

HUNTER VALLEY
OPERATIONS

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

DOCUMENT NUMBER
HVOOC-1797567310-4776

STATUS
Approved

VERSION
1.0

EFFECTIVE
28/09/2023

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

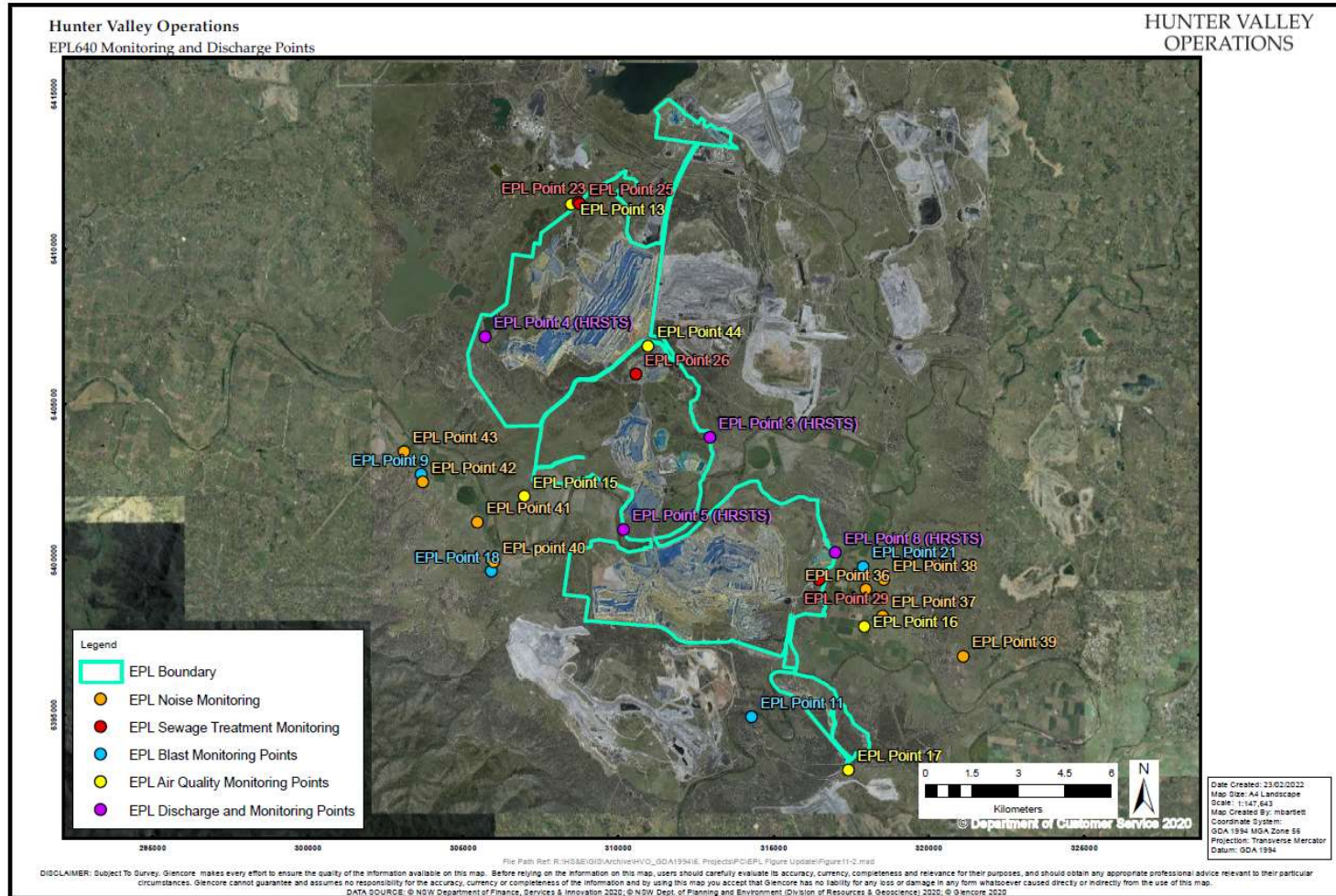


Figure 1: EPL 640 Monitoring Location

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3 | AIR QUALITY

Date Last Sampled: 30/07/2023

Date Obtained: 14/08/2023

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)
1/07/2023	µg/m ³	Continuous	11.5	5.4	19.3	13.0	71.8
2/07/2023	µg/m ³		30.4	15.9	20.0	31.7	61.9
3/07/2023	µg/m ³		34.2	8.0	31.0	43.5	50.9
4/07/2023	µg/m ³		12.8	3.2	10.0	13.4	22.2
5/07/2023	µg/m ³		8.2	4.3	7.1	8.4	21.4
6/07/2023	µg/m ³		9.3	2.8	7.7	9.4	27.9
7/07/2023	µg/m ³		10.9	4.4	10.9	11.8	35.4
8/07/2023	µg/m ³		20.9	8.8	17.3	16.6	82.8
9/07/2023	µg/m ³		19.4	11.1	26.4	20.2	100.0
10/07/2023	µg/m ³		14.8	6.7	20.9	15.2	90.6
11/07/2023	µg/m ³		16.3	12.1	15.1	28.7	44.4
12/07/2023	µg/m ³		47.2	20.4	21.8	56.2	105.1
13/07/2023	µg/m ³		24.2	11.1	25.6	28.9	86.9
14/07/2023	µg/m ³		19.0	15.4	31.2	25.8	59.3
15/07/2023	µg/m ³		17.7	11.9	32.0	28.4	120.0

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16/07/2023	µg/m ³		39.6	15.5	27.5	69.8	54.4
17/07/2023	µg/m ³		33.7	23.7	17.6	18.3	39.0
18/07/2023	µg/m ³		15.9	9.1	24.0	25.1	51.0
19/07/2023	µg/m ³		32.8	16.6	13.6	35.8	33.3
20/07/2023	µg/m ³		41.7	14.7	34.7	38.5	110.0
21/07/2023	µg/m ³		17.5	7.4	17.8	21.1	52.5
22/07/2023	µg/m ³		36.4	14.4	16.9	38.9	68.7
23/07/2023	µg/m ³		36	21.7	19.8	35.1	93.3
24/07/2023	µg/m ³		23.9	18.2	10.6	26.0	38.0
25/07/2023	µg/m ³		-	13.8	13.4	27.7	47.7
26/07/2023	µg/m ³		-	16.3	16.9	40.7	72.8
27/07/2023	µg/m ³		35.2	14.8	21.8	58.1	124.5
28/07/2023	µg/m ³		22.3	14.4	37.4	47.3	84.3
29/07/2023	µg/m ³		23.4	18.9	37.0	36.8	63.7
30/07/2023	µg/m ³		39.1	11.7	31.1	26.3	83.0
31/07/2023	µg/m ³		23.1	5.5	16.2	18.2	61.0
Monthly Meaningful Data							
July	µg/m ³	Minimum	7.8	3.1	7.4	8.2	21.4
	µg/m ³	Mean	24.2	12.6	21.3	29.4	66.4
	µg/m ³	Maximum	46.7	24.0	37.5	69.7	124.5
	µg/m ³	Median	22.6	13.5	20.6	26.8	61.9

* Less than 75% 24-hour data capture

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4 | SURFACE WATER MONITORING DATA

No discharges under the HRSTS occurred during July.

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: 26/07/2023

Date Obtained: 18/08/2023

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
WN46U2A01A	1/07/2023 13:07	dB(L)	All blasts 100%	115	120	94.83	109.61	101.44	108.29
WN49LEP02A	3/07/2023 13:20	dB(L)		115	120	84.44	82.98	81.44	83.04
WN46LLD02A	3/07/2023 13:22	dB(L)		115	120	89.23	92.83	86.20	96.26
WS49LEA12A	5/07/2023 13:06	dB(L)		115	120	93.83	112.31	98.49	101.94
P125FCL02B	5/07/2023 15:20	dB(L)		115	120	98.76	104.05	114.05	92.09
M1T211002A	6/07/2023 10:36	dB(L)		115	120	93.75	101.13	98.06	96.20
P209FCL02A	6/07/2023 14:20	dB(L)		115	120	106.74	103.88	101.14	93.17

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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
P209FCL02B	10/07/2023 13:16	dB(L)	All Blasts 100%	115	120	109.21	102.73	113.41	104.82
WN46LLD03A	11/07/2023 13:04	dB(L)		115	120	82.22	87.51	84.08	85.74
WN49LED04A	11/07/2023 13:19	dB(L)		115	120	95.96	94.13	90.04	85.77
WS49LEB05A	11/07/2023 13:21	dB(L)		115	120	91.29	97.35	88.17	96.00
WS49LDP01A	14/07/2023 13:16	dB(L)		115	120	88.71	88.02	91.28	91.16
P208BR606A	17/07/2023 13:44	dB(L)		115	120	89.54	85.16	94.44	92.83
P209PF101A	17/07/2023 16:45	dB(L)		115	120	98.89	89.77	91.79	96.39
RW37AFA05A_RW37BFP01D_RW37BFA01A	19/07/2023 13:05	dB(L)		115	120	94.72	91.89	96.81	97.90
WS49LEA13A	20/07/2023 12:59	dB(L)		115	120	91.63	101.41	100.24	97.02
WS49LED01A	22/07/2023 13:09	dB(L)		115	120	85.13	93.94	89.67	92.75

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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
RW37BFA01B	24/07/2023 13:20	dB(L)	All Blasts 100%	115	120	99.96	89.95	88.89	96.80
P125FCL03A	24/07/2023 15:34	dB(L)		115	120	90.67	86.76	92.69	82.01
P209FCL02C	26/07/2023 15:57	dB(L)		115	120	92.97	82.51	92.17	97.35
Monthly Meaningful Data									
July	dB(L)	Minimum	115	120	82.22	82.51	81.44	82.01	
	dB(L)	Mean	115	120	93.62	94.90	94.73	94.38	
	dB(L)	Maximum	115	120	109.21	112.31	114.05	108.29	
	dB(L)	Median	115	120	93.36	93.39	92.43	96.10	



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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
WN46U2A01A	1/07/2023 13:07	mm/s	All Blasts 100%	5	10	0.09	0.03	0.04	0.03
WN49LEP02A	3/07/2023 13:20	mm/s		5	10	0.12	0.13	0.08	0.12
WN46LLD02A	3/07/2023 13:22	mm/s		5	10	0.10	0.08	0.06	0.75
WS49LEA12A	5/07/2023 13:06	mm/s		5	10	0.11	0.06	0.06	0.21
P125FCL02B	5/07/2023 15:20	mm/s		5	10	0.09	0.02	0.03	0.58
M1T211002A	6/07/2023 10:36	mm/s		5	10	0.15	0.20	0.06	0.65
P209FCL02A	6/07/2023 14:20	mm/s		5	10	0.09	0.02	0.03	0.37
P209FCL02B	10/07/2023 13:16	mm/s		5	10	0.08	0.03	0.05	0.53
WN46LLD03A	11/07/2023 13:04	mm/s		5	10	0.09	0.09	0.05	0.10
WN49LED04A	11/07/2023 13:19	mm/s		5	10	0.18	0.19	0.17	0.13
WS49LEB05A	11/07/2023 13:21	mm/s		5	10	0.09	0.04	0.05	0.60
WS49LDP01A	14/07/2023 13:16	mm/s		5	10	0.08	0.05	0.05	0.16
P208BR606A	17/07/2023 13:44	mm/s		5	10	0.12	0.04	0.18	0.83
P209PF101A	17/07/2023 16:45	mm/s		5	10	0.09	0.03	0.15	0.20

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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
RW37AFA05A_RW37BFP01D_RW37BFA01A	19/07/2023 13:05	mm/s	All Blasts 100%	5	10	0.31	0.10	0.14	0.36
WS49LEA13A	20/07/2023 12:59	mm/s		5	10	0.10	0.07	0.07	0.09
WS49LED01A	22/07/2023 13:09	mm/s		5	10	0.19	0.16	0.18	0.56
RW37BFA01B	24/07/2023 13:20	mm/s		5	10	0.34	0.09	0.10	0.60
P125FCL03A	24/07/2023 15:34	mm/s		5	10	0.08	0.03	0.04	0.12
P209FCL02C	26/07/2023 15:57	mm/s		5	10	0.08	0.03	0.05	0.22
Monthly Meaningful Data									
July	mm/s	Minimum	5	10	0.08	0.02	0.03	0.03	
	mm/s	Mean	5	10	0.13	0.07	0.08	0.36	
	mm/s	Maximum	5	10	0.34	0.20	0.18	0.83	
	mm/s	Median	5	10	0.10	0.06	0.06	0.29	

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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 September 2023 report.

7 | NOISE MONITORING DATA

Date Sampled: 26/07/2023 – Long Point (Dights Crossing) 31/07/23023

Date Obtained: 01/08/2023

Table 4 Night $L_{Aeq,15minute}$ and 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	26/07/2023 21:00	1.4	181	D	No	41	46	29	32	Nil	Nil
Knodlers Lane	26/07/2023 21:43	1.0	276	F	No	40	46	<25	<25	Nil	Nil
Maison Dieu	26/07/2023 21:20	1.3	195	E	No	39	46	<25	<25	Nil	Nil
Long Point (Dights Crossing)	31/07/2023 22:00	6.6	306	D	Yes	42	51	IA	IA	Nil	Nil
Kilburnie South	26/07/2023 22:56	0.5	333	F	No	39	46	<30	35	Nil	Nil
Jerrys Plains East	26/07/2023 21:28	1.1	224	F	No	39	46	<30	<30	Nil	Nil
Jerrys Plains Village	26/07/2023 21:04	1.4	181	D	No	40	46	<25	28	Nil	Nil
Jerrys Plains West	26/07/2023 21:23	1.1	224	F	No	40	46	<25	<25	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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