

10th March 2014

Auckland Council
Private Bag 92300
Auckland 1142

Attention: Team Leader – Air Quality

Re: Quarterly Report for Three Kings Quarry, Air Permit 21875

With regard to the above consent, please find attached the quarterly report for the period of December 2013 to February 2014.

Should you have any queries please do not hesitate to contact me on 027 504 3624 or at elyse.laface@winstoneaggregates.co.nz.

Yours faithfully



Elyse LaFace
Environmental Coordinator

Enclosed:
Quarterly Report

Cc:
Richard Preece (Central Resource Consenting and Compliance)

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Three Kings Quarry

Air Quality Quarterly Report

December 2013 – February 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 December 2013 – February 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.

December 2013

All results for December 2013 were within the consented limits.

There is one 'no data' reported for the Northern Boundary HiVol on 30 December 2013 as a result of the unit being set incorrectly which resulted in the monitor turning off before the 24 hours of monitoring was achieved. The settings on this unit have been altered to try and minimise this occurring again. All other monitors performed as required on this day and their results were all well within the trigger limits.

January 2014

All results for January 2014 were within consented limits with the exception of 93µg/m³ recorded at the Office HiVol on 14 January 2014.

In accordance with conditions 20 and 21 of the Three Kings Quarry Air Discharge Consent (Permit Number 21875) this trigger and the investigation of the exceedance was reported to Council by letter on 7 February 2014. The investigation concluded that the cause of the exceedance was a result of the exceptionally dry and windy conditions on this day. Please refer to the letter titled, *Re: Investigation of Total Suspended Particulate Trigger at Three Kings Quarry* and dated 7 February 2014 for more details on this trigger.

February 2014

All results received to date for February 2014 were within the consented limits.

Due to the ongoing issues with the Southern Boundary BAM it has been replaced with a new unit from the supplier to try and determine the fault to enable a longer term fix to be implemented to the existing unit. The replacement of the existing Southern Boundary BAM with the new unit was completed on the 15 February 2014. As a result of the calibration of the new unit 'no data' has been reported for the Southern Boundary BAM for the 16 and 17 February 2014. All other monitors performed as required on this day and the result of the Office BAM was well within the trigger limits.

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 the boundary) were noted in the daily log for this period with the exception of the following comments:
 - That which was reported in the *Investigation of Total Suspended Particulate Trigger at Three Kings Quarry* in regards to the exceedance recorded at the Office HiVol on 14 January 2014.
 - Smoke from chimney/roof of Danske Moblier recorded on:
 - 4 and 17 December 2013; and
 - 1 and 17 February 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 4836m³ during this period. The use over this quarter was made up of:

MONTH	LOADS	VOLUME (m ³)
December 2013	98	1176
January 2014	137	1644
February 2014	168	2016

- 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 December 2013 to February 2014.

However, there was one enquiry from a member of the Three Kings Quarry Site Liaison Group (SLG) about the monitoring data and results for 6 February 2014 (Waitangi Day). The available information was provide to the enquirer and no further information was requested. This query was discussed at the

February 2014 SLG Meeting with no further action attached. Minutes of this SLG Meeting are available at: <http://threekingsquarry.co.nz/consenting-sites/three-kings-quarry/community-liaison/slg-minutes/>.

Next Reporting Period

The next quarterly report will be submitted in early June 2014. The report will cover the monitoring period of March 2014 to May 2014.

Monitoring Results for the Period December 2013

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 ($\mu\text{g}/\text{m}^3$)
1/12/2013	Sun	3.828	218.802	0.000		16.2		19.2
2/12/2013	Mon	2.136	143.153	0.000		19		16.4
3/12/2013	Tue	2.607	100.753	0.000	31.0	16.6	27.0	15.7
4/12/2013	Wed	2.435	112.316	43.400		8.9		6.8
5/12/2013	Thu	2.344	131.913	52.000	12.0	8.3	24.0	5.5
6/12/2013	Fri	2.051	254.267	0.000		26.1		9.3
7/12/2013	Sat	2.402	212.056	1.200		14.7		13.3
8/12/2013	Sun	2.586	254.292	0.400	31.0	19.4	26.0	17.7
9/12/2013	Mon	2.528	236.920	0.200		18.8		15.1
10/12/2013	Tue	2.461	238.427	0.000		17.2		12.9
11/12/2013	Wed	2.373	236.264	0.000	38.0	13.9	30.0	8.8
12/12/2013	Thu	2.474	195.837	0.000		12.3		8.7
13/12/2013	Fri	1.437	153.257	0.000		14.0		11.3
14/12/2013	Sat	1.718	171.087	0.000	24.0	12.6	18.0	12
15/12/2013	Sun	1.813	183.083	0.000		13		10.3
16/12/2013	Mon	2.234	178.514	0.000		14.6		10.6
17/12/2013	Tue	3.251	214.177	0.000		13.4		8.9
18/12/2013	Wed	4.165	219.622	0.000		16.3		10
19/12/2013	Thu	4.950	222.149	1.000	66.0	21.6	45.0	15.3
20/12/2013	Fri	3.182	189.236	0.000		15.3		12
21/12/2013	Sat	3.870	224.149	0.000		14.8		14.2
22/12/2013	Sun	4.988	218.510	0.200	68.0	18.1	43.0	19.8
23/12/2013	Mon	3.960	207.656	0.000		18.4		16.4
24/12/2013	Tue	2.562	265.924	0.000	32.0	16.1	19.0	7.8
25/12/2013	Wed	4.019	244.778	4.000		14.4		13.7
26/12/2013	Thu	2.798	242.976	2.000	14.0	9.7	13.0	10.5
27/12/2013	Fri	2.321	233.462	0.000		9.7		7.1
28/12/2013	Sat	2.343	154.448	0.200		11		8.7
29/12/2013	Sun	2.843	135.964	26.400		9.3		7.5
30/12/2013	Mon	2.927	213.920	0.800	19.0	9.8	no data	8.1
31/12/2013	Tue	3.101	229.059	0.000		20.7		23.8

Monitoring Results for the Period January 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 ($\mu\text{g}/\text{m}^3$)
1/01/2014	Wed	1.493	217.059	0.400		17.4		18.7
2/01/2014	Thu	1.691	225.684	0.000	22	15.7	20	16.2
3/01/2014	Fri	3.565	272.250	0.000		11.8		9.1
4/01/2014	Sat	2.985	269.899	0.000		15.1		11.9
5/01/2014	Sun	3.894	211.253	2.800		16.1		16.4
6/01/2014	Mon	3.420	225.247	0.000	49	25.6	44	27.1
7/01/2014	Tue	2.590	175.177	0.000		22.2		24.8
8/01/2014	Wed	3.201	250.500	0.000	56	24.4	63	19.0
9/01/2014	Thu	2.933	243.701	3.400		13.8		13.6
10/01/2014	Fri	2.728	213.576	0.000		13.5		9.8
11/01/2014	Sat	2.862	222.538	0.000	25	11.9	18	10.9
12/01/2014	Sun	2.286	251.722	0.000		6.0		6.8
13/01/2014	Mon	3.283	252.510	0.000		12.8		10.4
14/01/2014	Tue	5.385	217.573	0.000	93	31.1	69	23.8
15/01/2014	Wed	3.192	202.302	0.000		20.7		20.5
16/01/2014	Thu	3.388	246.622	0.000	45	16.7	34	11.0
17/01/2014	Fri	5.243	226.934	0.400		27.8		17.8
18/01/2014	Sat	3.908	209.920	0.000		28.2		22.8
19/01/2014	Sun	1.818	219.493	0.000	43	26.2	34	19.4
20/01/2014	Mon	3.212	101.118	2.800		17.7		12.5
21/01/2014	Tue	5.218	171.309	9.400	28	13.3	20	7.4
22/01/2014	Wed	2.905	259.715	0.000		17.4		7.7
23/01/2014	Thu	5.497	226.361	0.200		20.7		15.1
24/01/2014	Fri	3.646	217.139	0.000		18.8		17.6
25/01/2014	Sat	1.986	123.681	0.000	29	17.6	23	16.5
26/01/2014	Sun	3.156	147.132	16.400		14.8		13.9
27/01/2014	Mon	5.081	205.188	0.000		18.5		18.0
28/01/2014	Tue	3.836	198.010	0.000		15.0		13.5
29/01/2014	Wed	3.134	195.475	0.000	39	16.8	36	16.8
30/01/2014	Thu	4.650	208.160	0.000		16.7		15.3
31/01/2014	Fri	2.024	162.979	0.000		18.1		16.5

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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 ($\mu\text{g}/\text{m}^3$)
1/02/2014	Sat	3.100	191.323	0.000		10.1		9.0
2/02/2014	Sun	2.264	147.344	0.000	14	5.8	12	6.6
3/02/2014	Mon	2.012	106.250	0.000		17.2		17.9
4/02/2014	Tue	1.287	244.458	0.000	36	21.7	26	17.7
5/02/2014	Wed	1.268	185.156	0.000		20.0		17.1
6/02/2014	Thu	3.646	99.538	0.000	26	14.1	26	15.7
7/02/2014	Fri	3.894	88.181	7.600		7.4		8.9
8/02/2014	Sat	3.413	191.365	8.600		6.4		4.8
9/02/2014	Sun	4.887	200.056	0.000		21.6		16.9
10/02/2014	Mon	3.189	192.056	0.000	39	14.5	36	12.7
11/02/2014	Tue	3.135	216.813	0.000		12.2		9.8
12/02/2014	Wed	2.772	254.115	0.800	31	15.4	28	12.8
13/02/2014	Thu	3.241	247.892	0.000		12.1		9.7
14/02/2014	Fri	2.723	247.434	0.000		13.6		11.2
15/02/2014	Sat	2.586	209.181	0.400	20	10.8	17	8.4
16/02/2014	Sun	2.070	145.101	0.000		9.7		no data
17/02/2014	Mon	2.180	108.278	0.000		13.1		no data
18/02/2014	Tue	2.382	91.757	0.000	24	15.6	25	18.5
19/02/2014	Wed	3.073	98.910	0.000		15.8		15.3
20/02/2014	Thu	2.874	103.497	0.000		12.1		10.6
21/02/2014	Fri	2.252	99.983	0.000		18.7		18.7
22/02/2014	Sat	1.706	140.267	0.400		4.9		3.8
23/02/2014	Sun	7.184	212.806	0.200		25.8		28.4
24/02/2014	Mon	3.464	197.438	0.000		20.2		18.3
25/02/2014	Tue	3.333	193.944	0.000		19.7		15.6
26/02/2014	Wed	1.344	140.010	0.000		23.0		20.9
27/02/2014	Thu	1.330	175.622	0.000		25.7		22.4
28/02/2014	Fri	2.623	225.146	0.200		20.6		15.5

