

HUNTER VALLEY OPERATIONS

ENVIRONMENT PROTECTION LICENCE 640 MONITORING DATA - APRIL 2023

DOCUMENT NUMBER
HVOOC-1797567310-4660

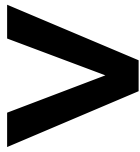
STATUS
Approved

VERSION
1.0

EFFECTIVE
19/07/2023

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: EPL 640 Monitoring Location

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

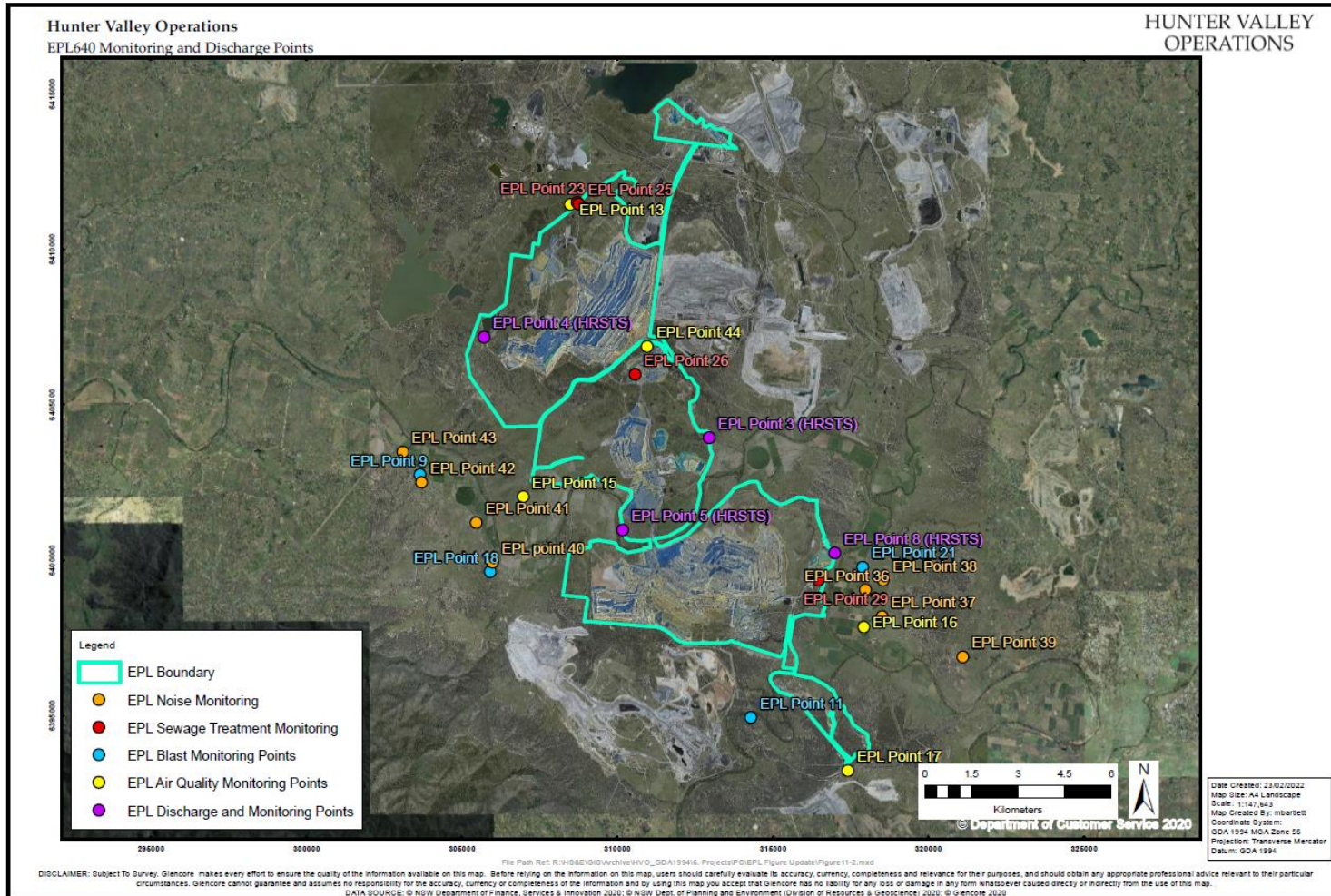


Figure 1: EPL 640 Monitoring Location

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3 | AIR QUALITY

Date Last Sampled: 30/04/2023

Date Obtained: 17/05/2023

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)
1/04/2023	µg/m ³	Continuous	24.7	10.5	16.4	24.3	31.6
2/04/2023	µg/m ³		*	14.3	15.7	29.9	41.2
3/04/2023	µg/m ³		24.8	20.8	12.9	16.2	12.9
4/04/2023	µg/m ³		23.5	18.3	12.4	25.0	19.5
5/04/2023	µg/m ³		29.8	19.7	18.2	30.4	85.1
6/04/2023	µg/m ³		37.6	22.2	32.8	28.9	40.5
7/04/2023	µg/m ³		20.2	15.2	14.9	23.1	30.1
8/04/2023	µg/m ³		15.7	12.0	21.7	21.9	49.3
9/04/2023	µg/m ³		13.5	9.2	18.6	15.5	56.0
10/04/2023	µg/m ³		11.1	7.7	17.7	18.0	29.8
11/04/2023	µg/m ³		21.5	8.7	16.7	22.8	42.8
12/04/2023	µg/m ³		18.6	12.1	25.3	37.3	43.9
13/04/2023	µg/m ³		16.2	8.9	14.8	21.0	15.0
14/04/2023	µg/m ³		16.4	11.7	14.6	24.1	18.7
15/04/2023	µg/m ³		26.6	19.5	13.8	26.7	32.9
16/04/2023	µg/m ³		20.1	18.7	27.3	45.5	51.7
17/04/2023	µg/m ³		28.2	20.3	19.0	26.3	27.9

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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)
18/04/2023	µg/m ³	Continuous	34.7	32.0	17.8	24.9	43.2
19/04/2023	µg/m ³		30.9	27.4	22.2	27.2	82.4
20/04/2023	µg/m ³		17.9	18.7	13.7	18.5	20.1
21/04/2023	µg/m ³		21.1	16.6	14.0	20.6	17.9
22/04/2023	µg/m ³		27.8	15.7	12.9	18.6	21.0
23/04/2023	µg/m ³		20.8	17.4	10.5	13.5	25.1
24/04/2023	µg/m ³		22.6	16.9	12.2	14.9	13.0
25/04/2023	µg/m ³		27.7	23.8	20.5	21.9	31.9
26/04/2023	µg/m ³		24.9	21.5	14.8	20.9	48.3
27/04/2023	µg/m ³		36.0	22.9	17.8	24.0	65.4
28/04/2023	µg/m ³		26.6	29.3	19.6	34.9	77.3
29/04/2023	µg/m ³		20.1	20.2	24.8	43.9	48.2
30/04/2023	µg/m ³		7.2	4.9	8.8	6.7	12.1
Monthly Meaningful Data							
April	µg/m ³	Minimum	7.2	4.9	8.8	6.7	12.1
	µg/m ³	Mean	23.0	17.2	17.4	24.2	37.8
	µg/m ³	Maximum	37.6	32.0	32.8	45.5	85.1
	µg/m ³	Median	22.6	17.9	16.5	23.5	32.4

* 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

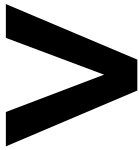
Date Last Sampled: 29/04/2023

Date Obtained: 17/05/2023

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

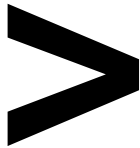
Blast ID	Date & Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits		Monitoring Point			
				95% of Blasts	100% of Blasts	Moses Crossing EPL ID 18	Jerrys Plains EPL ID 9	Maison Dieu EPL ID 21	Warkworth EPL ID 11
P208BYP05B	1/04/2023 12:55	dB(L)	All blasts 100%	115	120	82.37	87.61	87.16	84.62
RW37WHG01A	3/04/2023 12:57	dB(L)		115	120	98.39	112.19	97.67	81.86
WN49LED03A	6/04/2023 12:10	dB(L)		115	120	86.18	95.37	87.42	90.42
P208BYP05C_P208BR604A	11/04/2023 14:12	dB(L)		115	120	95.61	98.14	96.99	94.57
P209N2003A	11/04/2023 15:19	dB(L)		115	120	89.26	102.85	97.98	96.4
P125WK903A	13/04/2023 14:00	dB(L)		115	120	97.64	91.81	101.78	93.67
WS49LEA04A	14/04/2023 13:10	dB(L)		115	120	91.14	97.92	87.05	92.39

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
WS49LEA03A	15/04/2023 13:06	dB(L)	All blasts 100%	115	120	93.08	93.11	88.04	91.84
P210WK206A_P210WK207A_P21006502A	17/04/2023 12:56	dB(L)		115	120	99.84	99.88	96.96	100.7
WS47LEC02A	19/04/2023 13:03	dB(L)		115	120	84.28	85.22	86.03	91.45
RW37WHG01B	21/04/2023 9:54	dB(L)		115	120	97.54	98.2	96.76	88.88
P20810001A_P208BYP05D_P208BYP)4B	22/04/2023 13:03	dB(L)		115	120	95.65	96.95	98.46	94.18
M1T2ULD09A_M1T211001A	22/04/2023 15:03	dB(L)		115	120	97.54	103.28	94.91	90.69
P208BAY01A	24/04/2023 13:00	dB(L)		115	120	103.29	103.51	97.06	87.47
WS46LLD01A	27/04/2023 13:18	dB(L)		115	120	90.81	92.78	84.96	82.19
WS47LED01A	27/04/2023 13:20	dB(L)		115	120	84.34	93.38	86.59	95.07
P20810001B	29/04/2023 13:30	dB(L)		115	120	86.55	87.01	97.35	96.99



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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
WS49LEB01C	29/04/2023 16:00	dB(L)		115	120	96.67	100.32	95.51	98.60
Monthly Meaningful Data									
April	dB(L)	Minimum		115	120	82.37	85.22	84.96	81.86
	dB(L)	Mean		115	120	92.79	96.64	93.26	91.78
	dB(L)	Maximum		115	120	103.29	112.19	101.78	100.70
	dB(L)	Median		115	120	94.35	97.44	96.14	92.12



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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
P208BYP05B	1/04/2023 12:55	mm/s	All Blasts 100%	5	10	0.18	0.06	0.33	0.35
RW37WHG01A	3/04/2023 12:57	mm/s		5	10	0.29	0.07	0.06	0.10
WN49LED03A	6/04/2023 12:10	mm/s		5	10	0.21	0.14	0.15	0.72
P208BYP05C_P208BR604A	11/04/2023 14:12	mm/s		5	10	0.26	0.12	0.91	1.72
P209N2003A	11/04/2023 15:19	mm/s		5	10	0.19	0.10	0.39	0.87
P125WK903A	13/04/2023 14:00	mm/s		5	10	0.25	0.09	0.33	0.88
WS49LEA04A	14/04/2023 13:10	mm/s		5	10	0.14	0.09	0.05	0.71
WS49LEA03A	15/04/2023 13:06	mm/s		5	10	0.14	0.07	0.03	0.18
P210WK206A_P210WK207A_P21006502A	17/04/2023 12:56	mm/s		5	10	0.14	0.05	0.18	0.66
WS47LEC02A	19/04/2023 13:03	mm/s		5	10	0.14	0.06	0.05	0.49
RW37WHG01B	21/04/2023 9:54	mm/s		5	10	0.41	0.08	0.08	0.59
P20810001A_P208BYP05D_P208BYP)4B	22/04/2023 13:03	mm/s		5	10	0.15	0.08	0.42	0.68
M1T2ULD09A_M1T211001A	22/04/2023 15:03	mm/s		5	10	0.18	0.24	0.06	0.16
P208BAY01A	24/04/2023 13:00	mm/s		5	10	0.12	0.03	0.05	0.24

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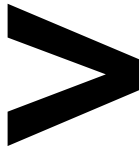
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Blast ID	Date & Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits			Monitoring Point		
				95% of Blasts	100% of Blasts	Moses Crossing EPL ID 18	Jerrys Plains EPL ID 9	Maison Dieu EPL ID 21	Warkworth EPL ID 11
WS46LLD01A	27/04/2023 13:18	mm/s		5	10	0.13	0.10	0.07	0.26
WS47LED01A	27/04/2023 13:20	mm/s		5	10	0.15	0.08	0.07	0.81
P20810001B	29/04/2023 13:30	mm/s		5	10	0.16	0.07	0.27	0.63
WS49LEB01C	29/04/2023 16:00	mm/s		5	10	0.10	0.03	0.04	0.14
Monthly Meaningful Data									
April		mm/s	Minimum	5	10	0.10	0.03	0.03	0.10
		mm/s	Mean	5	10	0.19	0.09	0.20	0.57
		mm/s	Maximum	5	10	0.41	0.24	0.91	1.72
		mm/s	Median	5	10	0.16	0.08	0.08	0.61



6 | SEWAGE TREATMENT PLANT MONITORING DATA

Sewage treatment plant monitoring results are provided on a quarterly basis. Results will be provided in the June 2023 Monthly Environmental Monitoring Report.

7 | NOISE MONITORING DATA

Date Sampled: 18/04/2023

Date Obtained: 19/05/2023

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	18/04/2023 21:03	3.4	150	D	Yes	46	51	IA	IA	Nil	Nil
Knodlers Lane	18/04/2023 21:45	3.3	150	E	Yes	45	51	IA	IA	Nil	Nil
Maison Dieu	18/04/2023 21:25	3.6	148	E	Yes	44	51	IA	IA	Nil	Nil
Long Point (Dights Crossing)	18/04/2023 22:34	2.7	167	E	No	37	46	IA	IA	Nil	Nil
Kilburnie South	18/04/2023 23:24	2.1	171	E	No	39	46	30	33	Nil	Nil
Jerrys Plains East	18/04/2023 22:58	2.3	162	E	No	39	46	33	36	Nil	Nil
Jerrys Plains Village	18/04/2023 21:00	3.4	150	D	Yes	45	51	32	38	Nil	Nil
Jerrys Plains West	18/04/2023 21:24	3.6	148	E	Yes	45	51	28	34	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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