

# HUNTER VALLEY OPERATIONS

## ENVIRONMENT PROTECTION LICENCE 640 MONITORING DATA - JUNE 2024

**DOCUMENT NUMBER**

HVOOC-1797567310-5016

**STATUS**

Approved

**VERSION**

1.0

**EFFECTIVE**

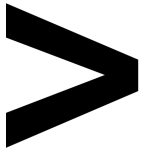
24/09/2024

**REVIEW**

[Planned Review Date]

**OWNER**

Superintendent - Environment and Community



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## 1 | OVERVIEW

<b>Environmental Protection Licence Number:</b>	640
<b>Licence Holder:</b>	HV Operations Pty Ltd (HVO)
<b>Address of Premises:</b>	Hunter Valley Operations, Lemington Road, Singleton, NSW, 2330
<b>Licence Holder Postal Address:</b>	PO Box 315, Singleton, NSW, 2330
<b>EPA Public Register Link:</b>	<a href="https://apps.epa.nsw.gov.au/prpoeoapp/Detail.aspx?instid=640&amp;id=640&amp;option=licence&amp;searchrange=licence&amp;range=POEO%20licence&amp;prp=no&amp;status=Issued">https://apps.epa.nsw.gov.au/prpoeoapp/Detail.aspx?instid=640&amp;id=640&amp;option=licence&amp;searchrange=licence&amp;range=POEO%20licence&amp;prp=no&amp;status=Issued</a>

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

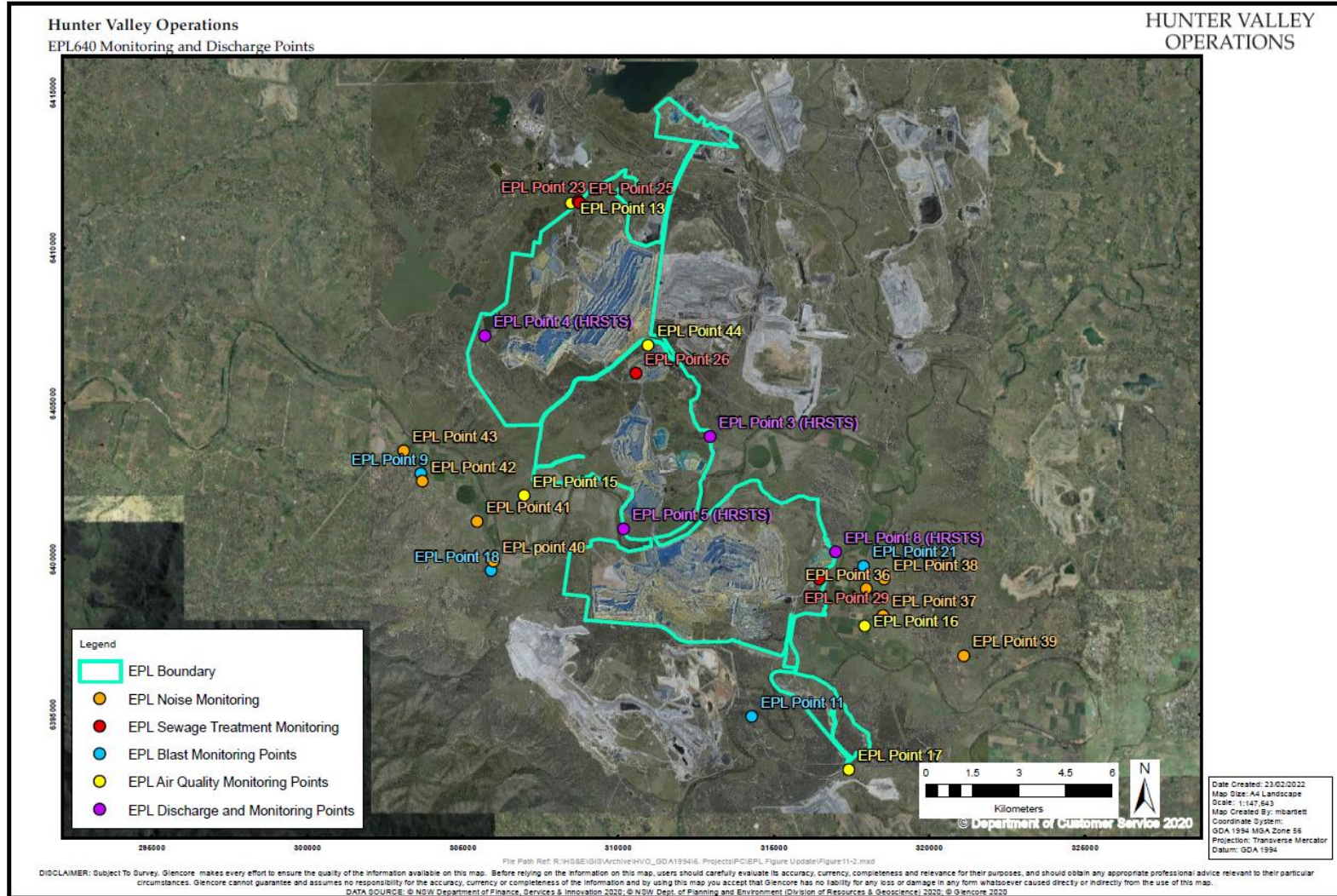
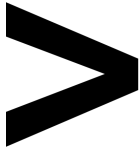


Figure 1: EPL 640 Monitoring Location

### 3 | AIR QUALITY

Date Last Sampled: 30/06/2024

Date Obtained: 23/07/2024

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)
1/06/2024	µg/m <sup>3</sup>	Continuous	5.9	3.6	5.8	7.3	23.3
2/06/2024	µg/m <sup>3</sup>		5.6	4.5	6.0	5.3	4.7
3/06/2024	µg/m <sup>3</sup>		8.9	5.8	8.3	8.5	17.1
4/06/2024	µg/m <sup>3</sup>		11.5	7.2	10.2	11.4	17.3
5/06/2024	µg/m <sup>3</sup>		21.4	9.1	15.1	18.6	28.9
6/06/2024	µg/m <sup>3</sup>		18.6	8.2	15.9	13.9	28.0
7/06/2024	µg/m <sup>3</sup>		7.7	5.4	7.2	5.9	9.4
8/06/2024	µg/m <sup>3</sup>		7.6	6.2	7.4	6.7	21.5
9/06/2024	µg/m <sup>3</sup>		9.6	6.6	8.7	7.4	*
10/06/2024	µg/m <sup>3</sup>		14.2	7.0	11.0	14.2	*
11/06/2024	µg/m <sup>3</sup>		17.7	5.3	9.4	11.0	35.6
12/06/2024	µg/m <sup>3</sup>		10.3	7.6	11.2	12.8	28.8
13/06/2024	µg/m <sup>3</sup>		18.0	10.4	16.8	40.7	40.5
14/06/2024	µg/m <sup>3</sup>		37.9	14.7	21.1	31.0	64.0
15/06/2024	µg/m <sup>3</sup>		10.8	5.6	10.3	14.4	16.6

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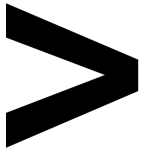
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# REPORT | ENVIRONMENT PROTECTION LICENCE 640

## MONITORING DATA - JUNE 2024

16/06/2024	µg/m <sup>3</sup>		7.4	3.5	13.1	12.8	23.5
17/06/2024	µg/m <sup>3</sup>		10.7	2.7	12.6	15.3	32.9
18/06/2024	µg/m <sup>3</sup>		15.5	4.1	7.3	12.3	31.6
19/06/2024	µg/m <sup>3</sup>		12.9	7.1	12.3	13.3	32.9
20/06/2024	µg/m <sup>3</sup>		-	10.4	23.2	31.4	49.1
21/06/2024	µg/m <sup>3</sup>		11.8	6.5	16.9	27.6	23.6
22/06/2024	µg/m <sup>3</sup>		14.0	7.1	11.6	14.9	24.7
23/06/2024	µg/m <sup>3</sup>		17.4	10.6	10.9	18.8	30.2
24/06/2024	µg/m <sup>3</sup>		10.4	4.9	12.7	24.5	35.9
25/06/2024	µg/m <sup>3</sup>		26.2	17.1	15.8	59.3	62.8
26/06/2024	µg/m <sup>3</sup>		23.7	10.9	17.4	47.7	58.3
27/06/2024	µg/m <sup>3</sup>		17.9	8.6	16.2	22.6	44.9
28/06/2024	µg/m <sup>3</sup>		31.1	11.4	19.5	28.8	48.6
29/06/2024	µg/m <sup>3</sup>		30.1	13.3	22.7	29.2	65.8
30/06/2024	µg/m <sup>3</sup>		8.5	10.3	10.8	13.5	19.5
<b>Monthly Meaningful Data</b>							
<b>June</b>	µg/m <sup>3</sup>	<b>Minimum</b>	5.6	2.7	5.8	5.3	4.7
	µg/m <sup>3</sup>	<b>Mean</b>	15.3	7.9	12.9	19.4	32.9
	µg/m <sup>3</sup>	<b>Maximum</b>	37.9	17.1	23.2	59.3	65.8
	µg/m <sup>3</sup>	<b>Median</b>	17.7	10.5	16.0	26.1	30.2

\* Less than 75% 24-hour data capture



## 4 | SURFACE WATER MONITORING DATA

**Date/s Sampled:**

EPL ID 8: 3 – 5/06/2024

EPL ID 3: N/A

EPL ID 4: N/A

**Date Obtained:** 3 – 5/06/2024

*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	3	3
	Total Suspended Solids	Milligrams per Litre	120	3	3

### 5 | BLAST MONITORING DATA

**Date Last Sampled:** 26/06/2024

**Date Obtained:** 1/07/2024

*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
WS49UPG04A	1/06/2024 14:10	dB(L)	All blasts 100%	115	120	81.16	78.70	88.61	83.26
P10101003A_P101N5P01A_P101N10P02A	4/06/2024 13:09	dB(L)		115	120	91.94	97.99	105.90	104.45
P209BYP02A	6/06/2024 16:07	dB(L)		115	120	82.83	75.95	85.57	86.18
P210N2002A	6/06/2024 16:10	dB(L)		115	120	96.59	88.17	110.50	114.73
P125N1001A	11/06/2024 12:03	dB(L)		115	120	89.94	93.71	102.04	99.50
WS49UPG04B	11/06/2024 13:11	dB(L)		115	120	91.69	98.81	95.37	93.29
P209BYP02B_P209BR601B	13/06/2024 13:21	dB(L)		115	120	91.13	88.57	99.61	97.16

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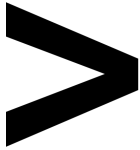
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Blast ID	Date & Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits			Monitoring Point		
				95% of Blasts	100% of Blasts	Moses Crossing EPL ID 18	Jerrys Plains EPL ID 9	Maison Dieu EPL ID 21	Warkworth EPL ID 11
P10101003B_P10100501A	17/06/2024 13:03	dB(L)	All Blasts 100%	115	120	92.28	99.03	100.01	94.93
WS49UPG04C	18/06/2024 16:18	dB(L)		115	120	82.34	82.86	87.32	93.47
WS49LEC09A	18/06/2024 16:20	dB(L)		115	120	87.42	89.71	92.23	94.21
P210MP3P01A	19/06/2024 13:09	dB(L)		115	120	96.94	100.99	102.49	92.07
P209BR601C	20/06/2024 13:07	dB(L)		115	120	87.49	86.04	97.58	94.84
P210N2003A	22/06/2024 14:23	dB(L)		115	120	90.24	86.44	99.63	95.28
WS49LEB12A	24/06/2024 13:12	dB(L)		115	120	97.92	95.12	91.05	89.15
P125N1001B	25/06/2024 13:18	dB(L)		115	120	99.76	91.69	101.80	89.89
P210WK311A	26/06/2024 11:33	dB(L)		115	120	92.49	86.85	99.48	98.99

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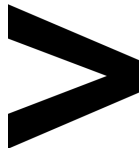
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Blast ID	Date & Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits		Monitoring Point			
				95% of Blasts	100% of Blasts	Moses Crossing EPL ID 18	Jerrys Plains EPL ID 9	Maison Dieu EPL ID 21	Warkworth EPL ID 11
WN49ULP01A_WN49ULD01A	26/06/2024 13:58	dB(L)		115	120	86.23	92.77	91.17	87.35
<i>Monthly Meaningful Data</i>									
June	dB(L)	Minimum	115	120	81.16	75.95	85.57	83.26	
	dB(L)	Mean	115	120	90.49	90.20	97.08	94.63	
	dB(L)	Maximum	115	120	99.76	100.99	110.50	114.73	
	dB(L)	Median	115	120	91.13	89.71	99.48	94.21	

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
WS49UPG04A	1/06/2024 14:10	mm/s	All Blasts 100%	5	10	0.08	0.02	0.03	0.08
P10101003A_P101N5P01A_P101N10P02A	4/06/2024 13:09	mm/s		5	10	0.28	0.12	0.18	0.48
P209BYP02A	6/06/2024 16:07	mm/s		5	10	0.24	0.06	0.29	0.43
P210N2002A	6/06/2024 16:10	mm/s		5	10	0.15	0.05	0.75	0.82
P125N1001A	11/06/2024 12:03	mm/s		5	10	0.22	0.07	0.17	0.48
WS49UPG04B	11/06/2024 13:11	mm/s		5	10	0.09	0.03	0.07	0.08
P209BYP02B_P209BR601B	13/06/2024 13:21	mm/s		5	10	0.24	0.07	0.66	1.13
P10101003B_P10100501A	17/06/2024 13:03	mm/s		5	10	0.14	0.03	0.07	0.85
WS49UPG04C	18/06/2024 16:18	mm/s		5	10	0.09	0.05	0.04	0.63
WS49LEC09A	18/06/2024 16:20	mm/s		5	10	0.18	0.1	0.08	0.84
P210MP3P01A	19/06/2024 13:09	mm/s		5	10	0.12	0.06	0.3	0.49
P209BR601C	20/06/2024 13:07	mm/s		5	10	0.19	0.06	0.39	0.79
P210N2003A	22/06/2024 14:23	mm/s		5	10	0.16	0.05	0.45	1.00
WS49LEB12A	24/06/2024 13:12	mm/s		5	10	0.11	0.05	0.09	0.07

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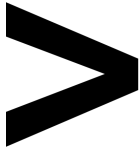
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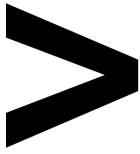
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Blast ID	Date & Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits		Monitoring Point			
				95% of Blasts	100% of Blasts	Moses Crossing EPL ID 18	Jerrys Plains EPL ID 9	Maison Dieu EPL ID 21	Warkworth EPL ID 11
P125N1001B	25/06/2024 13:18	mm/s		5	10	0.12	0.06	0.08	0.21
P210WK311A	26/06/2024 11:33	mm/s		5	10	0.09	0.03	0.08	0.16
WN49ULP01A_WN49ULD01A	26/06/2024 13:58	mm/s		5	10	0.19	0.16	0.12	0.12
Monthly Meaningful Data									
June		mm/s	Minimum	5	10	0.08	0.02	0.03	0.07
		mm/s	Mean	5	10	0.16	0.06	0.23	0.51
		mm/s	Maximum	5	10	0.28	0.16	0.75	1.13
		mm/s	Median	5	10	0.15	0.06	0.12	0.48



**6 | SEWAGE TREATMENT PLANT MONITORING DATA**

**Date Sampled:** 17/06/2024

**Date Obtained:** 9/08/2024

*Table 5 – Sewage Treatment Plant Monitoring*

Monitoring Site	Date & Time	Pollutant	Unit of Measure	Monitoring Result
EPA ID 23	17/06/2024 09:10:00	Faecal Coliforms	Colony forming units/100ml	45,600
		pH	pH	7.1
EPA ID 25	17/06/2024 09:15:00	Faecal Coliforms	Colony forming units/100ml	100
		pH	pH	6.6
EPA ID 26	17/06/2024 10:20:00	Faecal Coliforms	Colony forming units/100ml	20,200
		pH	pH	6.3
EPA ID 29	17/06/2024 12:00:00	Faecal Coliforms	Colony forming units/100ml	4,800
		pH	pH	7.0

### 7 | NOISE MONITORING DATA

**Date Sampled:** 18/06/2024

**Date Obtained:** 20/06/2024

Table 6 – Night LAeq,15minute and 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 <sub>Aeq,15minute</sub>	L <sub>A1,1min</sub>	L <sub>Aeq,15minute</sub> <sup>2</sup>	L <sub>A1,1min</sub>	L <sub>Aeq,15minute</sub>	L <sub>A1,1min</sub>
Shearers Lane	18/06/2024 21:06	5.3	302	D	Yes	46	51	NM	NM	N/A	N/A
Knodlers Lane	18/06/2024 22:04	6.1	297	D	Yes	45	51	<25	38	N/A	N/A
Maison Dieu	18/06/2024 21:33	4.9	297	D	Yes	44	51	30	40	N/A	N/A
Long Point (Dights Crossing)	18/06/2024 22:36	6.3	293	D	Yes	42	51	IA	IA	N/A	N/A
Kilburnie South	18/06/2024 23:20	5.6	303	D	Yes	44	51	<20	25	N/A	N/A
Jerrys Plains East	18/06/2024 22:57	5.2	299	D	Yes	44	51	IA	IA	N/A	N/A
Jerrys Plains Village	18/06/2024 21:22	4.9	297	D	Yes	45	51	IA	IA	N/A	N/A
Jerrys Plains West	18/06/2024 21:00	5.3	302	D	Yes	45	51	IA	IA	N/A	N/A

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

2. Site-only LAeq,15minute, includes modifying factor penalties if applicable.

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

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