

**HUNTER VALLEY
OPERATIONS**

EPL 640 MONITORING DATA – DECEMBER 2025

DOCUMENT NUMBER

HVOOC-1797567310-5465

STATUS

Approved

VERSION

1.0

EFFECTIVE

06/02/2026

REVIEW

[Planned Review Date]

OWNER

Superintendent - Environment and Community



TABLE OF CONTENTS

1 Overview	3
2 Definitions	3
3 Air Quality	5
4 Surface Water Monitoring Data	7
5 Blast Monitoring Data	8
6 Sewage Treatment Plant Monitoring Data	15
7 Noise Monitoring Data	16



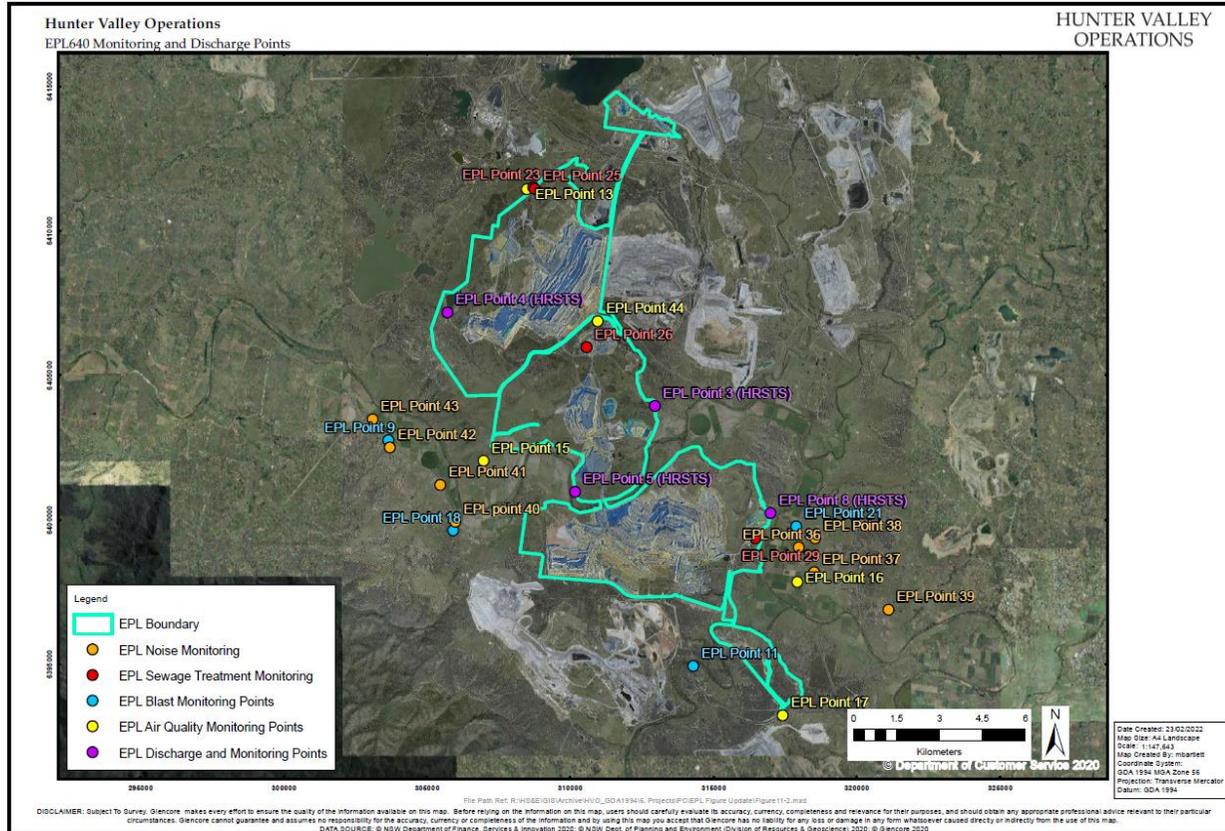
1 | OVERVIEW

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 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



Number: HVOOC-1797567310-5465

Status: Approved

Effective: 06/02/2026

Page 4 of 16

Owner: Superintendent - Environment and Community

Version: 1.0

Review: [Planned Review Date]

Uncontrolled when printed

3 | AIR QUALITY

Date Last Sampled: 31/12/2025

Date Obtained: 27/01/2026

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)
1/12/2025	µg/m ³	Continuous	33.8	26.9	48.9	36.9	111.6
2/12/2025	µg/m ³		17.3	16.5	14.6	20.4	39.8
3/12/2025	µg/m ³		34.9	39.9	33.9	42.4	85.4
4/12/2025	µg/m ³		31.2	31.7	31.9	38.4	90.0
5/12/2025	µg/m ³		38.4	44.9	44.5	68.4	185.1
6/12/2025	µg/m ³		40.9	34.6	46.5	59.8	152.0
7/12/2025	µg/m ³		35.8	34.2	37.1	41.7	76.3
8/12/2025	µg/m ³		41.3	42.6	32.4	37.4	47.6
9/12/2025	µg/m ³		52.5	45.4	41.2	58.3	79.9
10/12/2025	µg/m ³		34.3	31.6	30.9	36.9	58.0
11/12/2025	µg/m ³		20.3	13.9	16.4	19.9	19.5
12/12/2025	µg/m ³		16.7	11.7	8.7	20.6	19.2
13/12/2025	µg/m ³		22.3	18.5	16.4	23.6	30.5
14/12/2025	µg/m ³		28.2	10.9	20.7	20.8	72.4
15/12/2025	µg/m ³		41.8	43.5	27.9	35.0	37.7

Number: HVOOC-1797567310-5465

Status: Approved

Effective: 06/02/2026

Owner: Superintendent - Environment and Community **Version:**

1.0

Review: [Planned Review Date]

Uncontrolled when printed

16/12/2025	µg/m ³		31.2	21.9	15.4	18.0	49.8
17/12/2025	µg/m ³		32.6	34.8	19.9	19.8	19.5
18/12/2025	µg/m ³		31.5	40.0	*	32.7	84.2
19/12/2025	µg/m ³		31.5	27.5	*	41.8	112.9
20/12/2025	µg/m ³		43.9	38.4	*	31.3	33.2
21/12/2025	µg/m ³		37.3	*	37.7	59.6	129.5
22/12/2025	µg/m ³		21.0	*	14.7	17.5	41.5
23/12/2025	µg/m ³		21.6	29.9	22.3	28.5	36.5
24/12/2025	µg/m ³		23.1	28.7	31.3	31.3	28.5
25/12/2025	µg/m ³		24.1	25.2	48.5	20.8	20.2
26/12/2025	µg/m ³		12.8	22.0	35.2	16.5	10.2
27/12/2025	µg/m ³		26.7	32.8	23.6	22.5	*
28/12/2025	µg/m ³		34.7	42.5	43.7	28.9	*
29/12/2025	µg/m ³		31.1	30.6	31.8	27.8	11.3
30/12/2025	µg/m ³		40.9	36.7	26.2	29.6	44.9
31/12/2025	µg/m ³		31.3	41.4	29.9	28.3	30.3
Monthly Meaningful Data							
December	µg/m ³	Minimum	12.8	10.9	8.7	16.5	10.2
	µg/m ³	Mean	31.1	31.0	29.7	32.8	60.6
	µg/m ³	Maximum	52.5	45.4	48.9	68.4	185.1
	µg/m ³	Median	31.5	31.7	31.1	29.6	44.9

* Less than 75% 24-hour data capture

Number: HVOOC-1797567310-5465

Status: Approved

Effective: 06/02/2026

Page 6 of 16

Owner: Superintendent - Environment and Community

Version: 1.0

Review: [Planned Review Date]

Uncontrolled when printed



4 | SURFACE WATER MONITORING DATA

No discharges under the HRSTS occurred during December

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: 31/12/2025
Date Obtained: 19/01/2026

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
P210BRN104A	2/12/2025 13:02	dB(L)	All Blasts 100%	115	120	98.51	92.69	103.41	104.71
P210PCF304A	5/12/2025 13:30	dB(L)		115	120	86.75	103.19	86.64	85.26
WS49ARL03A	6/12/2025 13:00	dB(L)		115	120	101.82	111.58	114.10	97.47
WS49LDL05A	8/12/2025 13:41	dB(L)		115	120	96.52	79.72	100.62	92.65
WT11ARU102A	8/12/2025 13:44	dB(L)		115	120	92.68	89.02	104.64	92.70
P102MTA301A	8/12/2025 13:50	dB(L)		115	120	94.07	84.11	99.62	100.04

Commented [BH1]: Missing monitoring data

REPORT | EPL 640 MONITORING DATA – DECEMBER 2025

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
WT10LDU101A	9/12/2025 13:05	dB(L)		115	120	89.19	90.98	103.17	93.16
P101BRN603A_B6P02A	10/12/2025 16:02	dB(L)		115	120	91.67	96.53	101.54	88.57
WT11ARU103A	12/12/2025 13:38	dB(L)		115	120	91.06	92.55	96.63	86.10
WT10LDU102A	15/12/2025 13:12	dB(L)	All Blasts 100%	115	120	87.93	92.14	95.16	82.84
P210M3P07A	15/12/2025 15:25	dB(L)		115	120	85.09	84.63	85.54	93.41
P102WKW1006B	16/12/2025 13:08	dB(L)		115	120	105.99	102.22	110.27	90.91
P210PCF106A	18/12/2025 13:27	dB(L)		115	120	95.93	91.72	101.47	103.35
P210N2502A	18/12/2025 13:28	dB(L)		115	120	104.78	98.30	109.19	101.44
P102FCL02A	20/12/2025 16:17	dB(L)		115	120	95.22	90.12	100.02	85.63

Number: HVOOC-1797567310-5465

Status: Approved

Effective: 06/02/2026

Page 9 of 16
Owner: Superintendent - Environment and Community

Version: 1.0

Review: [Planned Review Date]

Uncontrolled when printed

REPORT | EPL 640 MONITORING DATA – DECEMBER 2025

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
P210B6P01A	20/12/2025 16:18	dB(L)	All Blasts 100%	115	120	98.55	93.20	105.04	91.01
WT11ARU104A	22/12/2025 12:56	dB(L)		115	120	95.74	83.92	104.52	90.40
WS49ARL04A	23/12/2025 13:45	dB(L)		115	120	85.05	104.13	102.12	98.41
P210BRN501A	24/12/2025 12:08	dB(L)		115	120	92.62	87.06	101.41	100.01
WT10LDU103A	29/12/2025 13:19	dB(L)		115	120	104.92	97.85	100.82	86.79
WT12BAYSP2A	29/12/2025 13:22	dB(L)		115	120	100.77	97.66	105.41	100.60
P102FCL03A	31/12/2025 15:17	dB(L)		115	120	98.33	100.66	102.47	89.07
P210N2503A	31/12/2025 15:19	dB(L)		115	120	112.06	106.04	102.18	100.14
Monthly Meaningful Data									
		dB(L)	Minimum	115	120	85.05	79.72	85.54	82.84

Number: HVOOC-1797567310-5465

Status: Approved

Effective: 06/02/2026

Owner: Superintendent - Environment and Community **Version:**

1.0

Review: [Planned Review Date]

Uncontrolled when printed

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
December		dB(L)	Mean	115	120	95.88	94.35	101.56	93.68
		dB(L)	Maximum	115	120	112.06	111.58	114.10	104.71
		dB(L)	Median	115	120	95.74	92.69	102.12	92.70

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
P210BRN104A	2/12/2025 13:02	mm/s	All Blasts 100%	5	10	0.14	0.10	0.26	0.40
P210PCF304A	5/12/2025 13:30	mm/s		5	10	0.11	0.12	0.07	0.07
WS49ARL03A	6/12/2025 13:00	mm/s		5	10	0.16	0.14	0.13	0.08
WS49LDL05A	8/12/2025 13:41	mm/s		5	10	0.23	0.14	0.16	0.21
WT11ARU102A	8/12/2025 13:44	mm/s		5	10	0.29	0.19	0.18	0.10

Number: HVOOC-1797567310-5465

Status: Approved

Effective: 06/02/2026

Owner: Superintendent - Environment and Community **Version:**

1.0

Review: [Planned Review Date]

Uncontrolled when printed

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
P102MTA301A	8/12/2025 13:50	mm/s	All Blasts 100%	5	10	0.67	0.31	0.23	0.42
WT10LDU101A	9/12/2025 13:05	mm/s		5	10	0.27	0.15	0.18	0.08
P101BRN603A_B6P02A	10/12/2025 16:02	mm/s		5	10	0.20	0.13	0.31	0.48
WT11ARU103A	12/12/2025 13:38	mm/s		5	10	0.23	0.20	0.16	0.08
WT10LDU102A	15/12/2025 13:12	mm/s		5	10	0.27	0.18	0.17	0.07
P210M3P07A	15/12/2025 15:25	mm/s		5	10	0.16	0.14	0.75	0.70
P102WKW1006B	16/12/2025 13:08	mm/s		5	10	0.13	0.13	0.11	0.17
P210PCF106A	18/12/2025 13:27	mm/s		5	10	0.10	0.14	0.13	0.39
P210N2502A	18/12/2025 13:28	mm/s		5	10	0.22	0.16	0.21	0.49

Number: HVOOC-1797567310-5465

Status: Approved

Effective: 06/02/2026

Owner: Superintendent - Environment and Community

Version: 1.0

Review: [Planned Review Date]

Uncontrolled when printed

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
P102FCL02A	20/12/2025 16:17	mm/s	All Blasts 100%	5	10	0.10	0.10	0.09	0.09
P210B6P01A	20/12/2025 16:18	mm/s		5	10	0.21	0.13	0.64	0.63
WT11ARU104A	22/12/2025 12:56	mm/s		5	10	0.41	0.22	0.27	0.12
WS49ARL04A	23/12/2025 13:45	mm/s		5	10	0.26	0.23	0.16	0.09
P210BRN501A	24/12/2025 12:08	mm/s		5	10	0.10	0.10	0.14	0.43
WT10LDU103A	29/12/2025 13:19	mm/s		5	10	0.23	0.21	0.22	0.27
WT12BAYSP2A	29/12/2025 13:22	mm/s		5	10	0.17	0.18	0.13	0.31
P102FCL03A	31/12/2025 15:17	mm/s		5	10	0.07	0.08	0.09	0.09
P210N2503A	31/12/2025 15:19	mm/s		5	10	0.12	0.10	0.32	0.94

Number: HVOOC-1797567310-5465

Status: Approved

Effective: 06/02/2026

Page 13 of 16
Owner: Superintendent - Environment and Community

Version: 1.0

Review: [Planned Review Date]

Uncontrolled when printed

REPORT | EPL 640 MONITORING DATA – DECEMBER 2025

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
<i>Monthly Meaningful Data</i>									
December		mm/s	Minimum	5	10	0.07	0.08	0.07	0.07
		mm/s	Mean	5	10	0.21	0.16	0.22	0.29
		mm/s	Maximum	5	10	0.67	0.31	0.75	0.94
		mm/s	Median	5	10	0.20	0.14	0.17	0.21



6 | SEWAGE TREATMENT PLANT MONITORING DATA

Date Sampled: 02/12/2025

Date Obtained: 16/01/2026

Table 5 – Sewage Treatment Plant Monitoring

Monitoring Site	Date & Time	Pollutant	Unit of Measure	Monitoring Result
EPA ID 23	02/12/2025	Faecal Coliforms	Colony forming units/100ml	~100
		pH	pH	7.27
EPA ID 25	02/12/2025	Faecal Coliforms	Colony forming units/100ml	*
		pH	pH	*
EPA ID 26	02/12/2025	Faecal Coliforms	Colony forming units/100ml	~100
		pH	pH	5.53
EPA ID 29	02/12/2025	Faecal Coliforms	Colony forming units/100ml	*
		pH	pH	*

* Insufficient sample amount

Commented [BH2]: Please include note at bottom of graph

7 | NOISE MONITORING DATA

Date Sampled: 3/12/2025
Date Obtained: 07/01/2026

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? ¹	EPL limits, dB ¹		HVO levels, dB ^{2,3}		Exceedances, dB	
		Speed m/s	Direction ⁴			$L_{Aeq,15minute}$	$L_{A1,1min}$	$L_{Aeq,15minute}$	$L_{A1,1min}$	$L_{Aeq,15minute}$	$L_{A1,1min}$
Shearers Lane	03/12/2025 22:00	2.9	135	D	No	41	46	IA	IA	Nil	Nil
Knodlers Lane	03/12/2025 22:44	2.2	128	E	No	40	46	IA	IA	Nil	Nil
Maison Dieu	03/12/2025 22:23	2.5	130	D	No	39	46	IA	IA	Nil	Nil
Long Point (Dights Crossing)	03/12/2025 23:33	1.8	133	E	No	37	46	IA	IA	Nil	Nil
Moses Crossing	03/12/2025 23:53	1.2	93	D	No	39	46	32	34	Nil	Nil
Jerrys Plains East	03/12/2025 23:34	1.8	133	E	No	39	46	28	30	Nil	Nil
Jerrys Plains Village	03/12/2025 22:18	2.8	131	D	No	40	46	30	37	Nil	Nil
Jerrys Plains West	03/12/2025 22:00	2.9	135	D	No	40	46	30	32	Nil	Nil

Notes:

- Noise limits are adjusted by +5 dB during 'very noise-enhancing meteorological conditions' in accordance with the NPfI.
- Site-only $L_{Aeq,15minute}$, includes modifying factor penalties if applicable.
- Site-only $L_{A1,1minute}$ based on measured site-only L_{Amax} as detailed in monthly noise monitoring report.
- Degrees magnetic north, "-" indicates calm conditions.