



Managed by Rio Tinto Coal Australia

Hunter Valley Operations

Monthly Meaningful Summary

Environment Protection Licence 640

March 2017

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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 1st March – 31st March 2017.

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 PM10 Results

Results of Particulates (PM₁₀) monitoring (EPA Monitoring Points 13, 14, 15, 16 and 17) are shown in Table 3. 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 31st March 2017; the data was obtained on the 1st April 2017.

- 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.

Table 1: Particulate Matter <10µm Monitoring

Date	Unit of Measure	Monitoring Frequency	Monitoring Point				
		Continuous	Howick	HC1	Wandewoi	Knodlers	Golden Highway
1/03/2017	µg/m ³		14.7	#	13.3	7.0	15.9
2/03/2017	µg/m ³		23.9	#	17.8	12.3	22.4
3/03/2017	µg/m ³		20.8	18.1	11.1	12.0	#
4/03/2017	µg/m ³		9.0	11.7	7.1	6.5	13.6
5/03/2017	µg/m ³		6.5	13.8	9.1	6.2	9.2
6/03/2017	µg/m ³		18.7	#	12.9	10.7	18.8

7/03/2017	µg/m ³	24.9	26.1	13.7	13.5	33.1
8/03/2017	µg/m ³	23.1	18.3	14.3	14.3	27.5
9/03/2017	µg/m ³	21.8	18.5	14.7	11.5	28.5
10/03/2017	µg/m ³	25.5	33.5	19.4	14.9	35.4
11/03/2017	µg/m ³	26.9	#	17.3	14.3	#
12/03/2017	µg/m ³	37.6	#	24.3	18.6	#
13/03/2017	µg/m ³	42.9	#	33.8	19.6	#
14/03/2017	µg/m ³	40.3	20.4	20.2	9.7	15.4
15/03/2017	µg/m ³	13.8	11.4	13.1	#	10.7
16/03/2017	µg/m ³	13.5	11.6	11.3	9.2	18.0
17/03/2017	µg/m ³	22.4	#	10.1	19.9	49.6
18/03/2017	µg/m ³	13.9	14.2	21.1	11.9	17.5
19/03/2017	µg/m ³	11.5	9.9	14.0	6.9	10.8
20/03/2017	µg/m ³	23.7	18.5	45.9	11.4	21.6
21/03/2017	µg/m ³	18.1	23.7	17.6	10.7	20.9
22/03/2017	µg/m ³	12.2	16.6	3.8	11.2	11.8
23/03/2017	µg/m ³	14.8	16.1	7.7	11.6	20.7
24/03/2017	µg/m ³	10.0	10.6	5.9	7.0	11.6
25/03/2017	µg/m ³	19.7	24.0	14.9	11.9	24.4
26/03/2017	µg/m ³	22.9	38.1	19.0	15.4	23.3
27/03/2017	µg/m ³	25.2	45.2	19.1	17.2	24.0
28/03/2017	µg/m ³	40.7	#	#	27.1	44.1
29/03/2017	µg/m ³	21.7	47.5	18.6	27.3	30.1
30/03/2017	µg/m ³	11.3	#	7.5	17.4	20.0
31/03/2017	µg/m ³	18.7	15.3	11.3	11.4	26.8

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 found 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:

- 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 31st March 2017. The data was obtained on the 10th April.

Blast monitoring results are detailed in Table 2.

Compliance Summary:

During the reporting period one blast exceeded the 115 dB(L) threshold for airblast overpressure.

- Blast CE11R0101A initiated on the 13th of March at 11:06am recorded an elevated airblast overpressure result of 115.2 dB(L) at the Maison Dieu blast monitoring station.

During the reporting period no blasts exceeded the 5.0mm/s threshold ground vibration. Detailed blast results may be viewed in Obtained Data Report for March 2017.

Table 2: Blast Monitoring

	Pollutant	Unit of Measure	No. of samples required by licence	No. of samples collected and analysed	lowest sample value	mean of sample	highest sample value	Median
Moses Crossing	Airblast Overpressure	dB(L)	22	22	87.63	101.56	111.20	102.07
Jerrys Plains		dB(L)	22	22	87.71	97.53	112.93	95.21
Maison Dieu		dB(L)	22	22	83.34	102.58	115.19	104.27
Warkworth		dB(L)	22	22	85.49	94.17	108.93	93.38
Moses Crossing	Ground Vibration	mm/s	22	22	0.04	0.17	0.95	0.13
Jerrys Plains		mm/s	22	22	0.02	0.09	0.21	0.08
Maison Dieu		mm/s	22	22	0.03	0.22	0.80	0.14
Warkworth		mm/s	22	22	0.06	0.38	1.01	0.32

Appendix A: Hunter Valley Operations Monitoring Location Plans

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