

HUNTER VALLEY OPERATIONS



Environment Protection Licence 640 Monitoring Data – March 2021 Published 21st April

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1 Overview

Environmental Protection Licence Number: 640
Licence Holder: HV Operations Pty Ltd (HVO)
Address of Premises: Hunter Valley Operations, Lemington Road, Singleton, NSW, 2330
Licence Holder Postal Address: PO Box 315, Singleton, NSW, 2330
EPA Public Register Link: [Application and Notice Detail \(nsw.gov.au\)](#)

The locations of each sampling or monitoring point number identified in EPL 640 are displayed in **Figure 1**.

Definitions

Abbreviation	Explanation
DNR	Data Not Received
mm/s	Millimetres per Second
dB	Decibels
g/m ² /month	Grams per Metre Square per Month
µg/m ³	Micrograms per Cubic Meter of Air
µS/cm	Microsiemens per Centimetre
pH	A measure of the acidity or alkalinity of a solution
mg/L	Milligrams per Litre
NTU	Nephelometric Turbidity Units
ML/day	Megalitres per Day (1ML = 1,000,000L)
KL/day	Kilolitres per Day
PM10	Particulate Matter of 10 Microns in diameter or smaller
HVAS	High Volume Air Sampler
TEOM	Tapered Element Oscillating Microbalance
TSP	Total Suspended Particles
TSS	Total Suspended Solids
t	tonnes
YTD	Year To Date - rolling 12 month average

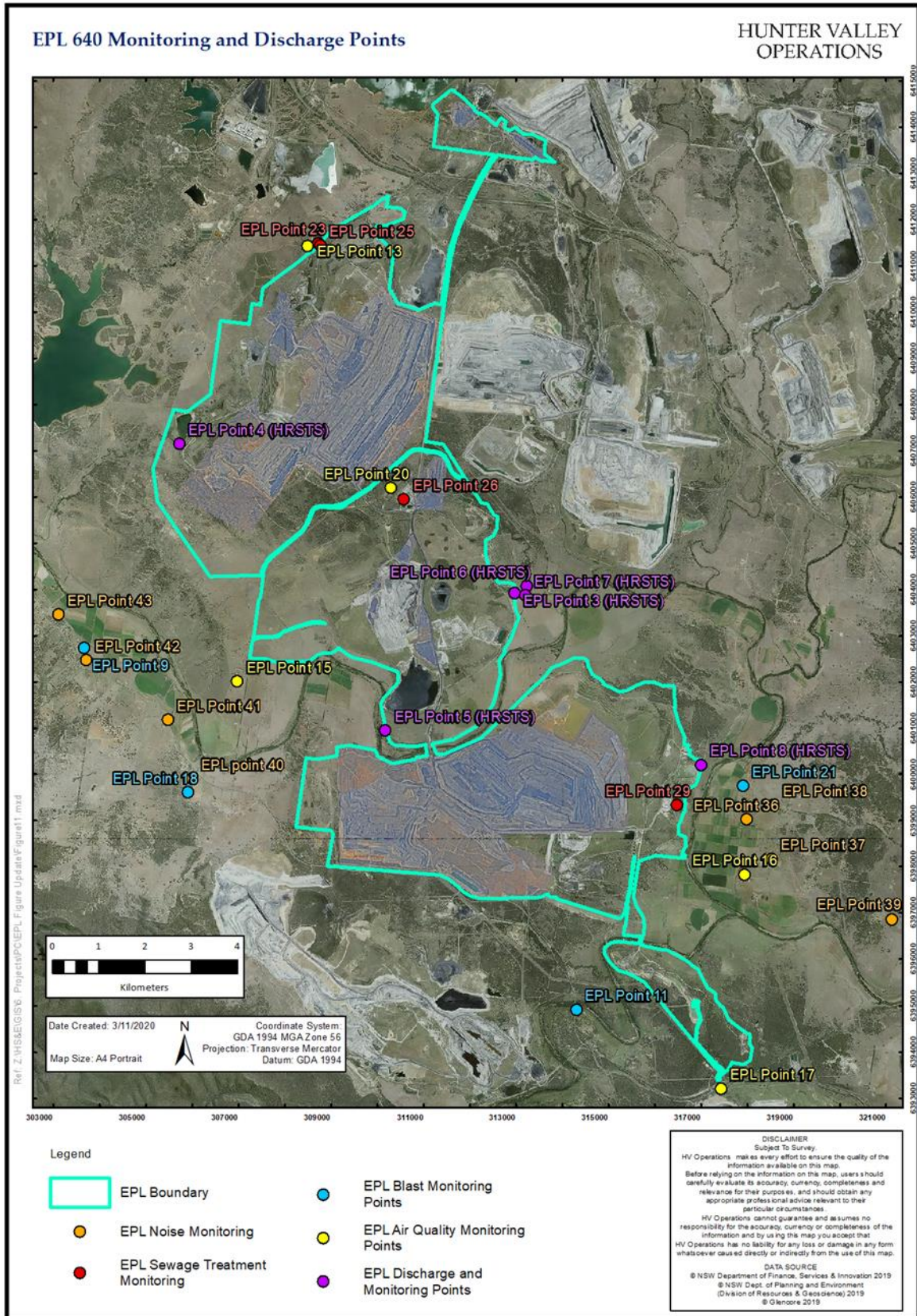


Figure 1 - EPL 640 Monitoring, Sampling and Discharge Point Locations Air Quality Monitoring Data

2 Air Quality

Date Last Sampled: 31/03/2021

Date Obtained: 01/04/2021

Table 1 – Particulate Matter <10µm Monitoring

Date	Unit of Measure	Monitoring Frequency & Capture	Monitoring Point				
			EPL ID 13	EPL ID 20	EPL ID 15	EPL ID 16	EPL ID 17
1/03/2021	µg/m ³	Continuous	39.5	47.7	36.4	31.8	39.1
2/03/2021	µg/m ³		46.8	66.0	33.6	38.8	51.9
3/03/2021	µg/m ³		34.4	33.3	18.4	27.1	24.5
4/03/2021	µg/m ³		24.0	32.4	24.6	19.7	23.1
5/03/2021	µg/m ³		39.3	75.4	29.3	36.3	31.2
6/03/2021	µg/m ³		28.6	35.1	31.7	30.2	22.5
7/03/2021	µg/m ³		33.3	38.2	26.0	25.4	22.6
8/03/2021	µg/m ³		30.8	26.3	15.2	-*	23.8
9/03/2021	µg/m ³		22.2	25.6	16.9	-*	17.8
10/03/2021	µg/m ³		33.7	32.2	22.5	19.0	19.1
11/03/2021	µg/m ³		23.2	28.9	23.1	15.2	14.9
12/03/2021	µg/m ³		19.0	22.3	16.7	13.9	18.5
13/03/2021	µg/m ³		18.9	25.6	14.5	18.0	21.1
14/03/2021	µg/m ³		14.8	-*	9.0	10.5	22.0
15/03/2021	µg/m ³		19.2	-*	16.7	15.9	18.8
16/03/2021	µg/m ³		22.1	9.9	14.8	13.1	19.1
17/03/2021	µg/m ³		12.3	7.4	12.1	9.3	11.7
18/03/2021	µg/m ³		10.8	5.3	10.0	6.4	8.0
19/03/2021	µg/m ³		10.0	9.4	10.2	10.0	11.5
20/03/2021	µg/m ³		8.9	7.0	8.8	7.2	7.5
21/03/2021	µg/m ³		8.1	8.1	8.1	7.8	7.9

Date	Unit of Measure	Monitoring Frequency & Capture	Monitoring Point				
			EPL ID 13	EPL ID 20	EPL ID 15	EPL ID 16	EPL ID 17
22/03/2021	µg/m ³		6.0	6.1	6.9	5.8	6.1
23/03/2021	µg/m ³		9.2	6.4	7.2	5.5	-*
24/03/2021	µg/m ³		11.6	16.8	8.4	14.1	7.7
25/03/2021	µg/m ³		12.3	24.5	10.3	22.4	16.4
26/03/2021	µg/m ³		17.6	20.5	12.0	17.6	22.4
27/03/2021	µg/m ³		22.1	25.2	14.7	29.3	23.5
28/03/2021	µg/m ³		21.6	31.0	16.8	20.9	17.1
29/03/2021	µg/m ³		30.9	39.5	21.0	15.7	21.1
30/03/2021	µg/m ³		25.9	39.0	17.4	19.1	24.2
31/03/2021	µg/m ³		25.5	42.0	23.1	18.1	25.5
Monthly Meaningful Data							
March	µg/m ³	Minimum	6.0	5.3	6.9	5.5	6.1
	µg/m ³	Mean	22.0	27.1	17.3	18.1	20.0
	µg/m ³	Maximum	46.8	75.4	36.4	38.8	51.9
	µg/m ³	Median	22.1	25.6	16.7	17.6	20.1

*Data unavailable due to less than 75% of data capture for the day. All data miscaptures are to be recorded in the Annual Return.

3 Surface Water Monitoring Data

Date Sampled: Discharge blocks occurred from the 19th of March to 31st of March.

Date Obtained: 15/04/2021

Table 2 – Mine Water Discharge Monitoring

Discharge Point	Pollutant	Unit of Measure	Licence Limits	No. Samples Required by Licence	No. Samples Collected and Analysed ¹	Minimum	Mean	Maximum
EPL ID 3	pH	pH	6.5-9.5	7	7	8.47	8.69	8.94
	Total Suspended Solids	Milligrams per Litre	120	7	7	28	44.3	72
EPL ID 4	pH	pH	6.5-9.5	10	10	9.22	9.307	9.38
	Total Suspended Solids	Milligrams per Litre	120	10	10	5	62.8	266*
EPL ID 8	pH	pH	6.5-9.5	8	8	8.32	8.71	8.86
	Total Suspended Solids	Milligrams per Litre	120	8	8	20	37.625	58

*TSS result above criteria recorded at EPL ID 4 will be recorded in the Annual Return.

4 Blast Monitoring Data

Date Last Sampled: 31/03/2021

Date Obtained: 01/04/2021

Table 3 – Blast Monitoring (Air Blast Overpressure and Ground Vibration)

Blast ID	Date & Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits		Monitoring Point			
				95% of Blasts	100% of Blasts	Moses Crossing EPL ID 18	Jerrys Plains EPL ID 9	Maison Dieu EPL ID 12	Warkworth EPL ID 11
P123BR510A	1/03/2021 13:10	dB(L)	All Blasts 100%	115	120	91.3	89.65	92.06	94.84
P207BR101C_P207B5P01B	2/03/2021 14:49	dB(L)		115	120	88.91	85.5	98.79	85.92
P208BR102B	5/03/2021 15:24	dB(L)		115	120	101.37	101.05	101.45	92.12
WN45LAA05	8/03/2021 13:18	dB(L)		115	120	92.06	94.21	100.97	96.66
P123BR514A	11/03/2021 13:23	dB(L)		115	120	99.19	93.68	106.9	86.09
WS43LLD01C	12/03/2021 13:24	dB(L)		115	120	89.01	86.92	84.47	88.65
P207BR102C_P207B5P02D	13/03/2021 13:58	dB(L)		115	120	90.84	84.28	94.76	96.71

Blast ID	Date & Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits		Monitoring Point			
				95% of Blasts	100% of Blasts	Moses Crossing EPL ID 18	Jerrys Plains EPL ID 9	Maison Dieu EPL ID 12	Warkworth EPL ID 11
P208WK901A	13/03/2021 14:02	dB(L)		115	120	101.7	86.6	95.51	93.92
WS43BAR01A	13/03/2021 16:06	dB(L)		115	120	87.99	89.71	97.28	93.9
WN45LAA06A	16/03/2021 13:06	dB(L)		115	120	98.65	100.2	89.17	80.82
P20800604A	22/03/2021 10:28	dB(L)		115	120	109.94	93.96	97.78	94.81
P123BR610A	29/03/2021 13:34	dB(L)		115	120	100.18	101.45	93.59	94.27
WS43BAR01B	31/03/2021 14:23	dB(L)		115	120	99.98	105.75	86.03	89.32
Monthly Meaningful Data									
March		dB(L)	Minimum	115	120	87.99	84.28	84.47	80.82
		dB(L)	Mean	115	120	96.24	93.30	95.29	91.39
		dB(L)	Maximum	115	120	109.94	105.75	106.90	96.71
		dB(L)	Median	115	120	98.65	93.68	95.51	93.90

Blast ID	Date & Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits		Monitoring Point			
				95% of Blasts	100% of Blasts	Moses Crossing EPL ID 18	Jerrys Plains EPL ID 9	Maison Dieu EPL ID 12	Warkworth EPL ID 11
P123BR510A	1/03/2021 13:10	mm/s	All Blasts 100%	5	10	0.17	0.06	0.13	0.52
P207BR101C_P207B5P01B	2/03/2021 14:49	mm/s		5	10	0.16	0.09	0.42	0.13
P208BR102B	5/03/2021 15:24	mm/s		5	10	0.16	0.09	0.18	0.31
WN45LAA05	8/03/2021 13:18	mm/s		5	10	0.16	0.11	0.08	0.89
P123BR514A	11/03/2021 13:23	mm/s		5	10	0.11	0.04	0.04	0.14
WS43LLD01C	12/03/2021 13:24	mm/s		5	10	0.18	0.14	0.11	0.24
P207BR102C_P207B5P02D	13/03/2021 13:58			5	10	0.14	0.06	0.22	0.33
P208WK901A	13/03/2021 14:02			5	10	0.16	0.07	0.35	0.63
WS43BAR01A	13/03/2021 16:06	mm/s		5	10	0.14	0.07	0.06	0.2
WN45LAA06A	16/03/2021 13:06	mm/s		5	10	0.12	0.07	0.06	0.09

P20800604A	22/03/2021 10:28	mm/s		5	10	0.21	0.07	0.27	0.49
P123BR610A	29/03/2021 13:34	mm/s		5	10	0.21	0.09	0.16	0.35
WS43BAR01B	31/03/2021 14:23	mm/s		5	10	0.18	0.12	0.07	0.75
Monthly Meaningful Data									
March		mm/s	Minimum	5	10	0.11	0.04	0.04	0.09
		mm/s	Mean	5	10	0.16	0.08	0.17	0.39
		mm/s	Maximum	5	10	0.21	0.14	0.42	0.89
		mm/s	Median	5	10	0.16	0.07	0.13	0.33

5 Sewage Treatment Plant Monitoring Data

Date Sampled: 10/03/2021

Date Obtained: 16/03/2021

Table 5 Sewage Treatment Plant Monitoring

Monitoring Site	Date & Time	Pollutant	Unit of Measure	Monitoring Result
EPA ID 23	10/03/2021 11:20	Faecal Coliforms	Colony forming units/100ml	1,700,000
		pH	pH	7.1
EPA ID 25	Not Sampled – Insufficient Water	Faecal Coliforms	Colony forming units/100ml	N/A
		pH	pH	N/A
EPA ID 26	10/03/2021 12:30	Faecal Coliforms	Colony forming units/100ml	420,000
		pH	pH	7.34
EPA ID 29	10/03/2021 13:10	Faecal Coliforms	Colony forming units/100ml	550
		pH	pH	8.18

6 Noise Monitoring Data

Date Sampled: 15/03/2021

Date Obtained: 06/04/2021

Table 1 Night $L_{Aeq,15minute}$ Generated by HVO Against EPL Criteria

Location	Date & Time	Wind Speed (m/s) ¹	Stability Class ¹	Criterion dB	Criterion Applies? ²	HVO L_{Aeq} dB ³	Exceedance dB
EPA ID 36	15/03/2021 22:10	1.5	E	41	Yes	IA	Nil
EPA ID 37	15/03/2021 22:50	1.8	E	40	Yes	IA	Nil
EPA ID 38	15/03/2021 22:31	1.5	E	39	Yes	IA	Nil
EPA ID 39	15/03/2021 23:38	1.7	E	37	Yes	IA	Nil
EPA ID 40	15/03/2021 23:31	1.9	E	39	Yes	<30	Nil
EPA ID 41	15/03/2021 21:00	1.6	E	39	Yes	33	Nil
EPA ID 42	15/03/2021 21:49	1.4	E	40	Yes	IA	Nil
EPA ID 43	15/03/2021 21:27	1.2	E	40	Yes	NM	Nil

Notes:

1. Atmospheric data is sourced from the HVO Corporate AWS using logged meteorological data;
2. Noise criteria apply under all meteorological conditions except during periods of rain or hail, wind speeds greater than 3 m/s measured at 10 metres above ground level, stability category F conditions and wind speeds greater than 2 m/s measured at 10m above ground level, or stability category G conditions;
3. Site-only $L_{Aeq,15minute}$ attributed to HVO;

Table 2 Night LA1,1minute Generated by HVO Against EPL Criteria

Location	Date & Time	Wind Speed (m/s) ¹	Stability Class ¹	Criterion dB	Criterion Applies? ²	HVO LA1, 1min dB ³	Exceedance dB
EPA ID 36	15/03/2021 22:10	1.5	E	46	Yes	IA	Nil
EPA ID 37	15/03/2021 22:50	1.8	E	46	Yes	IA	Nil
EPA ID 38	15/03/2021 22:31	1.5	E	46	Yes	IA	Nil
EPA ID 39	15/03/2021 23:38	1.7	E	46	Yes	IA	Nil
EPA ID 40	15/03/2021 23:31	1.9	E	46	Yes	33	Nil
EPA ID 41	15/03/2021 21:00	1.6	E	46	Yes	36	Nil
EPA ID 42	15/03/2021 21:49	1.4	E	46	Yes	IA	Nil
EPA ID 43	15/03/2021 21:27	1.2	E	46	Yes	NM	Nil

Notes:

1. Atmospheric data is sourced from the HVO Corporate AWS using logged meteorological data;
2. Noise criteria apply under all meteorological conditions except during periods of rain or hail, wind speeds greater than 3 m/s measured at 10 metres above ground level, stability category F conditions and wind speeds greater than 2 m/s measured at 10m above ground level, or stability category G conditions;
3. Site-only LA1,1minute attributed to HVO;