



Managed by Rio Tinto Coal Australia

Hunter Valley Operations

Monthly Obtained Data Summary

Environment Protection Licence 640

March 2017

Publish Date: April 2017

Licensee:

HV Operations Pty Ltd

123 Albert Street, Brisbane QLD 4000 Australia

Premises:

Hunter Valley Operations

Lemington Road, Singleton NSW 2330 Australia

Contents

1.0	INTRODUCTION	1
2.0	AIR QUALITY	2
2.1	Particulate Matter <10µm (PM10) Monitoring	2
2.1.1	PM₁₀ Results	2
3.0	SURFACE WATER	4
3.1	Mine Water Discharge Monitoring	4
4.0	BLAST MONITORING	4
4.1	Blast Monitoring	4
	Appendix A: Hunter Valley Operations Monitoring Locations Plan	8

Figures

Figure 1 Hunter Valley Operations Environmental Monitoring Locations.....	9
--	----------

Tables

Table 1: Particulate Matter <10µm Monitoring.....	2
Table 2: Blast Monitoring – Airblast Overpressure.....	5
Table 3: Blast Monitoring – Ground Vibration.....	6

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. The Environmental 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 PM₁₀ Results

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 31st March 2017; the data was obtained on the 1st April 2017.

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

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.

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
P205HOZ03A	1/03/2017	dB(L)	115	120	102.8	99.9	103.6	96.4
P123HOZ02A	1/03/2017	dB(L)	115	120	102.9	88.0	83.3	85.7
P203M8C01A	2/03/2017	dB(L)	115	120	98.1	92.4	99.0	93.1
WW25BAR01A	2/03/2017	dB(L)	115	120	93.9	97.0	83.5	91.3
P117R0801B,P117R8 P02A	4/03/2017	dB(L)	115	120	99.5	90.4	99.3	97.2
WS38BAR01B	6/03/2017	dB(L)	115	120	87.6	90.9	104.9	99.5
P123M0601A	7/03/2017	dB(L)	115	120	108.3	93.4	107.0	92.7
RE03BFA04A	9/03/2017	dB(L)	115	120	91.3	106.5	99.5	94.2
WN41LAA06A	9/03/2017	dB(L)	115	120	98.7	89.4	108.6	100.9
P205HOP02A	10/03/2017	dB(L)	115	120	102.1	107.9	106.8	95.5

P203M8C01B	10/03/2017	dB(L)	115	120	111.2	110.1	103.9	89.8
CE11R0101A	13/03/2017	dB(L)	115	120	97.1	91.7	115.2	97.7
P123HOZ03A	14/03/2017	dB(L)	115	120	108.7	99.5	108.2	89.5
RE03BFA04B	14/03/2017	dB(L)	115	120	109.6	112.9	100.0	92.6
WN41LAA05A	15/03/2017	dB(L)	115	120	109.1	107.9	110.0	87.0
P117R0802A	18/03/2017	dB(L)	115	120	111.1	102.7	112.3	101.7
P118R0303A	21/03/2017	dB(L)	115	120	97.8	92.6	95.6	94.7
RW21BFAE01A	23/03/2017	dB(L)	115	120	104.6	103.5	104.6	93.6
RW23WHP01A	23/03/2017	dB(L)	115	120	105.5	87.7	104.6	85.5
P123HOZ04A	27/03/2017	dB(L)	115	120	96.4	90.1	97.9	91.2
P205HOZ04A	29/03/2017	dB(L)	115	120	95.9	92.2	110.2	108.9
P117R0803A	31/03/2017	dB(L)	115	120	102.09	99.21	98.74	93.17

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
P205HOZ03A	1/03/2017	mm/s	5	10	0.16	0.13	0.80	0.71
P123HOZ02A	1/03/2017	mm/s	5	10	0.04	0.03	0.05	0.08
P203M8C01A	2/03/2017	mm/s	5	10	0.10	0.02	0.14	0.06
WW25BAR01A	2/03/2017	mm/s	5	10	0.22	0.18	0.05	0.08
P117R0801B,P117R8 P02A	4/03/2017	mm/s	5	10	0.13	0.07	0.30	0.27
WS38BAR01B	6/03/2017	mm/s	5	10	0.11	0.09	0.05	0.58
P123M0601A	7/03/2017	mm/s	5	10	0.06	0.05	0.11	0.20

RE03BFA04A	9/03/2017	mm/s	5	10	0.07	0.04	0.23	1.00
WN41LAA06A	9/03/2017	mm/s	5	10	0.13	0.20	0.13	0.31
P205HOP02A	10/03/2017	mm/s	5	10	0.13	0.10	0.56	0.71
P203M8C01B	10/03/2017	mm/s	5	10	0.09	0.03	0.11	0.16
CE11R0101A	13/03/2017	mm/s	5	10	0.32	0.21	0.39	0.13
P123HOZ03A	14/03/2017	mm/s	5	10	0.10	0.03	0.08	0.11
RE03BFA04B	14/03/2017	mm/s	5	10	0.06	0.03	0.09	0.33
WN41LAA05A	15/03/2017	mm/s	5	10	0.05	0.03	0.03	0.39
P117R0802A	18/03/2017	mm/s	5	10	0.21	0.09	0.37	0.47
P118R0303A	21/03/2017	mm/s	5	10	0.15	0.08	0.26	0.56
RW21BFAE01A	23/03/2017	mm/s	5	10	0.95	0.18	0.13	0.56
RW23WHP01A	23/03/2017	mm/s	5	10	0.10	0.04	0.06	0.11
P123HOZ04A	27/03/2017	mm/s	5	10	0.14	0.07	0.15	0.25
P205HOZ04A	29/03/2017	mm/s	5	10	0.18	0.14	0.49	1.01
P117R0803A	31/03/2017	mm/s	5	10	0.18	0.08	0.24	0.37

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



**COAL
&
ALLIED**

Managed by Rio Tinto Coal Australia

RTCA - NSW Environmental Services

Figure 1 Hunter Valley Operations Environmental Monitoring Locations