HUNTER VALLEY
OPERATIONS

ENVIRONMENT PROTECTION LICENCE 640 MONITORING DATA - AUGUST 2026

DOCUMENT NUMBER
HVOOC-1797567310-5828

STATUS
Approved

VERSION
2.0

EFFECTIVE
21/10/2026

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

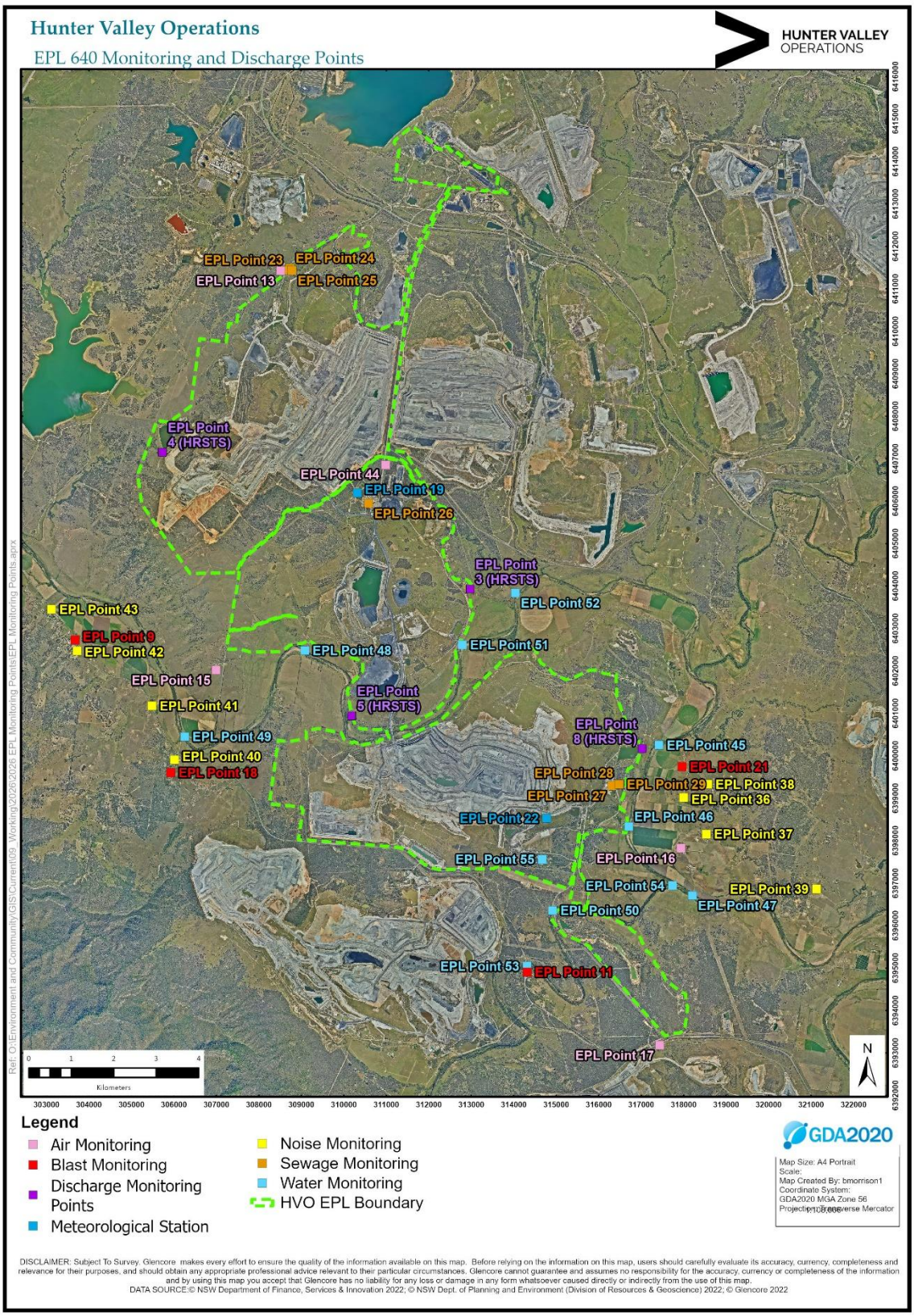


Figure 1: EPL 640 Monitoring Location

3 | AIR QUALITY

Date Last Sampled: 31/08/2026

Date Obtained: 28/09/2026

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)
1/08/2026	µg/m³	Continuous	34.3	21.2	25.5	40.8	52.5
2/08/2026	µg/m³		75.1	23.9	19.2	44.6	90.9
3/08/2026	µg/m³		48.1	13.5	18.4	40.4	104.2
4/08/2026	µg/m³		44.9	5.2	9.2	11.0	27.8
5/08/2026	µg/m³		42.5	5.9	11.5	9.8	62.5
6/08/2026	µg/m³		17.1	8.6	15.5	25.8	61.1
7/08/2026	µg/m³		32.5	11.5	15.8	27.8	59.7
8/08/2026	µg/m³		41.2	17.6	24.2	30.5	87.1
9/08/2026	µg/m³		34.0	15.1	16.3	40.4	73.6
10/08/2026	µg/m³		13.6	9.3	11.1	21.4	40.4
11/08/2026	µg/m³		10.8	4.1	7.7	10.8	34.3
12/08/2026	µg/m³		9.5	4.9	10.4	14.5	44.7
13/08/2026	µg/m³		10.5	5.0	8.2	20.7	37.0
14/08/2026	µg/m³		19.4	9.0	12.8	17.6	42.1
15/08/2026	µg/m³		27.4	26.0	19.9	32.0	61.7

16/08/2026	µg/m³	Continuous	25.7	22.8	8.7	16.8	30.4
17/08/2026	µg/m³		21.6	14.0	5.4	15.1	10.9
18/08/2026	µg/m³		21.0	15.6	7.9	13.6	17.5
19/08/2026	µg/m³		25.4	15.8	5.2	15.9	22.7
20/08/2026	µg/m³		22.1	12.4	12.3	32.8	81.8
21/08/2026	µg/m³		17.6	16.1	20.6	38.0	47.9
22/08/2026	µg/m³		12.4	4.5	11.0	18.9	29.7
23/08/2026	µg/m³		25.4	14.0	16.1	27.0	60.0
24/08/2026	µg/m³		21.6	20.4	17.9	31.8	69.9
25/08/2026	µg/m³		22.1	14.1	20.4	44.8	65.9
26/08/2026	µg/m³		9.8	7.3	8.8	10.9	11.7
27/08/2026	µg/m³		27.8	20.4	14.0	22.4	23.6
28/08/2026	µg/m³		22.2	15.4	16.2	29.8	37.5
29/08/2026	µg/m³		28.4	21.1	15.9	19.4	28.4
30/08/2026	µg/m3		24.3	18.7	16.9	26.7	44.7
31/08/2026	µg/m3		39.1	30.8	18.2	30.4	81.6
Monthly Meaningful Data							
August	µg/m³	Minimum	9.5	4.1	5.2	9.8	10.9
	µg/m³	Mean	26.7	14.3	14.2	25.2	49.8
	µg/m³	Maximum	75.1	30.8	25.5	44.8	104.2
	µg/m³	Median	24.3	14.1	15.5	25.8	44.7

** Less than 75% 24-hour data capture*

4 | SURFACE WATER MONITORING DATA

Water quality and quantity is monitored during discharge events and are shown in

Discharge Point	Pollutant	Licence Limits	Monitoring frequency	Result
EPL ID 3 (Dam 11N)	pH	6.5-9.5	Daily during discharge	N/A
	TSS (mg/L)	120		N/A
	EC (uS/cm)	N/A	Continuous during discharge	N/A
	Turbidity			N/A
EPL ID 4 (Dam 9W)	pH	6.5-9.5	Daily during discharge	N/A
	TSS (mg/L)	120		N/A
	EC (uS/cm)	N/A	Continuous during discharge	N/A
	Turbidity			N/A
EPL ID 5 (Alluvial Lands)	EC (µs/cm)	400	Special Frequency 1*	N/A
EPL ID 8 (Dam 15S)	pH	6.5-9.5	Daily during discharge	N/A
	TSS (mg/L)	120		N/A
	EC (uS/cm)	N/A	Continuous during discharge	N/A
	Turbidity			N/A

Table 2. Electrical conductivity (EC) and turbidity is monitored continuously using a probe. Total suspended solids (TSS) and pH is monitored via grab sample. Water quantity is continuously monitored while discharging using either an electronic level sensor or flowmeter.

No discharges under the HRSTS occurred during the reporting period.

Date Sampled: NA

Date Obtained: NA

Table 2 - HRSTS Discharge Monitoring

Discharge Point	Pollutant	Licence Limits	Monitoring frequency	Result
EPL ID 3 (Dam 11N)	pH	6.5-9.5	Daily during discharge	N/A
	TSS (mg/L)	120		N/A
	EC (uS/cm)	N/A	Continuous during discharge	N/A
	Turbidity			N/A
EPL ID 4 (Dam 9W)	pH	6.5-9.5	Daily during discharge	N/A
	TSS (mg/L)	120		N/A
	EC (uS/cm)	N/A	Continuous during discharge	N/A
	Turbidity			N/A
EPL ID 5 (Alluvial Lands)	EC (µs/cm)	400	Special Frequency 1*	N/A
EPL ID 8 (Dam 15S)	pH	6.5-9.5	Daily during discharge	N/A
	TSS (mg/L)	120		N/A
	EC (uS/cm)	N/A	Continuous during discharge	N/A
	Turbidity			N/A

At least once every 10 minutes during discharge.

Ambient water quality is monitored quarterly and bi-annually. Electrical conductivity, pH and total suspended solids are monitored quarterly and will be provided in the September 2026 report. Ammonia, nitrogen, and total petroleum hydrocarbons (TPH) are monitored bi-annually and will be provided in the September 2026 report.

Date Sampled: NA

Date Obtained: NA

Table 3 – Ambient Surface Water

Discharge Point	Frequency	Pollutant	Result
EPL ID 45 (H1 Hunter River (upstream K Dam))	Quarterly	EC (µS/cm)	N/A
		pH	N/A
		TSS (mg/L)	N/A
EPL ID 46 (H2 Hunter River)	Quarterly	EC (µS/cm)	N/A
		pH	N/A
		TSS (mg/L)	N/A
EPL ID 47 (H3 Hunter River downstream Wollombi)	Quarterly	EC (µS/cm)	N/A
		pH	N/A
		TSS (mg/L)	N/A
EPL ID 48 (W1 Hunter River Carrington)	Quarterly	EC (µS/cm)	N/A
		pH	N/A
		TSS (mg/L)	N/A
EPL ID 49 (W109 Hunter River Moses Crossing)	Quarterly	EC (µS/cm)	N/A
		pH	N/A
		TSS (mg/L)	N/A
EPL ID 50 (W2 Wollombi Brook)	Quarterly	EC (µS/cm)	N/A
		pH	N/A
		TSS (mg/L)	N/A
EPL ID 51 (W3 Hunter River)	Quarterly	EC (µS/cm)	N/A
		pH	N/A
		TSS (mg/L)	N/A
EPL ID 52 (W4 Hunter River Oaklands)	Quarterly	EC (µS/cm)	N/A
		pH	N/A
		TSS (mg/L)	N/A
EPL ID 53 (Warkworth Bridge Wollombi Brook)	Quarterly	EC (µS/cm)	N/A
		pH	N/A
		TSS (mg/L)	N/A
EPL ID 54 (WL1 Wollombi Brook)	Quarterly	EC (µS/cm)	N/A
		pH	N/A
		TSS (mg/L)	N/A
EPL ID 55 (Dam 19S)	Bi-annually*	Ammonia (mg/L)	N/A
		Nitrogen (Total) (mg/L)	N/A
		TPH (mg/L)	N/A

* EPL ID 55 is conducted more frequently than required by the EPL. It is conducted quarterly as per the HVO Water Management Plan.

5 | BLAST MONITORING DATA

Date Last Sampled: 31/08/2026

Date Obtained: 21/10/2026

Table 4 – Blast Monitoring (Air Blast Overpressure)

Blast ID	Date & Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits		Monitoring Point			
				95% of Blasts	100% of Blasts	EPL ID 18 (Moses Crossing)	EPL ID 9 (Jerrys Plains)	EPL ID 21 (Maison Dieu)	EPL ID 11 (Warkworth)
WS15BRN507A	3/08/2026 12:52	dB(L)	All Blasts 100%	*115*	*120*	108.05	104.65	105.74	99.32
M2B2BP503A	3/08/2026 15:05	dB(L)		*115*	*120*	107.65	112.50	99.99	106.37
P210MTA312A, P102N2502A	8/08/2026 11:27	dB(L)		*115*	*120*	96.84	91.63	93.80	89.63
WT11LDU703A, WT10BAR101A	8/08/2026 13:22	dB(L)		*115*	*120*	91.26	87.93	88.97	82.11
M2B1BP603A	11/08/2026 11:38	dB(L)		*115*	*120*	98.98	105.60	111.12	96.03
WT11LDU704A	12/08/2026 13:36	dB(L)		*115*	*120*	96.11	105.98	107.76	101.62
P103WKW1001A	13/08/2026 13:22	dB(L)		*115*	*120*	96.02	95.95	99.19	95.77

Blast ID	Date & Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits		Monitoring Point			
				95% of Blasts	100% of Blasts	EPL ID 18 (Moses Crossing)	EPL ID 9 (Jerrys Plains)	EPL ID 21 (Maison Dieu)	EPL ID 11 (Warkworth)
WS13LEB101A	14/08/2026 13:42	dB(L)	All Blasts 100%	*115*	*120*	91.41	91.46	91.49	82.85
P210PCF306A	15/08/2026 13:04	dB(L)		*115*	*120*	93.30	95.53	89.05	87.58
WS10BAR102A	17/08/2026 13:12	dB(L)		*115*	*120*	87.78	87.64	98.23	91.76
P102PCF102A	19/08/2026 13:10	dB(L)		*115*	*120*	95.09	91.22	88.67	94.43
WS15BRN601A	19/08/2026 15:14	dB(L)		*115*	*120*	98.97	103.94	85.81	95.11
M5B6BRN501A	19/08/2026 15:18	dB(L)		*115*	*120*	98.78	98.54	93.81	93.80
WT11LDL101A	21/08/2026 13:11	dB(L)		*115*	*120*	85.93	99.42	97.37	91.88
P210B5P03A, P210VAX301A	22/08/2026 13:23	dB(L)		*115*	*120*	92.28	96.24	105.07	95.68
WS15BRN509A	24/08/2026 13:35	dB(L)		*115*	*120*	102.03	93.23	88.85	91.15
M2B3BP401A	24/08/2026 13:42	dB(L)		*115*	*120*	93.69	95.92	78.79	97.09
P101BRN606A	26/08/2026 13:49	dB(L)		*115*	*120*	90.61	88.29	91.08	89.09

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Blast ID	Date & Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits		Monitoring Point			
				95% of Blasts	100% of Blasts	EPL ID 18 (Moses Crossing)	EPL ID 9 (Jerrys Plains)	EPL ID 21 (Maison Dieu)	EPL ID 11 (Warkworth)
P10303601A	27/08/2026 13:51	dB(L)	All Blasts 100%	*115*	*120*	92.11	86.55	84.15	90.53
WT10BAR103A	28/08/2026 13:01	dB(L)		*115*	*120*	86.70	88.22	93.35	92.10
M2B1BP7P01A	28/08/2026 15:07	dB(L)		*115*	*120*	83.25	97.19	91.81	89.48
P210BRN107A	31/08/2026 13:29	dB(L)		*115*	*120*	96.10	90.10	94.76	91.84
P103W6P01A	31/08/2026 13:33	dB(L)		*115*	*120*	96.14	90.09	80.67	86.02
Monthly Meaningful Data									
August		dB(L)	Minimum	*115*	*120*	83.25	86.55	78.79	82.11
		dB(L)	Mean	*115*	*120*	94.74	95.56	93.89	92.66
		dB(L)	Maximum	*115*	*120*	108.05	112.50	111.12	106.37
		dB(L)	Median	*115*	*120*	95.09	95.53	93.35	91.88

Table 5 -Blast Monitoring (Ground Vibration)

Blast ID	Date & Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits		Monitoring Point			
				95% of Blasts	100% of Blasts	EPL ID 18 (Moses Crossing)	EPL ID 9 (Jerrys Plains)	EPL ID 21 (Maison Dieu)	EPL ID 11 (Warkworth)
WS15BRN507A	3/08/2026 12:52	mm/s	All Blasts 100%	*5*	*10*	0.16	0.10	0.08	0.03
M2B2BP503A	3/08/2026 15:05	mm/s		*5*	*10*	0.21	0.14	0.09	0.14
P210MTA312A, P102N2502A	8/08/2026 11:27	mm/s		*5*	*10*	0.17	0.08	0.13	0.44
WT11LDU703A, WT10BAR101A	8/08/2026 13:22	mm/s		*5*	*10*	0.20	0.16	0.14	0.09
M2B1BP603A	11/08/2026 11:38	mm/s		*5*	*10*	0.20	0.81	0.08	0.19
WT11LDU704A	12/08/2026 13:36	mm/s		*5*	*10*	0.13	0.06	0.07	0.39
P103WKW1001A	13/08/2026 13:22	mm/s		*5*	*10*	0.40	0.14	0.16	0.43
WS13LEB101A	14/08/2026 13:42	mm/s		*5*	*10*	0.17	0.11	0.09	0.10
P210PCF306A	15/08/2026 13:04	mm/s		*5*	*10*	0.12	0.06	0.08	0.08
WS10BAR102A	17/08/2026 13:12	mm/s		*5*	*10*	0.25	0.15	0.14	0.17

Blast ID	Date & Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits		Monitoring Point			
				95% of Blasts	100% of Blasts	EPL ID 18 (Moses Crossing)	EPL ID 9 (Jerrys Plains)	EPL ID 21 (Maison Dieu)	EPL ID 11 (Warkworth)
P102PCF102A	19/08/2026 13:10	mm/s	All Blasts 100%	*5*	*10*	0.18	0.07	0.11	0.13
WS15BRN601A	19/08/2026 15:14	mm/s		*5*	*10*	0.18	0.12	0.09	1.02
M5B6BRN501A	19/08/2026 15:18	mm/s		*5*	*10*	0.16	0.08	0.07	0.68
WT11LDL101A	21/08/2026 13:11	mm/s		*5*	*10*	0.17	0.10	0.09	0.57
P210B5P03A, P210VAX301A	22/08/2026 13:23	mm/s		*5*	*10*	0.24	0.11	0.21	0.42
WS15BRN509A	24/08/2026 13:35	mm/s		*5*	*10*	0.14	0.06	0.08	0.38
M2B3BP401A	24/08/2026 13:42	mm/s		*5*	*10*	0.17	0.17	0.06	0.64
P101BRN606A	26/08/2026 13:49	mm/s		*5*	*10*	0.23	0.10	0.46	0.81
P10303601A	27/08/2026 13:51	mm/s		*5*	*10*	0.17	0.10	0.08	0.15
WT10BAR103A	28/08/2026 13:01	mm/s		*5*	*10*	0.23	0.22	0.14	0.17
M2B1BP7P01A	28/08/2026 15:07	mm/s		*5*	*10*	0.14	0.26	0.08	0.65

Blast ID	Date & Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits		Monitoring Point			
				95% of Blasts	100% of Blasts	EPL ID 18 (Moses Crossing)	EPL ID 9 (Jerrys Plains)	EPL ID 21 (Maison Dieu)	EPL ID 11 (Warkworth)
P210BRN107A	31/08/2026 13:29	mm/s	All Blasts 100%	*5*	*10*	0.22	0.12	0.38	0.54
P103W6P01A	31/08/2026 13:33	mm/s		*5*	*10*	0.28	0.09	0.17	0.18
Monthly Meaningful Data									
August		mm/s	Minimum	*5*	*10*	0.12	0.06	0.06	0.03
		mm/s	Mean	*5*	*10*	0.20	0.15	0.13	0.37
		mm/s	Maximum	*5*	*10*	0.40	0.81	0.46	1.02
		mm/s	Median	*5*	*10*	0.18	0.11	0.09	0.38

6 | SEWAGE TREATMENT PLANT MONITORING DATA

Sewage treatment plant monitoring results are provided on a quarterly basis. Results will be provided in the September 2026 report.

7 | NOISE MONITORING DATA

Date Sampled: 13-14/08/2026

Date Obtained: 08/09/2026

Table 7 – 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 [2,3]		Exceedances, dB	
		Speed m/s	Direction [4]			$L_{Aeq,15minute}$	$L_{A1,1min}$	$L_{Aeq,15minute}$ [2]	$L_{A1,1min}$	$L_{Aeq,15minute}$	$L_{A1,1min}$
EPL ID 36 (Shearers Lane)	13/08/2026 22:00	2.3	319	E	No	41	46	32	42	Nil	Nil
EPL ID 37 (Knodlers Lane)	13/08/2026 22:45	3.7	324	E	Yes	45	51	29	37	Nil	Nil
EPL ID 38 (Maison Dieu)	13/08/2026 22:22	2.2	321	E	No	39	46	28	38	Nil	Nil
EPL ID 39 (Long Point)	13/08/2026 23:17	3.6	322	E	Yes	42	51	NM	NM	Nil	Nil
EPL ID 40 (Moses Crossing)	13/08/2026 23:50	4.6	327	E	Yes	44	51	<25	<25	Nil	Nil
EPL ID 41 (Jerrys Plains East)	13/08/2026 23:29	4.0	325	E	Yes	44	51	32	35	Nil	Nil
EPL ID 42 (Jerrys Plains Village)	13/08/2026 22:18	2.2	321	E	No	40	46	<20	<20	Nil	Nil
EPL ID 43 (Jerrys Plains West)	13/08/2026 22:00	2.3	319	E	No	40	46	IA	IA	Nil	Nil

Notes:

1. Noise limits are adjusted by +5 dB during 'very noise-enhancing meteorological conditions' in accordance with the NPfI.
2. Site-only L_{Aeq},15minute, includes modifying factor penalties if applicable.
3. Site-only L_{A1},1minute based on measured site-only L_{Amax}
4. Degrees magnetic north, "-" indicates calm conditions.