HUNTER VALLEY OPERATIONS

Monthly Environmental Monitoring Report

Hunter Valley Operations

May 2019

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Revision History

Version No.	Person Responsible	Document Status	Date
1.0	**Environment & Community Officer**	**Draft**	**13/06/2019**
1.1	**Environment & Community Coordinator**	**Final**	**09/07/2019**

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 May to 30 May 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 Table 1, the 2019 trend and historical trend are shown in Figure 1.

Table 1: Monthly Rainfall HVO

2019	Monthly Rainfall (mm)	Cumulative Rainfall (mm)
May	11.8	256.2

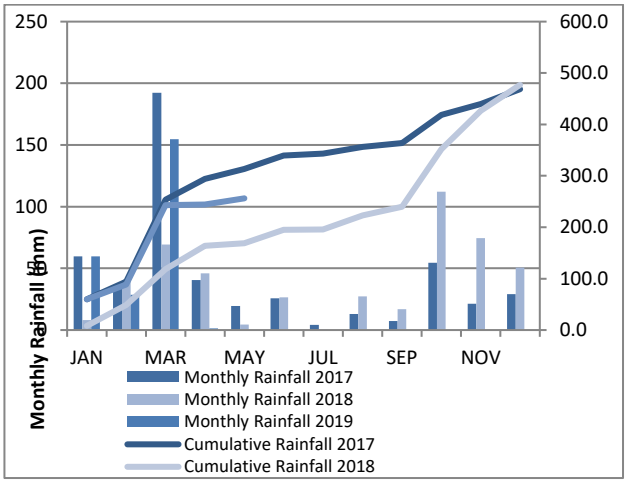

Figure 1: Rainfall Summary 2019

2.1.2 Wind Speed and Direction

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

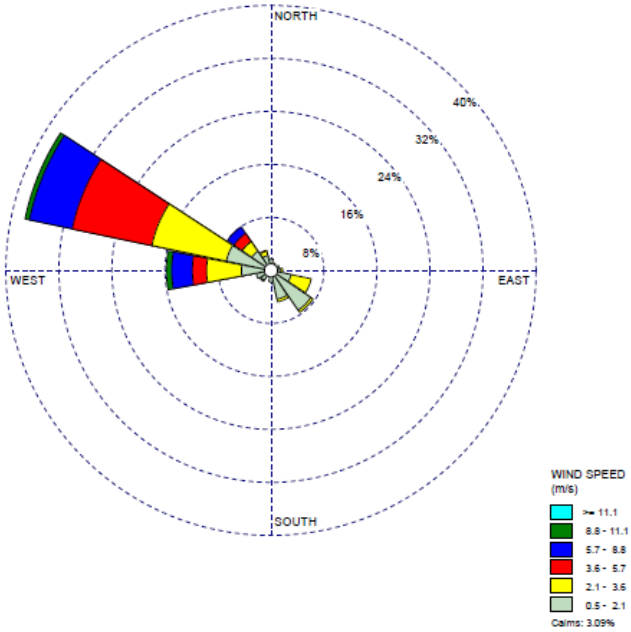

Figure 2: HVO Corporate Wind Rose – May 2019

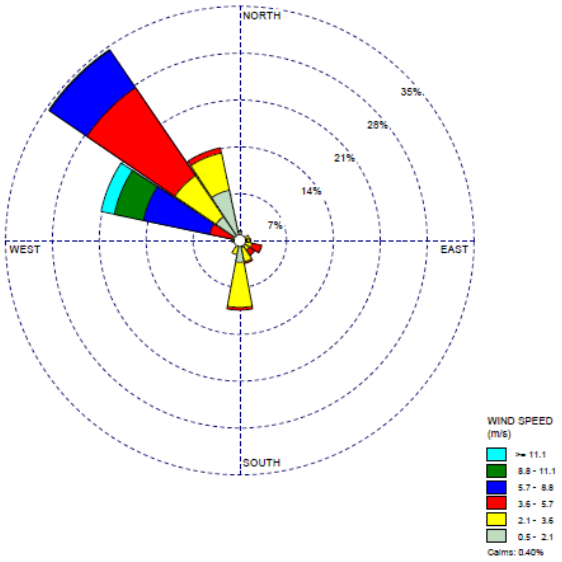

Figure 3: HVO Cheshunt Wind Rose – May 2019

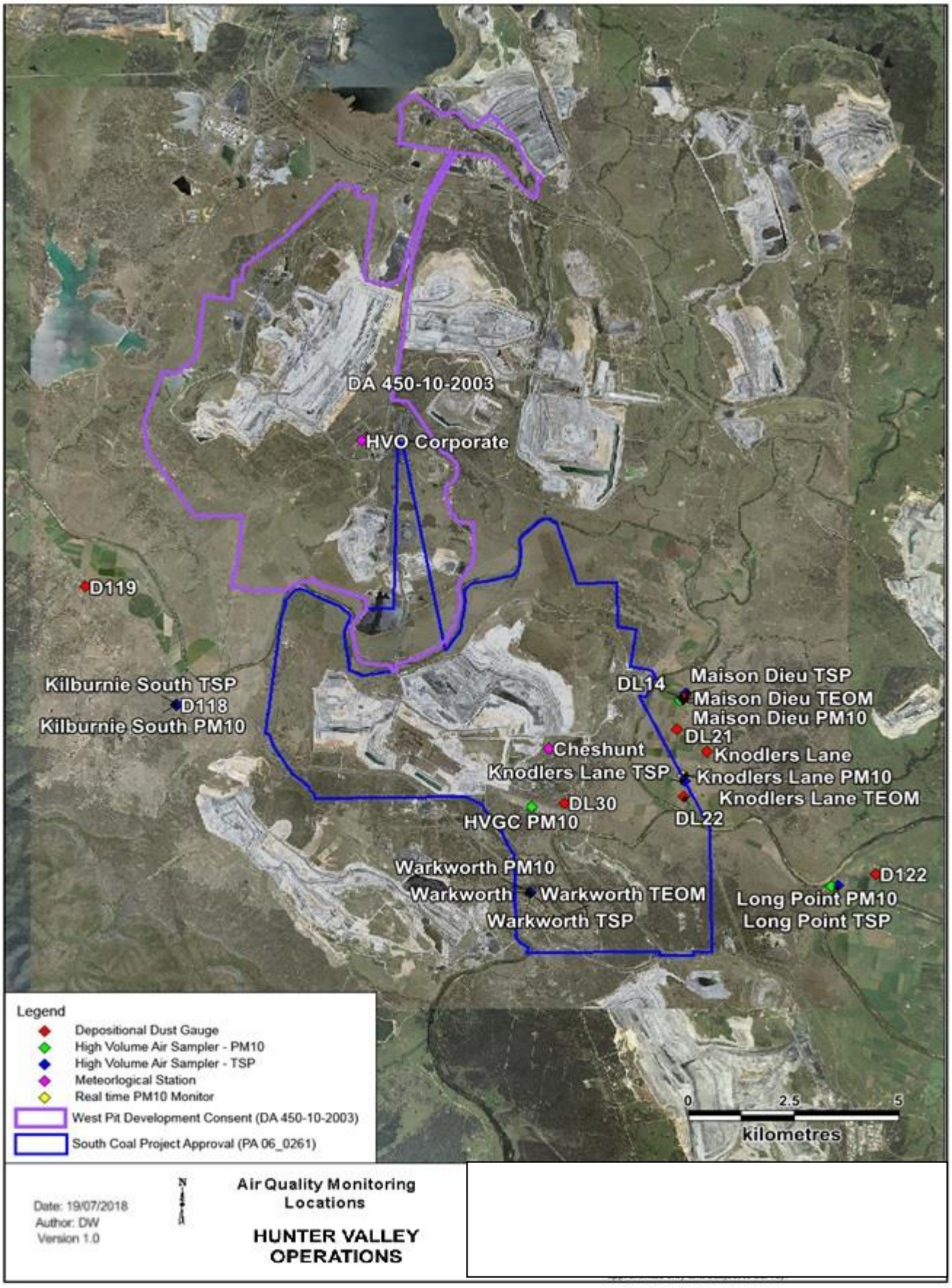

Figure 4: Air Quality Monitoring Location Plan

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, DL21 and DL30 monitors recorded a monthly result above the long term impact assessment criteria of 4.0 g/m^2 per month. The DL21 sample was deemed contaminated due to the presence of bird droppings

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

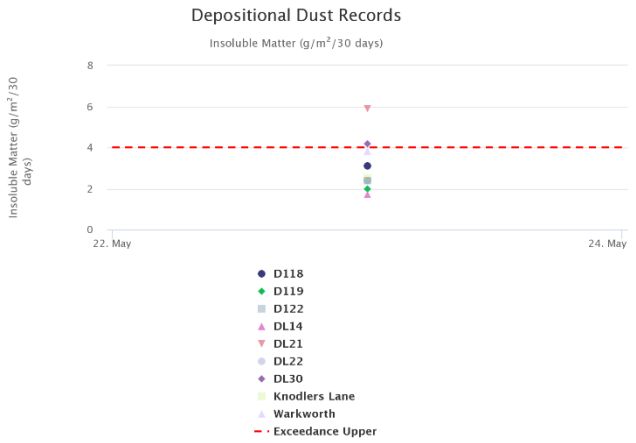

Figure 5: Depositional Dust Results – May 2019

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 (PM_{10}). 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 PM_{10} Results

Figure 6 shows individual PM_{10} results at each monitoring station against the short term impact assessment criteria of 50 µg/m^3.

On 26 May 2019, the Knodlers Lane HVAS unit recorded an elevated 24 hour averages of 61µg/m^3, with HVO's maximum contribution was calculated to be 34.5 µg/m^3 or 57% of the total measured result.

On 26 May 2019, the Glider Club HVAS unit recorded an elevated 24 hour averages of 56µg/m^3, with HVO's maximum contribution was calculated to be 41.6 µg/m^3 or 74% of the total measured result.

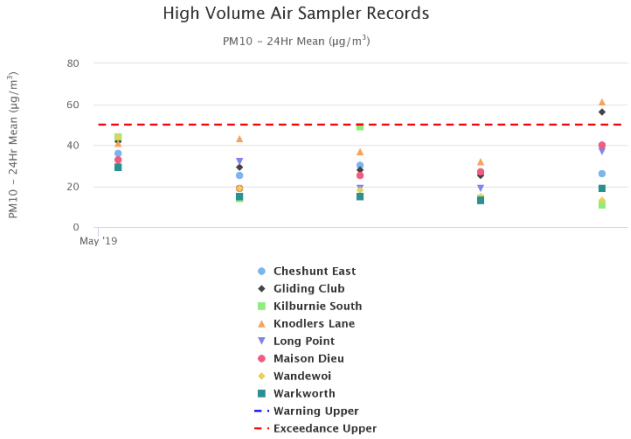

Figure 6: Individual PM_{10} Results – May 2019

Figure 7 shows the year to date annual average PM_{10} results.

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

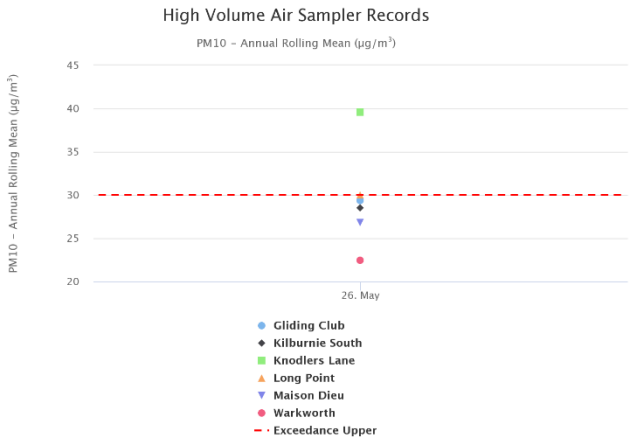

Figure 7: Year to Date Average PM_{10} – as at end of May 2019

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.

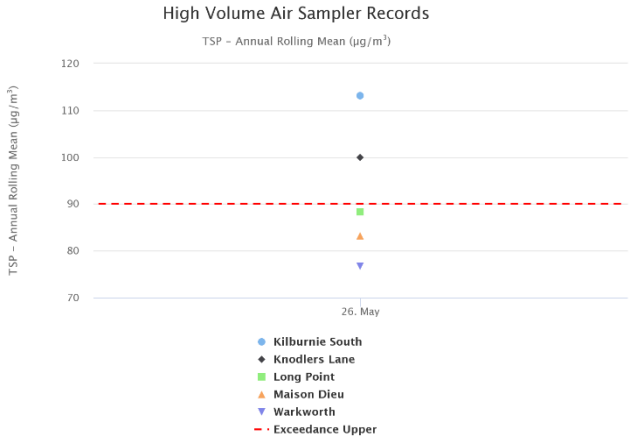

Figure 8: Year to Date Average Total Suspended Particulates – as at end of May 2019

2.3.3 Real Time PM_{10} Results

Hunter Valley Operations maintains a network of real time PM_{10} 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 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.

Results for real time dust sampling is shown in Figure 9**,** including the daily 24 hour average PM_{10} result and the year to date 24 hour PM_{10} annual average.

Results from investigations of elevated results are presented in Table 2.

2.3.4 Real Time Alarms for Air Quality

During May the real time monitoring system generated 231 automated air quality related alarms. 131 alarms were related to adverse weather conditions and 100 alarms relating to PM_{10}.

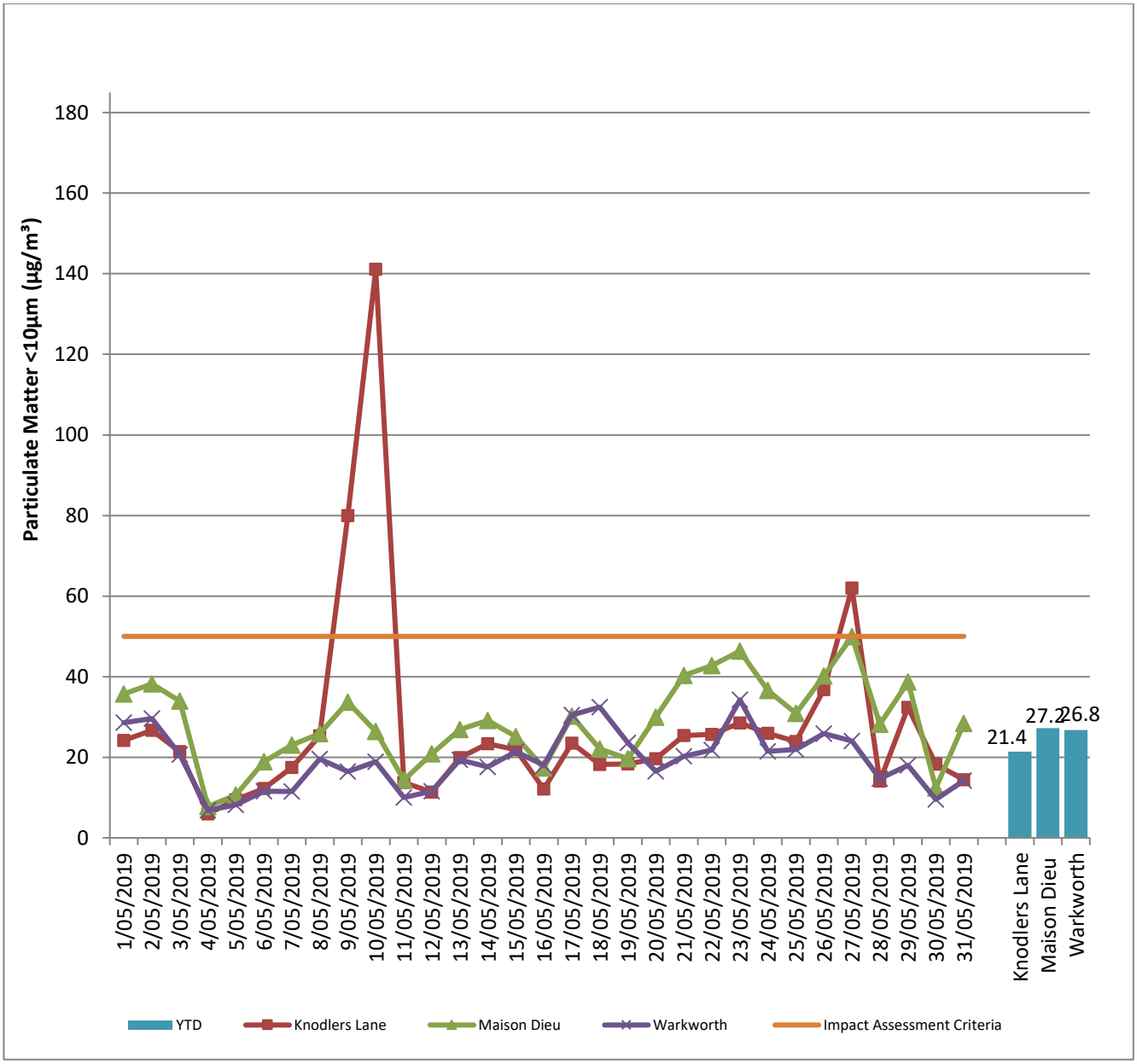

Figure 9: Real Time PM_{10} 24hr average and YTD average – May 2019

Table 2: Real-time PM10 Investigation Results

Date	Site	Total Measured Result (µg/m3)	Estimated contribution from HVO (µg/m3 / %)	Discussion
09/05/2019	Knodlers Lane TEOM	79.9	56.4 µg/m3 Or 70.5%	An internal investigation determined HVO maximum potential contribution to be in the order of 56.4 ug/m3 or 70.5% of the total measured based on prevailing wind conditions and upwind TEOM monitoring results.
10/05/2019	Knodlers Lane TEOM	141.1	118.7 µg/m3 Or 84.1%	An internal investigation determined HVO maximum potential contribution to be in the order of 118.7 ug/m3 or 84.1% of the total measured based on prevailing wind conditions and upwind TEOM monitoring results. No further action is required as this monitor is currently used only for management purposes.
27/05/2019	Knodlers Lane TEOM	62.0	34.6 µg/m3 Or 55.7%	An internal investigation determined HVO maximum potential contribution to be in the order of 34.6 ug/m3 or 55.7% of the total measured based on prevailing wind conditions and upwind TEOM monitoring results.

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 June 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 570.7 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 June 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 3.

Table 3: 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 May, 17 blasts were initiated at HVO.

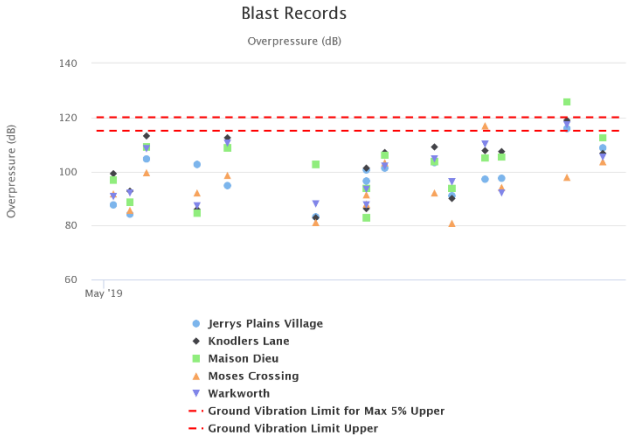

Figure 10 and 11 show the blast monitoring results for the reporting period against the impact assessment criteria. The criteria are summarised in Table 3.One blast recorded elevated Overpressure exceeding 120db(L) criteria at the Maison Dieu monitoring location on 28 May 2019. The results are considered to be preliminary until an investigation is completed. The preliminary results have been reported to DP&E and the EPA.

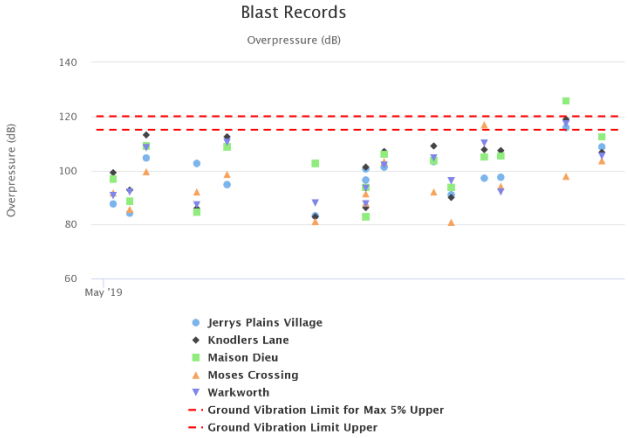

Figure 10: Overpressure Blast Monitoring Results – May 2019

Figure 11: Ground Vibration Blast Monitoring Results – May 2019

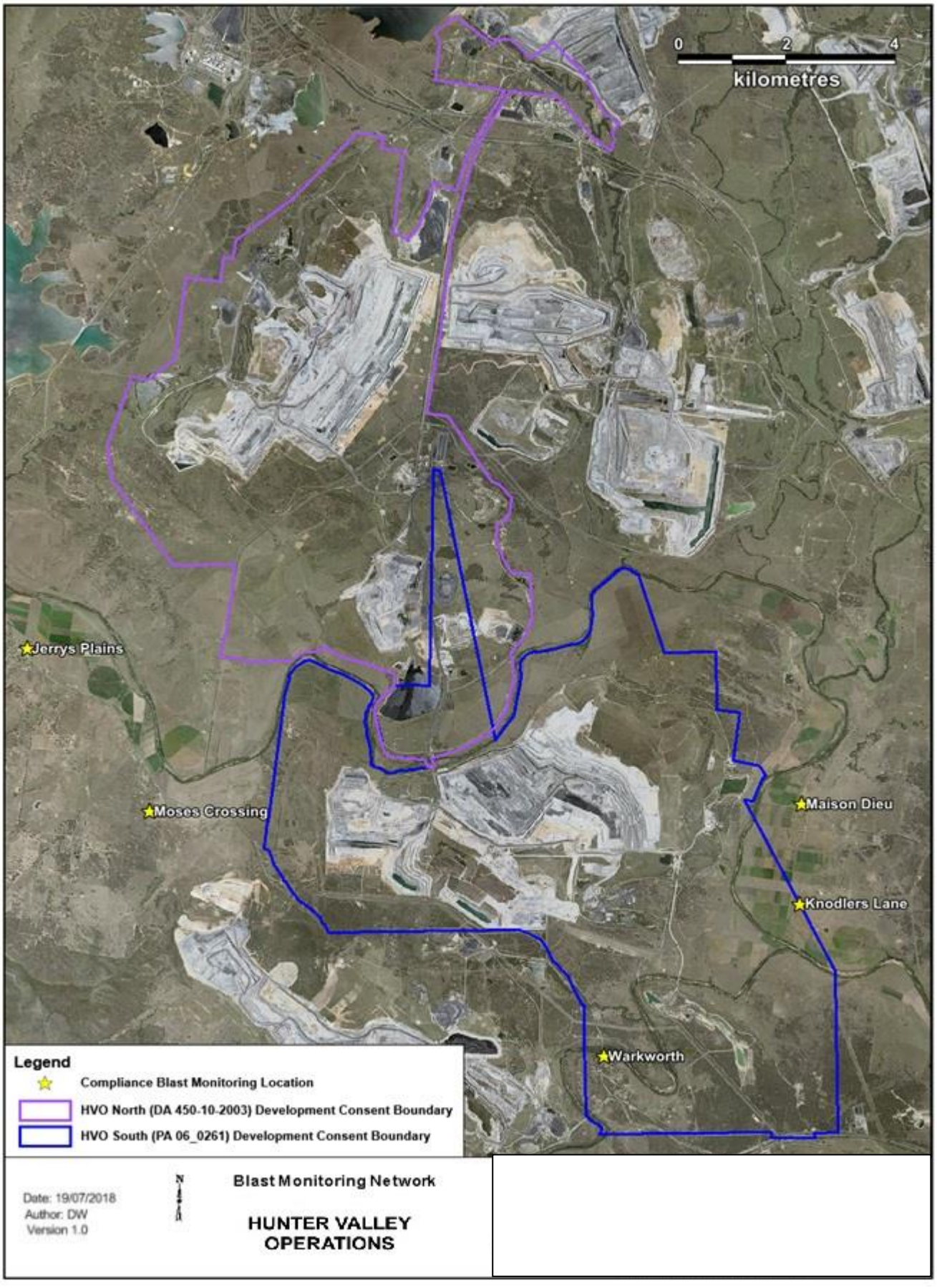

Figure 12: Blast Monitoring Location Plan

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 nights of 7 May and 12 May 2019. Monitoring results are detailed in Table 4 to Table 8 . During May attended noise monitoring, noise levels complied with the relevant development consent noise limits at all monitoring locations with the exception of HVO South Pit noise levels at Maison Dieu during the measurement on 7 May 2019. As per the Noise Management Plan, the monitoring contractor contacted dispatch to advise of exceedance, Several loading units where shut down/sent to crib in response. A follow up measurement was undertaken within 75mins resulting in compliant noise levels, however criteria was not applicable due to invalid meteorological conditions. A follow up measurement was conducted within 7 days on 12 May 2019, resulting in compliant noise measurement as noise from HVO South was inaudible. These results were reported to the Department of Planning & Environment.

Table 4: $L_{Aeq,\ 15\ minute}$ HVO South - Impact Assessment Criteria – May 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]
Knodlers Lane	7/05/2019 21:00	4.9	-1	39	No	38	NA
Maison Dieu	7/05/2019 22:33	2.5	-1	39	Yes	**42[8]**	**3**
Maison Dieu[6]	7/05/2019 23:45	4.7	-1	39	No	37	NA
Maison Dieu[7]	12/05/2019 21:25	2.2	-1	39	Yes	IA	Nil
Shearers Lane	8/05/2019 0:16	5.5	-1	41	No	34	NA
Kilburnie South	7/05/2019 22:55	3.6	-1	39	No	IA	NA
Jerrys Plains	7/05/2019 21:20	3.9	-1	35	No	IA	NA
Jerrys Plains East	7/05/2019 21:01	4.9	-1	35	No	IA	NA
Long Point Road	8/05/2019 0:27	5.2	-1	35	No	IA	NA
HVGC	7/05/2019 23:24	4.7	-1	55	No	42	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 may or may not apply due to rounding of meteorological data values;
3. Estimated or measured LAeq,15minute attributed to HVO South Pit Area;
4. Bold results in red indicate exceedance of criteria;
5. NA in exceedance column means atmospheric conditions outside specified in approval and so criterion is not applicable;
6. Re-measure;
7. Follow up measurement;
8. Includes LF modifying factor of 2 dB

Table 5: $L_{A1,\ 1minute}$ HVO South - Impact Assessment Criteria – May 2019

Location	Date and Time	Wind Speed (m/s)[1]	VTG °C/100m[1]	Criterion dB (A)	Criterion Applies?[2]	HVO South $L_{A1,\ 1min}$ dB[3,4]	Exceedance[4,5]
Knodlers Lane	7/05/2019 21:00	4.9	-1	45	No	50	NA
Maison Dieu	7/05/2019 22:33	2.5	-1	45	Yes	45	Nil
Maison Dieu[6]	7/05/2019 23:45	4.7	-1	45	No	43	NA
Maison Dieu[7]	12/05/2019 21:25	2.2	-1	45	Yes	IA	Nil
Shearers Lane	8/05/2019 0:16	5.5	-1	45	No	39	NA
Kilburnie South	7/05/2019 22:55	3.6	-1	45	No	IA	NA
Jerrys Plains Village	7/05/2019 21:20	3.9	-1	45	No	IA	NA
Jerrys Plains East	7/05/2019 21:01	4.9	-1	45	No	IA	NA
Long Point Road	8/05/2019 0:27	5.2	-1	45	No	IA	NA
HVGC	7/05/2019 23:24	4.7	-1	NA	No	43	NA

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 may or may 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;
6. Re-measure; and
7. Follow up measurement;

Table 6: $L_{Aeq, 15minute}$ HVO North – Impact Assessment Criteria – May 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]
Knodlers Lane	7/05/2019 21:00	2.4	-1	35	Yes	IA	Nil
Maison Dieu	7/05/2019 22:33	5.7	-1	35	No	IA	NA
Shearers Lane	8/05/2019 0:16	3.5	-1	35	No	IA	NA
Kilburnie South	7/05/2019 22:55	4.7	-1	39	No	<25	NA
Jerrys Plains	7/05/2019 21:20	2.4	-1	36	Yes	IA	Nil
Jerrys Plains East	7/05/2019 21:01	2.4	-1	39	Yes	IA	Nil
Long Point Road	8/05/2019 0:27	2.7	3	35	Yes	IA	Nil
HVGC	7/05/2019 23:24	4	-1	NA	No	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 may or may 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;
5. NA in exceedance column means atmospheric conditions outside specified in approval and so criterion is not applicable;
6. Re-measure; and
7. Follow up measurement;

Table 7: $L_{Aeq,15minute}$ HVO North - Land Acquisition Criteria – May 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]
Knodlers Lane	7/05/2019 21:00	2.4	-1	41	Yes	IA	Nil
Maison Dieu	7/05/2019 22:33	5.7	-1	41	No	IA	NA
Shearers Lane	8/05/2019 0:16	3.5	-1	41	No	IA	NA
Kilburnie South	7/05/2019 22:55	4.7	-1	41	No	<25	NA
Jerrys Plains Village	7/05/2019 21:20	2.4	-1	41	Yes	IA	Nil
Jerrys Plains East	7/05/2019 21:01	2.4	-1	41	Yes	IA	Nil
Long Point Road	8/05/2019 0:27	2.7	3	41	Yes	IA	Nil
HVGC	7/05/2019 23:24	4	-1	NA	No	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 may or may 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;
5. NA in exceedance column means atmospheric conditions outside specified in approval and so criterion is not applicable;
6. Re-measure; and
7. Follow up measurement;
.

Table 8: $L_{A1, 1Minute}$ HVO North - Impact Assessment Criteria – May 2019

Location	Date and Time	Wind Speed (m/s)[1]	VTG °C/100m[1]	Criterion dB (A)	Criterion Applies?[2]	HVO North $L_{A1, 1min}$ dB[3,4]	Exceedance[4,5]
Knodlers Lane	7/05/2019 21:00	2.4	-1	46	Yes	IA	Nil
Maison Dieu	7/05/2019 22:33	5.7	-1	46	No	IA	NA
Shearers Lane	8/05/2019 0:16	3.5	-1	46	No	IA	NA
Kilburnie South	7/05/2019 22:55	4.7	-1	46	No	<25	NA
Jerrys Plains Village	7/05/2019 21:20	2.4	-1	46	Yes	IA	Nil
Jerrys Plains East	7/05/2019 21:01	2.4	-1	46	Yes	IA	Nil
Long Point Road	8/05/2019 0:27	2.7	3	46	Yes	IA	Nil
HVGC	7/05/2019 23:24	4	-1	NA	No	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 may or may 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;
5. NA in exceedance column means atmospheric conditions outside specified in approval and so criterion is not applicable
6. Re-measure; and
7. Follow up measurement;

.

5.2 NPfI 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. During May 2019 the measurement at Maison Dieu on 7 May resulted in a 2 dB penalty being applied. The assessment for low frequency noise is shown in Table 9.

Table 9: Low Frequency Noise Assessment – May 2019

Location	Date and Time	Measured Site Only LA_{eq} dB (Sth/Nth)	Site Only LC_{eq} dB[1] (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	7/05/2019 21:00	38/IA	NA/NA	NA/NA	NA/NA	NA/NA
Maison Dieu	7/05/2019 22:33	40/IA	57/NA	17/NA	**4 dB @ 125Hz**/NA	**2**/NA
Maison Dieu[4]	7/05/2019 23:45	37/IA	NA/NA	NA/NA	NA/NA	NA/NA
Maison Dieu[5]	12/05/2019 21:25	IA/IA	NA/NA	NA/NA	NA/NA	NA/NA
Shearers Lane	8/05/2019 0:16	34/IA	NA/NA	NA/NA	NA/NA	NA/NA
Kilburnie South	7/05/2019 22:55	IA/<25	NA/NA	NA/NA	NA/NA	NA/NA
Jerrys Plains Village	7/05/2019 21:20	IA/IA	NA/NA	NA/NA	NA/NA	NA/NA
Jerrys Plains East	7/05/2019 21:01	IA/IA	NA/NA	NA/NA	NA/NA	NA/NA
Long Point Road	8/05/2019 0:27	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 NPfI, if LCeq – LAeq ≥ 15 dB further assessment of low frequency noise required as detailed in Sections 2.4 and 3.3 of the attended noise report;
3. As per NPfI, compare measured spectrum against reference spectrum to determine if the low frequency modifying factor is triggered and application of penalty is required'
4. remeasure; and
5. follow-up measurement.

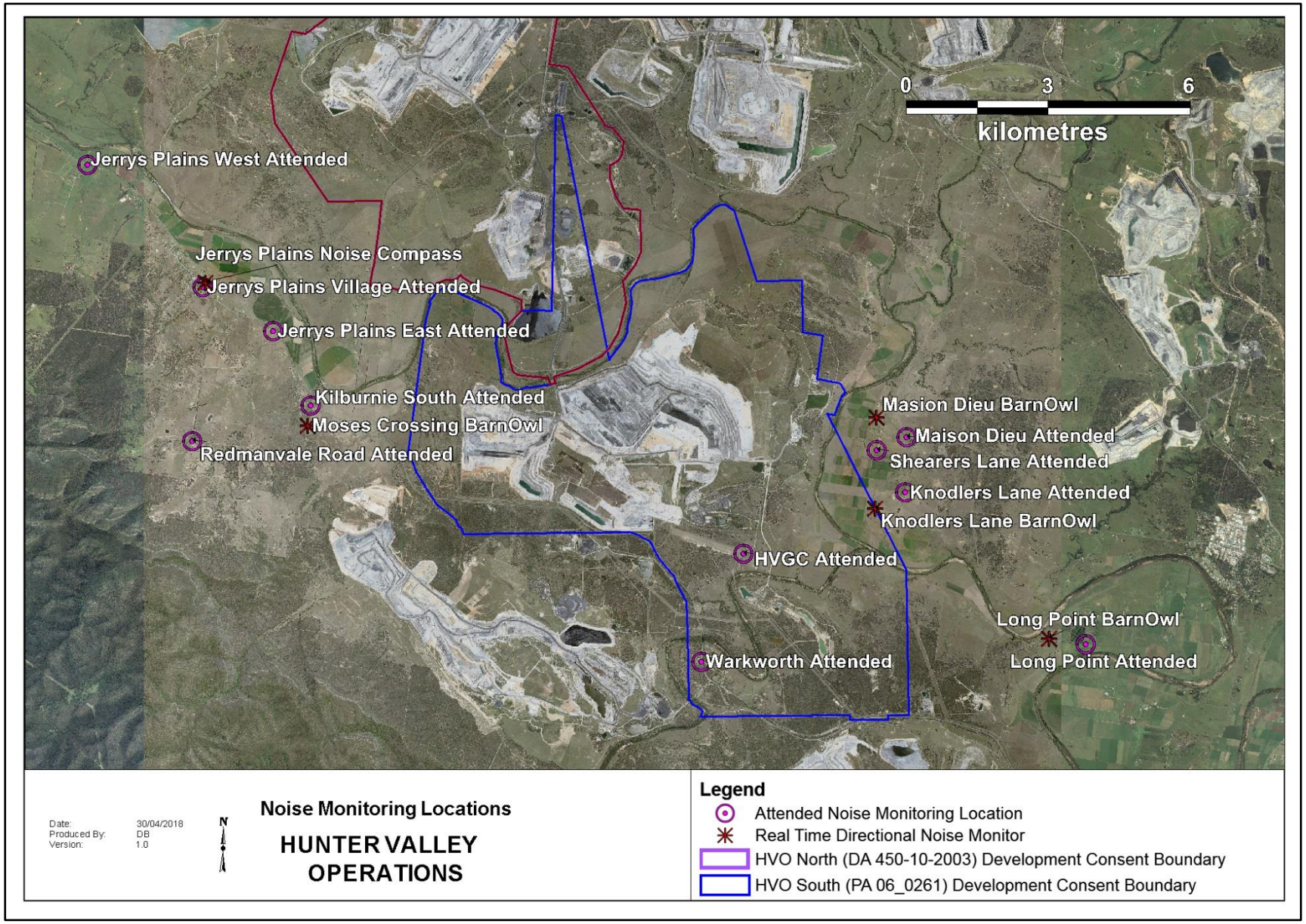

Figure 13: Noise Monitoring Location Plan

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 May, a total of 571 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.

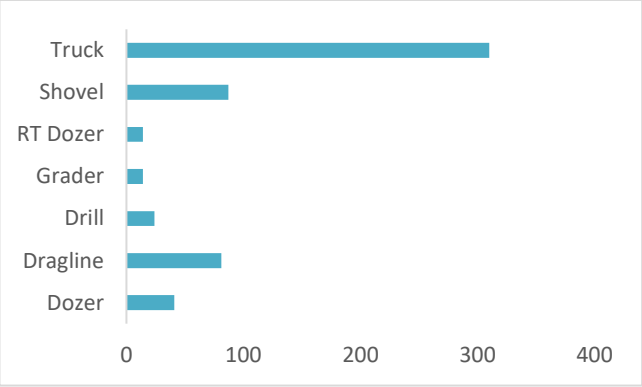

Figure 14: Operational Downtime by Equipment Type – May 2019

7.0 REHABILITATION

During May 5.68 Ha of land was released, 7.75 Ha of land was bulk shaped and 8.96 Ha of land was rehabilitated. Year to date progress can be viewed in Figure 15.

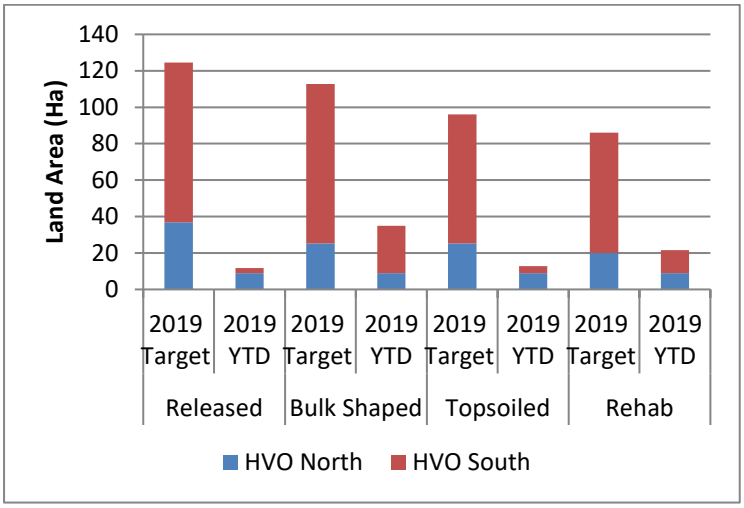

Figure 15: Rehabilitation YTD – May 2019

8.0 COMPLAINTS

Two complaints was received during May 2019.

Details of complaints received YTD are shown in Table 10 below.

Table 10: Complaints Summary YTD

	Noise	Dust	Blast	Lighting	Other	Total
January	-	-	-	-	-	-
May	-	-	-	-	-	-
March	-	1	-	-	-	1
April	-	1	-	-	-	1
May	-	2	-	-	-	2
June						
July						
August						
September						
October						
May						
December						
Total	0	4	0	0	0	4

9.0 ENVIRONMENTAL INCIDENTS

During the reporting period there were two recordable environmental incidents;

7 May 2019 – HVO South Noise Exceedance

During attended noise monitoring, an exceedance of the L_{Aeq} 15min Impact Assessment Criteria (39dB(A) was measured at the Maison Dieu Noise monitoring location. This resulted in an LAeq of 42dB(A) including a +2dB penalty applied due to low frequency noise.. The source of the noise was general mine continuum made up of engine/exhaust and equipment fan noise. T As per the Noise Management Plan, the monitoring contractor contacted dispatch to advise of exceedance, Several loading units where shut down/sent to crib in response. A follow up measurement was undertaken within 75mins resulting in compliant noise levels, however criteria was not applicable due to invalid meteorological conditions. A follow up measurement was conducted within 7 days on 12 May 2019, resulting in compliant noise measurement as noise from HVO South was inaudible. These results were reported to the Department of Planning & Environment.

28 May 2019 – Potential blast overpressure exceedance (.120dB)

Cheshunt blast P120R0803A was fired at approximately 9:25 am. The blast recorded an overpressure result of 125.69dB(L) at the Maison Dieu Blast Monitor. The blast event is under investigation and the results are considered to be preliminary. The preliminary results have been reported to DP&E and the EPA.

Appendix A: Meteorological Data

Table 11: Meteorological Data - HVO Corporate Meteorological Station – May 2019

Date	Air Temperature Maximum (°C)	Air Temperature Minimum (°C)	Relative Humidity Maximum (%)	Relative Humidity Minimum (%)	Solar Radiation Maximum (W/Sq. M)	Wind Direction Average (°)	Wind Speed Average (m/sec)	Rainfall(mm)
1/5/2019	22.7	12.6	100.0	45.5	609.6	179.9	1.1	0
2/5/2019	23.0	15.6	96.4	48.4	645.1	166.1	0.8	0
3/5/2019	23.3	15.9	100.0	35.5	602.6	268.8	2.3	7.6
4/5/2019	20.1	13.8	100.0	44.4	898.0	195.7	1.7	3.2
5/5/2019	18.5	9.6	83.4	34.9	965.0	217.4	1.7	0
6/5/2019	19.4	8.7	89.3	33.0	775.7	273.7	2.2	0
7/5/2019	20.1	8.6	82.1	24.2	648.2	290.9	4.2	0
8/5/2019	18.8	10.3	71.8	19.0	856.0	283.2	4.3	0
9/5/2019	18.9	6.5	78.3	24.8	712.1	249.6	2.0	0
10/5/2019	15.8	6.2	89.2	39.6	836.0	240.6	3.7	0.8
11/5/2019	18.1	8.2	75.9	25.9	612.0	287.5	6.0	0
12/5/2019	18.8	6.4	80.5	28.9	613.8	207.6	2.2	0
13/5/2019	20.0	8.3	92.9	43.9	753.9	169	0.8	0
14/5/2019	22.5	12.6	87.2	21.5	597.9	245.8	2.3	0
15/5/2019	20.5	9.4	93.7	35.2	736.8	155.8	1.6	0
16/5/2019	20.6	9.6	100.0	34.2	570.3	131.4	1.5	0
17/5/2019	21.3	10.6	96.4	37.0	839.0	171	1.1	0
18/5/2019	21.2	9.5	88.5	74.2	-11.5	145	1.1	0
19/5/2019	20.5	9.7	100.0	35.0	587.9	153.4	1.6	0
20/5/2019	21.5	10.5	100.0	31.2	761.0	256	1.7	0
21/5/2019	23.7	11.1	79.8	23.8	534.2	263	2.7	0
22/5/2019	24.6	12.1	77.8	19.1	696.4	225	2.1	0
23/5/2019	21.6	12.3	94.9	41.8	651.2	184	1.1	0
24/5/2019	22.2	10.4	98.6	21.8	532.2	284.1	2.4	0
25/5/2019	22.5	9.4	76.6	11.8	645.0	275.5	2.8	0
26/5/2019	20.9	11.1	63.7	23.7	705.5	279.3	3.7	0
27/5/2019	16.3	7.9	76.3	22.7	654.5	285.5	6.9	0.2
28/5/2019	13.5	5.2	66.3	24.0	536.2	298.4	5.4	0
29/5/2019	15.1	10.0	64.5	30.5	836.0	280.7	7.6	0
30/5/2019	13.8	5.3	67.4	14.8	550.7	287.4	5.0	0
31/5/2019	15.4	3.3	79.2	23.2	533.1	290	3.4	0