

**HUNTER VALLEY
OPERATIONS**

Monthly Environmental Monitoring Report

JULY 2019

CONTENTS

1.0	INTRODUCTION	4
2.0	AIR QUALITY	4
2.1	Meteorological Monitoring	4
2.1.1	Rainfall.....	4
2.2	Depositional Dust.....	7
2.3	Suspended Particulates.....	7
2.3.1	HVAS PM ₁₀ Results	8
2.3.2	TSP Results	9
2.3.3	Real Time PM ₁₀ Results.....	10
2.3.4	Real Time Alarms for Air Quality	10
3.0	WATER QUALITY	12
3.1	Surface Water.....	12
3.2	Site Water Use.....	12
3.3	HRSTS Discharge	12
3.4	Groundwater Monitoring Results.....	12
4.0	BLASTING	13
4.1	Blast Monitoring Results.....	13
5.0	NOISE.....	16
5.1	Attended Noise Monitoring Results.....	16
5.2	NPfI Low Frequency Assessment	21
6.0	OPERATIONAL DOWNTIME	23
7.0	REHABILITATION	23
8.0	COMPLAINTS	24
9.0	ENVIRONMENTAL INCIDENT.....	24
	Appendix A: Meteorological Data	25

Figures

Figure 1:	Rainfall Summary 2019.....	4
Figure 2:	HVO Corporate Wind Rose – July 2019.....	5
Figure 3:	HVO Cheshunt Wind Rose – July 2019.....	5
Figure 4:	Air Quality Monitoring Location Plan	6
Figure 5:	Depositional Dust Results – July 2019	7
Figure 6:	Individual PM ₁₀ Results – July 2019.....	8
Figure 7:	Year to Date Average PM ₁₀ – as at end of July 2019	9
Figure 8:	Year to Date Average Total Suspended Particulates – as at end of July 2019	10
Figure 9:	Real Time PM ₁₀ 24hr average and YTD average – July 2019	11
Figure 10:	Overpressure Blast Monitoring Results – July 2019	13
Figure 11:	Ground Vibration Blast Monitoring Results – July 2019.....	14
Figure 12:	Blast Monitoring Location Plan.....	15
Figure 13:	Noise Monitoring Location Plan.....	22
Figure 14:	Operational Downtime by Equipment Type – July 2019	23
Figure 15:	Rehabilitation YTD – July 2019	24

Tables

Table 1: Rainfall data - July 2019.....	4
Table 2: Blasting Criteria.....	13
Table 3: $L_{Aeq, 15 \text{ minute}}$ HVO South - Impact Assessment Criteria – July 2019.....	16
Table 4: LA1, 1minute HVO South - Impact Assessment Criteria – July 2019.....	17
Table 5: LAeq, 15minute HVO North – Impact Assessment Criteria – July 2019.....	18
Table 6: LAeq, 15minute HVO North - Land Acquisition Criteria – July 2019	19
Table 7: LA1, 1Minute HVO North - Impact Assessment Criteria – July 2019	20
Table 8: Low Frequency Noise Assessment – July 2019	21
Table 9: Complaints Summary YTD 2019	24
Table 10: Meteorological Data - HVO Corporate Meteorological Station – July 2019.....	25

1.0 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 1 July to 31 July 2019.

2.0 AIR QUALITY

2.1 Meteorological Monitoring

HVO maintains two meteorological stations; 'Corporate' and 'Cheshunt' (Refer to Figure 4: Air Quality Monitoring Location Plan).

2.1.1 Rainfall

Rainfall for the period is summarised in **Error! Reference source not found.**, the 2019 trend and historical trend are shown in Figure 1.

Table 1: Rainfall data - July 2019

2019	Monthly Rainfall (mm)	Cumulative Rainfall (mm)
July	10.0	274.8

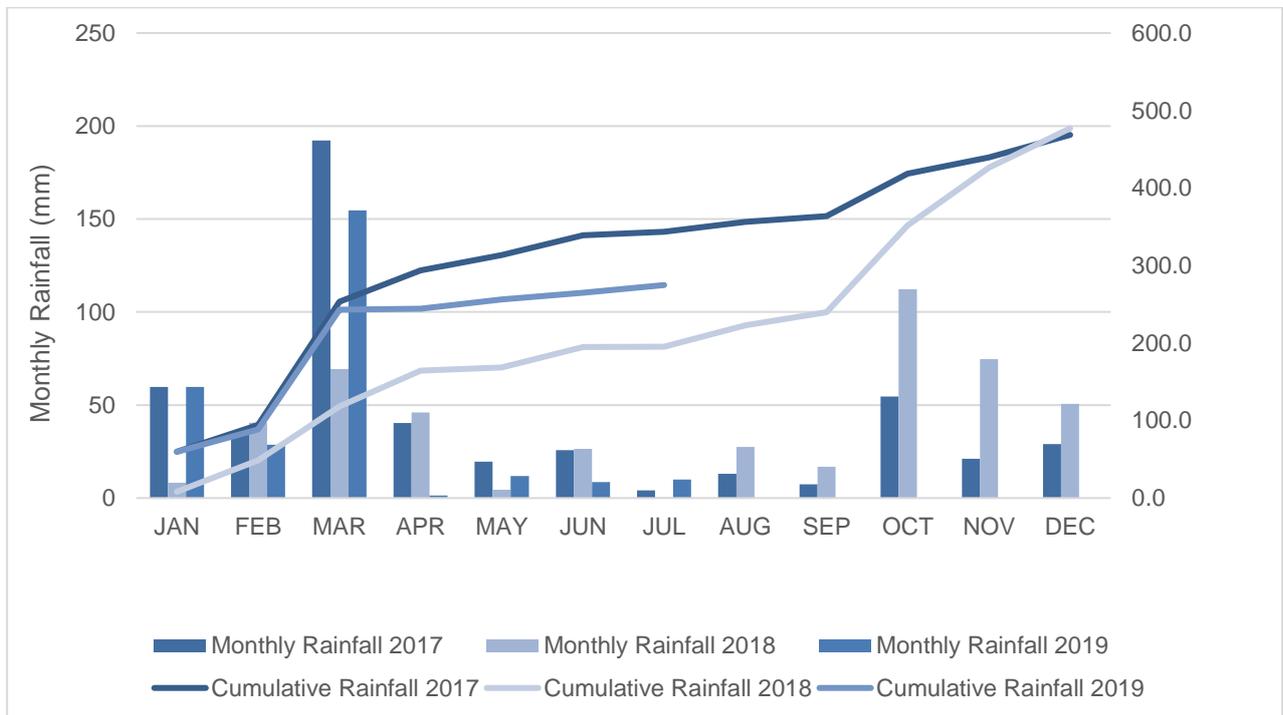


Figure 1: Rainfall Summary 2019

2.1.2 Wind Speed and Direction

North-westerly winds were dominant during July as shown in Figure 2 (HVO Corporate) and Figure 3 (HVO Cheshunt).

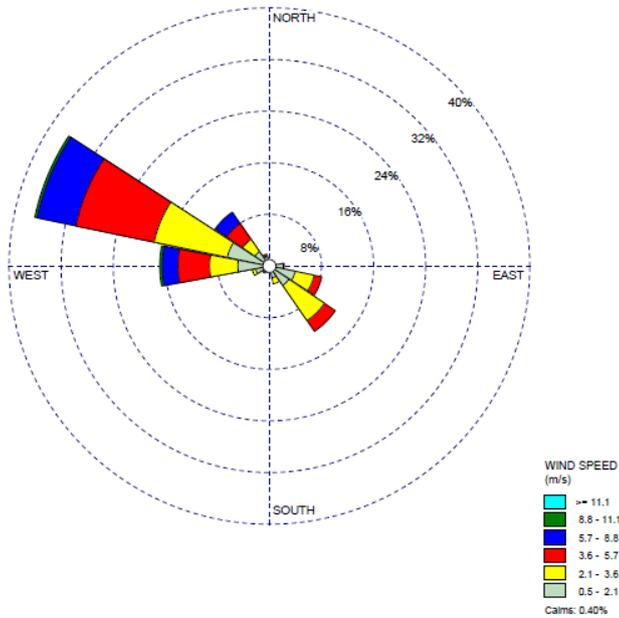


Figure 2: HVO Corporate Wind Rose – July 2019

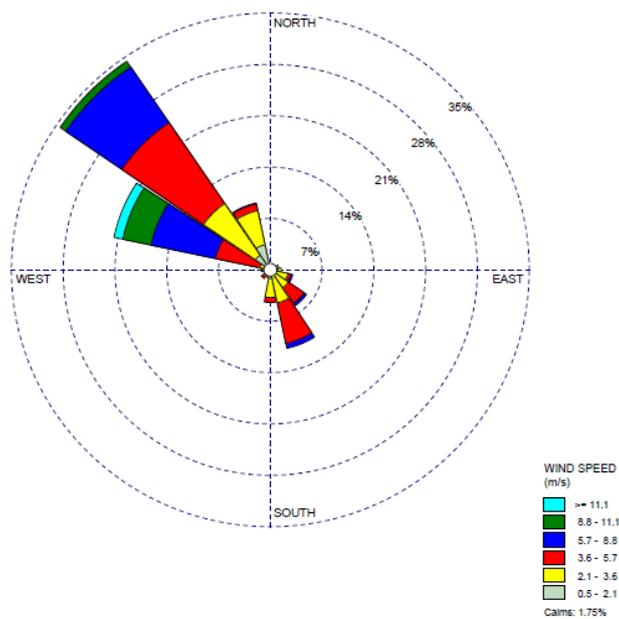


Figure 3: HVO Cheshunt Wind Rose – July 2019

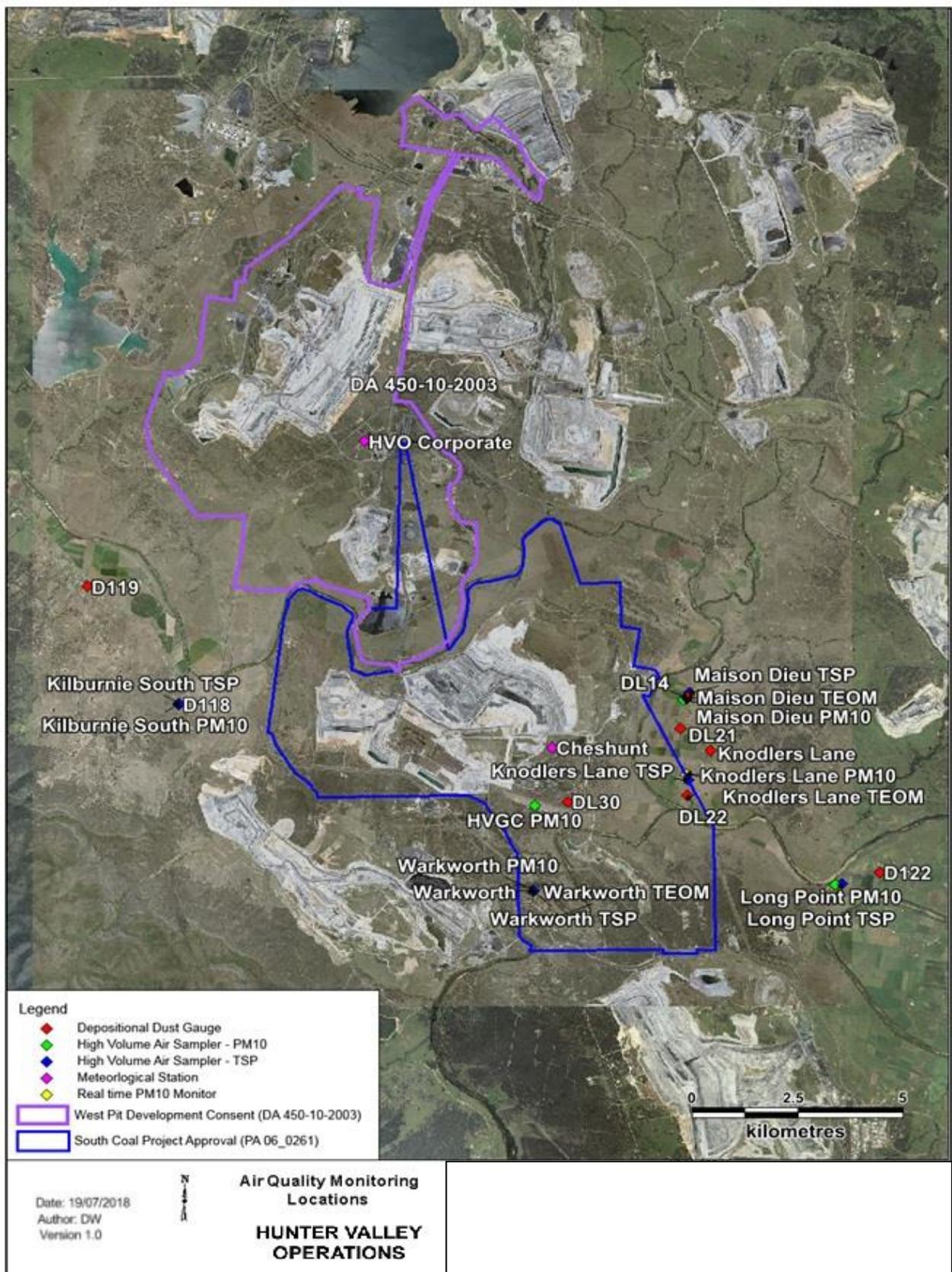


Figure 4: Air Quality Monitoring Location Plan

2.2 Depositional Dust

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

Figure 5 displays insoluble solids results from depositional dust gauges during the reporting period compared against the annual impact assessment criteria.

During the reporting period the Warkworth monitor recorded a monthly result above the long term impact assessment criteria of 4.0 g/m² per month.

An assessment of HVO's contribution against the long term impact assessment criteria will be provided in the 2019 Annual Review.

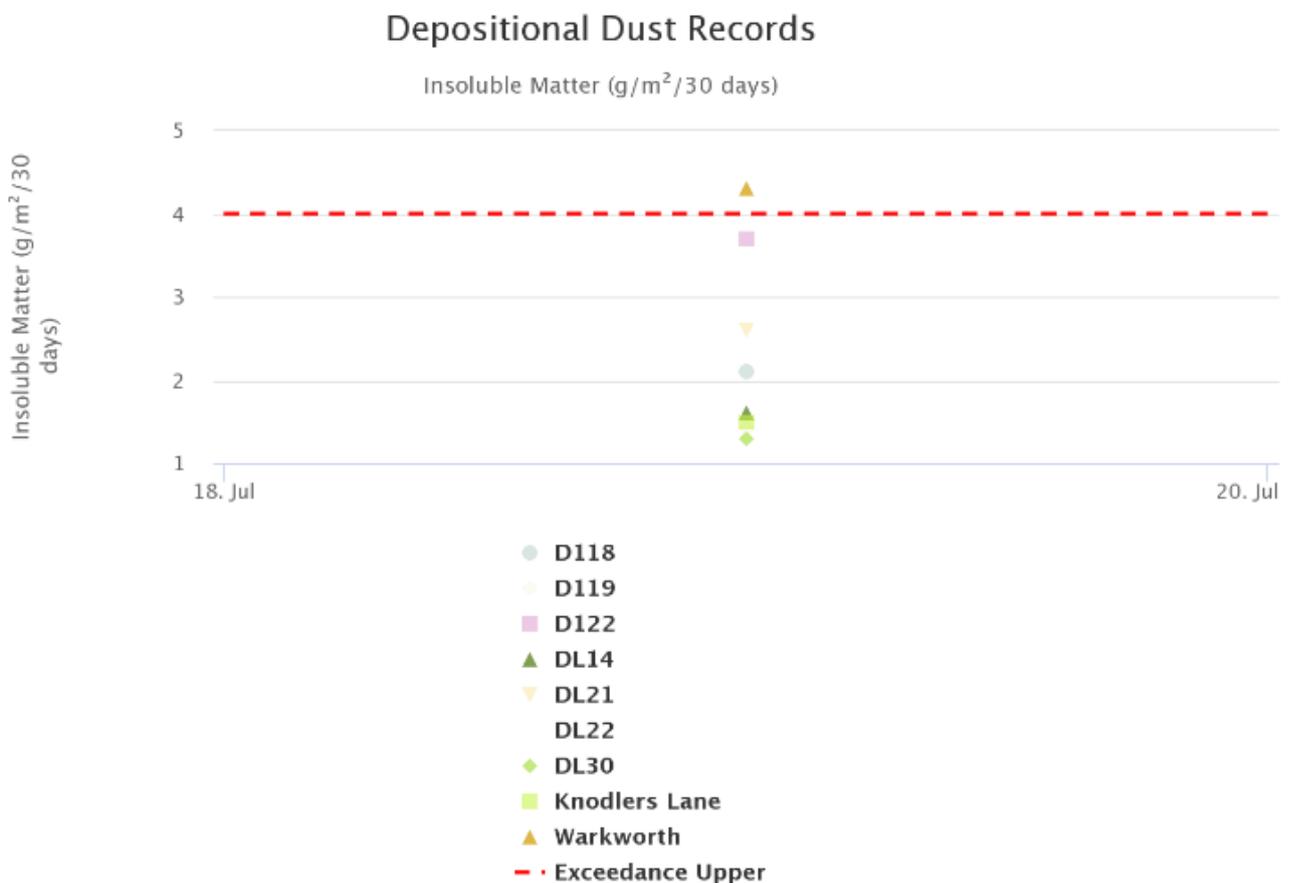


Figure 5: Depositional Dust Results – July 2019

2.3 Suspended Particulates

Suspended particulates are measured by a network of High Volume Air Samplers (HVAS) measuring Total Suspended Particulates (TSP) and Particulate Matter <10µm (PM₁₀). The location of these monitors can be found in Figure 4. Each HVAS was run for 24 hours on a six-day cycle.

2.3.1 HVAS PM₁₀ Results

Figure 6 shows individual PM₁₀ results at each monitoring station against the short term impact assessment criteria of 50 µg/m³.

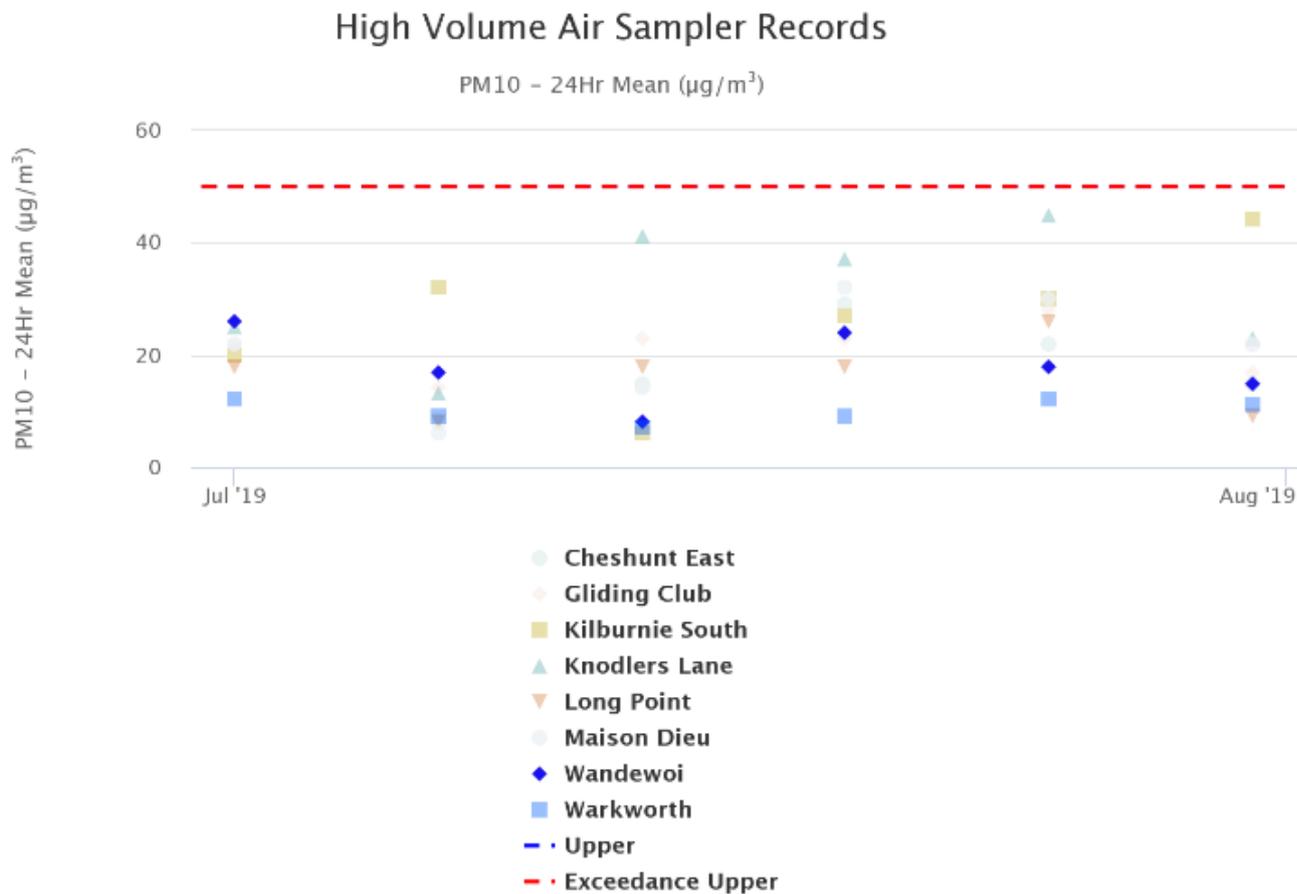


Figure 6: Individual PM₁₀ Results – July 2019

Figure 7 shows the year to date annual average PM₁₀ results. An assessment of HVO's contribution against the long term impact assessment criteria will be provided in the 2019 Annual Review.

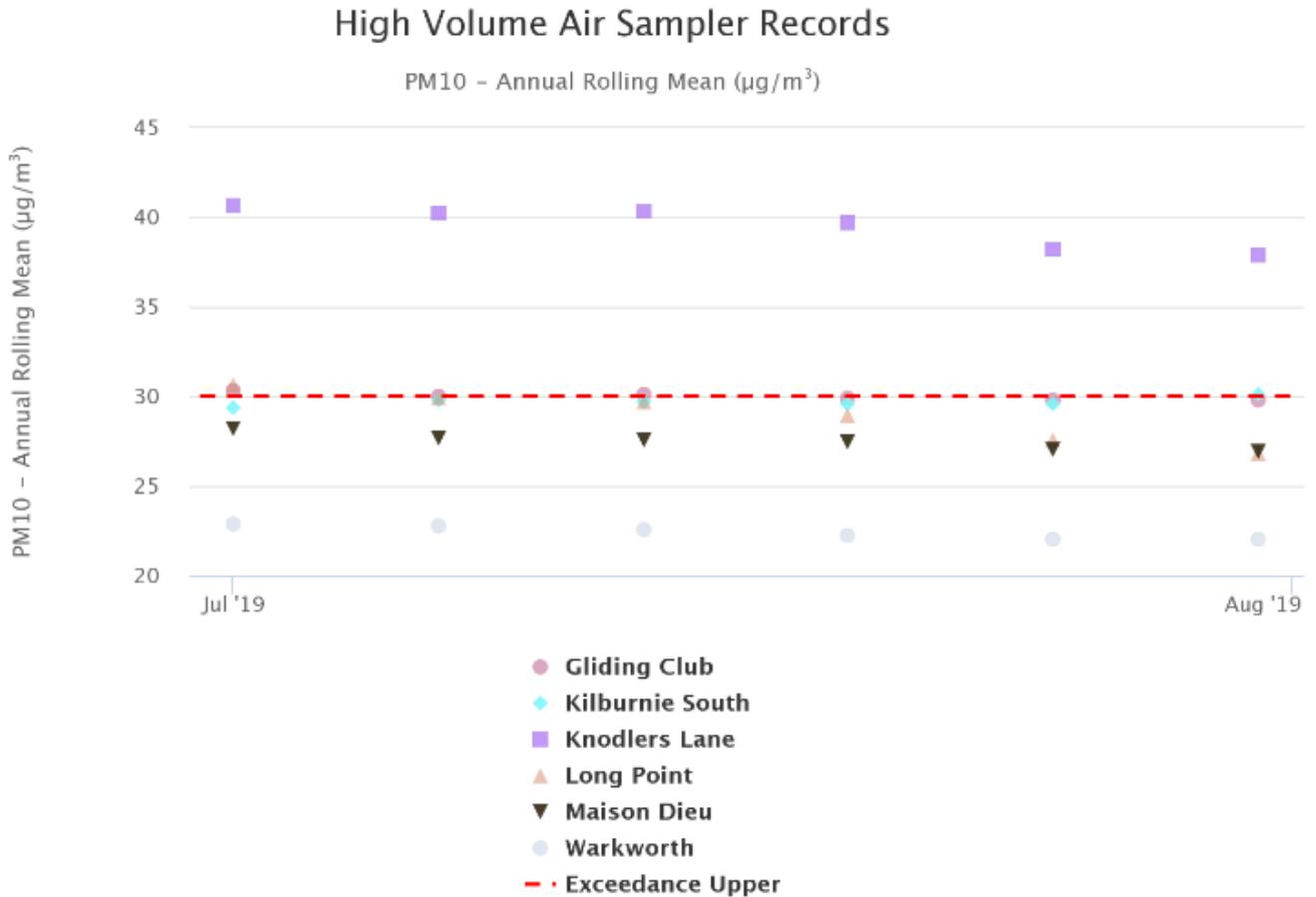


Figure 7: Year to Date Average PM₁₀ – as at end of July 2019

2.3.2 TSP Results

Figure 8 shows the annual average TSP results compared against the long term impact assessment criteria of 90µg/m³.

An assessment of HVO's contribution against the long term impact assessment criteria will be provided in the 2019 Annual Review.

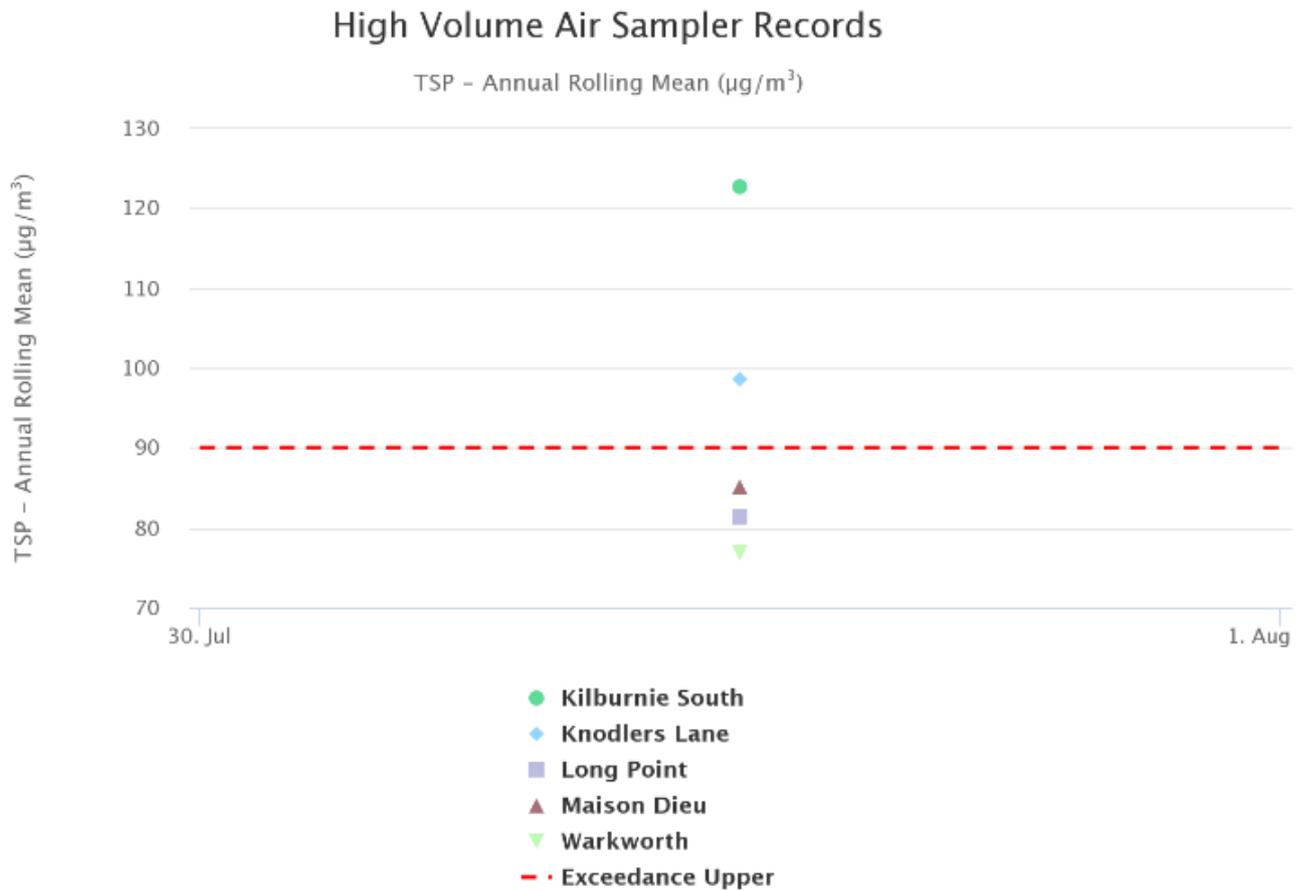


Figure 8: Year to Date Average Total Suspended Particulates – as at end of July 2019

2.3.3 Real Time PM₁₀ Results

Hunter Valley Operations maintains a network of real time PM₁₀ monitors. The real time air quality monitoring stations continuously log information and transmit data to a central database, generating alarms when particulate matter levels exceed internal trigger limits. Results from real time PM₁₀ monitoring are used as a reactive measure to guide mining operations to help achieve compliance with the relevant conditions of the project approval.

Results for real time dust sampling is shown in Figure 9, including the daily 24 hour average PM₁₀ result and the year to date 24 hour PM₁₀ annual average.

2.3.4 Real Time Alarms for Air Quality

During July the real time monitoring system generated 1585 automated air quality related alarms. 185 alarms were related to adverse weather conditions and 1400 alarms relating to PM₁₀.

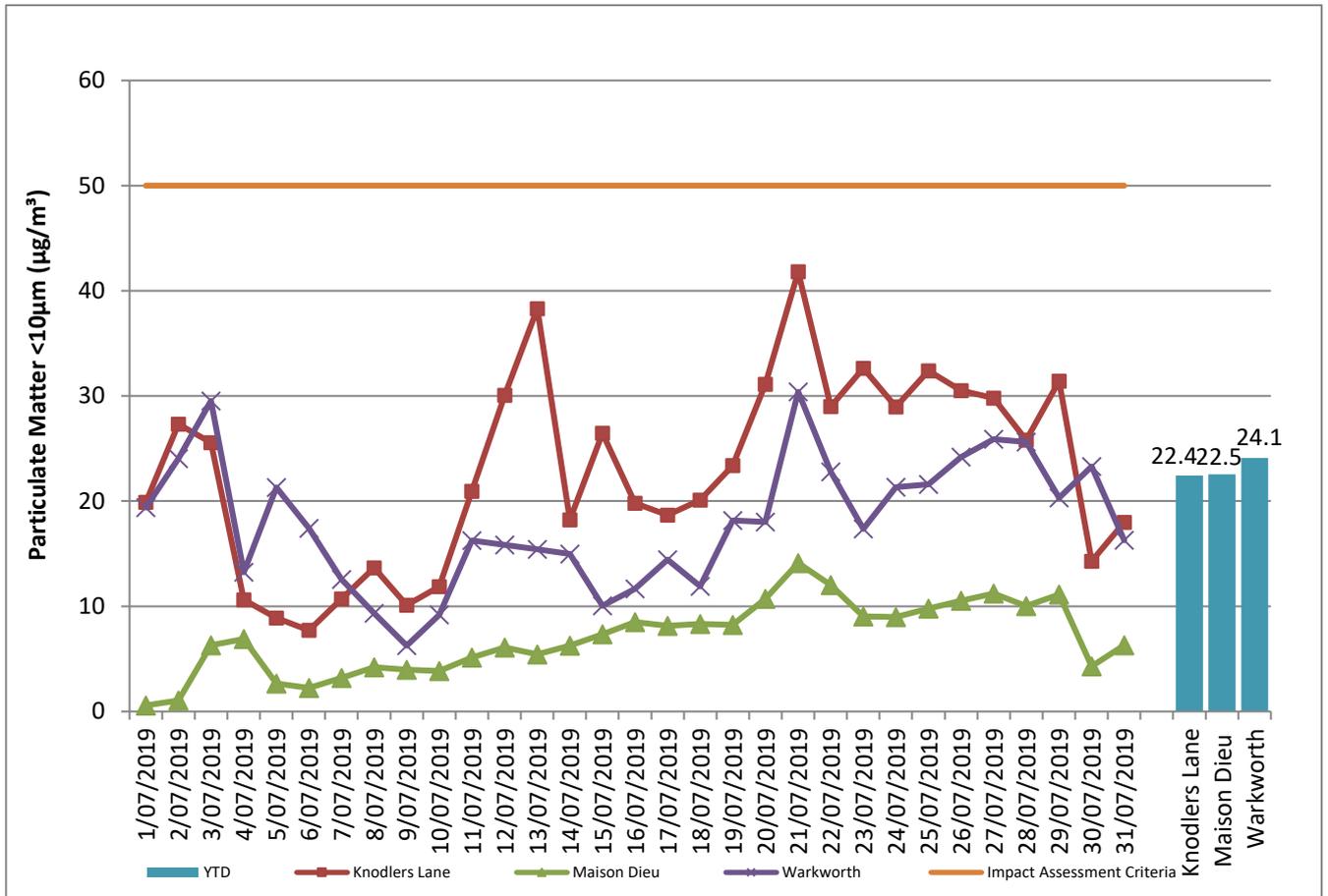


Figure 9: Real Time PM_{10} 24hr average and YTD average – July 2019

3.0 WATER QUALITY

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

3.1 Surface Water

Surface water courses are sampled on a quarterly sampling regime. Water quality is evaluated through the parameters of pH, Electrical Conductivity (EC) and Total Suspended Solids (TSS). Results of monitoring on Site Dams and the Hunter River as well as other natural tributaries are provided on a quarterly basis, results will appear in the September 2019 report.

3.2 Site Water Use

Under water allocation licences issued by the Water NSW, HVO is permitted to extract water from the Hunter River. During the reporting period, HVO extracted 373.2 ML of water from the Hunter River.

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.

During the reporting period no water was discharged under the HRSTS.

3.4 Groundwater Monitoring Results

Groundwater monitoring is undertaken on a quarterly basis in accordance with the HVO Water Management Plan and Ground Water Monitoring Programme. Results of groundwater monitoring are reported quarterly and as such will be reported in the September 2019 monthly report.

4.0 BLASTING

HVO have a network of five blast monitoring units. These are located at nearby privately owned residences and function as regulatory compliance monitors. The location of these monitors can be found in Figure 12. Blasting criteria are summarised in Table 2.

Table 2: Blasting Criteria

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

4.1 Blast Monitoring Results

During July, 24 blasts were initiated at HVO.



Figure 10 and 11 show the blast monitoring results for the reporting period against the impact assessment criteria.



Figure 10: Overpressure Blast Monitoring Results – July 2019

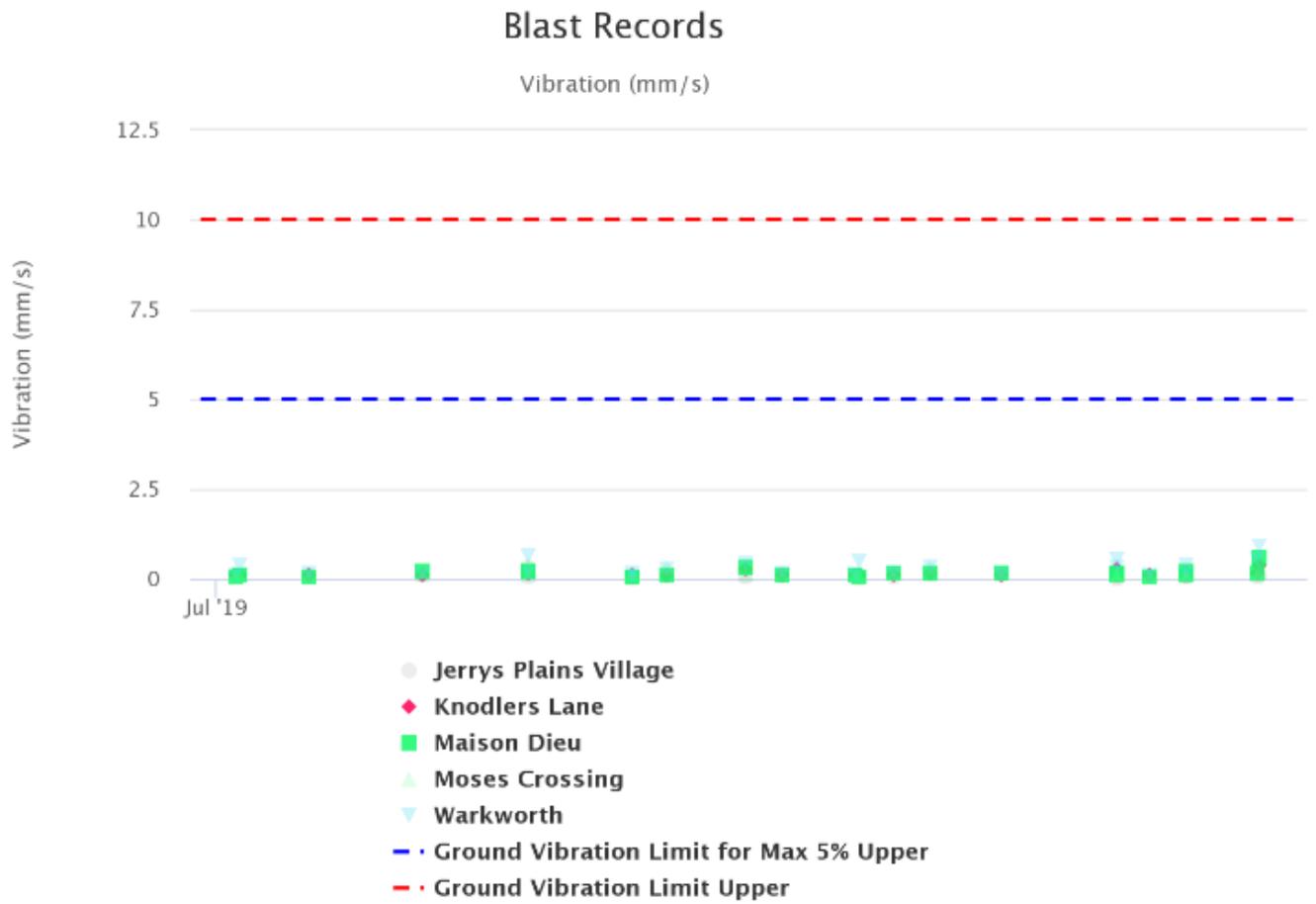


Figure 11: Ground Vibration Blast Monitoring Results – July 2019



Figure 12: Blast Monitoring Location Plan

5.0 NOISE

Routine attended noise monitoring is carried out at defined locations around HVO as described in the HVO Noise Monitoring Programme. The purpose of the noise surveys is to quantify and describe the acoustic environment around the site and compare results with specified limits. Unattended monitoring (real time noise monitoring) also occurs at five sites surrounding HVO. The attended noise monitoring locations are displayed in Figure 13.

5.1 Attended Noise Monitoring Results

Attended monitoring was conducted at receiver locations surrounding HVO on the night of 18 and 19 July 2019 with no non-compliances recorded. Monitoring results are detailed in Table 3 to Table 7 .

Table 3: L_{Aeq, 15 minute} HVO South - Impact Assessment Criteria – July 2019

Location	Date and Time	Wind Speed (m/s) ¹	VTG °C/100m ¹	Criterion dB (A)	Criterion Applies? ²	HVO South L _{Aeq} dB ^{3,4}	Exceedance ^{4,5}
<i>Knodlers Lane</i>	18/07/2019 22:28	6.1	-1	39	No	32	NA
<i>Maison Dieu</i>	18/07/2019 22:05	6.2	-1	39	No	33	NA
<i>Shearers Lane</i>	18/07/2019 21:32	6.0	-1	41	No	36	NA
<i>Kilburnie South</i>	18/07/2019 23:23	4.2	0.5	39	No	IA	NA
<i>Jerrys Plains Village</i>	18/07/2019 21:38	6.0	-1	35	No	IA	NA
<i>Jerrys Plains East</i>	18/07/2019 21:12	6.2	-1	35	No	IA	NA
<i>Long Point Road</i>	18/07/2019 21:00	1.9	3	35	Yes	IA	Nil
<i>HVGC</i>	18/07/2019 23:54	4.2	-1	55	No	IA	NA

Notes:

1. Atmospheric data is sourced from the HVO Cheshunt weather station (MTW Charlton Ridge for Long Point) using logged meteorological data;
2. Assumed noise emission limits apply for wind speeds up to 3 metres per second (at a height of 10m), or temperature inversion conditions of up to 3 degrees/100m (at a height of 10m). Criterion July or July not apply due to rounding of meteorological data values;
3. Estimated or measured L_{Aeq, 15minute} attributed to HVO South Pit Area;
4. Bold results in red indicate exceedance of criteria; and
5. NA in exceedance column means atmospheric conditions outside specified in approval and so criterion is not applicable.

Table 4: LA1, 1minute HVO South - Impact Assessment Criteria – July 2019

Location	Date Time and	Wind Speed (m/s) ¹	VTG °C/100m ¹	Criterion dB (A)	Criterion Applies? ²	HVO South LA1, 1min dB ^{3,4}	Exceedance ^{4,5}
<i>Knodlers Lane</i>	<i>18/07/2019 22:28</i>	<i>6.1</i>	<i>-1</i>	<i>45</i>	<i>No</i>	<i>38</i>	<i>NA</i>
<i>Maison Dieu</i>	<i>18/07/2019 22:05</i>	<i>6.2</i>	<i>-1</i>	<i>45</i>	<i>No</i>	<i>39</i>	<i>NA</i>
<i>Shearers Lane</i>	<i>18/07/2019 21:32</i>	<i>6</i>	<i>-1</i>	<i>45</i>	<i>No</i>	<i>49</i>	<i>NA</i>
<i>Kilburnie South</i>	<i>18/07/2019 23:23</i>	<i>4.2</i>	<i>0.5</i>	<i>45</i>	<i>No</i>	<i>IA</i>	<i>NA</i>
<i>Jerrys Plains Village</i>	<i>18/07/2019 21:38</i>	<i>6</i>	<i>-1</i>	<i>45</i>	<i>No</i>	<i>IA</i>	<i>NA</i>
<i>Jerrys Plains East</i>	<i>18/07/2019 21:12</i>	<i>6.2</i>	<i>-1</i>	<i>45</i>	<i>No</i>	<i>IA</i>	<i>NA</i>
<i>Long Point Road</i>	<i>18/07/2019 21:00</i>	<i>1.9</i>	<i>3</i>	<i>45</i>	<i>Yes</i>	<i>IA</i>	<i>Nil</i>
<i>HVGC</i>	<i>18/07/2019 23:54</i>	<i>4.2</i>	<i>-1</i>	<i>NA</i>	<i>NA</i>	<i>46</i>	<i>NA</i>

Notes:

1. Atmospheric data is sourced from the HVO Cheshunt weather station (or MTW Charlton Ridge for Long Point) using logged meteorological data;
2. Assumed noise emission limits (see Section 2.3 of this report for more information) apply for wind speeds up to 3 metres per second (at a height of 10m), or temperature inversion conditions of up to 3 degrees/100m (at a height of 10m). Criterion July or July not apply due to rounding of meteorological data values;
3. These are results for HVO South Pit Area in the absence of all other noise sources;
4. Bold results in red indicate exceedance of criteria; and
5. NA in exceedance column means atmospheric conditions outside specified in approval and so criterion is not applicable.

Table 5: LAeq, 15minute HVO North – Impact Assessment Criteria – July 2019

Location	Date and Time	Wind Speed (m/s) ¹	VTG °C/100m ¹	Criterion dB (A)	Criterion Applies? ²	HVO North LAeq dB ^{3,4}	Exceedance ^{4,5}
<i>Knodlers Lane</i>	<i>18/07/2019 22:28</i>	<i>4.6</i>	<i>-1</i>	<i>35</i>	<i>No</i>	<i>IA</i>	<i>NA</i>
<i>Maison Dieu</i>	<i>18/07/2019 22:05</i>	<i>5.3</i>	<i>-1</i>	<i>35</i>	<i>No</i>	<i>IA</i>	<i>NA</i>
<i>Shearers Lane</i>	<i>18/07/2019 21:32</i>	<i>4.2</i>	<i>-1</i>	<i>35</i>	<i>No</i>	<i>IA</i>	<i>NA</i>
<i>Kilburnie South</i>	<i>18/07/2019 23:23</i>	<i>3.3</i>	<i>-1</i>	<i>39</i>	<i>No</i>	<i>IA</i>	<i>NA</i>
<i>Jerrys Plains Village</i>	<i>18/07/2019 21:38</i>	<i>4.2</i>	<i>-1</i>	<i>36</i>	<i>No</i>	<i>IA</i>	<i>NA</i>
<i>Jerrys Plains East</i>	<i>18/07/2019 21:12</i>	<i>4.3</i>	<i>-1</i>	<i>39</i>	<i>No</i>	<i>IA</i>	<i>NA</i>
<i>Long Point Road</i>	<i>18/07/2019 21:00</i>	<i>1.9</i>	<i>3</i>	<i>35</i>	<i>Yes</i>	<i>IA</i>	<i>Nil</i>
<i>HVGC</i>	<i>18/07/2019 23:54</i>	<i>2.8</i>	<i>0.5</i>	<i>NA</i>	<i>NA</i>	<i>IA</i>	<i>NA</i>

Notes:

1. Atmospheric data is sourced from the HVO Corp. weather station (or MTW Charlton Ridge for Long Point) using logged meteorological data;
2. Noise emission limits apply under all meteorological conditions, except during periods of rain or hail, when average winds speed at microphone heights exceeds 5 metres per second, when wind speeds greater than 3 metres per second are measured at 10m above ground level, or during temperature inversion conditions greater than 3 degrees C/100m. Criterion July or July not apply due to rounding of meteorological data values;
3. Estimated or measured LAeq, 15minute attributed to HVO North Pit Area;
4. Bold results in red indicate exceedance of criteria; and
5. NA in exceedance column means atmospheric conditions outside specified in approval and so criterion is not applicable.

Table 6: LAeq,15minute HVO North - Land Acquisition Criteria – July 2019

Location	Date and Time	Wind Speed (m/s) ¹	VTG °C/100m ¹	Criterion dB (A)	Criterion Applies? ²	HVO North L _{Aeq} dB ^{3,4}	Exceedance ^{4,5}
<i>Knodlers Lane</i>	18/07/2019 22:28	4.6	-1	41	No	IA	NA
<i>Maison Dieu</i>	18/07/2019 22:05	5.3	-1	41	No	IA	NA
<i>Shearers Lane</i>	18/07/2019 21:32	4.2	-1	41	No	IA	NA
<i>Kilburnie South</i>	18/07/2019 23:23	3.3	-1	41	No	IA	NA
<i>Jerrys Plains Village</i>	18/07/2019 21:38	4.2	-1	41	No	IA	NA
<i>Jerrys Plains East</i>	18/07/2019 21:12	4.3	-1	41	No	IA	NA
<i>Long Point Road</i>	18/07/2019 21:00	1.9	3	41	Yes	IA	Nil
<i>HVGC</i>	18/07/2019 23:54	2.8	0.5	NA	NA	IA	NA

Notes:

1. Atmospheric data is sourced from the HVO Corp. weather station (or MTW Charlton Ridge for Long Point) using logged meteorological data;
2. Noise emission limits apply under all meteorological conditions, except during periods of rain or hail, when average winds speed at microphone heights exceeds 5 metres per second, when wind speeds greater than 3 metres per second are measured at 10m above ground level, or during temperature inversion conditions greater than 3 degrees C/100m. Criterion July or July not apply due to rounding of meteorological data values;
3. Estimated or measured LAeq, 15minute attributed to HVO North Pit Area;
4. Bold results in red indicate exceedance of criteria; and
5. NA in exceedance column means atmospheric conditions outside specified in approval and so criterion is not applicable.

Table 7: LA1, 1Minute HVO North - Impact Assessment Criteria – July 2019

Location	Date and Time	Wind Speed (m/s)¹	VTG °C/100m¹	Criterion dB (A)	Criterion Applies?²	HVO North L_{A1}, 1min dB^{3,4}	Exceedance^{4,5}
Knodlers Lane	18/07/2019 22:28	4.6	-1	46	No	IA	NA
Maison Dieu	18/07/2019 22:05	5.3	-1	46	No	IA	NA
Shearers Lane	18/07/2019 21:32	4.2	-1	46	No	IA	NA
Kilburnie South	18/07/2019 23:23	3.3	-1	46	No	IA	NA
Jerrys Plains Village	18/07/2019 21:38	4.2	-1	46	No	IA	NA
Jerrys Plains East	18/07/2019 21:12	4.3	-1	46	No	IA	NA
Long Point Road	18/07/2019 21:00	1.9	3	46	Yes	IA	Nil
HVGC	18/07/2019 23:54	2.8	0.5	NA	NA	IA	NA

Notes:

1. Atmospheric data is sourced from the HVO Corp. (or MTW Charlton Ridge for Long Point) weather station using logged meteorological data;
2. Noise emission limits apply under all meteorological conditions, except during periods of rain or hail, when average winds speed at microphone heights exceeds 5 metres per second, when wind speeds greater than 3 metres per second are measured at 10m above ground level, or during temperature inversion conditions greater than 3 degrees C/100m. Criterion July or July not apply due to rounding of meteorological data values;
3. These are results for HVO North Pit Area in the absence of all other noise sources;
4. Bold results in red indicate exceedance of criteria; and
5. NA in exceedance column means atmospheric conditions outside specified in approval and so criterion is not applicable.

5.2 NPfl Low Frequency Assessment

In accordance with the requirements of the EPA's Noise Policy for Industry (NPfl), the applicability of the low frequency modification penalty has been assessed. During July 2019 no penalties were applied. The assessment for low frequency noise is shown in Table 8.

Table 8: Low Frequency Noise Assessment – July 2019

Location	Date and Time	Measured Site Only LAeq dB (Sth/Nth)	Site Only LCeq dB¹ (Sth/Nth)	Site-Only LCeq – LAeq dB^{1,2} (Sth/Nth)	Result Max exceedance of ref spectrum dB^{1,3} (Sth/Nth)	Penalty dB(A)¹ (Sth/Nth)
Knodlers Lane	18/07/2019 22:28	32/IA	NA/NA	NA/NA	NA/NA	NA/NA
Maison Dieu	18/07/2019 22:05	33/IA	NA/NA	NA/NA	NA/NA	NA/NA
Shearers Lane	18/07/2019 21:32	36/IA	NA/NA	NA/NA	NA/NA	NA/NA
Kilburnie South	18/07/2019 23:23	IA/IA	NA/NA	NA/NA	NA/NA	NA/NA
Jerrys Plains Village	18/07/2019 21:38	IA/IA	NA/NA	NA/NA	NA/NA	NA/NA
Jerrys Plains East	18/07/2019 21:12	IA/IA	NA/NA	NA/NA	NA/NA	NA/NA
Long Point Road	18/07/2019 21:00	IA/IA	NA/NA	NA/NA	NA/NA	NA/NA

Notes:

1. Where it is not possible to determine the site only result due to the presence of other low frequency noise sources occurring during the measurement, or where criteria were not applicable due to meteorological conditions, this is noted as NA (not available) and no further assessment has been undertaken;
2. As per NPfl, if $LC_{eq} - LA_{eq} \geq 15$ dB further assessment of low frequency noise required as detailed in Sections 2.4 and 3.3 of the attended noise report; and
3. As per NPfl, compare measured spectrum against reference spectrum to determine if the low frequency modifying factor is triggered and application of penalty is required.

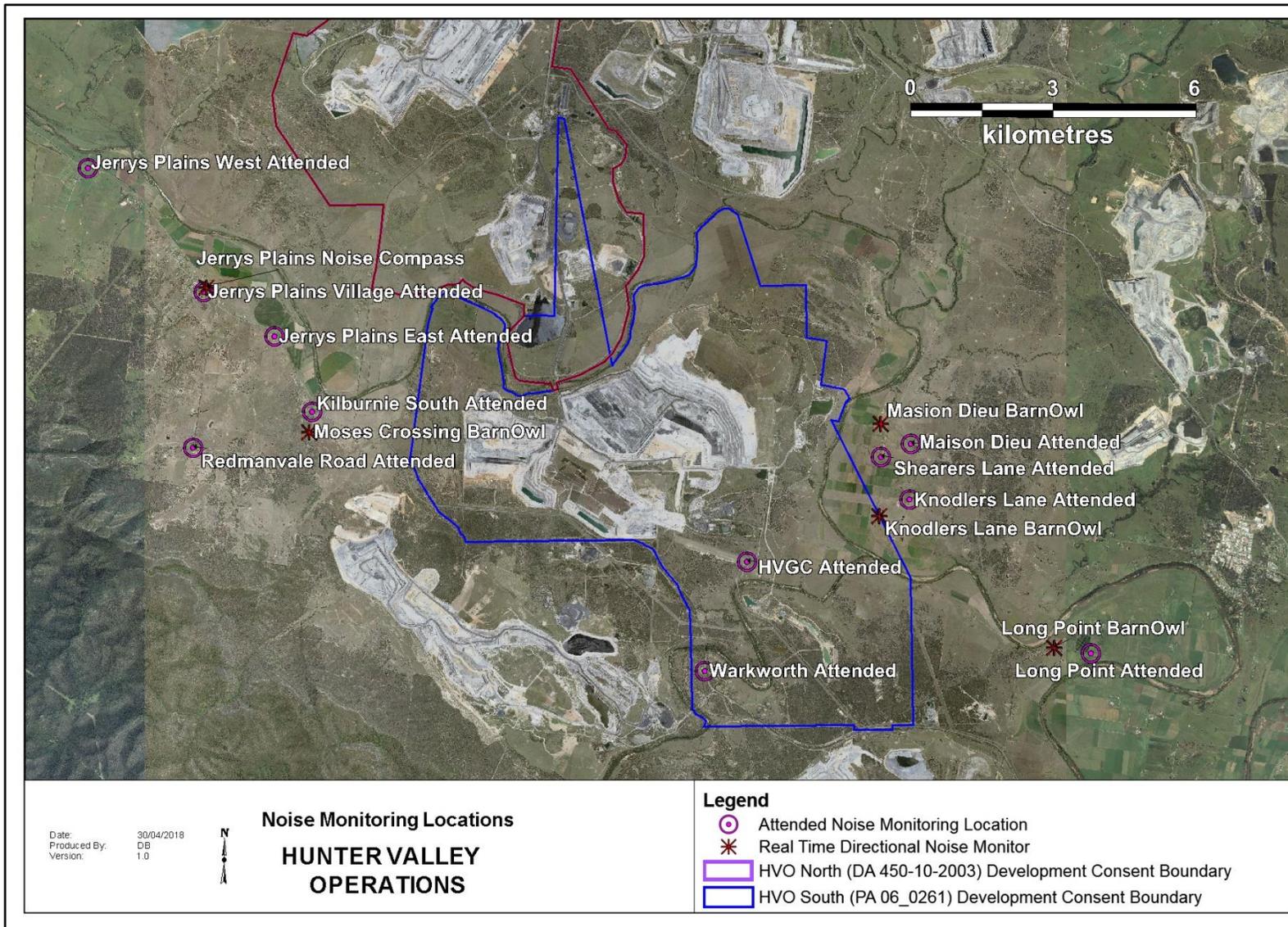


Figure 13: Noise Monitoring Location Plan

5.2.1 Real Time Noise Monitoring

HVO utilises a network of real-time directional noise monitors to manage noise impacts on a continuous basis. 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 likely to be attributable to HVO. Noise alarms are investigated and responded to with the appropriate level of operational modification. Changes in response to a noise alarm can include replacing equipment with quieter (noise attenuated) units, changing or relocating tasks, and shutting down equipment. It should be noted that this assessment does not compliment or conflict with attended noise monitoring detailed in Section 5.1, and that real time monitoring data includes non-mine noise sources such as dogs, cows, or more commonly, road traffic.

6.0 OPERATIONAL DOWNTIME

During July, a total of 94 hours of equipment downtime was logged in response to real time monitoring and visual inspections for environmental reasons such as dust, noise and meteorological conditions. Operational downtime by equipment type is shown in Figure 14.

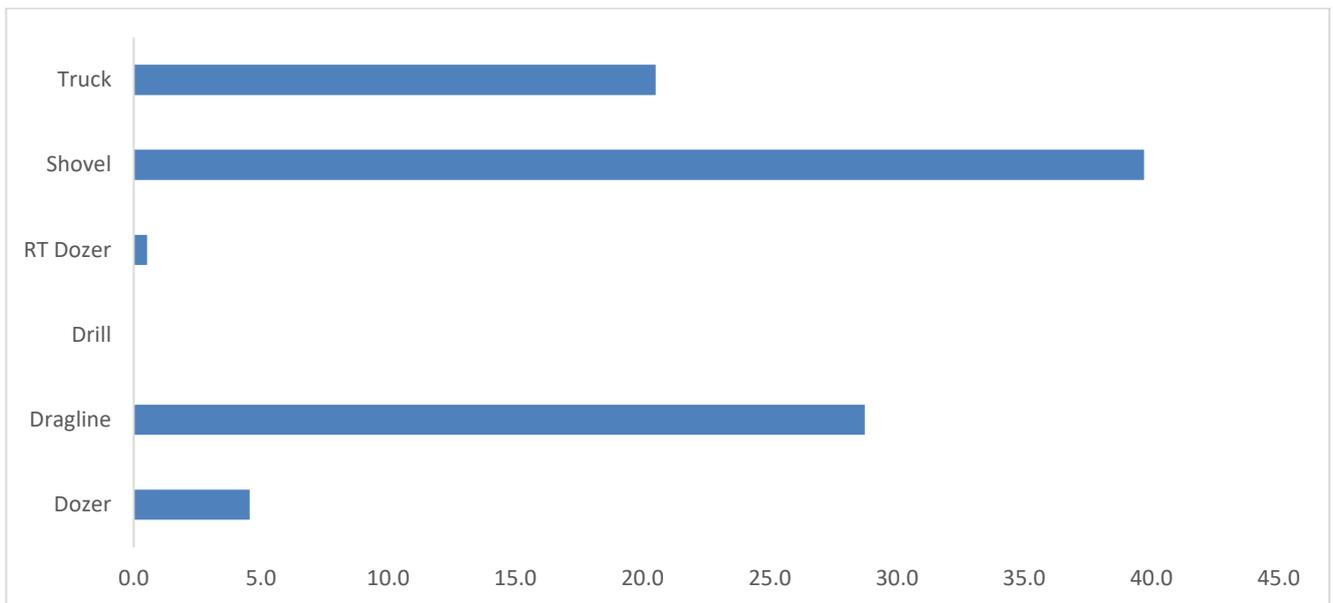


Figure 14: Operational Downtime by Equipment Type – July 2019

7.0 REHABILITATION

During July 13.92 Ha of land was released, 9.23 Ha of land was bulk shaped and 0.86 Ha of land was rehabilitated. Year to date progress can be viewed in Figure 15.

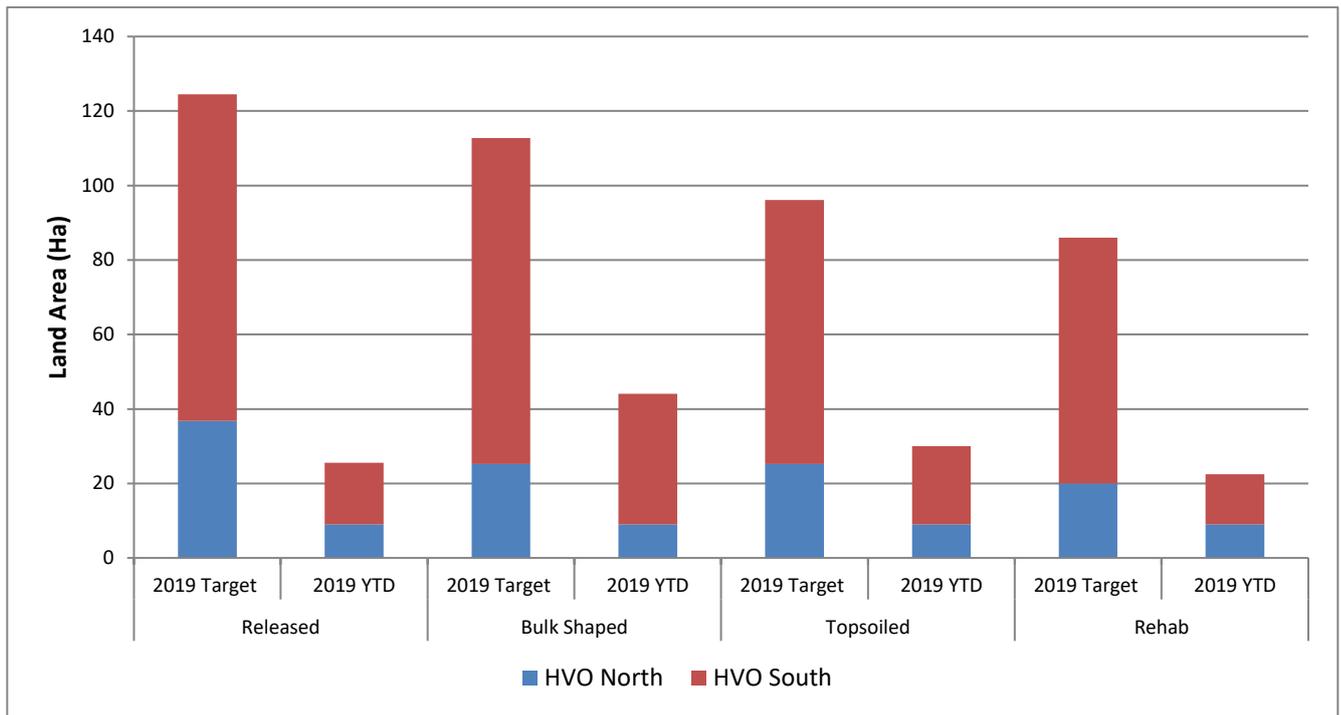


Figure 15: Rehabilitation YTD – July 2019

8.0 COMPLAINTS

No complaints were received during July 2019. Details of complaints received YTD are shown in Table 9 below.

Table 9: Complaints Summary YTD 2019

Month	Noise	Dust	Blast	Lighting	Other	Total
January	-	-	-	-	-	-
July	-	-	-	-	-	-
March	-	1	-	-	-	1
April	-	1	-	-	-	1
July	-	2	-	-	-	2
June	-	1	-	-	1	2
July	-	-	-	-	-	-
August						
September						
October						
July						
December						
Total	0	5	0	0	1	6

9.0 ENVIRONMENTAL INCIDENT

During the reporting period there were no reportable environmental incidents.

APPENDIX A: METEOROLOGICAL DATA

Table 10: Meteorological Data - HVO Corporate Meteorological Station – July 2019

Date	Air Temp Max (°C)	Air Temp Min (°C)	Relative Humidity Max (%)	Relative Humidity Min (%)	Solar Radiation Maximum (W/Sq. M)	Wind Dir. Avg (°)	Wind Speed Avg (m/sec)	Rainfall (mm)
1/7/2019	17.5	-5.073	83.2	14.7	571.8	215.2	1.2	0
2/7/2019	18.9	-3.081	71.9	21.3	546.8	270.1	2.7	0
3/7/2019	17.2	-4.398	100.0	36.7	804	165.1	2.3	2
4/7/2019	13.9	2.532	100.0	78.6	552.1	138.2	3.0	4.8
5/7/2019	16.4	1.485	100.0	59.8	837	124.6	3.0	0.2
6/7/2019	15.9	7.191	100.0	68.2	675.4	120.3	2.8	0.2
7/7/2019	17.0	6.618	100.0	60.1	588.1	116	1.2	0
8/7/2019	14.6	1.858	100.0	74.7	607.8	269.7	2.2	2.4
9/7/2019	16.5	0.216	98.8	34.8	527	290.5	3.3	0.2
10/7/2019	15.5	-2.912	89.8	28.2	531.7	291.2	3.6	0
11/7/2019	18.3	2.107	76.3	15.4	709.1	287.7	6.6	0
12/7/2019	17.8	1.291	73.6	28.0	837	289.3	5.4	0
13/7/2019	14.9	-0.492	59.1	13.5	701	281.7	6.6	0
14/7/2019	14.3	-3.283	69.9	20.2	550.8	297.9	5.7	0
15/7/2019	16.6	-0.024	72.8	12.3	762.7	279.2	5.1	0
16/7/2019	18.8	-2.54	73.8	21.7	552.3	295.2	4.3	0
17/7/2019	17.6	-3.148	80.3	23.4	546.2	297.2	4.1	0
18/7/2019	17.2	-0.358	65.1	24.0	617.4	295.2	4.4	0
19/7/2019	17.8	-2.743	72.5	18.7	553.3	275.4	2.8	0
20/7/2019	20.1	-4.296	78.5	12.4	578.5	266	1.7	0
21/7/2019	21.0	-0.966	51.0	17.4	568.8	NAN	3.8	0
22/7/2019	21.2	2.361	56.9	24.5	737.6	218.3	1.6	0
23/7/2019	21.6	1.02	72.5	5.0	597.2	283.7	4.3	0
24/7/2019	20.0	1.85	52.0	13.6	568.6	265.2	4.2	0
25/7/2019	17.8	-2.418	89.2	26.9	571.2	189.2	1.6	0
26/7/2019	19.0	-3.023	99.3	23.6	608.8	281.7	2.1	0
27/7/2019	19.1	-0.972	86.3	24.0	657.5	212.2	1.6	0
28/7/2019	18.1	-2.62	100.0	25.8	646.9	192.5	1.2	0
29/7/2019	20.5	-2.945	81.9	16.5	553.9	261.6	2.4	0
30/7/2019	16.2	-0.131	98.0	48.8	830	159	2.2	0.2
31/7/2019	15.7	-0.162	87.9	46.8	867	128.1	2.2	0

*NAN – data not available