

HUNTER VALLEY OPERATIONS



Environment Protection Licence 640 Monitoring Data – June 2022 Published

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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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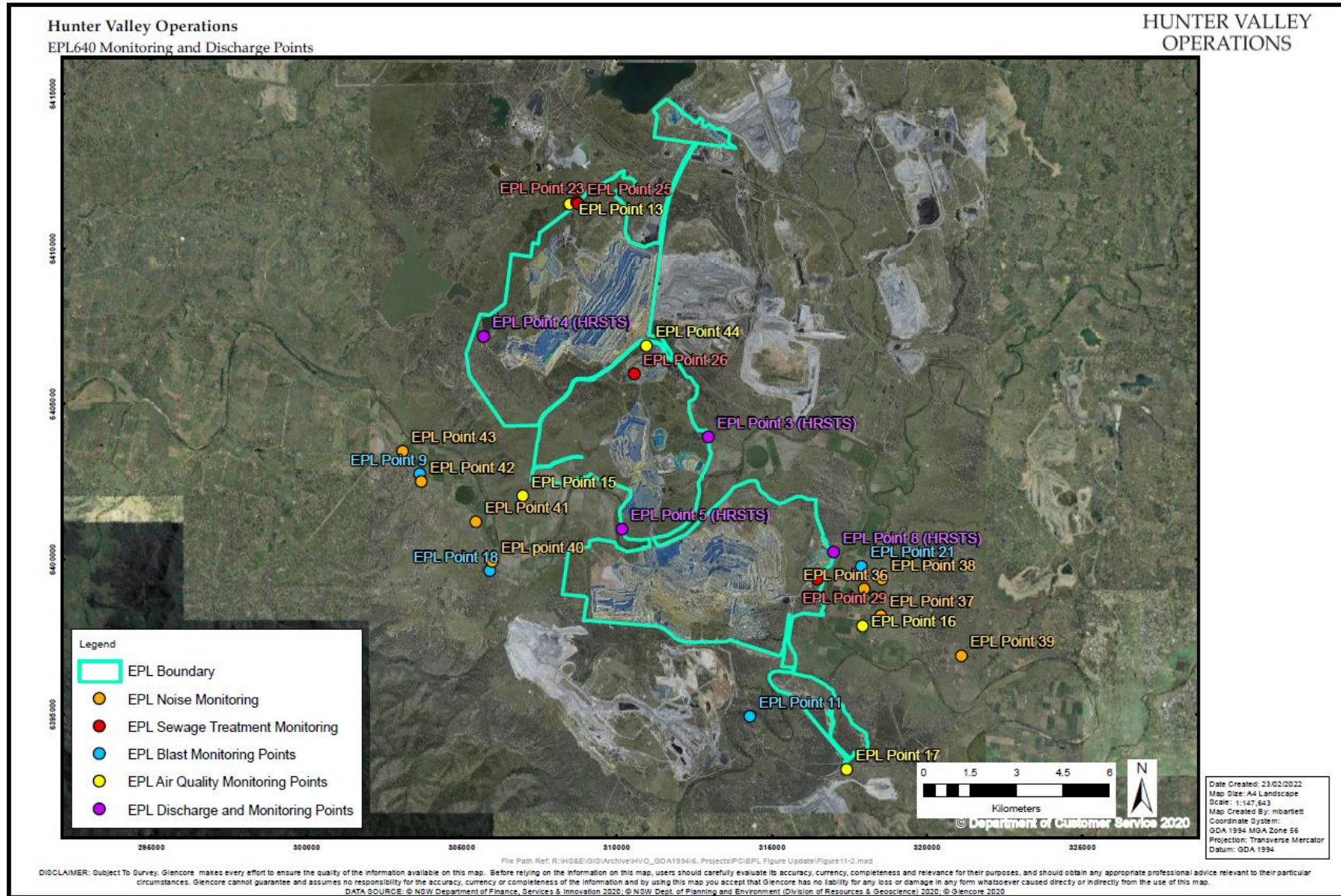
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Figure 1 - EPL 640 Monitoring Locations

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3 Air Quality

Date Last Sampled: 30/06/2022

Date Obtained: 1/07/2022

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 (North CHPP)
1/06/2022	µg/m ³	Continuous	10.1	7.5	11.5	8.7	19.1
2/06/2022	µg/m ³		10.3	8.6	11.2	15.5	31.8
3/06/2022	µg/m ³		14.4	8.1	10.6	12.8	20.5
4/06/2022	µg/m ³		6.8	3.5	7.0	7.3	11.6
5/06/2022	µg/m ³		8.8	6.0	10.6	7.9	21.4
6/06/2022	µg/m ³		9.2	7.5	9.0	10.1	25.1
7/06/2022	µg/m ³		10.7	7.5	11.0	10.7	22.8
8/06/2022	µg/m ³		10.2	5.4	10.7	9.8	24.5
9/06/2022	µg/m ³		13.5	6.0	9.6	10.3	42.0
10/06/2022	µg/m ³		11.3	6.2	9.2	12.9	39.7
11/06/2022	µg/m ³		10.8	6.5	12.3	9.0	36.9
12/06/2022	µg/m ³		17.7	9.3	18.3	13.5	67.4
13/06/2022	µg/m ³		14.3	9.8	16.0	23.8	30.9
14/06/2022	µg/m ³		21.0	7.4	12.9	22.8	*
15/06/2022	µg/m ³		12.6	7.3	18.4	13.4	*
16/06/2022	µg/m ³		15.5	*	17.8	15.5	23.6
17/06/2022	µg/m ³		13.2	4.1	12.3	21.3	34.0
18/06/2022	µg/m ³		27.1	9.5	19.9	24.4	46.0
19/06/2022	µg/m ³		31.5	12.7	13.4	26.5	24.1
20/06/2022	µg/m ³		31.0	18.0	14.3	26.4	39.0
21/06/2022	µg/m ³		17.9	9.4	21.0	18.3	50.3

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 (North CHPP)
22/06/2022	µg/m ³		13.8	7.7	14.4	18.9	36.6
23/06/2022	µg/m ³		12.6	6.4	16.4	14.4	41.6
24/06/2022	µg/m ³		13.7	7.4	20.1	14.4	71.6
25/06/2022	µg/m ³		15.3	7.7	22.4	15.5	56.1
26/06/2022	µg/m ³		12.8	8.2	20.4	14.7	54.3
27/06/2022	µg/m ³		28.1	8.0	18.9	21.5	51.1
28/06/2022	µg/m ³		34.8	16.2	23.8	32.2	46.4
29/06/2022	µg/m ³		23.8	21.8	22.9	25.5	58.0
30/06/2022	µg/m ³		38.8	16.3	23.1	25.4	52.7
Monthly Meaningful Data							
June	µg/m ³	Minimum	6.8	4.1	7.0	7.3	11.6
	µg/m ³	Mean	17.1	9.2	15.3	16.8	38.5
	µg/m ³	Maximum	38.8	21.8	23.8	32.2	71.6
	µg/m ³	Median	13.7	7.7	14.4	15.1	37.9

* less than 75% data capture due to annual TEOM maintenance

4 Surface Water Monitoring Data

No discharges [under the HRSTS](#) occurred during June

Table 2 – ~~Mine Water~~[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: 29/6/2022

Date Obtained: 1/06/2022

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
WS4911001A_WN45U2A01A	2/06/2022 13:15	dB(L)	All blasts 100%	115	120	93.35	89.85	86.26	90.12
P125W5P01A	2/06/2022 14:38	dB(L)		115	120	85.56	87.38	79.41	86.31
P20903505A	4/06/2022 13:09	dB(L)		115	120	86.5	104.97	104.35	102.6
WS44BAR02C	8/06/2022 13:02	dB(L)		115	120	95.18	112.69	106.47	93.22
P208VA102A	10/06/2022 11:14	dB(L)		115	120	101.85	112.34	99.39	105.03
RW37GMA05_GMP05_RW37WHA02	10/06/2022 13:36	dB(L)		115	120	94.58	106.58	107.86	103.75
WS4911001A	14/06/2022 11:07	dB(L)		115	120	96.62	93.73	92.03	92.66

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
P125WK501_WK201_P124N0901_09P01_	14/06/2022 13:07	dB(L)	All blasts 100%	115	120	98.17	91.34	101.83	102.11
P208VA102B_P208PF303A_P208V3P04A	16/06/2022 13:23	dB(L)		115	120	103.04	102.08	103.94	101.12
P20904505A	16/06/2022 13:24	dB(L)		115	120	95.65	105.2	106.98	109.05
WN47UAB01A1	18/06/2022 15:32	dB(L)		115	120	103.5	98.43	92.36	83.93
WN47UAB01A2	18/06/2022 16:14	dB(L)		115	120	74.8	79.97	87.84	81.51
P208BR601A	20/06/2022 13:05	dB(L)		115	120	87.55	92.29	97.73	97.27
P20904507A_P20904505B	22/06/2022 14:30	dB(L)		115	120	86.33	87.34	104	102.06
WN47UAB01B	23/06/2022 13:21	dB(L)		115	120	89.23	103.79	99.01	85.24
WS4911002/03A	23/06/2022 13:22	dB(L)		115	120	92.13	92.84	104.46	97.21
P208PF305A_P208V3P04B	25/06/2022 13:08	dB(L)		115	120	99.64	108.09	100	94.76

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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
P209WK202A	25/06/2022 13:09	dB(L)		115	120	92.09	106.53	95.67	94.87
M1T111001A	28/06/2022 13:04	dB(L)		115	120	96.41	98.41	88.9	87.64
P125WK201B	29/06/2022 14:16	dB(L)		115	120	91.02	87.28	88.69	88.87
Monthly Meaningful Data									
June		dB(L)	Minimum	115	120	74.80	85.34	79.41	81.51
		dB(L)	Mean	115	120	93.16	93.51	97.36	94.97
		dB(L)	Maximum	115	120	103.50	105.70	107.86	109.05
		dB(L)	Median	115	120	93.97	93.90	99.20	94.82

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
WS4911001A_WN45U2A01A	2/06/2022 13:15	mm/s	All Blasts 100%	5	10	0.12	0.06	0.06	0.16
P125W5P01A	2/06/2022 14:38	mm/s		5	10	0.14	0.04	0.09	0.23
P20903505A	4/06/2022 13:09	mm/s		5	10	0.15	0.04	0.26	0.65
WS44BAR02C	8/06/2022 13:02	mm/s		5	10	0.16	0.07	0.09	0.93
P208VA102A	10/06/2022 11:14	mm/s		5	10	0.12	0.03	0.14	0.4
RW37GMA05_GMP05_RW37WHA02	10/06/2022 13:36	mm/s		5	10	0.2	0.05	0.08	0.4
WS4911001A	14/06/2022 11:07	mm/s		5	10	0.12	0.03	0.07	0.13
P125WK501_WK201_P124N0901_09P01_	14/06/2022 13:07	mm/s		5	10	0.22	0.1	0.19	0.65
P208VA102B_P208PF303A_P208V3P04A	16/06/2022 13:23	mm/s		5	10	0.1	0.04	0.11	0.57
P20904505A	16/06/2022 13:24	mm/s		5	10	0.16	0.05	0.19	1

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
WN47UAB01A1	18/06/2022 15:32	mm/s		5	10	0.12	0.1	0.04	0.41
WN47UAB01A2	18/06/2022 16:14	mm/s		5	10	0.1	0.03	0.03	0.16
P208BR601A	20/06/2022 13:05	mm/s		5	10	0.18	0.1	0.87	0.93
P20904507A_P20904505B	22/06/2022 14:30	mm/s		5	10	0.21	0.06	0.27	1.04
WN47UAB01B	23/06/2022 13:21	mm/s		5	10	0.1	0.04	0.04	0.1
WS4911002/03A	23/06/2022 13:22	mm/s		5	10	0.13	0.06	0.04	1.1
P208PF305A_P208V3P04B	25/06/2022 13:08	mm/s		5	10	0.13	0.06	0.08	0.24
P209WK202A	25/06/2022 13:09	mm/s		5	10	0.09	0.04	0.03	0.23
M1T111001A	28/06/2022 13:04	mm/s		5	10	0.24	0.37	0.06	0.12
P125WK201B	29/06/2022 14:16	mm/s		5	10	0.11	0.03	0.04	0.16

Monthly Meaningful Data

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June	mm/s	Minimum	5	10	0.09	0.03	0.03	0.10
	mm/s	Mean	5	10	0.15	0.07	0.14	0.48
	mm/s	Maximum	5	10	0.24	0.37	0.87	1.10
	mm/s	Median	5	10	0.13	0.05	0.08	0.40

6 Sewage Treatment Plant Monitoring Data

Date Sampled: 1 June 2022

Date Obtained: 11 July 2022

Table 4 Sewage Treatment Plant Monitoring

Monitoring Site	Date & Time	Pollutant	Unit of Measure	Monitoring Result
EPA ID 23	1/06/2022 10:20:00 AM	Faecal Coliforms	Colony forming units/100ml	630000
		pH	pH	7.12
EPA ID 25	01/06/2022 10:30:00	Faecal Coliforms	Colony forming units/100ml	73000
		pH	pH	7.45
EPA ID 26	01/06/2022 08:15:00	Faecal Coliforms	Colony forming units/100ml	1100000
		pH	pH	7.49
EPA ID 29	01/06/2022 11:30:00	Faecal Coliforms	Colony forming units/100ml	460
		pH	pH	7.29

7 Noise Monitoring Data

Date Sampled: 29/06/2022

Date Obtained: 11/07/2022

Table 5 Night LAeq,15minute Generated by HVO Against EPL Criteria

Location	Date & Time	Wind Speed (m/s) ¹	Stability Class ¹	Criterion dB	Criterion Applies? ²	HVO LAeq dB ^{3,4}	Exceedance dB ^{4,5}
EPA ID 36	29/06/2022 21:00	1.2	F	41	Yes	30	Nil
EPA ID 37	29/06/2022 21:47	1.4	E	40	Yes	<30	Nil
EPA ID 38	29/06/2022 21:24	1.7	E	39	Yes	<30	Nil
EPA ID 39	29/06/2022 22:38	1.7	D	37	Yes	<25	Nil
EPA ID 40	29/06/2022 23:27	2.7	E	39	Yes	25	Nil
EPA ID 41	29/06/2022 23:03	2.7	E	39	Yes	<25	Nil
EPA ID 42	29/06/2022 21:27	1.7	E	40	Yes	IA	Nil
EPA ID 43	29/06/2022 21:03	1.2	F	40	Yes	<25	Nil

Notes:

1. Atmospheric data is sourced from the HVO Cheshunt AWS using logged meteorological data;
2. Noise criteria apply under all meteorological conditions except during periods of rain or hail, wind speeds greater than 3 m/s measured at 10 metres above ground level, stability category F conditions and wind speeds greater than 2 m/s measured at 10m above ground level, or stability category G conditions;
3. Site-only LAeq,15minute attributed to HVO, including modifying factors if applicable;
4. Bold results in red indicate exceedance of criterion; and
5. NA in exceedance column means atmospheric conditions outside specified in approval, therefore criterion was not applicable.

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Table 6 Night LA1,1minute Generated by HVO Against EPL Criteria

Location	Date & Time	Wind Speed (m/s) ¹	Stability Class ¹	Criterion dB	Criterion Applies? ²	HVO LAeq dB ^{3,4}	Exceedance dB ^{4,5}
EPA ID 36	29/06/2022 21:00	1.2	F	46	Yes	35	Nil
EPA ID 37	29/06/2022 21:47	1.4	E	46	Yes	35	Nil
EPA ID 38	29/06/2022 21:24	1.7	E	46	Yes	33	Nil
EPA ID 39	29/06/2022 22:38	1.7	D	46	Yes	<25	Nil
EPA ID 40	29/06/2022 23:27	2.7	E	46	Yes	28	Nil
EPA ID 41	29/06/2022 23:03	2.7	E	46	Yes	30	Nil
EPA ID 42	29/06/2022 21:27	1.7	E	46	Yes	IA	Nil
EPA ID 43	29/06/2022 21:03	1.2	F	46	Yes	<25	Nil

Notes:

1. Atmospheric data is sourced from the HVO Cheshunt AWS using logged meteorological data;
2. Noise criteria apply under all meteorological conditions except during periods of rain or hail, wind speeds greater than 3 m/s measured at 10 metres above ground level, stability category F conditions and wind speeds greater than 2 m/s measured at 10m above ground level, or stability category G conditions;
3. Site-only LA1,1minute attributed to HVO;
4. Bold results in red indicate exceedance of criterion; and
5. NA in criterion column indicates no criterion is applicable at this location. NA in exceedance column means atmospheric conditions outside specified in approval, therefore criterion was not applicable.