

HUNTER VALLEY OPERATIONS



Environment Protection Licence 640 Monitoring Data – April 2021 Published 17th May

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Table of Contents

1	Overview	3
2	Air Quality	5
3	Surface Water Monitoring Data	7
4	Blast Monitoring Data	8
5	Sewage Treatment Plant Monitoring Data	14
6	Noise Monitoring Data	15

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

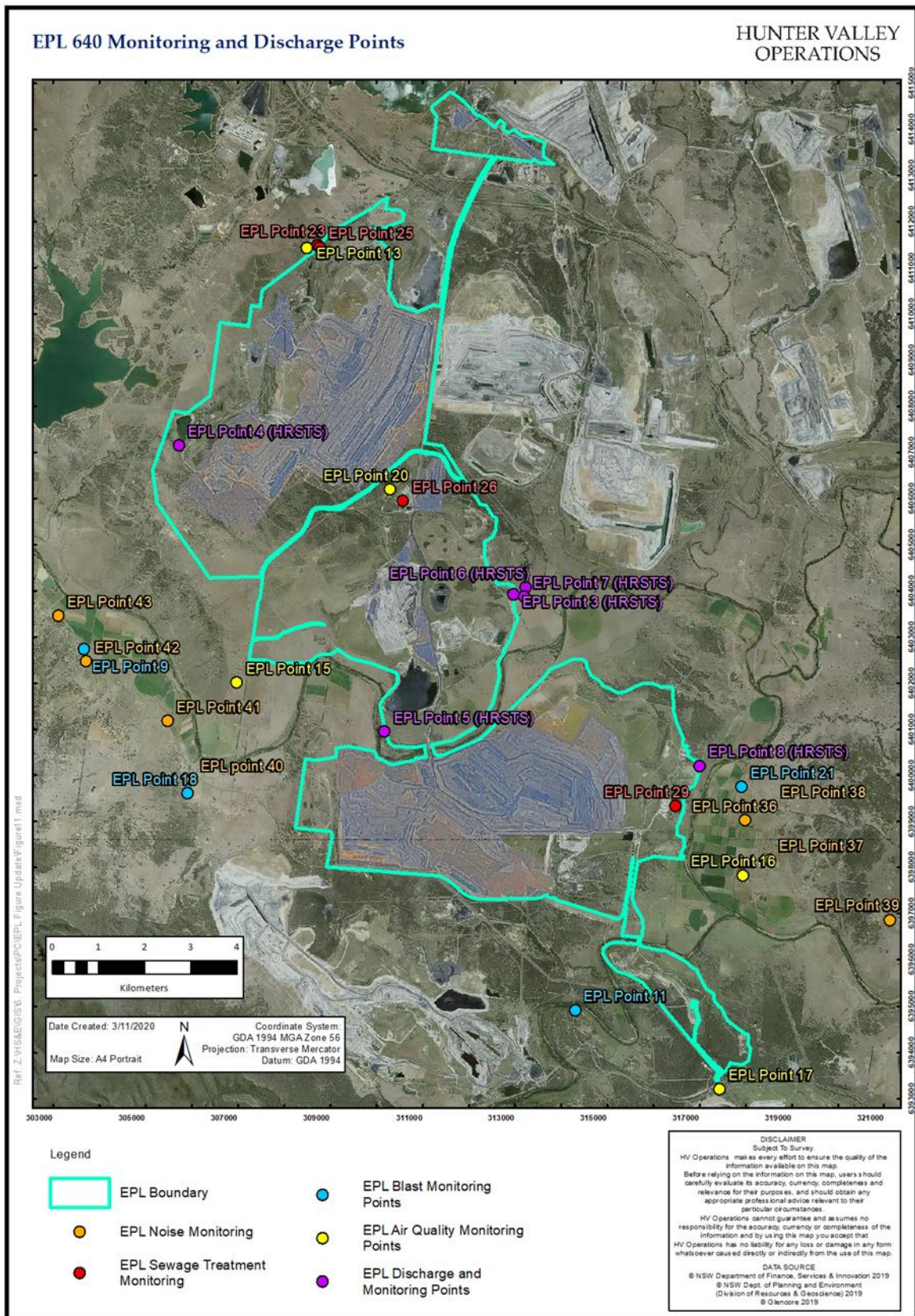


Figure 1 - EPL 640 Monitoring, Sampling and Discharge Point Locations Air Quality Monitoring Data

2 Air Quality

Date Last Sampled: 30/04/2021

Date Obtained: 03/05/2021

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
1/04/2021	µg/m3		24.5	16.4	17.4	20.5	26.3
2/04/2021	µg/m3		24.0	21.2	11.7	14.7	28.9
3/04/2021	µg/m3		24.8	21.3	12.5	14.1	29.7
4/04/2021	µg/m3		27.4	14.7	17.5	20.9	38.0
5/04/2021	µg/m3		38.6	26.9	22.5	42.5	51.8
6/04/2021	µg/m3		22.8	18.8	31.3	16.4	25.8
7/04/2021	µg/m3		17.9	14.2	10.8	*	22.9
8/04/2021	µg/m3		18.9	17.6	10.7	*	18.8
9/04/2021	µg/m3		25.6	13.7	31.6	26.8	31.1
10/04/2021	µg/m3		28.5	20.5	34.8	30.4	43.6
11/04/2021	µg/m3		18.6	13.5	29.2	14.8	35.3
12/04/2021	µg/m3		28.0	18.1	26.3	23.8	35.9
13/04/2021	µg/m3		49.2	31.0	24.1	37.1	83.2
14/04/2021	µg/m3		32.9	15.9	43.4	23.8	64.7
15/04/2021	µg/m3		31.4	18.8	40.9	44.2	71.8
16/04/2021	µg/m3		45.0	28.8	108.3	32.1	73.9
17/04/2021	µg/m3		13.2	12.6	8.5	12.1	15.6
18/04/2021	µg/m3		15.6	13.1	10.3	12.7	23.8
19/04/2021	µg/m3		20.7	13.4	19.4	22.4	40.9
20/04/2021	µg/m3		21.0	14.5	31.0	21.0	45.8
21/04/2021	µg/m3		28.6	14.9	24.5	31.3	39.0

Date	Unit of Measure	Monitoring Frequency & Capture	Monitoring Point				
			EPL ID 13	EPL ID 20	EPL ID 15	EPL ID 16	EPL ID 17
22/04/2021	µg/m3		26.2	11.7	30.5	20.9	47.8
23/04/2021	µg/m3		29.7	16.2	25.7	32.1	56.4
24/04/2021	µg/m3		28.0	19.8	24.9	35.3	43.5
25/04/2021	µg/m3		40.8	23.5	25.7	32.6	44.0
26/04/2021	µg/m3		30.7	22.7	19.4	30.7	56.0
27/04/2021	µg/m3		25.6	19.4	17.9	27.4	50.5
28/04/2021	µg/m3		29.6	21.4	19.6	23.1	48.6
29/04/2021	µg/m3		36.3	18.4	17.5	19.0	41.6
30/04/2021	µg/m3		21.5	19.1	17.7	20.6	59.1
Monthly Meaningful Data							
April	µg/m3	Minimum	13.2	11.7	8.5	12.1	15.6
	µg/m3	Mean	27.5	18.4	25.5	25.1	43.1
	µg/m3	Maximum	49.2	31.0	108.3	44.2	83.2
	µg/m3	Median	26.8	18.3	23.3	23.4	42.6

[†]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 31th of March to 1st of April.

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 4	pH	pH	6.5-9.5	1	1	9.32	9.32	9.32
	Total Suspended Solids	Milligrams per Litre	120	1	1	33	33	33
EPL ID 8	pH	pH	6.5-9.5	1	1	8.86	8.86	8.86
	Total Suspended Solids	Milligrams per Litre	120	1	1	18	18	18

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

4 Blast Monitoring Data

Date Last Sampled: 30/04/2021

Date Obtained: 03/05/2021

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
WN45LAA06B	1/04/2021 13:03	dB(L)	All Blasts 100%	115	120	83.21	91.78	87.2	99.11
P208WK902	6/04/2021 13:35	dB(L)		115	120	93.03	94.41	86.9	91.21
P209BF401A	6/04/2021 13:35	dB(L)		115	120	96.03	98.08	93.14	95.77
WN4709002A	7/04/2021 13:37	dB(L)		115	120	102.73	101.2	88.5	91.34
P207BR301A	10/04/2021 13:26	dB(L)		115	120	94.2	107.65	113.6	109.7
P209WK301A	10/04/2021 13:27	dB(L)		115	120	83.69	103.1	113.6	110.62
P123BR515A	12/04/2021 13:06	dB(L)		115	120	86.1	86.25	87.15	88.77

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
P208WK903A	13/04/2021 13:47	dB(L)		115	120	89.62	82.68	93.23	93.42
WN43BAR03A	14/04/2021 13:00	dB(L)		115	120	102.02	109.91	106.02	106.18
P20800605A	16/04/2021 13:42	dB(L)		115	120	94.34	90.04	98.43	95.18
P207BR302A	17/04/2021 13:07	dB(L)		115	120	101.58	100.8	97.23	97.81
RW33AFA01A	21/04/2021 13:16	dB(L)		115	120	91.55	83.74	91.63	94.47
RW34WHP02A	21/04/2021 13:17	dB(L)		115	120	85.38	86.74	79.66	85.59
P208N0701A	21/04/2021 16:49	dB(L)		115	120	89.25	86.11	96.84	98.1
P207BR303A	23/04/2021 15:40	dB(L)		115	120	89.74	90.46	100.06	99.92
P123BAC08A	24/04/2021 14:07	dB(L)		115	120	81.75	89.82	94.71	96.6
P207BR303B	27/04/2021 13:00	dB(L)		115	120	88.58	91.5	99.27	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
RW33AFA02A	28/04/2021 13:11	dB(L)		115	120	88.81	80.69	86.1	94.07
RW34WHA04A	28/04/2021 13:12	dB(L)		115	120	102.05	95.06	92	95.07
P208FCL01A	28/04/2021 15:32	dB(L)		115	120	91.06	98.62	89.12	90.3
WN47LEC03A	29/04/2021 13:16	dB(L)		115	120	92.51	93.93	79.6	92.55
P207BR303C	30/04/2021 15:22	dB(L)		115	120	94.94	98.37	96.74	98.37
Monthly Meaningful Data									
April		dB(L)	Minimum	115	120	81.75	80.69	79.60	85.59
		dB(L)	Mean	115	120	91.92	93.68	94.12	96.40
		dB(L)	Maximum	115	120	102.73	109.91	113.60	110.62
		dB(L)	Median	115	120	91.31	92.86	93.19	95.48

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
WN45LAA06B	1/04/2021 13:03	mm/s	All Blasts 100%	5	10	0.14	0.07	0.06	0.81
P208WK902	6/04/2021 13:35	mm/s		5	10	0.26	0.09	0.31	0.66
P209BF401A	6/04/2021 13:35	mm/s		5	10	0.13	0.05	0.19	1.13
WN4709002A	7/04/2021 13:37	mm/s		5	10	0.15	0.08	0.07	0.14
P207BR301A	10/04/2021 13:26	mm/s		5	10	0.17	0.07	0.47	0.61
P209WK301A	10/04/2021 13:27	mm/s		5	10	0.1	0.04	0.05	1.12
P123BR515A	12/04/2021 13:06	mm/s		5	10	0.11	0.06	0.05	0.15
P208WK903A	13/04/2021 13:47	mm/s		5	10	0.18	0.09	0.25	1.01
WN43BAR03A	14/04/2021 13:00	mm/s		5	10	0.22	0.22	0.11	0.91
P20800605A	16/04/2021 13:42	mm/s		5	10	0.13	0.05	0.24	0.35

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
P207BR302A	17/04/2021 13:07	mm/s		5	10	0.14	0.05	0.56	0.52
RW33AFA01A	21/04/2021 13:16	mm/s		5	10	0.12	0.06	0.04	0.83
RW34WHP02A	21/04/2021 13:17	mm/s		5	10	0.21	0.08	0.04	0.15
P208N0701A	21/04/2021 16:49	mm/s		5	10	0.15	0.07	0.38	0.94
P207BR303A	23/04/2021 15:40	mm/s		5	10	0.17	0.1	0.47	1.22
P123BAC08A	24/04/2021 14:07	mm/s		5	10	0.11	0.05	0.05	0.24
P207BR303B	27/04/2021 13:00	mm/s		5	10	0.17	0.07	0.52	0.83
RW33AFA02A	28/04/2021 13:11	mm/s		5	10	0.12	0.04	0.08	0.81
RW34WHA04A	28/04/2021 13:12	mm/s		5	10	0.33	0.08	0.08	0.65
P208FCL01A	28/04/2021 15:32	mm/s		5	10	0.1	0.04	0.04	0.11

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
WN47LEC03A	29/04/2021 13:16	mm/s		5	10	0.11	0.07	0.04	0.86
P207BR303C	30/04/2021 15:22	mm/s		5	10	0.19	0.09	0.67	1.08
Monthly Meaningful Data									
April		mm/s	Minimum	5	10	0.10	0.04	0.04	0.11
		mm/s	Mean	5	10	0.16	0.07	0.22	0.69
		mm/s	Maximum	5	10	0.33	0.22	0.67	1.22
		mm/s	Median	5	10	0.15	0.07	0.10	0.81

5 Sewage Treatment Plant Monitoring Data

Date Sampled: 14/04/2021

Date Obtained: 21/04/2021

Table 5 Sewage Treatment Plant Monitoring

Monitoring Site	Date & Time	Pollutant	Unit of Measure	Monitoring Result
EPA ID 23	14/04/2021 11:50	Faecal Coliforms	Colony forming units/100ml	150,000
		pH	pH	7.17
EPA ID 25	14/04/2021 12:08	Faecal Coliforms	Colony forming units/100ml	<910
		pH	pH	7.16
EPA ID 26	14/04/2021 12:55	Faecal Coliforms	Colony forming units/100ml	~1,800
		pH	pH	6.20
EPA ID 29	14/04/2021 14:25	Faecal Coliforms	Colony forming units/100ml	~550
		pH	pH	8.52

6 Noise Monitoring Data

Date Sampled: 26/04/2021

Date Obtained: 12/05/2021

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	26/04/2021 21:02	1.8	E	41	Yes	IA	Nil
EPA ID 37	26/04/2021 21:43	1.4	E	40	Yes	IA	Nil
EPA ID 38	26/04/2021 21:23	1.8	E	39	Yes	IA	Nil
EPA ID 39	26/04/2021 22:38	1.1	E	37	Yes	IA	Nil
EPA ID 40	26/04/2021 23:13	0.9	E	39	Yes	33	Nil
EPA ID 41	26/04/2021 21:03	1.8	E	39	Yes	29	Nil
EPA ID 42	26/04/2021 21:47	1.4	E	40	Yes	30	Nil
EPA ID 43	26/04/2021 21:25	1.8	E	40	Yes	30	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	26/04/2021 21:02	1.8	E	46	Yes	IA	Nil
EPA ID 37	26/04/2021 21:43	1.4	E	46	Yes	IA	Nil
EPA ID 38	26/04/2021 21:23	1.8	E	46	Yes	IA	Nil
EPA ID 39	26/04/2021 22:38	1.1	E	46	Yes	IA	Nil
EPA ID 40	26/04/2021 23:13	0.9	E	46	Yes	36	Nil
EPA ID 41	26/04/2021 21:03	1.8	E	46	Yes	31	Nil
EPA ID 42	26/04/2021 21:47	1.4	E	46	Yes	34	Nil
EPA ID 43	26/04/2021 21:25	1.8	E	46	Yes	32	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;