

## **2023 Annual Review**

### **Attachment B: Air Quality Monitoring**



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# 1. High Volume Air Sampler

Two High Volume Air Samplers (HVAS) are maintained<sup>1</sup> to monitor Total Suspended Particulate (TSP) concentrations in accordance with *Australian Standards (AS) 3580.9.3:2003*<sup>2</sup>. HVAS units operate for a 24hr period on a six-day cycle. Records of routine equipment calibration and testing are maintained with the original laboratory reports.

Testing is conducted by laboratories with NATA accreditation for TSP analysis. The criterion for TSP at any residence on privately-owned land as specified by EPL 394 and PA08\_0184 (i.e. project-specific dust impact assessment criteria) provided in **Table 1-1**.

*Table 1-1 Long and Short Term Impact Assessment Criteria for TSP*

| Pollutant                                       | Averaging Period | <sup>b</sup> Criteria             |
|-------------------------------------------------|------------------|-----------------------------------|
| <b>Total suspended particulate (TSP) matter</b> | Annual           | <sup>a</sup> 90 µg/m <sup>3</sup> |

**Notes:** <sup>a</sup> Total Impact (i.e. incremental increase in concentrations due to the project plus background concentrations due to other sources).

<sup>b</sup> Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed by the Director-General in consultation with the EPA.

Results of TSP analysis are summarised in **Table 1-2**. The maximum TSP results of 65.6 µg/m<sup>3</sup> from HV1 was recorded on 19 December 2023, and the maximum TSP of 40.4 µg/m<sup>3</sup> from HV3 was recorded on 7 December 2023.

The Annual Average TSP results of 24.5 µg/m<sup>3</sup> at HV1 and 31.0 µg/m<sup>3</sup> at HV3, were within the project specific long-term criteria of 90 µg/m<sup>3</sup> (**Table 1-1**). There were no individual samples that exceed the 90 µg/m<sup>3</sup> during the monitoring period. Results of the monitoring periods sampling are depicted in **Figure 1-1**.

*Table 1-2 2023 TSP Results*

|                       | Flannery's (HV1) µg/m <sup>3</sup> | Merlene (HV3) µg/m <sup>3</sup> |
|-----------------------|------------------------------------|---------------------------------|
| <b>Capture rate</b>   | 100%                               | 100%                            |
| <b>Annual Average</b> | 24.5                               | 31.0                            |
| <b>Maximum Result</b> | 65.6                               | 86.7                            |

<sup>1</sup> In accordance with the AQMP (ULN SD PLN 0059)

<sup>2</sup> AS/NZS 3580.9.3:2003 *Methods for Sampling and Analysis of Ambient Air – Determination of Suspended Particulate Matter – Total Suspended Particulate matter (TSP) – High Volume Sampler Gravimetric Method*.

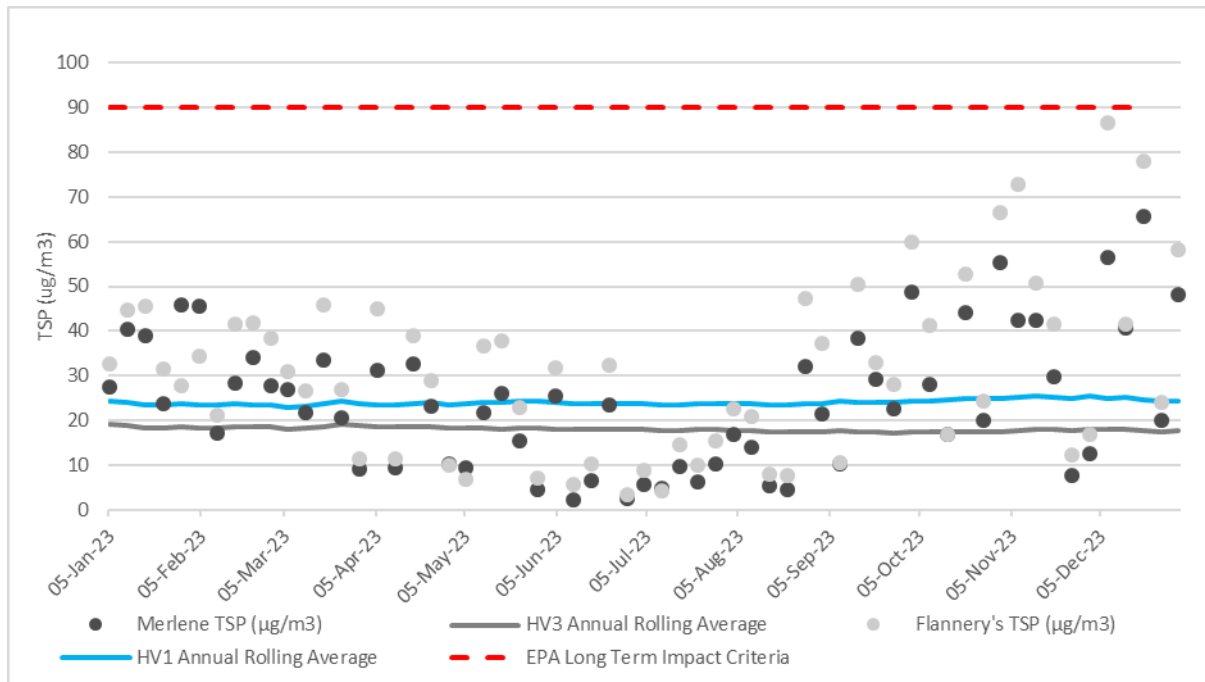


Figure 1-1 – 2023 TSP Monitoring Results

### Comparison Against TSP Predictions

**Table 1-3** displays the TSP impact from the 2015 EA at each HVAS monitor. The TSP results for 2023 were below the Year 12 predictions provided in the air quality assessment from the 2009 *Environmental Assessment*.

The Flannery TSP annual averages for 2023 was just above the 2022 annual average and lower than those recorded in the past seven years. The Merlene TSP annual averages for 2023 was slightly higher than the 2022 annual average and comparable to the results recorded in the past seven years.

Table 1-3 Comparison against EA TSP Predictions and Previous Reporting Periods

| HVAS ID         | EA Predicted Impact Year 12:<br>Annual Average TSP µg/m <sup>3</sup> | Annual Average TSP 2023 µg/m <sup>3</sup> | Annual Average TSP 2022 µg/m <sup>3</sup> | Annual Average TSP 2021 µg/m <sup>3</sup> | Annual Average TSP 2020 µg/m <sup>3</sup> | Annual Average TSP 2019 µg/m <sup>3</sup> | Annual Average TSP 2018 µg/m <sup>3</sup> | Annual Average TSP 2017 µg/m <sup>3</sup> | Annual Average TSP 2016 µg/m <sup>3</sup> | Annual Average TSP 2015 µg/m <sup>3</sup> |
|-----------------|----------------------------------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|
| HV1- Flannery's | 49^                                                                  | 24.5                                      | 24.2                                      | 24.1                                      | 30.6                                      | 39.2                                      | 40.6                                      | 29.9                                      | 34.6                                      | 31                                        |
| HV3- Merlene    | 33^                                                                  | 31.0                                      | 17.6                                      | 19.1                                      | 24.6                                      | 32.8                                      | 34.8                                      | 26.1                                      | 22.3                                      | 24.7                                      |

**Notes:** ^Year 12 Project and Other Sources (Moolarben Stage 2) – 2009 EA at Property ID 103 and Property ID 123

## 1.1 High Volume Air Sampler – 2023 Monitoring Results

| Sample Date | Flannery's TSP ( $\mu\text{g}/\text{m}^3$ ) | Merlene TSP ( $\mu\text{g}/\text{m}^3$ ) | Notes |
|-------------|---------------------------------------------|------------------------------------------|-------|
| 05-Jan-23   | 27.4                                        | 32.7                                     |       |
| 11-Jan-23   | 40.5                                        | 44.7                                     |       |
| 17-Jan-23   | 39                                          | 45.5                                     |       |
| 23-Jan-23   | 23.7                                        | 31.4                                     |       |
| 29-Jan-23   | 45.7                                        | 27.6                                     |       |
| 04-Feb-23   | 45.5                                        | 34.4                                     |       |
| 10-Feb-23   | 17.2                                        | 21.1                                     |       |
| 16-Feb-23   | 28.3                                        | 41.4                                     |       |
| 22-Feb-23   | 34                                          | 41.8                                     |       |
| 28-Feb-23   | 27.7                                        | 38.4                                     |       |
| 06-Mar-23   | 27                                          | 30.8                                     |       |
| 12-Mar-23   | 21.8                                        | 26.7                                     |       |
| 18-Mar-23   | 33.4                                        | 45.8                                     |       |
| 24-Mar-23   | 20.6                                        | 26.8                                     |       |
| 30-Mar-23   | 9.1                                         | 11.5                                     |       |
| 05-Apr-23   | 31.3                                        | 44.9                                     |       |
| 11-Apr-23   | 9.4                                         | 11.4                                     |       |
| 17-Apr-23   | 32.7                                        | 38.9                                     |       |
| 23-Apr-23   | 23.2                                        | 28.8                                     |       |
| 29-Apr-23   | 10.1                                        | 9.9                                      |       |
| 05-May-23   | 9.4                                         | 6.8                                      |       |
| 11-May-23   | 21.6                                        | 36.6                                     |       |
| 17-May-23   | 26                                          | 37.7                                     |       |
| 23-May-23   | 15.3                                        | 23                                       |       |
| 29-May-23   | 4.6                                         | 7.1                                      |       |
| 04-Jun-23   | 25.4                                        | 31.7                                     |       |
| 10-Jun-23   | 2.1                                         | 5.7                                      |       |
| 16-Jun-23   | 6.6                                         | 10.3                                     |       |
| 22-Jun-23   | 23.3                                        | 32.3                                     |       |
| 28-Jun-23   | 2.6                                         | 3.2                                      |       |
| 04-Jul-23   | 5.5                                         | 8.9                                      |       |
| 10-Jul-23   | 4.8                                         | 4.3                                      |       |
| 16-Jul-23   | 9.7                                         | 14.6                                     |       |
| 22-Jul-23   | 6.2                                         | 9.9                                      |       |
| 28-Jul-23   | 10.1                                        | 15.5                                     |       |
| 03-Aug-23   | 16.9                                        | 22.5                                     |       |
| 09-Aug-23   | 14                                          | 20.8                                     |       |
| 15-Aug-23   | 5.4                                         | 7.9                                      |       |
| 21-Aug-23   | 4.5                                         | 7.6                                      |       |
| 27-Aug-23   | 32.1                                        | 47.2                                     |       |
| 02-Sep-23   | 21.3                                        | 37.3                                     |       |
| 08-Sep-23   | 10.1                                        | 10.5                                     |       |
| 14-Sep-23   | 38.4                                        | 50.3                                     |       |
| 20-Sep-23   | 29.3                                        | 32.8                                     |       |
| 26-Sep-23   | 22.5                                        | 28                                       |       |
| 02-Oct-23   | 48.7                                        | 59.8                                     |       |
| 08-Oct-23   | 28.1                                        | 41.3                                     |       |
| 14-Oct-23   | 16.8                                        | 16.8                                     |       |
| 20-Oct-23   | 44.1                                        | 52.6                                     |       |
| 26-Oct-23   | 20.1                                        | 24.3                                     |       |
| 01-Nov-23   | 55.4                                        | 66.4                                     |       |
| 07-Nov-23   | 42.4                                        | 72.8                                     |       |
| 13-Nov-23   | 42.4                                        | 50.8                                     |       |
| 19-Nov-23   | 29.7                                        | 41.5                                     |       |
| 25-Nov-23   | 7.6                                         | 12.2                                     |       |
| 01-Dec-23   | 12.6                                        | 16.7                                     |       |
| 07-Dec-23   | 56.4                                        | 86.7                                     |       |
| 13-Dec-23   | 40.7                                        | 41.4                                     |       |
| 19-Dec-23   | 65.6                                        | 78.1                                     |       |
| 25-Dec-23   | 20.1                                        | 24                                       |       |
| 31-Dec-23   | 48                                          | 58.3                                     |       |

## 2. TEOM PM<sub>10</sub>

Continuous air quality (PM<sub>10</sub>) monitoring is undertaken in the receiving environment to the south-west of the operations at 331 Cope Road using a Tapered Element Oscillating Microbalance (TEOM)<sup>3</sup>. PM<sub>10</sub> concentrations (µg/m<sup>3</sup>) are measured over a 1 hour averaging period, and is reported in real time to:

- Provide an understanding of regional and local episodic dust events;
- Provide an understanding of potential dust episodes resulting from mining activities; and
- To alert when dust levels are approaching criteria<sup>4</sup> (as indicated in **Table 2-1** below), so that the operation can be adjusted accordingly (if required).

*Table 2-1 Long and Short Term Impact Assessment Criteria for PM<sub>10</sub>*

| Pollutant                                      | Averaging Period | <sup>b</sup> Criteria             |
|------------------------------------------------|------------------|-----------------------------------|
| Particulate matter < 10 µm (PM <sub>10</sub> ) | Annual mean      | <sup>a</sup> 30 µg/m <sup>3</sup> |
| Particulate matter < 10 µm (PM <sub>10</sub> ) | 24 hour maximum  | <sup>a</sup> 50 µg/m <sup>3</sup> |

**Notes:** <sup>a</sup> Total impact (i.e. incremental increase in concentrations due to the project plus background concentrations due to other sources);  
<sup>b</sup> Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed to by the Director-General in consultation with EPA.

Ninety nine (99) % of 1-hour average PM<sub>10</sub> results were captured during the 2023 monitoring period. Capture rate of the TEOM was impacted by an electrical storm and unplanned power outage on the 20 and 21 February 2023. PM10 data for the 20 and 21 February was supplied by the nearby MCO TEOM located at the Ulan Village.

A summary of 24-hour average monitoring results for the 2023 assessment period is presented in **Table 2-2** and **Figure 2-1**.

*Table 2-2 2023 Cope Road TEOM PM<sub>10</sub> Results*

| Reporting Period | TEOM PM <sub>10</sub> Results                  |                         |
|------------------|------------------------------------------------|-------------------------|
| 2023             | Capture Rate                                   | 99%                     |
|                  | Annual Average                                 | 12.9 µg/m <sup>3</sup>  |
|                  | Annual Average excluding extraordinary events* | 12.6 µg/m <sup>3</sup>  |
|                  | Maximum (24hr)                                 | 117.0 µg/m <sup>3</sup> |
|                  | Maximum (24hr) excluding extraordinary events* | 42.6 µg/m <sup>3</sup>  |

**Note:** Location of monitor at 331 Cope Road: property owned by UCMPL. \* One event on the 16 October 2023 caused by nearby bushfire. Independent assessment completed confirming that UCMPL did not contribute to the exceedance recorded on 16 October 2023.

The annual average PM<sub>10</sub> excluding extraordinary events was 12.6 µg/m<sup>3</sup>, below the annual average criteria of 30µg/m<sup>3</sup>. TEOM monitoring data shows that the 24-hour average PM<sub>10</sub> concentration did exceed the 24hr 50 µg/m<sup>3</sup> impact assessment criteria on one occasion during the Reporting Period of 117.0 µg/m<sup>3</sup>, recorded on the 16 October 2023. This was due to a near by bushfire. An

<sup>3</sup> Australian Standard AS 3580.9.8-2008: Methods for Sampling and Analysis of Ambient Air - Determination of Suspended Particulate Matter - PM10 Continuous Direct Mass Method Using a Tapered Element Oscillating Microbalance Analyser.

<sup>4</sup> As referenced in EPL394 and PA08\_0184 (project-specific dust impact assessment criteria)

independent study confirmed that UCMPL did not contribute to the exceedance recorded on this day.

The next maximum 24hr result PM<sub>10</sub> concentration of 42.6 µg/m<sup>3</sup> was on the 18 April 2023 and below the 24hr 50 µg/m<sup>3</sup> impact assessment criteria (**Figure 2-1**).

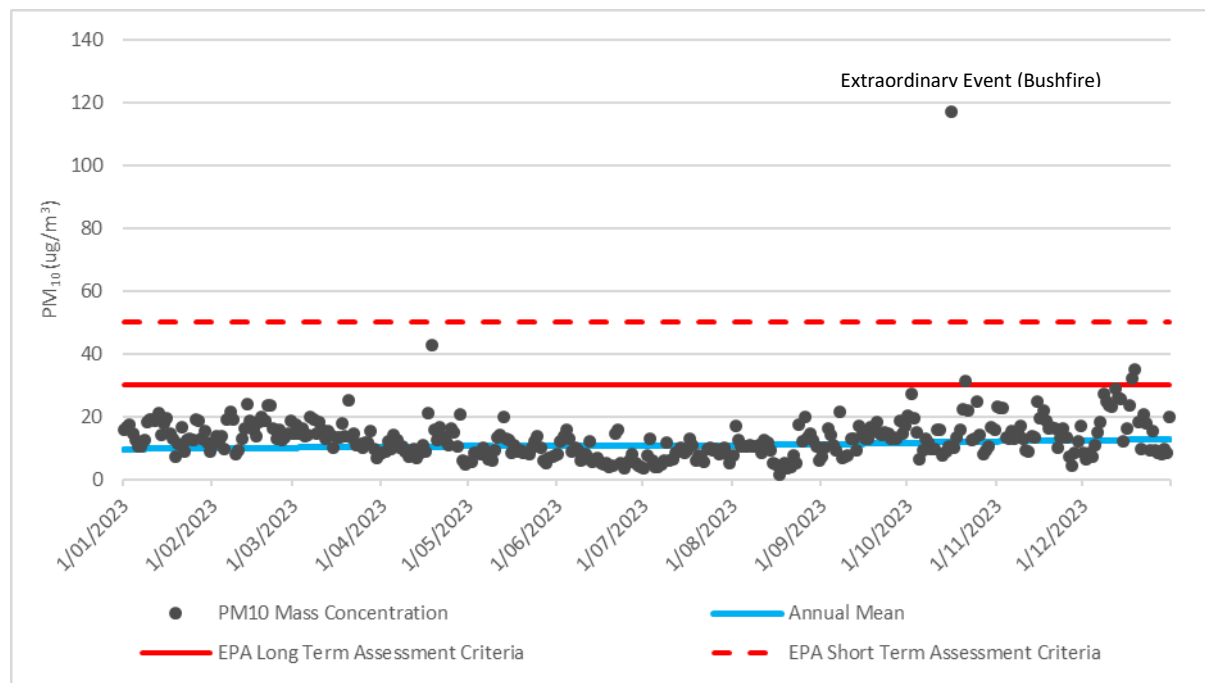


Figure 2-1 – 2023 TEOM PM<sub>10</sub> Monitoring Results (331 Cope Road)

## 2.1 Comparison of PM<sub>10</sub> Results Against EA Predictions

**Table 2-3** provides a comparison of the 2023 results (excluding regional dust events) to the predicted PM<sub>10</sub> impact at Year 12 and the results from previous reporting periods. Measured annual average PM<sub>10</sub> in 2023 was lower than predicted in the 2009 EA. Measured annual average PM<sub>10</sub> in 2023 was slightly higher than in 2022 and 2021 but lower in comparison to previous monitoring periods.

Table 2-3 Comparison of Annual Average 24-hour PM<sub>10</sub> Results Against EA Predictions & Previous Reporting

| EA Predicted Impact<br>Year 12: Annual<br>Ave. PM10 µg/m <sup>3</sup> | TEOM 2023<br>µg/m <sup>3</sup> | TEOM 2022<br>µg/m <sup>3</sup> | TEOM 2021<br>µg/m <sup>3</sup> | TEOM 2020<br>µg/m <sup>3</sup> | TEOM 2019<br>µg/m <sup>3</sup> | TEOM 2018<br>µg/m <sup>3</sup> | TEOM 2017<br>µg/m <sup>3</sup> | TEOM 2016<br>µg/m <sup>3</sup> | TEOM 2015<br>µg/m <sup>3</sup> | TEOM 2014<br>µg/m <sup>3</sup> |
|-----------------------------------------------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| 26 <sup>^</sup>                                                       | 12.6                           | 9.6                            | 11                             | 13.4                           | 18.7                           | 16.4                           | 13.7                           | 13.4                           | 13.3                           | 15                             |

**Notes:** <sup>^</sup>Year 12 Project and Other Sources (Moolarben Stage 2) – 2009 EA at Property ID 123

## 2.2 TEOM PM<sub>10</sub> – 2023 Daily Average Results

| Jan-23     |                     | Feb-23     |                     | Mar-23     |                     | Apr-23     |                     | May-23     |                     | Jun-23     |                     |
|------------|---------------------|------------|---------------------|------------|---------------------|------------|---------------------|------------|---------------------|------------|---------------------|
| Date       | Daily Av<br>(µg/m³) | Date       | Daily Av<br>(µg/m³) | Date       | Daily Av<br>(µg/m³) | Date       | Daily Av<br>(µg/m³) | Date       | Daily Av<br>(µg/m³) | Date       | Daily Av<br>(µg/m³) |
| 1/01/2023  | 15.6                | 1/02/2023  | 10.8                | 1/03/2023  | 14.4                | 1/04/2023  | 8.6                 | 1/05/2023  | 5.7                 | 1/06/2023  | 7.8                 |
| 2/01/2023  | 16.6                | 2/02/2023  | 13.9                | 2/03/2023  | 17.3                | 2/04/2023  | 8.8                 | 2/05/2023  | 5.7                 | 2/06/2023  | 12.1                |
| 3/01/2023  | 17.2                | 3/02/2023  | 12.1                | 3/03/2023  | 14.6                | 3/04/2023  | 12.0                | 3/05/2023  | 8.4                 | 3/06/2023  | 13.6                |
| 4/01/2023  | 14.3                | 4/02/2023  | 13.9                | 4/03/2023  | 16.1                | 4/04/2023  | 9.6                 | 4/05/2023  | 8.3                 | 4/06/2023  | 15.8                |
| 5/01/2023  | 12.4                | 5/02/2023  | 9.7                 | 5/03/2023  | 13.9                | 5/04/2023  | 14.3                | 5/05/2023  | 8.0                 | 5/06/2023  | 12.9                |
| 6/01/2023  | 10.5                | 6/02/2023  | 19.1                | 6/03/2023  | 14.3                | 6/04/2023  | 12.4                | 6/05/2023  | 10.2                | 6/06/2023  | 8.9                 |
| 7/01/2023  | 10.3                | 7/02/2023  | 21.4                | 7/03/2023  | 20.0                | 7/04/2023  | 10.1                | 7/05/2023  | 7.9                 | 7/06/2023  | 9.9                 |
| 8/01/2023  | 12.3                | 8/02/2023  | 19.0                | 8/03/2023  | 19.2                | 8/04/2023  | 10.6                | 8/05/2023  | 6.5                 | 8/06/2023  | 9.1                 |
| 9/01/2023  | 18.4                | 9/02/2023  | 8.2                 | 9/03/2023  | 14.6                | 9/04/2023  | 8.7                 | 9/05/2023  | 6.1                 | 9/06/2023  | 6.1                 |
| 10/01/2023 | 19.1                | 10/02/2023 | 9.4                 | 10/03/2023 | 18.4                | 10/04/2023 | 7.1                 | 10/05/2023 | 9.2                 | 10/06/2023 | 6.2                 |
| 11/01/2023 | 18.9                | 11/02/2023 | 12.7                | 11/03/2023 | 15.8                | 11/04/2023 | 8.3                 | 11/05/2023 | 13.3                | 11/06/2023 | 8.1                 |
| 12/01/2023 | 18.8                | 12/02/2023 | 16.3                | 12/03/2023 | 13.1                | 12/04/2023 | 9.5                 | 12/05/2023 | 14.1                | 12/06/2023 | 11.9                |
| 13/01/2023 | 20.9                | 13/02/2023 | 23.8                | 13/03/2023 | 15.3                | 13/04/2023 | 6.9                 | 13/05/2023 | 19.9                | 13/06/2023 | 5.7                 |
| 14/01/2023 | 14.3                | 14/02/2023 | 18.6                | 14/03/2023 | 14.1                | 14/04/2023 | 8.6                 | 14/05/2023 | 12.8                | 14/06/2023 | 6.3                 |
| 15/01/2023 | 17.6                | 15/02/2023 | 15.9                | 15/03/2023 | 10.1                | 15/04/2023 | 10.7                | 15/05/2023 | 12.5                | 15/06/2023 | 6.8                 |
| 16/01/2023 | 19.3                | 16/02/2023 | 13.6                | 16/03/2023 | 13.2                | 16/04/2023 | 8.9                 | 16/05/2023 | 8.6                 | 16/06/2023 | 5.1                 |
| 17/01/2023 | 14.7                | 17/02/2023 | 18.3                | 17/03/2023 | 13.3                | 17/04/2023 | 20.9                | 17/05/2023 | 10.9                | 17/06/2023 | 4.6                 |
| 18/01/2023 | 12.8                | 18/02/2023 | 19.7                | 18/03/2023 | 17.8                | 18/04/2023 | 42.6                | 18/05/2023 | 8.7                 | 18/06/2023 | 5.0                 |
| 19/01/2023 | 7.1                 | 19/02/2023 | 18.8                | 19/03/2023 | 13.7                | 19/04/2023 | 15.6                | 19/05/2023 | 9.1                 | 19/06/2023 | 3.8                 |
| 20/01/2023 | 11.2                | 20/02/2023 | 23.5                | 20/03/2023 | 25.0                | 20/04/2023 | 12.6                | 20/05/2023 | 8.6                 | 20/06/2023 | 4.3                 |
| 21/01/2023 | 16.7                | 21/02/2023 | 23.5                | 21/03/2023 | 13.3                | 21/04/2023 | 16.6                | 21/05/2023 | 8.3                 | 21/06/2023 | 14.4                |
| 22/01/2023 | 8.7                 | 22/02/2023 | 16.2                | 22/03/2023 | 14.4                | 22/04/2023 | 13.8                | 22/05/2023 | 8.0                 | 22/06/2023 | 15.9                |
| 23/01/2023 | 12.6                | 23/02/2023 | 13.0                | 23/03/2023 | 11.1                | 23/04/2023 | 12.1                | 23/05/2023 | 10.0                | 23/06/2023 | 5.0                 |
| 24/01/2023 | 12.8                | 24/02/2023 | 15.7                | 24/03/2023 | 11.3                | 24/04/2023 | 11.1                | 24/05/2023 | 12.2                | 24/06/2023 | 3.7                 |
| 25/01/2023 | 12.5                | 25/02/2023 | 12.6                | 25/03/2023 | 10.0                | 25/04/2023 | 16.1                | 25/05/2023 | 13.9                | 25/06/2023 | 5.2                 |
| 26/01/2023 | 18.9                | 26/02/2023 | 13.4                | 26/03/2023 | 11.6                | 26/04/2023 | 14.8                | 26/05/2023 | 10.1                | 26/06/2023 | 5.8                 |
| 27/01/2023 | 18.6                | 27/02/2023 | 14.4                | 27/03/2023 | 11.6                | 27/04/2023 | 10.5                | 27/05/2023 | 6.1                 | 27/06/2023 | 8.2                 |
| 28/01/2023 | 13.0                | 28/02/2023 | 18.5                | 28/03/2023 | 15.5                | 28/04/2023 | 20.8                | 28/05/2023 | 5.2                 | 28/06/2023 | 5.2                 |
| 29/01/2023 | 15.3                |            |                     | 29/03/2023 | 9.6                 | 29/04/2023 | 6.0                 | 29/05/2023 | 6.6                 | 29/06/2023 | 4.4                 |
| 30/01/2023 | 11.7                |            |                     | 30/03/2023 | 6.9                 | 30/04/2023 | 4.6                 | 30/05/2023 | 7.3                 | 30/06/2023 | 4.0                 |
| 31/01/2023 | 8.9                 |            |                     | 31/03/2023 | 7.9                 |            |                     | 31/05/2023 | 7.4                 |            |                     |



**Ulan Complex**  
**Attachment B: Air Quality Monitoring**

2023 Annual Review

| July-23    |                     | Aug-23     |                     | Sep-23     |                     | Oct-23     |                     | Nov-23     |                     | Dec-23     |                     |
|------------|---------------------|------------|---------------------|------------|---------------------|------------|---------------------|------------|---------------------|------------|---------------------|
| Date       | Daily Av<br>(µg/m³) | Date       | Daily Av<br>(µg/m³) | Date       | Daily Av<br>(µg/m³) | Date       | Daily Av<br>(µg/m³) | Date       | Daily Av<br>(µg/m³) | Date       | Daily Av<br>(µg/m³) |
| 1/07/2023  | 3.4                 | 1/08/2023  | 7.7                 | 1/09/2023  | 7.0                 | 1/10/2023  | 20.3                | 1/11/2023  | 23.1                | 1/12/2023  | 8.6                 |
| 2/07/2023  | 7.6                 | 2/08/2023  | 17.0                | 2/09/2023  | 10.0                | 2/10/2023  | 27.3                | 2/11/2023  | 22.9                | 2/12/2023  | 6.4                 |
| 3/07/2023  | 13.1                | 3/08/2023  | 12.4                | 3/09/2023  | 16.0                | 3/10/2023  | 19.4                | 3/11/2023  | 22.8                | 3/12/2023  | 8.4                 |
| 4/07/2023  | 5.9                 | 4/08/2023  | 10.6                | 4/09/2023  | 14.3                | 4/10/2023  | 14.9                | 4/11/2023  | 13.5                | 4/12/2023  | 7.1                 |
| 5/07/2023  | 4.1                 | 5/08/2023  | 10.5                | 5/09/2023  | 11.0                | 5/10/2023  | 6.2                 | 5/11/2023  | 12.8                | 5/12/2023  | 10.7                |
| 6/07/2023  | 3.8                 | 6/08/2023  | 10.5                | 6/09/2023  | 9.3                 | 6/10/2023  | 9.2                 | 6/11/2023  | 15.5                | 6/12/2023  | 14.8                |
| 7/07/2023  | 4.6                 | 7/08/2023  | 11.0                | 7/09/2023  | 21.4                | 7/10/2023  | 13.1                | 7/11/2023  | 13.1                | 7/12/2023  | 18.3                |
| 8/07/2023  | 6.1                 | 8/08/2023  | 10.4                | 8/09/2023  | 6.7                 | 8/10/2023  | 11.6                | 8/11/2023  | 15.4                | 8/12/2023  | 27.4                |
| 9/07/2023  | 11.6                | 9/08/2023  | 10.4                | 9/09/2023  | 7.2                 | 9/10/2023  | 9.6                 | 9/11/2023  | 16.9                | 9/12/2023  | 24.6                |
| 10/07/2023 | 5.8                 | 10/08/2023 | 10.7                | 10/09/2023 | 7.5                 | 10/10/2023 | 9.7                 | 10/11/2023 | 13.0                | 10/12/2023 | 23.4                |
| 11/07/2023 | 6.3                 | 11/08/2023 | 8.3                 | 11/09/2023 | 12.8                | 11/10/2023 | 15.9                | 11/11/2023 | 9.1                 | 11/12/2023 | 23.1                |
| 12/07/2023 | 8.4                 | 12/08/2023 | 12.5                | 12/09/2023 | 12.7                | 12/10/2023 | 15.8                | 12/11/2023 | 8.7                 | 12/12/2023 | 28.7                |
| 13/07/2023 | 9.0                 | 13/08/2023 | 11.5                | 13/09/2023 | 9.3                 | 13/10/2023 | 7.6                 | 13/11/2023 | 13.8                | 13/12/2023 | 25.8                |
| 14/07/2023 | 10.1                | 14/08/2023 | 9.1                 | 14/09/2023 | 17.0                | 14/10/2023 | 8.9                 | 14/11/2023 | 13.5                | 14/12/2023 | 25.5                |
| 15/07/2023 | 8.6                 | 15/08/2023 | 5.0                 | 15/09/2023 | 14.9                | 15/10/2023 | 10.4                | 15/11/2023 | 24.9                | 15/12/2023 | 12.3                |
| 16/07/2023 | 9.4                 | 16/08/2023 | 4.8                 | 16/09/2023 | 12.9                | 16/10/2023 | 0.0                 | 16/11/2023 | 19.6                | 16/12/2023 | 16.1                |
| 17/07/2023 | 12.7                | 17/08/2023 | 1.5                 | 17/09/2023 | 12.8                | 17/10/2023 | 10.2                | 17/11/2023 | 21.7                | 17/12/2023 | 23.7                |
| 18/07/2023 | 11.0                | 18/08/2023 | 3.5                 | 18/09/2023 | 16.4                | 18/10/2023 | 13.3                | 18/11/2023 | 18.6                | 18/12/2023 | 32.1                |
| 19/07/2023 | 6.1                 | 19/08/2023 | 5.3                 | 19/09/2023 | 15.3                | 19/10/2023 | 15.8                | 19/11/2023 | 16.1                | 19/12/2023 | 35.1                |
| 20/07/2023 | 7.7                 | 20/08/2023 | 3.6                 | 20/09/2023 | 18.1                | 20/10/2023 | 22.1                | 20/11/2023 | 16.6                | 20/12/2023 | 18.1                |
| 21/07/2023 | 6.9                 | 21/08/2023 | 4.0                 | 21/09/2023 | 14.4                | 21/10/2023 | 31.2                | 21/11/2023 | 16.2                | 21/12/2023 | 9.8                 |
| 22/07/2023 | 5.6                 | 22/08/2023 | 7.5                 | 22/09/2023 | 14.0                | 22/10/2023 | 21.8                | 22/11/2023 | 10.2                | 22/12/2023 | 20.8                |
| 23/07/2023 | 9.7                 | 23/08/2023 | 5.0                 | 23/09/2023 | 15.1                | 23/10/2023 | 12.3                | 23/11/2023 | 13.3                | 23/12/2023 | 17.8                |
| 24/07/2023 | 10.0                | 24/08/2023 | 17.4                | 24/09/2023 | 14.6                | 24/10/2023 | 12.8                | 24/11/2023 | 16.1                | 24/12/2023 | 9.1                 |
| 25/07/2023 | 9.3                 | 25/08/2023 | 12.0                | 25/09/2023 | 12.8                | 25/10/2023 | 24.8                | 25/11/2023 | 13.3                | 25/12/2023 | 15.4                |
| 26/07/2023 | 9.7                 | 26/08/2023 | 19.9                | 26/09/2023 | 13.3                | 26/10/2023 | 14.0                | 26/11/2023 | 7.3                 | 26/12/2023 | 9.3                 |
| 27/07/2023 | 8.1                 | 27/08/2023 | 13.5                | 27/09/2023 | 12.9                | 27/10/2023 | 7.8                 | 27/11/2023 | 4.2                 | 27/12/2023 | 8.5                 |
| 28/07/2023 | 9.4                 | 28/08/2023 | 14.4                | 28/09/2023 | 18.5                | 28/10/2023 | 9.4                 | 28/11/2023 | 8.4                 | 28/12/2023 | 8.0                 |
| 29/07/2023 | 10.1                | 29/08/2023 | 12.3                | 29/09/2023 | 14.6                | 29/10/2023 | 10.3                | 29/11/2023 | 12.0                | 29/12/2023 | 9.6                 |
| 30/07/2023 | 8.1                 | 30/08/2023 | 10.5                | 30/09/2023 | 17.1                | 30/10/2023 | 16.5                | 30/11/2023 | 17.0                | 30/12/2023 | 8.4                 |
| 31/07/2023 | 5.0                 | 31/08/2023 | 5.8                 |            |                     | 31/10/2023 | 15.8                |            |                     | 31/12/2023 | 19.9                |

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