Environmental Management

FY23 Rehabilitation Update

Bulk shaping in the Outer Pit Dump (OPD) area was ongoing throughout the reporting period. Other rehabilitation will be conducted in the Saddlers North dump area and the Drayton void area.

Revegetation program in the Macdonald’s void area has been completed. The scope included:

- Stem thinning of denser existing woodland
- Intense spot weed treatment targeting African olive, African boxthorn,
- Slashing and ripping of planting beds.
- Tube stock diversification (focussing on canopy species)
- Diversification by seeding (focusing on ground cover)

Other rehabilitation maintenance during the reporting included:

- African box thorn treatment over VD1
- Spot weed treatment of priority weeds in the Saddlers South area
- Broadleaf weed treatment on pasture in the Drayton Void and VD4 areas

Land Management

Weed treatment outside of the rehabilitation continues to focus on African olive, African Boxthorn and St Johns Wort treatment along boundary areas.

Feral pig trapping has commenced in this period yielding 32 pigs trapped.
Environmental Performance

Air Quality Monitoring (Period 1 January 2023 to 31 March 2023)

- This paper (for the reporting period of 1 January 2023 to 31 March 2023) covers the performance of all six statutory PM10 monitoring sites using TEOMs, and the two dust deposition gauges.

- Eight days within the reporting period experienced elevated absolute PM10 TEOM monitoring results. However, MAC contribution PM10 levels were below the PM10 threshold levels. All exceedances recorded were notified to the Department of Planning and Environment as per Project Approval.
  - 18 January 2023 at Sheppard Avenue – DC02;
  - 16 February 2023 at Roxburgh Rd – DC05;
  - 17 February 2023 at Roxburgh Rd – DC05;
  - 8 March 2023 at Sheppard Avenue – DC02;
  - 9 March 2023 at Antiene – DC07;
  - 17 March 2023 at Roxburgh Rd – DC05;
  - 20 March 2023 at Roxburgh Rd – DC05;
  - 20 March 2023 at Wellbrook – DC09.

- 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.

- New loggers and wind speed sensors have been installed at all dust monitoring locations to improve dust data capturing and TARP alerts accuracy.

Table 1. Equipment Performance Summary

<table>
<thead>
<tr>
<th>Site</th>
<th>Date/s</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC02</td>
<td>10/02/2023</td>
<td>During the period listed &lt;75% data captured due to power or equipment connectivity issues.</td>
</tr>
<tr>
<td>DC05</td>
<td>19/02/2023 to 20/02/2023 and 07/03/2023 to 08/03/2023</td>
<td>During the period listed &lt;75% data captured due to power or equipment connectivity issues.</td>
</tr>
<tr>
<td>DC06</td>
<td>17/02/2023</td>
<td>During the period listed &lt;75% data captured due to power or equipment connectivity issues.</td>
</tr>
<tr>
<td>DC07</td>
<td>12/01/2023 and 02/02/2023</td>
<td>During the period listed &lt;75% data captured due to power or equipment connectivity issues.</td>
</tr>
</tbody>
</table>
Sheppard Avenue – DC02
Data capture – 98.89%
Mt Arthur Coal Community Consultative Committee

South Muswellbrook – DC04
Data capture – 100%

[Bar chart showing 24-hour average concentrations for Site Contribution, DC04 Background, and Impact Assessment Criterion]

Site Contribution
DC04 Background
Impact Assessment Criterion
Mt Arthur Coal Community Consultative Committee

Roxburgh Road – DC05
Data capture – 95.56%
Mt Arthur Coal Community Consultative Committee

Edderton Homestead - DC06
Data capture – 98.89%
Mt Arthur Coal Community Consultative Committee

Antiene - DC07
Data capture – 97.78%
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.
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%

[Graph of Depositional Dust DD08 (January 2023 - March 2023)]

**DD14**
Data capture – 100%

[Graph of Depositional Dust DD14 (January 2023 - March 2023)]
Water Monitoring (1 January 2023 to 31 March 2023)

Groundwater

December 2022 monitoring data was reviewed with results provided back to HVEC in February 2023. Three sites were identified as exceeding the level criteria, two sites were exceeding the pH criteria and one site was exceeding the EC criteria, further information provided below.

March 2023 monitoring data was reviewed with results provided back to HVEC in April 2023. Three sites were identified as exceeding the level criteria and two sites were exceeding the pH criteria, further information provided below.

Surface water

Surface water monitoring was conducted monthly during the three-month period. No exceedances of the criteria were detected.

Blast Monitoring (1 January 2023 to 31 March 2023)

There were no exceedances of the upper or lower vibration limits or overpressure limits during the reporting period.

Operational Noise Monitoring (1 January 2023 to 31 March 2023)

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.

There were no exceedances of the threshold levels reported for any noise monitoring locations during the reporting period.

Environmental Incidents (1 January 2023 to 31 March 2023)

Dust Level Exceedances

HVEC recorded exceedances of the impact assessment criteria on seven separate days throughout the period. Detailed investigation reports were provided to DPE after each exceedance which outlined the project’s contribution and the actions taken by the operation in line with the MAC Air Quality Management Plan. The table below provides a summary of each exceedance.

<table>
<thead>
<tr>
<th>Date</th>
<th>Site</th>
<th>Absolute PM10 level (24-hr average µg/m³)</th>
<th>MAC Contribution (24-hr average µg/m³)</th>
<th>Other details</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 January 2023</td>
<td>DC05</td>
<td>51.2</td>
<td>28.4</td>
<td>No complaints. Appropriate actions taken by OCEs.</td>
</tr>
<tr>
<td>16 February 2023</td>
<td>DC05</td>
<td>51.7</td>
<td>27</td>
<td>No complaints. Appropriate actions taken by OCEs. Slashing activities in nearby paddock likely contributed to exceedance.</td>
</tr>
<tr>
<td>17 February 2023</td>
<td>DC05</td>
<td>53.6</td>
<td>25.8</td>
<td>No complaints. Appropriate actions taken by OCEs. Slashing activities in nearby paddock likely contributed to exceedance.</td>
</tr>
<tr>
<td>8 March 2023</td>
<td>DC02</td>
<td>71.6</td>
<td>24.2</td>
<td>No complaints. Appropriate actions taken by OCEs.</td>
</tr>
<tr>
<td>9 March 2023</td>
<td>DC07</td>
<td>55.7</td>
<td>16.9</td>
<td>No complaints. Appropriate actions taken by OCEs. Bushfire smoke identified in area may have contributed to exceedance.</td>
</tr>
<tr>
<td>17 March 2023</td>
<td>DC05</td>
<td>58.2</td>
<td>32.6</td>
<td>No complaints. Appropriate actions taken by OCEs.</td>
</tr>
<tr>
<td>20 March 2023</td>
<td>DC05</td>
<td>73.5</td>
<td>34.8</td>
<td>No complaints. Appropriate actions taken by OCEs.</td>
</tr>
<tr>
<td></td>
<td>DC09</td>
<td>51.5</td>
<td>13.6</td>
<td></td>
</tr>
</tbody>
</table>
Groundwater Level and Quality Exceedances

After review of December 2022 monitoring data, exceedances of the level criteria were identified at three sites, two sites were exceeding the pH criteria and one site was exceeding the EC criteria. These exceedances were subsequently reported to DPE. HVEC’s investigation determined that there was no environmental harm caused and the Water Management Plan (WMP) triggers needed to be revised. The WMP has since been revised (approved by DPE on 29 March 2023) with new trigger levels now in place.

After review of March 2023 monitoring data, exceedances of the level criteria were identified at three sites and two sites were exceeding the pH criteria. These exceedances were subsequently reported to DPE. HVEC’s investigation determined that there was no environmental harm caused and the Water Management Plan (WMP) triggers needed to be revised. The WMP has since been revised (approved by DPE on 29 March 2023) with new trigger levels now in place.

Environmental Reporting (1 January 2023 to 31 March 2023)

Monthly Reporting
Historical information and reporting 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 and 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 January to 31 March 2023. Mt Arthur Coal received 15 complaints during this period, up from nine (9) in the previous period. Of the 15 complaints:

- Eight (8) were related to lighting;
- two (2) to blasting activity;
- two (2) to operational noise;
- one (1) to dust;
- one (1) to other;
- one (1) to spontaneous combustion; and
- one (1) to operational noise.

![Community Complaints by type](chart)

January to March 2023

- Spon Com
- Lighting
- Noise
- Blasting
- Other
Of the 15 complaints received for the three-month reporting period, 10 came from residents at Roxburgh Road, two (2) from Denman Rd and one (1) from Race Course Road. Two (2) were unknown locations.
<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>From</th>
<th>Issue</th>
<th>Lodgement type</th>
<th>Investigation and response to caller</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/01/2023</td>
<td>9.29pm</td>
<td>Roxburgh Rd, Muswellbrook</td>
<td>Lighting</td>
<td>Community Response Line</td>
<td>Lighting adjusted in response to the call.</td>
</tr>
<tr>
<td>12/01/2023</td>
<td>10.11am</td>
<td>Anonymous</td>
<td>Spontaneous Combustion</td>
<td>Community Response Line</td>
<td>Regulator Investigation completed in response to the complaint.</td>
</tr>
<tr>
<td>14/01/2023</td>
<td>9.56pm</td>
<td>Roxburgh Rd, Muswellbrook</td>
<td>Lighting</td>
<td>Community Response Line</td>
<td>Lighting adjusted in response to the call.</td>
</tr>
<tr>
<td>15/01/2023</td>
<td>10.01pm</td>
<td>Roxburgh Rd, Muswellbrook</td>
<td>Lighting</td>
<td>Community Response Line</td>
<td>Lighting adjusted in response to the call.</td>
</tr>
<tr>
<td>16/01/2023</td>
<td>9.52pm</td>
<td>Roxburgh Rd, Muswellbrook</td>
<td>Lighting</td>
<td>Community Response Line</td>
<td>Lighting adjusted in response to the call.</td>
</tr>
<tr>
<td>26/01/2023</td>
<td>10.19am</td>
<td>Anonymous</td>
<td>Other - debris</td>
<td>Community Response Line</td>
<td>Investigation completed to the caller’s satisfaction.</td>
</tr>
<tr>
<td>4/02/2023</td>
<td>9.37pm</td>
<td>Roxburgh Rd, Muswellbrook</td>
<td>Lighting</td>
<td>Community Response Line</td>
<td>Lighting adjusted in response to the call.</td>
</tr>
<tr>
<td>11/02/2023</td>
<td>9.12pm</td>
<td>Roxburgh Rd, Muswellbrook</td>
<td>Lighting</td>
<td>Community Response Line</td>
<td>Lighting adjusted in response to the call.</td>
</tr>
<tr>
<td>24/02/2023</td>
<td>1.09AM</td>
<td>Roxburgh Rd, Muswellbrook</td>
<td>Operational Noise</td>
<td>Community Response Line</td>
<td>Nearest real-time monitor did not record any exceedances or distribute an alerts, Caller was advised of investigation and monitoring results.</td>
</tr>
<tr>
<td>27/02/2023</td>
<td>11.40am</td>
<td>Muswellbrook</td>
<td>Other</td>
<td>Community Response Line</td>
<td>BHP continues to engage with resident on this matter.</td>
</tr>
<tr>
<td>Date</td>
<td>Time</td>
<td>Location</td>
<td>Issue</td>
<td>Source</td>
<td>Details</td>
</tr>
<tr>
<td>------------</td>
<td>--------</td>
<td>----------------------</td>
<td>------------------------</td>
<td>-------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>4/03/2023</td>
<td>9.11pm</td>
<td>Roxburgh Rd, Muswellbrook</td>
<td>Lighting</td>
<td>Community Response Line</td>
<td>Lighting adjusted in response to the call.</td>
</tr>
<tr>
<td>7/03/2023</td>
<td>10.03am</td>
<td>Denman Rd, Muswellbrook</td>
<td>Blast vibration</td>
<td>Community Response Line</td>
<td>Investigation revealed weather conditions were suitable for blasting at the time. Results indicated ground vibration levels were within regulatory criteria. Caller was advised of investigation and monitoring results.</td>
</tr>
<tr>
<td>10/03/2023</td>
<td>2.58am</td>
<td>Roxburgh Rd, Muswellbrook</td>
<td>Operational noise</td>
<td>Community Response Line</td>
<td>Investigation revealed no unusual mining operations were occurring at the time. Results at the nearest real-time monitor indicated noise levels were within regulatory criteria. Caller was advised of investigation and monitoring results.</td>
</tr>
<tr>
<td>10/03/2023</td>
<td>8.47pm</td>
<td>Roxburgh Rd, Muswellbrook</td>
<td>Lighting</td>
<td>Community Response Line</td>
<td>Lighting adjusted in response to the call.</td>
</tr>
<tr>
<td>13/03/2023</td>
<td>11.10am</td>
<td>Roxburgh Rd, Muswellbrook</td>
<td>Dust</td>
<td>Community Response Line</td>
<td>Investigation revealed weather conditions were suitable for blasting at the time. Results at the nearest monitor indicated dust levels were not elevated at the time, and the 24-hour average remained within regulatory criteria. Caller was advised of investigation and monitoring results.</td>
</tr>
</tbody>
</table>

**Actions from previous meeting/s**

The actions from previous meetings are listed below.

**Action 1 (Feb 2019):** Chair to contact 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 Ongoing

**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 NSW Department of Planning Ongoing