Round 5 Sample Details

BACKGROUND
This report covers Round 5 of the Low Asbestos Content Scheme (LACS). Round 5 was open to laboratories worldwide. Laboratory participation was as follows: 4 UK, 105 Rest of Europe and 1 RoW.

110 laboratories subscribed to this round, with 107 submitting results.

SAMPLES
One sample was circulated as follows: Sample LACS005B – This sample was plaster containing 0.09% UICC amosite.

SCREENING & VALIDATOR INFORMATION
The sample was prepared for circulation following our normal internal screening process of samples with representative sub-samples scanned using stereo-zoom and polarised light microscopy to assess homogeneity and suitability. Approximately 10% of the total number of samples despatched were validated by 4 independent laboratories.

INFORMATION SUBMITTED BY LABORATORIES
Laboratories used the HSL web-based PT data entry system to submit their results for this round. Results were submitted as asbestos type(s) present and for the Quantitative element, the total % asbestos.

ERRORS
One laboratory of the 107 who submitted results failed to report amosite and recorded a false positive error of anthophyllite for sample LACS005B.

LACS QUALITATIVE RESULTS
Sample LACS005B
One hundred and six laboratories correctly reported amosite.
One laboratory reported anthophyllite and failed to report amosite.
Three laboratories did not submit a result.
These results are presented graphically in Charts 1 and 2.

LACS QUANTITATIVE RESULTS
The median of quantitative results submitted was 0.07%. For the purposes of the z score we are using 40% of the median - 0.03%. Forty-five laboratories submitted quantitative results;
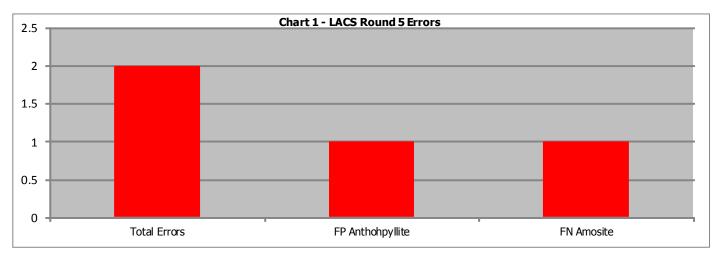
- 31 (69%) laboratories achieved a z-score of < ± 2, this is normally considered to represent "Satisfactory" performance
- 6 (13%) laboratory achieved a z-score of between ± 2 - ± 3, this is normally considered to represent "Questionable" performance
- 8 (18%) laboratories achieved a z-score of > ± 3, this is normally considered to represent "Unsatisfactory" performance.

These results are presented graphically in Charts 3-5.

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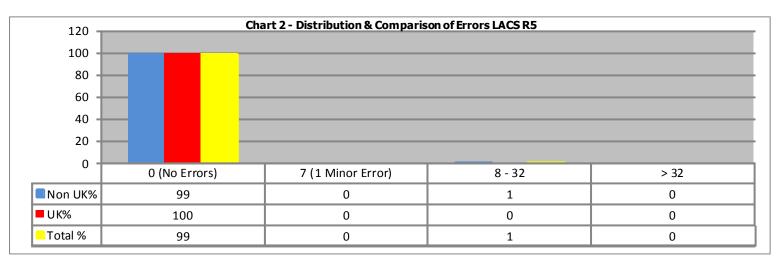
1. Type Of Errors Obtained

Chart 1 illustrates the errors made by participating laboratories. Two errors were made by a laboratory on sample LACS005B. The lab reported anthophyllite asbestos present and failed to report amosite asbestos present.

Chart 1 - LACS Round 5 Errors

False Negative = Component has been missed. False Positive = Component has been incorrectly identified as present.

2. Errors for UK & Non-UK Laboratories

Chart 2 illustrates the distribution of scores for all participating laboratories. 106 (99%) laboratories obtained a score of zero in this round, indicating that these laboratories had not made any errors. The distribution of scores obtained by UK (United Kingdom) and Non-UK laboratories is also compared; 4 (100%) UK laboratories and 102 (99%) Non-UK laboratories obtained a score of zero for the round.

Chart 2 - Distribution & Comparison of Errors LACS R5

	0 (No Errors)	7 (1 Minor Error)	8 - 32	> 32
Non UK%	99	0	1	0
UK%	100	0	0	0
Total %	99	0	1	0

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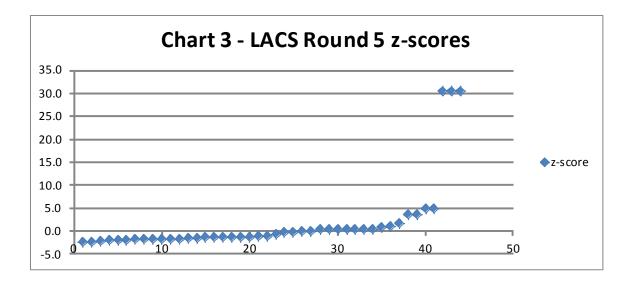
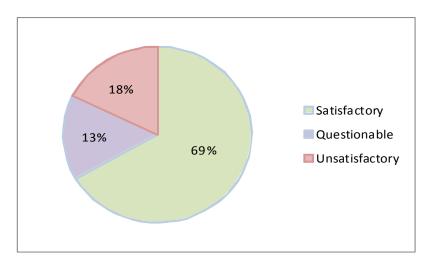LACS **Round 5** | October 2018

3. Quantitative Results - z scores

Chart 3

Scatter graph of z scores (one z score of 63.7 removed as outlier) for the 45 laboratories who submitted a quantification result.

Chart 3 - LACS Round 5 z-scores

4. Quantitative Results

Chart 4 illustrates of the 45 laboratories who submitted a quantification result, 31 laboratories (69%) achieved a satisfactory result i.e. a z score of < ± 2. 6 laboratories (13%) achieved a questionable result with a z score of between ± 2 and ± 3. 8 laboratories (18%) achieved an unsatisfactory result with a z score of > ± 3.

5 Quantitative Results by analytical method

The following charts illustrate the z-score results by method of the 45 laboratories who submitted a quantification result. The number of labs using each method were as follows: 22 labs used SEM/EXD; 21 labs used TEM/EDX/ED and 2 labs used PLM/PCM.

TEM/EDX/ED

- 18% z-score Unsatisfactory
- 14% z-score Questionable
- 68% z-score Good

SEM/EDX

- 9% z-score Unsatisfactory
- 18% z-score Questionable
- 73% z-score Good

PLM/PCM

- 100% z-score Unsatisfactory
- z-score Questionable
- z-score Good