

HUNTER VALLEY
OPERATIONS

**ENVIRONMENT
PROTECTION LICENCE 640
MONITORING DATA -
JANUARY 2024**

DOCUMENT NUMBER

HVOOC-1797567310-4919

STATUS

Approved

VERSION

1.0

EFFECTIVE

26/04/2024

REVIEW

[Planned Review Date]

OWNER

Superintendent - Environment and Community



1 | Overview 3

2 | Definitions..... 3

3 | Air Quality..... 5

4 | Surface Water Monitoring Data 7

5 | Blast Monitoring Data 8

6 | Sewage Treatment Plant Monitoring Data..... 15

7 | Noise Monitoring Data 16

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

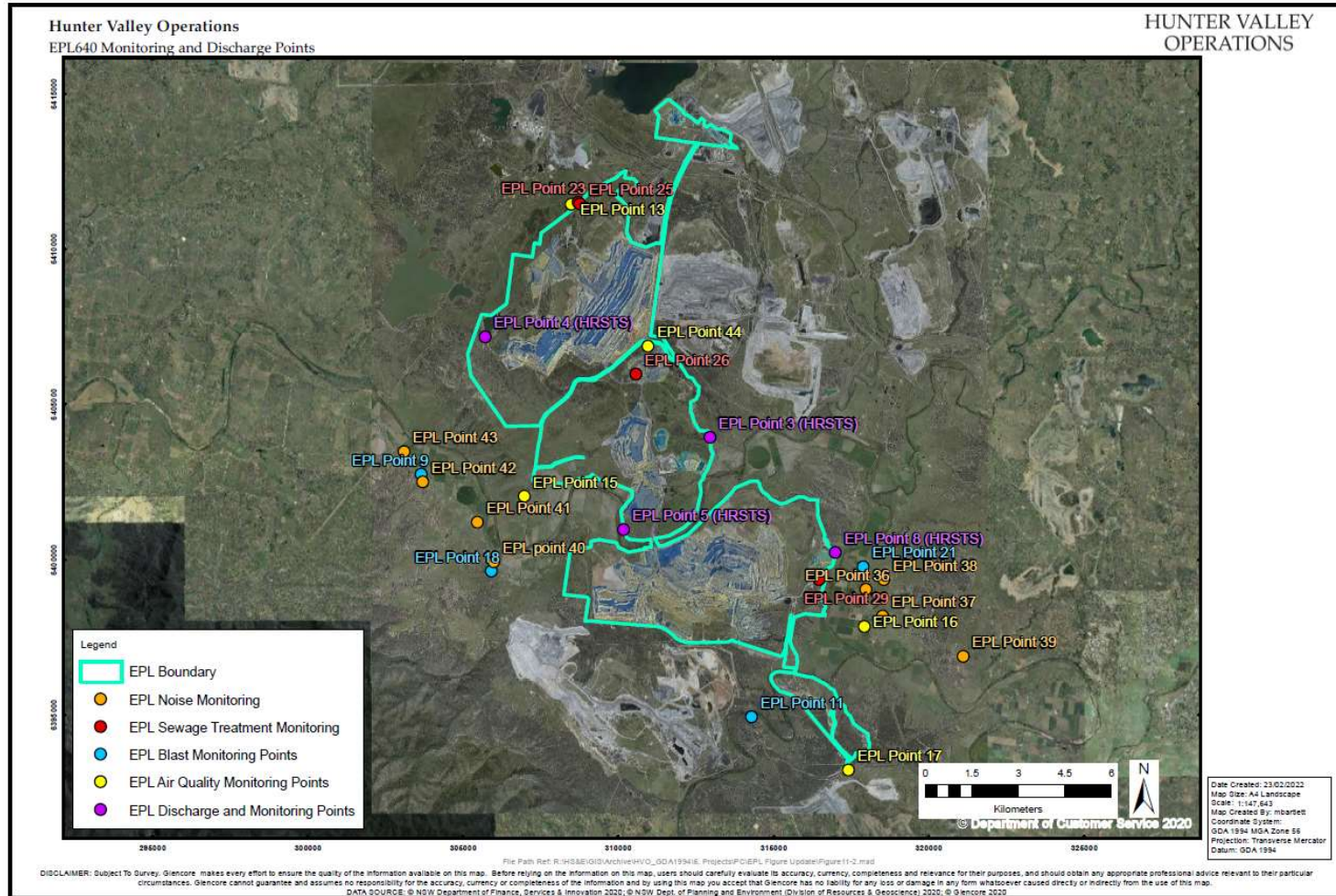


Figure 1: EPL 640 Monitoring Location

Number: HVOOC-1797567310-4919

Status: Approved

Effective: 26/04/2024

Owner: Superintendent - Environment and Community

Version: 1.0

Review: [Planned Review Date]

3 | AIR QUALITY

Date Last Sampled: 31/01/2024

Date Obtained: 6/03/2024

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)
1/01/2024	µg/m ³	Continuous	29.0	18.2	28.3	12.0	24.4
2/01/2024	µg/m ³		34.9	23.5	27.2	19.9	26.3
3/01/2024	µg/m ³		34.4	26.3	27.8	24.7	39.3
4/01/2024	µg/m ³		*	17.9	33.8	27.0	51.5
5/01/2024	µg/m ³		15.9	12.9	19.0	14.0	*
6/01/2024	µg/m ³		30.3	18.8	17.3	15.7	20.1
7/01/2024	µg/m ³		30.4	26.9	19.5	17.2	29.0
8/01/2024	µg/m ³		20.0	20.4	20.1	18.6	73.8
9/01/2024	µg/m ³		19.9	11.1	13.2	12.3	25.8
10/01/2024	µg/m ³		28.8	21.6	18.5	17.7	27.5
11/01/2024	µg/m ³		27.3	22.4	18.6	19.6	29.0
12/01/2024	µg/m ³		22.7	18.3	19.8	16.2	*
13/01/2024	µg/m ³		39.5	32.7	26.4	26.7	*
14/01/2024	µg/m ³		21.4	13.3	15.6	13.9	*
15/01/2024	µg/m ³		20.7	9.4	15.2	15.4	*

Number: HVOOC-1797567310-4919

Status: Approved

Effective: 26/04/2024

Page 5 of 16

Owner: Superintendent - Environment and Community

Version: 1.0

Review: [Planned Review Date]

Uncontrolled when printed

REPORT | ENVIRONMENT PROTECTION LICENCE 640

MONITORING DATA - JANUARY 2024

16/01/2024	µg/m ³		22.1	16.7	15.2	17.4	23.5
17/01/2024	µg/m ³		17.2	18.6	15.7	21.8	35.0
18/01/2024	µg/m ³		12.7	3.9	11.3	8.0	31.0
19/01/2024	µg/m ³		29.7	23.0	23.5	18.2	51.4
20/01/2024	µg/m ³		41.8	29.3	28.1	20.5	33.7
21/01/2024	µg/m ³		26.8	16.5	30.5	26.3	66.9
22/01/2024	µg/m ³		51.6	38.6	40.9	33.6	59.0
23/01/2024	µg/m ³		27.0	19.7	26.9	14.9	19.4
24/01/2024	µg/m ³		29.1	25.6	32.1	42.0	81.6
25/01/2024	µg/m ³		44.5	44.3	57.2	49.7	*
26/01/2024	µg/m ³		56.5	36.4	67.4	41.8	*
27/01/2024	µg/m ³		29.1	26.9	39.8	*	*
28/01/2024	µg/m ³		37.0	29.2	36.9	*	*
29/01/2024	µg/m ³		43.0	36.6	31.5	*	*
30/01/2024	µg/m ³		37.3	26.3	35.2	28.9	39.1
31/01/2024	µg/m ³		39.6	31.9	*	25.9	32.3
Monthly Meaningful Data							
January	µg/m ³	Minimum	12.7	3.9	11.3	8.0	19.4
	µg/m ³	Mean	30.7	23.1	27.1	22.1	39.0
	µg/m ³	Maximum	56.5	44.3	67.4	49.7	81.6
	µg/m ³	Median	29.1	22.4	26.7	19.1	32.3

* Less than 75% 24-hour data capture

Number: HVOOC-1797567310-4919

Status: Approved

Effective: 26/04/2024

Page 6 of 16

Owner: Superintendent - Environment and Community

Version: 1.0

Review: [Planned Review Date]

Uncontrolled when printed



4 | SURFACE WATER MONITORING DATA

No discharges under the HRSTS occurred during January.

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: 31/01/2024

Date Obtained: 13/03/2024

Table 3 – 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	Moses Crossing EPL ID 18	Jerrys Plains EPL ID 9	Maison Dieu EPL ID 21	Warkworth EPL ID 11
P12503601A	2/01/2024 12:51	dB(L)	All blasts 100%	115	120	104.17	85.29	94.76	97.49
P210N15P01A	3/01/2024 13:02	dB(L)		115	120	90.13	86.01	101.94	86.28
P210N0301A	3/01/2024 13:03	dB(L)		115	120	93.18	89.13	101.94	94.88
WN49LPG04A	4/01/2024 13:16	dB(L)		115	120	95.09	79.44	92.92	90.58
WS49LAL02B	4/01/2024 13:17	dB(L)		115	120	98.58	81.74	92.92	90.58
P21001502A	8/01/2024 13:09	dB(L)		115	120	91.05	99.88	98.13	97.14

Number: HVOOC-1797567310-4919

Status: Approved

Effective: 26/04/2024

Page 8 of 16

Owner: Superintendent - Environment and Community

Version: 1.0

Review: [Planned Review Date]

Uncontrolled when printed



REPORT | ENVIRONMENT PROTECTION LICENCE 640 MONITORING DATA - JANUARY 2024

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
P21035P01A	8/01/2024 13:10	dB(L)	All Blasts 100%	115	120	98.44	92.56	97.55	93.21
WN49LPG04B	9/01/2024 13:15	dB(L)		115	120	101.04	78.93	86.90	92.83
WS49UPG01A	9/01/2024 13:18	dB(L)		115	120	102.07	81.12	101.87	87.91
WS49LEC05A	9/01/2024 13:20	dB(L)		115	120	105.88	85.71	96.78	94.16
P21003502A	11/01/2024 12:54	dB(L)		115	120	98.97	94.55	95.80	96.33
P209B5P02A	11/01/2024 12:55	dB(L)		115	120	96.21	94.96	97.48	85.19
P21001503A	12/01/2024 15:05	dB(L)		115	120	105.97	96.46	99.33	94.58
P12503601B	16/01/2024 13:22	dB(L)		115	120	104.55	97.32	102.03	92.08
WS46BAF02A	17/01/2024 13:14	dB(L)		115	120	85.13	78.04	89.88	81.41

Number: HVOOC-1797567310-4919

Status: Approved

Effective: 26/04/2024

Owner: Superintendent - Environment and Community

Version: 1.0

Review: [Planned Review Date]



REPORT | ENVIRONMENT PROTECTION LICENCE 640 MONITORING DATA - JANUARY 2024

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
WS49LEB07A_WS49LAL02C	17/01/2024 13:17	dB(L)		115	120	87.04	83.74	91.95	84.88
P209BR101A_P209B3P01A	20/01/2024 13:14	dB(L)		115	120	88.06	81.43	92.04	94.63
P21004505A	20/01/2024 13:15	dB(L)		115	120	90.17	82.06	100.42	98.60
WS49LEB08A	22/01/2024 16:01	dB(L)		115	120	102.84	105.92	102.37	84.81
P209BR102A_P209B3P01B	23/01/2024 13:06	dB(L)		115	120	100.69	91.20	98.70	93.40
P10103602A	24/01/2024 13:18	dB(L)		115	120	102.26	93.92	101.48	92.85
P10136P01A	25/01/2024 12:02	dB(L)		115	120	96.57	95.45	96.95	105.21
WN49UPG04A_WS49LPP03A	25/01/2024 13:15	dB(L)		115	120	94.93	92.66	97.35	97.11
P209BR102B	27/01/2024 13:13	dB(L)		115	120	99.74	102.90	100.76	89.77

Number: HVOOC-1797567310-4919

Status: Approved

Effective: 26/04/2024

Owner: Superintendent - Environment and Community

Version: 1.0

Review: [Planned Review Date]

REPORT | ENVIRONMENT PROTECTION LICENCE 640 MONITORING DATA - JANUARY 2024

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
P101M1P01A_P10136P01B	27/01/2024 13:15	dB(L)		115	120	103.71	99.54	100.52	85.93
P10103603A	31/01/2024 15:15	dB(L)		115	120	97.36	91.73	109.70	89.62
P10103602B_P10136P01C	31/01/2024 15:17	dB(L)		115	120	100.30	99.80	102.90	94.60
<i>Monthly Meaningful Data</i>									
January		dB(L)	Minimum	115	120	85.13	78.04	86.90	81.41
		dB(L)	Mean	115	120	97.56	90.43	97.98	92.08
		dB(L)	Maximum	115	120	105.97	105.92	109.70	105.21
		dB(L)	Median	115	120	98.58	91.73	98.13	92.85

Number: HVOOC-1797567310-4919

Status: Approved

Effective: 26/04/2024

Page 11 of 16

Owner: Superintendent - Environment and Community

Version: 1.0

Review: [Planned Review Date]

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Table 4 – Blast Monitoring (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
P12503601A	2/01/2024 12:51	mm/s	All Blasts 100%	5	10	0.19	0.06	0.09	0.16
P210N15P01A	3/01/2024 13:02	mm/s		5	10	0.16	0.08	0.37	0.90
P210N0301A	3/01/2024 13:03	mm/s		5	10	0.14	0.06	0.37	0.90
WN49LPG04A	4/01/2024 13:16	mm/s		5	10	0.10	0.05	0.08	0.43
WS49LAL02B	4/01/2024 13:17	mm/s		5	10	0.09	0.04	0.06	0.18
P21001502A	8/01/2024 13:09	mm/s		5	10	0.11	0.03	0.20	0.54
P21035P01A	8/01/2024 13:10	mm/s		5	10	0.17	0.08	0.35	0.47
WN49LPG04B	9/01/2024 13:15	mm/s		5	10	0.09	0.04	0.04	0.68
WS49UPG01A	9/01/2024 13:18	mm/s		5	10	0.09	0.05	0.04	0.04
WS49LEC05A	9/01/2024 13:20	mm/s		5	10	0.12	0.07	0.07	0.17
P21003502A	11/01/2024 12:54	mm/s		5	10	0.16	0.08	0.24	0.78
P209B5P02A	11/01/2024 12:55	mm/s		5	10	0.13	0.05	0.16	0.19
P21001503A	12/01/2024 15:05	mm/s		5	10	0.10	0.04	0.25	0.74

Number: HVOOC-1797567310-4919

Status: Approved

Effective: 26/04/2024

Page 12 of 16

Owner: Superintendent - Environment and Community

Version: 1.0

Review: [Planned Review Date]

Uncontrolled when printed



REPORT | ENVIRONMENT PROTECTION LICENCE 640 MONITORING DATA - JANUARY 2024

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
P12503601B	16/01/2024 13:22	mm/s		5	10	0.23	0.10	0.19	0.30
WS46BAF02A	17/01/2024 13:14	mm/s		5	10	0.08	0.03	0.06	0.13
WS49LEB07A_WS49LAL02C	17/01/2024 13:17	mm/s		5	10	0.11	0.13	0.16	0.15
P209BR101A_P209B3P01A	20/01/2024 13:14	mm/s		5	10	0.14	0.08	0.44	0.95
P21004505A	20/01/2024 13:15	mm/s		5	10	0.10	0.06	0.28	0.63
WS49LEB08A	22/01/2024 16:01	mm/s		5	10	0.08	0.03	0.06	0.08
P209BR102A_P209B3P01B	23/01/2024 13:06	mm/s		5	10	0.11	0.07	0.40	0.93
P10103602A	24/01/2024 13:18	mm/s		5	10	0.11	0.06	0.10	0.18
P10136P01A	25/01/2024 12:02	mm/s		5	10	0.12	0.06	0.09	0.21
WN49UPG04A_WS49LPP03A	25/01/2024 13:15	mm/s		5	10	0.08	0.05	0.07	0.04
P209BR102B	27/01/2024 13:13	mm/s		5	10	0.11	0.05	0.34	0.83
P101M1P01A_P10136P01B	27/01/2024 13:15	mm/s		5	10	0.10	0.03	0.10	0.13
P10103603A	31/01/2024 15:15	mm/s		5	10	0.15	0.08	0.10	0.26
P10103602B_P10136P01C	31/01/2024 15:17	mm/s		5	10	0.15	0.06	0.10	0.17

Number: HVOOC-1797567310-4919

Status: Approved

Effective: 26/04/2024

Owner: Superintendent - Environment and Community

Version: 1.0

Review: [Planned Review Date]



REPORT | ENVIRONMENT PROTECTION LICENCE 640 MONITORING DATA - JANUARY 2024

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
Monthly Meaningful Data									
January		mm/s	Minimum	5	10	0.08	0.03	0.04	0.04
		mm/s	Mean	5	10	0.12	0.06	0.18	0.41
		mm/s	Maximum	5	10	0.23	0.13	0.44	0.95
		mm/s	Median	5	10	0.11	0.06	0.10	0.26

Number: HVOOC-1797567310-4919

Status: Approved

Effective: 26/04/2024

Owner: Superintendent - Environment and Community

Version: 1.0

Review: [Planned Review Date]



6 | SEWAGE TREATMENT PLANT MONITORING DATA

Sewage treatment plant monitoring results are provided on a quarterly basis. Results will be provided in the March 2024 report.

7 | NOISE MONITORING DATA

Date Sampled: 23/01/2024

Date Obtained: 7/02/2024

Table 6 – 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		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	23/01/2024 21:00	4.3	128	D	Yes	46	51	IA	IA	Nil	Nil
Knodlers Lane	23/01/2024 21:41	3.8	140	E	Yes	45	51	IA	IA	Nil	Nil
Maison Dieu	23/01/2024 21:20	3.9	128	D	Yes	44	51	IA	IA	Nil	Nil
Long Point (Dights Crossing)	23/01/2024 22:32	4.7	142	E	Yes	42	51	IA	IA	Nil	Nil
Kilburnie South	23/01/2024 23:17	3.4	145	E	Yes	44	51	34	38	Nil	Nil
Jerrys Plains East	23/01/2024 22:55	3.7	145	D	Yes	44	51	30	35	Nil	Nil
Jerrys Plains Village	23/01/2024 21:20	3.9	128	D	Yes	45	51	<25	<25	Nil	Nil
Jerrys Plains West	23/01/2024 21:00	4.3	128	D	Yes	45	51	<25	33	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.

Number: HVOOC-1797567310-4919

Status: Approved

Effective: 26/04/2024

Page 16 of 16

Owner: Superintendent - Environment and Community

Version: 1.0

Review: [Planned Review Date]

Uncontrolled when printed