METHOD FOR ROUNDING-OFF OF TEST DATA AND OTHER NUMBERS

1. SCOPE

1.1 This method describes the procedure to be used for the rounding-off of all numbers.

2. GENERAL

Test values and calculated values are to be rounded in accordance with the criteria prescribed in Section 3.0.

3. CRITERIA

3.1 When the digit beyond the last place to be retained is less than 5, then the digit in the last place retained will remain (see Examples 1 & 2).

3.2 When the digit beyond the last place to be retained is greater than or equal to 5, then the digit in the last place to be retained will be increased by 1 (see Examples 1 & 2).

3.3 When a number is to be rounded, it will be rounded in one step only to the precision required and not rounded in two or more consecutive steps. For example: the number 1.347 can be rounded to 1.35 (to two decimal places). However, it is not acceptable to subsequently take 1.35 and then round it to the value of 1.4 to obtain a precision to one decimal place. In the method described herein, 1.347, rounded to one decimal place would have a value of 1.3.

NOTE 1: The requirement of rounding in one step does not refer to a rounded result which may have been obtained from a formula that may itself consist of rounded numbers. For example, it is perfectly acceptable to use % passing results which are themselves rounded to produce a rounded fineness modulus.

3.4 If, in special cases, it is desired to round off a number to the nearest 5, 0.5,0.05, 0.005 etc., then the observed or calculated value (with any number of significant digits) will be doubled, then respectively rounded to the nearest 10, 1, 0.1, 0.01 etc., in accordance with 3.1 to 3.3. The rounded result will then be divided by 2 (see Example 3).

Examples:

Example #1				Example #2			
Rounding to the closest whole number:				Rounding to the closest 0.1:			
4.49	= 4	7.49	= 7	7.649	=7.6	7.349	=7.3

4.50	= 5	7.50	= 8	7.650	=7.7	7.350	=7.4
4.5	= 5	7.5	= 8	7.65	=7.7	7.35	=7.4
4.51	= 5	7.51	= 8	7.651	=7.7	7.351	=7.4

Example #3

Rounding to the closest 0.05:

1.1249 x 2 = 2.2498 : 2.20 / 2 = 1.10
1.1250 x 2 = 2.2500 : 2.30 / 2 = 1.15
1.125 x 2 = 2.250 : 2.30 / 2 = 1.15
1.126 x 2 = 2.252 : 2.30 / 2 = 1.15