



**Three Kings Quarry**

**Air Quality Quarterly Report**

**December 2009 – February 2010**

<b>In compliance with:</b>	<b>Permit 21875, conditions 26 &amp; 27</b>
<b>Compiled By:</b>	<b>Andrea Sprosen, Environmental Coordinator</b>
<b>Date:</b>	<b>5<sup>th</sup> March 2010</b>

## **Introduction**

This report details the air quality monitoring results for Winstone Aggregates Three Kings Quarry for the period December 2009 – February 2010.

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.

## December 09

### Three Kings Quarry Summary monitoring results for the period December 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
1/12/2009	Tue	2.573	208.267	0.000	30.3	15.6	25.2
2/12/2009	Wed	1.720	218.861	11.800		13.7	
3/12/2009	Thu	2.386	162.899	6.400	17.2	140.6	14.5
4/12/2009	Fri	4.479	83.257	47.600		5.9	
5/12/2009	Sat	2.000	186.101	1.400		4.6	
6/12/2009	Sun	2.304	267.944	0.000	19.2	8.5	17.3
7/12/2009	Mon	3.984	228.510	0.000		26.3	
8/12/2009	Tue	3.367	215.160	0.000		14.6	
9/12/2009	Wed	2.429	222.319	0.000	49.4	15.8	35.5
10/12/2009	Thu	1.400	241.733	0.000		21.9	
11/12/2009	Fri	2.310	285.503	0.000		23.3	
12/12/2009	Sat	3.187	275.476	1.000		19.6	
13/12/2009	Sun	2.709	275.111	0.000	42.5	22.3	30.1
14/12/2009	Mon	2.784	277.667	17.600		20.8	
15/12/2009	Tue	4.827	221.118	0.400	57.3	19.7	42.3
16/12/2009	Wed	4.146	210.028	0.000		24.6	
17/12/2009	Thu	4.166	219.049	0.000	59.7	22.4	38
18/12/2009	Fri	2.981	233.719	0.000		36.2	
19/12/2009	Sat	3.140	247.549	0.000		12.6	
20/12/2009	Sun	4.420	250.913	0.200		27.1	
21/12/2009	Mon	4.410	222.882	0.000	84.8	27.9	59.8
22/12/2009	Tue	1.763	200.990	0.000		24.0	
23/12/2009	Wed	3.887	156.472	0.000		13.6	
24/12/2009	Thu	1.879	214.611	0.000	34	17.7	23
25/12/2009	Fri	2.358	184.083	0.000		11.7	
26/12/2009	Sat	2.499	209.851	0.000		12.6	
27/12/2009	Sun	2.709	261.868	0.000		11.9	
28/12/2009	Mon	1.871	267.583	0.000	29.1	15.0	15.7
29/12/2009	Tue	2.649	279.677	0.200		10.9	
30/12/2009	Wed	5.222	240.903	0.600		45.1	
31/12/2009	Thu	5.065	219.465	0.000	86.1	32.2	47.5

### Notes:

Exceedences were covered by investigation reports sent to the ARC

## January 2010

### Three Kings Quarry Summary monitoring results for the period January 2010

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
1/01/2010	Fri	3.911	228.271	0.000		24.9	
2/01/2010	Sat	2.330	261.844	0.000		15.0	
3/01/2010	Sun	2.471	220.215	0.000	31	17.5	24.4
4/01/2010	Mon	4.783	254.094	7.000		20.9	
5/01/2010	Tue	4.760	215.701	0.000		24.5	
6/01/2010	Wed	2.116	147.705	0.000	28.4	21.8	26.1
7/01/2010	Thu	1.600	246.889	0.000		17.9	
8/01/2010	Fri	3.424	246.774	0.800		21.3	
9/01/2010	Sat	3.825	209.358	0.000	40.4	19.7	25.3
10/01/2010	Sun	2.339	247.819	0.000		14.9	
11/01/2010	Mon	4.172	247.097	7.000		19.5	
12/01/2010	Tue	3.538	241.438	2.800	38.8	14.8	26.2
13/01/2010	Wed	4.014	227.361	0.000		24.7	
14/01/2010	Thu	3.021	214.375	0.000	37	21.2	27.9
15/01/2010	Fri	2.306	190.507	0.000		14.0	
16/01/2010	Sat	2.669	197.715	0.000		13.3	
17/01/2010	Sun	1.688	171.899	0.000	19.8	13.9	22.6
18/01/2010	Mon	1.707	215.875	0.000		12.7	
19/01/2010	Tue	1.713	199.201	0.000	21.8	12.1	19.5
20/01/2010	Wed	3.422	124.455	0.000		12.2	
21/01/2010	Thu	3.378	209.201	5.000		18.9	
22/01/2010	Fri	5.091	238.316	1.600		19.5	
23/01/2010	Sat	4.731	232.104	1.800		14.5	
24/01/2010	Sun	3.061	239.806	0.000		11.2	
25/01/2010	Mon	1.968	184.823	0.000			
26/01/2010	Tue	2.183	122.944	0.000		No data. Power cut	
27/01/2010	Wed	1.691	121.983	0.000		12.6	
28/01/2010	Thu	1.457	140.774	5.600		16.0	
29/01/2010	Fri	1.569	123.951	0.000		13.5	
30/01/2010	Sat	2.880	187.010	0.000		18.1	
31/01/2010	Sun	2.545	154.882	6.800		10.4	

## Notes

## **February 2010**

### **Three Kings Quarry Summary monitoring results for the period February 2010**

<b>Date</b>	<b>Day</b>	<b>daily average WS m/sec</b>	<b>daily average WD ( degrees )</b>	<b>Daily Rain (mm)</b>	<b>Site TSP mg/m3 office</b>	<b>BAM FH62 mg/m-3 office</b>	<b>Site TSP mg/m3 North Boundary</b>
1/02/2010	Mon	4.214	87.538	5.600		10.6	
2/02/2010	Tue	4.028	82.927	0.000		13.6	
3/02/2010	Wed	2.982	88.250	0.000	17.7	13.2	25
4/02/2010	Thu	1.876	116.385	0.000		13.9	
5/02/2010	Fri	1.514	156.080	0.000		18.5	
6/02/2010	Sat	1.338	129.385	1.000	11.5	10.4	11.5
7/02/2010	Sun	1.973	166.427	0.000		11.0	
8/02/2010	Mon	2.002	168.729	0.000		14.6	
9/02/2010	Tue	2.226	255.111	0.000	34.6	16.9	29.3
10/02/2010	Wed	3.377	243.455	0.000		19.8	
11/02/2010	Thu	2.265	240.056	0.000		13.8	
12/02/2010	Fri	2.223	287.313	0.000	37.5	13.3	22.4
13/02/2010	Sat	2.793	285.438	0.000		15.4	
14/02/2010	Sun	2.206	268.931	1.400		9.2	
15/02/2010	Mon	2.291	257.076	3.400		10.1	
16/02/2010	Tue	1.286	151.618	1.200	13.8	9.3	15.6
17/02/2010	Wed	1.935	98.438	0.000		8.7	
18/02/2010	Thu	1.773	148.344	0.000	26	10.7	24.5
19/02/2010	Fri	5.772	219.111	1.400		47.2	
20/02/2010	Sat	3.143	200.566	0.000		23.2	
21/02/2010	Sun	2.178	187.962	0.000		13.8	
22/02/2010	Mon	1.525	133.337	0.000		14.8	
23/02/2010	Tue	2.256	107.292	0.000		16.4	
24/02/2010	Wed	2.555	101.632	0.000		12.9	
25/02/2010	Thu	3.686	165.677	0.800		10.5	
26/02/2010	Fri	4.112	214.476	0.000		31.5	
27/02/2010	Sat	1.544	141.983	0.000		20.4	
28/02/2010	Sun	1.583	113.274	0.000		15.9	

## **Notes**

## Daily Log Summary for Three Kings Quarry Site for the period December 2009 – February 2010

### (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. Three dust exceedences were reported during this period. Investigation reports were submitted to the Auckland Regional Council in response.
  
- c. The water cart used 2652m<sup>3</sup> during this period, made up of:

MONTH	LOADS	VOLUME (m <sup>3</sup> )
December	56	672
January	83	996
February	82	984

- 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.