

15/08/2016

Michael Boland
Executive Scientist
Water and Environmental Services
Wicklow Country Council
County Buildings
Wicklow Town
Co. Wicklow

RE: Section 55 Monitoring Data, Ballinclare Quarry – Air Monitoring and Dust Monitoring Update

Dear Mr. Boland,

As required by the recent section 55 notice (dated 3rd June 2016), issued to Kilsaran International, I am writing to you to provide an update on the air and dust monitoring at Ballinclare Quarry.

1. Overview of air monitoring programme to date

In accordance with the previously outlined monitoring programme from the letter dated 20th June 2016, air sampling was undertaken again on Friday 5th of August 2016 by AWN Consulting at the six identified perimeter locations (SA1 – SA6) around the quarry (see *Figure 1 – Monitoring locations*).

The methodology for the monitoring of asbestos followed *The Health and Safety Executive (HSE) Guidance Asbestos: The Analysts Guide for Sampling, Analysis and Clearance Procedures*, which recommends that sampling and analysis of materials for the presence of asbestos is undertaken to comply with CAWR 2002 ACOPs L27 and L28 when sampling airborne fibres.

The HSE procedure recommends using a known flow rate (ranging from 1-16 L/min) through a filter for a set period of time until 480 litres of air have been sampled. To satisfy the requirement for comparison to the minimum detection limit of 0.01 f/ml, each measurement must be completed on a minimum sample of 480 litres in volume. The fibres can then be enumerated by a UKAS accredited laboratory, in this case, the Institute of Occupational Medicine (IOM).



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Table 1 provides a comprehensive overview of the sampling results from Friday 5th August 2016 and also includes an assessment of the fibre concentrations in relation to the HSA Binding Occupational Exposure Limit. As with all previous sampling to date the results were again in compliance with the Health and Safety Authority (HSA) Code of Practice (COP) 2011 value of 0.1 f/ml.

2. Dust sampling status

In accordance with the programme outlined in the letter dated 20th June 2016, dust monitoring was again undertaken continuously from Tuesday 19th July 2016. Three of the filters from this round of sampling have been analysed to date (samples taken 19 – 21 July) with additional results anticipated to be available from 23rd August 2016. The results from the three analysed samples are presented in Table 2.

Monitoring for PM₁₀ is undertaken at one location (SD1) (see *Figure 1 – Monitoring locations*) using a R&P Partisol[®]-Plus Sequential Air Sampler (Model 2025). The sampler is a manual air sampling platform which has been designed to meet US EPA Reference Designation (RFPS-1298-127). Approximately 24 m³ of air is sampled daily through a particle size separator, which is contained within the PM₁₀ sampling head. The impactor removes particles with a diameter >10 µg and the remaining particles are collected on pre-weighed 47mm diameter filters. The Partisol[®] sampler is programmed to automatically replace each sampled filter by a new pre-weighed filter at midnight. This ensures that each filter represents a sampling period of exactly 24 hours. Gravimetric determination is carried out pre- and post-sampling by a UKAS accredited laboratory using a calibrated scientific balance.

As with the previous results, all samples were in compliance with the CAFE Directive 2008/50/EC limit value for PM₁₀ which is 40 µg/ m³ per calendar year or 50 µg/m³ in any 24-hour period (not to be exceeded more than 35 times in a calendar year) (see <http://www.epa.ie/air/quality/standards/>). The monthly average for all samples to date is reported in Table 3.

Yours sincerely,



Teri Hayes

Director AWN Consulting

cc. *Michael Geaney, A/Director of Services, Water and Environmental Services, Wicklow Co. Council*
David McKeown, Director, Kilsaran International
Jim Fanning, Health and Safety Authority

encl. *Table 1 – Air Quality Monitoring Programme Results, Ballinclare Quarry, 05 August 2016*
Table 2 - Dust Monitoring Programme Results, Ballinclare Quarry, 21 July 2016
Table 3 - Dust Monitoring Averages, 17 June – 21 July 2016
Figure 1 - Monitoring Locations

Table 1: Air Quality Monitoring Programme Results, Ballinclare Quarry, 05 August 2016

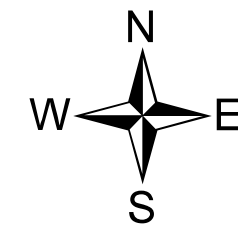
| Sample no. | Date | AWN Consultant | Location Description | Total Fibre Concentration (f/ml) | Total Asbestos Fibre Concentration (f/ml) | Analysed by: | HSA Limit Value | Compliant with HSA Binding Occupational Exposure Limit? |
|------------|------------|----------------|------------------------------------|----------------------------------|---|--------------|-----------------|---|
| AC1 | 05/08/2016 | AC | Section 55 Monitoring SA1 Location | 0.00019 | <0.00009 | IOM | 0.1 f/ml | Yes |
| AC2 | 05/08/2016 | AC | Section 55 Monitoring SA2 Location | 0.00018 | <0.00018 | IOM | 0.1 f/ml | Yes |
| AC3 | 05/08/2016 | AC | Section 55 Monitoring SA3 Location | <0.00009 | ND<0.00009 | IOM | 0.1 f/ml | Yes |
| AC4 | 05/08/2016 | AC | Section 55 Monitoring SA4 Location | 0.00014 | <0.00009 | IOM | 0.1 f/ml | Yes |
| AC5 | 05/08/2016 | AC | Section 55 Monitoring SA5 Location | <0.00009 | ND<0.00009 | IOM | 0.1 f/ml | Yes |
| AC6 | 05/08/2016 | AC | Section 55 Monitoring SA6 Location | <0.00009 | ND<0.00009 | IOM | 0.1 f/ml | Yes |

Table 2: Dust Monitoring Programme Results, Ballinclare Quarry, 21 July 2016

| Filter Paper ID | Date | PM10 Concentration ($\mu\text{g}/\text{m}^3$) |
|------------------------|-------------|---|
| 05474-1 | 19/07/2016 | 19 |
| 05474-2 | 20/07/2016 | 10 |
| 05474-3 | 21/07/2016 | 11 |

Table 3: Dust Monitoring Averages, 17 June – 21 July 2016

| | |
|--------------------------|--|
| 1-month Average | 9.6 $\mu\text{g}/\text{m}^3$ |
| No. Days >50 | 0 |
| 90.4th %ile | 15 |
| No. Days Sampling | 28 |



Legend

Sampling locations/ Type:

■ SA1 - SA6
- Asbestos Sampling Point

■ SD1
- Dust Sampling Point



Do not scale; Indicative Only (NTS)
 0 50 100 Metres

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 Note: Drawing is for illustrative purposes only
 Source: Kilsaran, flown 28/05/2016

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|--|--|-----------------------|-------------------------|--------------------------|----------------------------|
| CLIENT: Kilsaran Ballinclare, Co. Wicklow | PROJECT: Proposed Section 55 Air Monitoring | DRAWN: P.G. | CHECKED: T.H. | APPROVED: T.H. | DATE: 05/07/2016 |
| DRAWING TITLE: Monitoring Locations | Project Ref: TH/16/9020SR01 | Figure 1 | | 1 | A3 |
| REVISION DESCRIPTION Drawing 05-07-2016 | | | | SHEET 1 | REV 0 |