



Three Kings Quarry

Air Quality Quarterly Report

June 2014 – August 2014

In compliance with:

Permit 21875, conditions 26 & 27

Introduction

This report details the air quality monitoring results for Winstone Aggregates Three Kings Quarry for the period June 2014 – August 2014.

This report has been prepared in accordance with Conditions 26 and 27 of Permit 21875.

Condition 26 states:

That any results of total suspended particulate in ambient air monitoring showing exceedences of the prompts given in Condition 20 or specified in the TSP Monitoring Plan, shall be reported by facsimile to the Manager as soon as practicable. A summary of all monitoring results, including references where applicable to wind and rainfall data and any remedial actions taken shall be submitted to the Manager at the end of each quarter.

Condition 27 states:

That the Consent Holder shall record in a log all such information that is required to enable compliance with the conditions of this consent. The log shall record, on a daily basis, information including, but not limited to:

- (a) Any dust control equipment malfunctions and any remedial action taken;*
- (b) Any visible emissions of dust and the source;*
- (c) All relevant details relating to the total suspended particulate monitoring or other monitoring required by the TSP Monitoring Plan, to enable compliance with Conditions 19, 20 and 21;*
- (d) When a water cart was used and, if so, the frequency of use and the volume of water used;
and*
- (e) The date and time of the entry and the signature of the person entering the information.*

The log shall be made available on request, during operating hours, to an enforcement officer and shall be kept for the term of the consent. A summary of the information recorded shall be submitted to the Manager at the end of each quarter.

Details of the monitoring undertaken as part of the air permit are described below and actual monitoring results are presented in tables attached to the report.

Summary of Monitoring Results

Summary tables of the monitoring results for each month of the reporting period are attached to this report. An overview of the quarter is provided below.

June 2014

All results for June 2014 were within the consented limits.

July 2014

All results for July 2014 were within the consented limits.

A fault was found during a regular servicing of the Office BAM on 24th July 2014. The required replacement part had to be sought from the supplier in Australia to repair this issue. A loan unit was installed as soon as possible and monitoring recommenced at the Office BAM location on 5th August 2014. All other monitoring was undertaken as required between during this period with the results all well below the consent limits.

August 2014

All results for August 2014 were within the consented limits.

As noted above the Office BAM was offline from 24th July 2014 to 5th August 2014 due to a fault picked up during regular servicing. All other monitoring was undertaken as required during this period with the results all well below the consent limits. On 5th August 2014 a loan unit was installed while the Office BAM was repaired. The loan unit remained in place for the remainder of August 2014.

Daily Log

In accordance with Condition 27 of the air permit a daily log of monitoring results is maintained on site. The log includes information about equipment malfunctions, visible dust emissions, water cart use and all relevant details relating to particulate monitoring. A summary of the daily log is provided below.

- a. Over the last quarter all dust control equipment has functioned as required with maintenance being undertaken on both the sprinkler system and water cart as necessary.
- b. No visible dust emissions (that went over or were over the boundary) were noted in the daily log for this period with the exception of the following comments:
 - Smoke from chimney of Danske Moblier recorded on 5th June 2014 and 5th August 2014.
- c. TSP monitoring was carried out as per TSP monitoring procedures documented in the site Air Quality Management Plan. A summary of the results is provided above and the tabled results for this reporting period are attached to this report.
- d. The water cart used 648m³ during this period. The use over this quarter was made up of:

MONTH	LOADS	VOLUME (m ³)
June 2014	10	120
July 2014	10	120
August 2014	34	408

- e. The daily log sheet is dated and signed by the person entering the information.

Complaints

There have been no complaints made directly to Three Kings Quarry regarding dust during the period of June 2014 to August 2014.

Next Reporting Period

The next quarterly report will be submitted in early December 2014. This report will cover the monitoring period of September 2014 to November 2014.

Monitoring Results for the Period June 2014

Date	Day	daily average WS m/sec	daily average WD (degrees)	Daily Rain (mm)	Site TSP Office ($\mu\text{g}/\text{m}^3$)	BAM Office ($\mu\text{g}/\text{m}^3$)	Site TSP North Boundary ($\mu\text{g}/\text{m}^3$)	BAM South Boundary ($\mu\text{g}/\text{m}^3$)
1/06/2014	Sun	1.811	168.330	0.000		8.7		11.6
2/06/2014	Mon	2.187	166.444	0.000	13	6.3		4.6
3/06/2014	Tue	1.098	135.840	0.000		10.7		10.2
4/06/2014	Wed	0.931	108.785	0.000		15.0		10.9
5/06/2014	Thu	1.195	115.010	0.000	31	11.3	24	11.0
6/06/2014	Fri	1.298	104.601	0.000		9.0		11.7
7/06/2014	Sat	1.232	138.208	0.000	18	9.4		5.0
8/06/2014	Sun	1.880	103.434	0.000		11.1		9.7
9/06/2014	Mon	2.052	124.017	12.200		15.6		15.3
10/06/2014	Tue	4.096	99.760	54.400	16	8.0	19	7.6
11/06/2014	Wed	3.366	122.319	30.600		13.8		12.9
12/06/2014	Thu	1.961	147.472	1.400	18	6.6		9.1
13/06/2014	Fri	2.199	161.517	0.000		9.7		7.6
14/06/2014	Sat	0.800	139.719	0.000		15.4		15.1
15/06/2014	Sun	1.011	163.083	0.000		19.8		17.7
16/06/2014	Mon	3.071	97.063	16.800	22	11.3	22	11.4
17/06/2014	Tue	3.172	215.243	2.800		11.8		9.5
18/06/2014	Wed	2.570	236.396	1.800	23	13.8		11.4
19/06/2014	Thu	2.665	241.097	2.000		14.3		15.2
20/06/2014	Fri	3.504	221.823	0.200		19.4		24.1
21/06/2014	Sat	1.933	255.892	0.000		18.1		16.6
22/06/2014	Sun	1.703	209.507	2.600	23	14.3	23	15.2
23/06/2014	Mon	1.031	116.924	0.000		15.6		12.7
24/06/2014	Tue	2.292	112.851	1.000	14	9.5		9.0
25/06/2014	Wed	4.963	100.431	15.000		14.5		10.5
26/06/2014	Thu	2.327	206.833	16.200		14.0		11.7
27/06/2014	Fri	2.364	244.222	11.800	24	15.0	21	12.6
28/06/2014	Sat	4.565	217.976	1.000		18.4		21.8
29/06/2014	Sun	1.186	186.384	0.000		22.1		19.0
30/06/2014	Mon	4.253	129.649	16.200		14.0		11.0

Monitoring Results for the Period July 2014

Date	Day	daily average WS m/sec	daily average WD (degrees)	Daily Rain (mm)	Site TSP Office ($\mu\text{g}/\text{m}^3$)	BAM Office ($\mu\text{g}/\text{m}^3$)	Site TSP North Boundary ($\mu\text{g}/\text{m}^3$)	BAM South Boundary ($\mu\text{g}/\text{m}^3$)
1/07/2014	Tue	4.584	215.066	0.000		16.4		14.1
2/07/2014	Wed	2.661	239.167	0.000	19	11.1		12.9
3/07/2014	Thu	2.389	232.618	1.800		15.2		14.4
4/07/2014	Fri	4.359	216.976	0.000		11.9		16.2
5/07/2014	Sat	2.493	167.701	0.400	25	14.9	27	17.6
6/07/2014	Sun	2.501	183.097	0.000		21.4		23.1
7/07/2014	Mon	2.260	149.781	0.000		8.6		9.5
8/07/2014	Tue	2.976	168.569	0.000		11.4		10.4
9/07/2014	Wed	2.261	160.233	0.000		12.0		12.5
10/07/2014	Thu	2.377	167.958	0.000	26	15.6	30	16.7
11/07/2014	Fri	1.677	170.729	0.000		17.3		14.6
12/07/2014	Sat	1.415	180.104	0.000		12.4		11.3
13/07/2014	Sun	1.984	238.701	0.000	23	14.3	26	15.4
14/07/2014	Mon	2.230	125.382	0.000		12.5		13.8
15/07/2014	Tue	1.989	115.219	0.000		10.5		11.2
16/07/2014	Wed	1.622	129.795	0.000	27	14.9		15.2
17/07/2014	Thu	3.817	110.840	23.000		11.3		12.0
18/07/2014	Fri	3.515	256.399	2.400		17.6		19.7
19/07/2014	Sat	4.238	238.868	1.800	25	14.3		10.0
20/07/2014	Sun	1.555	177.115	4.200		4.9		7.8
21/07/2014	Mon	1.541	114.441	0.000		10.9		14.6
22/07/2014	Tue	1.807	130.483	1.600	20	11.2	22	16.1
23/07/2014	Wed	1.539	123.094	0.000		12.9		21.0
24/07/2014	Thu	1.819	117.431	0.000	23	Off Scan		14.6
25/07/2014	Fri	1.553	133.031	0.000		Off Scan		17.4
26/07/2014	Sat	2.260	170.510	0.000		Off Scan		18.1
27/07/2014	Sun	1.344	157.667	0.000	20	Off Scan	18	13.5
28/07/2014	Mon	1.405	166.403	0.000		Off Scan		12.2
29/07/2014	Tue	1.701	105.692	0.000		Off Scan		11.3
30/07/2014	Wed	1.731	133.740	1.400	27	Off Scan		7.8
31/07/2014	Thu	1.982	149.333	6.200		Off Scan		13.2

Monitoring Results for the Period August 2014

Date	Day	daily average WS m/sec	daily average WD (degrees)	Daily Rain (mm)	Site TSP Office (µg/m³)	BAM Office (µg/m³)	Site TSP North Boundary (µg/m³)	BAM South Boundary (µg/m³)
1/08/2014	Fri	2.591	95.792	0.200		Off Scan		7.7
2/08/2014	Sat	4.714	79.455	0.200	25	Off Scan	25	13.9
3/08/2014	Sun	2.428	183.361	18.800		Off Scan		13.6
4/08/2014	Mon	1.513	182.198	2.400		Off Scan		13.8
5/08/2014	Tue	4.399	202.326	0.200	27	25.2		14.2
6/08/2014	Wed	3.888	220.743	1.200		23.9		19.1
7/08/2014	Thu	2.673	253.118	0.200		22.3		14.8
8/08/2014	Fri	4.067	231.833	5.200	36	20.2	35	20.2
9/08/2014	Sat	2.529	193.503	0.000		20.2		23.9
10/08/2014	Sun	1.683	253.542	0.000		23.1		17.9
11/08/2014	Mon	2.396	244.087	0.000		18.8		7.7
12/08/2014	Tue	3.282	241.326	8.800		12.5		10.8
13/08/2014	Wed	3.334	246.809	1.600	20	12.5		11.1
14/08/2014	Thu	5.025	237.944	9.200		14.7		16.4
15/08/2014	Fri	5.214	210.833	1.600	57	30.0	46	30.2
16/08/2014	Sat	3.383	207.385	0.000		27.3		25.6
17/08/2014	Sun	0.902	187.653	0.000		18.3		19.4
18/08/2014	Mon	0.898	190.542	0.000		27.4		22.1
19/08/2014	Tue	1.797	115.955	12.600	22	12.9		7.8
20/08/2014	Wed	1.932	133.042	9.400		10.0		7.5
21/08/2014	Thu	3.721	198.767	14.800		10.1		14.5
22/08/2014	Fri	3.099	178.309	0.000		13.1		11.4
23/08/2014	Sat	2.630	191.063	0.000		19.7		15.7
24/08/2014	Sun	1.318	169.219	0.000		9.2		8.9
25/08/2014	Mon	0.746	118.247	0.000		16.0		11.2
26/08/2014	Tue	1.145	106.208	0.000		11.1		5.6
27/08/2014	Wed	1.781	108.253	0.000		13.9		11.9
28/08/2014	Thu	2.824	100.163	0.000		10.4		11.0
29/08/2014	Fri	3.548	87.500	0.000		9.5		8.6
30/08/2014	Sat	4.810	84.431	10.200		6.4		5.8
31/08/2014	Sun	4.112	89.288	8.600		6.3		6.4