



Winstone Aggregates Three Kings Quarry
Air Discharge Permit (21875), Quaternary Report
Dec 2007 – Feb 2008

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Background

This report details the air quality monitoring results for Winstone Aggregates Three Kings Quarry for the period Dec – Feb 08

This report is being prepared in accordance with Conditions 26 and 27 of air permit (21875). The conditions state:

“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”.

“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 within the report or in the Appendices.

Daily Log

In accordance with Condition 26 (a) – (e) 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 the TSP monitoring. A summary of the daily log is presented in Appendix 1.

Video monitoring

In accordance with condition 22 and 23 of the air permit (21875) a video camera is mounted on the northwest corner of the food town supermarket building to the south of the quarry area. The camera is set to 10-second frames and operates between approximately 7:00 am and 6:00 pm each day during the period 1 November to 30 April each year. The tape is generally replaced once per week and the results viewed if we receive a complaint or if TSP results exceeded Air Discharge permit trigger.

Results:

Table 1

Three Kings Quarry Summary monitoring results for the period 1st - 31th of Dec 2007

Date	Day	daily average WD (degrees)	daily average WS m/sec	Daily Rain (mm)	Site TSP mg/m3 office	Site TSP mg/m3 North Boundary	Site TSP Eastern Boundary (car Park)
1-Dec-07	Sat	254.3	1.300	0.000	35.1	32.8	21.1
2-Dec-07	Sun	176.5	1.582	1.400			
3-Dec-07	Mon	174.4	2.866	0.000			
4-Dec-07	Tue	141.1	1.640	0.000	48	59.6	25.8
5-Dec-07	Wed	58.1	1.658	13.400			
6-Dec-07	Thur	38.3	3.287	13.200	9.3	18.7	12.6
7-Dec-07	Fri	88.7	3.092	0.200			
8-Dec-07	Sat	91.3	2.292	0.600			
9-Dec-07	Sun	58.0	2.935	4.800			
10-Dec-07	Mon	53.4	2.877	0.000	44.1	49.2	35.7
11-Dec-07	Tue	55.0	2.618	0.400			
12-Dec-07	Wed	47.7	2.098	0.600			
13-Dec-07	Thur	62.7	2.309	0.000	49.6	24.3	22.2
14-Dec-07	Fri	96.1	2.052	0.000			
15-Dec-07	Sat	50.8	1.935	0.000	27.8	20	14
16-Dec-07	Sun	46.9	2.981	0.000			
17-Dec-07	Mon	34.6	3.561	3.000			
18-Dec-07	Tue	72.1	3.357	27.200	51.4	20.7	13.9
19-Dec-07	Wed	284.6	3.260	5.400			
20-Dec-07	Thur	205.2	5.187	0.000	66	44.3	16.6
21-Dec-07	Fri	101.3	2.194	0.400			
22-Dec-07	Sat	89.6	2.072	0.200			
23-Dec-07	Sun	85.4	2.412	0.000	24.5	12.3	15.1
24-Dec-07	Mon	80.1	2.729	0.000			
25-Dec-07	Tue	179.8	2.986	5.800	9.2	6.8	10.8
26-Dec-07	Wed	244.3	4.300	2.200			
27-Dec-07	Thur	241.2	3.236	2.800			
28-Dec-07	Fri	273.1	1.927	0.000			
29-Dec-07	Sat	209.6	2.430	0.400	23.5	17.3	13.4
30-Dec-07	Sun	178.7	2.528	0.000			
31-Dec-07	Mon	167.6	0.000	0.000	12.3	18.2	13.2

Table 2

Three Kings Quarry Summary monitoring results for the period 1st - 31st Jan 08

Date	Day	daily average WD (degrees)	daily average WS m/sec	Daily Rain (mm)	Site TSP mg/m ³ office	Site TSP mg/m ³ North Boundary	Site TSP mg/m ³ Eastern Boundary (car Park)
1/01/2008	Tue	141.2	2.318	0.000			
2/01/2008	Wed	172.1	1.767	0.000			
3/01/2008	Thur	219.5	2.303	0.000			
4/01/2008	Fri	125.6	2.001	0.000	39.9	18	22.5
5/01/2008	Sat	59.3	2.322	0.000			
6/01/2008	Sun	83.0	2.719	0.000			
7/01/2008	Mon	33.6	3.204	0.000	45.1	26.5	23.4
8/01/2008	Tue	181.7	1.543	7.600			
9/01/2008	Wed	128.7	1.521	2.000			
10/01/2008	Thur	172.7	3.162	0.000	34.2	36	52.6
11/01/2008	Fri	99.5	2.688	0.000			
12/01/2008	Sat	136.0	2.318	0.000	39.1	27.6	28
13/01/2008	Sun	234.2	1.285	0.000			
14/01/2008	Mon	192.6	1.628	0.000			
15/01/2008	Tue	213.8	2.753	0.000			
16/01/2008	Wed	172.1	2.153	0.000	NR	38.6	30.1
17/01/2008	Thur	183.3	2.598	0.000			
18/01/2008	Fri	171.8	3.260	0.000			
19/01/2008	Sat	105.8	3.353	0.000	NR	41.7	31
20/01/2008	Sun	90.1	4.250	0.800			
21/01/2008	Mon	40.2	3.814	10.000	NR	9.4	8.7
22/01/2008	Tue	170.0	4.633	3.400			
23/01/2008	Wed	244.9	3.453	0.200			
24/01/2008	Thur	145.9	3.216	0.000	24.6	28.7	33.5
25/01/2008	Fri	104.4	1.975	0.000			
26/01/2008	Sat	152.8	1.875	0.000	37.1	NR	27.3
27/01/2008	Sun	202.4	2.748	0.000			
28/01/2008	Mon	241.2	3.213	0.000			
29/01/2008	Tue	214.1	4.075	0.000			
30/01/2008	Wed	169.1	2.795	0.000	34.4	20.9	31.3
31/01/2008	Thur	90.9	0.000	0.000			

Table 3

Three Kings Quarry Summary monitoring results for the period 1st - 29th Feb 08

Date	Day	daily average WD (degrees)	daily average WS m/sec	Daily Rain (mm)	Site TSP mg/m3 office	Site TSP mg/m3 North Boundary	Site TSP mg/m ³ Eastern Boundary (car Park)
1/02/2008	Fri	244.1	1.951	0.000	46.8	48.1	32
2/02/2008	Sat	162.0	2.023	0.000			
3/02/2008	Sun	138.6	1.863	0.000			
4/02/2008	Mon	158.4	1.841	0.000			
5/02/2008	Tue	115.6	3.221	0.000	60.9	56	43.3
6/02/2008	Wed	139.7	2.584	0.000			
7/02/2008	Thur	149.8	1.665	0.000			
8/02/2008	Fri	261.0	1.947	0.000	65.5	32.2	46.1
9/02/2008	Sat	173.5	2.610	0.000			
10/02/2008	Sun	125.5	3.394	1.600			
11/02/2008	Mon	301.4	2.427	0.000			
12/02/2008	Tue	272.9	2.261	11.600	53.8	28.2	29.8
13/02/2008	Wed	205.5	2.135	0.000			
14/02/2008	Thur	212.9	1.308	2.600	31.7	18.9	16.5
15/02/2008	Fri	280.8	2.918	2.200			
16/02/2008	Sat	267.8	2.583	2.600			
17/02/2008	Sun	240.9	3.303	0.000	58.4	56.6	46
18/02/2008	Mon	203.8	3.014	0.000			
19/02/2008	Tue	94.9	1.262	0.200			
20/02/2008	Wed	74.3	1.868	0.000	38	39	31.3
21/02/2008	Thur	61.9	2.733	0.000			
22/02/2008	Fri	54.0	3.462	1.600			
23/02/2008	Sat	61.5	3.873	38.600			
24/02/2008	Sun	101.9	1.868	3.400			
25/02/2008	Mon	237.1	3.890	0.000			
26/02/2008	Tue	240.6	3.791	0.200			
27/02/2008	Wed	187.6	2.515	0.000			
28/02/2008	Thur	176.7	1.098	0.000			
29/02/2008	Fri	109.9	2.306	0.000			

**Daily Log Summary for Three Kings Quarry Site for the period
Dec 07 – Jan 08**

(Condition 27, Air Permit 21375)

- a. No significant visible dust emissions from the quarry (outside the boundary) were recorded during the above period.
- b. TSP monitoring was carried as per TSP monitoring procedures documented in the site Environmental Records and Procedures Manual, No exceedances occurred during the period and results of TSP were in compliance with Conditions 19, 20 and 21, of Air Permit 21375.
- c. The water cart was used for 76 hours over 15 days during the period, using a total of approximately 1048 m³ of water, or an average of 70 m³ per day. This consists of:

Dec:	51 Loads using 612 m ³
Jan:	118 Loads using 1416 m ³
Feb:	126 Loads using 1512 m ³
- d. The daily log sheet is dated and signed by the person entering the information.

Complaints:

There has been no complaints received for this period.