

# Mt Arthur Coal Community Consultative Committee

Planned meeting date:  
10 November 2021  
Information provided:  
1 July to 30 September

## Environmental Management

### FY22 Rehabilitation Update

Bulk shaping and topsoil spreading is continuing in the Drayton Void area as part of the 43 ha FY22 target. Additional areas that will be rehabilitated in FY22 are VD5 and VD2 in the north of the operation.

Mt Arthur Coal is currently scoping a program of works to enhance the rehabilitation completed on VD1 for commencement in FY22. This work includes:

- Suppression of perennial exotic grasses;
- Removal of contour banks and the construction of dendritic drainage; and
- Diversification of flora through direct seeding and planting of tubestock.

### Environmental Performance

#### Air Quality Monitoring (Period 1 July to 30 September)

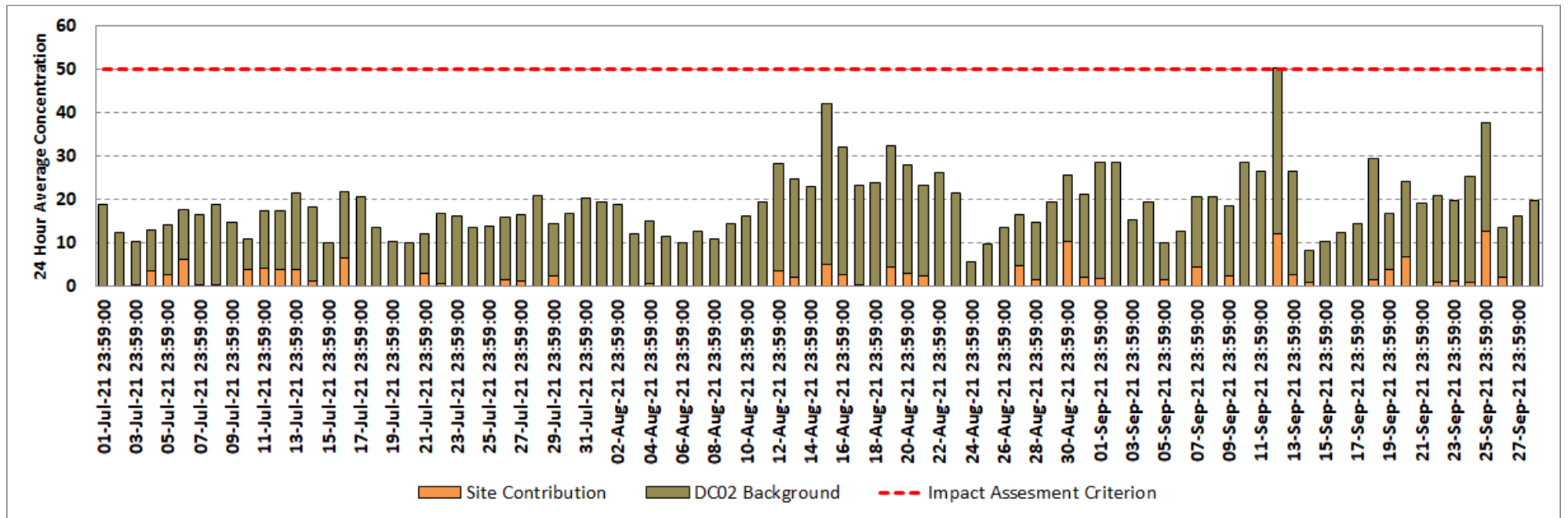
- This paper (for the reporting period of 1 July– 30 September 2021) covers the performance of all six statutory PM10 monitoring sites using TEOMs, and the two dust deposition gauges.
- One day within the reporting period experienced elevated absolute PM10 TEOM monitoring results.
  - 12 September 2021 DC02
- Table 1 below provides an equipment performance summary.
- A guide has been provided at the end of this section to assist in the interpretation of the results and figures. The figures within this section have been developed in line with consultation with members of the CCC.

**Table 1. Equipment Performance Summary**

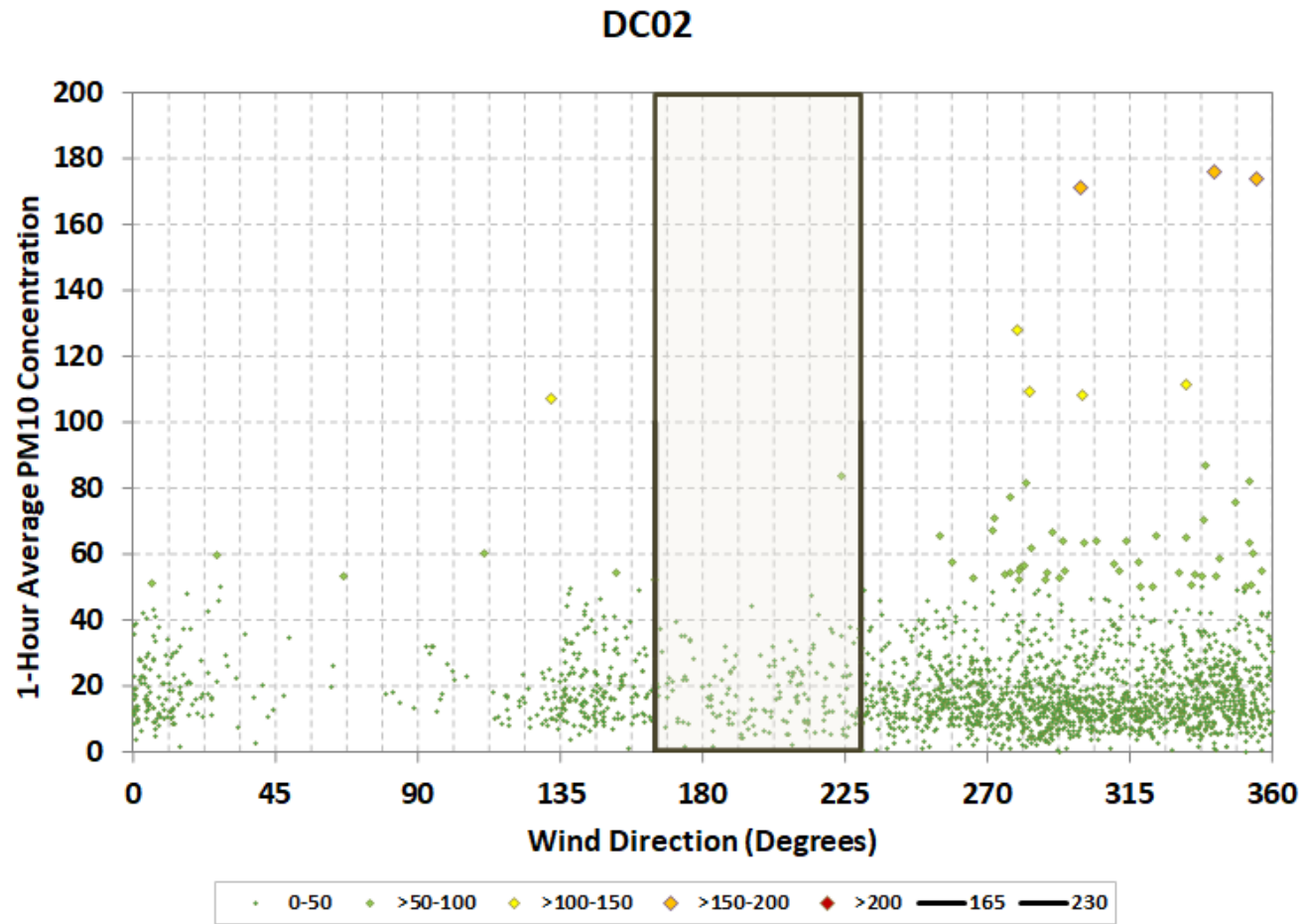
Site	Date/s	Reason
DC05	29 – 30/07/2021	<75% Data capture due to electrical testing and tagging being done as part of an upgrade

Sheppard Avenue – DC02

Data capture – 100%

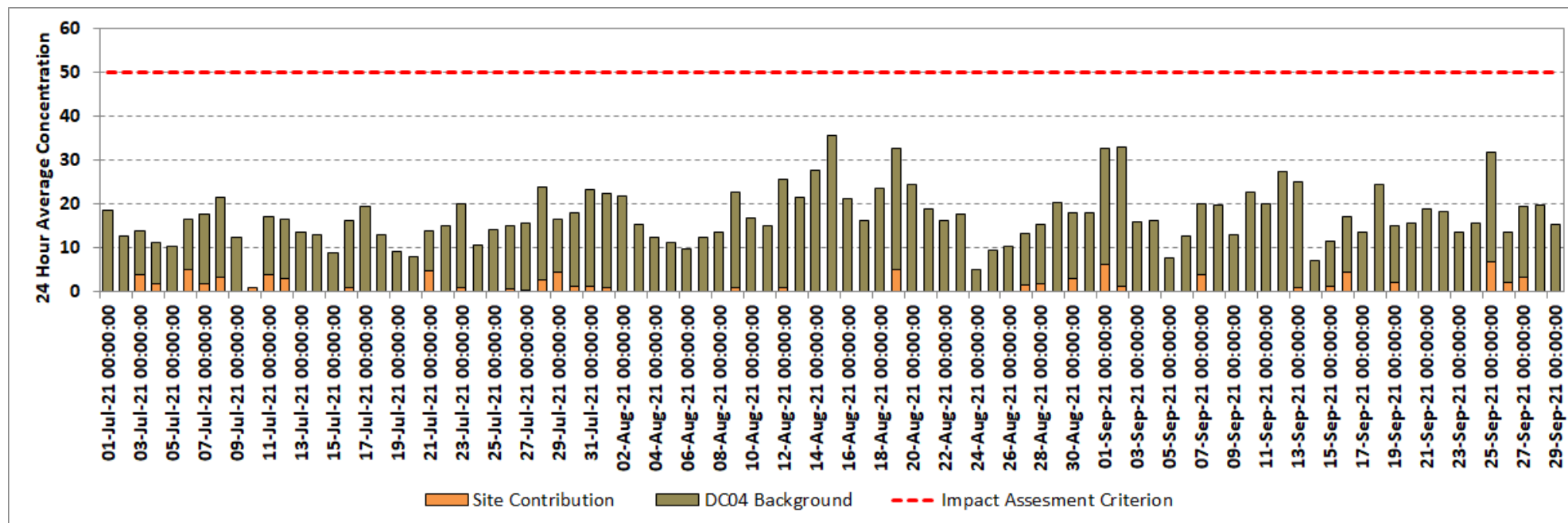


Sheppard Avenue – DC02

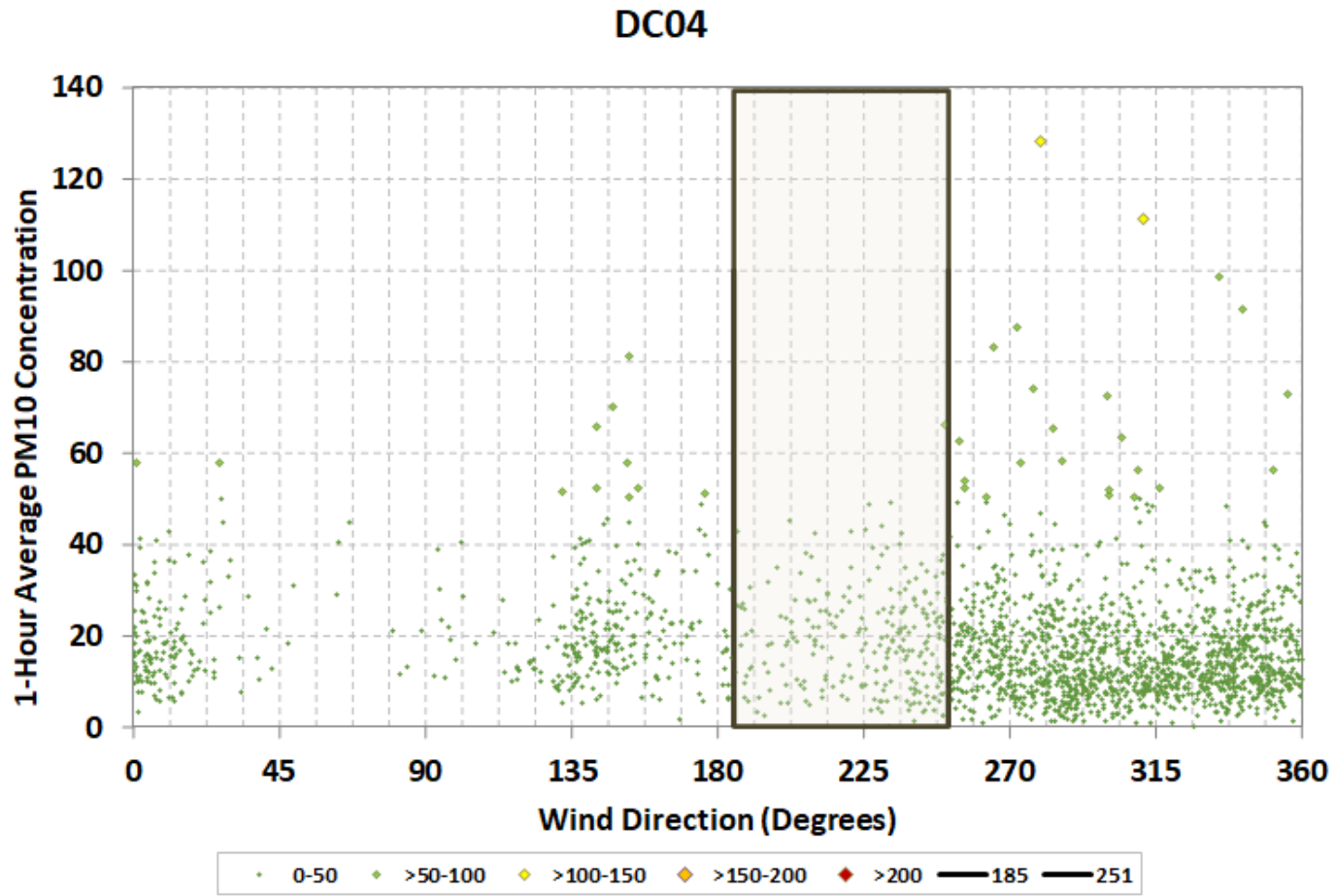


South Muswellbrook – DC04

Data capture – 100%

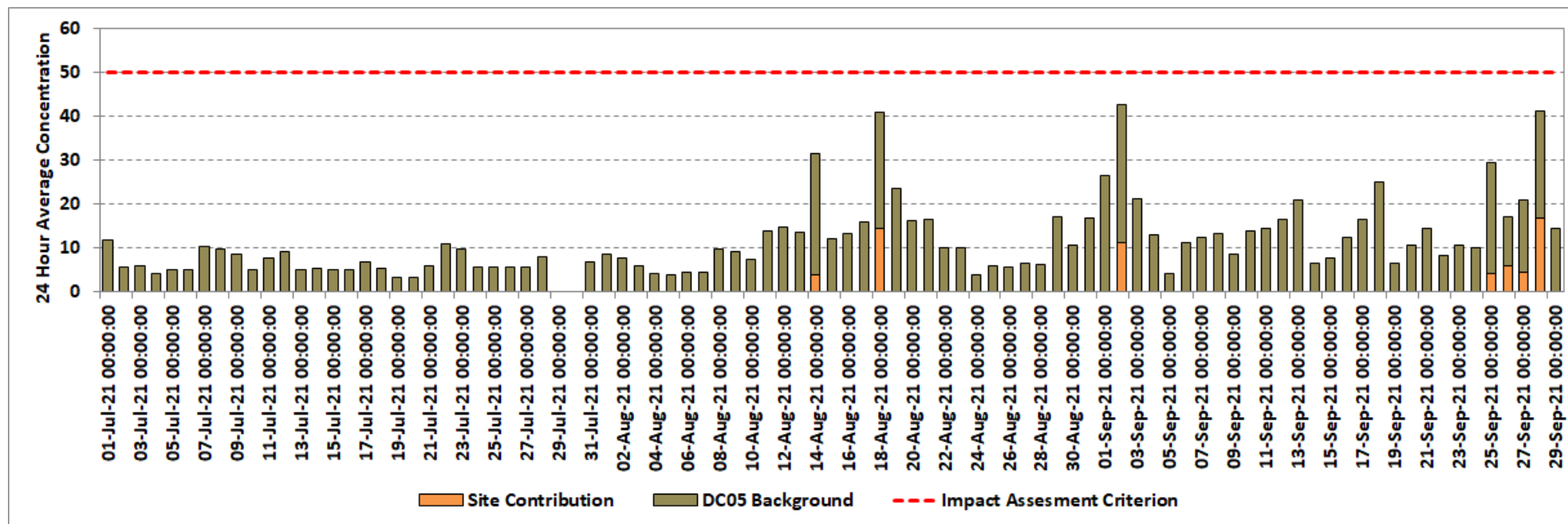


South Muswellbrook – DC04

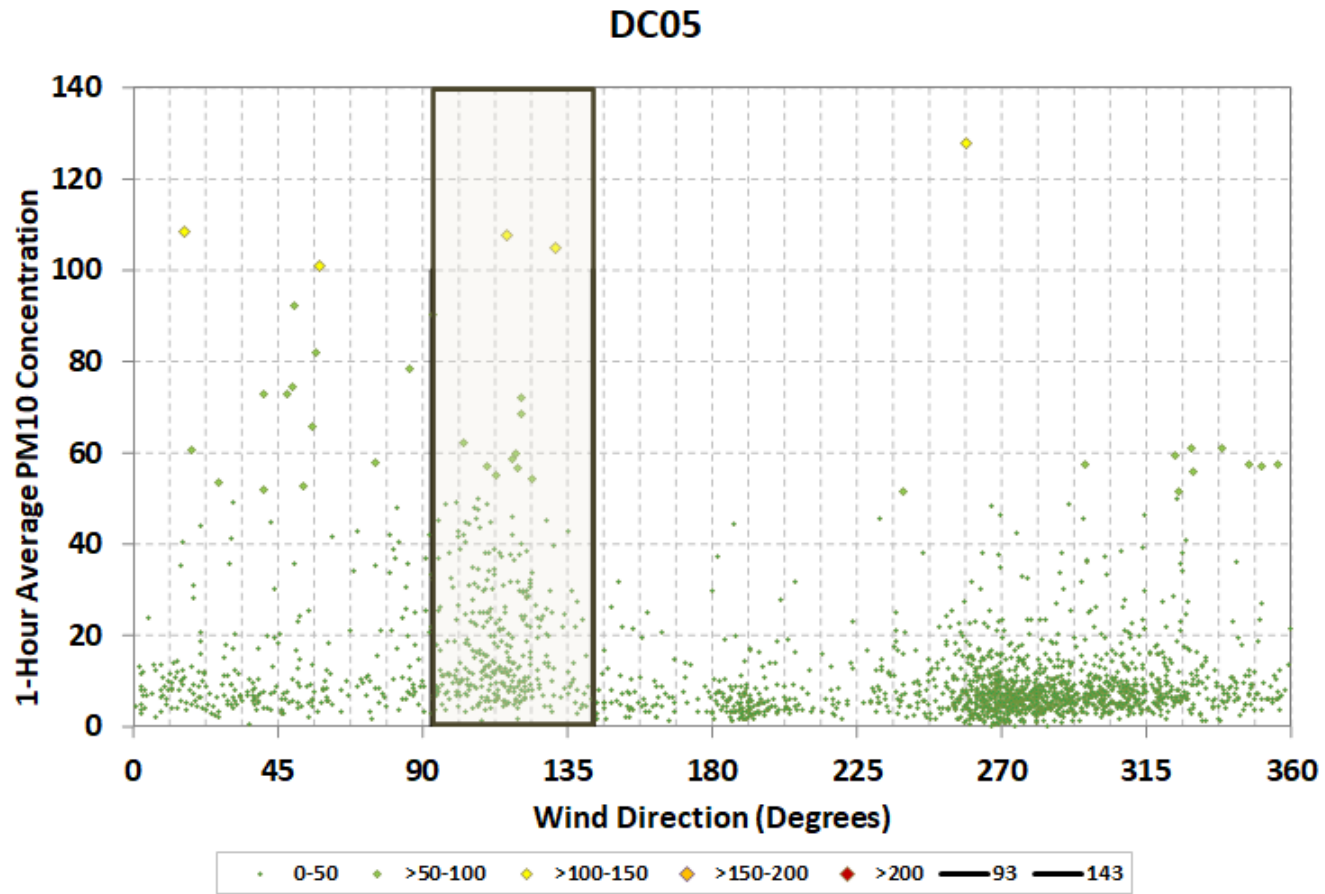


Roxburgh Road – DC05

Data capture – 98%

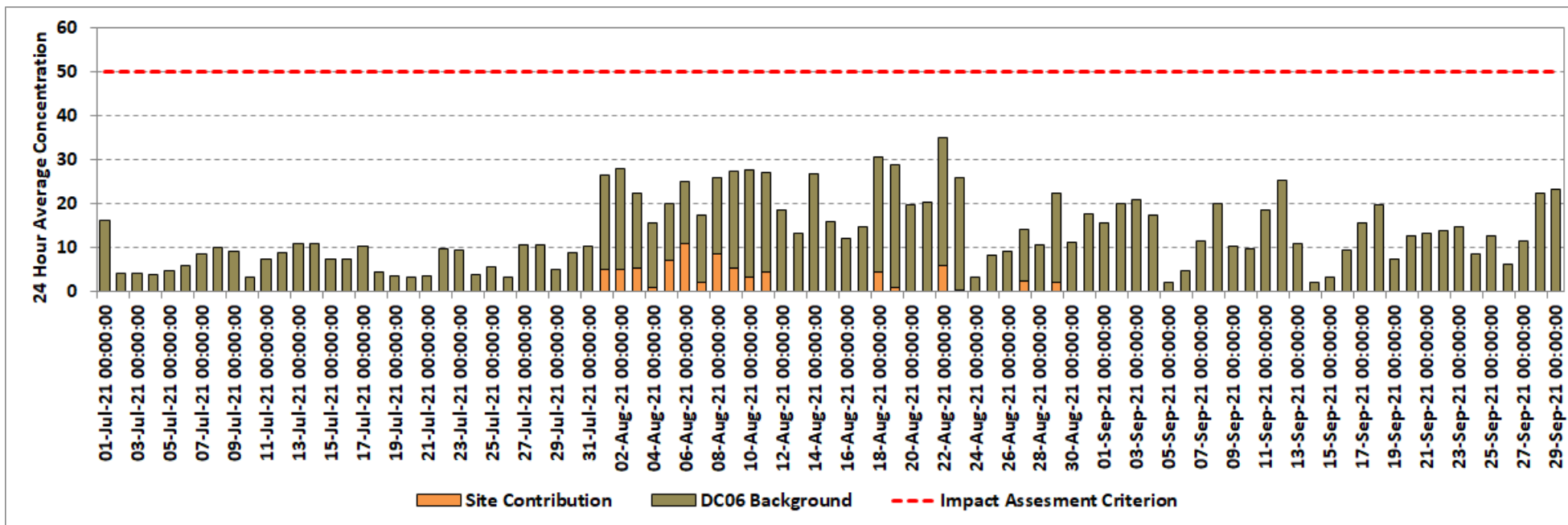


Roxburgh Road – DC05



Edderton Homestead - DC06

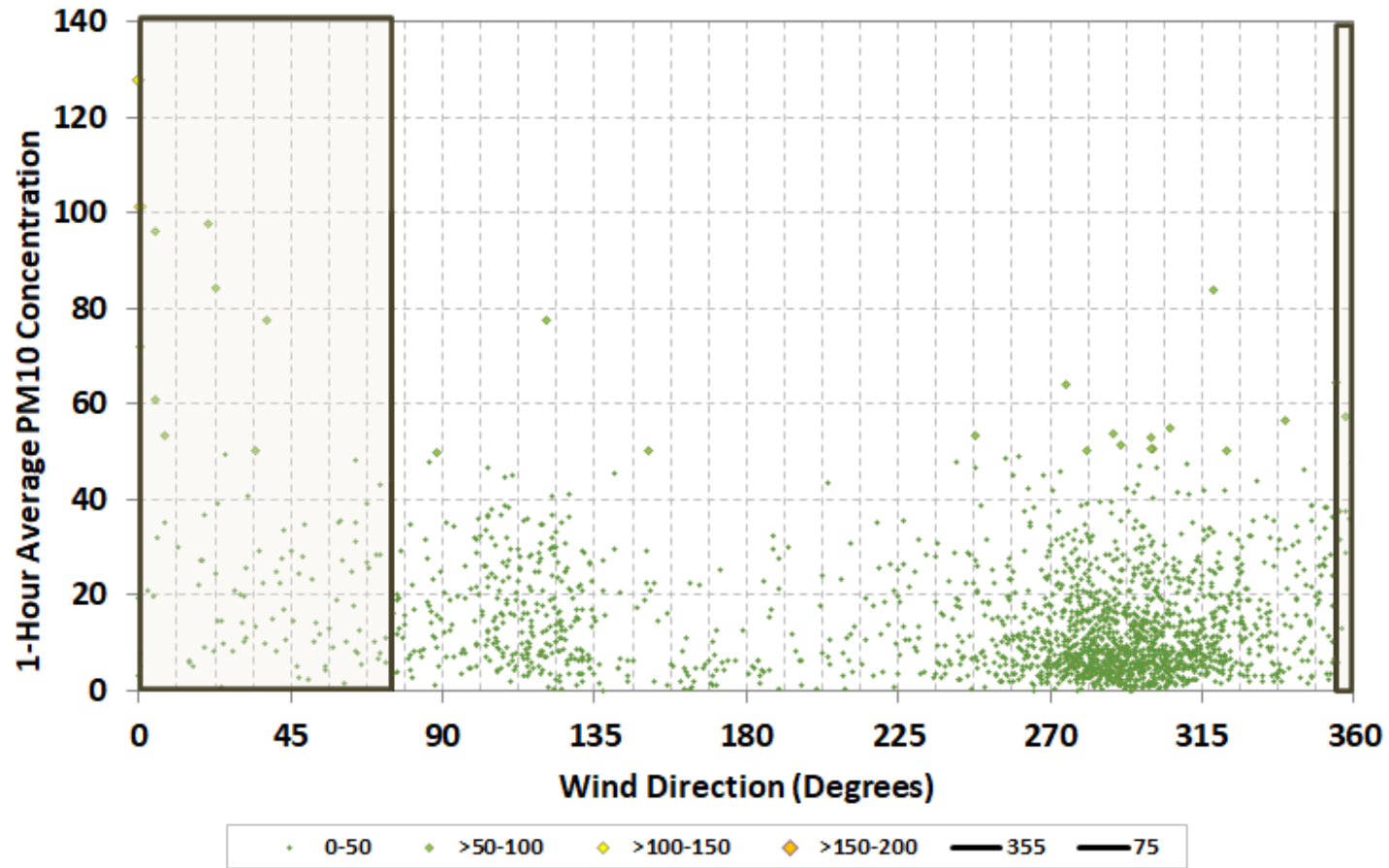
Data capture – 100%





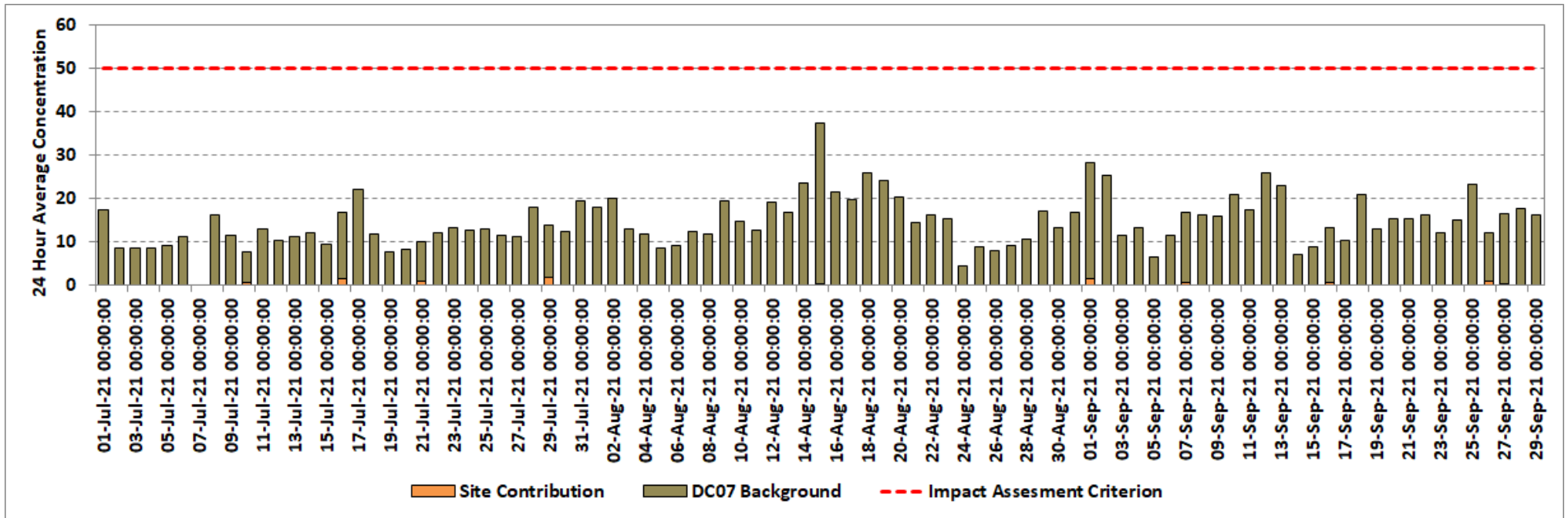
Edderton Homestead - DC06

### DC06



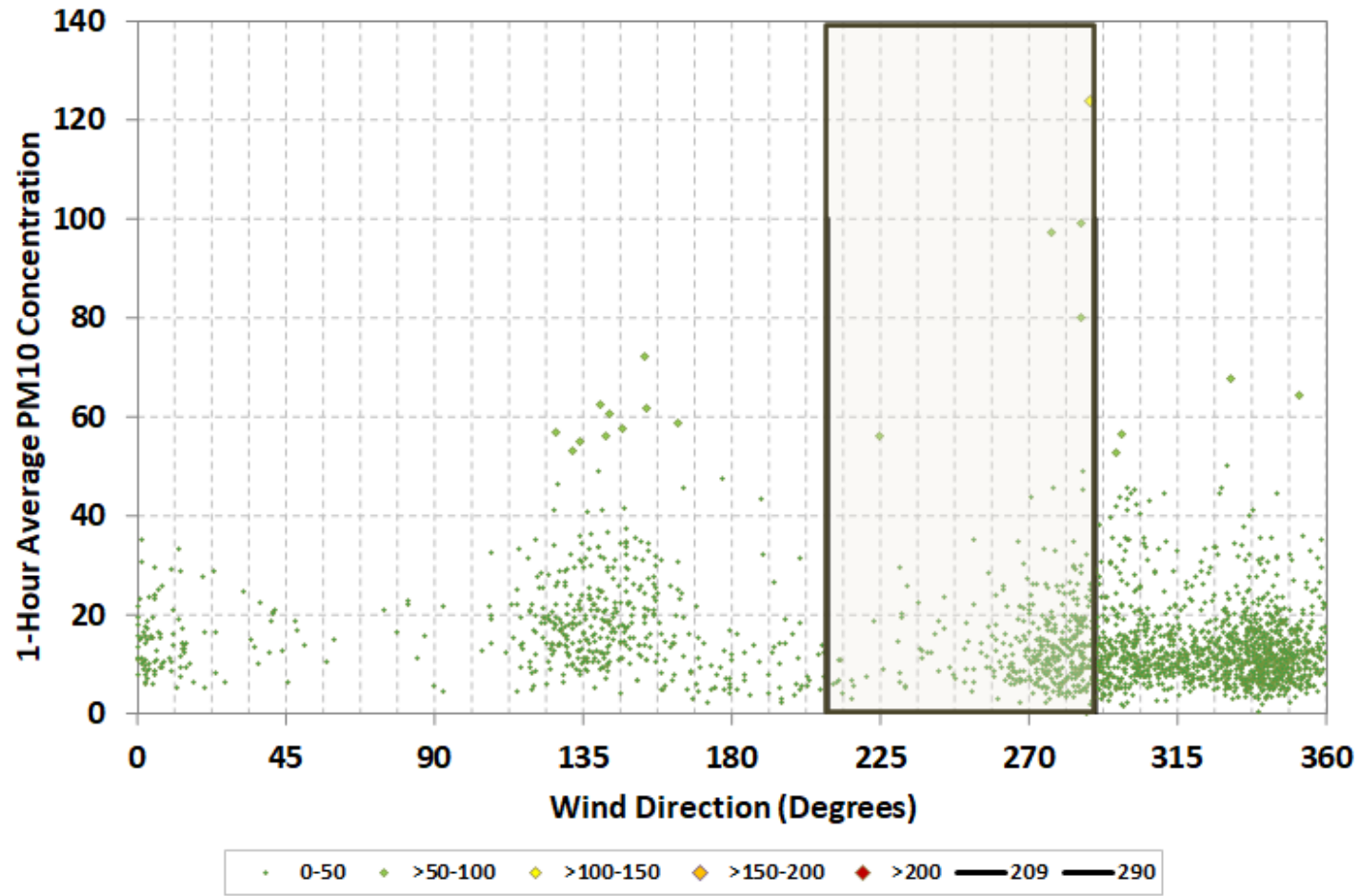
Antiene - DC07

Data capture - 100%



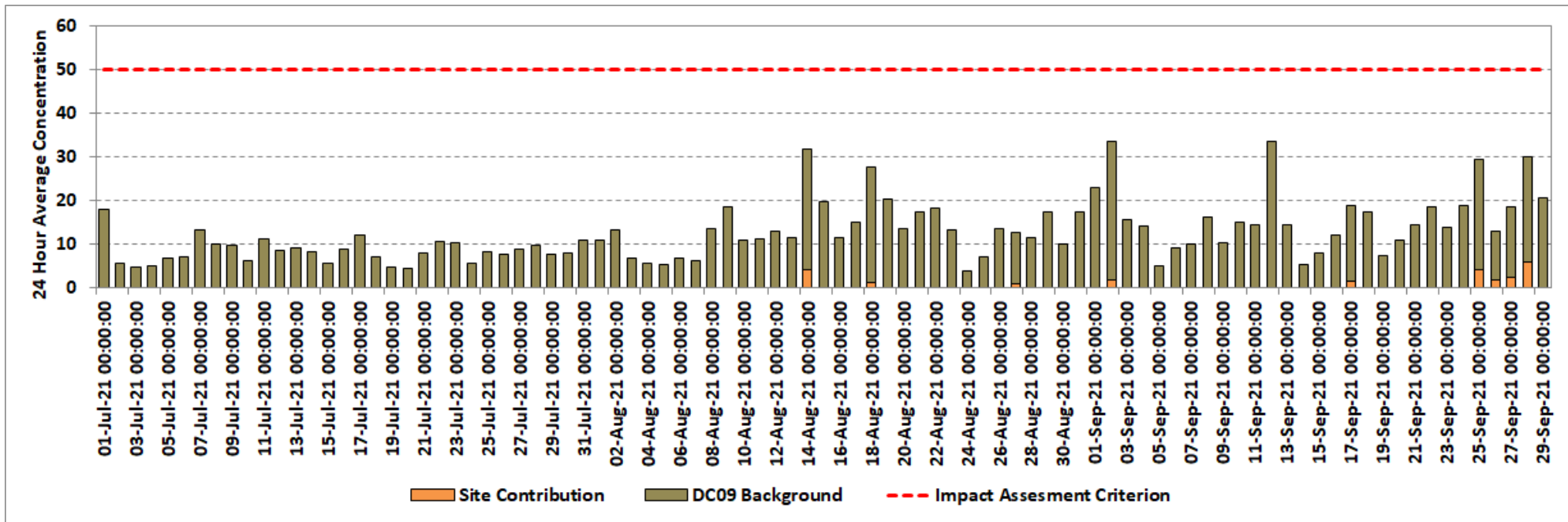
Antiene - DC07

### DC07

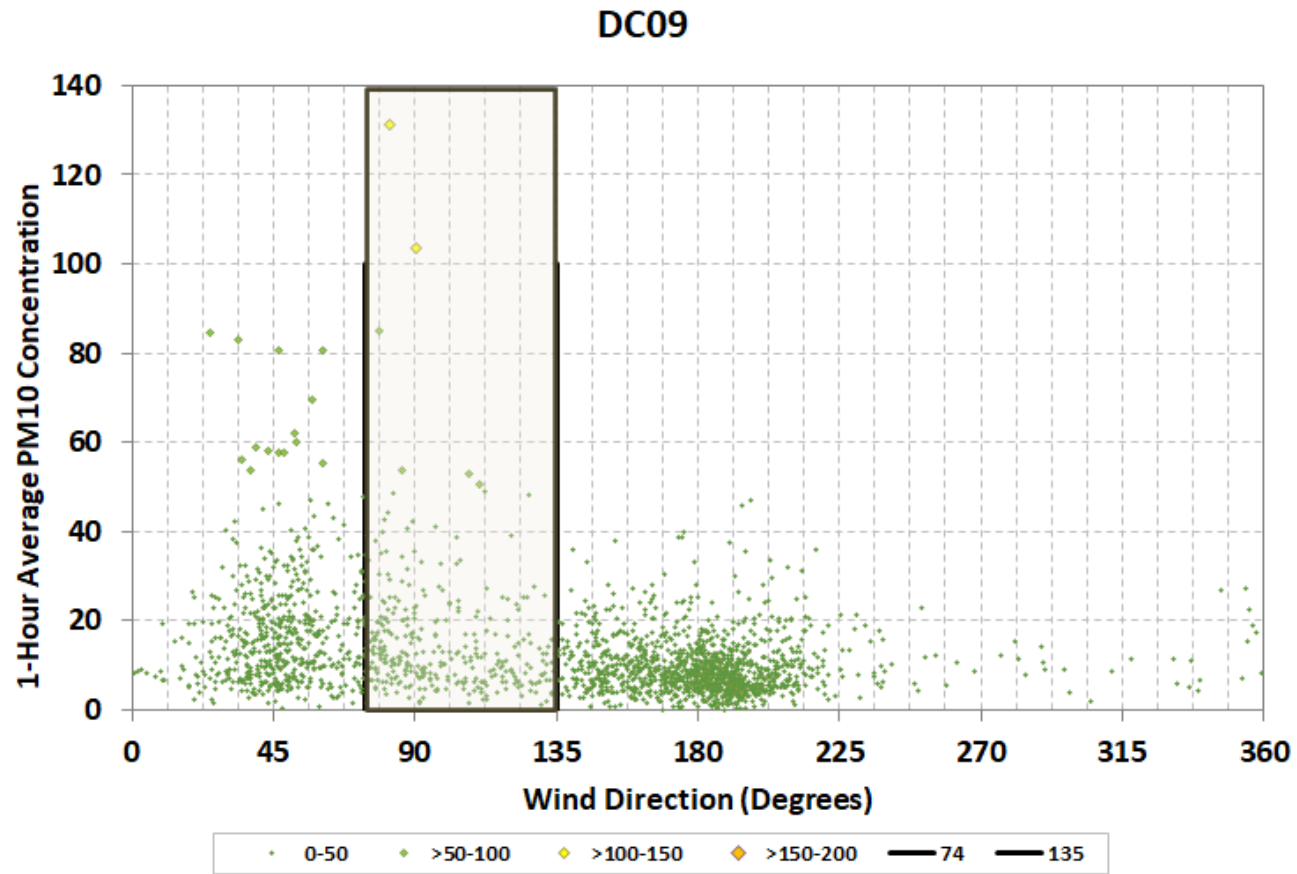


Wellbrook – DC09

Data capture – 100%

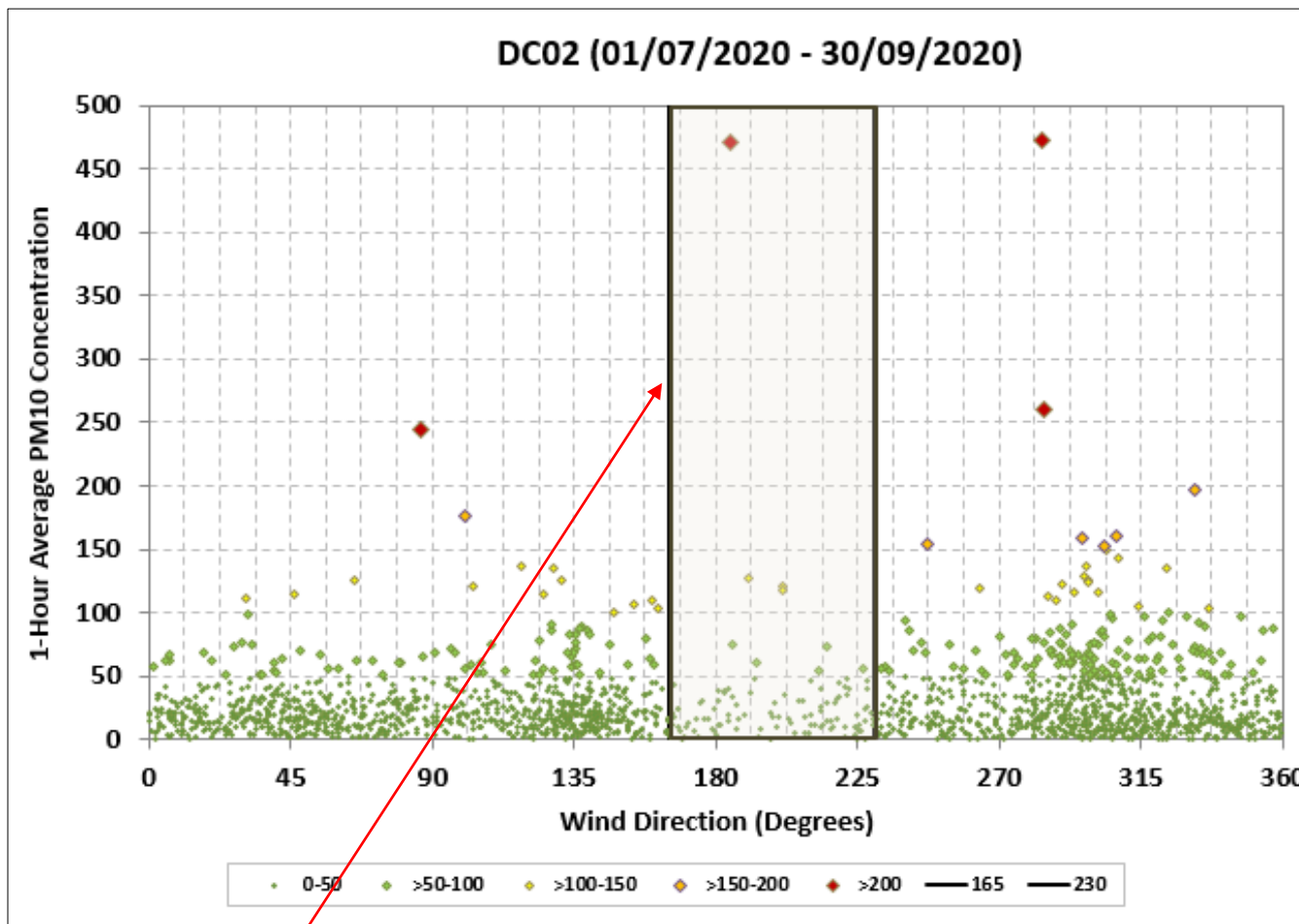


Wellbrook – DC09



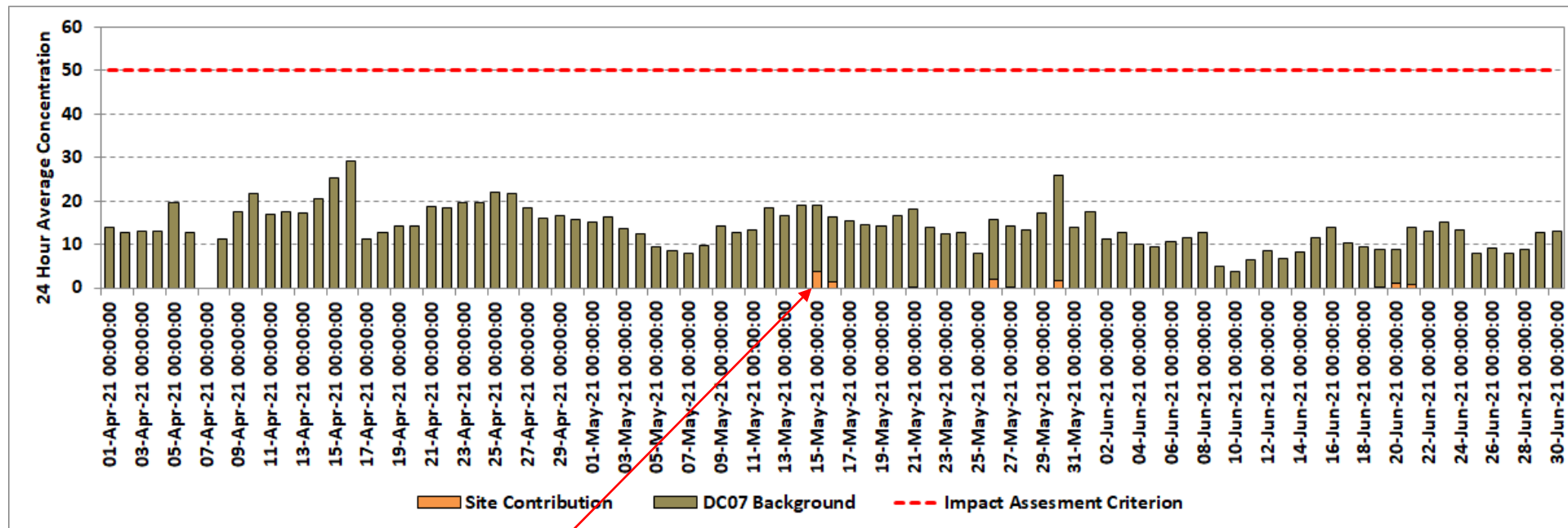
**Air Quality Monitoring Interpretation Guidance**

This information has been provided to assist with the interpretation of the air quality monitoring results and figures within this report.



*This graphic shows the window where the Mt Arthur Coal contribution is at risk of influencing the DC02 dust monitor based on the wind direction. This window can be referred to as the Arc of Influence. All 1- Hour Average Concentrations have been plotted for the reporting period to give an indication of Mt Arthur’s influence on DC02.*

**Air Quality Monitoring Interpretation Guidance continued**

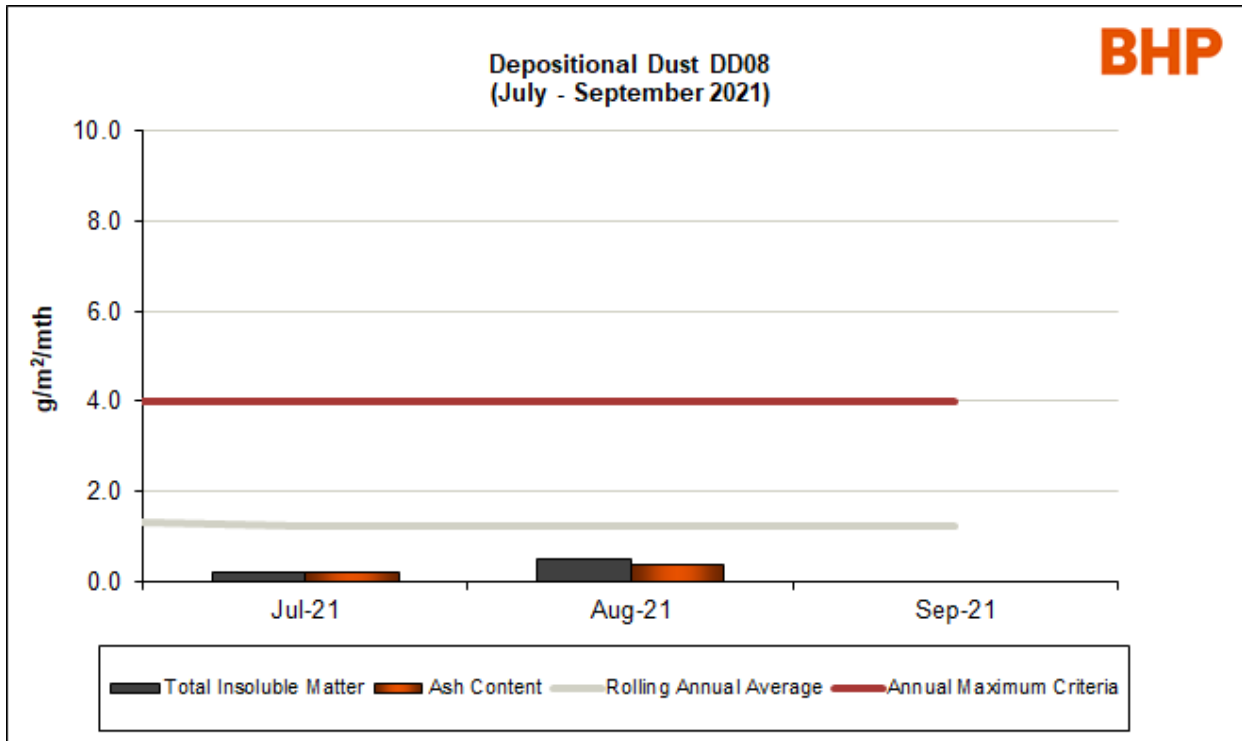


*This graphic shows the cumulative Daily 24hr PM10 concentrations along with the incremental Mt Arthur Coal concentrations. This example shows that the cumulative 24hr concentration ('Background') of approximately 20ug/m3; the Mt Arthur incremental concentration ('Site Contribution') is represented by the orange coloured portion.*

**Deposited Dust**

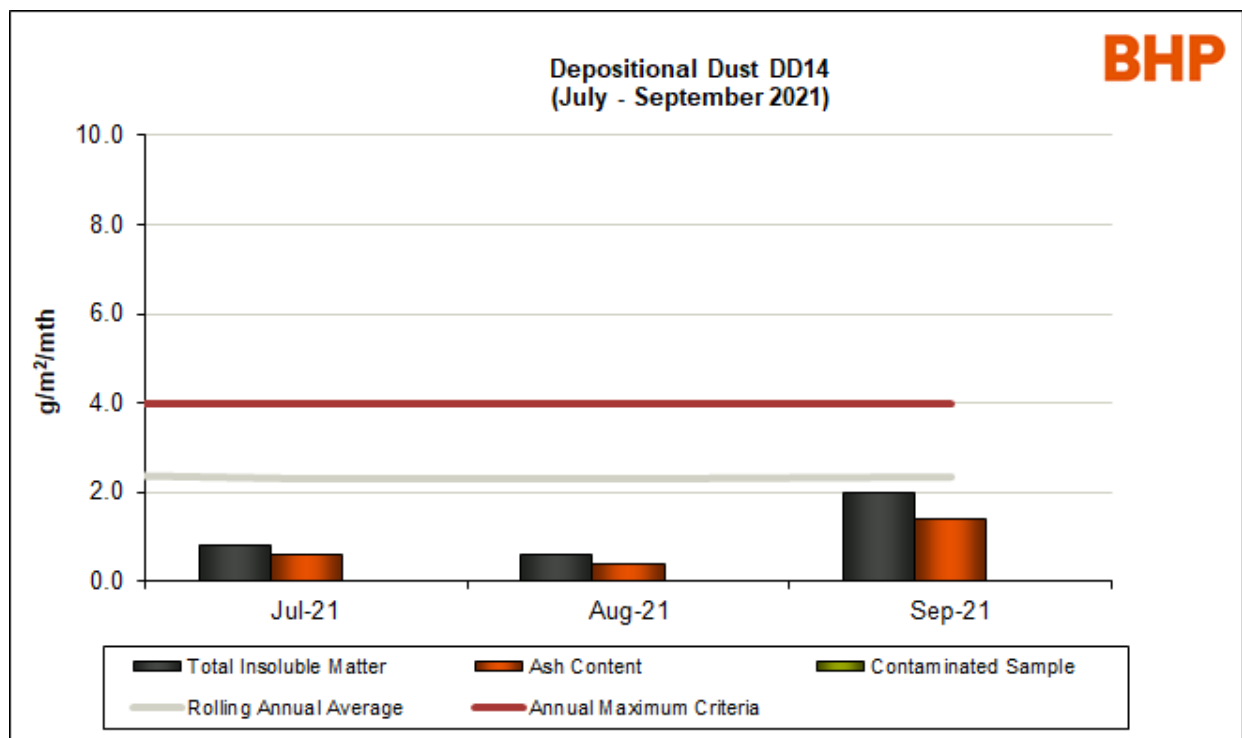
**DD08**

Data capture – 100%



**DD14**

Data capture – 100%





## Water Monitoring (Period 1 July to 30 September)

### Groundwater

Quarterly groundwater monitoring was conducted in September and there were six occurrences in monitoring period where sampling points exceeded trigger levels. These occurrences are outlined in Table 2 below. Expert groundwater consultants were engaged to undertake a review of groundwater data for the period and results were reported to DPIE as outlined below. The investigation is ongoing and BHP is working with DPIE to close out the investigation and implement any required actions.

**Table 2 - GW Triggers September 2021**

	GW2	GW40A	GW48	GW49	BCGW22 (IW4026)	BCGW22AI W4027
<b>September 2021 Electrical Conductivity (<math>\mu\text{S}/\text{cm}</math>)</b>	4400	5590	4290	6770	16240	14800
<b>Electrical Conductivity (<math>\mu\text{S}/\text{cm}</math>) Stage 1 Trigger</b>	4266	5290	4090	6170	14100	11810
<b>Electrical Conductivity (<math>\mu\text{S}/\text{cm}</math>) Stage 2 Trigger</b>	4440	5650	4750	7530	16240	14500

- GW2
  - Water quality levels possibly due to flushing of soil stored salts as indicated by high chloride levels, location of bore means the change in water quality is unlikely due to mine affected water being present.
- GW40A
  - Groundwater levels have declined since 2013, despite periods of above average rainfall from 2013 to 2017. The EC levels recorded in GW40A are higher than those in GW48 (located 20m to the northwest). Review of groundwater levels indicates similar trend for both bores, with levels in the alluvium only slightly (0.1 m) higher than levels in the coal seam. However, the logger data also indicates a sharp 0.4 to 0.6 m rise in alluvial water levels in January and March 2021 followed by a gradual decline between months. The sharp rise in groundwater levels in January and March correspond to high rainfall, with 58.2 mm falling over two days at the start of January and 131 mm falling over ten days in the middle of March. The elevated EC is unlikely due to mining.
- GW48
  - The bore is located over 3 km from active mining on private property surrounded by houses and farm sheds and located 20 m southeast of GW40A which is screened in the Hunter River alluvium. The EC levels recorded in GW40A are higher than those in GW48. This indicates the trends for GW48 are likely influenced by local ground conditions and activities and not due to mining activities.
- GW49
  - Groundwater levels have an increasing trend since December 2019. The bore is located over 5 km from active mining on private property in open farmland and located 15 m south of GW41A which is screened in the Hunter River alluvium. The EC levels recorded in GW49 are lower than those in GW41A. The condition of the

surface casing and depth of the bore was checked in September 2020 by CBE; no issues were identified.

- BCGW22
  - Groundwater levels have an increasing trend since November 2017. The bore is over 2 km from active mining and 1 km from a historical rehabilitated pit. The condition of the surface casing and the depth of the bore was checked in September 2020 by CBE; no issues were identified.
- BCGW22A
  - EC for BCGW22A has fluctuated seasonally since monitoring began. The bore is over 2 km from active mining and 1 km from a historical rehabilitated pit. The condition of the surface casing and depth of the bore was checked in September 2020 by CBE; no issues were identified.

### Surface water

During the monthly surface water sampling during the months of July and August there were two consecutive Stage 2 Electrical Conductivity exceedances at SW12.

**Table 3 - SW Triggers July and August 2021**

	SW12
<b>July 2021</b>	
<b>Electrical Conductivity (<math>\mu\text{S/cm}</math>)</b>	7440
<b>August 2021</b>	
<b>Electrical Conductivity (<math>\mu\text{S/cm}</math>)</b>	8360
<b>Stage 2 Trigger</b>	7153

- SW12
  - Located in Ramrod Creek. After investigation it was found that there was coal outcropping in the base of Ramrod Creek which increased the Salinity at this location. Supporting this the historic sampling of Ramrod Creek has always been high particularly when no surface follows are present. There have been no further issues identified.

### Blast Monitoring (Period 1 July to 30 September)

A peak particle velocity (PPV) ground vibration of 13.5 (mm/s) was recorded at monitoring BP09 on 23 July 2021. The predicted cause of the 13.5mm/s peak particle velocity (ppv) reading, was due to the timing sequence of the hole-by-hole initiation of the blast, causing uncharacteristic amplification of the ground vibration at the monitor. Regression analysis using all monitored blast vibration levels resulted in a calculated maximum ground vibration level of 6 mm/s at the nearest private residence to BP09. The calculated result is less than the 10mm/s approval limit.

There have been three blasts in excess of the 5mm/s vibration limit, of which one is described above, and two blasts in excess of the 115dB over pressure limit. There is an allowed exceedance of 5% of blasts for these limits over a 12-month period. The 5% criteria has not been exceeded.

**Operational Noise Monitoring (Period 1 July to 30 September)**

There have been no exceedances of operational noise criteria during the reporting period. Monthly night time compliance monitoring (attended) was completed to schedule by MAC's external expert consultant. MAC is not informed of when this monitoring is scheduled for completion to ensure there is a true representation of operational activities on any given night.

**Environmental Incidents (Period 1 July to 30 September)****23 July 2021 Potential BP09 Blast Vibration Exceedance**

A peak particle velocity (PPV) ground vibration of 13.5 (mm/s) was recorded at monitoring BP09 on 23 July 2021. The predicted cause of the 13.5mm/s peak particle velocity (ppv) reading, was due to the timing sequence of the hole-by-hole initiation of the blast, causing uncharacteristic amplification of the ground vibration at the monitor. Regression analysis using all monitored blast vibration levels resulted in a calculated maximum ground vibration level of 6 mm/s at the nearest private residence to BP09. The calculated result is less than the 10mm/s approval limit. An investigation report was provided to the Department who have since confirmed that that no exceedance of the 10 mm/s ground vibration criterion has occurred at the nearest private residence to BP09 in this instance, and no further action is proposed.

**Environmental Reporting (Period 1 July to 30 September)**

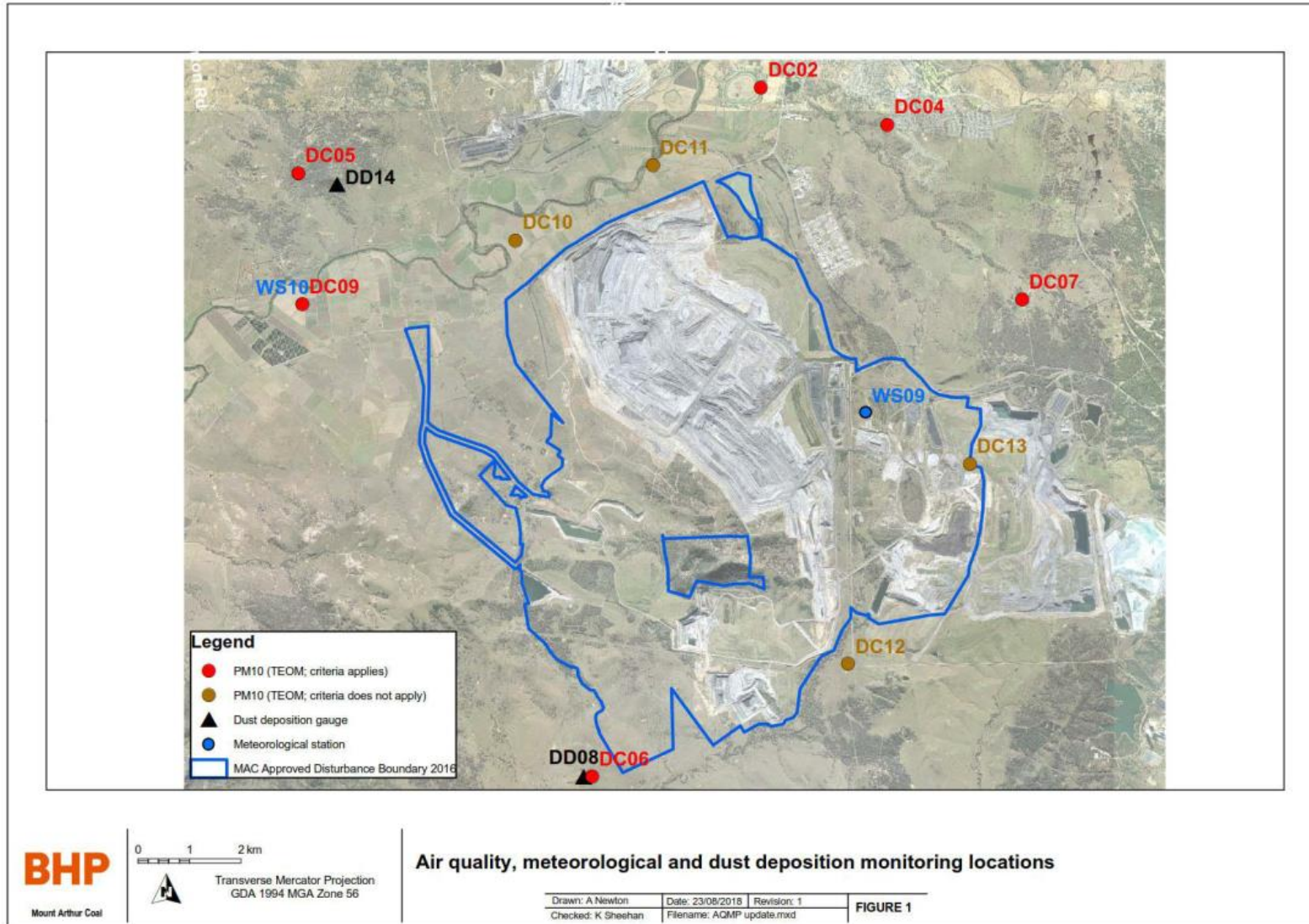
There have been no routine Environmental Protection Licence (EPL) or Project Approval reports required to be submitted during the reporting period.

Historical information is available to view on the BHP website using the following link:

<https://www.bhp.com/environment/regulatory-information#>

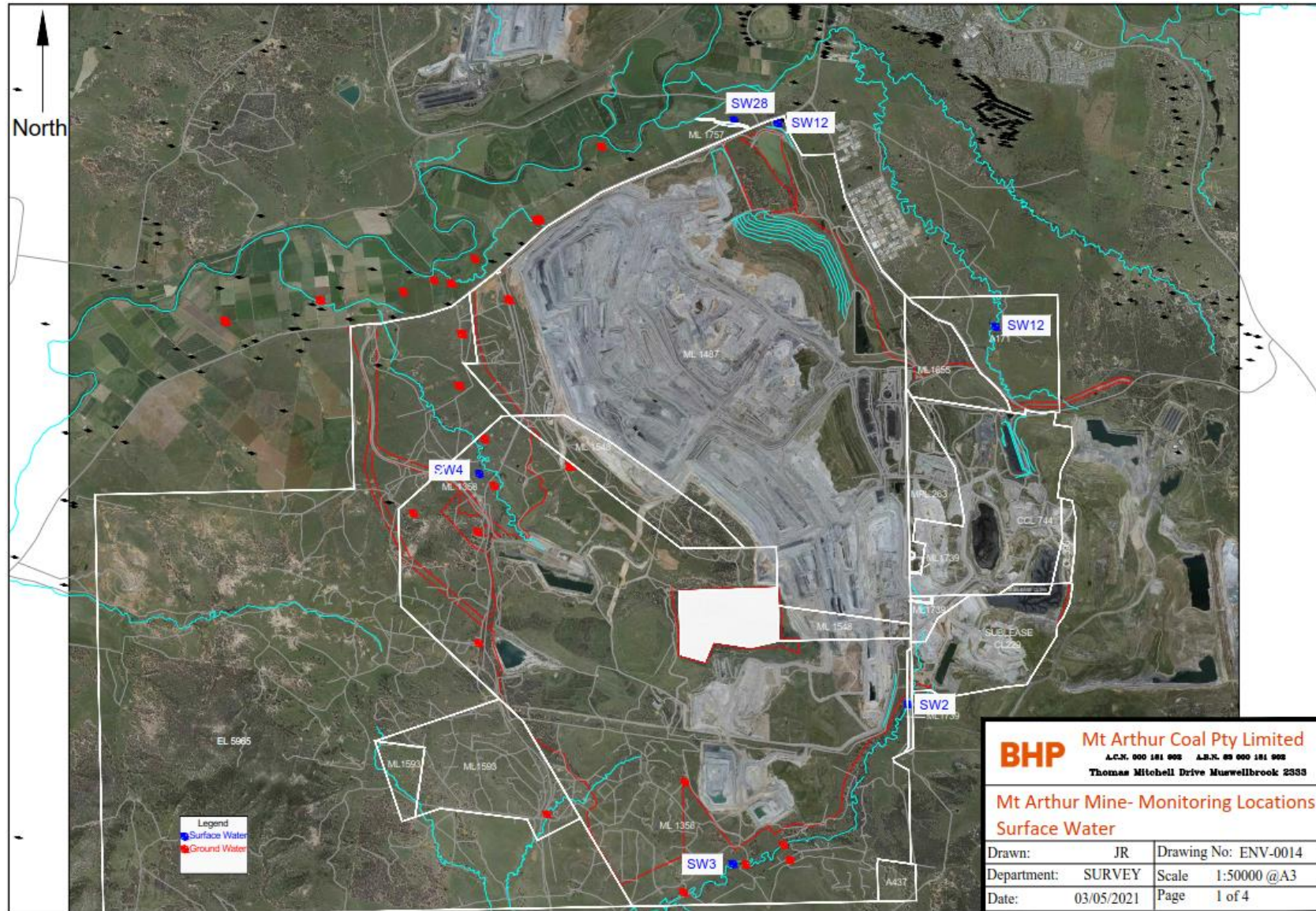
## Environmental Monitoring Plans (for reference)

### Air Quality and Meteorological Monitoring Locations (Source: Air Quality Management Plan)

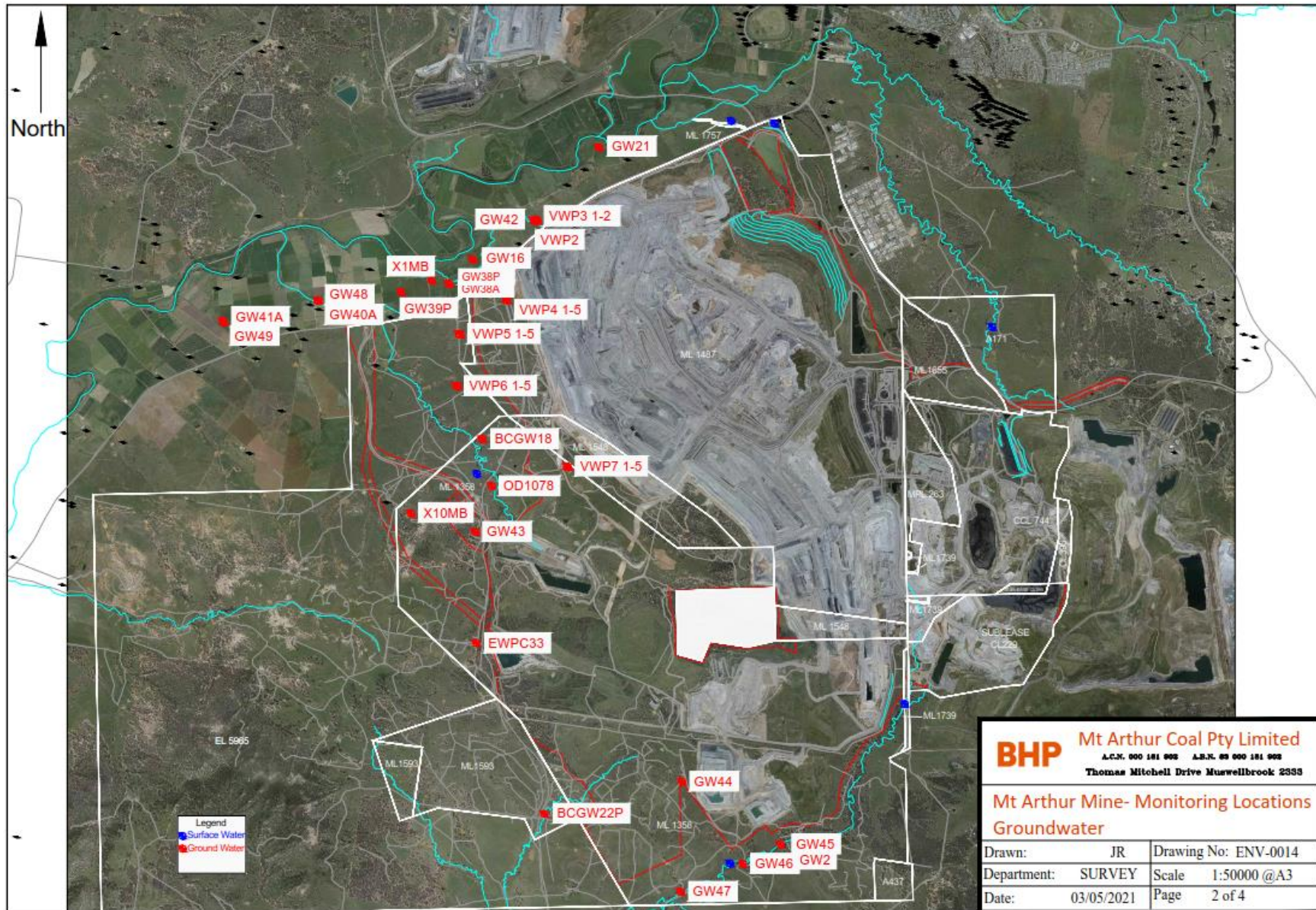


Site Water Monitoring Locations (Sourced and modified from: Site Water Management Plan)

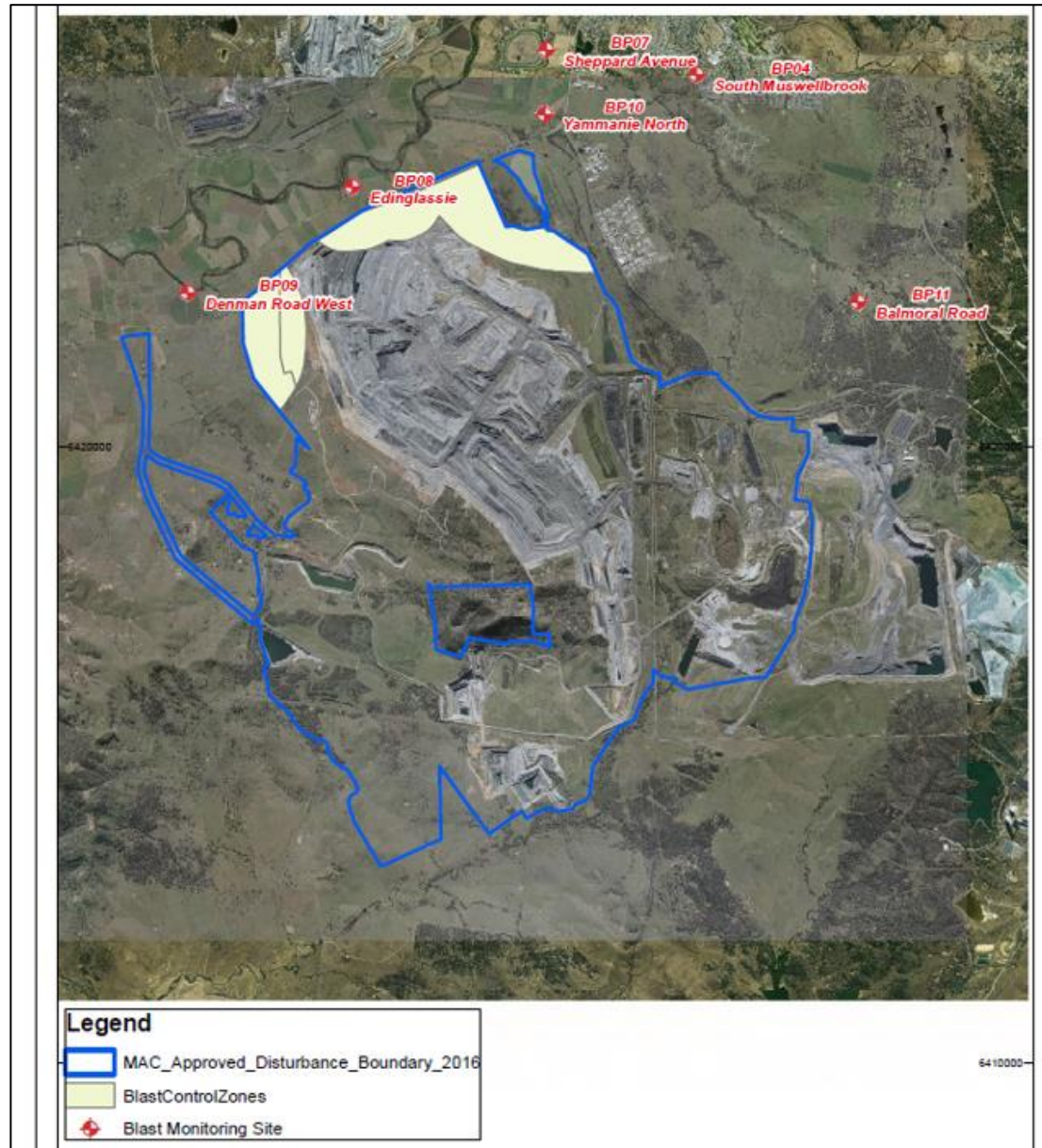
Surface Water Monitoring Locations:



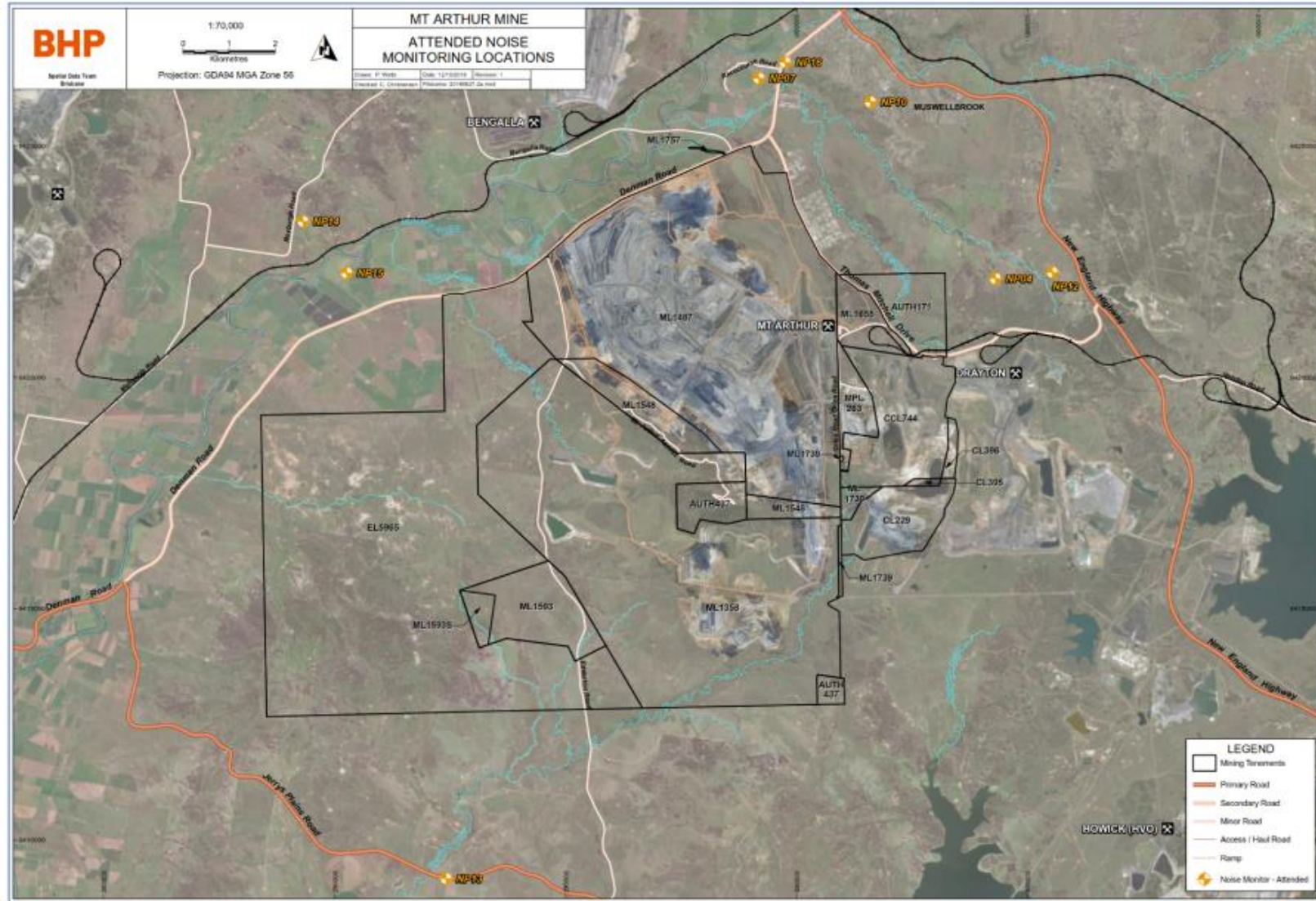
Ground Water Monitoring Locations:



**Blast Monitoring Locations (Source: Blast Management Plan)**



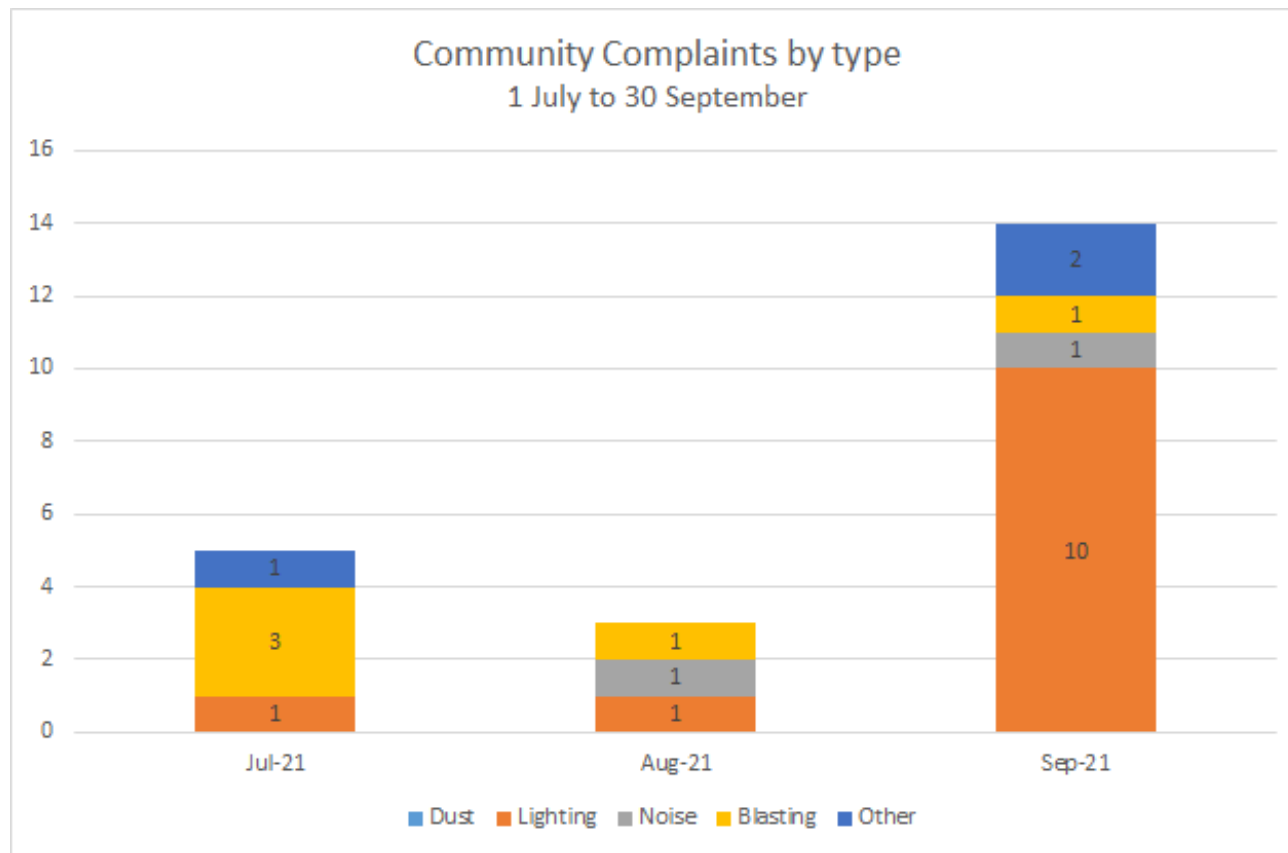
Operational Noise Monitoring (attended) Locations (Source: Noise Management Plan)



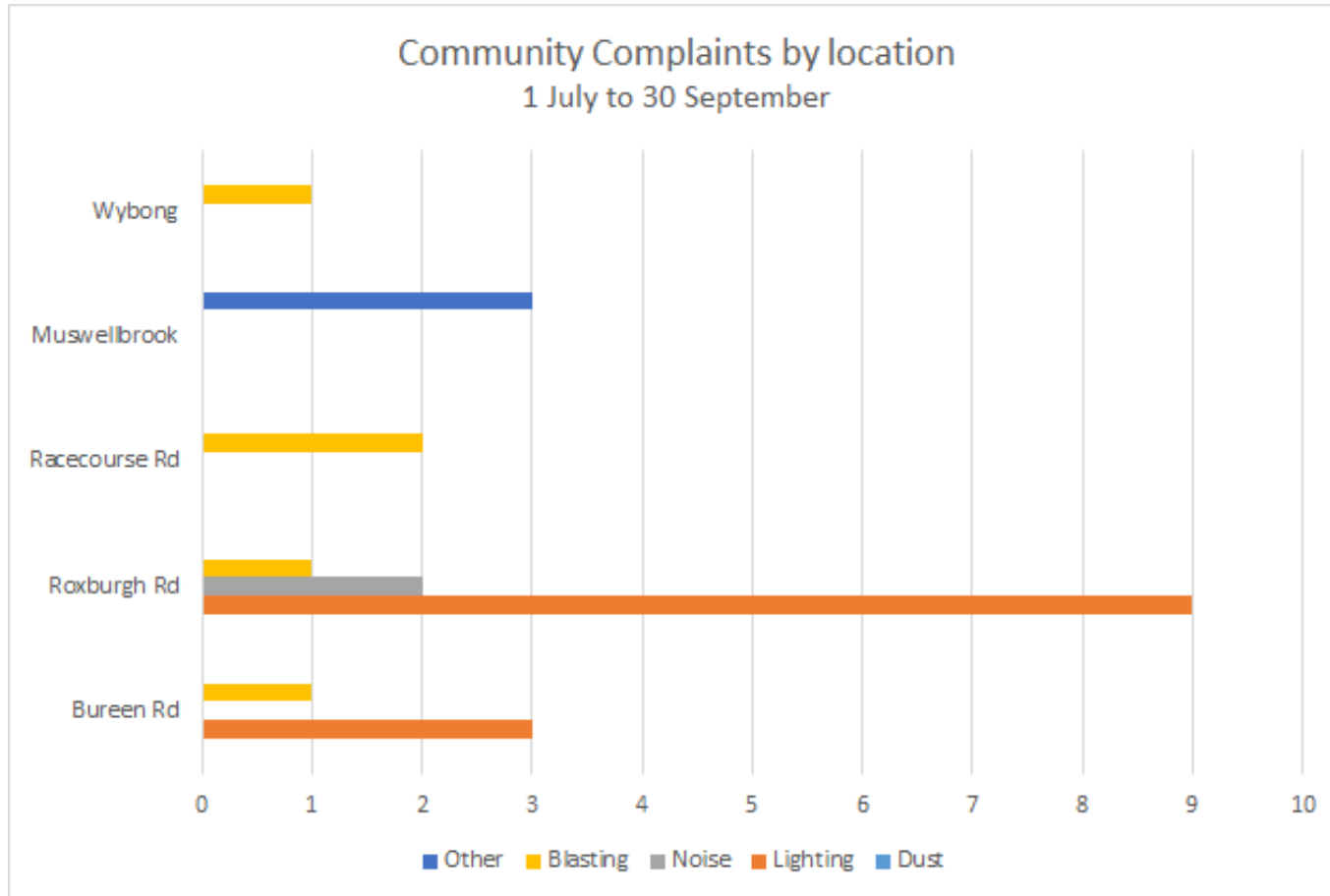


## Community Complaints

The Community Complaints included in this report are for the period 1 July to 30 September 2021. Mt Arthur Coal received twenty-two (22) complaints during this period. Of the twenty-two complaints, twelve (12) were related to lighting; five (5) to blasting activity; two (2) to noise and three (3) in the “other” category related to a failure to respond to a lighting complaint, attendance of the MAC Community Response Line and availability of CCC minutes on the BHP website.



Of the twenty-two (22) complaints received for the three-month reporting period, twelve (12) came from residents at Roxburgh Rd, four (4) were from Bureen Road, two were from Racecourse Rd (2), three (3) were from Muswellbrook and one (1) was from Wybong.



## Community Complaints Summary: 1 July to 30 September

Date	Time	From	Issue	Lodgement type	Investigation and response to caller
6/07/2021	9:45pm	Roxburgh Rd, Muswellbrook	Lighting	Community Response Line	Investigation revealed location of stationary lights, which were switched off.
7/07/2021	10:59pm	Roxburgh Rd, Muswellbrook	Other	Phone call to Reception	Investigation revealed that lighting complaint reported to Community Response Phone Line was only communicated to the Mt Arthur Coal (MAC) team via email and not the usual text message. As a result, the MAC team did not receive an alert via mobile phone and therefore could not immediately respond to the complaint.
23/07/2021	4:23pm	Racecourse Rd, Muswellbrook	Blasting	Community Response Line	Vibration results from the blast exceeded the approval limit of 10mm/s at one blast monitor on Denman Road west. All other blast monitors recorded results well below this level. Caller was advised of investigation.
26/07/2021	8:01am	Roxburgh Rd, Muswellbrook	Blasting	Community Response Line	Vibration results from the blast exceeded the approval limit of 10mm/s at one blast monitor on Denman Road west. All other blast monitors recorded results well below this level. Caller was advised of investigation.
30/07/2021	11:15am	Bureen Rd, Denman	Blasting	Community Response Line	Overpressure and vibration results from the blast were within approval limits. Caller was advised of investigation.
3/08/2021	7:03pm	Roxburgh Rd, Muswellbrook	Lighting	Community Response Line	Several lights were altered to mitigate impacts to the complainant's satisfaction.
5/08/2021	11:22am	Ridgeland Rd, Wybong	Blasting	Community Response Line	Overpressure and vibration results from the blast were within approval limits. Caller was advised of investigation.

Date	Time	From	Issue	Lodgement type	Investigation and response to caller
12/08/2021	10:30pm	Roxburgh Rd, Muswellbrook	Noise	Community Response Line	Nearest real-time monitor did not record any exceedances or distribute any alerts. Caller was advised of investigation and monitoring results.
1/09/2021	9:16pm	Bureen Rd, Bureen	Lighting	Community Response Line	Investigation revealed location of stationary lights, which were adjusted to the resident's satisfaction.
1/09/2021	9:48pm	Bureen Rd, Bureen	Lighting	Community Response Line	Investigation revealed location of stationary lights, which were adjusted to the resident's satisfaction.
2/09/2021	9:23pm	Roxburgh Rd Muswellbrook	Lighting	Community Response Line	Investigation revealed location of stationary lights, which were adjusted to the resident's satisfaction.
3/09/2021	7:51pm	Roxburgh Rd Muswellbrook	Lighting	Community Response Line	Investigation revealed location of stationary lights, which were adjusted to the resident's satisfaction.
5/09/2021	7:18pm	Roxburgh Rd Muswellbrook	Lighting	Community Response Line	Investigation revealed location of one stationary light, which was adjusted to the resident's satisfaction.
6/09/2021	10:32am	Roxburgh Rd, Muswellbrook	Availability of Community Response Line	Community Response Line	Community Response Line was alleged to be unattended but the line was attended on 3 September from 7-8pm. Investigation with Vodafone phone service provider found that line was staffed at this time.
9/09/2021	2:28pm	Racecourse Rd Muswellbrook	Blasting	Community Response Line	Monitoring results indicated overpressure and vibration levels were within regulatory criteria. Caller was advised of investigation and monitoring results.
11/09/2021	7:45pm	Roxburgh Rd Muswellbrook	Lighting	Community Response Line	Investigation revealed location of one stationary light, which was adjusted to the resident's satisfaction.

Date	Time	From	Issue	Lodgement type	Investigation and response to caller
16/09/2021	2:57pm	Skelleter Stock Rte, Muswellbrook	Availability of Community Consultative Council minutes on BHP website	NSW Department of Planning, Industry & Environment	Investigation revealed the BHP website had recently been rebuilt and relaunched on 7/09/2021 and not all MAC CCC minutes had successfully migrated across to the new site. CCC minutes were uploaded to BHP's website on 17/09/2021.
17/09/2021	8:05pm	Roxburgh Rd Muswellbrook	Lighting	Community Response Line	Investigation revealed location of stationary light, which was adjusted to the resident's satisfaction.
19/09/2021	9:32pm	Roxburgh Rd Muswellbrook	Lighting	Community Response Line	Investigation revealed location of stationary lights, which were adjusted to the resident's satisfaction.
24/09/2021	7:35pm	Roxburgh Rd Muswellbrook	Lighting	Community Response Line	Investigation revealed location of stationary light, which were adjusted to the resident's satisfaction.
27/09/2021	7:57pm	Bureen Rd, Bureen	Lighting	Community Response Line	Investigation revealed location of stationary lights, which were adjusted. Further light positioning adjustments made on following day to ensure continued mitigation of impacts.
30/09/21	9:38pm	Roxburgh Rd Muswellbrook	Noise	Community Response Line	Nearest real-time monitor did not record any exceedances or distribute any alerts. Caller was advised of investigation and monitoring results.

**Actions from previous meeting/s**

The actions from previous meetings are listed below.

Action	Status
<b>Actions from 17 February 2020 meeting</b>	
Action 1: WP will review the tape of the May meeting and make any changes necessary to the minutes.	Completed and new minutes uploaded to website.
Action 2: WP to continue to liaise with the NSW Department of Planning to obtain sign off on additional community members for the CCC.	Ongoing
Action 3: AI and AM to have the BHP website corrected to reflect the appropriate order and display of approved CCC minutes.	Completed following September CCC Meeting
<b>Actions remaining open from previous meetings</b>	
Action 1 (Feb 2019): Chair to get in touch with the DP&E (DPIE) to ascertain if a Department representative could attend a future CCC meeting to speak about the cumulative impacts of dust. The DP&E were contacted.	Chair to discuss with NSW Department of Planning.
Action 2 (Nov 2019): Chair to arrange a department representative to discuss the lighting issue and associated community impacts particularly through the provision of defining offensive lighting.	Chair to discuss with the NSW Department of Planning.