

Hunter Valley Operations EPL Monitoring Data

Published 17 October 2017
 FOR THE MONTH ENDING 30 September 2017

Name of Operation	Hunter Valley Operations
Environment Protection Licence	640
Licensee	HV Operations Pty Ltd
Premises	Hunter Valley Operations Lemington Road, Singleton NSW 2330 Australia
EPL Link	http://www.epa.nsw.gov.au/prpoeoapp/V iewPOEOLicence.aspx?DOCID=121534&SY UID=1&LICID=640

1 INTRODUCTION

This report has been compiled to provide a summary of environmental monitoring results for Hunter Valley Operations in accordance with Environment Protection Licence 640. This report includes all monitoring data collected in accordance with the aforementioned licence for the period 1st September – 30th September 2017.

Monitoring in this report includes:

- Air quality monitoring;
- Surface water monitoring including mine water discharge; and
- Blast monitoring.

Monitoring locations are shown in Figure 1.

2 AIR QUALITY

In accordance with the requirements of Condition M2.2 (EPL 640), Hunter Valley Operations maintains a network of five PM10 monitors. The following monitoring locations (EPA Monitoring Points 13, 14, 15, 16 and 17) are listed on the licences for the purpose of monitoring:

- EPA Identification Number 13 – Howick
- EPA Identification Number 14 – HC1
- EPA Identification Number 15 – Wandewoi
- EPA Identification Number 16 – Knodlers
- EPA Identification Number 17 – Golden Highway

Results of Particulates (PM10) monitoring (EPA Monitoring Points 13, 14, 15, 16 and 17) are shown in Table 1. Results reported represent the 24hr average PM10, derived from 10 minute average PM10 values for the period midnight to midnight, for each calendar date during the reporting period. The last sampling date was 30th September 2017; the data was obtained on the 2nd October 2017.

TABLE 1: PARTICULATE MATTER <10µm MONITORING

Date	Unit of Measure	Monitoring Frequency & Capture	Monitoring Point				
			Howick	HC1	Wandewoi	Knodlers	Golden Highway
1/09/2017	µg/m ³	Continuous	#	#	#	#	#
2/09/2017	µg/m ³		21.8	113.8	13.2	23.1	39.5
3/09/2017	µg/m ³		43.5	#	14.9	43.8	45.0
4/09/2017	µg/m ³		27.5	165.1	7.6	44.8	18.7
5/09/2017	µg/m ³		25.1	140.9	6.9	52.4	18.0
6/09/2017	µg/m ³		15.7	100.9	4.9	40.2	14.8
7/09/2017	µg/m ³		10.5	125.7	3.8	32.6	20.2
8/09/2017	µg/m ³		12.4	227.2	4.3	29.0	11.5
9/09/2017	µg/m ³		23.7	65.6	10.7	20.1	27.5
10/09/2017	µg/m ³		32.4	65.0	17.6	25.9	54.6
11/09/2017	µg/m ³		27.9	#	10.2	41.9	44.2
12/09/2017	µg/m ³		#	#	#	#	#
13/09/2017	µg/m ³		36.8	54.3	16.9	83.9	53.4
14/09/2017	µg/m ³		8.1	37.4	4.8	20.2	11.2
15/09/2017	µg/m ³		19.7	17.3	4.7	32.0	12.8
16/09/2017	µg/m ³		14.9	#	8.4	36.2	17.1
17/09/2017	µg/m ³		27.4	8.4	26.2	11.3	27.0
18/09/2017	µg/m ³		22.2	17.6	15.8	25.3	29.9
19/09/2017	µg/m ³		21.4	#	15.0	36.6	32.2
20/09/2017	µg/m ³		35.4	24.7	17.8	26.1	46.7
21/09/2017	µg/m ³		28.9	102.7	14.8	26.6	38.8

22/09/2017	µg/m ³		36.4	178.3	20.6	39.5	45.7
23/09/2017	µg/m ³		44.8	#	#	53.1	#
24/09/2017	µg/m ³		29.2	271.1	30.9	64.2	45.1
25/09/2017	µg/m ³		19.3	171.9	15.3	62.5	57.1
26/09/2017	µg/m ³		33.0	54.1	28.1	26.5	36.1
27/09/2017	µg/m ³		41.2	39.7	43.3	24.9	59.2
28/09/2017	µg/m ³		26.2	105.0	24.3	37.0	41.3
29/09/2017	µg/m ³		15.7	56.7	8.1	31.8	17.7
30/09/2017	µg/m ³		16.6	75.9	11.7	59.8	31.7
Monthly Meaningful Data							
September	µg/m³	Minimum	26.4*	99.1*	14.9*	36.9*	33.6*
September	µg/m³	Mean	44.8*	271.1*	43.3*	83.9*	59.2*
September	µg/m³	Maximum	27.4*	83.3*	14.9*	32.6*	34.2*
September	µg/m³	Median	12.2*	16.7*	33.4*	18.5*	12.0*

24 hour data unavailable due to equipment or communications issue causing one or more missing 10 minute values

*Data calculated with missing values due to equipment or communication issue

3 SURFACE WATER

3.1 Mine Water Discharge Monitoring

HVO participates in the Hunter River Salinity Trading Scheme (HRSTS), and maintains six monitoring locations associated with this scheme (EPA Monitoring Points 3, 4, 5, 6, 7 and 8, Condition M2.3) as follows:

- EPA Identification Number 3 – Discharge Pipe from Dam 11N
- EPA Identification Number 4 – Discharge end of outlet pipe on Parnell’s Dam
- EPA Identification Number 5 – At the discharge end of the alluvial lands discharge pipeline
- EPA Identification Number 6 – In Farrell’s Creek within 100m, and upstream of the confluence of flow from POINT 3
- EPA Identification Number 7 – In Farrell’s Creek within 100m, and downstream of the confluence of flow from POINT 3
- EPA Identification Number 8 – Outlet of discharge pipe from Lake James storage dam

The location of these sampling points can be viewed in Appendix A: HVO Monitoring Location Plan

Hunter Valley Operations did not receive any discharge opportunities in the reporting period and no water was discharged. As such, no samples were collected at Monitoring Points 3, 4, 5, 6, 7 and 8 during the reporting period (shown in Table 2 below).

TABLE 2: MINE WATER DISCHARGE MONITORING

Discharge Point	Date	Pollutant	unit of measure	Licence Limits	No. of samples required by licence	No. of samples you collected and analysed
Dam 11N Discharge / EPL Point 3	N/A	Electrical Conductivity	microsiemens per centimetre	-	0	0
		pH	pH	6.5 - 9.5	0	0
		Total Suspended Solids	milligrams per litre	120	0	0
Parnell’s Dam Discharge / EPL Point 4	N/A	Electrical Conductivity	microsiemens per centimetre	-	0	0
		pH	pH	6.5 - 9.5	0	0
		Total Suspended Solids	milligrams per litre	120	0	0
Alluvial Lands Discharge / EPL Point 5	N/A	Electrical Conductivity	microsiemens per centimetre	400	0	0
		pH	pH	-	0	0

		Total Suspended Solids	milligrams per litre	-	0	0
Farrell's Creek Upstream / EPL Point 6	N/A	Electrical Conductivity	microsiemens per centimetre	-	0	0
		pH	pH	-	0	0
		Total Suspended Solids	milligrams per litre	-	0	0
Farrell's Creek Downstream / EPL Point 7	N/A	Electrical Conductivity	microsiemens per centimetre	-	0	0
		pH	pH	-	0	0
		Total Suspended Solids	milligrams per litre	-	0	0
Lake James Discharge / EPL Point 8	N/A	Electrical Conductivity	microsiemens per centimetre	-	0	0
		pH	pH	6.5 - 9.5	0	0
		Total Suspended Solids	milligrams per litre	120	0	0

4 BLAST MONITORING

In accordance with the requirements of Condition M8.1, Hunter Valley Operations maintains a network of blast monitors to measure airblast overpressure and ground vibration for all blasts carried out at HVO. The following monitoring locations (EPA Monitoring Points 9, 10, 11 and 12) are listed on the licence for the purpose of assessing compliance with the airblast overpressure and ground vibration criteria as follows:

- EPA Identification Number 9 – Jerry’s Plains
- EPA Identification Number 10 – Moses Crossing
- EPA Identification Number 11 – Warkworth
- EPA Identification Number 12 – Maison Dieu

The location of these monitors can be found in Appendix A – Hunter Valley Operations Monitoring Locations. The last date sampled was the 30th August 2017. The data was obtained on the 7th September.

During the reporting period no blasts exceeded the 115dB(L) threshold for airblast overpressure or the 5mm/s threshold for ground vibration.

Blast monitoring results are detailed in Table 3 (Airblast Overpressure) and Table 4 (Ground Vibration).

TABLE 3: BLAST MONITORING (AIRBLAST OVERPRESSURE)

Blast ID	Date and Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits		Monitoring Point			
				95% of Blasts	100% of Blasts	Moses Crossing	Jerrys Plains	Maison Dieu	Warkworth
WN43LEB03A	1/09/2017 14:17	dB(L)	All Blasts 100%	115	120	101.8	99.2	91.9	94.7
P118BAC01A	1/09/2017 16:01	dB(L)		115	120	101.4	94.6	103.1	101.0
P119R0401A	5/09/2017 7:27	dB(L)		115	120	90.9	101.1	107.3	105.9
P203P0701B	7/09/2017 9:04	dB(L)		115	120	95.1	105.0	110.1	102.5
P206HOZ01A	7/09/2017 9:04	dB(L)		115	120	89.9	95.1	112.6	108.6
WS44LEB01A, WS44LEP01B	8/09/2017 13:10	dB(L)		115	120	99.2	103.9	113.9	94.5
P119R0401B	9/09/2017 11:01	dB(L)		115	120	98.6	93.4	99.2	91.7
WN43UPG12A Partial firing	11/09/2017 13:07	dB(L)		115	120	109.3	106.3	108.8	105.3
WN43UPG12A - Remainder	11/09/2017 13:33	dB(L)		115	120	85.7	92.8	107.0	94.7
P206HOZ02A	11/09/2017 15:25	dB(L)		115	120	100.0	95.8	107.0	102.9
WN45BAY01A	12/09/2017	dB(L)		115	120	88.6	105.3	107.3	103.6

	10:39							
P119R0401C - Misfires	13/09/2017 9:07	dB(L)	115	120	103.4	97.9	111.9	107.1
P118BAC02A	14/09/2017 9:02	dB(L)	115	120	94.1	92.9	111.9	102.1
P206HOZ03A	15/09/2017 12:10	dB(L)	115	120	104.2	108.1	113.0	113.0
P202R0101A, P202R6O01A, P201R6P01C	18/09/2017 14:23	dB(L)	115	120	99.0	96.8	107.9	104.4
WN45BAY02A	20/09/2017 15:29	dB(L)	115	120	90.3	94.0	89.3	84.4
P119R0401D	22/09/2017 13:10	dB(L)	115	120	103.3	98.8	103.0	104.6
P123H3002A	26/09/2017 12:23	dB(L)	115	120	96.4	90.9	101.2	97.9
P118BAC03A	26/09/2017 12:24	dB(L)	115	120	92.7	88.0	106.2	110.3
P202R0102A	26/09/2017 12:24	dB(L)	115	120	88.8	83.0	99.4	91.6
P203P0703A	27/09/2017 13:13	dB(L)	115	120	102.8	102.3	104.8	96.6
P206HOP01B	27/09/2017 13:13	dB(L)	115	120	101.7	98.7	91.9	106.3
P202R0103A, P202R6P01B,P2 01R6P01D,P203 P0703B	30/09/2017 10:40	dB(L)	115	120	91.1	108.7	110.6	101.5
Monthly Meaningful Data								
Minimum	September	dB(L)	115	120	85.7	83.0	89.3	84.4
Mean	September	dB(L)	115	120	96.9	97.9	105.2	101.1

Maximum	September	dB(L)		115	120	109.3	108.7	113.9	113.0
Median	September	dB(L)		115	120	98.6	97.9	107.0	102.5

TABLE 4: BLAST MONITORING (GROUND VIBRATION)

Blast ID	Date and Time	Unit of Measure	Monitoring Frequency & Capture	EPL Limits		Monitoring Point			
				95% of Blasts	100% of Blasts	Moses Crossing	Jerrys Plains	Maison Dieu	Warkworth
WN43LEB03A	1/09/2017 14:17	mm/s	All Blasts 100%	5	10	0.12	0.11	0.10	0.07
P118BAC01A	1/09/2017 16:01	mm/s		5	10	0.13	0.06	0.13	0.17
P119R0401A	5/09/2017 7:27	mm/s		5	10	0.07	0.05	0.26	0.32
P203P0701B	7/09/2017 9:04	mm/s		5	10	0.21	0.19	0.71	0.99
P206HOZ01A	7/09/2017 9:04	mm/s		5	10	0.21	0.19	0.71	0.99
WS44LEB01A, WS44LEP01B	8/09/2017 13:10	mm/s		5	10	0.34	0.17	0.12	0.23
P119R0401B	9/09/2017 11:01	mm/s		5	10	0.17	0.14	0.25	0.53
WN43UPG12A Partial firing	11/09/2017 13:07	mm/s		5	10	0.04	0.04	0.03	0.12
WN43UPG12A - Remainder	11/09/2017 13:33	mm/s		5	10	0.04	0.03	0.03	0.16
P206HOZ02A	11/09/2017 15:25	mm/s		5	10	0.27	0.18	0.79	1.11
WN45BAY01A	12/09/2017 10:39	mm/s		5	10	0.19	0.09	0.08	0.59
P119R0401C -	13/09/2017	mm/s		5	10	0.08	0.08	0.06	0.33

Misfires	9:07							
P118BAC02A	14/09/2017 9:02	mm/s	5	10	0.06	0.05	0.11	0.13
P206HOZ03A	15/09/2017 12:10	mm/s	5	10	0.16	0.11	0.41	1.08
P202R0101A, P202R6O01A, P201R6P01C	18/09/2017 14:23	mm/s	5	10	0.15	0.06	1.75	0.74
WN45BAY02A	20/09/2017 15:29	mm/s	5	10	0.17	0.12	0.12	0.12
P119R0401D	22/09/2017 13:10	mm/s	5	10	0.13	0.08	0.29	0.43
P123H3002A	26/09/2017 12:23	mm/s	5	10	0.61	0.38	0.41	1.02
P118BAC03A	26/09/2017 12:24	mm/s	5	10	0.07	0.06	0.98	0.45
P202R0102A	26/09/2017 12:24	mm/s	5	10	0.10	0.05	0.98	0.45
P203P0703A	27/09/2017 13:13	mm/s	5	10	0.03	0.04	0.03	0.31
P206HOP01B	27/09/2017 13:13	mm/s	5	10	0.08	0.05	0.28	0.27
P202R0103A, P202R6P01B,P2 01R6P01D,P203 P0703B	30/09/2017 10:40	mm/s	5	10	0.05	0.04	0.62	0.31
Monthly Meaningful Data								
Minimum	September	mm/s	5	10	0.03	0.03	0.03	0.07
Mean	September	mm/s	5	10	0.15	0.10	0.40	0.47
Maximum	September	mm/s	5	10	0.61	0.38	1.75	1.11

Median	September	mm/s		5	10	0.13	0.08	0.26	0.33
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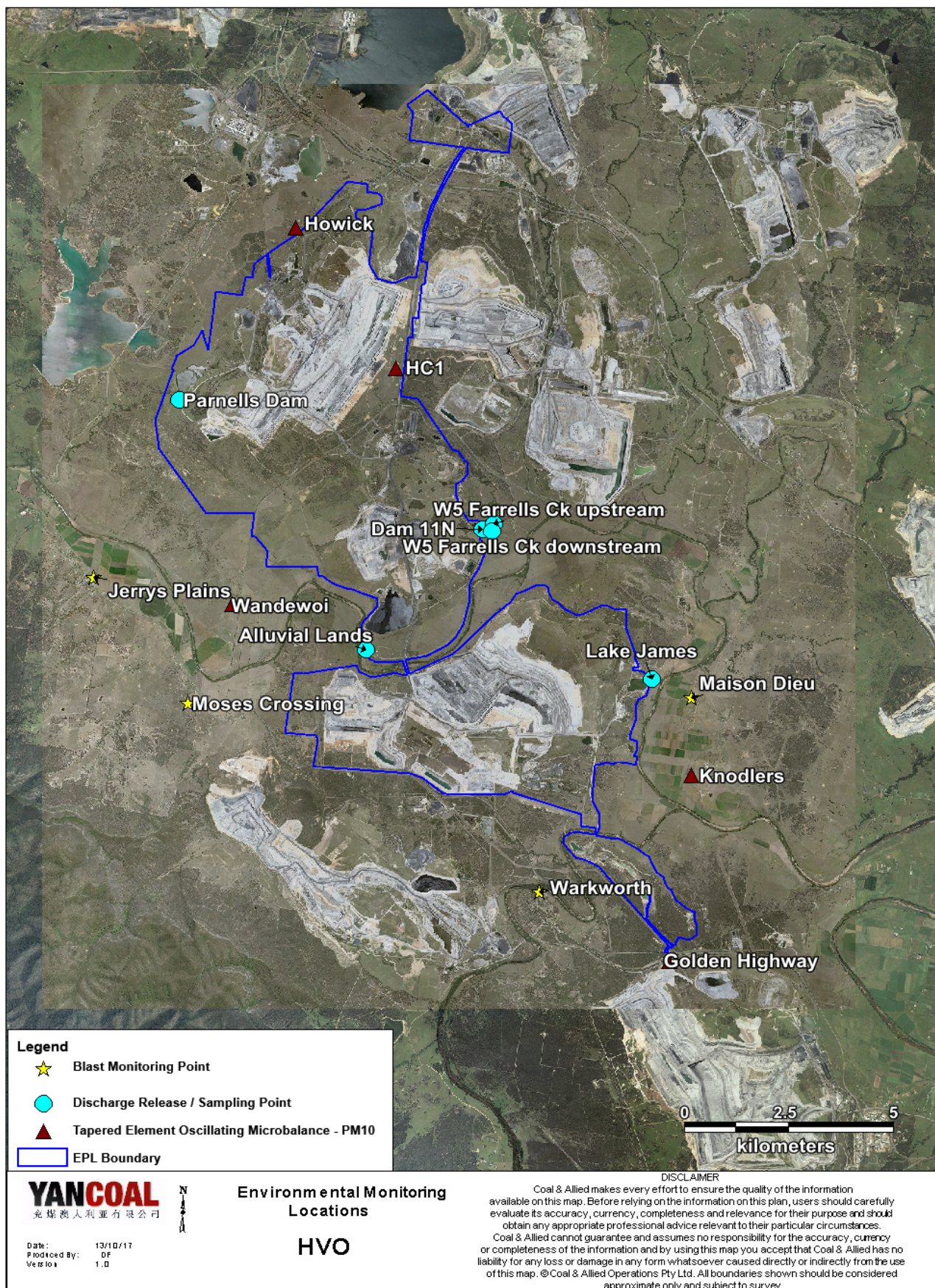


Figure 1 : Hunter Valley Operations Environmental Monitoring Locations