



Three Kings Quarry
Air Quality Quarterly Report
September - November
2009

In compliance with: Permit 21875, conditions 26 & 27
Compiled By: Andrea Sprosen, Environmental Coordinator
Date: 7th December 2009

Introduction

This report details the air quality monitoring results for Winstone Aggregates Three Kings Quarry for the period September - November 09

This report is being prepared in accordance with Conditions 26 and 27 of 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 particulate monitoring.

September 09

Three Kings Quarry Summary monitoring results for the period September 09

Date	Day	daily average WS m/sec	daily average WD (degrees)	Daily Rain (mm)	Site TSP mg/m3 office	BAM FH62 mg/m-3 office	Site TSP mg/m3 North Boundary
1/09/2009	Tue	1.986	277.736	0.000	60.5	40.4	
2/09/2009	Wed	3.075	241.764	0.000		No Data	
3/09/2009	Thu	4.239	204.632	0.000	54.2	No Data	43.2
4/09/2009	Fri	2.984	148.257	0.200		9.5	
5/09/2009	Sat	2.605	189.222	0.000		11.2	
6/09/2009	Sun	1.431	162.198	0.000		14.2	
7/09/2009	Mon	1.209	234.865	0.000	35.3	20.6	
8/09/2009	Tue	0.996	173.653	0.000		18.3	
9/09/2009	Wed	2.085	114.427	0.000		10.0	
10/09/2009	Thu	2.495	107.236	0.000	11.5	7.2	18.8
11/09/2009	Fri	4.098	95.240	3.800		13.9	
12/09/2009	Sat	2.894	109.066	1.800	19.8	17.5	
13/09/2009	Sun	1.692	154.851	0.000		15.8	
14/09/2009	Mon	1.514	172.083	0.000		12.3	
15/09/2009	Tue	1.821	201.094	0.000		10.6	
16/09/2009	Wed	1.853	164.278	0.000	26.4	18.1	35.3
17/09/2009	Thu	1.600	236.420	0.000		16.5	
18/09/2009	Fri	1.983	226.976	0.000	37.3	19.3	
19/09/2009	Sat	1.872	229.903	1.000		11.6	
20/09/2009	Sun	1.990	114.219	0.000		8.7	
21/09/2009	Mon	1.565	109.299	0.000		7.4	
22/09/2009	Tue	2.784	247.302	0.200	32.8	12.8	27.1
23/09/2009	Wed	4.178	280.969	8.400		12.9	
24/09/2009	Thu	2.885	164.170	19.600	46.8	33.5	
25/09/2009	Fri	3.368	249.194	5.400		136.7	
26/09/2009	Sat	3.264	255.198	7.800		13.5	
27/09/2009	Sun	2.308	241.639	0.000		14.2	
28/09/2009	Mon	3.177	193.524	13.600	44.5	30.2	40.4
29/09/2009	Tue	3.089	118.503	11.000		20.9	
30/09/2009	Wed	3.864	255.080	6.000	23.4	15.1	

Notes:

25th September- Abnormally high readings (100 - 400 micrograms/m3) from midnight through to 10 am, as a result of the Australian dust storm.

October 09

Three Kings Quarry Summary monitoring results for the period October 09

Date	Day	daily average WS m/sec	daily average WD (degrees)	Daily Rain (mm)	Site TSP mg/m3 office	BAM FH62 mg/m-3 office	Site TSP mg/m3 North Boundary
1/10/2009	Thu	5.395	233.507	0.200		22.3	
2/10/2009	Fri	4.142	258.934	0.000		25.7	
3/10/2009	Sat	3.298	282.007	6.800	41.8	29.3	43.5
4/10/2009	Sun	3.588	239.688	3.800		11.7	
5/10/2009	Mon	4.118	191.920	15.400		3.9	
6/10/2009	Tue	4.017	226.799	2.200		11.3	
7/10/2009	Wed	3.346	238.021	0.600	36.4	14.7	
8/10/2009	Thu	2.048	259.597	0.000		10.5	
9/10/2009	Fri	3.136	185.271	3.600		11.6	
10/10/2009	Sat	2.160	198.604	0.600		8.2	
11/10/2009	Sun	2.268	203.705	0.000	20.8	9.6	20.2
12/10/2009	Mon	2.068	279.670	0.000		17.3	
13/10/2009	Tue	1.972	285.674	0.000	36.7	18.3	
14/10/2009	Wed	2.763	264.260	2.000		22.2	
15/10/2009	Thu	2.979	210.615	44.000		9.8	
16/10/2009	Fri	3.180	281.021	0.000	44.3	24.9	32.5
17/10/2009	Sat	3.086	213.944	1.600		28.4	
18/10/2009	Sun	3.585	261.455	2.800		11.8	
19/10/2009	Mon	2.545	235.948	3.800		11.6	
20/10/2009	Tue	4.114	239.167	4.800	41.6	19.6	
21/10/2009	Wed	2.740	207.236	0.000		12.9	
22/10/2009	Thu	2.934	265.969	0.200	47.1	22.7	35.2
23/10/2009	Fri	4.243	227.274	5.000		27.9	
24/10/2009	Sat	2.541	205.733	0.000		12.5	
25/10/2009	Sun	1.847	258.858	0.000		13.7	
26/10/2009	Mon	2.229	192.920	4.400	29.0	11.1	
27/10/2009	Tue	4.264	239.083	5.800		23.1	
28/10/2009	Wed	4.950	220.323	0.000		36.3	
29/10/2009	Thu	6.003	226.885	1.400	96.0	44.1	67.9
30/10/2009	Fri	3.074	209.170	0.000		25.0	
31/10/2009	Sat	3.144	201.146	0.000		17.2	

Notes

29th October – Elevated reading on the Office TSP, as a result of digging up the road (to install cable for the new camera) directly under the TSP (see attached letter).

November 2009

Three Kings Quarry Summary monitoring results for the period November 09

Date	Day	daily average WS m/sec	daily average WD (degrees)	Daily Rain (mm)	Site TSP mg/m3 office	BAM FH62 mg/m-3 office	Site TSP mg/m3 North Boundary
1/11/2009	Sun	4.166	220.361	0.000	65.6	20.9	22.3
2/11/2009	Mon	3.867	240.920	0.000		16.3	
3/11/2009	Tue	2.119	256.417	0.400	27.9	11.5	23.9
4/11/2009	Wed	2.161	264.146	0.200		10.8	
5/11/2009	Thu	2.793	280.385	6.200		13.6	
6/11/2009	Fri	4.028	219.514	0.000	68.7	20.5	33.7
7/11/2009	Sat	3.477	222.722	0.000		25.9	
8/11/2009	Sun	4.549	222.611	0.000		23.9	
9/11/2009	Mon	4.466	232.497	0.000		30.9	
10/11/2009	Tue	2.274	191.260	0.000	26.1	14.7	22.7
11/11/2009	Wed	3.047	257.563	0.200		17.2	
12/11/2009	Thu	2.268	200.878	0.000	30	14.4	26.3
13/11/2009	Fri	3.732	256.719	0.000		31.7	
14/11/2009	Sat	3.407	234.087	0.000		17.4	
15/11/2009	Sun	3.106	280.660	0.600		12.2	
16/11/2009	Mon	3.741	245.875	0.400	43.2	18.6	29.4
17/11/2009	Tue	2.468	237.354	0.000		15.0	
18/11/2009	Wed	4.238	218.694	1.600		18.8	
19/11/2009	Thu	4.372	224.063	0.000	52.3	21.0	27.1
20/11/2009	Fri	3.423	232.788	0.000		14.1	
21/11/2009	Sat	3.177	259.507	0.000		No data	
22/11/2009	Sun	3.051	246.757	1.000			
23/11/2009	Mon	2.853	203.764	0.000			
24/11/2009	Tue	4.230	223.066	0.000			
25/11/2009	Wed	4.756	219.097	0.000		35.8	
26/11/2009	Thu	5.176	236.934	0.000		45.3	
27/11/2009	Fri	3.760	227.490	0.000		42.8	
28/11/2009	Sat	2.747	285.045	4.200		19.0	
29/11/2009	Sun	2.502	259.181	0.400		14.6	
30/11/2009	Mon	2.030	236.750	0.200		16.2	
1/12/2009	Tue						

Notes

1st November 2009 – Moved NB moved to summer monitoring @ 1 in 3 days.

Daily Log Summary for Three Kings Quarry Site for the period September - November 09

(Condition 27, Air Permit 21875)

- a. No visible dust emissions (that went over or were over the boundary) were noted in the Daily Air Log for this period.

- b. TSP monitoring was carried as per TSP monitoring procedures documented in the site Air Quality Management Plan. Two dust exceedences were reported during this period. This first was on the 25th September 2009, as a result of the Australian dust storm. An investigation was undertaken and a letter sent to the Auckland Regional Council. A second exceedence occurred on the 29th October 2009, as a result of works being undertaken directly underneath the High Vol. monitor.

- c. The water cart used 1296m³ during this period, made up of:

MONTH	LOADS	VOLUME (m ³)
September	35	420
October	15	180
November	180	696

- d. 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 during this period.