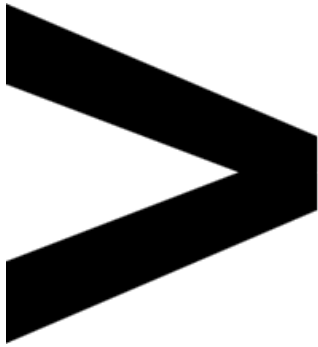




**HUNTER VALLEY
OPERATIONS**

ENVIRONMENT PROTECTION LICENCE 640 MONITORING DATA - APRIL 2026

DOCUMENT NUMBER

HVOOC-1797567310-5633

STATUS

Approved

VERSION

1.0

EFFECTIVE

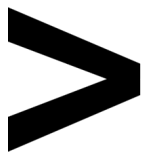
30/06/2026

REVIEW

[Planned Review Date]

OWNER

Superintendent - Environment and Community



MONITORING DATA - APRIL 2020

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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

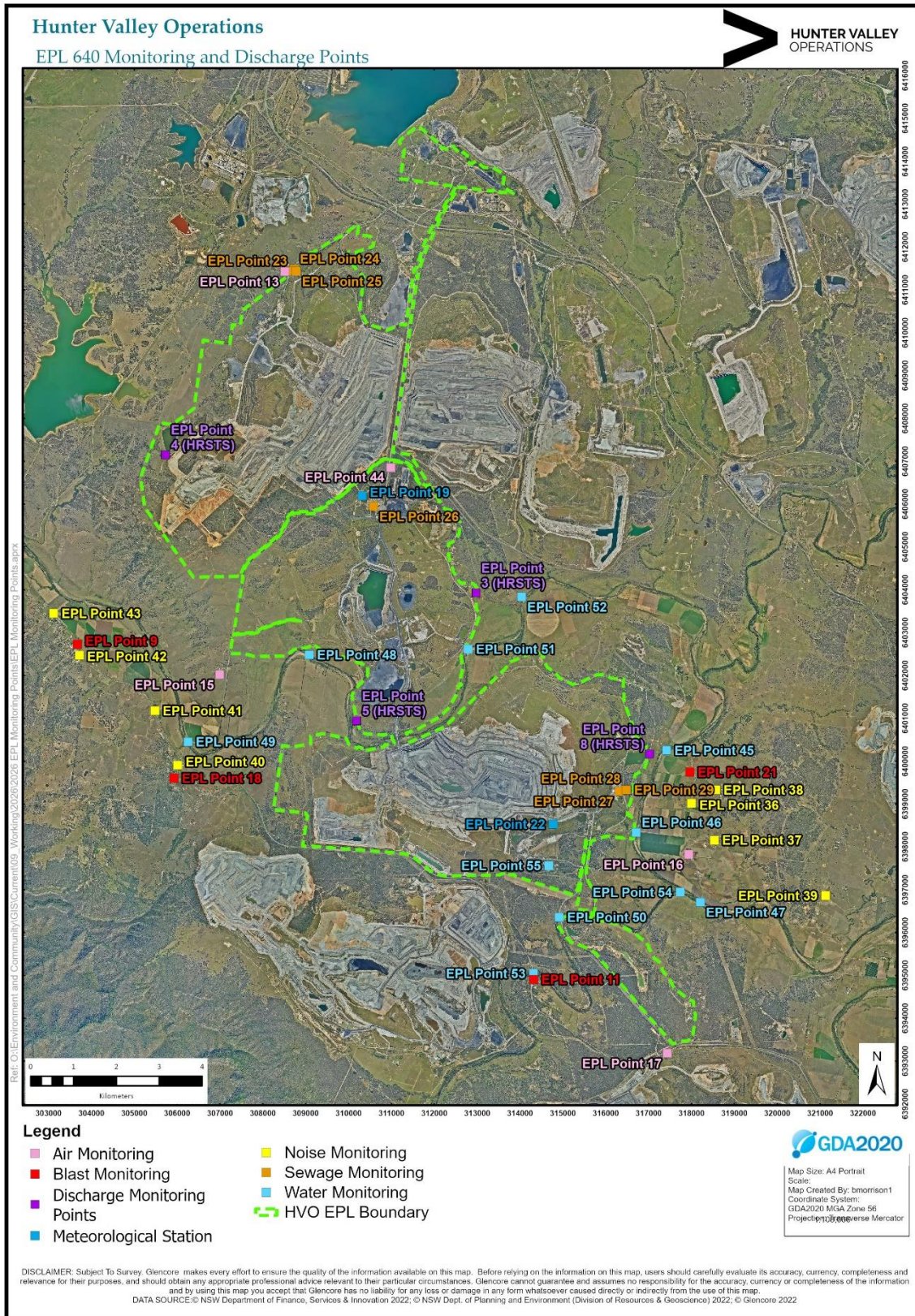
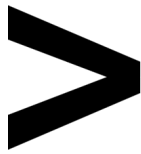


Figure 1: EPL 640 Monitoring Location

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3 | AIR QUALITY

Date Last Sampled: 30/04/2026

Date Obtained: 25/05/2026

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)
1/04/2026	µg/m ³	Continuous	43.1	34.0	29.0	30.1	59.3
2/04/2026	µg/m ³		42.0	29.7	26.8	25.3	52.3
3/04/2026	µg/m ³		35.2	33.5	49.2	38.0	42.0
4/04/2026	µg/m ³		30.3	13.9	13.5	19.8	14.2
5/04/2026	µg/m ³		31.8	18.7	18.4	20.7	11.5
6/04/2026	µg/m ³		38.5	34.7	34.5	67.3	46.6
7/04/2026	µg/m ³		33.3	13.3	36.8	44.5	120.7
8/04/2026	µg/m ³		57.1	23.3	39.6	69.4	128.5
9/04/2026	µg/m ³		47.6	29.4	40.9	50.3	82.5
10/04/2026	µg/m ³		64.5	37.1	63.9	47.1	106.8
11/04/2026	µg/m ³		30.8	16.4	31.5	65.4	109.3
12/04/2026	µg/m ³		18.1	9.0	25.0	18.5	81.1
13/04/2026	µg/m ³		32.9	20.3	34.1	31.0	76.2
14/04/2026	µg/m ³		50.4	33.7	36.5	38.7	94.9
15/04/2026	µg/m ³		43.5	55.8	48.9	51.1	131.6

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16/04/2026	µg/m ³		35.0	25.9	44.9	44.0	129.1
17/04/2026	µg/m ³		34.3	24.6	44.5	36.5	97.8
18/04/2026	µg/m ³		62.4	38.4	33.7	26.3	51.0
19/04/2026	µg/m ³		71.3	55.9	39.4	48.5	115.1
20/04/2026	µg/m ³		54.0	31.2	43.2	42.1	113.7
21/04/2026	µg/m ³		51.2	24.1	49.2	34.7	57.1
22/04/2026	µg/m ³		54.7	23.4	33.3	24.8	47.4
23/04/2026	µg/m ³		42.0	24.4	88.1	34.6	91.0
24/04/2026	µg/m ³		31.2	29.2	94.1	15.7	39.5
25/04/2026	µg/m ³		35.3	27.3	37.3	12.4	28.1
26/04/2026	µg/m ³		35.0	25.7	32.7	18.1	52.5
27/04/2026	µg/m ³		37.3	23.0	39.8	23.6	86.4
28/04/2026	µg/m ³		39.4	25.8	29.4	27.4	41.9
29/04/2026	µg/m ³		46.7	29.8	30.6	34.4	89.3
30/04/2026	µg/m ³		29.9	25.4	28.2	16.6	31.4
Monthly Meaningful Data							
April	µg/m ³	Minimum	18.1	9.0	13.5	12.4	11.5
	µg/m ³	Mean	42.0	27.9	39.9	35.2	74.3
	µg/m ³	Maximum	71.3	55.9	94.1	69.4	131.6
	µg/m ³	Median	39.0	25.9	36.7	34.5	78.7

* 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 June 2026 report. Ammonia, nitrogen, and total petroleum hydrocarbons (TPH) are monitored bi-annually and will be provided in the June 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: 29/04/2026

Date Obtained: 06/05/2026

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)
P102N1008A	1/04/2026 13:09	dB(L)	All Blasts 100%	115	120	95.08	87.02	94.48	96.72
M1B3BP902A	1/04/2026 15:01	dB(L)		115	120	97.98	97.38	85.47	89.05
P101BRN104A	2/04/2026 14:08	dB(L)		115	120	96.52	89.47	99.28	95.22
WS15BAY107A	7/04/2026 13:23	dB(L)		115	120	96.88	94.30	99.04	103.97
WT11ARL101A	7/04/2026 13:27	dB(L)		115	120	90.30	94.60	96.60	92.45
P210BRN503B	9/04/2026 13:09	dB(L)		115	120	105.15	81.56	88.78	92.07

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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)
WT12LEA205A	10/04/2026 10:41	dB(L)	All Blasts 100%	115	120	107.79	101.23	108.81	102.18
P210VAX106A_P210PCF107A	14/04/2026 13:22	dB(L)		115	120	94.11	95.93	96.37	98.76
M1B3BP903A	15/04/2026 13:22	dB(L)		115	120	95.43	99.24	94.04	93.60
WS15BAY103A	15/04/2026 13:34	dB(L)		115	120	98.63	91.67	102.46	92.13
WT10LDL101A	17/04/2026 13:05	dB(L)		115	120	87.55	88.14	101.92	92.83
P102MTA302A	18/04/2026 12:53	dB(L)		115	120	101.44	90.96	92.59	94.41
WT12LEA101A	18/04/2026 15:44	dB(L)		115	120	97.94	95.18	94.03	90.09
WT11LDU101A	20/04/2026 13:07	dB(L)		115	120	98.37	96.65	101.29	87.01
WT11ARL103A	22/04/2026 13:35	dB(L)		115	120	99.13	99.13	102.96	90.46

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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)
P210MTA311A	23/04/2026 15:12	dB(L)	All Blasts 100%	115	120	99.46	95.43	110.15	97.79
WT12LEA101B	24/04/2026 13:10	dB(L)		115	120	99.10	98.33	106.56	89.45
P102V1P01A	24/04/2026 14:17	dB(L)		115	120	106.55	102.89	104.94	86.64
WT11LDU102A	28/04/2026 13:11	dB(L)		115	120	89.72	96.20	104.10	91.21
P210BRN603A_P210B6P03	29/04/2026 13:48	dB(L)		115	120	96.82	96.30	97.74	99.00
P103W10P01A	29/04/2026 13:51	dB(L)		115	120	96.59	102.48	89.30	94.28
M2B1BP502A	29/04/2026 14:50	dB(L)		115	120	99.56	96.42	100.77	86.53
Monthly Meaningful Data									
April		dB(L)	Minimum	115	120	87.55	81.56	85.47	86.53
		dB(L)	Mean	115	120	97.73	95.02	98.71	93.45
		dB(L)	Maximum	115	120	107.79	102.89	110.15	103.97
		dB(L)	Median	115	120	97.96	96.07	99.16	92.64

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Status: Approved

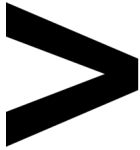
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Table 5 -Blast Monitoring (Ground Vibration)

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)
P102N1008A	1/04/2026 13:09	mm/s	All Blasts 100%	5	10	0.56	0.23	0.31	0.93
M1B3BP902A	1/04/2026 15:01	mm/s		5	10	0.32	0.41	0.13	0.47
P101BRN104A	2/04/2026 14:08	mm/s		5	10	0.19	0.15	0.27	0.55
WS15BAY107A	7/04/2026 13:23	mm/s		5	10	0.20	0.23	0.11	0.24
WT11ARL101A	7/04/2026 13:27	mm/s		5	10	0.08	0.13	0.08	0.03
P210BRN503B	9/04/2026 13:09	mm/s		5	10	0.09	0.11	0.11	0.52
WT12LEA205A	10/04/2026 10:41	mm/s		5	10	0.42	0.27	0.14	0.30
P210VAX106A_P210PCF107A	14/04/2026 13:22	mm/s		5	10	0.10	0.11	0.15	0.14
M1B3BP903A	15/04/2026 13:22	mm/s		5	10	0.15	0.20	0.10	0.24

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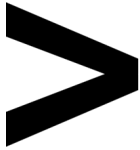
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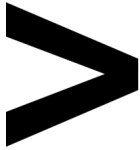
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Blast ID	Date & Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits		Monitoring Point			
				95% of Blasts	100% of Blasts	EPL ID 18 (Moses Crossing)	EPL ID 9 (Jerrys Plains)	EPL ID 21 (Maison Dieu)	EPL ID 11 (Warkworth)
WS15BAY103A	15/04/2026 13:34	mm/s	All Blasts 100%	5	10	0.26	0.25	0.13	0.18
WT10LDL101A	17/04/2026 13:05	mm/s		5	10	0.15	0.16	0.14	0.07
P102MTA302A	18/04/2026 12:53	mm/s		5	10	0.14	0.13	0.11	0.10
WT12LEA101A	18/04/2026 15:44	mm/s		5	10	0.12	0.15	0.10	0.08
WT11LDU101A	20/04/2026 13:07	mm/s		5	10	0.19	0.17	0.18	0.10
WT11ARL103A	22/04/2026 13:35	mm/s		5	10	0.09	0.10	0.10	0.08
P210MTA311A	23/04/2026 15:12	mm/s		5	10	0.15	0.12	0.27	0.68
WT12LEA101B	24/04/2026 13:10	mm/s		5	10	0.13	0.15	0.10	0.12
P102V1P01A	24/04/2026 14:17	mm/s		5	10	0.12	0.13	0.12	0.12



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Blast ID	Date & Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits		Monitoring Point			
				95% of Blasts	100% of Blasts	EPL ID 18 (Moses Crossing)	EPL ID 9 (Jerrys Plains)	EPL ID 21 (Maison Dieu)	EPL ID 11 (Warkworth)
WT11LDU102A	28/04/2026 13:11	mm/s	All Blasts 100%	5	10	0.23	0.17	0.17	0.53
P210BRN603A_P210B6P03	29/04/2026 13:48	mm/s		5	10	0.22	0.19	0.57	1.16
P103W10P01A	29/04/2026 13:51	mm/s		5	10	0.10	0.13	0.10	0.22
M2B1BP502A	29/04/2026 14:50	mm/s		5	10	0.14	0.32	0.10	0.13
Monthly Meaningful Data									
April		mm/s	Minimum	5	10	0.08	0.10	0.08	0.03
		mm/s	Mean	5	10	0.19	0.18	0.16	0.32
		mm/s	Maximum	5	10	0.56	0.41	0.57	1.16
		mm/s	Median	5	10	0.15	0.16	0.13	0.20



6 | SEWAGE TREATMENT PLANT MONITORING DATA

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

7 | NOISE MONITORING DATA

Date Sampled: 20-21/04/2026

Date Obtained: 06/05/2026

Table 6 – 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)	20/04/2026 22:00	2.3	172	E	No	41	46	<20	<20	Nil	Nil
EPL ID 37 (Knodlers Lane)	20/04/2026 22:43	2.3	182	E	No	40	46	IA	IA	Nil	Nil
EPL ID 38 (Maison Dieu)	20/04/2026 22:22	1.5	196	E	No	39	46	<20	31	Nil	Nil
EPL ID 39 (Long Point)	20/04/2026 23:12	1.3	191	E	No	37	46	IA	IA	Nil	Nil
EPL ID 40 (Moses Crossing)	20/04/2026 23:50	1.2	186	F	No	39	46	IA	IA	Nil	Nil
EPL ID 41 (Jerrys Plains East)	20/04/2026 23:30	1.7	170	E	No	39	46	28	30	Nil	Nil
EPL ID 42 (Jerrys Plains Village)	20/04/2026 22:19	1.7	192	E	No	40	46	<20	<25	Nil	Nil
EPL ID 43 (Jerrys Plains West)	20/04/2026 22:00	2.3	172	E	No	40	46	IA	IA	Nil	Nil

Notes:

Number: HVOOC-1797567310-5633

Owner: Superintendent - Environment and Community

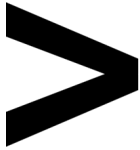
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Effective: 30/06/2026

Review: [Planned Review Date]



1. Noise limits are adjusted by +5 dB during 'very noise-enhancing meteorological conditions' in accordance with the NPfl. Refer to Section 2.6 for additional information.
2. Site-only $L_{Aeq,15\text{minute}}$, includes modifying factor penalties if applicable.
3. Site-only $L_{A1,1\text{minute}}$ based on measured site-only L_{Amax} as detailed in Section 3.2.
4. Degrees magnetic north, "-" indicates calm conditions.