



## Round 18 Sample Details

### BACKGROUND

This report covers Round 18 of the Asbestos in Soils Scheme (AISS). Round 18 was open to laboratories worldwide. Laboratory participation was as follows: 36 UK, 28 Rest of Europe and 2 RoW.

### SAMPLES

Two samples were circulated as follows:

Sample S035 – This sample contained no asbestos in top soil containing mortar, white cement, aggregates, milled ready brek, sawdust, milled blue roll, milled leather fibre, milled birdseed.

Sample S036 – This sample contained amosite asbestos (loose fibre) at 0.04% by weight. Each sample was individually made by mixing known weights of asbestos in a top soil, mortar and cement.

### SCREENING & VALIDATOR INFORMATION

Both samples were prepared for circulation following our normal internal screening process of samples with representative sub-samples scanned using stereo-zoom microscopy to assess homogeneity and suitability. Approximately 10% of the total number of samples despatched were validated by 3 independent laboratories.

### INFORMATION SUBMITTED BY LABORATORIES

66 laboratories submitted results for AISS Round 18. 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 option, the % asbestos in ACM's, as loose fibres and the total % asbestos.

### AISS QUALITATIVE RESULTS

#### Sample 1 (S035)

Fifty-seven laboratories correctly reported no asbestos

One laboratory reported chrysotile & tremolite

Eight laboratories report chrysotile

The reports of chrysotile in sample S035 are possibly due to misidentification of the leather fibres. Leather can show similar morphology and optical properties to chrysotile including similar dispersion staining colours although the uniform leather fibrils are often clearly visible compared with chrysotile fibrils. Leather will also handle differently during examination under the stereozoom microscope. If identification is still not clear then the material can be ashed to confirm or deny the presence of asbestos.

#### Sample 2 (S036)

Sixty-three laboratories correctly reported amosite asbestos

Two laboratories reported amosite & chrysotile

One laboratory reported no asbestos

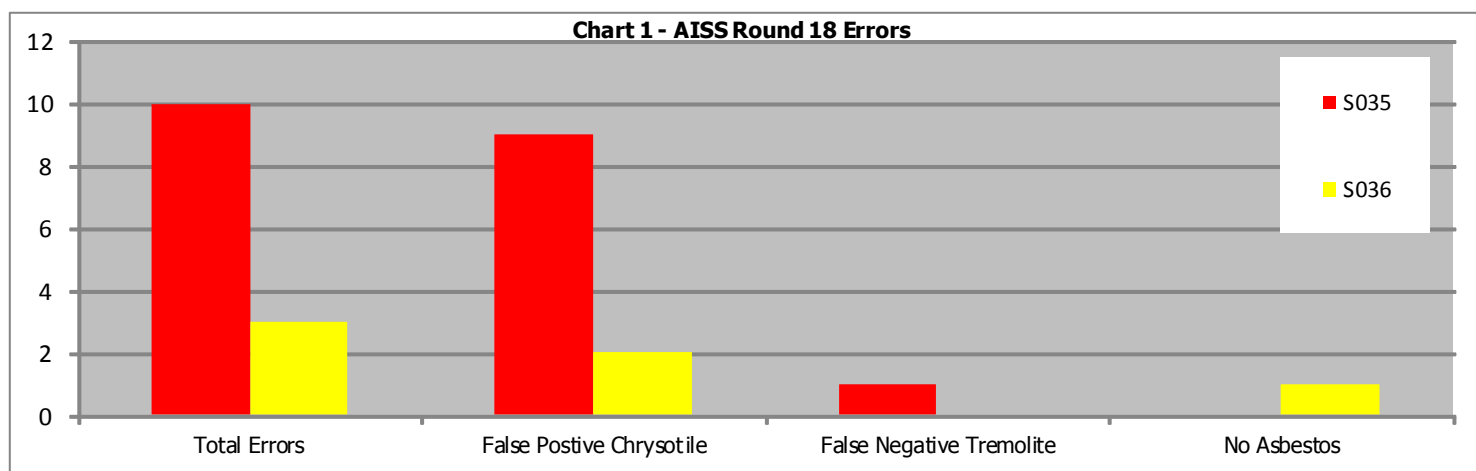
### AISS QUANTITATIVE RESULTS

The median of quantitative results submitted was 0.05. For the purposes of the z score we are using 40% of the median - 0.02. Fifty-five laboratories submitted quantitative results for S036;

- 42 (76%) laboratories achieved a z-score of  $< \pm 2$ , Satisfactory
- 6 (11%) laboratory achieved a z-score of between  $\pm 2 - \pm 3$ , Questionable
- 7 (13%) laboratories achieved a z-score of  $> \pm 3$ , Unsatisfactory

### 1. Type Of Errors Obtained

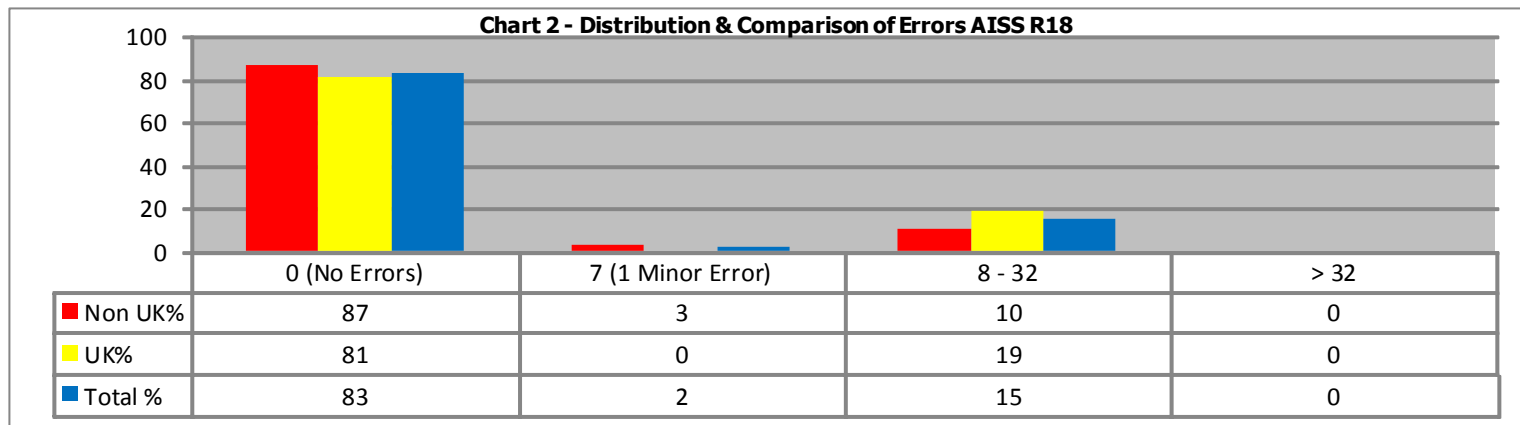
Chart 1 illustrates the errors made by participating laboratories. Nine errors were made by laboratories on sample S035 with eight laboratories reporting chrysotile and one lab reporting chrysotile and tremolite. Three errors were made on sample S036 with two labs reporting chrysotile asbestos along with amosite and one lab reporting no asbestos present.



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

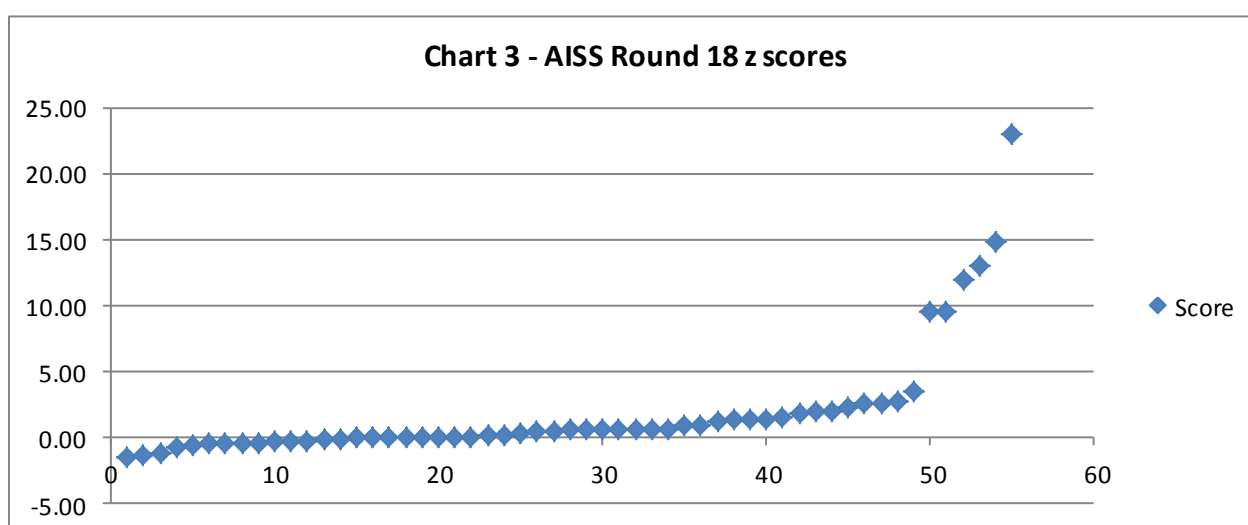
### 2. Errors for UK & Non-UK Laboratories

Chart 2 illustrates the distribution of scores for all participating laboratories. 55 (83%) 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; 29 (81%) UK laboratories and 26 (87%) Non-UK laboratories obtained a score of zero for the round.



### 3. Quantitative Results - z scores

Chart 3 - scatter graph of z scores for the 55 labs who submitted a quantification result for sample S036.



### 4. Quantitative Results

Chart 4 illustrates the results of the 55 labs who submitted a quantification result for sample S036. 42 labs (76%) achieved a satisfactory result i.e. a z score of  $< \pm 2$ . 6 labs (11%) achieved a questionable result with a z score of between  $\pm 2$  and  $\pm 3$ . 7 labs (13%) achieved an unsatisfactory result with a z score of  $> \pm 3$ .

