



*Managed by Rio Tinto Coal Australia*

# Hunter Valley Operations

## Monthly Obtained Data Summary

**Environment Protection Licence 640**

February 2017

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Licensee:

**HV Operations Pty Ltd**

123 Albert Street, Brisbane QLD 4000 Australia

Premises:

**Hunter Valley Operations**

Lemington Road, Singleton NSW 2330 Australia

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## **1.0 INTRODUCTION**

This report has been compiled to provide a summary of environmental monitoring results for Hunter Valley Operations (HVO) in accordance with Environment Protection Licence (EPL) 640. This report includes all monitoring data collected in accordance with EPL 640 for the period 1<sup>st</sup> February– 28<sup>th</sup> February 2017. The Environment Protection Licence 640 can be viewed in full at the following address:

<http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=32985&SYSUID=1&LICID=640>

Monitoring in this report includes:

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

## 2.0 AIR QUALITY

To monitor regional air quality, HVO operates and maintains a network of 5 Particulate Matter <10µm(PM10) Monitors (TEOM's) on private land surrounding the mining operations. The location of these monitors can be found in Appendix A – HVO Monitoring Locations Plan.

### 2.1 Particulate Matter <10µm (PM10) Monitoring

#### 2.1.1 PM<sub>10</sub> Results

In accordance with the requirements of Condition M2.2 (EPL 640), Hunter Valley Operations maintains a network of five PM<sub>10</sub> 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 28<sup>th</sup> February 2017; the data was obtained on the 1<sup>st</sup> March 2017.

**Table 1: Particulate Matter <10µm Monitoring**

Date	Unit of Measure	Monitoring Frequency	Monitoring Point				
		Continuous	Howick	HC1	Wandewoi	Knodlers	Golden Highway
1/02/2017	µg/m <sup>3</sup>		35.1	22.2	27.1	12.0	#
2/02/2017	µg/m <sup>3</sup>		35.7	30.1	23.4	15.1	#
3/02/2017	µg/m <sup>3</sup>		29.5	#	22.7	14.2	#
4/02/2017	µg/m <sup>3</sup>		28.0	57.2	18.7	23.9	#
5/02/2017	µg/m <sup>3</sup>		16.2	92.8	20.4	27.1	29.7

6/02/2017	µg/m <sup>3</sup>	39.0	90.4	34.7	40.4	51.5
7/02/2017	µg/m <sup>3</sup>	39.7	31.8	19.2	17.2	48.1
8/02/2017	µg/m <sup>3</sup>	23.9	14.2	17.6	7.0	#
9/02/2017	µg/m <sup>3</sup>	26.6	28.1	25.8	8.6	#
10/02/2017	µg/m <sup>3</sup>	51.2	102.5	33.9	22.6	#
11/02/2017	µg/m <sup>3</sup>	52.4	121.5	34.0	36.8	61.1
12/02/2017	µg/m <sup>3</sup>	61.6	200.1	46.6	50.0	74.2
13/02/2017	µg/m <sup>3</sup>	33.4	24.1	25.2	12.3	#
14/02/2017	µg/m <sup>3</sup>	32.4	24.4	21.3	10.8	22.9
15/02/2017	µg/m <sup>3</sup>	29.2	18.2	20.4	9.0	#
16/02/2017	µg/m <sup>3</sup>	48.9	91.7	34.6	23.0	43.6
17/02/2017	µg/m <sup>3</sup>	77.2	#	34.9	28.0	#
18/02/2017	µg/m <sup>3</sup>	23.0	43.7	14.9	16.7	31.3
19/02/2017	µg/m <sup>3</sup>	21.9	22.1	15.0	10.3	32.7
20/02/2017	µg/m <sup>3</sup>	13.2	82.2	16.6	29.7	14.1
21/02/2017	µg/m <sup>3</sup>	51.2	73.5	38.6	24.8	44.4
22/02/2017	µg/m <sup>3</sup>	45.6	28.0	30.9	16.9	33.1
23/02/2017	µg/m <sup>3</sup>	47.9	53.9	40.9	20.9	35.0
24/02/2017	µg/m <sup>3</sup>	61.8	79.0	41.5	18.3	25.3
25/02/2017	µg/m <sup>3</sup>	30.0	24.5	13.4	19.9	44.3
26/02/2017	µg/m <sup>3</sup>	29.9	16.8	15.7	17.7	46.9
27/02/2017	µg/m <sup>3</sup>	23.4	19.0	19.7	12.4	25.6
28/02/2017	µg/m <sup>3</sup>	13.7	18.2	12.9	10.6	20.5

# Data unavailable due to equipment or communications issue

### 3.0 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

During the reporting period no mine water was discharged under the HRSTS.

## **4.0 BLAST MONITORING**

### **4.1 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 28<sup>th</sup> February 2017.

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

Blast monitoring results are detailed in Table 2 (Airblast Overpressure) and Table 3 (Ground Vibration).

**Table 2: Blast Monitoring – Airblast Overpressure**

Blast ID	Date and Time	Unit of Measure	EPL Limits		Monitoring Point			
			Only 5% of blasts can exceed 115db(L) during the reporting period	Blasts can not exceed 120dB(L)	Moses Crossing	Jerrys Plains	Maison Dieu	Warkworth
WS43BAY06A/WS43BAY07A	1/02/2017 11:29	dB(L)	115	120	104.27	95.72	97.21	96.78
P117R0604A	2/02/2017 16:30	dB(L)	115	120	105.83	112.25	106.17	85.91
WN39ULD05A	3/02/2017 12:13	dB(L)	115	120	88.85	90.31	97.31	104.94
P203M0803B	3/02/2017 15:08	dB(L)	115	120	84.08	87.77	106.26	96.44
RE03BFARL02A	6/02/2017 13:40	dB(L)	115	120	95.57	94.41	102.69	99.52
WN39ULP02D	7/02/2017 10:49	dB(L)	115	120	103.63	91.01	95.23	91.57
WN43UAA09A	7/02/2017 10:50	dB(L)	115	120	102.14	86.12	94.12	88.50
P20507010A/P205HOP01A	8/02/2017 11:33	dB(L)	115	120	111.34	92.98	108.93	104.51
P117R0605A	9/02/2017 12:15	dB(L)	115	120	92.67	88.02	93.63	93.51
WN41LAA04A	10/02/2017 11:26	dB(L)	115	120	97.40	87.56	110.67	101.05
P203M0804A	10/02/2017 16:21	dB(L)	115	120	91.73	94.93	91.80	92.35
P116R0604A	13/02/2017 13:16	dB(L)	115	120	90.80	87.51	105.41	99.28
WN39ULD06B	14/02/2017 11:58	dB(L)	115	120	111.37	107.12	105.49	83.82
RE03BFARL03A	15/02/2017 13:45	dB(L)	115	120	102.96	86.00	100.63	99.95
P123HOP01A	16/02/2017 13:02	dB(L)	115	120	97.7	95.36	98.88	104.44
P203P301A,P20507010B	17/02/2017 14:12	dB(L)	115	120	102.61	105.31	113.26	103.69
P117R8P01A	18/02/2017 15:48	dB(L)	115	120	104.68	105.98	98.95	84.25
WN39ULD07A	20/02/2017 13:38	dB(L)	115	120	91.03	99.66	109.28	92.63



P123HOZ01A	21/02/2017 15:02	dB(L)	115	120	89.93	86.47	89.63	96.50
P205HOZ02A/P203 P302A	22/02/2017 13:04	dB(L)	115	120	94.30	90.42	98.87	102.39
P117R0801A	24/02/2017 12:45	dB(L)	115	120	107.76	103.23	110.75	96.01
CE11R1P01A	25/02/2017 12:37	dB(L)	115	120	100.11	88.60	108.1	90.06
WS38BAR01A	27/02/2017 11:10	dB(L)	115	120	109.61	95.50	103.12	83.70
RE03BFA03A	28/02/2017 11:04	dB(L)	115	120	100.63	98.37	104.6	89.75

**Table 3: Blast Monitoring – Ground Vibration**

Blast ID	Date and Time	Unit of Measure	EPL Limits		Monitoring Point			
			Only 5% of blasts may exceed 5 mm/s during the reporting period	Blasts may not exceed 10 mm/s	Moses Crossing	Jerrys Plains	Maison Dieu	Warkworth
WS43BAY06A/WS4 3BAY07A	1/02/2017 11:29	mm/s	5	10	0.05	0.05	0.03	0.18
P117R0604A	2/02/2017 16:30	mm/s	5	10	0.25	0.15	0.31	0.60
WN39ULD05A	3/02/2017 12:13	mm/s	5	10	0.11	0.09	0.10	0.21
P203M0803B	3/02/2017 15:08	mm/s	5	10	0.08	0.02	0.38	0.22
RE03BFARL02A	6/02/2017 13:40	mm/s	5	10	0.07	0.04	0.16	0.60
WN39ULP02D	7/02/2017 10:49	mm/s	5	10	0.08	0.06	0.08	0.14
WN43UAA09A	7/02/2017 10:50	mm/s	5	10	0.08	0.11	0.08	0.08
P20507010A/P205 HOP01A	8/02/2017 11:33	mm/s	5	10	0.12	0.15	0.45	0.61
P117R0605A	9/02/2017 12:15	mm/s	5	10	0.15	0.09	0.22	0.33
WN41LAA04A	10/02/2017 11:26	mm/s	5	10	0.08	0.11	0.06	0.14
P203M0804A	10/02/2017 16:21	mm/s	5	10	0.03	0.05	0.07	0.08
P116R0604A	13/02/2017 13:16	mm/s	5	10	0.14	0.05	0.18	0.20
WN39ULD06B	14/02/2017 11:58	mm/s	5	10	0.09	0.11	0.07	0.09
RE03BFARL03A	15/02/2017 13:45	mm/s	5	10	0.08	0.05	0.22	0.85
P123HOP01A	16/02/2017 13:02	mm/s	5	10	0.03	0.04	0.02	0.40

P203P301A,P20507 010B	17/02/2017 14:12	mm/s	5	10	0.03	0.04	0.12	0.34
P117R8P01A	18/02/2017 15:48	mm/s	5	10	0.07	0.06	0.20	0.02
WN39ULD07A	20/02/2017 13:38	mm/s	5	10	0.14	0.25	0.13	0.23
P123HOZ01A	21/02/2017 15:02	mm/s	5	10	0.14	0.07	0.12	0.30
P205HOZ02A/P203 P302A	22/02/2017 13:04	mm/s	5	10	0.10	0.07	0.25	0.60
P117R0801A	24/02/2017 12:45	mm/s	5	10	0.25	0.10	0.19	0.35
CE11R1P01A	25/02/2017 12:37	mm/s	5	10	0.14	0.11	0.21	0.08
WS38BAR01A	27/02/2017 11:10	mm/s	5	10	0.12	0.16	0.09	0.05
RE03BFA03A	28/02/2017 11:04	mm/s	5	10	0.05	0.03	0.20	0.86

## **Appendix A: Hunter Valley Operations Monitoring Locations Plan**

# Hunter Valley Operations Environmental Monitoring Locations

Date: 161213  
Plan By: DF  
Version: 2.1

**Legend**

- ★ Blast Monitoring Point
- Discharge Release / Sampling Point
- ▲ Tapered Element Oscillating Microbalance - PM10
- EPL Boundary



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Figure 1 Hunter Valley Operations Environmental Monitoring Locations