

**HUNTER VALLEY**  
OPERATIONS

**ENVIRONMENT  
PROTECTION LICENCE 640  
MONITORING DATA -  
OCTOBER 2023**

**DOCUMENT NUMBER**

HVOOC-1797567310-4846

**STATUS**

Approved

**VERSION**

1.0

**EFFECTIVE**

09/01/2024

**REVIEW**

[Planned Review Date]

**OWNER**

Superintendent - Environment and Community



## MONITORING DATA - OCTOBER 2023

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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

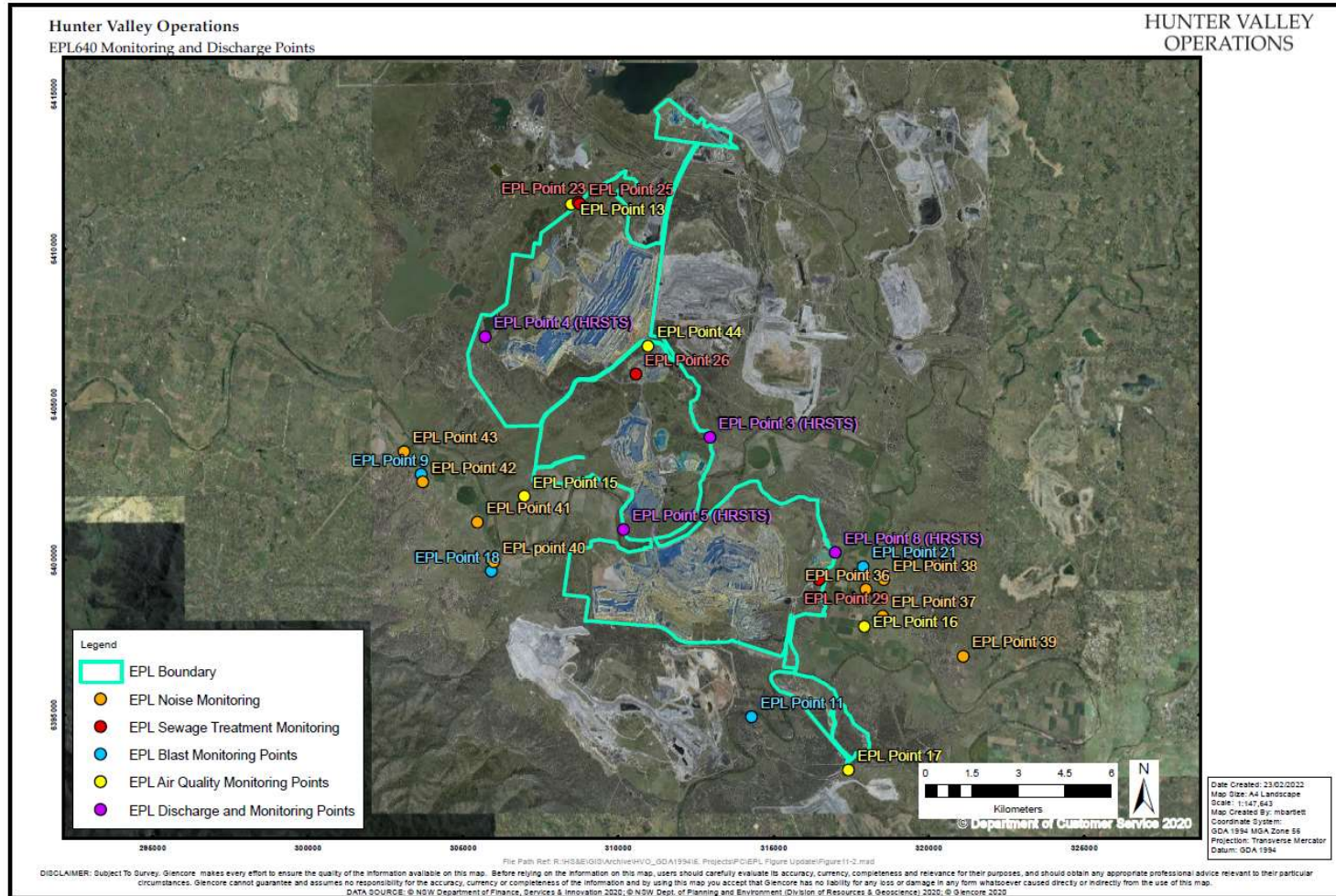


Figure 1: EPL 640 Monitoring Location

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### 3 | AIR QUALITY

**Date Last Sampled:** 31/10/2023

**Date Obtained:** 13/12/2023

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)
1/10/2023	µg/m <sup>3</sup>	Continuous	42.9	28.5	64.6	61.4	165.2
2/10/2023	µg/m <sup>3</sup>		65.4	52.0	*	49.5	68.6
3/10/2023	µg/m <sup>3</sup>		41.0	26.0	*	46.6	152.1
4/10/2023	µg/m <sup>3</sup>		21.6	27.3	*	37.6	80.1
5/10/2023	µg/m <sup>3</sup>		8.3	2.7	*	11.8	38.5
6/10/2023	µg/m <sup>3</sup>		24.0	13.7	17.7	18.0	33.2
7/10/2023	µg/m <sup>3</sup>		22.5	20.2	22.8	22.7	18.8
8/10/2023	µg/m <sup>3</sup>		35.5	19.9	23.4	16.5	23.5
9/10/2023	µg/m <sup>3</sup>		27.2	20.0	18.5	*	67.3
10/10/2023	µg/m <sup>3</sup>		36.3	32.3	27.3	37.0	82.7
11/10/2023	µg/m <sup>3</sup>		35.8	31.3	24.5	31.3	40.5
12/10/2023	µg/m <sup>3</sup>		36.3	24.3	39.5	47.9	124.7
13/10/2023	µg/m <sup>3</sup>		16.9	9.9	24.3	30.9	50.9
14/10/2023	µg/m <sup>3</sup>		25.5	8.7	36.9	30.0	88.4
15/10/2023	µg/m <sup>3</sup>		28.2	21.7	50.1	49.2	59.4

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## MONITORING DATA - OCTOBER 2023

16/10/2023	µg/m <sup>3</sup>		32.8	23.2	54.4	71.7	154.1
17/10/2023	µg/m <sup>3</sup>		37.8	16.6	27.6	46.1	54.3
18/10/2023	µg/m <sup>3</sup>		27.1	22.8	26.5	*	21.8
19/10/2023	µg/m <sup>3</sup>		34.1	24.3	25.5	4.9	36.3
20/10/2023	µg/m <sup>3</sup>		35.8	37.1	32.9	37.6	85.2
21/10/2023	µg/m <sup>3</sup>		38.0	35.5	37.8	40.4	74.8
22/10/2023	µg/m <sup>3</sup>		33.2	27.1	50.3	59.3	105.6
23/10/2023	µg/m <sup>3</sup>		43.6	26.5	45.9	34.3	66.4
24/10/2023	µg/m <sup>3</sup>		52.4	28.9	48.3	64.0	144.9
25/10/2023	µg/m <sup>3</sup>		51.2	37.0	81.9	60.2	98.7
26/10/2023	µg/m <sup>3</sup>		21.5	13.2	16.3	5.7	27.0
27/10/2023	µg/m <sup>3</sup>		11.8	8.2	6.6	9.8	18.3
28/10/2023	µg/m <sup>3</sup>		19.3	11.9	8.6	15.8	13.5
29/10/2023	µg/m <sup>3</sup>		16.6	23.6	22.3	28.5	45.5
30/10/2023	µg/m <sup>3</sup>		29.6	26.7	40.9	55.5	103.6
31/10/2023	µg/m <sup>3</sup>		49.8	28.1	47.3	52.7	73.2
<b>Monthly Meaningful Data</b>							
<b>October</b>	µg/m <sup>3</sup>	<b>Minimum</b>	8.3	2.7	6.6	4.9	13.5
	µg/m <sup>3</sup>	<b>Mean</b>	32.3	23.5	34.2	37.1	71.5
	µg/m <sup>3</sup>	<b>Maximum</b>	65.4	52.0	81.9	71.7	165.2
	µg/m <sup>3</sup>	<b>Median</b>	33.2	24.3	27.6	37.6	67.3

\* Less than 75% 24-hour data capture

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## 4 | SURFACE WATER MONITORING DATA

No discharges under the HRSTS occurred during October.

*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:** 28/10/2023

**Date Obtained:** 4/12/2023

*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
P209PF401A	6/10/2023 13:31	dB(L)	All blasts 100%	115	120	97.06	85.99	103.50	93.65
P210WK308A_P125W9P03A	6/10/2023 13:33	dB(L)		115	120	93.13	90.40	93.57	95.88
WN49UPG03A_WN49LPP02A	7/10/2023 13:11	dB(L)		115	120	90.48	97.26	90.38	87.29
M1T411002A	10/10/2023 10:10	dB(L)		115	120	91.36	98.79	92.89	86.65
WS49LEP05B_WS49LEA14D	10/10/2023 13:13	dB(L)		115	120	88.45	103.67	95.91	83.35
WS49LEP05C	11/10/2023 13:02	dB(L)		115	120	83.20	84.05	84.82	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
P209PF103C	14/10/2023 13:50	dB(L)	All Blasts 100%	115	120	90.53	86.29	100.69	90.20
WN47BAF02A	17/10/2023 12:46	dB(L)		115	120	102.54	82.53	103.66	90.59
WN49UPG03B	17/10/2023 12:48	dB(L)		115	120	105.55	89.73	104.83	94.40
WS49LEA16A	17/10/2023 12:55	dB(L)		115	120	97.68	95.33	97.32	89.70
M1T611001B	18/10/2023 13:07	dB(L)		115	120	103.18	103.92	98.67	102.83
WN49LPG01A	19/10/2023 13:09	dB(L)		115	120	101.44	98.58	96.21	86.37
P209VA102A	20/10/2023 13:19	dB(L)		115	120	88.30	94.91	91.85	87.62
P125N10P02A	24/10/2023 13:14	dB(L)		115	120	95.52	87.65	95.84	94.47
M1T712001A	26/10/2023 10:01	dB(L)		115	120	95.17	99.33	101.32	91.90

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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
P210WK603A	26/10/2023 16:28	dB(L)		115	120	107.38	105.27	101.54	92.15
P12500503A	28/10/2023 13:55	dB(L)		115	120	90.06	91.94	92.99	93.46
<b>Monthly Meaningful Data</b>									
<b>October</b>		dB(L)	Minimum	115	120	83.20	82.53	84.82	83.35
		dB(L)	Mean	115	120	95.35	93.86	96.82	91.19
		dB(L)	Maximum	115	120	107.38	105.27	104.83	102.83
		dB(L)	Median	115	120	95.17	94.91	96.21	90.59

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
P209PF401A	6/10/2023 13:31	mm/s	All Blasts 100%	5	10	0.08	0.04	0.07	0.17
P210WK308A_P125W9P03A	6/10/2023 13:33	mm/s		5	10	0.19	0.09	0.12	0.22
WN49UPG03A_WN49LPP02A	7/10/2023 13:11	mm/s		5	10	0.11	0.08	0.06	0.23

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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
M1T411002A	10/10/2023 10:10	mm/s		5	10	0.13	0.18	0.08	0.12
WS49LEP05B_WS49LEA14D	10/10/2023 13:13	mm/s		5	10	0.15	0.17	0.14	0.12
WS49LEP05C	11/10/2023 13:02	mm/s		5	10	0.15	0.13	0.09	0.12
P209PF103C	14/10/2023 13:50	mm/s		5	10	0.12	0.04	0.09	0.12
WN47BAF02A	17/10/2023 12:46	mm/s		5	10	0.10	0.03	0.05	0.05
WN49UPG03B	17/10/2023 12:48	mm/s		5	10	0.11	0.03	0.05	0.25
WS49LEA16A	17/10/2023 12:55	mm/s		5	10	0.13	0.05	0.06	0.49
M1T611001B	18/10/2023 13:07	mm/s		5	10	0.17	0.34	0.07	0.35
WN49LPG01A	19/10/2023 13:09	mm/s		5	10	0.12	0.09	0.09	0.09
P209VA102A	20/10/2023 13:19	mm/s		5	10	0.10	0.05	0.09	0.10
P125N10P02A	24/10/2023 13:14	mm/s		5	10	0.17	0.09	0.25	0.41
M1T712001A	26/10/2023 10:01	mm/s		5	10	0.15	0.44	0.04	0.35
P210WK603A	26/10/2023 16:28	mm/s		5	10	0.16	0.06	0.35	0.93
P12500503A	28/10/2023 13:55	mm/s		5	10	0.15	0.07	0.12	0.39

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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
<b>Monthly Meaningful Data</b>									
<b>October</b>		mm/s	Minimum	5	10	0.08	0.03	0.04	0.05
		mm/s	Mean	5	10	0.13	0.12	0.11	0.27
		mm/s	Maximum	5	10	0.19	0.44	0.35	0.93
		mm/s	Median	5	10	0.13	0.08	0.09	0.22

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## 6 | SEWAGE TREATMENT PLANT MONITORING DATA

Sewage treatment plant monitoring results are provided on a quarterly basis. Results will be provided in the December 2023 report.

## 7 | NOISE MONITORING DATA

**Date Sampled:** 18/10/2023

**Date Obtained:** 2/11/2023

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	18/10/2023 21:00	2.8	125	D	No	41	46	IA	IA	Nil	Nil
Knodlers Lane	18/10/2023 21:41	0.8	170	F	No	40	46	IA	IA	Nil	Nil
Maison Dieu	18/10/2023 21:20	2.6	111	D	No	39	46	IA	IA	Nil	Nil
Long Point (Dights Crossing)	18/10/2023 22:34	2.6	134	D	No	37	46	IA	IA	Nil	Nil
Kilburnie South	18/10/2023 23:22	2.4	135	D	No	39	46	33	35	Nil	Nil
Jerrys Plains East	18/10/2023 22:58	2.3	143	D	No	39	46	35	40	Nil	Nil
Jerrys Plains Village	18/10/2023 21:21	2.6	111	D	No	40	46	32	38	Nil	Nil
Jerrys Plains West	18/10/2023 21:00	2.8	125	D	No	40	46	27	30	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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