properties managed?

- Properties within the mining lease may or may not be tenanted depending on their distance from the operation.
- Some of the properties were purchased as part of consent conditions requiring offer of acquisition to owners. Many have been owned for some time over the 30 year life of the operation (e.g. along Putty Road).
- Properties that are tenanted are offered for lease on the open market at market rates, and are managed through local real estate agents.
- Properties must be managed in accordance with Coal & Allied's standards of property management.

Current property portfolio

1909 Putty Road, Bulga
1870 Putty Road, Bulga
1758 Putty Road, Bulga
1804 Putty Road, Bulga
1855 Putty Road, Bulga
1893 Putty Road, Bulga
1906 Putty Road, Bulga
1951 Putty Road, Bulga
2119 Putty Road, Bulga
2042 Putty Road, Bulga
1946 Putty Road, Bulga
1946 Putty Road, Bulga
608 Hambledon Hill Road, Singleton
271 Wallaby Scrub Road, Bulga
277 Wallaby Scrub Road, Bulga
896 Putty Rd, Mt Thorley
288 Jerrys Plains Road, Singleton
11 Inlet Road , Bulga
36 Inlet Road, Bulga
1 Wambo Rd, Bulga
89 Wambo Rd , Bulga
910 Putty Rd, Mt Thorley
129 Wambo Rd, Bulga
181 Wambo Rd, Bulga
313 Wambo Road, Bulga
317 Wambo Rd, Bulga
248 Wambo Road, Bulga
367 Wambo Rd, Bulga