HUNTER VALLEY
OPERATIONS

MONTHLY ENVIRONMENTAL MONITORING REPORT – FEBRUARY 2023

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1 | INTRODUCTION

This report has been compiled to provide a monthly summary of environmental monitoring results for Hunter Valley Operations (HVO). This report includes all monitoring data collected for the period 1st to 28th February 2023 (the 'Reporting Period').

2 | AIR QUALITY

2.1 | METEOROLOGICAL MONITORING

HVO maintains two meteorological stations: 'HVO Corporate' and 'Cheshunt' (refer to **Figure 4**).

2.1.1 | RAINFALL

Rainfall for the period is summarised in **Table 1**. The 2021, 2022 and 2023 trends are shown in **Figure 1**.

Table 1 - Rainfall data for the reporting period

2023	Monthly Rainfall (mm)	Cumulative Rainfall (mm)
February	86.2	142.8

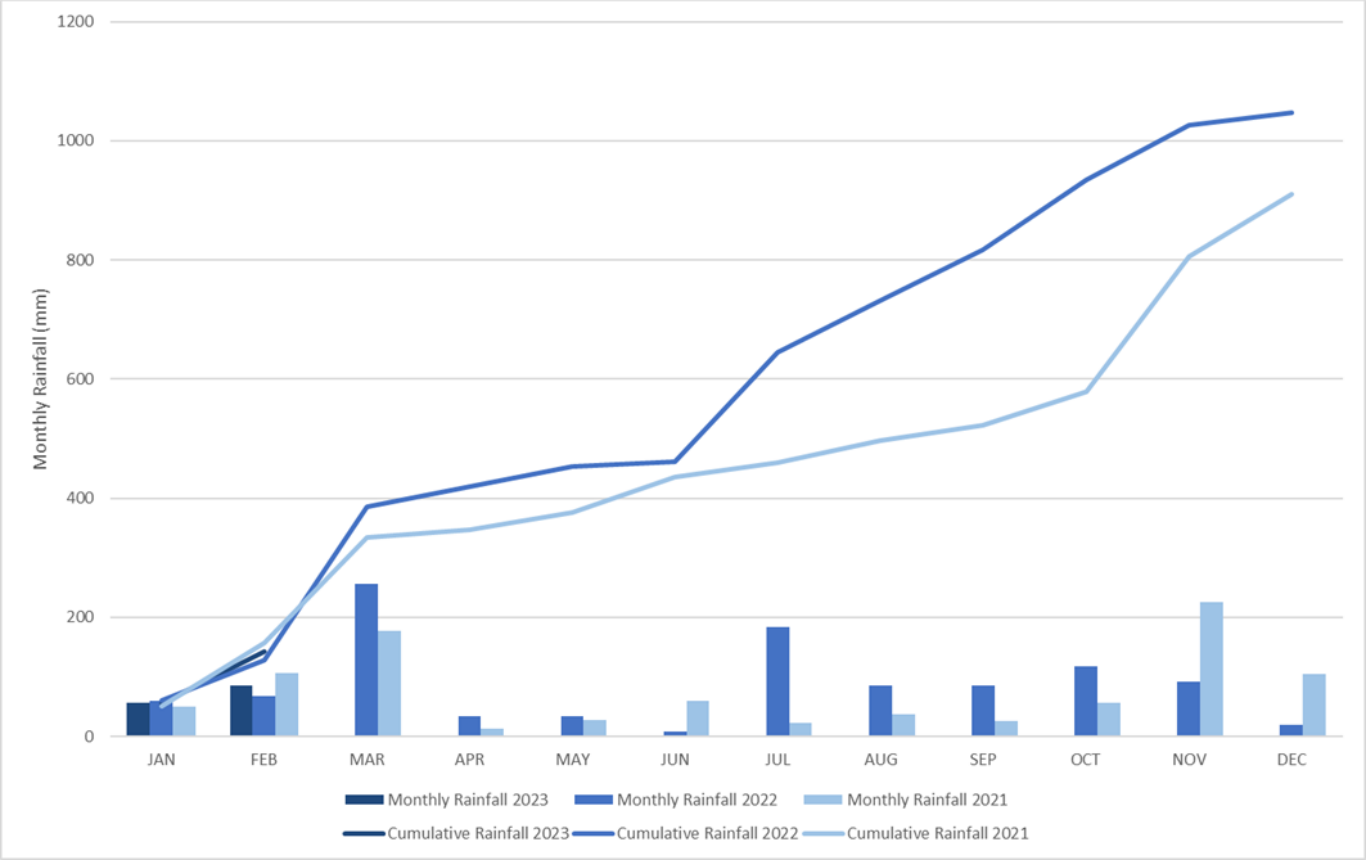

Figure 1 - Rainfall Summary 2023

2.1.2 | WIND SPEED AND DIRECTION

South-easterly winds were prevailing during the reporting period as shown in **Figure 2** (HVO Corporate) and **Figure 3** (HVO Cheshunt).

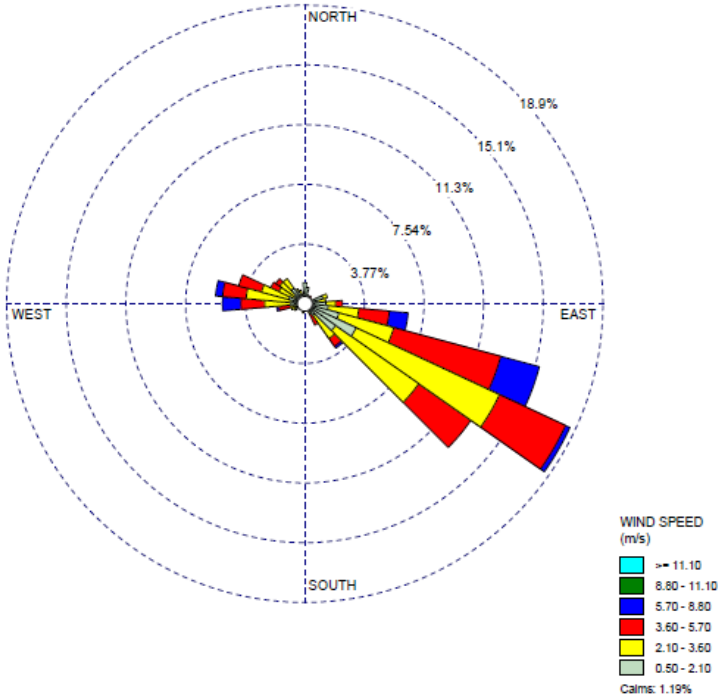

Figure 2 – HVO Corporate Wind Rose for the Reporting Period

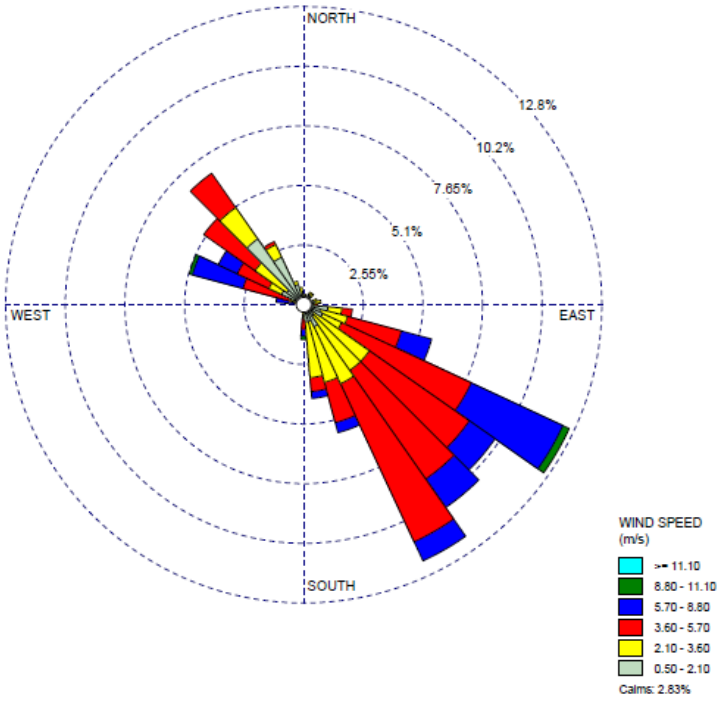

Figure 3 – HVO Cheshunt Wind Rose for the Reporting Period

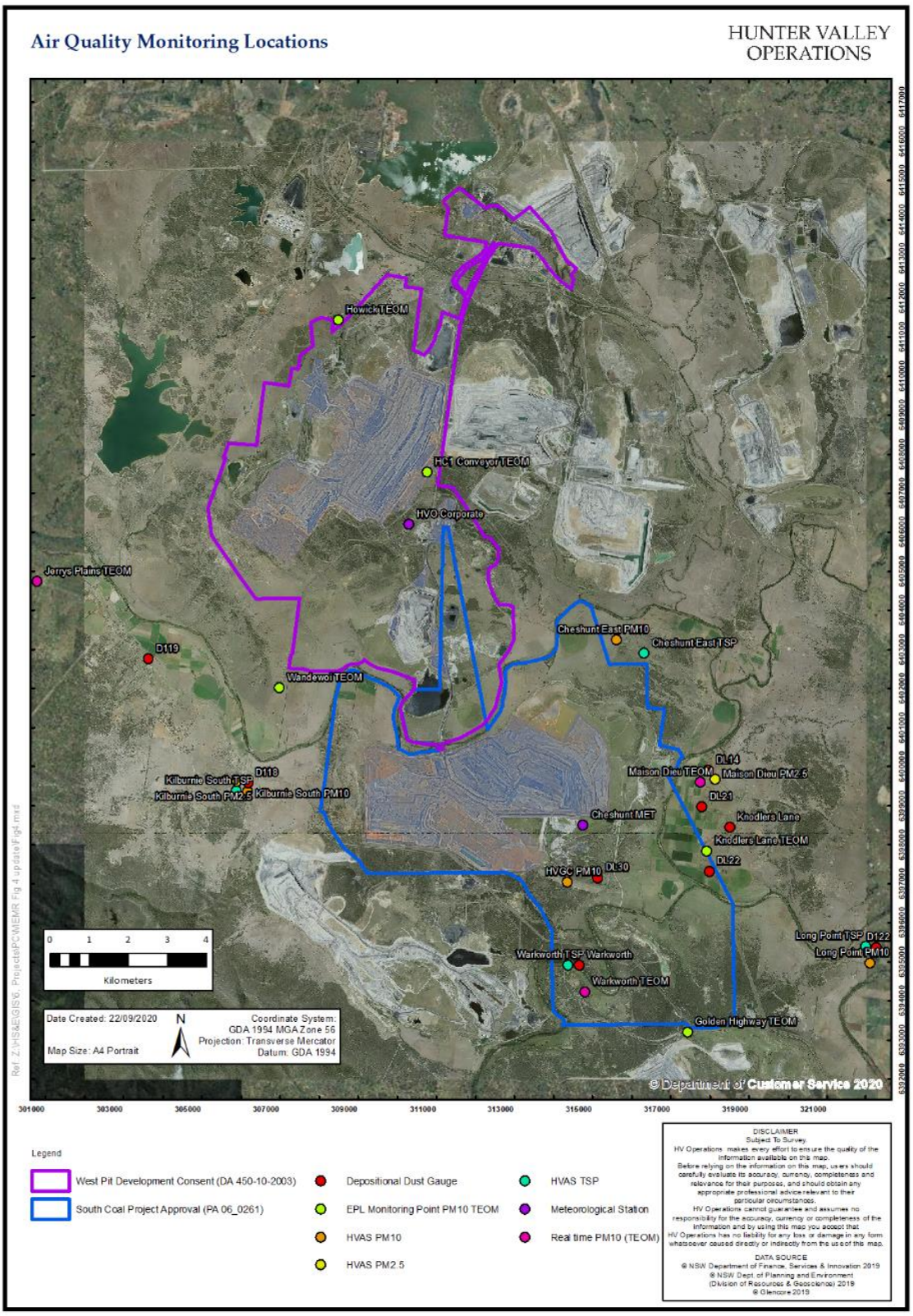

Figure 4 – Air Quality Monitoring Location Plan

2.2 | DEPOSITIONAL DUST

HVO operates and maintains a network of nine depositional dust gauges situated on private and mine owned land surrounding HVO to monitor regional air quality.

Figure 5 displays insoluble solids results from depositional dust gauges during the reporting period compared against the annual impact assessment criteria. Any monthly results deemed to be contaminated (due to presence of bird droppings, insects, etc.) are not displayed. An assessment of HVO's contribution against the long-term impact assessment criteria will be provided in the 2023 Annual Review.

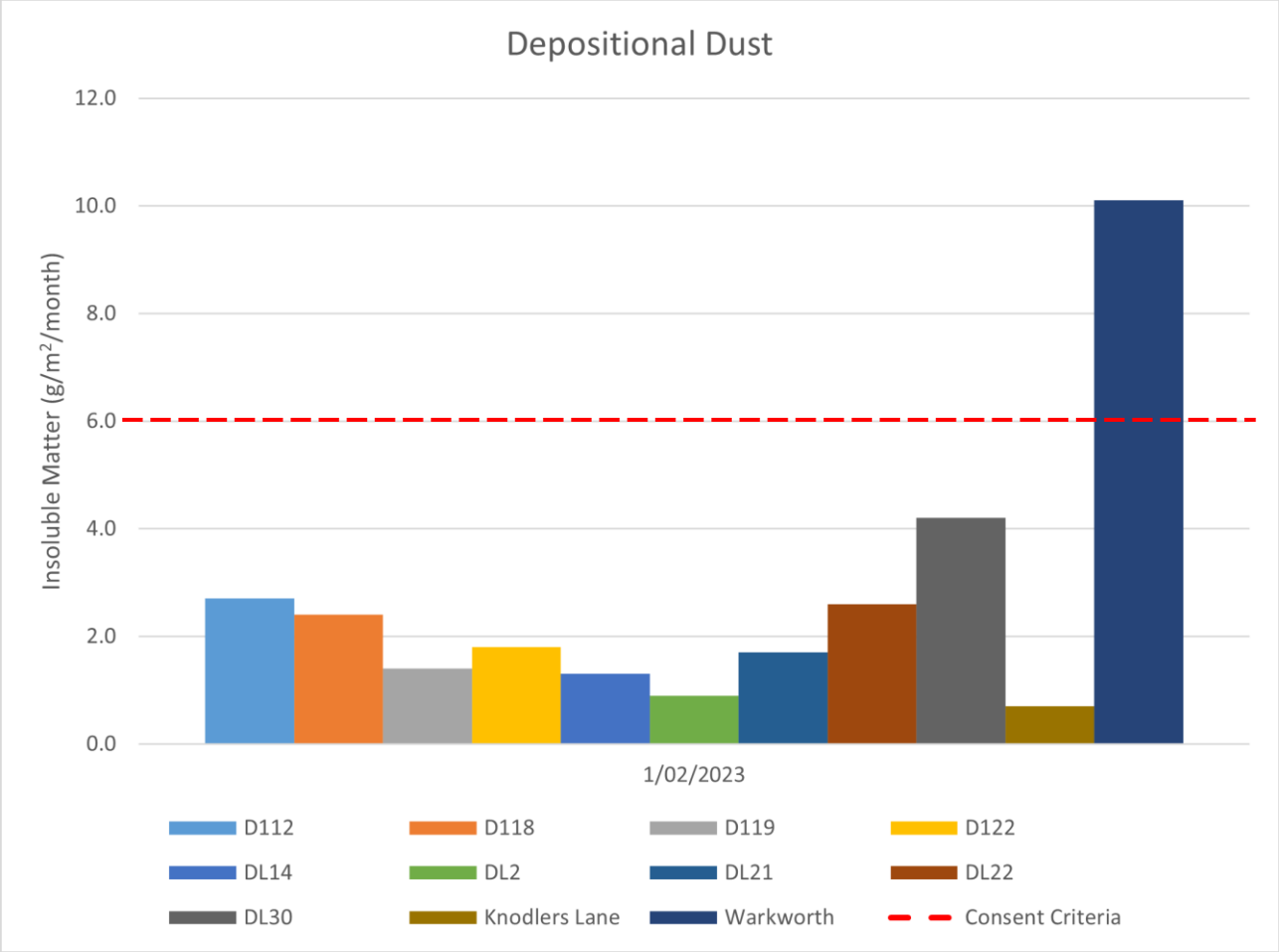

Figure 5 - Depositional Dust Results for the Reporting Period

2.3 | SUSPENDED PARTICLES

Suspended particles are measured by a network of High Volume Air Samplers (HVAS) measuring Total Suspended Particulates (TSP) and Particulate Matter <10µm (PM10). The Kilburnie South and Maison Dieu HVAS also monitor Particulate Matter <2.5µm (PM2.5). The location of these monitors is presented in **Figure 4**. Each HVAS runs for 24-hours on a six-day cycle.

2.3.1 | HVAS PM_{10} RESULTS

2.3.1.1 | PERFORMANCE AGAINST SHORT TERM IMPACT ASSESSMENT CRITERIA

Figure 6 shows individual PM10 results at each monitoring station against the short-term impact assessment criteria of 50µg/m^3. An exceedance was recorded on 4 February at Kilburnie South of 56.6µg/m^3. An internal investigation into this result deemed HVO's contribution to be below the short-term impact assessment criteria.

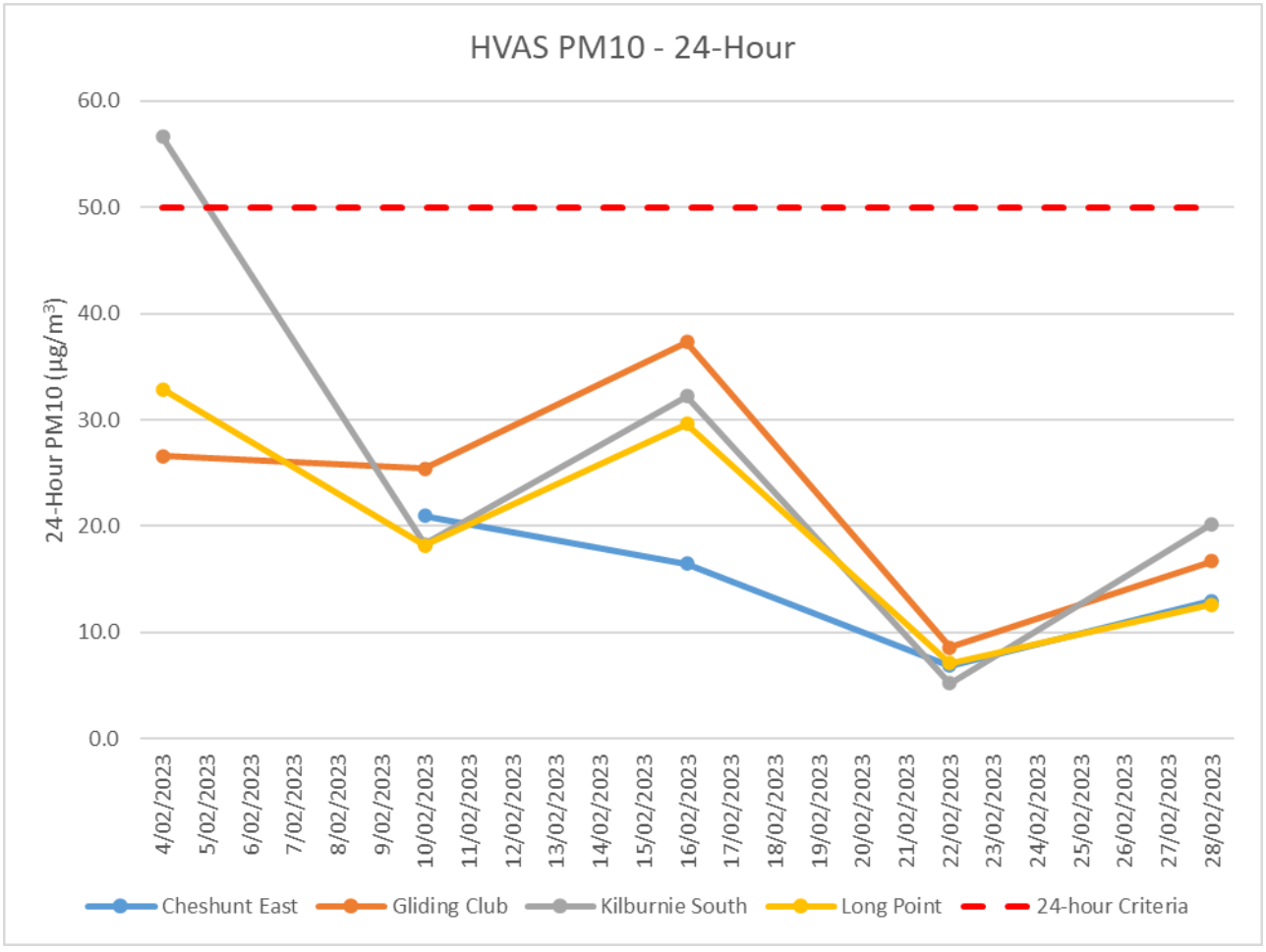

Figure 6 – Individual PM_{10} Results for the Reporting Period

2.3.1.2 | PERFORMANCE AGAINST LONG TERM IMPACT ASSESSMENT CRITERIA

Figure 7 shows the year-to-date annual average PM_{10} results. All monitors were below the relevant long term impact assessment criteria during the reporting period. An assessment of HVO's contribution against the long-term impact assessment criteria will be provided in the 2023 Annual Review.

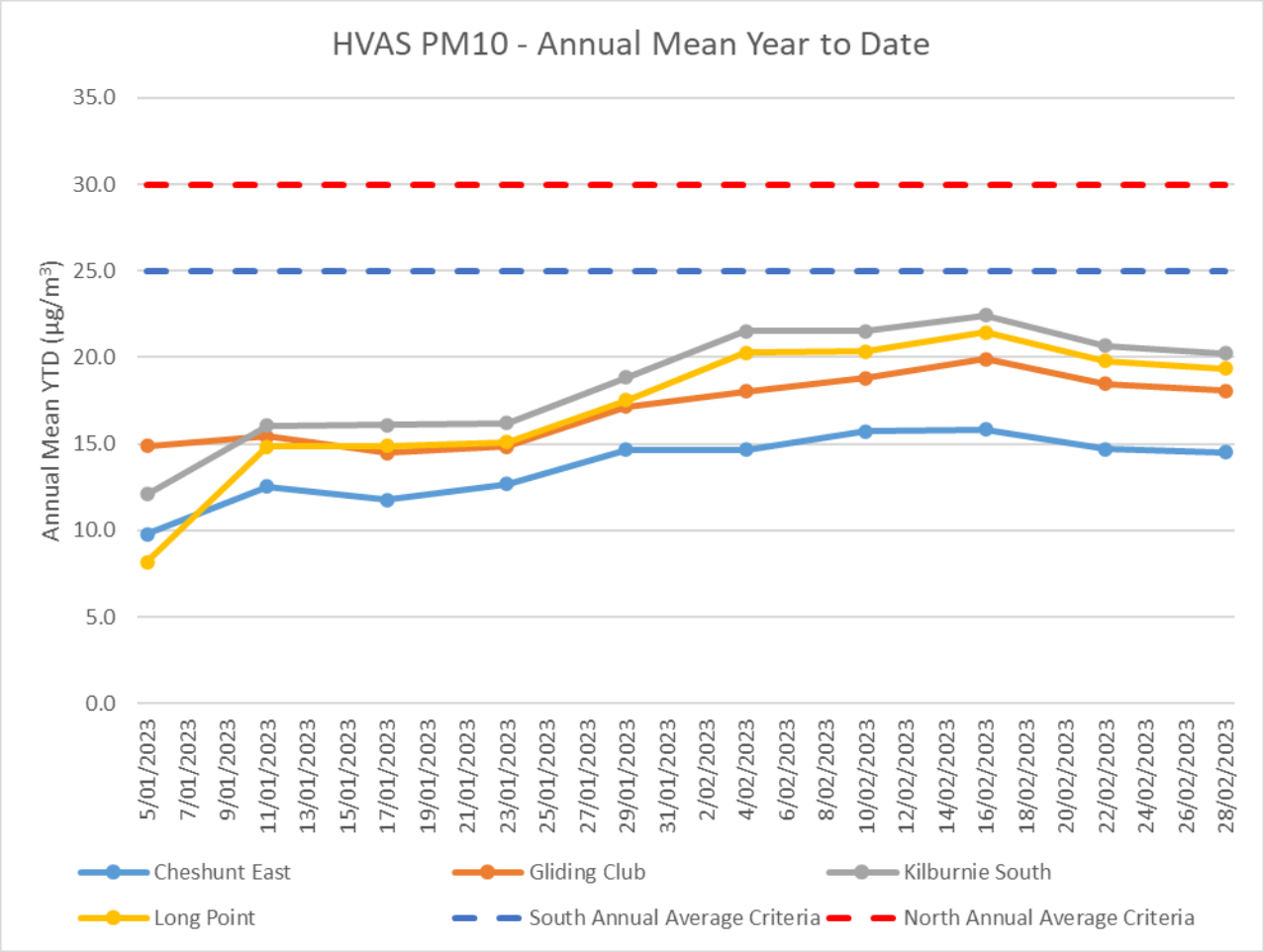

Figure 7 – Year to Date Average PM_{10} as at end of the Reporting Period

2.3.2 | HVAS $PM_{2.5}$ RESULTS

HVO monitors $PM_{2.5}$ at two HVAS locations, Kilburnie South and Maison Dieu.

2.3.2.1 | HVAS $PM_{2.5}$ RESULTS

Figure 8 shows individual PM2.5 results at each monitoring station against the HVO South short-term impact assessment criteria of 25µg/m3.

An exceedance was recorded on 16 February at the Kilburnie South monitor. This exceedance was investigated internally, HVO's contribution was 5ug/m3 or 18%.

All other monitors were below the relevant short-term impact assessment criteria during the reporting period.

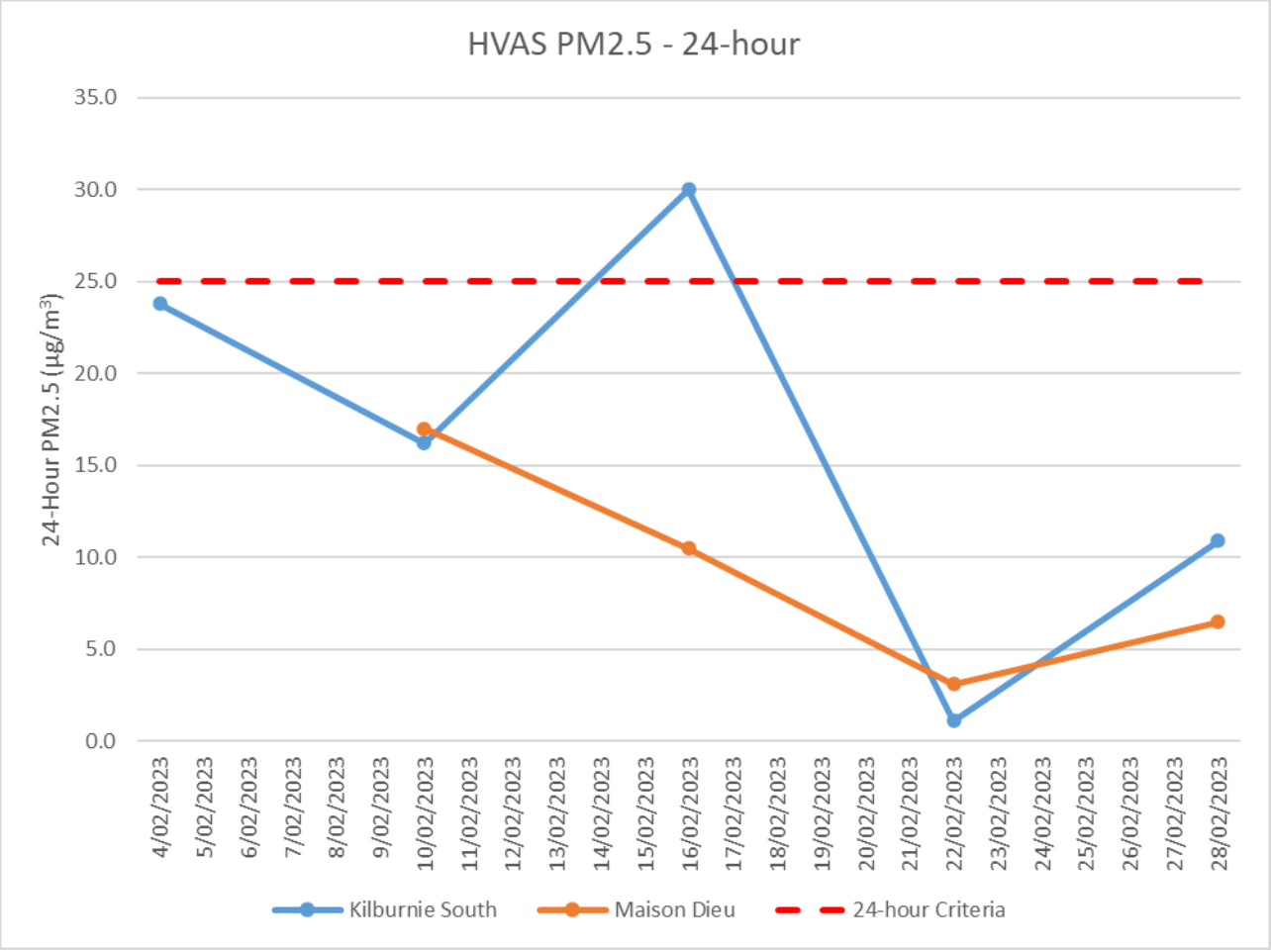

Figure 8 - Results for the Reporting Period

2.3.2.2 | PERFORMANCE AGAINST LONG TERM IMPACT ASSESSMENT CRITERIA

Figure 9 shows the year-to-date annual average $PM_{2.5}$ results. During the reporting period, the Maison Dieu monitor and Kilburnie South monitor annual average year to date were above the $PM_{2.5}$ Annual Rolling Mean criteria of 8µg/m3.

An assessment of HVO's contribution against the long-term impact assessment criteria will be provided in the 2023 Annual Review.

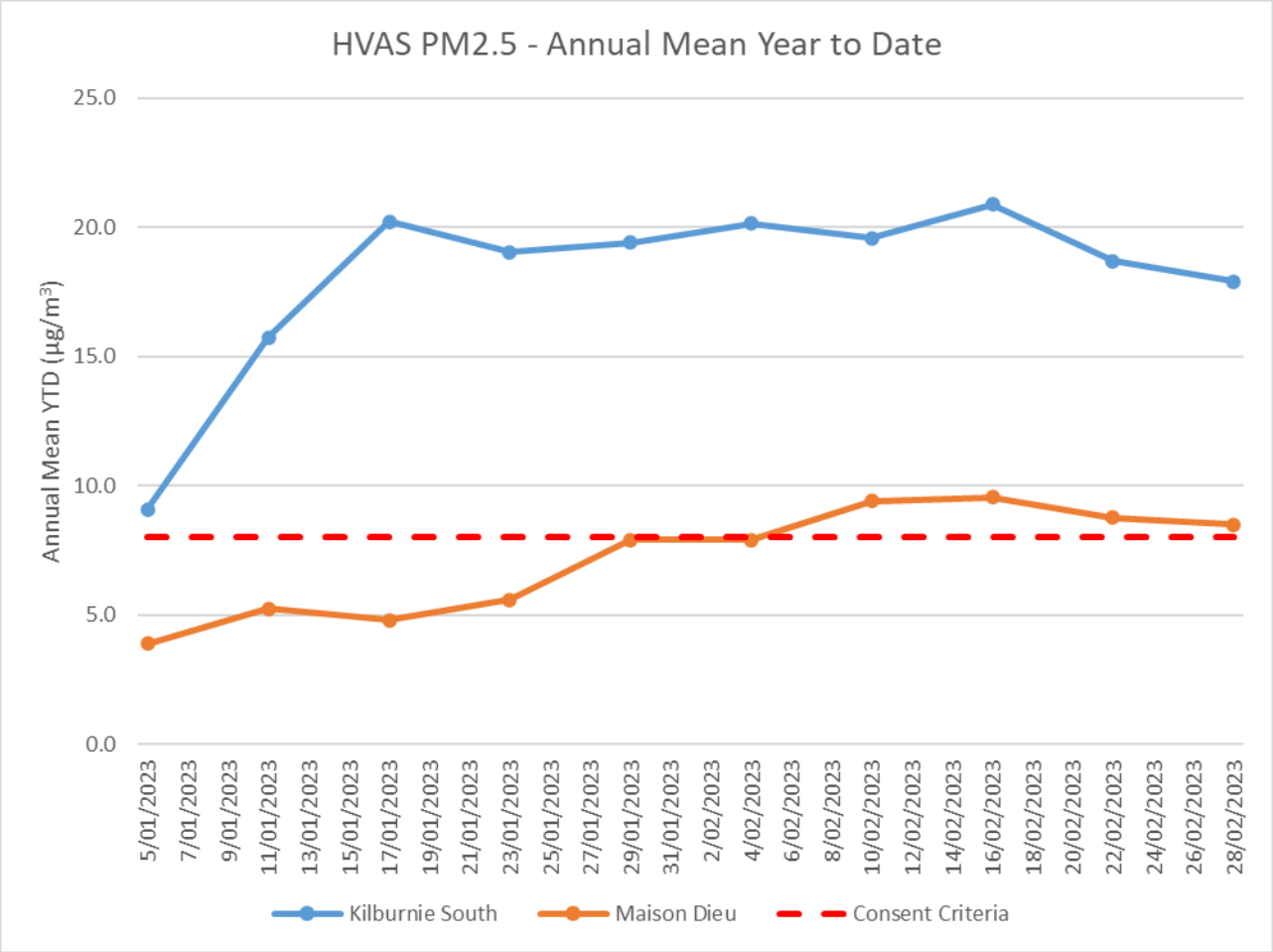

Figure 9 - Year to Date Average $PM_{2.5}$ as at end of the Reporting Period

2.3.3 | TSP RESULTS

2.3.3.1 | PERFORMANCE AGAINST LONG TERM IMPACT ASSESSMENT CRITERIA

Figure 10 shows the annual average TSP results compared against the long-term impact assessment criteria of 90µg/m3.

All monitors, except for Kilburnie South and Wandewoi, were below the relevant long-term impact assessment criteria during the reporting period.

An assessment of HVO's contribution against the long-term impact assessment criteria will be provided in the 2023 Annual Review.

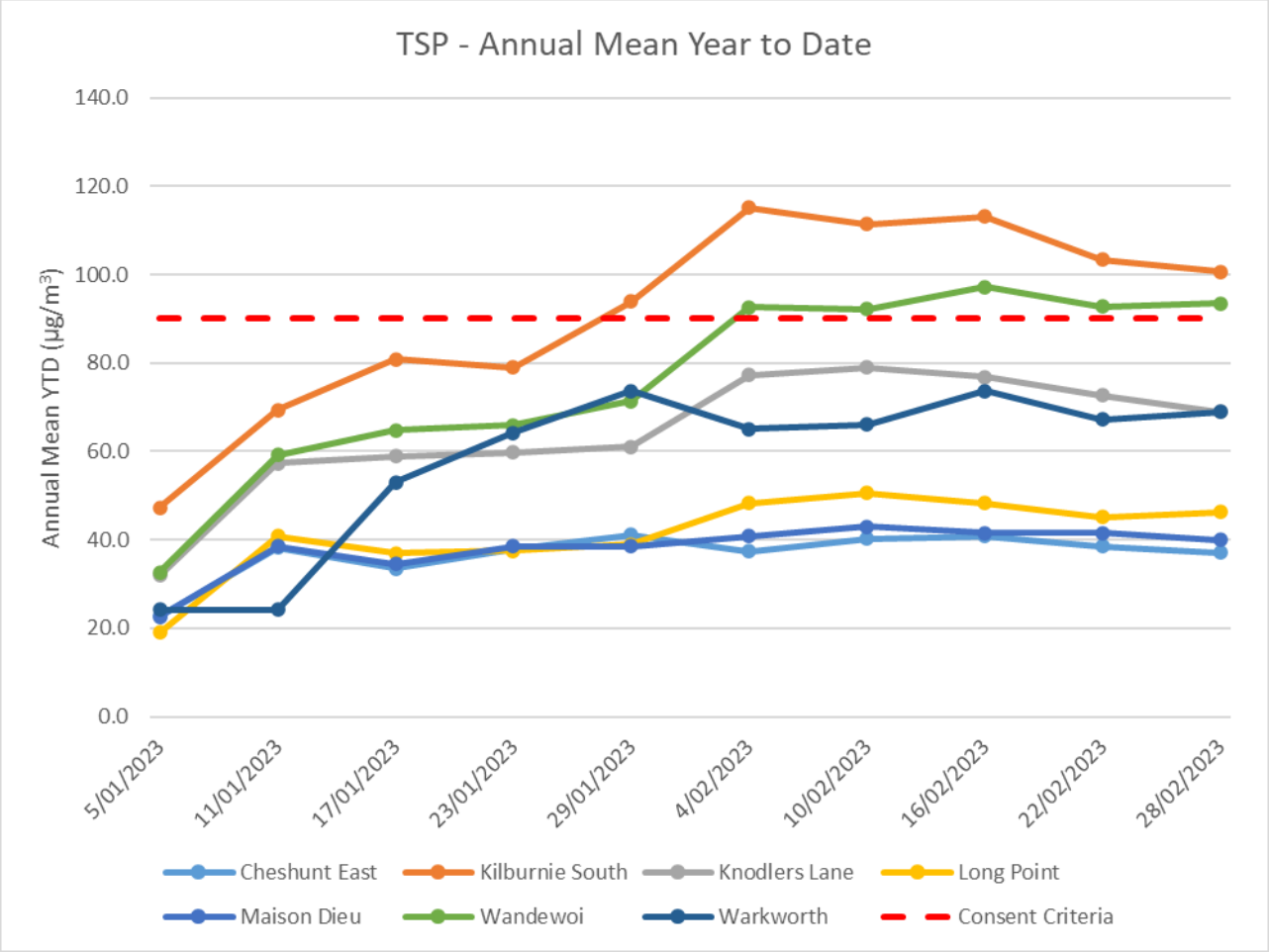

Figure 10 - Year to Date Average Total Suspended Particulates as at end of the Reporting Period

2.3.4 | REAL TIME PM_{10} RESULTS

HVO maintains a network of real time PM_{10} monitors. The real time air quality monitoring stations continuously record information and transmit data to a central database, generating alarms when particulate matter levels exceed internal trigger levels. Results from real time PM_{10} monitoring are used as a reactive measure to guide mining operations to help achieve compliance with the relevant conditions of the project approval.

Figure 11 shows the daily 24-hour average PM_{10} result from the real time monitoring sites. An exceedance was recorded on 3 February at the Knodlers Lane monitor of 63.5µg/m³. This exceedance was investigated by an external consultant who confirmed that HVO South's contribution was 45.6µg/m³ or 72%.

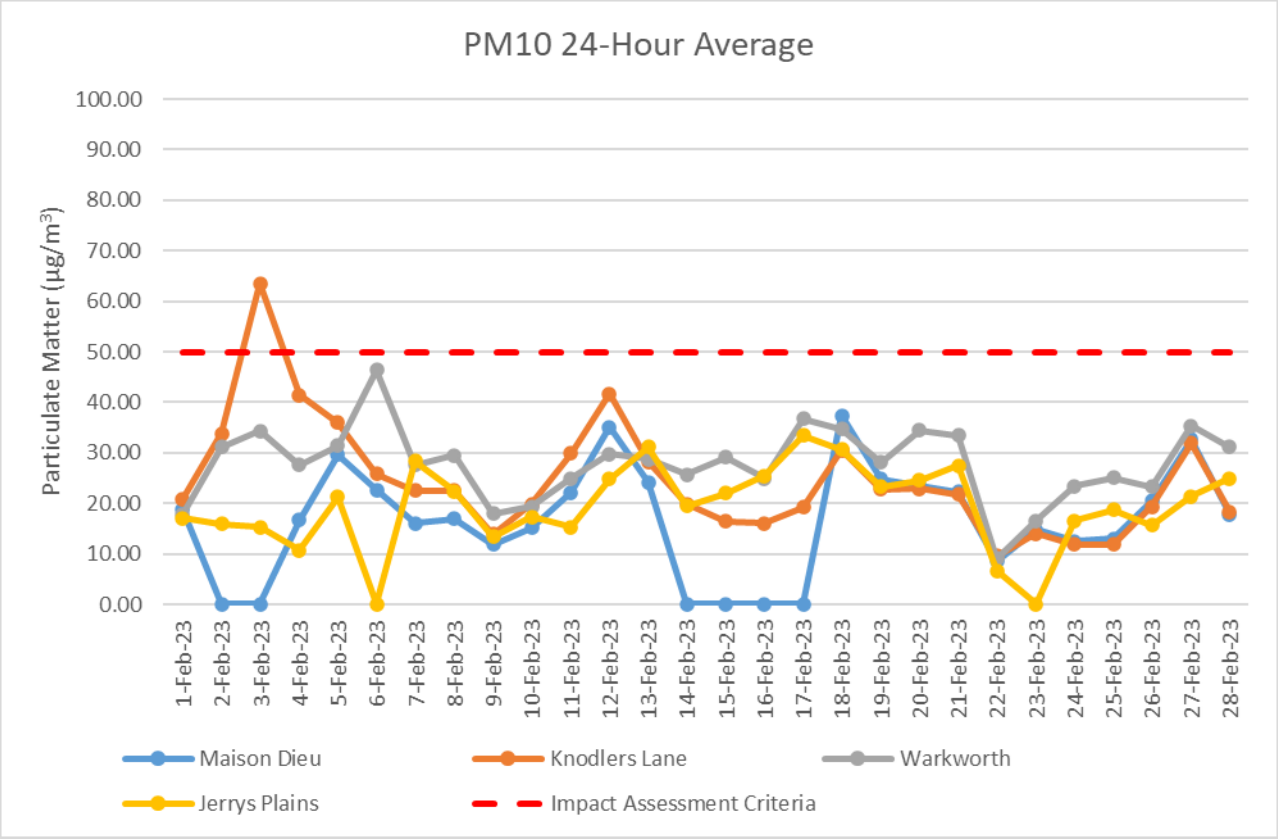

Figure 11 – Real Time PM_{10} 24hr for the Reporting Period

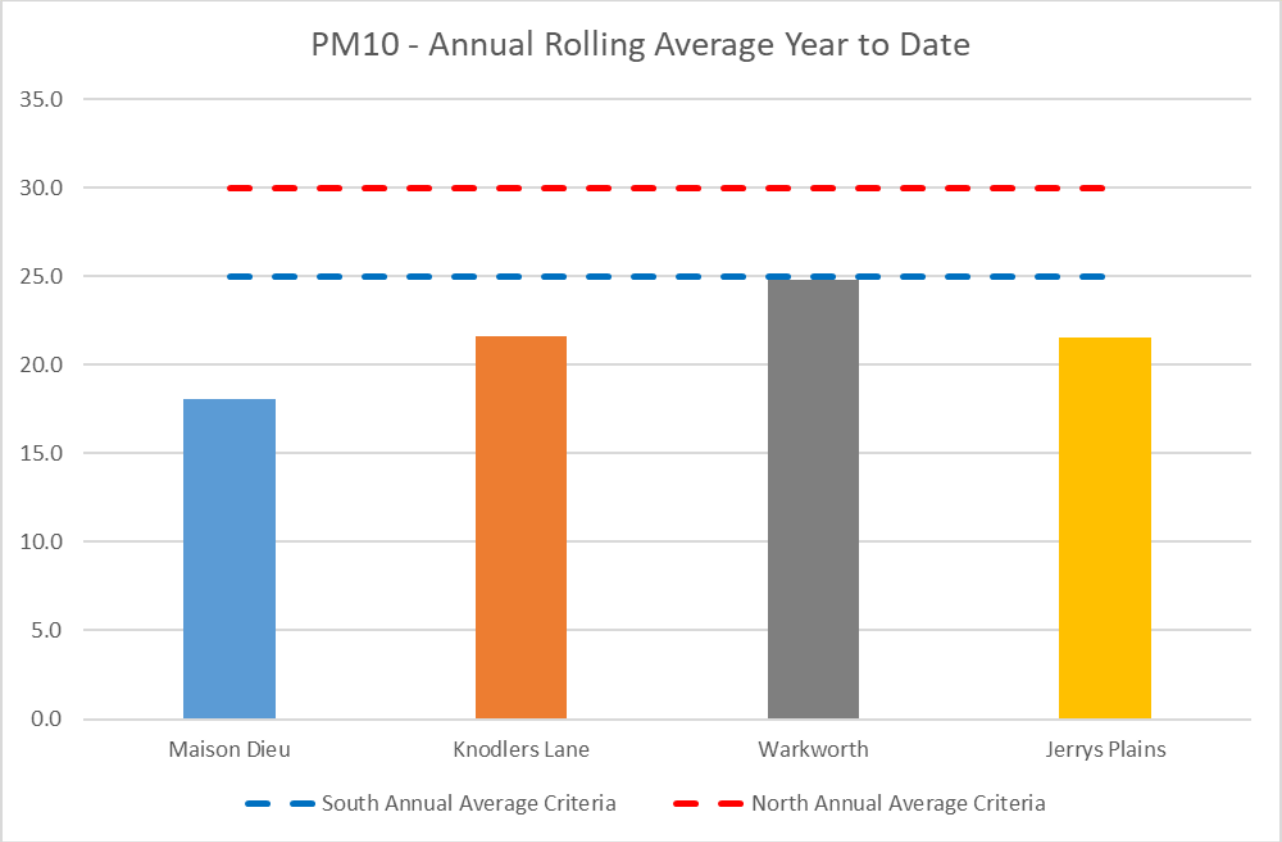

Figure 12 – Real Time PM_{10} Annual Average for the Reporting Period.

2.3.5 | REAL TIME ALARMS FOR AIR QUALITY

The real time monitoring system generated 87 automated air quality related alarms during the reporting period. 40 alarms related to adverse weather conditions and 19 alarms related to dust conditions.

3 | WATER QUALITY

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

3.1 | SURFACE WATER

Surface watercourses are sampled on a quarterly sampling regime. Water quality is assessed through the parameters of pH, electrical conductivity (EC) and Total Suspended Solids (TSS). The location of surface water monitoring points across HVO is shown in **Figure 13**.

Results from monitoring on site dams, the Hunter River and other natural tributaries are provided on a quarterly basis. Results will be provided in the March 2023 Monthly Environmental Monitoring Report.

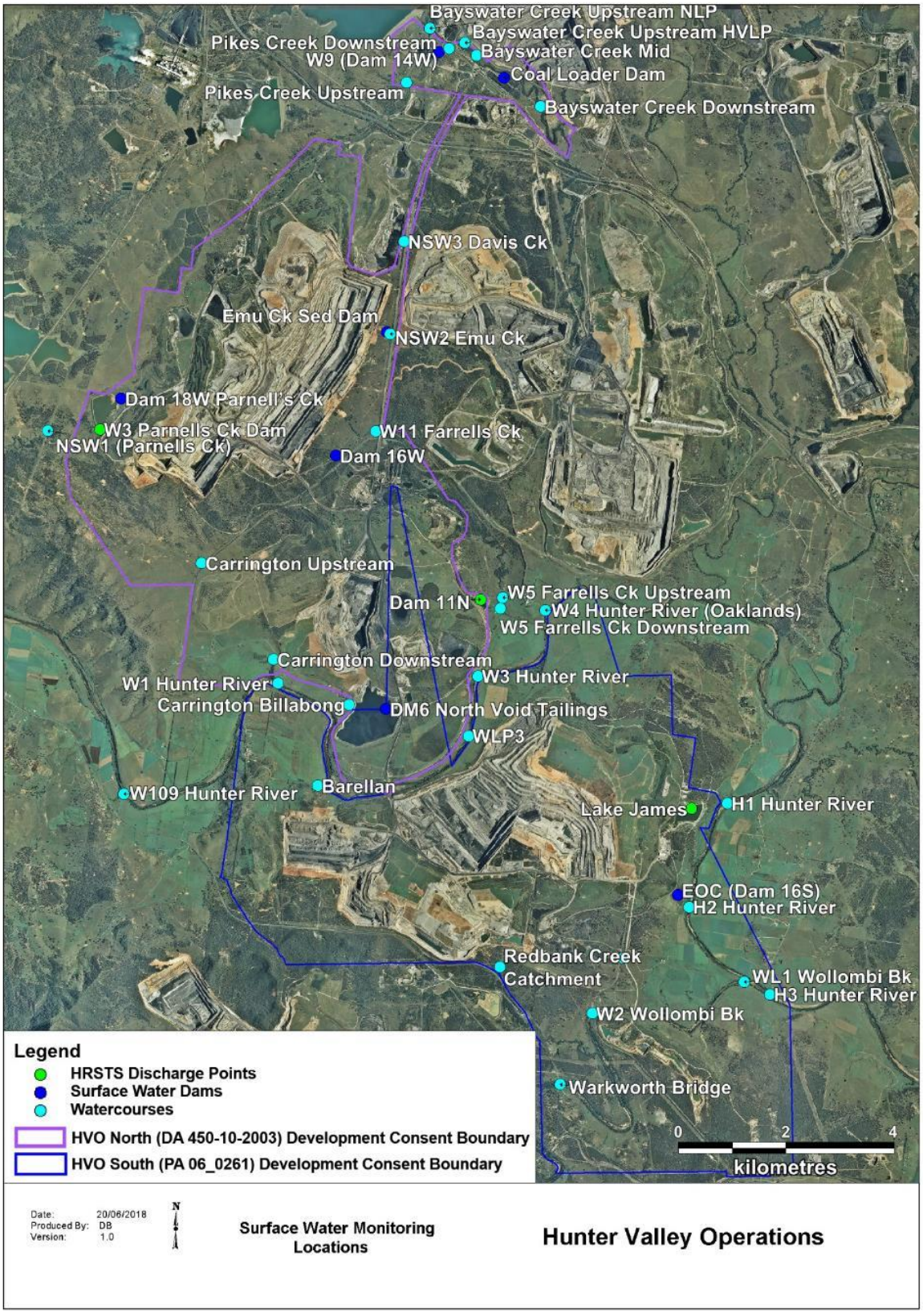

Figure 13 – HVO Surface Water Monitoring Locations

3.1.1 | 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 HVO Water Management Plan.

Surface water trigger tracking results are provided on a quarterly basis; results will appear in the March 2023 Monthly Environmental Monitoring Report.

3.2 | SITE WATER USE

HVO is permitted to extract water from the Hunter River under water allocation licenses issued by Water NSW.

HVO did not extract water from the Hunter River during the reporting period.

3.3 | HRSTS DISCHARGE

HVO participates in the Hunter River Salinity Trading Scheme (HRSTS), allowing discharge from licensed discharge points Dam 11N (to Farrell's Creek), Lake James (to the Hunter River) and Parnell's Dam (to Parnell's Creek). Discharges can only take place subject to HRSTS regulations.

HVO did not undertake any HRSTS discharges during the reporting period.

3.4 | GROUNDWATER MONITORING RESULTS

Groundwater monitoring is undertaken on a quarterly basis in accordance with the HVO Water Management Plan and Groundwater Monitoring Program. The location of groundwater monitoring points across HVO are show in **Figure 14**.

Groundwater monitoring results are provided on a quarterly basis. Results will be provided in the March 2023 Monthly Environmental Monitoring Report.

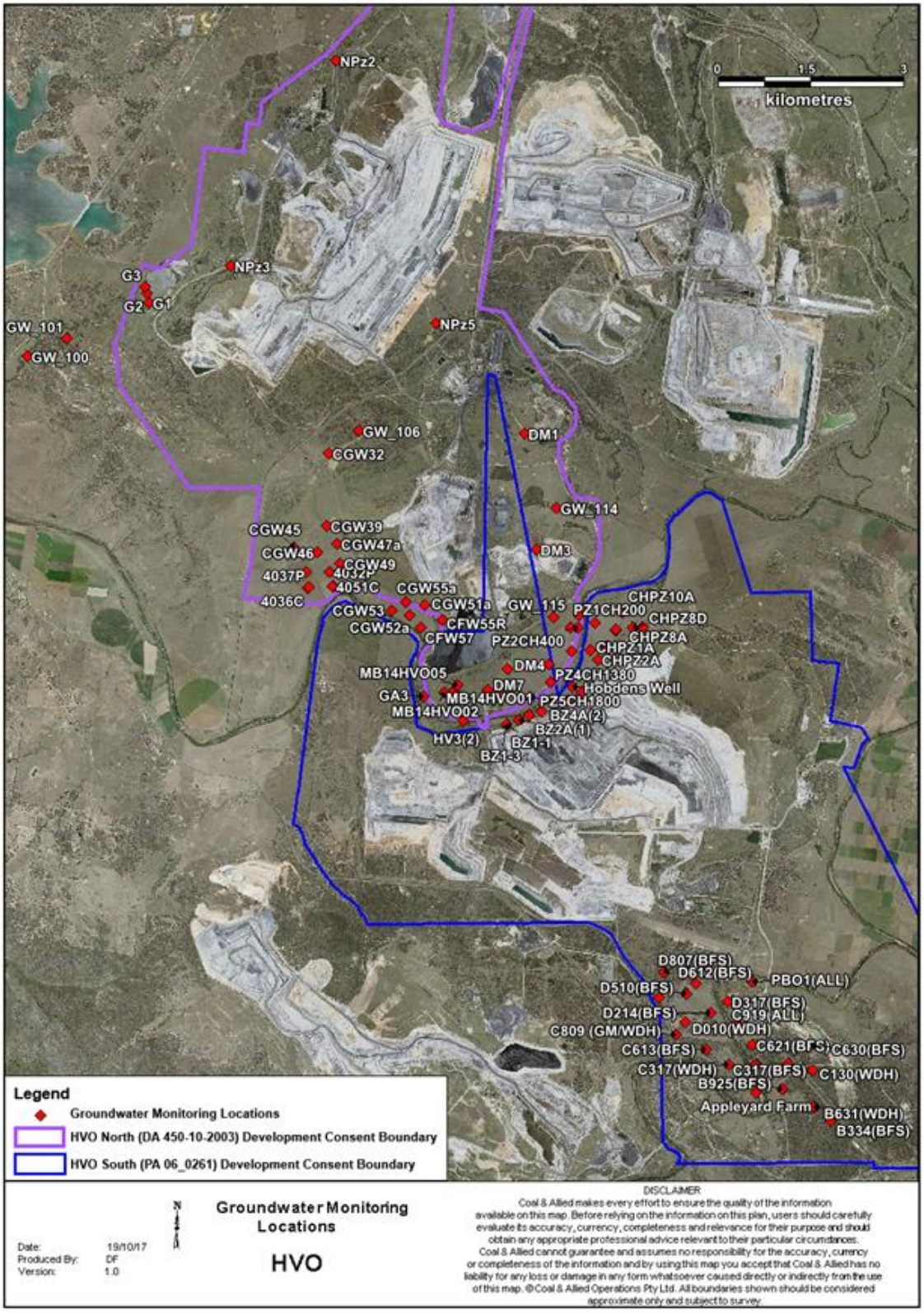

Figure 14 - Groundwater Monitoring Locations at HVO

3.4.1 | 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 is outlined in the HVO Water Management Plan.

Groundwater trigger tracking results are provided on a quarterly basis. Results will be provided in the March 2023 Monthly Environmental Monitoring Report.

4 | BLASTING

HVO maintains a network of blast monitoring units located at nearby privately owned residences and function as regulatory compliance monitors. The location of these monitors can be found in **Figure 15**. Blasting criteria for HVO are summarised in **Table 2**.

Table 2 – Blasting Criteria

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

4.1 | BLAST MONITORING RESULTS

Nineteen (19) blasts were initiated at HVO during the reporting period. Blast monitoring results for the period are shown in **Table 3** and **Table 4**.

Table 3 – Overpressure Blast Monitoring Results for the reporting period

Date and Time	Moses Crossing (dBL)	Jerrys Plains Village (dBL)	Maison Dieu (dBL)	Warkworth (dBL)	Knodlers Lane (dBL)
2/02/2023 13:17	90.24	101.07	99.95	102.04	112.25
2/02/2023 13:18	92.86	77.92	86.65	87.55	101.44
4/02/2023 13:03	96.49	113.37	83.82	91.18	98.58
6/02/2023 13:13	88.48	92.98	86.14	88.64	90.64
6/02/2023 13:14	89.04	94.29	100.2	101.84	101.44
8/02/2023 13:00	95.7	109.39	100.55	90.04	108.32
9/02/2023 13:05	96.91	85.94	88.72	88.85	86.33
13/02/2023 13:39	90.91	111.51	109.22	92.25	104.37
14/02/2023 12:59	70.62	99.82	103.96	84.91	105.54
16/02/2023 13:11	93.94	83.9	96.03	92.67	87.18
16/02/2023 13:12	88.78	93.43	99.75	100.18	96
17/02/2023 13:06	102.24	95.7	94.69	81.53	85.84
20/02/2023 13:08	106.57	83.94	93.73	80.68	89.12
21/02/2023 13:18	94.51	87.78	83.92	81.13	91.66
21/02/2023 13:19	110.94	101.16	89.31	86.7	79.36
23/02/2023 13:15	105.28	104.71	100.52	87.14	100.53
23/02/2023 13:17	104.25	109.16	102.72	99.03	111.94
25/02/2023 12:57	98.56	98.06	90.83	85.09	92.58
27/02/2023 14:29	87.64	85.86	94.65	95.35	98.62

Table 4 – Ground Vibration Blast Monitoring Results for the reporting period

Date and Time	Moses Crossing (mm/s)	Jerrys Plains Village (mm/s)	Maison Dieu (mm/s)	Warkworth (mm/s)	Knodlers Lane (mm/s)
2/02/2023 13:17	0.13	0.1	0.06	0.59	0.1
2/02/2023 13:18	0.13	0.13	0.05	0.13	0.08
4/02/2023 13:03	0.2	0.13	0.08	0.12	0.11
6/02/2023 13:13	0.21	0.07	0.12	0.37	0.16
6/02/2023 13:14	0.88	0.23	0.28	1.35	0.26
8/02/2023 13:00	0.15	0.06	0.15	0.32	0.19
9/02/2023 13:05	0.17	0.18	0.05	0.14	0.1
13/02/2023 13:39	0.2	0.07	0.08	0.29	0.11
14/02/2023 12:59	0.1	0.02	0.02	0.17	0.08
16/02/2023 13:11	0.21	0.1	0.33	0.54	0.27
16/02/2023 13:12	0.19	0.08	0.38	0.67	0.44
17/02/2023 13:06	0.1	0.05	0.02	0.08	0.07
20/02/2023 13:08	0.21	0.24	0.07	0.12	0.1
21/02/2023 13:18	0.11	0.05	0.04	0.13	0.07
21/02/2023 13:19	0.11	0.05	0.03	0.08	0.07
23/02/2023 13:15	0.12	0.03	0.1	0.35	0.14
23/02/2023 13:17	0.14	0.04	0.45	0.53	0.55
25/02/2023 12:57	0.1	0.03	0.08	0.15	0.1
27/02/2023 14:29	0.15	0.07	0.37	0.61	0.43

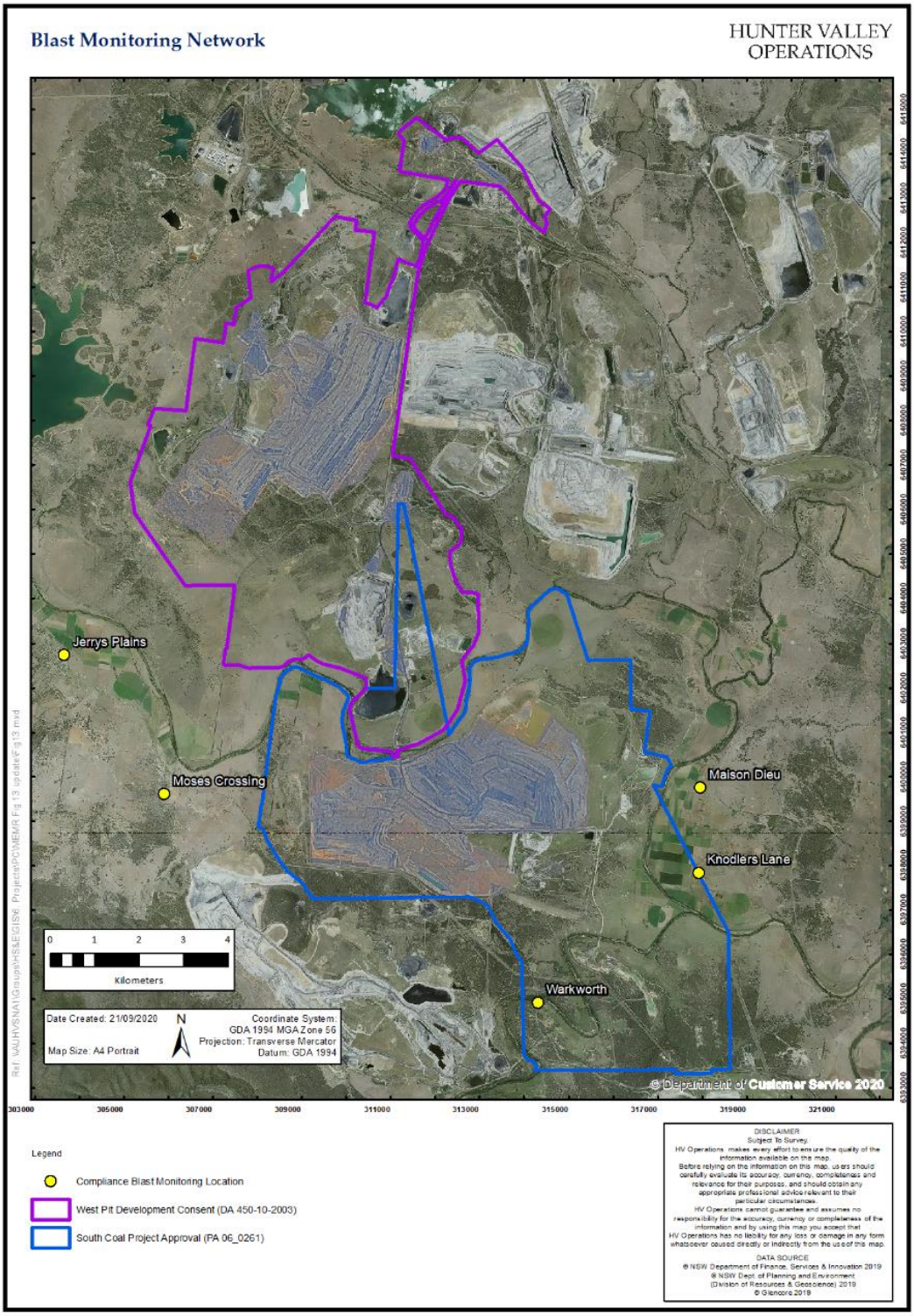

Figure 15 - Blast Monitoring Location Plan

5 | NOISE

Routine attended noise monitoring occurs at defined locations around HVO, as described in the HVO Noise Monitoring Program. The noise monitoring aims to quantify and describe the acoustic environment around the site and compare results with specified limits. The attended noise monitoring locations are displayed in **Figure 16.**

5.1 | ATTENDED NOISE MONITORING RESULTS

Attended monitoring was conducted at receiver locations around HVO during the night periods of the 27th and 28th of February 2023.

Compliance with the HVO noise impact limits ensures compliance with the land acquisition criteria. Therefore, since no noise impact exceedances occurred for the reporting period the land acquisition assessment has not been presented. These will only be reported in instances of noise impact exceedances.

Monitoring results are detailed in **Table 5** and **Table 6.**

Table 5 - LAeq,15minute and 1minute HVO North Against Impact Assessment Criteria for the Reporting Period

Location	Start date and time	Wind		Stability class	Very enhancing? [1]	HVO North limits, dB [1]		HVO North levels, dB		Exceedances, dB	
		Speed m/s	Direction [3]			$L_{Aeq,15minute}$	$L_{A1,1min}$	$L_{Aeq,15minute}$ [2]	$L_{A1,1min}$	$L_{Aeq,15minute}$	$L_{A1,1min}$
Shearers Lane	27/02/2023 21:09	3.0	116	D	No	35	46	IA	IA	Nil	Nil
Knodlers Lane	27/02/2023 21:58	3.2	124	D	Yes	40	51	IA	IA	Nil	Nil
Maison Dieu	27/02/2023 21:33	2.6	123	D	No	35	46	IA	IA	Nil	Nil
Long Point (Dights Crossing)	27/02/2023 22:54	2.8	121	D	No	35	46	IA	IA	Nil	Nil
Kilburnie South	27/02/2023 23:38	3.8	118	D	Yes	44	51	IA	IA	Nil	Nil
Jerrys Plains East	27/02/2023 23:15	3.2	126	D	Yes	44	51	IA	IA	Nil	Nil
Jerrys Plains Village	27/02/2023 21:34	2.6	123	D	No	40	46	31	36	Nil	Nil
Jerrys Plains West	27/02/2023 21:10	3.0	116	D	No	40	46	NM	NM	Nil	Nil

1. Noise limits are adjusted by +5 dB during 'very noise-enhancing meteorological conditions' in accordance with the NPfI.
2. Site-only LAeq,15minute, includes modifying factor penalties if applicable.
3. Degrees magnetic north, "-" indicates calm conditions.

Table 6 - LAeq,15minute and 1minute HVO South Against Impact Assessment Criteria for the Reporting Period

Location	Start date and time	Wind		Stability class	Very enhancing? [1]	HVO South limits, dB [1]		HVO South levels, dB		Exceedances, dB	
		Speed m/s	Direction [3]			$L_{Aeq,15minute}$	$L_{A1,1min}$	$L_{Aeq,15minute}$ [2]	$L_{A1,1min}$	$L_{Aeq,15minute}$	$L_{A1,1min}$
Shearers Lane	27/02/2023 21:09	3.9	144	E	Yes	46	50	<25	<25	Nil	Nil
Knodlers Lane	27/02/2023 21:58	4.4	144	E	Yes	45	50	IA	IA	Nil	Nil
Maison Dieu	27/02/2023 21:33	4.6	145	E	Yes	44	50	IA	IA	Nil	Nil
Long Point (Dights Crossing)	27/02/2023 22:54	4.5	143	D	Yes	42	50	IA	IA	Nil	Nil
Kilburnie South	27/02/2023 23:38	3.5	135	D	Yes	44	50	IA	IA	Nil	Nil
Jerrys Plains East	27/02/2023 23:15	4.1	137	D	Yes	43	50	IA	IA	Nil	Nil
Jerrys Plains Village	27/02/2023 21:34	4.6	145	E	Yes	40	50	IA	IA	Nil	Nil
Jerrys Plains West	27/02/2023 21:10	3.9	144	E	Yes	40	50	IA	IA	Nil	Nil
HVGC	28/02/2023 00:10	3.5	140	E	Yes	60	NA	IA	IA	Nil	Nil

1. Noise limits are adjusted by +5 dB during 'very noise-enhancing meteorological conditions' in accordance with the NPfI.
2. Site-only LAeq,15minute, includes modifying factor penalties if applicable.
3. Degrees magnetic north, "-" indicates calm conditions.

5.2 | LOW FREQUENCY ASSESSMENT

In accordance with the requirements of the EPA's Noise Policy for Industry (NPfI), the applicability of the low frequency modification penalty has been assessed. No penalties were applied for monitoring undertaken through the reporting period. The assessments for the low frequency noise are shown in **Table 7** and **Table 8.**

Table 7 - Modifying Factor Assessment HVO North for the Reporting Period

Location	Start date and time	Measured HVO South L_{Aeq} dB	Very enhancing? [1]	Intermittency modifying factor?	Tonality modifying factor?	Frequency of tonality	Low-frequency modifying factor? [1,2]	Exceedance of reference spectrum [2,3]	Total penalty dB [2,3]
Shearers Lane	27/02/2023 21:09	IA	No	No	No	NA	No	NA	Nil
Knodlers Lane	27/02/2023 21:58	IA	Yes	No	No	NA	NA	NA	Nil
Maison Dieu	27/02/2023 21:33	IA	No	No	No	NA	No	NA	Nil
Long Point (Dights Crossing)	27/02/2023 22:54	IA	No	No	No	NA	No	NA	Nil
Kilburnie South	27/02/2023 23:38	IA	Yes	No	No	NA	NA	NA	Nil
Jerrys Plains East	27/02/2023 23:15	IA	Yes	No	No	NA	NA	NA	Nil
Jerrys Plains Village	27/02/2023 21:34	31	No	No	No	NA	No	NA	Nil
Jerrys Plains West	27/02/2023 21:10	NM	No	No	No	NA	No	NA	Nil

1. Low-frequency modifying factors are not applicable during 'very noise-enhancing meteorological conditions' in accordance with the NPfI.

2. NA denotes 'not applicable'.

3. Bold results indicate that application of NPfI modifying factor(s) is required.

Table 8 - Modifying Factor Assessment HVO South for the Reporting Period

Location	Start date and time	Measured HVO South LAeq dB	Very enhancing? !	Intermittency modifying factor?	Tonality modifying factor?	Frequency of tonality	Low-frequency modifying factor? 1,2	Exceedance of reference spectrum 2,3	Total penalty dB 2,3
Shearers Lane	27/02/2023 21:09	<25	Yes	No	No	NA	NA	NA	Nil
Knodlers Lane	27/02/2023 21:58	IA	Yes	No	No	NA	NA	NA	Nil
Maison Dieu	27/02/2023 21:33	IA	Yes	No	No	NA	NA	NA	Nil
Long Point (Dights Crossing)	27/02/2023 22:54	IA	Yes	No	No	NA	NA	NA	Nil
Kilburnie South	27/02/2023 23:38	IA	Yes	No	No	NA	NA	NA	Nil
Jerrys Plains East	27/02/2023 23:15	IA	Yes	No	No	NA	NA	NA	Nil
Jerrys Plains Village	27/02/2023 21:34	IA	Yes	No	No	NA	NA	NA	Nil
Jerrys Plains West	27/02/2023 21:10	IA	Yes	No	No	NA	NA	NA	Nil
HVGC	28/02/2023 00:10	IA	Yes	No	No	NA	NA	NA	Nil

1. NA denotes 'not applicable'; and

2. Bold results indicate that application of NPfI modifying factor/s is required

5.3 | REAL TIME NOISE MONITORING

HVO utilises a network of real-time directional noise monitors to manage noise impacts on a continuous basis, shown in **Figure 16**. Noise alarms are in place at five monitoring locations (Knodlers Lane, Maison Dieu, Jerrys Plains, Moses Crossing, and Long Point) which alert HVO staff to elevated noise levels that require investigation.

HVO investigates and responds to noise alarms with appropriate modification to operations. Changes in response to a noise alarm can include replacing equipment with alternative units, changing or relocating tasks, or shutting down equipment. It should be noted that this assessment does not compliment or conflict with attended noise monitoring detailed in **Section 5.1**. Real time monitoring data includes non-mine noise sources such as animals, road traffic and weather.

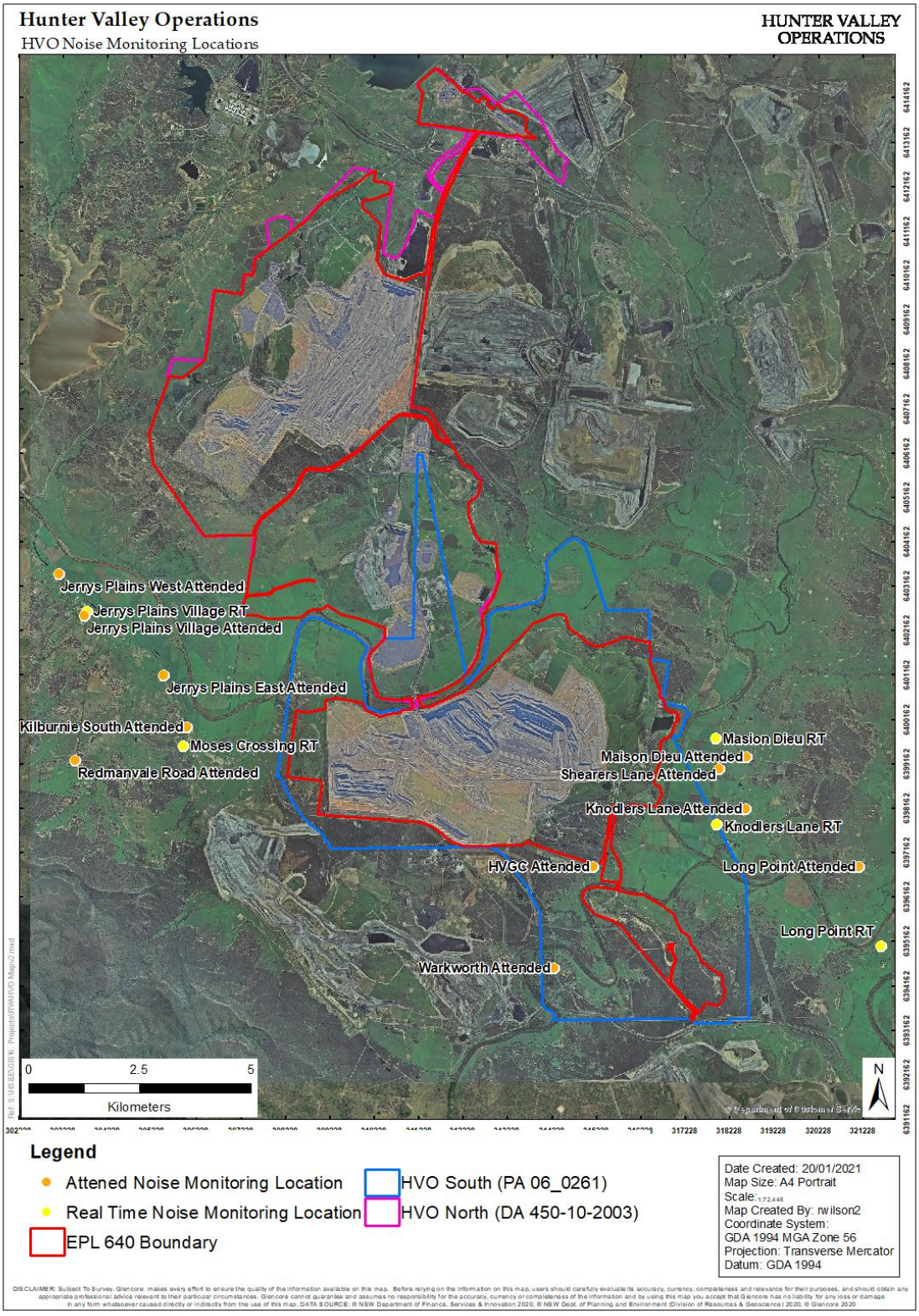

Figure 16 - Noise Monitoring Location Plan

6 | OPERATIONAL DOWNTIME

A total of 177.5 hours of equipment downtime was logged in response to real time monitoring and inspections for environmental factors such as noise and dust during the reporting period. Operational downtime by equipment type is show in **Figure 17**. Note that these delays are instances where operations were completely stopped and does not include occasions where operations were changed/modified but not stopped (e.g. changed from exposed dump to in-pit dump).

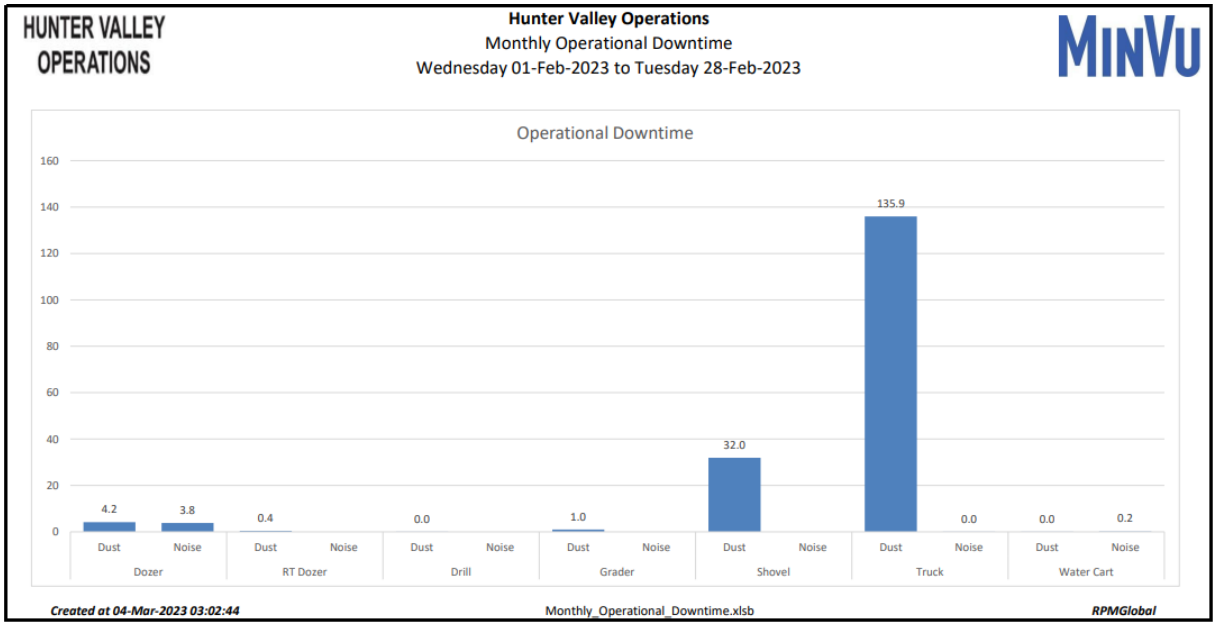

Figure 17 - Operational Downtime by Equipment Type for the Reporting Period

7 | REHABILITATION

The following activities related to rehabilitation were completed during the reporting period:

- 0 Ha of land was reshaped
- 0 Ha of land was released (became available for the application of topsoil)
- 0 Ha of land was topsoiled
- 7.02 Ha of land was rehabilitated

Year to date progress is shown in **Figure 18**.

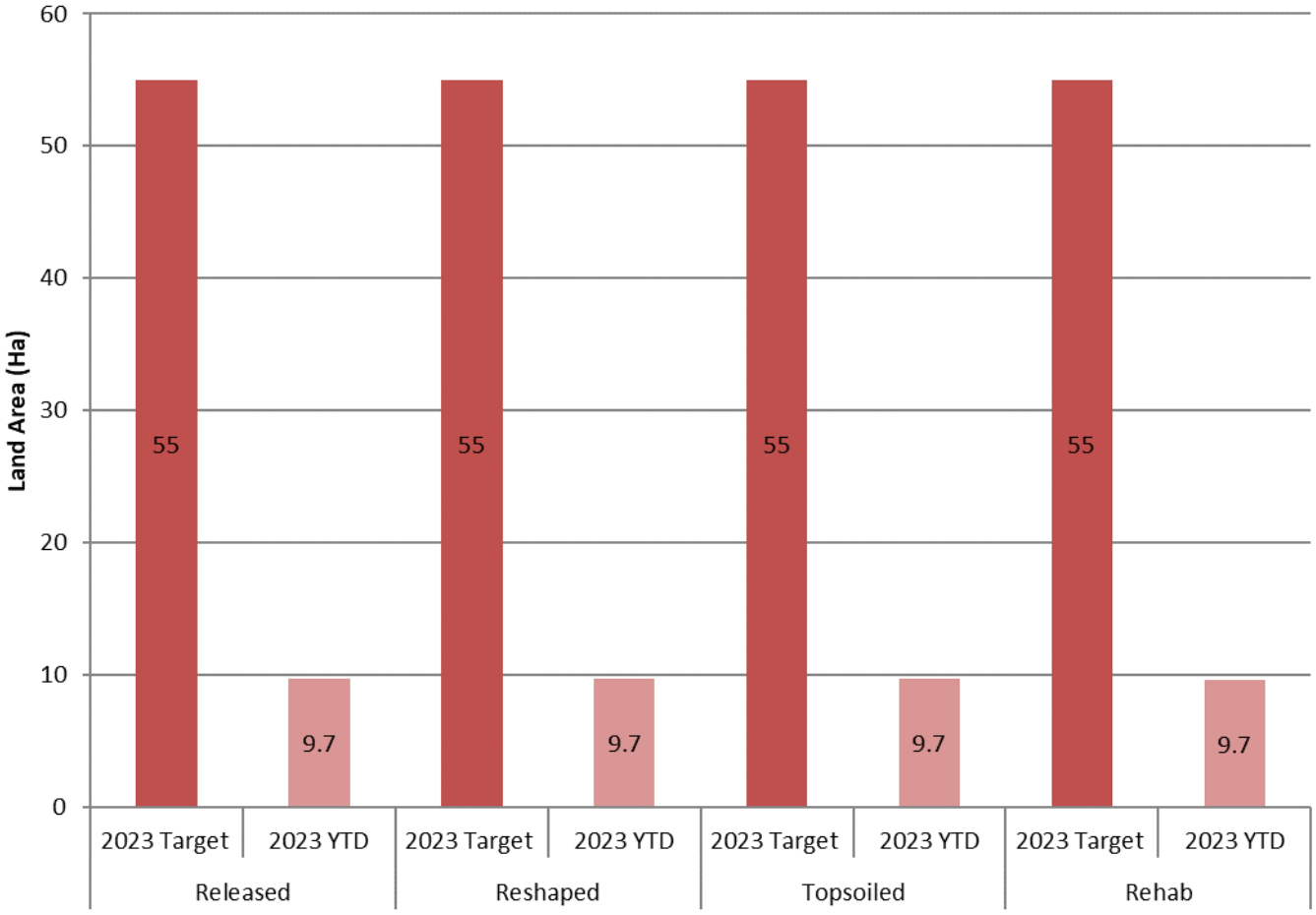

Figure 18 - Rehabilitation YTD February 2023

8 | COMPLAINTS

There was one complaint during the reporting period.

1/2/2023 – Lighting complaint – Long Point

A complainant from Long Point called the Community Complaints Hotline several times from 12.06am to 12:22am regarding a lighting complaint, commenting that "light from HVO was shining directly into their house keeping their family awake".

The OCE contacted the complainant at 12:27am and asked for the complainant's location, which they gave as Long Point and indicated the light source was coming from Carrington direction. The OCE instructed 11-4 to shut down any lights at Carrington to go through an elimination process. The OCE noted HVO South's highest lighting plant was being used on Block 3 bulk push (149.5RL). The OCE shut this lighting plant down and then spoke again to the complainant who said the light was now out.

The investigation conducted following the complaint found that the light from the lighting plant was likely to be visible from the complainant's location. Dig and Dump checklists require lighting receptor checks to be undertaken but was missed in this instance due to the work involving ramp construction. Process changes have been made to close this gap.

9 | ENVIRONMENTAL INCIDENTS

There were three reportable environmental incidents during the reporting period:

- **4/2/2023 – Maison Dieu PM2.5 run failure**

HVO were notified by the monitoring contractor that the Maison Dieu PM2.5 HVAS failed to run for the full monitoring day on 4 February due to a power outage. DPE were advised of the mis-capture.

An investigation revealed that black ants had gained access inside the RCD/Outlet box causing the power outage. The monitoring technician sprayed and inserted ant baits in and around the RCD/Outlet box and checked to ensure the unit was clear of ants.

- **4/2/2023 – Cheshunt East HVAS run failure**

HVO were notified by the monitoring contractor that the Cheshunt East PM10 HVAS failed to run for the full day on 4 February. It was identified that the power supply at the circuit breaker was off, indicating a power trip. Once power was restored the monitor programme indicated it had run for 0 hours. DPE were advised of the mis-capture.

An inspection of the unit set up, power supply and further testing has been completed with no issues being detected. This inspection is in addition to quarterly testing and tagging inspections that are undertaken at the site. The monitor is new, having been installed 13/12/2022.

- **22/2/2023 - Maison Dieu and Warkworth TSP run failure**

HVO were notified by the monitoring contractor that both Maison Dieu and Warkworth TSP HVAS failed to run for the full monitoring day on 22 February. DPE were advised of the mis-capture.

An inspection of the Maison Dieu TSP HVAS found an error message on the unit which read ‘motor failure or major internal blockage’. The monitor ran for 52 minutes. An inspection of the Warkworth TSP HVAS found that the circuit breaker tripped at the electrical box causing a power outage to the monitor. The monitor ran for 14hrs.

The Maison Dieu TSP HVAS has since been replaced by a backup unit following the error message being displayed on the unit. The faulty unit will be sent to the manufacturer for diagnosis and repair. This is a new unit.

An inspection of the Warkworth TSP HVAS set up and check of the power supply equipment has been completed with no issues being detected.

APPENDIX A: METEOROLOGICAL DATA

Date	Air Temp Max (°C)	Air Temp Min (°C)	Relative Humidity (Max %)	Relative Humidity (Min %)	Solar Radiation Maximum (W/Sq. M)	Average Wind Direction (°)	Average Wind Speed (m/sec)	Rainfall (mm)
1/02/2023 18:01	33.81	17.39	33.81	25.87	1121	167	2.304	0.00
2/02/2023 15:50	34	20.08	34	16.48	1188	214.1	3.359	0.00
3/02/2023 14:14	29.91	20.66	29.91	21.37	1160	280	4.369	0.00
4/02/2023 11:37	27.29	15.49	27.29	15.96	1139	274.2	4.326	0.00
5/02/2023 18:56	31.52	14.6	31.52	14.67	1112	217.8	2.714	0.00
6/02/2023 18:21	33.31	16.04	33.31	23.96	1100	126.3	2.742	0.00
7/02/2023 16:54	32.09	18.81	32.09	34.34	1155	113.3	3.937	0.00
8/02/2023 17:52	30.93	18.2	30.93	34.18	1421	116.4	4.333	0.00
9/02/2023 0:10	24.56	17.66	24.56	59.7	1287	137.8	1.938	9.00
10/02/2023 14:34	32.49	16.31	32.49	27.53	1075	201.7	1.808	0.20
11/02/2023 17:13	36.42	17.26	36.42	16.81	1419	231.5	2.47	0.00
12/02/2023 16:59	34.46	21.55	34.46	17.96	1092	206.6	3.228	0.00
13/02/2023 16:31	27.09	18.91	27.09	47.25	1353	114.2	4.187	0.00
14/02/2023 13:29	23.84	17.15	23.84	51.1	1079	117.2	3.564	0.00
15/02/2023 18:35	29.09	15.07	29.09	31.42	1273	116.5	3.03	0.00
16/02/2023 18:52	32.6	14.77	32.6	22.5	1039	146.3	2.032	0.00
17/02/2023 18:16	35.74	16.08	35.74	19.45	1010	144.8	1.995	0.00
18/02/2023 20:37	38.4	18.32	38.4	17.78	982	183.5	2.354	15.40
19/02/2023 18:23	30.56	17.3	30.56	45.64	1353	137	3.328	0.00
20/02/2023 17:32	32.33	19.28	32.33	26.14	1105	122.6	1.844	0.00
21/02/2023 18:39	31.98	18.27	31.98	26.26	1287	126.3	2.512	0.00
22/02/2023 8:00	21.89	15.34	21.89	70.81	209.3	131.2	3.688	59.80

Date	Air Temp Max (°C)	Air Temp Min (°C)	Relative Humidity (Max %)	Relative Humidity (Min %)	Solar Radiation Maximum (W/Sq. M)	Average Wind Direction (°)	Average Wind Speed (m/sec)	Rainfall (mm)
23/02/2023 17:26	23.67	15.1	23.67	53.54	1540	115.3	3.722	0.00
24/02/2023 17:46	25.87	15.39	25.87	34.89	1607	115.6	3.339	0.00
25/02/2023 19:22	27.8	13.19	27.8	28.51	1055	134.7	1.774	0.00
26/02/2023 13:23	34.41	15.08	34.41	20.85	1370	228.2	1.859	0.00
27/02/2023 16:49	34.47	19.01	34.47	24.4	1427	220.8	2.706	1.80
28/02/2023 16:25	28.34	18.92	28.34	51.79	1237	117.9	3.068	0.00