Asbestos In Materials (AIMS) Scheme

This report is available to view on our website: https://www.hsl.gov.uk/proficiency-testing-schemes/group-reports

Round 65 Sample Details

359 labs were assigned to Round 65 with 353 labs submitting complete results. All samples were prepared for circulation following our normal internal screening process and were scanned using stereo-zoom microscopy to assess homogeneity and suitability. Approximately 10% of all samples prepared were validated by 15 independent laboratories using either PLM or SEM analytical techniques. All validation labs identified all asbestos components present in the samples and no additional asbestos components were identified.

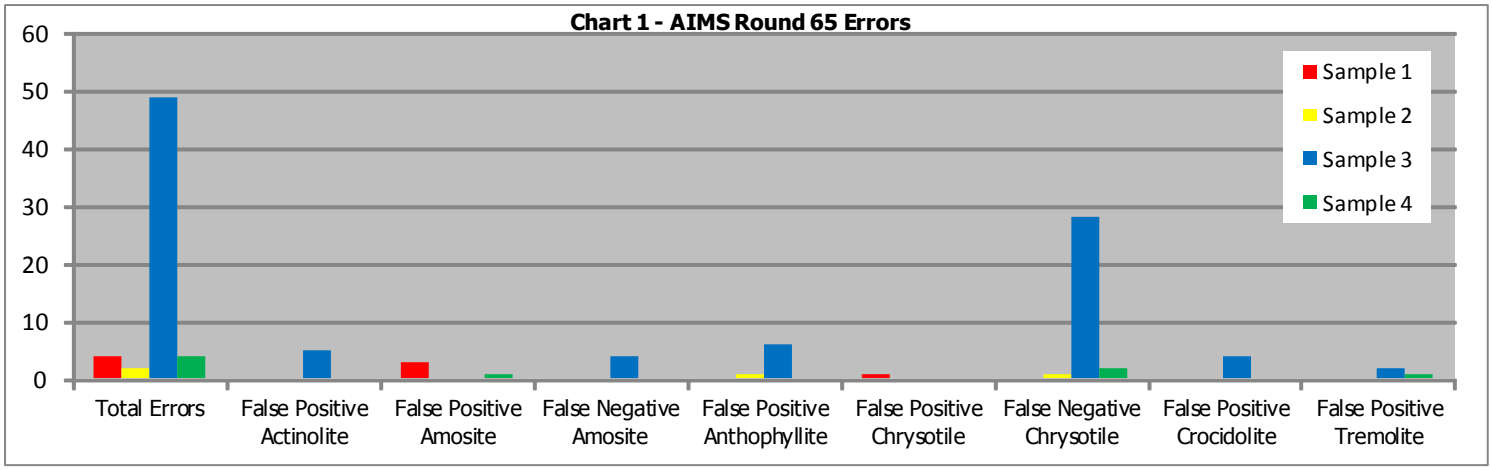
The round consisted of three manufactured samples and one commercial sample of materials that may contain asbestos and would typically be submitted for analysis at an asbestos testing laboratory. Sample 1 was a commercial non-asbestos glass reinforced concrete painted on one surface; Sample 2 was a plaster containing chrysotile asbestos; Sample 3 was a lagging sample containing amosite and chrysotile asbestos and Sample 4 was a paper sample containing chrysotile asbestos.

The majority of errors in this round concerned sample 3 and in particular the failure to identify the chrysotile asbestos component present. Sample 3 was a manufactured lagging sample with 0.8% each of both amosite and chrysotile asbestos. Commercial lagging samples were often hand mixed on site and can contain varying amounts of all three main asbestos types and occasionally contained one of the rarer asbestos types as well so analysts need to be particularly thorough when analysing these types of samples to correctly identify its components . Sample 3 was slightly damp and as chrysotile is hydrophilic then this sample would have benefitted from drying before analysis in order to be able to better extract the chrysotile fibres.

Sample	Validation Number	Product Type	Target Component	Asbestos Present (%)
1	279	Concrete	No Asbestos	N/A
2	280	Plaster	Chrysotile	0.1%
3	281	Lagging	Amosite and Chrysotile	0.8% each asbestos type
4	282	Paper	Chrysotile	1%

Asbestos In Materials (AIMS) Scheme

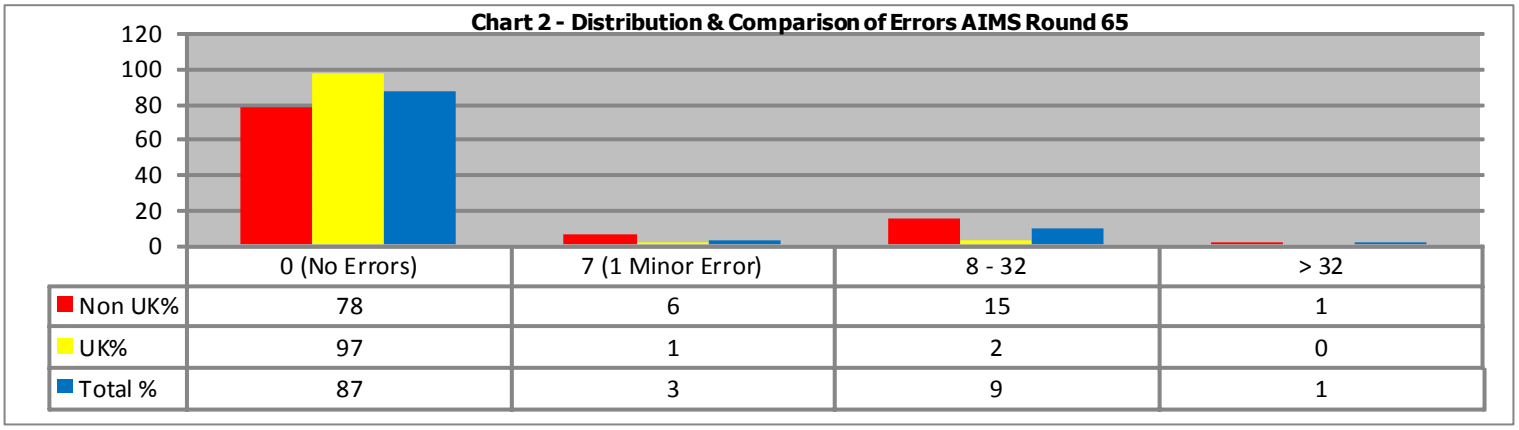
1. Type Of Errors Obtained



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

2. Round Scores

Chart 2 illustrates the distribution of scores for all participating laboratories. 308 (87%) 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; 167 (97%) UK laboratories and 141 (78%) Non-UK laboratories obtained a score of zero for the round.

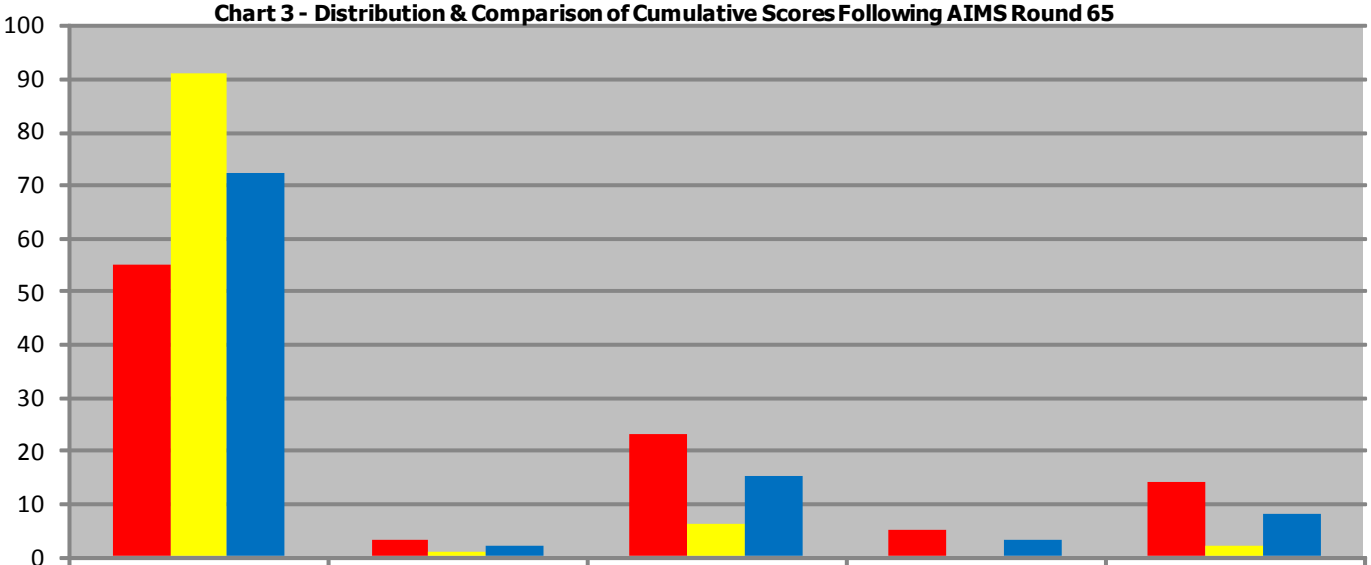


	0 (No Errors)	7 (1 Minor Error)	8 - 32	> 32
Non UK%	78	6	15	1
UK%	97	1	2	0
Total %	87	3	9	1

Asbestos In Materials (AIMS) Scheme

Chart 3 shows the percentage distribution of cumulative three round scores for all UK and Non-UK laboratories. 28 laboratories (8%) in total had not yet completed 3 rounds and therefore did not accumulate a score. Following this round, 267 laboratories (74%) obtained a good cumulative score (0 – 7 penalty points cumulatively). 53 laboratories (15%) obtained an acceptable cumulative score (8 – 32 penalty points cumulatively) and 10 laboratories (3%) obtained an unsatisfactory cumulative score (33 or more penalty points cumulatively).

Chart 3 - Distribution & Comparison of Cumulative Scores Following AIMS Round 65

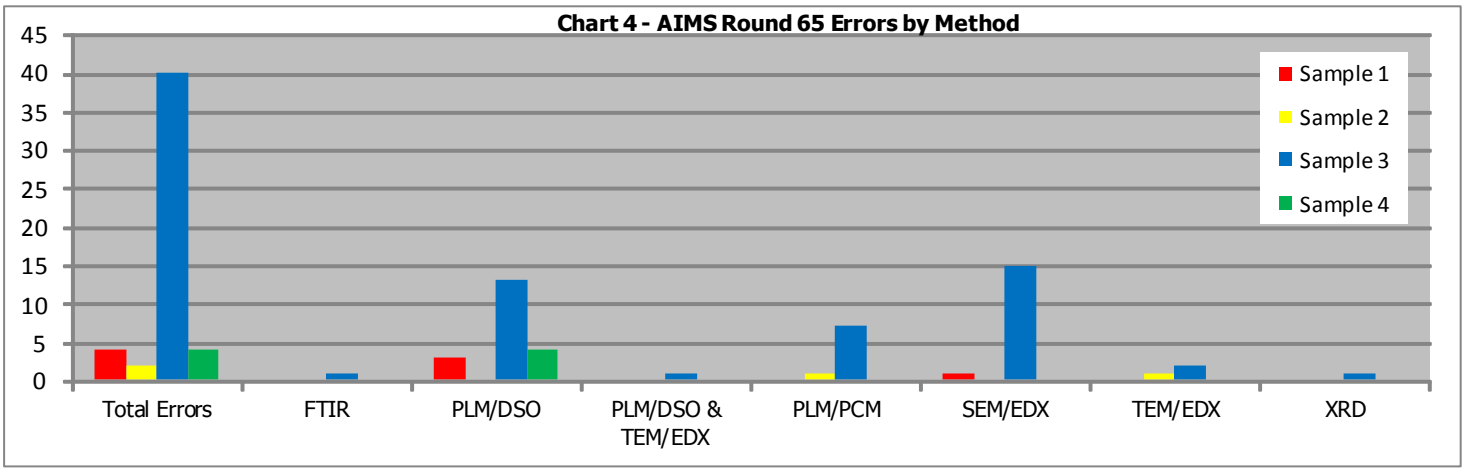


	0 (No Errors)	7 (1 Minor Error)	8 - 32	> 32	Unclassified
Non UK%	55	3	23	5	14
UK%	91	1	6	0	2
Total %	72	2	15	3	8

Chart 4 shows the number of errors made on each sample for all UK and Non-UK laboratories.

PLM - polarised light microscopy. DSO - dispersion staining objective. SEM - scanning electron microscopy. EDX - energy dispersive X-ray. TEM - transmission electron microscopy. FTIR - Fourier transform infra-red.

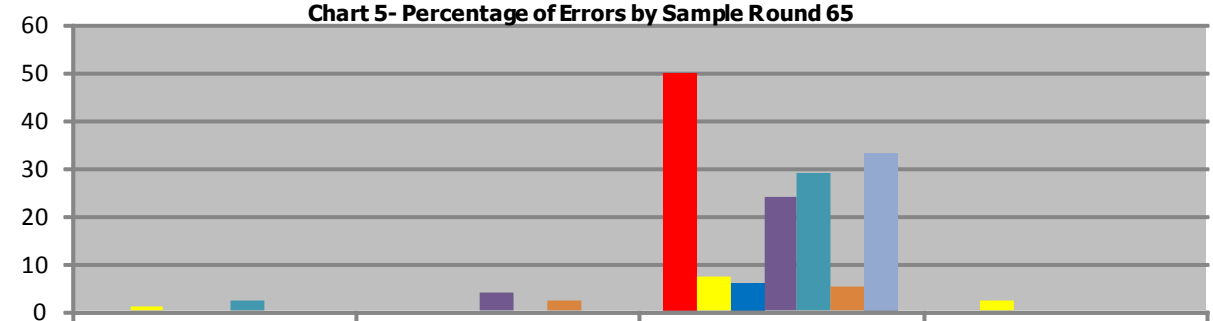
Chart 4 - AIMS Round 65 Errors by Method



Asbestos In Materials (AIMS) Scheme

Chart 5 shows the percentage of sample errors by method.
Of the 353 participating labs in R65 the method used in terms of the number of labs was as follows (one lab used different methods on different samples): FTIR, 2 labs; PLM with DSO, 205 labs; PLM with PCM, 26 labs; SEM with EDX, 50 labs; TEM with EDX, 42 labs; PLM with DSO & TEM with EDX, 18 labs; PLM with PCM & FTIR, 1 lab; PLM with PCM & TEM with EDX, 6 labs; and XRD, 3 labs.

Chart 5- Percentage of Errors by Sample Round 65



	Sample 1	Sample 2	Sample 3	Sample 4
FTIR	0	0	50	0
PLM/DSO %	1	0	7	2
PLM/DSO & TEM/EDX %	0	0	6	0
PLM/PCM %	0	4	24	0
SEM/EDX %	2	0	29	0
TEM/EDX %	0	2	5	0
XRD %	0	0	33	0

3. For Your Information - AIMS NEWS !!

There were two samples returned for investigation following R64 (sample 1 & 3). HSL carried out their investigation and the scores were upheld. The participant raised an appeal through the Fibre Proficiency Testing Steering Committee (FPTSC). Their decision has been emailed to the participant. Further details on the outcome will be available in the next group report.

The current AIMS QC order form can be found on our website. Samples on offer include additional rounds for new laboratories, replacement rounds, non-asbestos materials (wollastonite & brucite) and a variety of past AIMS samples:

https://www.hsl.gov.uk/proficiency-testing-schemes/hsl-pt-quality-control-samples

Our ISO 17043 re-assessment for AIMS was carried out in March 2018 with only a few minor findings identified.

The next round of AIMS will be despatched week commencing 3rd September 2018 - please ensure any outstanding payments are made promptly to ensure continued participation in the scheme.

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