

HUNTER VALLEY
OPERATIONS

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

DOCUMENT NUMBER
HVOOC-1797567310-4953

STATUS
Approved

VERSION
1.0

EFFECTIVE
26/06/2024

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 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

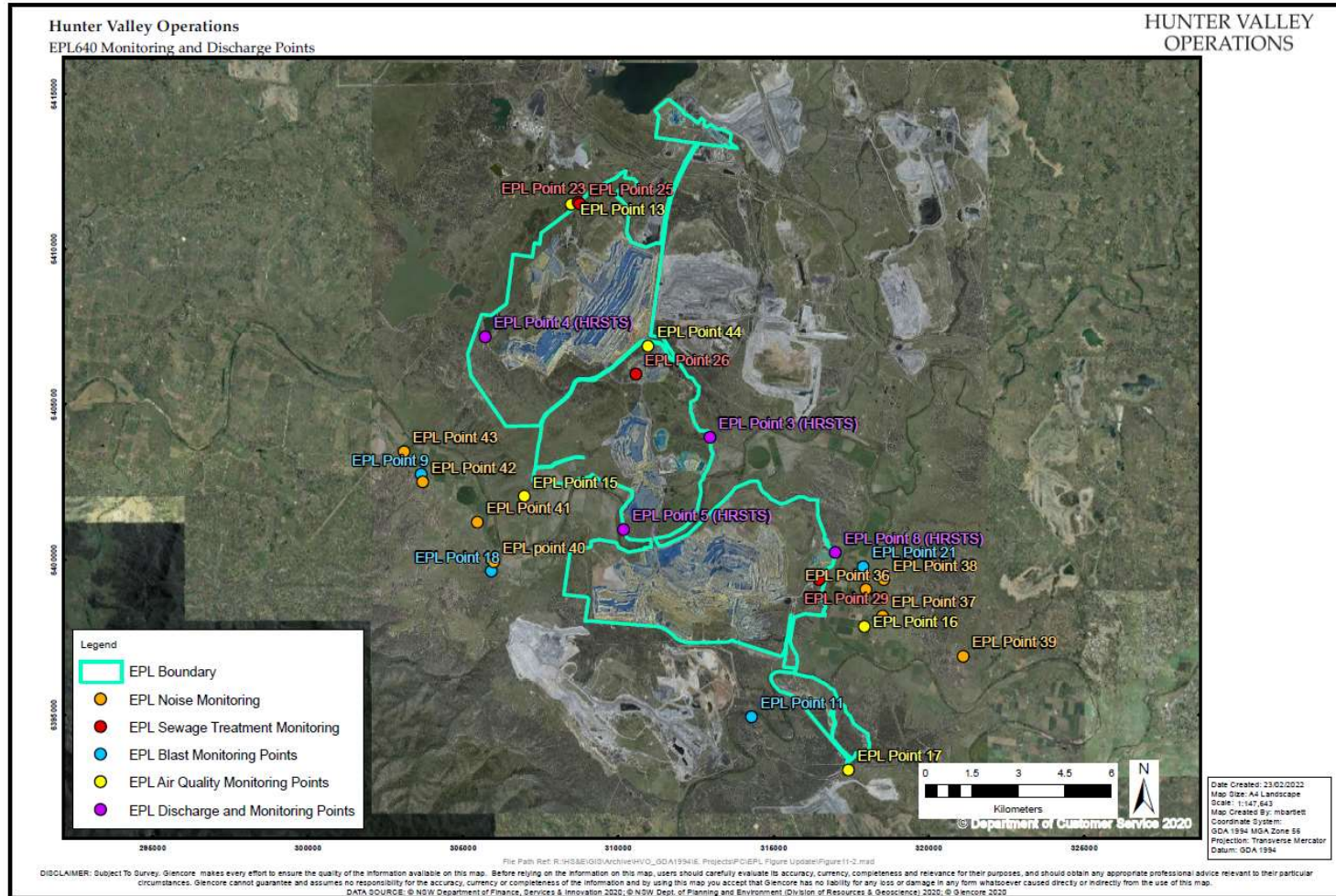


Figure 1: EPL 640 Monitoring Location

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3 | AIR QUALITY

Date Last Sampled: 30/04/2024

Date Obtained: 16/05/2024

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)
1/04/2024	µg/m ³	Continuous	28.6	*	37.7	31.4	44.9
2/04/2024	µg/m ³		22.2	*	29.8	34.1	81.7
3/04/2024	µg/m ³		24.6	17.8	18.7	19.5	31.5
4/04/2024	µg/m ³		14.2	8.5	11.3	13.6	17.0
5/04/2024	µg/m ³		6.5	4.8	6.1	5.6	8.9
6/04/2024	µg/m ³		6.5	6.4	7.4	8.9	19.6
7/04/2024	µg/m ³		12.3	7.2	17.0	14.9	26.5
8/04/2024	µg/m ³		19.0	11.4	14.4	21.2	30.3
9/04/2024	µg/m ³		14.5	10.0	13.3	32.1	38.1
10/04/2024	µg/m ³		15.7	10.4	15.0	39.5	23.8
11/04/2024	µg/m ³		20.9	16.0	17.0	23.3	56.1
12/04/2024	µg/m ³		28.2	18.1	19.6	26.8	50.0
13/04/2024	µg/m ³		27.1	20.2	24.0	28.6	46.6
14/04/2024	µg/m ³		24.2	21.4	20.4	32.6	54.9
15/04/2024	µg/m ³		33.6	21.4	26.1	39.4	63.7

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16/04/2024	µg/m ³		32.2	25.5	55.8	30.3	40.2
17/04/2024	µg/m ³		24.4	20.8	75.8	22.3	39.1
18/04/2024	µg/m ³		18.8	11.8	17.7	16.8	29.8
19/04/2024	µg/m ³		36.2	18.8	26.6	30.7	49.7
20/04/2024	µg/m ³		10.5	7.6	7.9	9.2	16.7
21/04/2024	µg/m ³		20.5	15.3	14.5	17.0	18.8
22/04/2024	µg/m ³		21.6	20.3	13.0	17.3	24.6
23/04/2024	µg/m ³		25.2	14.8	20.2	26.2	59.9
24/04/2024	µg/m ³		26.7	12.8	25.4	27.1	*
25/04/2024	µg/m ³		33.0	27.7	32.6	29.7	30.5
26/04/2024	µg/m ³		33.5	29.6	19.9	29.1	39.7
27/04/2024	µg/m ³		28.0	24.7	22.6	26.5	52.8
28/04/2024	µg/m ³		24.2	14.4	20.6	32.9	47.6
29/04/2024	µg/m ³		30.3	15.2	30.9	39.0	97.9
30/04/2024	µg/m ³		28.6	14.8	36.5	31.7	59.2
Monthly Meaningful Data							
April	µg/m ³	Minimum	6.5	4.8	6.1	5.6	8.9
	µg/m ³	Mean	23.1	16.0	23.3	25.2	41.4
	µg/m ³	Maximum	36.2	29.6	75.8	39.5	97.9
	µg/m ³	Median	24.3	15.3	20.1	27.0	39.7

* Less than 75% data capture

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4 | SURFACE WATER MONITORING DATA

No discharges under the HRSTS occurred during April.

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: 30/04/2024

Date Obtained: 16/05/2024

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
M1T209503A	2/04/2024 13:29	dB(L)	All blasts 100%	115	120	105.48	106.01	103.68	105.39
WN49LAA01A	2/04/2024 14:20	dB(L)		115	120	97.60	82.70	101.89	98.82
WN49LPG05B	2/04/2024 14:24	dB(L)		115	120	89.48	85.91	96.79	90.65
P10103605A	3/04/2024 14:25	dB(L)		115	120	95.20	80.36	86.02	81.40
P210BF410A_P12506406A	4/04/2024 11:42	dB(L)		115	120	93.37	90.92	98.00	93.58
WS49LEB11A	4/04/2024 13:09	dB(L)		115	120	99.45	93.72	101.24	88.60
P21000002A	12/04/2024 13:15	dB(L)		115	120	99.44	86.39	101.51	87.39
P10101001A_P101N10P01A_P12500504B	13/04/2024 16:31	dB(L)		115	120	97.49	87.17	95.15	92.22
WS49UPG02A	15/04/2024 10:45	dB(L)		115	120	84.48	87.15	91.73	89.25
P101M3P02A	15/04/2024 12:54	dB(L)		115	120	85.60	76.93	79.73	87.41

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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
WS46BAF02C	17/04/2024 14:40	dB(L)	All Blasts 100%	115	120	90.73	86.50	90.11	86.47
WS49LECO8A_WS49LED06A	18/04/2024 13:31	dB(L)		115	120	82.91	94.29	93.32	88.77
WS49LEB11B	18/04/2024 13:34	dB(L)		115	120	94.61	96.53	92.40	97.41
P12500504C	20/04/2024 13:18	dB(L)		115	120	103.24	86.57	91.89	91.02
P101WK1004A	20/04/2024 13:19	dB(L)		115	120	94.41	92.19	92.43	89.76
P21002001A_W6P02B	26/04/2024 11:25	dB(L)		115	120	97.67	93.87	96.65	94.71
WS49LECO8B	26/04/2024 13:06	dB(L)		115	120	86.74	84.70	85.75	88.60
P209BR501A	27/04/2024 14:09	dB(L)		115	120	93.74	90.18	99.80	86.77
M1T209504A	29/04/2024 13:56	dB(L)		115	120	99.46	97.96	95.83	87.30
M2TB12001A	29/04/2024 13:58	dB(L)		115	120	96.89	96.38	92.88	94.97
Monthly Meaningful Data									
April		dB(L)	Minimum	115	120	82.91	76.93	79.73	81.40
		dB(L)	Mean	115	120	93.99	89.47	94.82	90.99
		dB(L)	Maximum	115	120	105.48	106.01	104.51	105.39
		dB(L)	Median	115	120	94.61	87.17	95.15	89.76

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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
M1T209503A	2/04/2024 13:29	mm/s	All Blasts 100%	5	10	0.11	0.18	0.07	0.06
WN49LAA01A	2/04/2024 14:20	mm/s		5	10	0.16	0.12	0.08	0.31
WN49LPG05B	2/04/2024 14:24	mm/s		5	10	0.10	0.04	0.05	0.30
P10103605A	3/04/2024 14:25	mm/s		5	10	0.10	0.05	0.09	0.24
P210BF410A_P12506406A	4/04/2024 11:42	mm/s		5	10	0.09	0.06	0.08	0.14
WS49LEB11A	4/04/2024 13:09	mm/s		5	10	0.10	0.03	0.03	0.07
P21000002A	12/04/2024 13:15	mm/s		5	10	0.13	0.13	0.30	0.11
P10101001A_P101N10P01A_P12500504B	13/04/2024 16:31	mm/s		5	10	0.27	0.11	0.28	0.86
WS49UPG02A	15/04/2024 10:45	mm/s		5	10	0.07	0.03	0.06	0.43
P101M3P02A	15/04/2024 12:54	mm/s		5	10	0.09	0.03	0.06	0.73
WS46BAF02C	17/04/2024 14:40	mm/s		5	10	0.09	0.04	0.07	0.24
WS49LEC08A_WS49LED06A	18/04/2024 13:31	mm/s		5	10	0.14	0.07	0.11	0.18
WS49LEB11B	18/04/2024 13:34	mm/s		5	10	0.08	0.04	0.06	0.03

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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
P12500504C	20/04/2024 13:18	mm/s		5	10	0.15	0.04	0.07	0.31
P101WK1004A	20/04/2024 13:19	mm/s		5	10	0.26	0.09	0.15	0.28
P21002001A_W6P02B	26/04/2024 11:25	mm/s		5	10	0.22	0.11	0.49	1.40
WS49LEC08B	26/04/2024 13:06	mm/s		5	10	0.12	0.04	0.07	0.30
P209BR501A	27/04/2024 14:09	mm/s		5	10	0.07	0.02	0.10	0.18
M1T209504A	29/04/2024 13:56	mm/s		5	10	0.10	0.12	0.07	0.16
M2TB12001A	29/04/2024 13:58	mm/s		5	10	0.13	0.37	0.07	1.08
Monthly Meaningful Data									
April	mm/s	Minimum	5	10	0.07	0.02	0.03	0.03	
	mm/s	Mean	5	10	0.13	0.09	0.12	0.38	
	mm/s	Maximum	5	10	0.27	0.37	0.49	1.40	
	mm/s	Median	5	10	0.11	0.06	0.07	0.28	

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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 June 2024 report.

7 | NOISE MONITORING DATA

Date Sampled: 10/04/2024

Date Obtained: 22/04/2024

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? ¹	EPL limits, dB ¹		HVO levels, dB		Exceedances, dB	
		Speed m/s	Direction ³			$L_{Aeq,15minute}$	$L_{A1,1min}$	$L_{Aeq,15minute}$ ²	$L_{A1,1min}$	$L_{Aeq,15minute}$	$L_{A1,1min}$
Shearers Lane	10/04/2024 21:00	1.8	179	D	No	41	46	<25	<25	Nil	Nil
Knodlers Lane	10/04/2024 21:40	0.9	193	D	No	40	46	<20	<20	Nil	Nil
Maison Dieu	10/04/2024 21:19	1.2	190	D	No	39	46	<20	<20	Nil	Nil
Long Point (Dights Crossing)	10/04/2024 22:27	1.1	152	D	No	37	46	IA	IA	Nil	Nil
Kilburnie South	10/04/2024 23:24	1.7	316	D	No	39	46	IA	IA	Nil	Nil
Jerrys Plains East	10/04/2024 23:00	0.2	196	F	No	39	46	IA	IA	Nil	Nil
Jerrys Plains Village	10/04/2024 21:27	0.9	197	D	No	40	46	<30	<30	Nil	Nil
Jerrys Plains West	10/04/2024 21:00	1.8	179	D	No	40	46	28	32	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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