

# HUNTER VALLEY OPERATIONS



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## Environment Protection Licence 640 Monitoring Data – February 2021 Published 18<sup>th</sup> March

**Document Number:** HVOOC-1797567310-3657

**Status:** Approved

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## Table of Contents

1	Overview .....	3
2	Air Quality .....	5
3	Surface Water Monitoring Data .....	7
4	Blast Monitoring Data .....	9
5	Sewage Treatment Plant Monitoring Data .....	13
6	Noise Monitoring Data .....	14

# 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 <sup>2</sup> /month	Grams per Metre Square per Month
µg/m <sup>3</sup>	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

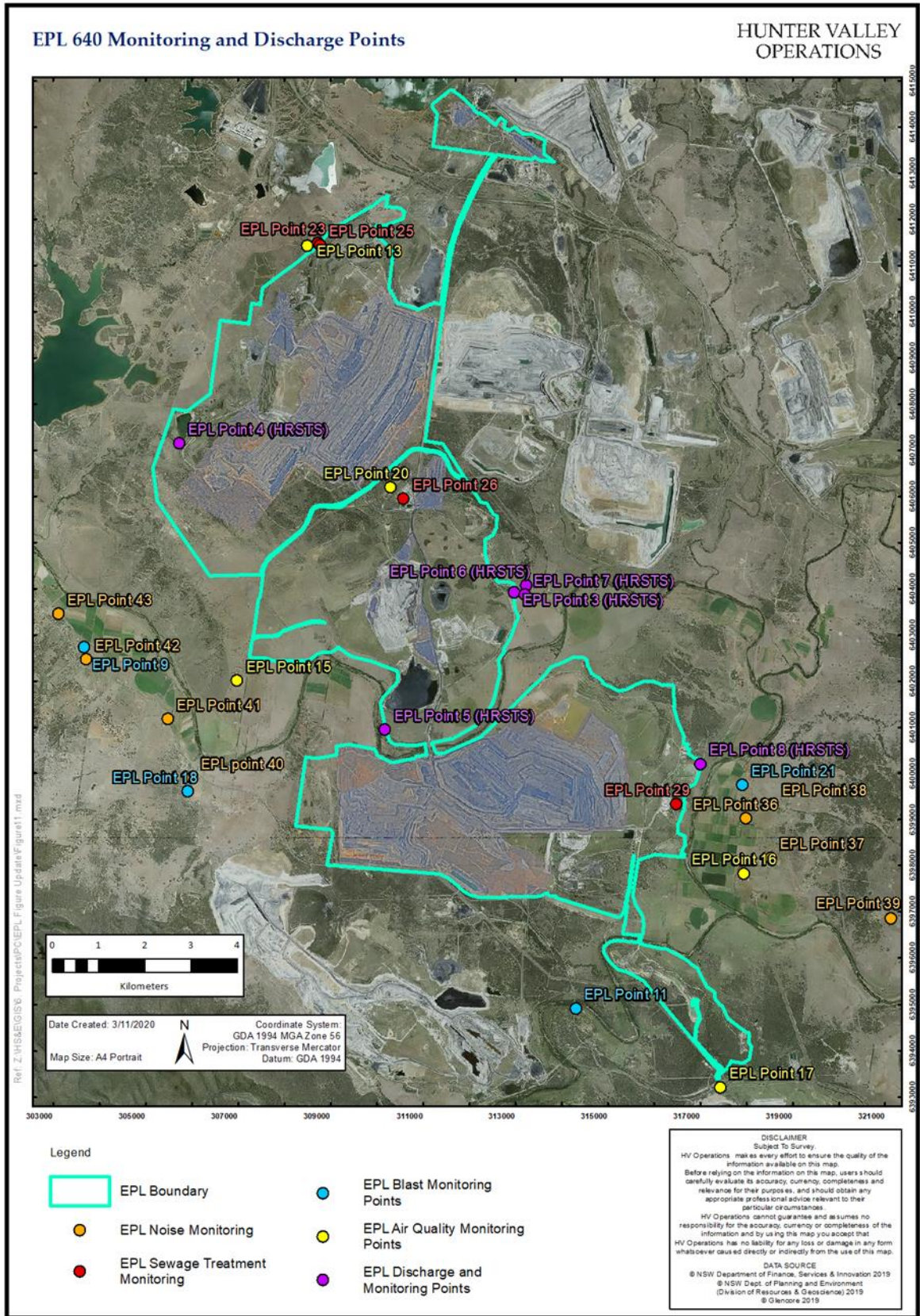


Figure 1 - EPL 640 Monitoring, Sampling and Discharge Point Locations Air Quality Monitoring Data

## 2 Air Quality

Date Last Sampled: 28/02/2021

Date Obtained: 01/03/2021

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
1/02/2021	µg/m <sup>3</sup>	Continuous	29.0	25.1	16.2	18.8	21.3
2/02/2021	µg/m <sup>3</sup>		15.1	15.7	13.7	13.7	13.4
3/02/2021	µg/m <sup>3</sup>		31.7	27.4	21.4	16.2	18.5
4/02/2021	µg/m <sup>3</sup>		35.2	34.0	24.2	19.7	22.7
5/02/2021	µg/m <sup>3</sup>		31.4	31.6	21.8	15.4	17.4
6/02/2021	µg/m <sup>3</sup>		21.6	30.2	17.6	14.4	18.1
7/02/2021	µg/m <sup>3</sup>		17.5	16.5	16.5	9.7	16.8
8/02/2021	µg/m <sup>3</sup>		25.4	23.9	15.4	14.3	-*
9/02/2021	µg/m <sup>3</sup>		25.2	25.5	15.1	15.7	-*
10/02/2021	µg/m <sup>3</sup>		25.8	27.9	15.8	15.4	18.0
11/02/2021	µg/m <sup>3</sup>		26.0	35.6	19.0	17.2	16.9
12/02/2021	µg/m <sup>3</sup>		32.9	51.4	29.0	27.9	26.7
13/02/2021	µg/m <sup>3</sup>		16.4	22.5	13.4	16.8	15.6
14/02/2021	µg/m <sup>3</sup>		20.3	19.4	17.1	15.4	22.4
15/02/2021	µg/m <sup>3</sup>		31.5	29.6	12.0	15.0	26.2
16/02/2021	µg/m <sup>3</sup>		14.8	19.4	14.2	7.3	11.5
17/02/2021	µg/m <sup>3</sup>		21.5	19.4	14.7	16.0	19.5
18/02/2021	µg/m <sup>3</sup>		28.3	30.8	18.4	22.2	22.7
19/02/2021	µg/m <sup>3</sup>		18.0	22.0	12.2	14.9	12.7
20/02/2021	µg/m <sup>3</sup>		20.3	19.0	13.9	15.3	15.9
21/02/2021	µg/m <sup>3</sup>		18.4	21.9	12.9	12.9	15.3
22/02/2021	µg/m <sup>3</sup>		19.2	22.1	10.7	19.0	23.5

Date	Unit of Measure	Monitoring Frequency & Capture	Monitoring Point				
			EPL ID 13	EPL ID 20	EPL ID 15	EPL ID 16	EPL ID 17
23/02/2021	µg/m <sup>3</sup>		23.4	18.6	12.4	13.6	22.2
24/02/2021	µg/m <sup>3</sup>		18.1	20.7	10.6	15.1	14.9
25/02/2021	µg/m <sup>3</sup>		20.3	27.9	14.5	17.5	19.8
26/02/2021	µg/m <sup>3</sup>		24.8	30.3	19.1	23.9	19.1
27/02/2021	µg/m <sup>3</sup>		23.8	23.5	19.0	17.0	17.9
28/02/2021	µg/m <sup>3</sup>		31.8	30.3	23.8	24.2	25.9
Monthly Meaningful Data							
February	µg/m <sup>3</sup>	Minimum	14.8	15.7	10.6	7.3	11.5
	µg/m <sup>3</sup>	Mean	23.8	25.8	16.6	16.6	19.0
	µg/m <sup>3</sup>	Maximum	35.2	51.4	29.0	27.9	26.7
	µg/m <sup>3</sup>	Median	23.6	24.5	15.6	15.6	18.3

Notes: \* Data miscapture on the 8<sup>th</sup> and 9<sup>th</sup> February was the result of a power outage at EPL ID 17 resulting in <75% data capture.

### 3 Surface Water Monitoring Data

Date Sampled: No discharge occurred. Sample not required.

Table 2 – Mine Water Discharge Monitoring

Discharge Point	Date	Pollutant	Unit of Measure	Licence Limits	No. Samples Required by Licence	No. Samples Collected and Analysed
EPL ID 3	N/A	Electrical Conductivity	Microsiemens per Centimetre	-	0	0
		pH	pH	6.5-9.5	0	0
		Total Suspended Solids	Milligrams per Litre	120	0	0
EPL ID 4	N/A	Electrical Conductivity	Microsiemens per Centimetre	-	0	0
		pH	pH	6.5-9.5	0	0
		Total Suspended Solids	Milligrams per Litre	120	0	0
EPL ID 5	N/A	Electrical Conductivity	Microsiemens per Centimetre	400	0	0
		pH	pH	-	0	0
		Total Suspended Solids	Milligrams per Litre	-	0	0
EPL ID 6	N/A	Electrical Conductivity	Microsiemens per Centimetre	-	0	0
		pH	pH	-	0	0
		Total Suspended Solids	Milligrams per Litre	-	0	0
EPL ID 7	N/A	Electrical Conductivity	Microsiemens per Centimetre	-	0	0
		pH	pH	-	0	0
		Total Suspended Solids	Milligrams per Litre	-	0	0

Discharge Point	Date	Pollutant	Unit of Measure	Licence Limits	No. Samples Required by Licence	No. Samples Collected and Analysed
EPL ID 8	N/A	Electrical Conductivity	Microsiemens per Centimetre	-	0	0
		pH	pH	-	0	0
		Total Suspended Solids	Milligrams per Litre	-	0	0



# 4 Blast Monitoring Data

Date Last Sampled: 25/02/2021

Date Obtained: 02/03/2021

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
P124WK301A	1/02/2021 13:32	dB(L)	All Blasts 100%	115	120	88.5	90.92	96.85	89.11
P205BAC05A_P201BR101B	4/02/2021 14:35	dB(L)		115	120	86.52	81.84	95.72	92.85
P20800601	5/02/2021 13:42	dB(L)		115	120	90.31	100.67	92.34	94.78
RW34GMC01A	9/02/2021 10:17	dB(L)		115	120	100.78	92	96.7	90.43
WN45LAA04A	10/02/2021 13:14	dB(L)		115	120	96.3	101.05	81.27	89.41
WN43LLD01A	12/02/2021 15:46	dB(L)		115	120	98.6	101.74	94.45	101.45
P123B5P04A	12/02/2021 16:54	dB(L)		115	120	103.83	99.49	96.68	91.52

Number: HVOOC-1797567310-3657

Status: Approved

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Owner: Environment and Community Coordinator

Version: 1.0

Review: [Planned Review Date]

Page 9 of 15

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
P124WK503A	16/02/2021 13:34	dB(L)		115	120	107.6	107.1	106.7	92.7
P207BR102A	19/02/2021 13:18	dB(L)		115	120	101.6	105.8	94.3	93.8
P123BR511A	23/02/2021 14:00	dB(L)		115	120	100.6	91.2	101.8	90.2
P20800602A_P20800603A	25/02/2021 09:31	dB(L)		115	120	84.7	83.7	96.3	94.5
Monthly Meaningful Data									
<b>February</b>		dB(L)	Minimum	115	120	84.7	81.8	81.3	89.1
		dB(L)	Mean	115	120	96.3	95.9	95.7	92.8
		dB(L)	Maximum	115	120	107.6	107.1	106.7	101.5
		dB(L)	Median	115	120	98.6	99.5	96.3	92.7

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
P124WK301A	1/02/2021 13:32	mm/s	All Blasts 100%	5	10	0.1	0.03	0.09	0.36
P205BAC05A_P201BR101B	4/02/2021 14:35	mm/s		5	10	0.15	0.07	0.33	0.62
P20800601	5/02/2021 13:42	mm/s		5	10	0.16	0.09	0.45	0.83
RW34GMC01A	9/02/2021 10:17	mm/s		5	10	0.15	0.03	0.04	0.17
WN45LAA04A	10/02/2021 13:14	mm/s		5	10	0.14	0.09	0.08	0.36
WN43LLD01A	12/02/2021 15:46	mm/s		5	10	0.22	0.19	0.12	0.23
P123B5P04A	12/02/2021 16:54	mm/s		5	10	0.15	0.07	0.17	0.34
P124WK503A	16/02/2021 13:34	mm/s		5	10	0.11	0.06	0.05	0.98
P207BR102A	19/02/2021 13:18	mm/s		5	10	0.2	0.09	0.52	0.77
P123BR511A	23/02/2021 14:00	mm/s		5	10	0.17	0.05	0.14	0.4

Number: HVOOC-1797567310-3657

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Version: 1.0

Review: [Planned Review Date]

Page 11 of 15

P20800602A_P20800603A	25/02/2021 09:31	mm/s		5	10	0.16	0.05	0.22	0.93
<b>Monthly Meaningful Data</b>									
<b>February</b>	mm/s	Minimum		5	10	0.10	0.03	0.04	0.17
	mm/s	Mean		5	10	0.16	0.07	0.20	0.54
	mm/s	Maximum		5	10	0.22	0.19	0.52	0.98
	mm/s	Median		5	10	0.15	0.07	0.14	0.40

# 5 Sewage Treatment Plant Monitoring Data

Date Sampled: 09/02/2021

Date Obtained: 11/03/2021

*Table 5 Sewage Treatment Plant Monitoring*

Monitoring Site	Date & Time	Pollutant	Unit of Measure	Monitoring Result
EPA ID 23	09/02/2021 09:45	Faecal Coliforms	Colony forming units/100ml	36,000
		pH	pH	7.21
EPA ID 25	09/02/2021 10:00	Faecal Coliforms	Colony forming units/100ml	Insufficient Water-
		pH	pH	Insufficient Water
EPA ID 26	09/02/2021 11:55	Faecal Coliforms	Colony forming units/100ml	2,100,000
		pH	pH	7.45
EPA ID 29	09/02/2021 13:35	Faecal Coliforms	Colony forming units/100ml	<1000
		pH	pH	9.19

## 6 Noise Monitoring Data

Date Sampled: 23/02/2021

Date Obtained: 26/02/2021

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

Location	Date & Time	Wind Speed (m/s) <sup>1</sup>	Stability Class <sup>1</sup>	Criterion dB	Criterion Applies? <sup>2</sup>	HVO $L_{Aeq}$ dB <sup>3</sup>	Exceedance dB <sup>4</sup>
EPA ID 36	23/02/2021 21:00	4.4	D	41	No	IA	NA
EPA ID 37	23/02/2021 21:41	3.6	D	40	No	IA	NA
EPA ID 38	23/02/2021 21:20	4	D	39	No	IA	NA
EPA ID 39	23/02/2021 22:30	3.7	D	37	No	IA	NA
EPA ID 40	23/02/2021 23:32	3.6	D	39	No	IA	NA
EPA ID 41	23/02/2021 21:00	4.4	D	39	No	IA	NA
EPA ID 42	23/02/2021 21:51	3.6	D	40	No	IA	NA
EPA ID 43	23/02/2021 21:29	3.7	D	40	No	IA	NA

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;
4. NA in exceedance column means atmospheric conditions outside specified in approval, therefore criterion was not applicable.

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

Location	Date & Time	Wind Speed (m/s) <sup>1</sup>	Stability Class <sup>1</sup>	Criterion dB	Criterion Applies? <sup>2</sup>	HVO LAeq dB <sup>3</sup>	Exceedance dB <sup>4</sup>
EPA ID 36	23/02/2021 21:00	4.4	D	46	No	IA	NA
EPA ID 37	23/02/2021 21:41	3.6	D	46	No	IA	NA
EPA ID 38	23/02/2021 21:20	4	D	46	No	IA	NA
EPA ID 39	23/02/2021 22:30	3.7	D	46	No	IA	NA
EPA ID 40	23/02/2021 23:32	3.6	D	46	No	IA	NA
EPA ID 41	23/02/2021 21:00	4.4	D	46	No	IA	NA
EPA ID 42	23/02/2021 21:51	3.6	D	46	No	IA	NA
EPA ID 43	23/02/2021 21:29	3.7	D	46	No	IA	NA

**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;
4. NA in exceedance column means atmospheric conditions outside specified in approval, therefore criterion was not applicable.