

4<sup>th</sup> December 2018

Auckland Council  
Private Bag 92300  
Auckland 1142

Attention: Richard Preece

**Re: Quarterly Report for Three Kings Quarry, Air Permit 40041**

With regard to the above consent, please find attached the quarterly report for the period of 1<sup>st</sup> September 2018 to 30<sup>th</sup> November 2018.

Should you have any queries please do not hesitate to contact me on 027 504 3624 or at [angela.klein@winstoneaggregates.co.nz](mailto:angela.klein@winstoneaggregates.co.nz).

Yours faithfully



Angela Klein  
**Environmental Fill Specialist**



**Three Kings Quarry**

**Air Quality Quarterly Report**

**September 2018 – November 2018**

**In compliance with: Permit 40041, Conditions 27 & 28**

## Introduction

This report details the air quality monitoring results for Winstone Aggregates Three Kings Quarry for the period September 2018 – November 2018.

On 11<sup>th</sup> February 2015 a new discharge to air consent (40041) was granted. The primary changes are the removal of HiVol monitoring and a decrease in the trigger level for the BAMs to 60µg/m<sup>3</sup> as a 24hour average. The HiVol monitors continued to be run as per the previous consent (21875) requirements until the 20<sup>th</sup> September 2015 when they were discontinued with the approval of Council.

The Air Quality Management Plan has been revised in consultation with the Three Kings Site Liaison Group and Council to reflect the conditions of the new consent.

This report has been prepared in accordance with Conditions 27 and 28 of Permit 40041.

Condition 27 states:

*TSP monitoring showing exceedance of the trigger value given in Condition 21, shall be reported to the Team Leader – Air Quality 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 Team Leader – Air Quality at the end of each quarter.*

Condition 28 states:

*A daily log of all such information that is required to enable compliance with the conditions of this consent shall be kept and maintained. 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 TSP monitoring or other monitoring required by the TSP Monitoring Plan, to enable compliance with Conditions 19 to 24;*
- (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 Team Leader – Air Quality 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.

The Southern Boundary BAM unit has not been operational since April 2018 when it was severely damaged in a storm. Discussions are currently being held with Auckland Council to decommission the southern BAM as the unit is sited on land next to the remediation in the southern reserve. Dust control measures such as sprinklers and watercart are proposed to be utilised to control dust as has been successfully undertaken in the past at the site. The BAM unit located at the site office which is positioned to record dust emissions from the prevailing wind will remain in place during the rehabilitation works.

## September 2018

All results for September 2018 were within the consented limits. Due to a software issue, wind and rainfall data for the period 4<sup>th</sup> - 15<sup>th</sup> September 2018 was not retrievable.

## October 2018

All results for October 2018 were within the consented limits. The external technician from Air Quality NZ Ltd completed the annual calibration of the office BAM unit on the 31<sup>st</sup> October 2018, therefore no data was recorded on this day.

## November 2018

All results for November 2018 were within the consented limits.

## Daily Log

In accordance with Condition 28 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. The Winstone Aggregates watercart left site from the 30<sup>th</sup> October – 23<sup>rd</sup> November to obtain a Certificate of Fitness (CoF). During this time a replacement watercart was used on site with a volume capacity of 8m<sup>3</sup>.
- b. Visible dust emissions (that went over or were over the boundary) that were noted in the daily log for this period include:
  - Visible dust and odourous fumes from Danske Mobler extractor vents, recorded on multiple days in November 2018.
- 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(s) used 1,932 m<sup>3</sup> during this period. The use over this quarter was made up of:

MONTH	LOADS	VOLUME (m <sup>3</sup> )
September 2018	31	372
October 2018	72	832
November 2018	83	728

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

## Complaints

During this reporting period, one complaint was received regarding apparent dust from the site entering the mechanical ventilation system of an apartment in the adjacent SHA. Subsequently, internal haul roads within the site were improved to allow the watercart better access throughout the site and the watercart use frequency increased on dry windy days.

### **Next Reporting Period**

The next quarterly report will be submitted in early March 2019. This report will cover the monitoring period of December 2018 to February 2019.

Monitoring Results for the Period September 2018

Date	Day	daily average WS m/sec	daily average WD ( degrees )	Daily Rain (mm)	BAM Office (µg/m <sup>3</sup> )	BAM South Boundary (µg/m <sup>3</sup> )
1/09/2018	Sat	1.608	237.694	0.0	9.4	NO DATA
2/09/2018	Sun	3.931	234.333	16.0	18.9	NO DATA
3/09/2018	Mon	1.577	260.941	2.4	14.3	NO DATA
4/09/2018	Tue	NO DATA	NO DATA	NO DATA	9.5	NO DATA
5/09/2018	Wed	NO DATA	NO DATA	NO DATA	6.3	NO DATA
6/09/2018	Thu	NO DATA	NO DATA	NO DATA	5.6	NO DATA
7/09/2018	Fri	NO DATA	NO DATA	NO DATA	14.8	NO DATA
8/09/2018	Sat	NO DATA	NO DATA	NO DATA	10.2	NO DATA
9/09/2018	Sun	NO DATA	NO DATA	NO DATA	14.0	NO DATA
10/09/2018	Mon	NO DATA	NO DATA	NO DATA	9.0	NO DATA
11/09/2018	Tue	NO DATA	NO DATA	NO DATA	14.1	NO DATA
12/09/2018	Wed	NO DATA	NO DATA	NO DATA	19.9	NO DATA
13/09/2018	Thu	NO DATA	NO DATA	NO DATA	17.0	NO DATA
14/09/2018	Fri	NO DATA	NO DATA	NO DATA	21.3	NO DATA
15/09/2018	Sat	NO DATA	NO DATA	NO DATA	14.9	NO DATA
16/09/2018	Sun	2.625	104.674	0.0	11.8	NO DATA
17/09/2018	Mon	3.365	109.597	1.2	15.3	NO DATA
18/09/2018	Tue	1.866	143.118	7.2	11.1	NO DATA
19/09/2018	Wed	2.768	146.142	0.0	7.7	NO DATA
20/09/2018	Thu	2.174	199.382	0.0	9.2	NO DATA
21/09/2018	Fri	1.609	224.806	0.0	14.6	NO DATA
22/09/2018	Sat	1.723	157.024	0.0	10.1	NO DATA
23/09/2018	Sun	3.731	193.427	0.0	15.7	NO DATA
24/09/2018	Mon	2.973	269.003	3.2	12.6	NO DATA
25/09/2018	Tue	5.278	250.257	3.6	16.1	NO DATA
26/09/2018	Wed	4.620	246.510	0.2	14.3	NO DATA
27/09/2018	Thu	2.702	232.962	0.4	12.5	NO DATA
28/09/2018	Fri	1.851	231.576	0.0	14.5	NO DATA
29/09/2018	Sat	1.826	252.188	0.0	11.6	NO DATA
30/09/2018	Sun	1.997	224.128	0.0	9.8	NO DATA

### Monitoring Results for the Period October 2018

Date	Day	daily average WS m/sec	daily average WD ( degrees )	Daily Rain (mm)	BAM Office ( $\mu\text{g}/\text{m}^3$ )	BAM South Boundary ( $\mu\text{g}/\text{m}^3$ )
1/10/2018	Mon	2.190	226.017	0.0	12.2	NO DATA
2/10/2018	Tue	1.881	246.733	2.4	9.7	NO DATA
3/10/2018	Wed	1.149	170.316	0.0	11.2	NO DATA
4/10/2018	Thu	1.347	116.899	0.0	6.1	NO DATA
5/10/2018	Fri	2.059	179.583	0.0	17.4	NO DATA
6/10/2018	Sat	2.035	140.844	0.0	13.5	NO DATA
7/10/2018	Sun	1.632	182.472	0.0	15.1	NO DATA
8/10/2018	Mon	1.932	224.809	0.0	20.2	NO DATA
9/10/2018	Tue	1.932	241.615	0.0	19.2	NO DATA
10/10/2018	Wed	1.853	279.823	0.0	11.5	NO DATA
11/10/2018	Thu	2.804	130.236	10.8	9.1	NO DATA
12/10/2018	Fri	4.080	268.653	7.6	19.4	NO DATA
13/10/2018	Sat	3.253	196.392	0.0	16.2	NO DATA
14/10/2018	Sun	2.766	221.566	0.0	17.8	NO DATA
15/10/2018	Mon	1.641	222.976	0.0	19.9	NO DATA
16/10/2018	Tue	2.472	235.563	0.0	24.3	NO DATA
17/10/2018	Wed	3.773	239.097	0.0	18.6	NO DATA
18/10/2018	Thu	2.859	218.750	0.8	14.8	NO DATA
19/10/2018	Fri	2.155	146.292	0.0	20.0	NO DATA
20/10/2018	Sat	1.613	202.962	0.0	18.2	NO DATA
21/10/2018	Sun	1.737	226.406	0.0	10.0	NO DATA
22/10/2018	Mon	1.633	210.139	0.0	7.3	NO DATA
23/10/2018	Tue	2.236	217.764	0.0	15.8	NO DATA
24/10/2018	Wed	1.453	216.250	0.0	18.2	NO DATA
25/10/2018	Thu	2.132	272.681	0.0	13.7	NO DATA
26/10/2018	Fri	2.755	238.896	2.8	19.0	NO DATA
27/10/2018	Sat	2.732	155.278	16.8	17.3	NO DATA
28/10/2018	Sun	1.642	259.236	1.2	4.3	NO DATA
29/10/2018	Mon	3.041	231.141	7.0	9.9	NO DATA
30/10/2018	Tue	3.241	255.368	9.0	14.2	NO DATA
31/10/2018	Wed	2.555	214.125	0.0	NO DATA	NO DATA

58.400

Monitoring Results for the Period November 2018

Date	Day	daily average WS m/sec	daily average WD ( degrees )	Daily Rain (mm)	BAM Office (µg/m³)	BAM South Boundary (µg/m³)
1/11/2018	Thu	4.803	236.688	4.2	42.0	NO DATA
2/11/2018	Fri	3.725	218.233	0.0	24.2	NO DATA
3/11/2018	Sat	3.657	277.924	0.0	23.1	NO DATA
4/11/2018	Sun	4.848	245.146	7.2	32.5	NO DATA
5/11/2018	Mon	3.984	237.271	0.0	28.3	NO DATA
6/11/2018	Tue	2.061	219.361	0.0	26.4	NO DATA
7/11/2018	Wed	1.609	147.389	0.0	22.1	NO DATA
8/11/2018	Thu	1.743	182.188	0.4	19.2	NO DATA
9/11/2018	Fri	2.608	168.760	2.4	14.0	NO DATA
10/11/2018	Sat	3.110	209.910	1.2	19.9	NO DATA
11/11/2018	Sun	1.219	173.528	9.4	13.4	NO DATA
12/11/2018	Mon	1.844	215.375	2.2	9.3	NO DATA
13/11/2018	Tue	2.367	214.003	0.0	17.7	NO DATA
14/11/2018	Wed	2.089	112.458	0.0	15.7	NO DATA
15/11/2018	Thu	2.092	116.608	0.0	11.0	NO DATA
16/11/2018	Fri	1.482	139.236	0.0	13.6	NO DATA
17/11/2018	Sat	1.352	196.587	0.0	15.7	NO DATA
18/11/2018	Sun	1.626	260.698	0.0	13.3	NO DATA
19/11/2018	Mon	2.577	228.767	5.6	11.3	NO DATA
20/11/2018	Tue	1.689	237.549	6.6	11.0	NO DATA
21/11/2018	Wed	2.301	258.681	4.2	12.4	NO DATA
22/11/2018	Thu	2.065	226.521	3.2	7.7	NO DATA
23/11/2018	Fri	3.061	164.389	0.0	10.1	NO DATA
24/11/2018	Sat	2.150	116.563	16.4	6.3	NO DATA
25/11/2018	Sun	2.274	174.514	14.4	17.5	NO DATA
26/11/2018	Mon	1.678	210.003	3.8	29.4	NO DATA
27/11/2018	Tue	1.332	151.587	1.4	14.4	NO DATA
28/11/2018	Wed	2.556	216.542	0.0	15.7	NO DATA
29/11/2018	Thu	1.663	173.072	0.0	20.2	NO DATA
30/11/2018	Fri	2.578	113.660	0.0	14.4	NO DATA

82.6