

HUNTER VALLEY
OPERATIONS

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

DOCUMENT NUMBER
HVOOC-1797567310-4739

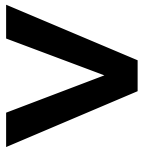
STATUS
Approved

VERSION
1.0

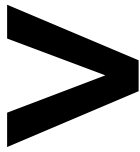
EFFECTIVE
15/08/2023

REVIEW
[Planned Review Date]

OWNER
Environment and Community Officer



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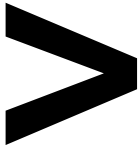
1 | OVERVIEW

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



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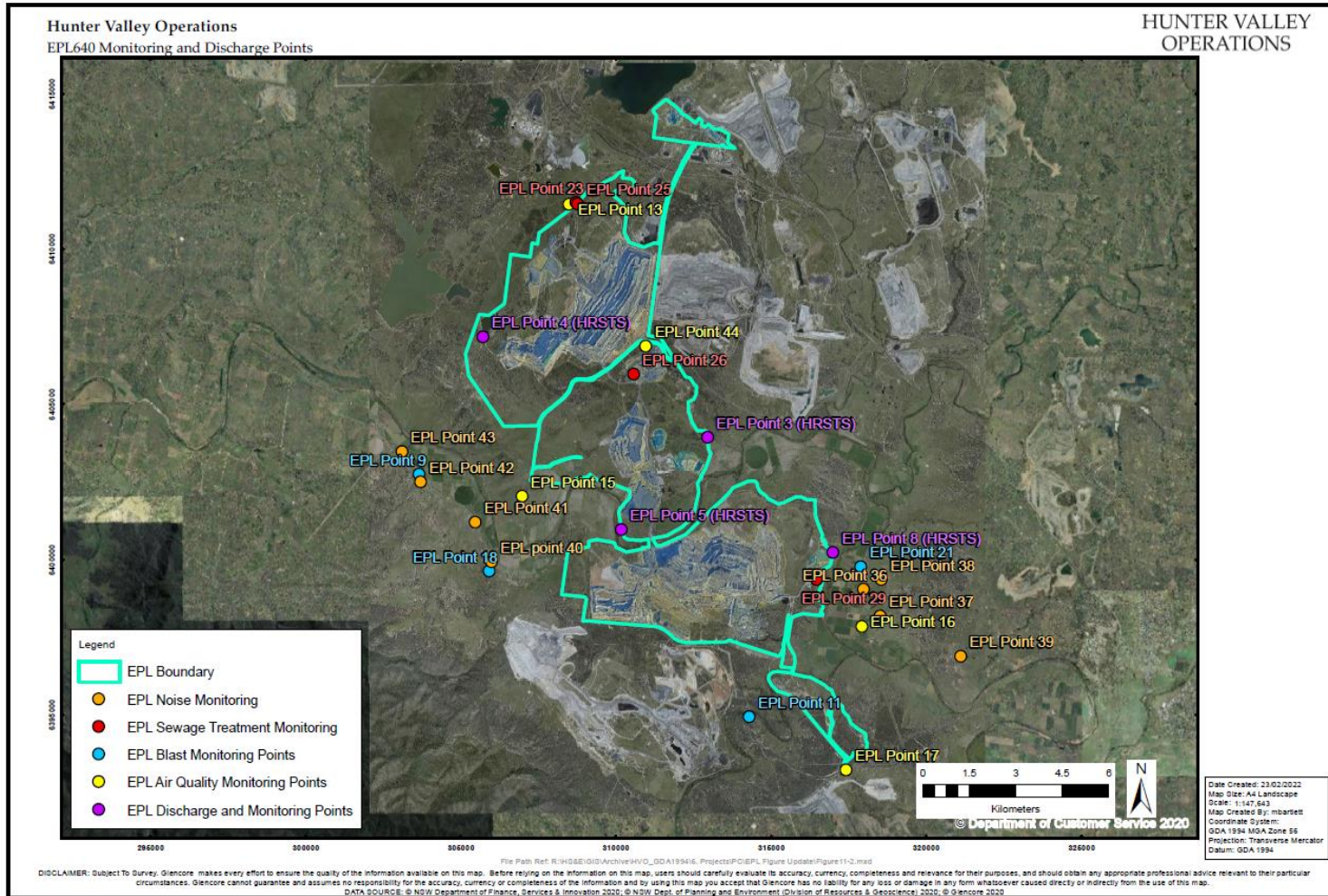


Figure 1: EPL 640 Monitoring Location

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3 | AIR QUALITY

Date Last Sampled: 30/06/2023

Date Obtained: 21/07/2023

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)
1/06/2023	µg/m ³	Continuous	25.8	9.0	31.1	20.9	133.4
2/06/2023	µg/m ³		46.0	22.7	26.3	56.1	49.3
3/06/2023	µg/m ³		24.1	19.3	16.9	48.6	30.5
4/06/2023	µg/m ³		28.3	24.4	14.8	17.5	17.4
5/06/2023	µg/m ³		28.2	21.5	13.7	14.2	17.8
6/06/2023	µg/m ³		28.5	21.1	12.1	15.2	42.2
7/06/2023	µg/m ³		35.1	22.5	12.9	30.8	98.6
8/06/2023	µg/m ³		18.5	10.4	10.8	18.0	43.3
9/06/2023	µg/m ³		12.8	7.9	16.0	12.6	37.3
10/06/2023	µg/m ³		18.9	10.7	17.9	41.0	50.4
11/06/2023	µg/m ³		35.6	16.7	22.3	51.6	76.8
12/06/2023	µg/m ³		32.9	17.2	19.6	57.9	72.3
13/06/2023	µg/m ³		24.6	11.0	15.7	41.1	108.6
14/06/2023	µg/m ³		10.6	6.0	13.4	12.8	40.5
15/06/2023	µg/m ³		17.0	6.3	13.6	16.8	41.5

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16/06/2023	µg/m ³		15.5	8.4	16.7	33.7	71.5
17/06/2023	µg/m ³		22.0	11.6	17.4	25.9	46.2
18/06/2023	µg/m ³		16.6	10.5	30.1	29.4	65.5
19/06/2023	µg/m ³		16.7	6.5	19.0	15.4	147.5
20/06/2023	µg/m ³		15.1	9.1	15.5	30.5	76.2
21/06/2023	µg/m ³		42.6	24.4	26.0	46.2	76.6
22/06/2023	µg/m ³		42.4	35.6	*	40.4	104.2
23/06/2023	µg/m ³		12.8	8.8	*	15.5	25.3
24/06/2023	µg/m ³		10.1	5.8	13.6	11.4	67.3
25/06/2023	µg/m ³		15.5	6.2	16.8	17.3	50.6
26/06/2023	µg/m ³		18.2	7.4	19.1	14.8	86.5
27/06/2023	µg/m ³		15.8	8.8	19.5	21.1	47.3
28/06/2023	µg/m ³		14.1	7.7	18.1	14.6	33.9
29/06/2023	µg/m ³		*	*	14.7	9.9	49.7
30/06/2023	µg/m ³		7.9	6.3	18.3	8.0	93.4
Monthly Meaningful Data							
June	µg/m ³	Minimum	7.9	5.8	10.8	8.0	17.4
	µg/m ³	Mean	22.5	13.2	17.9	26.3	63.4
	µg/m ³	Maximum	46.0	35.6	31.1	57.9	147.5
	µg/m ³	Median	18.5	10.4	16.8	19.5	50.5

* Less than 75% data capture



4 | SURFACE WATER MONITORING DATA

No discharges under the HRSTS occurred during June.

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: 29/06/2023

Date Obtained: 20/07/2023

Table 3 – Blast Monitoring (Air Blast Overpressure and Ground Vibration)

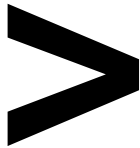
Blast ID	Date & Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits		Monitoring Point			
				95% of Blasts	100% of Blasts	Moses Crossing EPL ID 18	Jerrys Plains EPL ID 9	Maison Dieu EPL ID 21	Warkworth EPL ID 11
WN47LLD02A	1/06/2023 13:18	dB(L)	All blasts 100%	115	120	104.02	109.43	106.58	90.29
M1T412501A	1/06/2023 15:07	dB(L)		115	120	92.80	102.34	106.93	102.21
WS49LEA10A_WS49LEP03A	2/06/2023 13:11	dB(L)		115	120	91.40	97.54	94.68	93.75
P210WK307A	5/06/2023 13:04	dB(L)		115	120	103.74	109.04	99.33	87.23
WS46BAR01A	7/06/2023 13:11	dB(L)		115	120	85.48	87.86	84.75	84.71
WN49LPP01A_WS49LEA11A_WS49LEP04A	8/06/2023 13:05	dB(L)		115	120	92.67	98.04	104.61	101.54
P210WK307B_P21045P03A	10/06/2023 12:57	dB(L)		115	120	101.06	98.48	99.36	94.99

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
WS49LECO2A	10/06/2023 13:09	dB(L)	All blasts 100%	115	120	86.22	106.82	91.58	94.66
M1T2BAP01A_M1T1ULP01A	10/06/2023 15:18	dB(L)		115	120	87.51	98.67	87.17	96.03
M1T411001A	13/06/2023 14:50	dB(L)		115	120	98.94	101.97	96.44	95.93
WS49LEA09B	15/06/2023 9:57	dB(L)		115	120	95.46	104.26	103.02	103.46
P208BR605A	15/06/2023 13:31	dB(L)		115	120	87.68	103.98	93.32	94.86
P209FCL01A	15/06/2023 13:33	dB(L)		115	120	84.86	103.86	103.89	89.47
WN47LLD04A	17/06/2023 16:29	dB(L)		115	120	87.29	88.67	89.00	87.39
WS49LEB02A	19/06/2023 13:19	dB(L)		115	120	92.09	110.30	107.89	112.35
RW37AFA03_04A_RW37BFP01C_02A	20/06/2023 12:54	dB(L)		115	120	91.89	95.07	95.77	98.91
P21004504A	21/06/2023 13:06	dB(L)		115	120	94.28	91.26	98.96	102.21



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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
M1T11102A	21/06/2023 16:21	dB(L)	All Blasts 100%	115	120	88.81	98.65	82.46	87.99
WN46BAP01A_WN47LLP01A	23/06/2023 13:26	dB(L)		115	120	87.20	91.63	103.08	83.75
WS49LEB03A	23/06/2023 13:31	dB(L)		115	120	99.08	102.67	107.86	96.06
P125FCL02A	27/06/2023 11:02	dB(L)		115	120	90.93	95.08	99.37	96.31
WS49LEB04A	27/06/2023 13:09	dB(L)		115	120	86.75	91.80	100.18	100.31
P209MA301A	28/06/2023 13:07	dB(L)		115	120	87.41	91.65	96.24	86.22
WN46BAP01B_WN46LLD01A	29/06/2023 14:16	dB(L)		115	120	95.65	103.23	105.39	110.41
Monthly Meaningful Data									
June		dB(L)	Minimum	115	120	84.86	87.86	82.46	83.75
		dB(L)	Mean	115	120	92.22	99.26	98.24	95.46
		dB(L)	Maximum	115	120	104.02	110.30	107.89	112.35
		dB(L)	Median	115	120	91.65	98.66	99.35	95.46



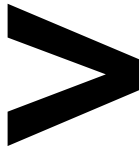
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Blast ID	Date & Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits			Monitoring Point		
				95% of Blasts	100% of Blasts	Moses Crossing EPL ID 18	Jerrys Plains EPL ID 9	Maison Dieu EPL ID 21	Warkworth EPL ID 11
WN47LLD02A	1/06/2023 13:18	mm/s	All Blasts 100%	5	10	0.20	0.28	0.11	0.16
M1T412501A	1/06/2023 15:07	mm/s		5	10	0.11	0.11	0.05	0.56
WS49LEA10A_WS49LEP03A	2/06/2023 13:11	mm/s		5	10	0.17	0.12	0.11	0.82
P210WK307A	5/06/2023 13:04	mm/s		5	10	0.09	0.02	0.04	0.06
WS46BAR01A	7/06/2023 13:11	mm/s		5	10	0.16	0.10	0.12	0.09
WN49LPP01A_WS49LEA11A_WS49LEP04A	8/06/2023 13:05	mm/s		5	10	0.14	0.07	0.06	0.25
P210WK307B_P21045P03A	10/06/2023 12:57	mm/s		5	10	0.19	0.07	0.19	0.76
WS49LEC02A	10/06/2023 13:09	mm/s		5	10	0.12	0.09	0.09	0.08
M1T2BAP01A_M1T1ULP01A	10/06/2023 15:18	mm/s		5	10	0.15	0.12	0.07	0.11
M1T411001A	13/06/2023 14:50	mm/s		5	10	0.13	0.15	0.05	0.49
WS49LEA09B	15/06/2023 9:57	mm/s		5	10	0.09	0.04	0.04	0.11
P208BR605A	15/06/2023 13:31	mm/s		5	10	0.10	0.04	0.35	0.37
P209FCL01A	15/06/2023 13:33	mm/s		5	10	0.09	0.03	0.05	0.12
WN47LLD04A	17/06/2023 16:29	mm/s		5	10	0.08	0.03	0.04	0.08

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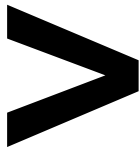
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Blast ID	Date & Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits			Monitoring Point		
				95% of Blasts	100% of Blasts	Moses Crossing EPL ID 18	Jerrys Plains EPL ID 9	Maison Dieu EPL ID 21	Warkworth EPL ID 11
WS49LEB02A	19/06/2023 13:19	mm/s	All Blasts 100%	5	10	0.09	0.05	0.06	0.04
RW37AFA03_04A_RW37BFP01C_02A	20/06/2023 12:54	mm/s		5	10	0.13	0.05	0.08	0.14
P21004504A	21/06/2023 13:06	mm/s		5	10	0.14	0.07	0.53	0.85
M1T11102A	21/06/2023 16:21	mm/s		5	10	0.17	0.13	0.06	0.50
WN46BAP01A_WN47LLP01A	23/06/2023 13:26	mm/s		5	10	0.29	0.26	0.13	0.44
WS49LEB03A	23/06/2023 13:31	mm/s		5	10	0.09	0.03	0.05	0.13
P125FCL02A	27/06/2023 11:02	mm/s		5	10	0.09	0.03	0.04	0.12
WS49LEB04A	27/06/2023 13:09	mm/s		5	10	0.09	0.05	0.06	0.10
P209MA301A	28/06/2023 13:07	mm/s		5	10	0.09	0.03	0.08	0.13
WN46BAP01B_WN46LLD01A	29/06/2023 14:16	mm/s		5	10	0.17	0.27	0.14	0.13
Monthly Meaningful Data									
June	mm/s	Minimum	5	10	0.08	0.02	0.04	0.04	
	mm/s	Mean	5	10	0.13	0.09	0.11	0.28	
	mm/s	Maximum	5	10	0.29	0.28	0.53	0.85	
	mm/s	Median	5	10	0.13	0.07	0.07	0.13	



6 | SEWAGE TREATMENT PLANT MONITORING DATA

Date Sampled: 5th June 2023

Date Obtained: 21st July 2023

Table 4 Sewage Treatment Plant Monitoring

Monitoring Site	Date & Time	Pollutant	Unit of Measure	Monitoring Result
EPA ID 23	05/06/2023 09:40:00	Faecal Coliforms	Colony forming units/100ml	300,000
		pH	pH	7.04
EPA ID 25	05/06/2023 09:30:00	Faecal Coliforms	Colony forming units/100ml	110,000
		pH	pH	8.05
EPA ID 26	05/06/2023 10:35:00	Faecal Coliforms	Colony forming units/100ml	1,800,000
		pH	pH	7.32
EPA ID 29	05/06/2023 12:05:00	Faecal Coliforms	Colony forming units/100ml	~1,400,000
		pH	pH	7.32

7 | NOISE MONITORING DATA

Date Sampled: 6/06/2023

Date Obtained: 29/06/2023

Table 5 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	6/06/2023 21:00	2.8	164	E	No	41	46	IA	IA	Nil	Nil
Knodlers Lane	6/06/2023 21:40	2.3	166	E	No	40	46	IA	IA	Nil	Nil
Maison Dieu	6/06/2023 21:20	2.4	184	D	No	39	46	IA	IA	Nil	Nil
Long Point (Dights Crossing)	6/06/2023 22:27	1.8	183	E	No	37	46	IA	IA	Nil	Nil
Kilburnie South	6/06/2023 23:24	1.6	156	D	No	39	46	IA	IA	Nil	Nil
Jerrys Plains East	6/06/2023 22:58	1.8	154	E	No	39	46	26	28	Nil	Nil
Jerrys Plains Village	6/06/2023 21:22	2.4	184	D	No	40	46	29	34	Nil	Nil
Jerrys Plains West	6/06/2023 21:00	2.8	164	E	No	40	46	31	37	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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