

**HUNTER VALLEY**  
OPERATIONS

**ENVIRONMENT  
PROTECTION LICENCE 640  
MONITORING DATA -  
MARCH 2024**

**DOCUMENT NUMBER**  
HVOOC-1797567310-4945

**STATUS**  
Approved

**VERSION**  
1.0

**EFFECTIVE**  
14/06/2024

**REVIEW**  
[Planned Review Date]

**OWNER**  
Superintendent - Environment and Community



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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:** <https://apps.epa.nsw.gov.au/prpoeoapp/Detail.aspx?instid=640&id=640&option=licence&searchrange=licence&range=POEO%20licence&prp=no&status=Issued>

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

## 2 | 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

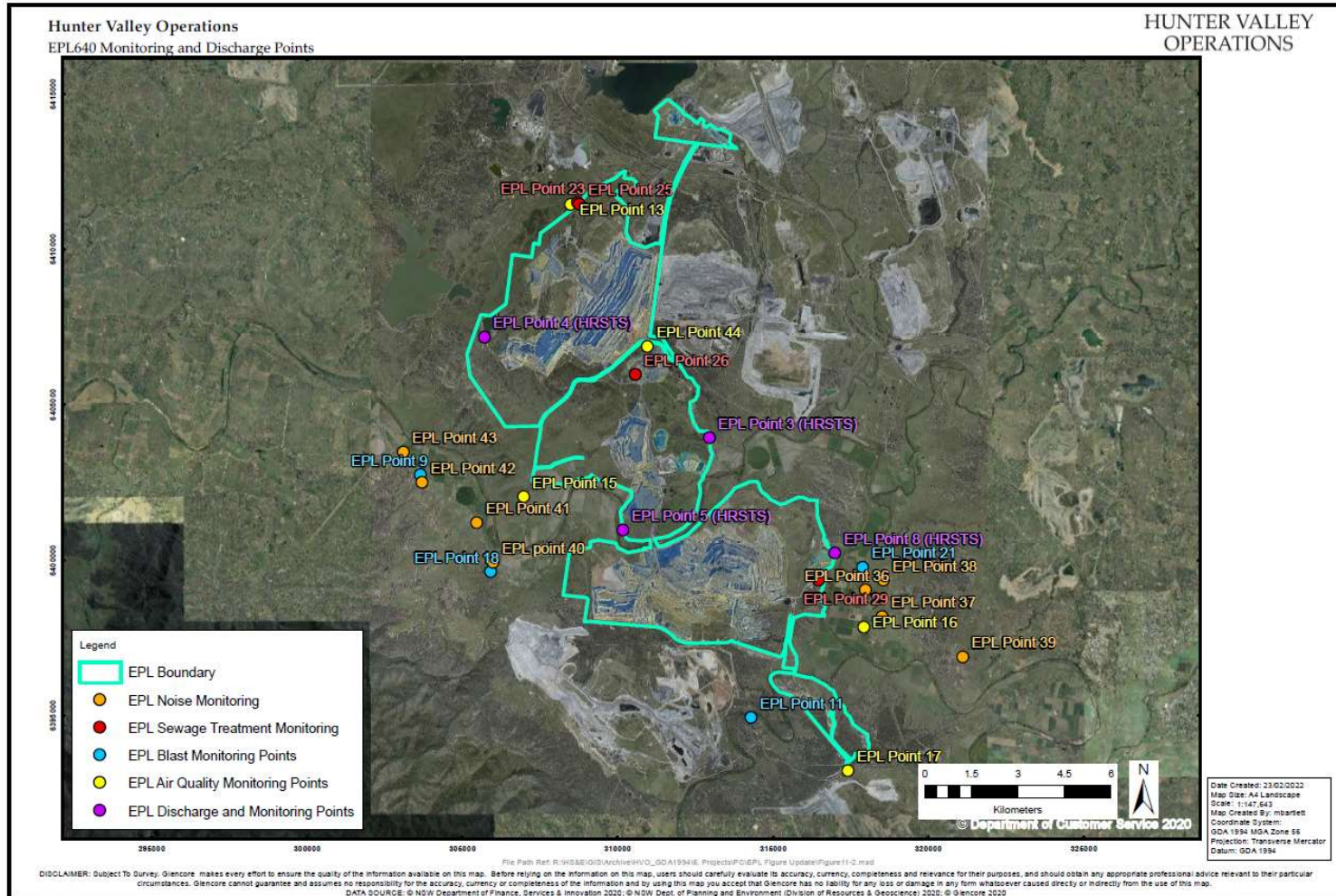


Figure 1: EPL 640 Monitoring Location

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### 3 | AIR QUALITY

**Date Last Sampled:** 31/03/2024

**Date Obtained:** 15/05/2024

Table 1 - Particulate Matter Monitoring (<10µm)

Date	Unit of Measure	Monitoring Frequency & Capture	Monitoring Point				
			EPL ID 13 (Howick)	EPL ID 15 (Wandewoi)	EPL ID 16 (Knodlers Lane)	EPL ID 17 (Golden Highway)	EPL ID 44 (West Pit)
1/03/2024	µg/m <sup>3</sup>	Continuous	36.7	33.3	39.3	32.3	67.1
2/03/2024	µg/m <sup>3</sup>		27.8	22.1	34.6	22.7	65.1
3/03/2024	µg/m <sup>3</sup>		27.2	23.0	25.2	40.4	51.0
4/03/2024	µg/m <sup>3</sup>		32.1	30.9	29.4	32.4	29.2
5/03/2024	µg/m <sup>3</sup>		29.1	30.2	30.0	26.9	22.2
6/03/2024	µg/m <sup>3</sup>		32.0	29.9	39.5	33.6	48.9
7/03/2024	µg/m <sup>3</sup>		41.7	30.2	25.2	40.9	67.5
8/03/2024	µg/m <sup>3</sup>		25.9	19.9	23.3	13.4	*
9/03/2024	µg/m <sup>3</sup>		27.2	30.3	25.6	16.7	32.7
10/03/2024	µg/m <sup>3</sup>		28.1	29.6	29.0	19.7	33.0
11/03/2024	µg/m <sup>3</sup>		33.8	27.1	31.8	21.8	51.6
12/03/2024	µg/m <sup>3</sup>		44.5	34.8	47.5	60.4	74.4
13/03/2024	µg/m <sup>3</sup>		50.1	53.0	54.9	38.5	99.9
14/03/2024	µg/m <sup>3</sup>		*	32.4	62.4	37.7	80.8
15/03/2024	µg/m <sup>3</sup>		27.8	18.8	39.5	23.1	34.2
16/03/2024	µg/m <sup>3</sup>		31.4	25.0	22.3	19.5	29.7

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## MONITORING DATA - MARCH 2024

17/03/2024	µg/m <sup>3</sup>		16.7	11.1	8.3	10.7	18.8
18/03/2024	µg/m <sup>3</sup>		17.5	11.9	9.7	13.4	22.4
19/03/2024	µg/m <sup>3</sup>		21.0	18.7	14.5	14.9	28.5
20/03/2024	µg/m <sup>3</sup>		17.4	14.5	15.1	17.0	*
21/03/2024	µg/m <sup>3</sup>		28.0	21.8	19.0	24.5	*
22/03/2024	µg/m <sup>3</sup>		23.8	18.8	25.1	26.4	26.7
23/03/2024	µg/m <sup>3</sup>		25.0	22.2	18.8	23.7	41.8
24/03/2024	µg/m <sup>3</sup>		22.4	23.6	23.3	22.4	41.5
25/03/2024	µg/m <sup>3</sup>		26.7	24.6	23.9	34.8	51.6
26/03/2024	µg/m <sup>3</sup>		43.5	*	33.6	52.0	81.9
27/03/2024	µg/m <sup>3</sup>		30.2	*	23.6	29.2	28.0
28/03/2024	µg/m <sup>3</sup>		30.4	*	29.9	33.7	31.0
29/03/2024	µg/m <sup>3</sup>		30.6	30.5	28.4	24.9	16.5
30/03/2024	µg/m <sup>3</sup>		24.0	*	35.5	33.5	77.4
31/03/2024	µg/m <sup>3</sup>		22.4	*	20.7	18.6	19.4
<b>Monthly Meaningful Data</b>							
<b>March</b>	<b>µg/m<sup>3</sup></b>	<b>Minimum</b>	16.7	11.1	8.3	10.7	16.5
	<b>µg/m<sup>3</sup></b>	<b>Mean</b>	29.2	25.7	28.7	27.7	46.4
	<b>µg/m<sup>3</sup></b>	<b>Maximum</b>	50.1	53.0	62.4	60.4	99.9
	<b>µg/m<sup>3</sup></b>	<b>Median</b>	27.9	24.8	25.6	24.9	41.6

\* Less than 75% 24-hour data capture

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## 4 | SURFACE WATER MONITORING DATA

No discharges under the HRSTS occurred during March.

*Table 2 - HRSTS Discharge Monitoring*

Discharge Point	Pollutant	Unit of Measure	Licence Limits	No. Samples Required by Licence	No. Samples Collected and Analysed
EPL ID 3 (Dam 11N)	pH	pH	6.5-9.5	0	0
	Total Suspended Solids	Milligrams per Litre	120	0	0
EPL ID 4 (Dam 9W)	pH	pH	6.5-9.5	0	0
	Total Suspended Solids	Milligrams per Litre	120	0	0
EPL ID 8 (Dam 15S)	pH	pH	6.5-9.5	0	0
	Total Suspended Solids	Milligrams per Litre	120	0	0

## 5 | BLAST MONITORING DATA

**Date Last Sampled:** 28/03/2024

**Date Obtained:** 14/05/2023

*Table 3 – Blast Monitoring (Air Blast Overpressure)*

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 21	Warkworth EPL ID 11
WN49UAA01C	1/03/2024 13:16	dB(L)	All blasts 100%	115	120	95.15	86.34	89.76	78.95
P101WK1001A	1/03/2024 15:15	dB(L)		115	120	92.77	87.10	92.05	94.40
P209BR301A	4/03/2024 13:29	dB(L)		115	120	101.91	103.60	101.33	92.72
WS49LEC07B	6/03/2024 16:21	dB(L)		115	120	94.53	80.10	76.57	94.78
WS49LAL05B	6/03/2024 16:22	dB(L)		115	120	90.21	83.59	84.56	88.95
P209BR301B	8/03/2024 12:59	dB(L)		115	120	104.70	94.33	103.09	91.10

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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 21	Warkworth EPL ID 11
M1T311003A	9/03/2024 16:18	dB(L)	All Blasts 100%	115	120	94.43	97.97	106.80	100.18
P101WK1002A_P101M3P01A	11/03/2024 13:15	dB(L)		115	120	104.90	98.68	100.82	85.68
P21003504A	15/03/2024 11:32	dB(L)		115	120	105.35	94.46	98.22	93.66
M1T209502A	15/03/2024 12:58	dB(L)		115	120	99.76	107.51	90.12	85.57
P101WK1003A	16/03/2024 12:58	dB(L)		115	120	101.62	91.76	95.95	88.18
P209BR301C	21/03/2024 13:14	dB(L)		115	120	108.90	102.53	103.54	94.14
WS49LEB10A	23/03/2024 13:11	dB(L)		115	120	86.06	83.70	80.37	80.95
WS49LDP02B	23/03/2024 13:12	dB(L)		115	120	91.66	73.28	88.35	85.97
P12500504A_P125N10P03A	25/03/2024 13:27	dB(L)		115	120	103.77	85.68	96.21	89.77

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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 21	Warkworth EPL ID 11
P210W3P01A	25/03/2024 13:29	dB(L)		115	120	101.41	89.00	93.70	95.49
WS49LEB10B	26/03/2024 16:25	dB(L)		115	120	98.33	84.95	85.48	90.87
WN49LPG05A	28/03/2024 16:23	dB(L)		115	120	91.82	104.61	108.87	98.55
WS49LED04A_WS49LED05A	28/03/2024 16:25	dB(L)		115	120	105.08	101.70	107.66	90.24
WS46BAF02B	28/03/2024 17:42	dB(L)		115	120	104.73	102.64	104.60	97.23
<b>Monthly Meaningful Data</b>									
<b>March</b>		dB(L)	Minimum	115	120	86.06	73.28	76.57	78.95
		dB(L)	Mean	115	120	98.85	92.68	95.40	90.87
		dB(L)	Maximum	115	120	108.90	107.51	108.87	100.18
		dB(L)	Median	115	120	100.59	93.05	96.08	90.99

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Table 4 – Blast Monitoring (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 21	Warkworth EPL ID 11
WN49UAA01C	1/03/2024 13:16	mm/s	All Blasts 100%	5	10	0.15	0.12	0.17	0.09
P101WK1001A	1/03/2024 15:15	mm/s		5	10	0.14	0.06	0.13	0.26
P209BR301A	4/03/2024 13:29	mm/s		5	10	0.19	0.12	0.67	1.10
WS49LEC07B	6/03/2024 16:21	mm/s		5	10	0.10	0.05	0.08	0.26
WS49LAL05B	6/03/2024 16:22	mm/s		5	10	0.09	0.04	0.08	0.11
P209BR301B	8/03/2024 12:59	mm/s		5	10	0.12	0.06	0.51	0.60
M1T311003A	9/03/2024 16:18	mm/s		5	10	0.11	0.11	0.09	0.09
P101WK1002A_P101M3P01A	11/03/2024 13:15	mm/s		5	10	0.15	0.07	0.13	0.13
P21003504A	15/03/2024 11:32	mm/s		5	10	0.10	0.03	0.15	0.39
M1T209502A	15/03/2024 12:58	mm/s		5	10	0.10	0.11	0.07	0.15
P101WK1003A	16/03/2024 12:58	mm/s		5	10	0.19	0.08	0.09	0.17
P209BR301C	21/03/2024 13:14	mm/s		5	10	0.13	0.09	0.33	0.91
WS49LEB10A	23/03/2024 13:11	mm/s		5	10	0.08	0.06	0.05	0.08
WS49LDP02B	23/03/2024 13:12	mm/s		5	10	0.08	0.02	0.05	0.05

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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 21	Warkworth EPL ID 11
P12500504A_P125N10P03A	25/03/2024 13:27	mm/s		5	10	0.30	0.14	0.32	0.80
P210W3P01A	25/03/2024 13:29	mm/s		5	10	0.18	0.09	0.18	0.27
WS49LEB10B	26/03/2024 16:25	mm/s		5	10	0.09	0.07	0.09	0.41
WN49LPG05A	28/03/2024 16:23	mm/s		5	10	0.09	0.05	0.08	0.06
WS49LED04A_WS49LED05A	28/03/2024 16:25	mm/s		5	10	0.13	0.08	0.09	0.34
WS46BAF02B	28/03/2024 17:42	mm/s		5	10	0.08	0.03	0.04	0.34
Monthly Meaningful Data									
March	mm/s	Minimum	5	10	0.08	0.02	0.04	0.05	
	mm/s	Mean	5	10	0.13	0.07	0.17	0.33	
	mm/s	Maximum	5	10	0.30	0.14	0.67	1.10	
	mm/s	Median	5	10	0.12	0.07	0.09	0.26	

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## 6 | SEWAGE TREATMENT PLANT MONITORING DATA

**Date Sampled:** 11/03/2024

**Date Obtained:** 15/05/2024

*Table 5 – Sewage Treatment Plant Monitoring*

Monitoring Site	Date & Time	Pollutant	Unit of Measure	Monitoring Result
EPA ID 23	11/03/2024 08:55:00	Faecal Coliforms	Colony forming units/100ml	1,490,000
		pH	pH	7.4
EPA ID 25	11/03/2024 08:45:00	Faecal Coliforms	Colony forming units/100ml	No sample collected. Water level too low
		pH	pH	
EPA ID 26	11/03/2024 10:00:00	Faecal Coliforms	Colony forming units/100ml	900,000
		pH	pH	7.7
EPA ID 29	11/03/2024 11:30:00	Faecal Coliforms	Colony forming units/100ml	7,600
		pH	pH	8.9



## 7 | NOISE MONITORING DATA

Date Sampled: 6/03/2024

Date Obtained: 12/03/2024

Table 6 – Night  $L_{Aeq,15minute}$  and  $L_{A1,1minute}$  Generated by HVO Against EPL Criteria

Location	Start date and time	Wind		Stability class	Very enhancing? <sup>1</sup>	EPL limits, dB <sup>1</sup>		HVO levels, dB		Exceedances, dB	
		Speed m/s	Direction <sup>3</sup>			$L_{Aeq,15minute}$	$L_{A1,1min}$	$L_{Aeq,15minute}$ <sup>2</sup>	$L_{A1,1min}$	$L_{Aeq,15minute}$	$L_{A1,1min}$
Shearers Lane	6/03/2024 21:00	2.6	121	E	No	41	46	IA	IA	Nil	Nil
Knodlers Lane	6/03/2024 21:51	2.4	143	E	No	40	46	IA	IA	Nil	Nil
Maison Dieu	6/03/2024 21:24	2.5	142	E	No	39	46	IA	IA	Nil	Nil
Long Point (Dights Crossing)	6/03/2024 23:07	2.1	151	E	No	37	46	IA	IA	Nil	Nil
Kilburnie South	6/03/2024 23:36	2.3	156	E	No	39	46	38	38	Nil	Nil
Jerrys Plains East	6/03/2024 23:10	2.4	148	E	No	39	46	33	33	Nil	Nil
Jerrys Plains Village	6/03/2024 21:33	2.5	142	E	No	40	46	34	34	Nil	Nil
Jerrys Plains West	6/03/2024 21:01	2.6	121	E	No	40	46	35	35	Nil	Nil

Notes: 1. Noise limits are adjusted by +5 dB during 'very noise-enhancing meteorological conditions' in accordance with the NPfl.

2. Site-only  $L_{Aeq,15minute}$ , includes modifying factor penalties if applicable.

3. Degrees magnetic north, "-" indicates calm conditions.

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