

HUNTER VALLEY
OPERATIONS

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

DOCUMENT NUMBER
HVOOC-1797567310-4602

STATUS
Approved

VERSION
1.0

EFFECTIVE
21/08/2023

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** Error! Reference source not found..

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

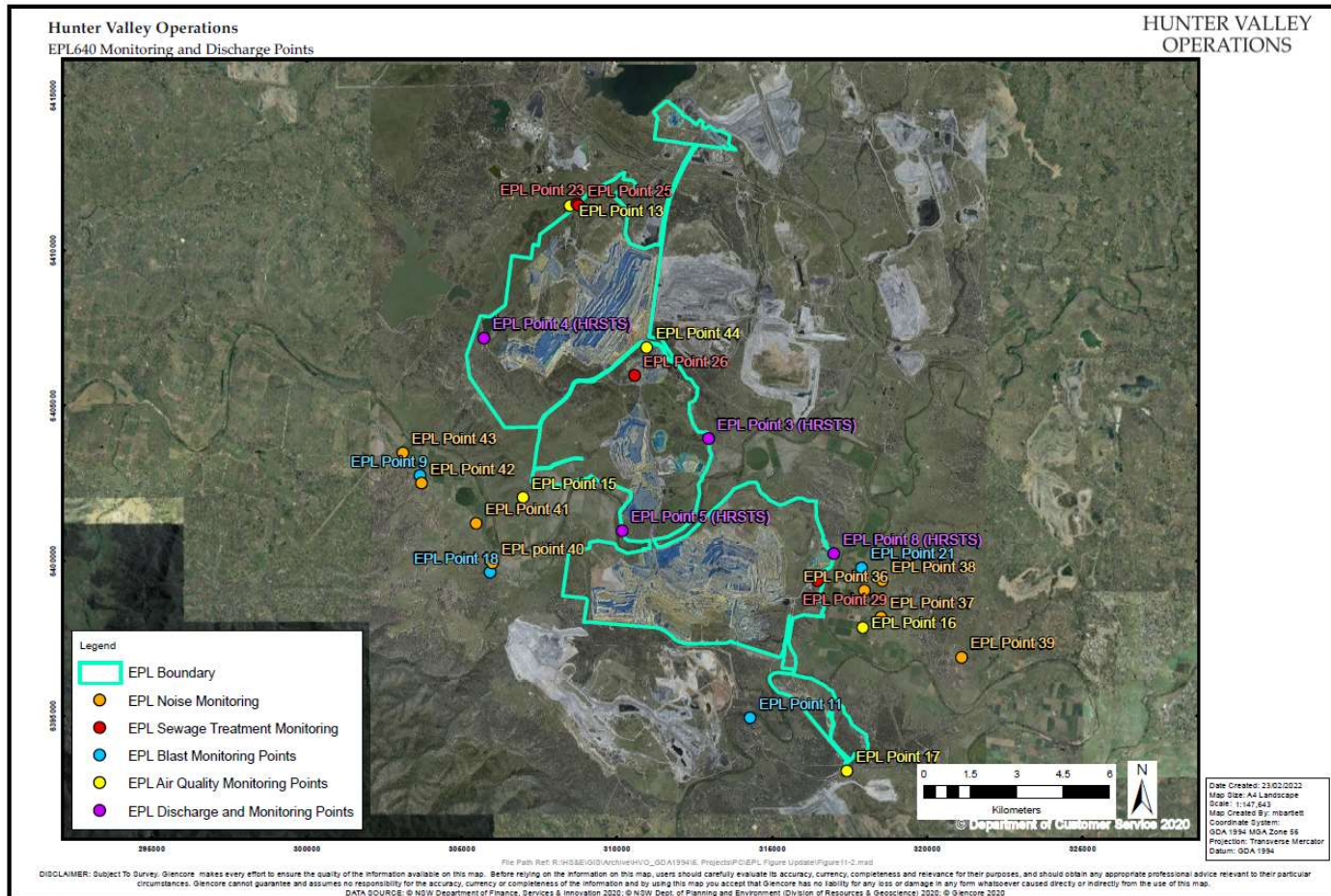


Figure 1 - EPL 640 Monitoring Location

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3 | AIR QUALITY

Date Last Sampled: 28/02/2023

Date Obtained: 01/03/2023

Table 1 - Particulate Matter Monitoring (<10µm)

Date	Unit of Measure	Monitoring Frequency & Capture	EPL ID 13 (Howick)	EPL ID 15 (Wandewoi)	EPL ID 16 (Knodlers Lane)	EPL ID 17 (Golden Highway)	EPL ID 44 (West Pit)
1/02/2023	µg/m ³	Continuous	19.6	22.4	18.6	30.3	26.0
2/02/2023	µg/m ³		17.2	15.6	40.0	27.1	52.1
3/02/2023	µg/m ³		23.4	13.3	59.4	35.1	82.9
4/02/2023	µg/m ³		19.5	8.4	38.8	37.6	89.7
5/02/2023	µg/m ³		43.7	24.8	35.1	31.9	58.8
6/02/2023	µg/m ³		46.3	27.8	24.4	25.2	45.4
7/02/2023	µg/m ³		30.7	23.9	22.8	*	21.1
8/02/2023	µg/m ³		29.8	21.6	21.0	*	27.1
9/02/2023	µg/m ³		20.8	13.5	12.8	24.5	21.8
10/02/2023	µg/m ³		25.0	16.2	17.5	40.3	32.6
11/02/2023	µg/m ³		30.9	19.9	28.0	59.0	61.5
12/02/2023	µg/m ³		39.7	25.5	38.0	60.1	56.6
13/02/2023	µg/m ³		37.9	28.0	28.1	33.8	34.4
14/02/2023	µg/m ³		28.2	16.9	17.8	27.3	25.8
15/02/2023	µg/m ³		38.7	21.9	13.8	27.5	19.3
16/02/2023	µg/m ³		46.0	32.8	16.1	45.5	53.5
17/02/2023	µg/m ³		40.2	31.2	19.5	43.4	46.9
18/02/2023	µg/m ³		32.2	37.7	29.8	57.3	55.9

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Date	Unit of Measure	Monitoring Frequency & Capture	EPL ID 13 (Howick)	EPL ID 15 (Wandewoi)	EPL ID 16 (Knodlers Lane)	EPL ID 17 (Golden Highway)	EPL ID 44 (West Pit)
19/02/2023	µg/m ³		33.2	21.7	24.1	*	26.1
20/02/2023	µg/m ³		38.0	26.2	21.9	*	32.0
21/02/2023	µg/m ³		36.9	25.6	22.4	43.2	39.5
22/02/2023	µg/m ³		8.3	5.4	8.7	12.9	10.6
23/02/2023	µg/m ³		20.8	13.3	14.5	20.2	16.0
24/02/2023	µg/m ³		18.2	17.0	11.3	19.8	15.0
25/02/2023	µg/m ³		25.2	23.0	11.7	20.6	25.5
26/02/2023	µg/m ³		18.7	28.1	20.7	41.8	48.9
27/02/2023	µg/m ³		32.3	24.3	29.7	47.8	92.8
28/02/2023	µg/m ³		26.2	19.9	18.3	22.9	22.4
Monthly Meaningful Data							
February	µg/m ³	Minimum	8.3	5.4	8.7	12.9	10.6
	µg/m ³	Mean	29.6	21.6	23.7	34.8	40.7
	µg/m ³	Maximum	46.3	37.7	59.4	60.1	92.8
	µg/m ³	Median	30.3	22.2	21.5	32.9	33.5

* Less than 75% data capture

4 | SURFACE WATER MONITORING DATA

No discharges under the HRSTS occurred during February.

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: 27/02/2023

Date Obtained: 2/03/2023

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
WN47LEC06A	2/02/2023 13:17	dB(L)	All blasts 100%	115	120	90.91	101.07	99.95	102.04
WN47LAP01A	2/02/2023 13:18	dB(L)		115	120	70.62	77.92	86.65	87.55
WN47LAA03A	4/02/2023 13:03	dB(L)		115	120	93.94	113.37	83.82	91.18
RW37WHP01C	6/02/2023 13:13	dB(L)		115	120	88.78	92.98	86.14	88.64
RW36WHG04A	6/02/2023 13:14	dB(L)		115	120	102.24	94.29	100.2	101.84
P210045P02A	8/02/2023 13:00	dB(L)		115	120	106.57	109.39	100.55	90.04

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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
WN45BAR07A	9/02/2023 13:05	dB(L)	All blasts 100%	115	120	94.51	85.94	88.72	88.85
RW3706501A_RW3707501A	13/02/2023 13:39	dB(L)		115	120	110.94	111.51	109.22	92.25
P125WK505A	14/02/2023 12:59	dB(L)		115	120	105.28	99.82	103.96	84.91
P209W9P03C	16/02/2023 13:11	dB(L)		115	120	104.25	83.9	96.03	92.67
P21006002A	16/02/2023 13:12	dB(L)		115	120	98.56	93.43	99.75	100.18
WN49LEC01C	17/02/2023 13:06	dB(L)		115	120	87.64	95.7	94.69	81.53
WN47BAR01A_WN45BAR08A	20/02/2023 13:08	dB(L)		115	120	88.96	83.94	93.73	80.68
WS4909802A	21/02/2023 13:18	dB(L)		115	120	81.87	87.78	83.92	81.13
WS49LEB03A	21/02/2023 13:19	dB(L)		115	120	83.91	101.16	89.31	86.70

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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
P210WK205A	23/02/2023 13:15	dB(L)	All blasts 100%	115	120	102.73	104.71	100.52	87.14
P21006003A	23/02/2023 13:17	dB(L)		115	120	100.02	109.16	102.72	99.03
P208BR506A	25/02/2023 12:57	dB(L)		115	120	95.3	98.06	90.83	85.09
P209N2001A	27/02/2023 14:29	dB(L)		115	120	95.68	85.86	94.65	95.35
<i>Monthly Meaningful Data</i>									
February	dB(L)	Minimum	115	120	88.48	82.8	85.45	81.95	
	dB(L)	Mean	115	120	97.46	96.84	95.55	91.91	
	dB(L)	Maximum	115	120	108.85	106.52	106.07	102.54	
	dB(L)	Median	115	120	95.7	97.78	93.69	91.11	

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
WN45BAR07A	9/02/2023 13:05	mm/s	All Blasts 100%	5	10	0.17	0.18	0.05	0.14
RW3706501A_RW3707501A	13/02/2023 13:39	mm/s		5	10	0.20	0.07	0.08	0.29
P125WK505A	14/02/2023 12:59	mm/s		5	10	0.10	0.02	0.02	0.17
P209W9P03C	16/02/2023 13:11	mm/s		5	10	0.21	0.10	0.33	0.54
P21006002A	16/02/2023 13:12	mm/s		5	10	0.19	0.08	0.38	0.67
WN49LEC01C	17/02/2023 13:06	mm/s		5	10	0.10	0.05	0.02	0.08
WN47BAR01A_WN45BAR08A	20/02/2023 13:08	mm/s		5	10	0.21	0.24	0.07	0.12
WS4909802A	21/02/2023 13:18	mm/s		5	10	0.11	0.05	0.04	0.13
WS49LEB03A	21/02/2023 13:19	mm/s		5	10	0.11	0.05	0.03	0.08
P210WK205A	23/02/2023 13:15	mm/s		5	10	0.12	0.03	0.10	0.35
P21006003A	23/02/2023 13:17	mm/s		5	10	0.14	0.04	0.45	0.53
P208BR506A	25/02/2023 12:57	mm/s		5	10	0.10	0.03	0.08	0.15
P209N2001A	27/02/2023 14:29	mm/s		5	10	0.15	0.07	0.37	0.61

Monthly Meaningful Data

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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
February		mm/s	Minimum	5	10	0.10	0.02	0.02	0.08
		mm/s	Mean	5	10	0.19	0.09	0.15	0.35
		mm/s	Maximum	5	10	0.88	0.24	0.45	1.35
		mm/s	Median	5	10	0.15	0.07	0.08	0.29



6 | SEWAGE TREATMENT PLANT MONITORING DATA

Date Sampled: 14th February 2023

Date Obtained: 15th March 2023

Table 4 Sewage Treatment Plant Monitoring

Monitoring Site	Date & Time	Pollutant	Unit of Measure	Monitoring Result
EPA ID 23	14/02/2023 9:05:00 AM	Faecal Coliforms	Colony forming units/100ml	820,000
		pH	pH	7.28
EPA ID 25	14/02/2023 9:15:00 AM	Faecal Coliforms	Colony forming units/100ml	4,900
		pH	pH	7.25
EPA ID 26	14/02/2023 11:20:00 AM	Faecal Coliforms	Colony forming units/100ml	4,800,000
		pH	pH	7.21
EPA ID 29	14/02/2023 12:30:00 PM	Faecal Coliforms	Colony forming units/100ml	250
		pH	pH	9.11

7 | NOISE MONITORING DATA

Date Sampled: 27/02/2023

Date Obtained: 02/03/2023

Table 5 Night LAeq,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	27/02/2023 21:09	3.0	116	D	No	35	46	IA	IA	Nil	Nil
Knodlers Lane	27/02/2023 21:58	3.2	124	D	Yes	40	51	IA	IA	Nil	Nil
Maison Dieu	27/02/2023 21:33	2.6	123	D	No	35	46	IA	IA	Nil	Nil
Long Point (Dights Crossing)	27/02/2023 22:54	2.8	121	D	No	35	46	IA	IA	Nil	Nil
Kilburnie South	27/02/2023 23:38	3.8	118	D	Yes	44	51	IA	IA	Nil	Nil
Jerrys Plains East	27/02/2023 23:15	3.2	126	D	Yes	44	51	IA	IA	Nil	Nil
Jerrys Plains Village	27/02/2023 21:34	2.6	123	D	No	40	46	31	36	Nil	Nil
Jerrys Plains West	27/02/2023 21:10	3.0	116	D	No	40	46	NM	NM	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 LAeq,15minute, includes modifying factor penalties if applicable.

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

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