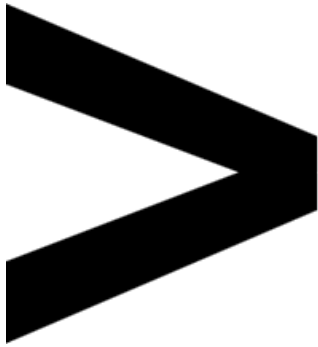




HUNTER VALLEY
OPERATIONS

ENVIRONMENT PROTECTION LICENCE 640 MONITORING DATA - JUNE 2026

DOCUMENT NUMBER

HVOOC-1797567310-5763

STATUS

Approved

VERSION

1.0

EFFECTIVE

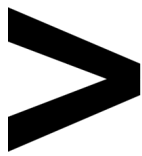
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REVIEW

[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

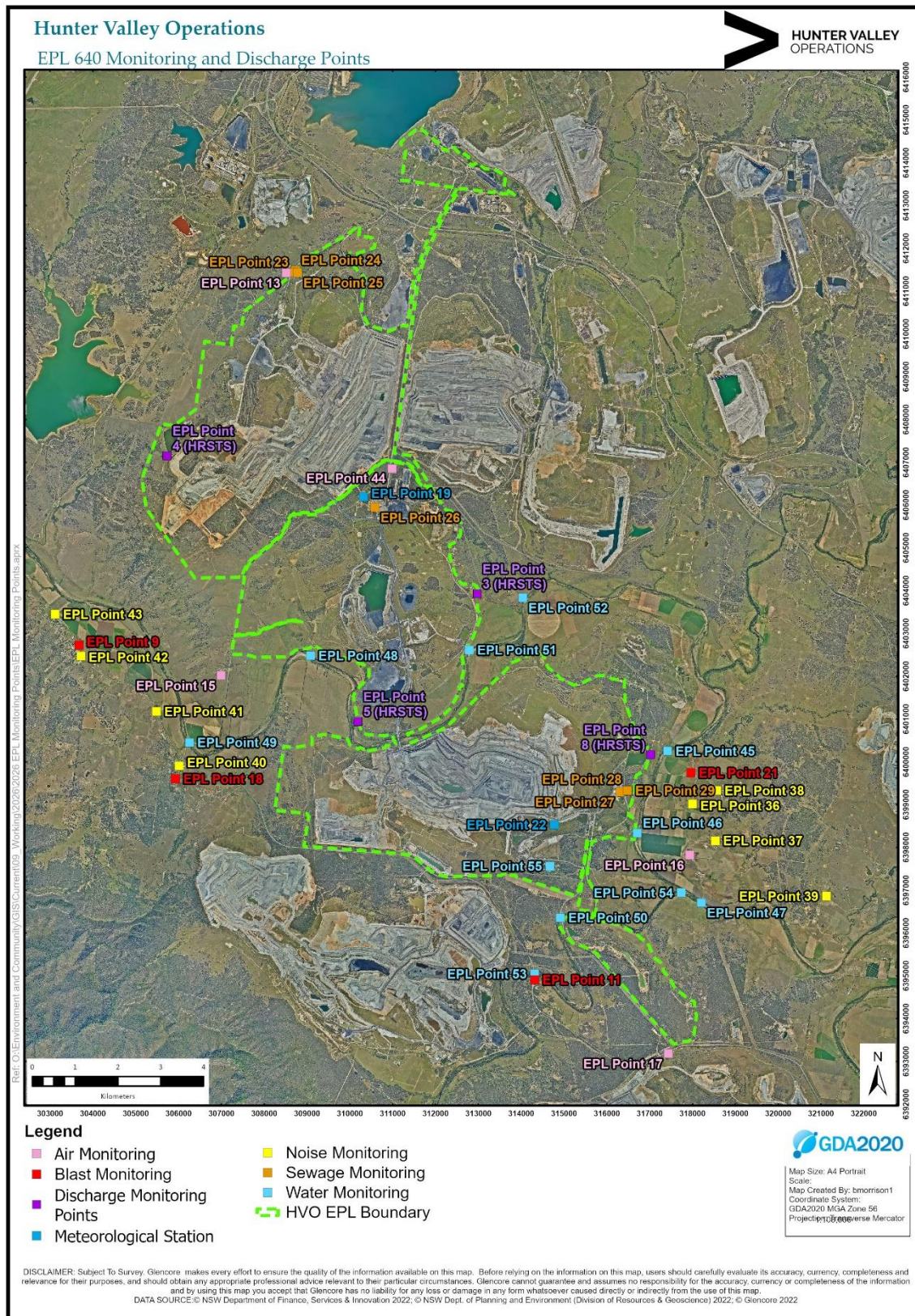
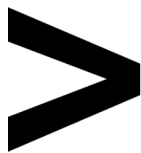


Figure 1: EPL 640 Monitoring Location

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Owner: Superintendent - Environment and Community

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3 | AIR QUALITY

Date Last Sampled: 30/06/2026

Date Obtained: 28/07/2026

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)
1/06/2026	µg/m ³	Continuous	12.8	7.5	10.9	10.3	28.8
2/06/2026	µg/m ³		12.4	6.9	10.1	10.8	35.7
3/06/2026	µg/m ³		14.9	8.8	8.6	9.9	13.5
4/06/2026	µg/m ³		10.3	6.5	7.9	6.8	19.3
5/06/2026	µg/m ³		10.0	5.3	7.4	6.8	24.7
6/06/2026	µg/m ³		12.5	7.2	10.7	15.3	36.3
7/06/2026	µg/m ³		31.4	13.9	14.2	21.3	58.6
8/06/2026	µg/m ³		21.3	17.1	12.4	23.8	39.7
9/06/2026	µg/m ³		22.0	14.8	10.8	17.1	27.1
10/06/2026	µg/m ³		31.9	*	19.1	45.9	*
11/06/2026	µg/m ³		20.1	*	11.4	18.8	*
12/06/2026	µg/m ³		28.3	*	10.3	20.1	*
13/06/2026	µg/m ³		12.7	12.1	12.4	22.0	44.6
14/06/2026	µg/m ³		18.2	10.0	12.8	18.8	46.6
15/06/2026	µg/m ³		20.8	11.7	8.6	11.5	16.1

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16/06/2026	µg/m³	Continuous	18.3	14.7	11.3	19.8	54.9
17/06/2026	µg/m³		18.1	10.9	10.5	26.1	59.7
18/06/2026	µg/m³		16.6	11.3	14.3	21.9	*
19/06/2026	µg/m³		12.3	8.9	13.4	18.5	*
20/06/2026	µg/m³		9.6	5.6	11.4	8.6	37.6
21/06/2026	µg/m³		16.5	9.6	9.8	11.1	43.8
22/06/2026	µg/m³		18.4	11.2	11.2	28.2	85.7
23/06/2026	µg/m³		31.2	11.3	13.5	22.9	65.9
24/06/2026	µg/m³		42.5	18.0	16.3	35.5	93.8
25/06/2026	µg/m³		21.9	22.2	14.3	24.1	97.1
26/06/2026	µg/m³		25.5	20.5	9.1	16.5	36.7
27/06/2026	µg/m³		26.9	24.7	10.7	18.8	40.7
28/06/2026	µg/m³		25.5	25.4	8.8	13.5	14.2
29/06/2026	µg/m³		20.2	23.3	10.7	13.0	19.5
30/06/2026	µg/m3		18.5	23.4	11.5	23.7	38.5
Monthly Meaningful Data							
June	µg/m³	Minimum	9.6	5.3	7.4	6.8	13.5
	µg/m³	Mean	20.1	13.4	11.5	18.7	43.2
	µg/m³	Maximum	42.5	25.4	19.1	45.9	97.1
	µg/m³	Median	18.5	11.3	11.1	18.8	38.5

* 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: 17/06/2026

Date Obtained: 21/07/2026

Table 3 – Ambient Surface Water

Discharge Point	Frequency	Pollutant	Result
EPL ID 45 (H1 Hunter River (upstream K Dam))	Quarterly	EC (µS/cm)	6850
		pH	9.4
		TSS (mg/L)	9
EPL ID 46 (H2 Hunter River)	Quarterly	EC (µS/cm)	1022
		pH	8.3
		TSS (mg/L)	13
EPL ID 47 (H3 Hunter River downstream Wollombi)	Quarterly	EC (µS/cm)	908
		pH	8.1
		TSS (mg/L)	13
EPL ID 48 (W1 Hunter River Carrington)	Quarterly	EC (µS/cm)	1148
		pH	8.2
		TSS (mg/L)	14
EPL ID 49 (W109 Hunter River Moses Crossing)	Quarterly	EC (µS/cm)	1144
		pH	8.2
		TSS (mg/L)	13
EPL ID 50 (W2 Wollombi Brook)	Quarterly	EC (µS/cm)	392
		pH	7.8
		TSS (mg/L)	<5.00
EPL ID 51 (W3 Hunter River)	Quarterly	EC (µS/cm)	1141
		pH	8.3
		TSS (mg/L)	11
EPL ID 52 (W4 Hunter River Oaklands)	Quarterly	EC (µS/cm)	1119
		pH	8.1
		TSS (mg/L)	12
EPL ID 53 (Warkworth Bridge Wollombi Brook)	Quarterly	EC (µS/cm)	376
		pH	8.1
		TSS (mg/L)	<5.00
EPL ID 54 (WL1 Wollombi Brook)	Quarterly	EC (µS/cm)	397
		pH	7.6
		TSS (mg/L)	<5.00
EPL ID 55 (Dam 19S)	Bi-annually*	Ammonia (mg/L)	3.7
		Nitrogen (Total) (mg/L)	21.8
		TPH (mg/L)	<50

* 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: 29/06/2026

Date Obtained: 01/07/2026

Table 4 – Blast Monitoring (Air Blast Overpressure)

Blast ID	Date & Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits		EPL ID 18 (Moses Crossing)	Monitoring Point		
				95% of Blasts	100% of Blasts		EPL ID 9 (Jerrys Plains)	EPL ID 21 (Maison Dieu)	EPL ID 11 (Warkworth)
WT12LEB101A	2/06/2026 13:12	dB(L)	All Blasts 100%	115	120	104.20	94.20	105.09	106.98
P102MTA303	5/06/2026 13:14	dB(L)		115	120	91.69	104.38	103.06	101.06
P103W10P01B	5/06/2026 13:19	dB(L)		115	120	93.16	105.43	106.31	97.89
WT11LDU105A	6/06/2026 15:56	dB(L)		115	120	86.73	85.88	85.34	82.05
P101B4P04A	9/06/2026 15:15	dB(L)		115	120	85.30	86.95	81.78	85.99
P103W10P02A	10/06/2026 13:06	dB(L)		115	120	88.14	84.40	83.24	86.66

Number: HVOOC-1797567310-5763

Owner: Superintendent - Environment and Community

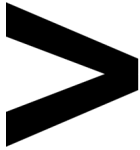
Status: Approved

Version: 1.0

Effective: 24/08/2026

Review: [Planned Review Date]

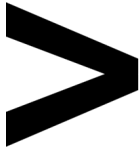
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Blast ID	Date & Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits		EPL ID 18 (Moses Crossing)	Monitoring Point		EPL ID 11 (Warkworth)
				95% of Blasts	100% of Blasts		EPL ID 9 (Jerrys Plains)	EPL ID 21 (Maison Dieu)	
DL104DEMO	11/06/2026 13:08	dB(L)	All Blasts 100%	115	120	91.42	90.69	96.45	92.58
P102MTA304_P103W10P03A	12/06/2026 13:21	dB(L)		115	120	95.46	88.37	99.08	91.24
WT10BAP01A	13/06/2026 13:11	dB(L)		115	120	84.32	94.22	93.57	90.08
WT12LEB102A, WT12LECP03A	13/06/2026 13:13	dB(L)		115	120	92.97	101.56	97.24	93.49
WS15BRN504A	13/06/2026 13:14	dB(L)		115	120	94.31	95.28	102.58	89.45
P101B6P04	16/06/2026 13:07	dB(L)		115	120	89.49	85.15	88.74	94.36
WS15BRN503A	18/06/2026 13:13	dB(L)		115	120	108.09	100.22	110.88	100.50
WT10LDL102A	20/06/2026 13:06	dB(L)		115	120	95.98	98.81	99.74	95.67
WT12LEB103A	20/06/2026 13:08	dB(L)		115	120	98.75	105.08	104.49	103.84



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Blast ID	Date & Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits		EPL ID 18 (Moses Crossing)	Monitoring Point		
				95% of Blasts	100% of Blasts		EPL ID 9 (Jerrys Plains)	EPL ID 21 (Maison Dieu)	EPL ID 11 (Warkworth)
WT10LDL103A	24/06/2026 13:29	dB(L)	All Blasts 100%	115	120	98.57	83.77	93.27	89.77
WT12LEB104A_WT12LECP104A	24/06/2026 13:32	dB(L)		115	120	93.66	94.44	83.22	79.11
P101BRN507A_P102MTA305_P01BRN605_P101B6P03	25/06/2026 13:15	dB(L)		115	120	99.58	98.38	99.95	90.41
WT10LDL104A	29/06/2026 13:13	dB(L)		115	120	84.55	92.33	83.04	87.14
WS15BRN505A	29/06/2026 13:15	dB(L)		115	120	98.31	91.74	90.45	87.79
Monthly Meaningful Data									
June		dB(L)	Minimum	115	120	84.32	83.77	81.78	79.11
		dB(L)	Mean	115	120	93.73	94.06	95.38	92.30
		dB(L)	Maximum	115	120	108.09	105.43	110.88	106.98
		dB(L)	Median	115	120	93.41	94.21	96.85	90.83

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Table 5 -Blast Monitoring (Ground Vibration)

Blast ID	Date & Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits		EPL ID 18 (Moses Crossing)	Monitoring Point		
				95% of Blasts	100% of Blasts		EPL ID 9 (Jerrys Plains)	EPL ID 21 (Maison Dieu)	EPL ID 11 (Warkworth)
WT12LEB101A	2/06/2026 13:12	mm/s	All Blasts 100%	5	10	0.11	0.06	0.07	0.08
P102MTA303	5/06/2026 13:14	mm/s		5	10	0.31	0.10	0.28	0.47
P103W10P01B	5/06/2026 13:19	mm/s		5	10	0.27	0.11	0.11	0.56
WT11LDU105A	6/06/2026 15:56	mm/s		5	10	0.22	0.19	0.14	0.09
P101B4P04A	9/06/2026 15:15	mm/s		5	10	0.14	0.06	0.44	0.24
P103W10P02A	10/06/2026 13:06	mm/s		5	10	0.21	0.09	0.10	0.36
DL104DEMO	11/06/2026 13:08	mm/s		5	10	0.12	0.05	0.07	0.75
P102MTA304_P103W10P03A	12/06/2026 13:21	mm/s		5	10	0.63	0.21	0.25	0.58
WT10BAP01A	13/06/2026 13:11	mm/s		5	10	0.20	0.14	0.15	0.08

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Owner: Superintendent - Environment and Community

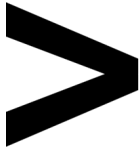
Status: Approved

Version: 1.0

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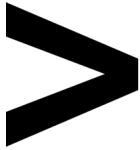
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Blast ID	Date & Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits		EPL ID 18 (Moses Crossing)	Monitoring Point		
				95% of Blasts	100% of Blasts		EPL ID 9 (Jerrys Plains)	EPL ID 21 (Maison Dieu)	EPL ID 11 (Warkworth)
WT12LEB102A, WT12LECP03A	13/06/2026 13:13	mm/s	All Blasts 100%	5	10	0.17	0.15	0.11	0.07
WS15BRN504A	13/06/2026 13:14	mm/s		5	10	0.13	0.07	0.06	0.09
P101B6P04	16/06/2026 13:07	mm/s		5	10	0.48	0.18	0.28	0.50
WS15BRN503A	18/06/2026 13:13	mm/s		5	10	0.28	0.28	0.09	0.53
WT10LDL102A	20/06/2026 13:06	mm/s		5	10	0.26	0.28	0.17	0.62
WT12LEB103A	20/06/2026 13:08	mm/s		5	10	0.13	0.08	0.07	0.18
WT10LDL103A	24/06/2026 13:29	mm/s		5	10	0.19	0.17	0.13	0.52
WT12LEB104A_WT12LECP104A	24/06/2026 13:32	mm/s		5	10	0.15	0.08	0.09	0.13
P101BRN507A_P102MTA305_P01BRN605_P101B6P03	25/06/2026 13:15	mm/s		5	10	0.29	0.10	0.32	0.63



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Blast ID	Date & Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits		EPL ID 18 (Moses Crossing)	Monitoring Point		
				95% of Blasts	100% of Blasts		EPL ID 9 (Jerrys Plains)	EPL ID 21 (Maison Dieu)	EPL ID 11 (Warkworth)
WT10LDL104A	29/06/2026 13:13	mm/s	All Blasts 100%	5	10	0.20	0.15	0.14	0.18
WS15BRN505A	29/06/2026 13:15	mm/s		5	10	0.15	0.08	0.07	0.05
Monthly Meaningful Data									
June		mm/s	Minimum	5	10	0.11	0.05	0.06	0.05
		mm/s	Mean	5	10	0.23	0.13	0.16	0.34
		mm/s	Maximum	5	10	0.63	0.28	0.44	0.75
		mm/s	Median	5	10	0.20	0.11	0.12	0.30



6 | SEWAGE TREATMENT PLANT MONITORING DATA

Date Sampled: 17/06/2026

Date Obtained: 21/07/2026

Table 6 - Sewage Treatment Plant Monitoring

Monitoring Site	Date & Time	Pollutant	Unit of Measure	Monitoring Result
EPA ID 23 (Howick STP)	17/06/2026 09:55	Faecal Coliforms	Colony forming units/100ml	34000000
		pH	pH	7.86
EPA ID 25 (Howick Secondary Lagoon)	17/06/2026 10:10	Faecal Coliforms	Colony forming units/100ml	*
		pH	pH	*
EPA ID 26 (North STP)	17/06/2026 09:10	Faecal Coliforms	Colony forming units/100ml	*
		pH	pH	*
EPA ID 29 (South Secondary Lagoon)	17/06/2026 14:00	Faecal Coliforms	Colony forming units/100ml	**
		pH	pH	**

* Insufficient sample amount

** Site no longer in use

7 | NOISE MONITORING DATA

Date Sampled: 23-24/06/2026

Date Obtained: 08/07/2026

Table 7 – Night $L_{Aeq,15minute}$ and $L_{A1,1minute}$ 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)	23/06/2026 22:00	1.0	168	E	No	41	46	IA	IA	Nil	Nil
EPL ID 37 (Knodlers Lane)	23/06/2026 22:41	1.1	227	D	No	40	46	<20	<20	Nil	Nil
EPL ID 38 (Maison Dieu)	23/06/2026 22:21	1.3	206	D	No	39	46	IA	IA	Nil	Nil
EPL ID 39 (Long Point)	23/06/2026 23:11	0.6	339	F	No	37	46	IA	IA	Nil	Nil
EPL ID 40 (Moses Crossing)	23/06/2026 23:52	1.1	335	F	No	39	46	28	30	Nil	Nil
EPL ID 41 (Jerrys Plains East)	23/06/2026 23:31	1.0	114	F	No	39	46	28	32	Nil	Nil
EPL ID 42 (Jerrys Plains Village)	23/06/2026 22:19	1.3	206	D	No	40	46	31	40	Nil	Nil
EPL ID 43 (Jerrys Plains West)	23/06/2026 22:00	1.0	168	E	No	40	46	IA	IA	Nil	Nil

Number: HVOOC-1797567310-5763

Status:

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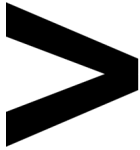
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Uncontrolled when printed



Notes:

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.