



Report No. 632

Paint - Round 12

Proficiency Testing Program

***Density, Non-Volatiles By Mass, pH &
Measurement of Specular Gloss of Non-
Metallic Paint Films.***

October 2009

Acknowledgments

PTA gratefully wishes to acknowledge the technical assistance that was provided for this program by Ms Susan Bartlett, Quality Consultant. PTA would also like to thank Mr Joe Rodgers-Falk, Wattyl (NSW), for supplying the samples and the homogeneity testing.

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1. Foreword

This report summarises the results of a proficiency testing program covering a series of paint tests (to AS1580). The exercise was conducted in July 2009 by Proficiency Testing Australia. The program coordinator was Ms C Nohra. The main aim of the program was to assess laboratories' abilities to competently perform the prescribed analyses.

2. Program Features and Design

- 2.1 Each laboratory was randomly allocated a unique code number for the program to ensure confidentiality of results. Reference to each laboratory in this report is by code number only.
- 2.2 Participants were provided with two 500ml tins of low sheen acrylic water based paint, labelled sample "A" and sample "B". Samples A and B were identical (i.e. blind duplicates), however this was unknown to participants at the time of distribution.
- 2.3 Laboratories were provided with the "Instructions to Participants" and "Results Sheet" (see Appendix C) and asked to perform the following consistency analyses on both samples A and B:
- (i) AS 1580 202.1 1995 – Density
 - (ii) AS 1580 301.1 2005/AMDT1 2006 – Non-Volatiles by Mass
 - (iii) AS 1580 505.1 1996 – pH of Water Based Paints
 - (iv) AS 1580 602.2 1995 – Measurement of Specular Gloss of Non Metallic Paint Films at 60° and 85°
- 2.4 A total of 23 laboratories received samples, with all laboratories returning results comprising:
- 19 Australian participants; and
 - 4 overseas participants, including:
 - New Zealand (3) and Singapore (1).
- 2.5 Results (as reported by participants) with corresponding summary statistics (i.e. number of results, median, normalised interquartile range, minimum, maximum and range) are presented in Appendix A (for each sample and for each of the analyses performed).
- 2.6 A robust statistical approach, using z-scores, was utilised to assess laboratories' testing performance (see Section 3). Robust z-scores, z-score charts and Youden diagrams relevant to each test are presented in Appendix A.

The document entitled *Guide to Proficiency Testing Australia, 2008* (reference [1]) defines the statistical terms and details the statistical procedures referred to in this report.

- 2.7 A tabulated listing of laboratories (by code number) identified as having outlier results can be found on page 5.
- 2.8 Prior to sample distribution, a number of randomly selected samples were analysed for homogeneity. Based on the results of this testing (see Appendix B) it was considered that the samples utilised for this program were homogenous. As such, any results later identified as extreme could not be attributed to any significant sample variability.

3. Statistical Format

For each test, where appropriate, the following information is given:

- a table of results and calculated z-scores;
- a list of summary statistics;
- ordered z-score charts; and
- Youden diagrams.

3.1 Outlier Results and Z-scores

In order to assess laboratories' testing performance, a robust statistical approach, using z-scores, was utilised. Z-scores give a measure of how far a result is from the consensus value (i.e. the median), and gives a "score" to each result relative to the other results in the group.

A z-score close to zero indicates that the result agrees well with those from other laboratories. Whereas, a z-score with an absolute value greater than three is considered to be an outlier and is marked by the symbol "§".

Each determination was examined for outliers with all methods pooled. The table on page 5 summarises the outlier results detected.

3.2 Results Tables and Summary Statistics

Each of these tables contains the results returned by each laboratory and the robust z-score calculated for each result.

Results have been entered exactly as reported by participants. That is, laboratories which did not report results to the precision (i.e. number of significant figures) requested on the Results Sheet have **not** been rounded to the requested precision before being included in the statistical analysis.

A list of summary statistics appears at the bottom of each of the tables of results and consists of:

- the number of results for that test/sample (*No. of Results*);
- the median of these results, i.e. the middle value (*Median*);
- the normalised interquartile range of the results (*Normalised IQR*);
- the robust coefficient of variation, expressed as a percentage (*Robust CV*) - i.e. $100 \times \text{Normalised IQR} / \text{Median}$;
- the minimum and maximum laboratory results; and
- the range (*Maximum - Minimum*).

The median is a measure of the centre of the data.

The normalised IQR is a measure of the spread of the results. It is calculated by multiplying the interquartile range (IQR) by 0.7413, a factor which converts the IQR to an estimate of the standard deviation. The IQR is the difference between the upper and lower quartiles (i.e. the values above and below which a quarter of the results lie, respectively).

Please see reference [1] for further details on these robust summary statistics.

3.3 Ordered Z-Score Charts

On these charts each laboratory's robust z-score is shown, in order of magnitude, and is marked with its code number. From these charts, each laboratory can readily compare its performance relative to the other laboratories.

These charts contain solid lines at +3 and -3, so that outliers are clearly identifiable as those laboratories whose "bar" extends beyond these "cut-off" lines. The y-axis of these charts has been limited, so very large z-scores appear to extend beyond the chart boundary.

3.4 Youden Diagrams

Youden two-sample diagrams are presented to highlight laboratory systematic differences. They are based on a plot of each laboratory's pair of results (i.e. sample B versus sample A) and represented by a black spot.

These diagrams also feature an approximate 95% confidence ellipse for the bivariate analysis of the results, and dashed lines which mark the median value for each of the samples.

All points which lie outside the ellipse are labelled with the laboratory's code number. Note however that these points may not correspond with those identified as outliers. This is because the outlier criteria ($|z| > 3$) has a confidence level of approximately 99%, whereas the ellipse is an approximate 95% confidence region.

The points outside the ellipse on the Youden diagram will most probably be those with z-scores greater than 2 or less than -2. Laboratories which are outside the ellipse but have not been identified as extreme (i.e. have $2 < |z| < 3$) are strongly encouraged to review their results.

As a guide to the interpretation of these diagrams:

- (i) laboratories with significant systematic error components (i.e. between-laboratory variation) will usually have results outside the ellipse in either the upper right hand quadrant (as formed by the median lines) or the lower left hand quadrant (i.e. unusually high or low results for both samples); and
- (ii) laboratories with significant random error components (i.e. within-laboratory variation) will have returned results that are substantially more variable than other participants, and these results will usually lie outside the ellipse in either the upper left or lower right hand quadrants (i.e. an unusually high result for one sample and low for the other).

Further details of the construction and interpretation of these diagrams is given in reference [1]. Please also refer to this document for a glossary of terms.

4. PTA and Technical Adviser's Comments

4.1 Density (AS 1580.202.1)

Summary results for Density for this program appear in the table below:

Program	Sample	Median	Robust CV	No. of Results
This Study	A	1.261	0.2%	28
	B	1.261	0.2%	28

4.2 Non-Volatiles by Mass (AS 1580.301.1/AMDT1)

Summary results for Non-Volatiles by Mass for this program appear in the table below:

Test	Sample	Median	Robust CV	No. of Results
This Study	A	46.47	0.4%	28
	B	46.46	0.5%	28

4.3 pH of Water Based Paints (AS 1580.505.1)

Summary results for pH of Water Based Paints for this program appear in the table below:

Test	Sample	Median	Robust CV	No. of Results
This Study	A	8.4	0.9%	26
	B	8.4	0.9%	26

4.4 Specular Gloss Film at 60° (AS 1580.602.2)

Summary results for Specular Gloss Film at 60° for this program appear in the table below:

Test	Sample	Median	Robust CV	No. of Results
This Study	A	5.7	9.8%	28
	B	5.8	11.6%	28

4.5 Specular Gloss Film at 85° (AS 1580.602.2)

Summary results for Specular Gloss Film at 85° for this program appear in the table below:

Test	Sample	Median	Robust CV	No. of Results
This Study	A	7.9	8.0%	24
	B	8.0	8.4%	24

5. Outlier Results

Laboratories reporting outlier results are listed in the following table:

Lab Code	Analysis ¹				
	Density	Non-Volatiles by Mass	pH of Water Based Paints	Specular Gloss Film at 60°	Specular Gloss Film at 85°
3					§
4			§		
6	§				
10A				§	
10B				§	
16			§		
17	§				
18C	§				
19			§		
21				§	
22					§
23					§

¹ A "§" indicates the occurrence of a between laboratories outlier result (i.e. those results for which $|z\text{-score}|>3$).

Comments:

Density (AS 1580.202.1):

Four participants (laboratory codes 6, 17, 18C and 22) reported between z-score outliers for Density. The result reported by laboratory code 6 was higher than expected, while the results reported by laboratory codes 17, 18C and 22 were lower than expected.

Non-Volatiles by Mass (AS 1580.301.1/AMDT1):

No participants reported between laboratories z-score outliers for Non-Volatiles by Mass. Four participants (1, 6, 16 and 22) reported within laboratory z-score outliers. Since samples A and B were identical, these laboratories should not have reported results that were so different for the two samples.

pH of Water Based Paints (AS 1580.505.1):

Three participants (laboratory codes 4, 16 and 19) reported between z-score outliers for pH. The results reported by laboratory codes 16 and 19 were higher than expected, while the result reported by laboratory code 4 was lower than expected. Six participants (1, 3, 4, 6, 7 and 17) reported within laboratory z-score outliers. Since samples A and B were identical, these laboratories should not have reported results that were so different for the two samples.

Specular Gloss Film at 60° (AS 1580.602.2):

Two participants (laboratory codes 10 (A and B) and 21) reported between z-score outliers for Specular Gloss Film at 60°. The result reported by both laboratories were higher than expected.

Specular Gloss Film at 85° (AS 1580.602.2):

Three participants (laboratory codes 3, 22 and 23) reported between z-score outliers for Specular Gloss Film at 85°. The results reported by laboratory codes 3 and 22 were higher than expected, while the result reported by laboratory code 23 was lower than expected. Three participants (6, 9 and 18E) reported within laboratory z-score outliers. Since samples A and B were identical, these laboratories should not have reported results that were so different for the two samples.

6. Reference

[1] *Guide to Proficiency Testing Australia*, 2008.

APPENDIX A

Results & Data Analysis

Density - AS 1580.202.1	A1
Non-Volatiles by Mass - AS 1580.301.1/AMDT1.....	A4
pH of Water Based Paints - AS 1580.301.1	A5
Specular Gloss Film at 60° - AS 1580.602.2	A8
Specular Gloss Film at 85° - AS 1580.602.2.....	A11

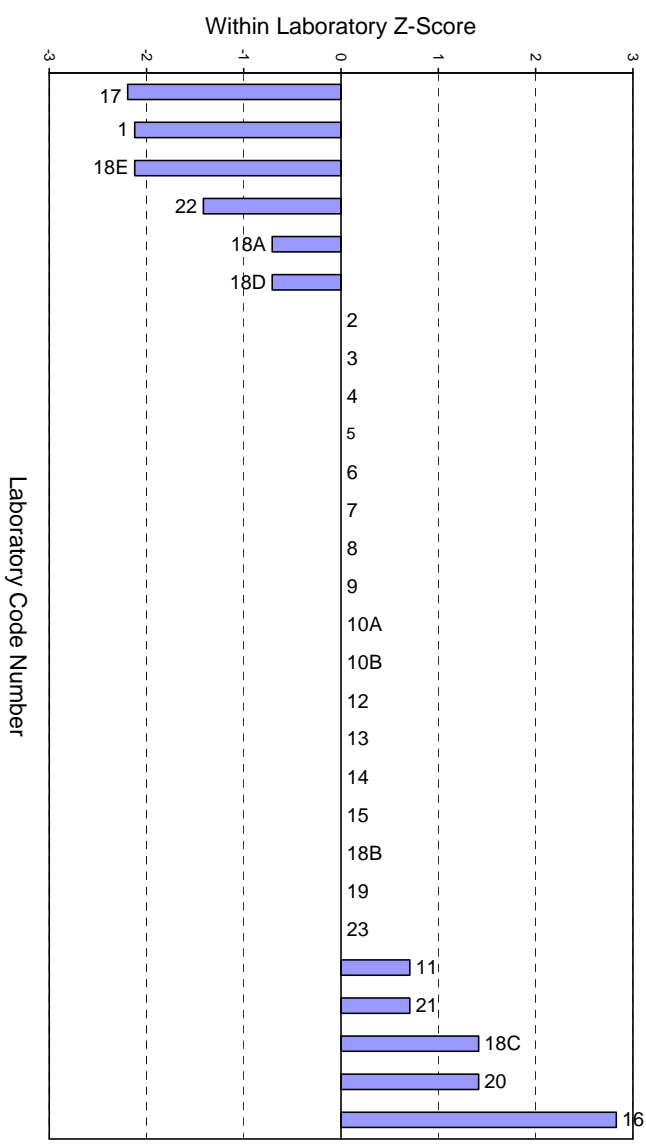
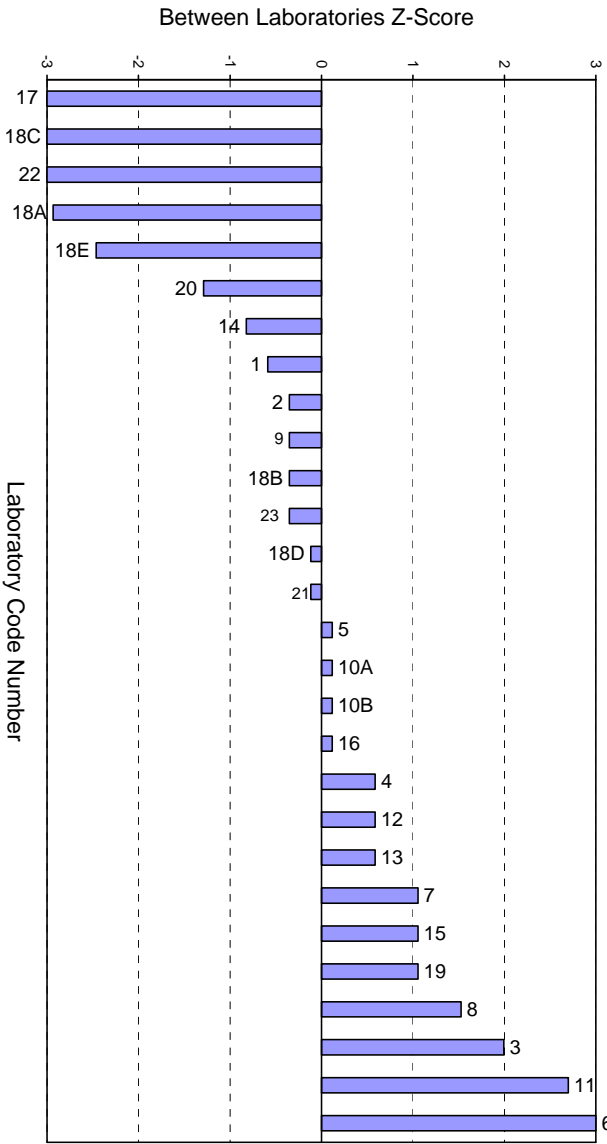
Density – AS 1580.202.1
Results by Laboratory Code

Lab Code	Results		Z-Scores ¹	
	Sample A	Sample B	Between Laboratories	Within Laboratory
1	1.258	1.261	-0.59	-2.12
2	1.260	1.260	-0.35	0.00
3	1.265	1.265	1.99	0.00
4	1.262	1.262	0.59	0.00
5	1.261	1.261	0.12	0.00
6	1.275	1.275	6.69 §	0.00
7	1.263	1.263	1.06	0.00
8	1.264	1.264	1.52	0.00
9	1.260	1.260	-0.35	0.00
10A	1.261	1.261	0.12	0.00
10B	1.261	1.261	0.12	0.00
11	1.267	1.266	2.70	0.71
12	1.262	1.262	0.59	0.00
13	1.262	1.262	0.59	0.00
14	1.259	1.259	-0.82	0.00
15	1.263	1.263	1.06	0.00
16	1.263	1.259	0.12	2.83
17	1.226	1.229	-15.58 §	-2.19
18A	1.254	1.255	-2.93	-0.71
18B	1.260	1.260	-0.35	0.00
18C	1.255	1.253	-3.17 §	1.41
18D	1.260	1.261	-0.12	-0.71
18E	1.254	1.257	-2.46	-2.12
19	1.263	1.263	1.06	0.00
20	1.259	1.257	-1.29	1.41
21	1.261	1.260	-0.12	0.71
22	1.253	1.255	-3.17 §	-1.41
23	1.260	1.260	-0.35	0.00

<i>No of Results:</i>	26	26
<i>Median:</i>	1.1610	1.1610
<i>Normalised IQR:</i>	0.0022	0.0015
<i>Robust CV:</i>	0.2%	0.1%
<i>Minimum:</i>	1.157	1.158
<i>Maximum:</i>	1.167	1.167
<i>Range:</i>	0.010	0.009

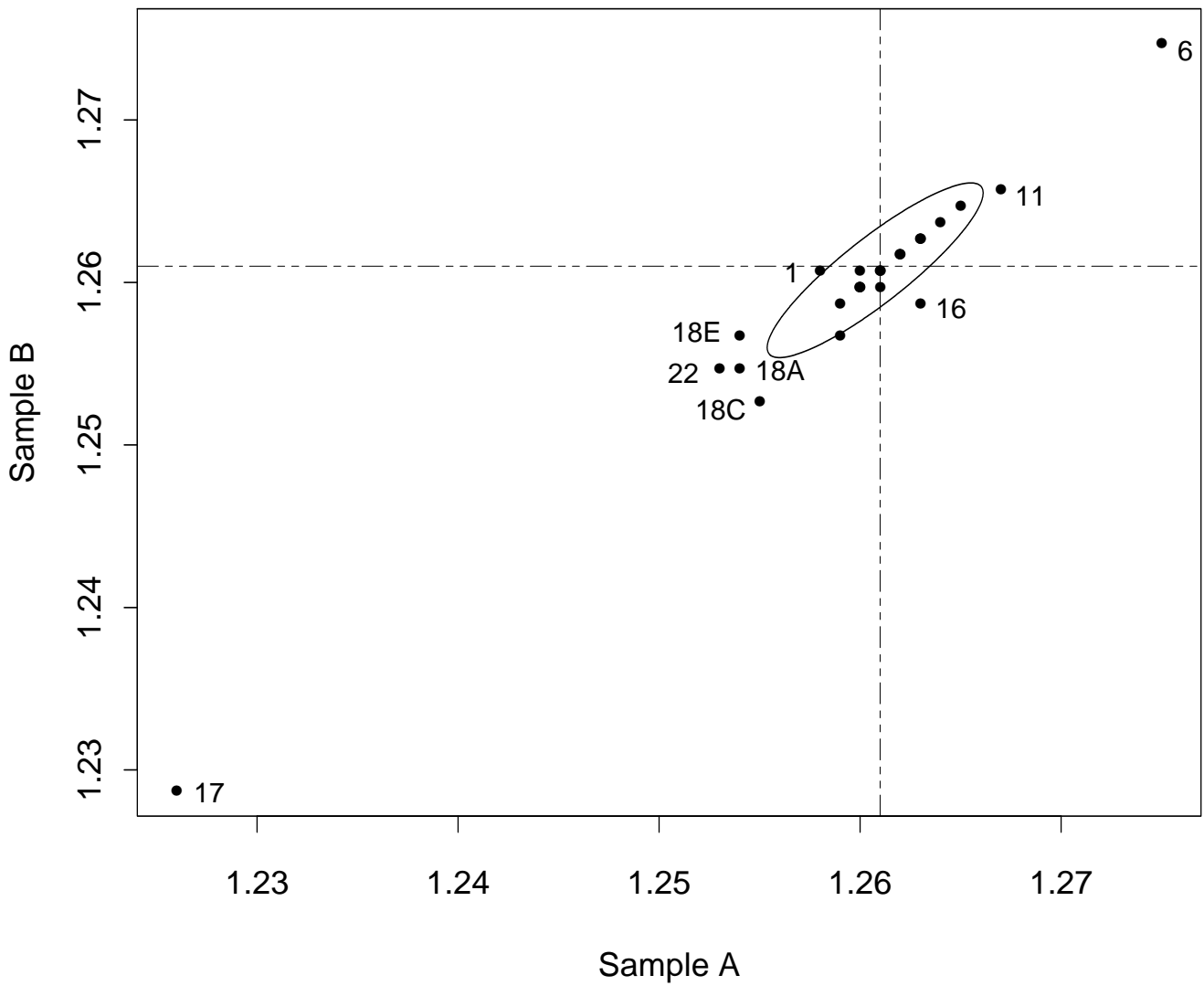
¹ "§"s denote outliers (i.e. those results for which |z-score| > 3).

Density – AS 1580.202.1
Between Laboratories & Within Laboratory
Z-Score Charts



Youden Diagram

Density - AS 1580 202.1



Non-Volatiles by Mass – AS 1580.301.1**Results by Laboratory Code**

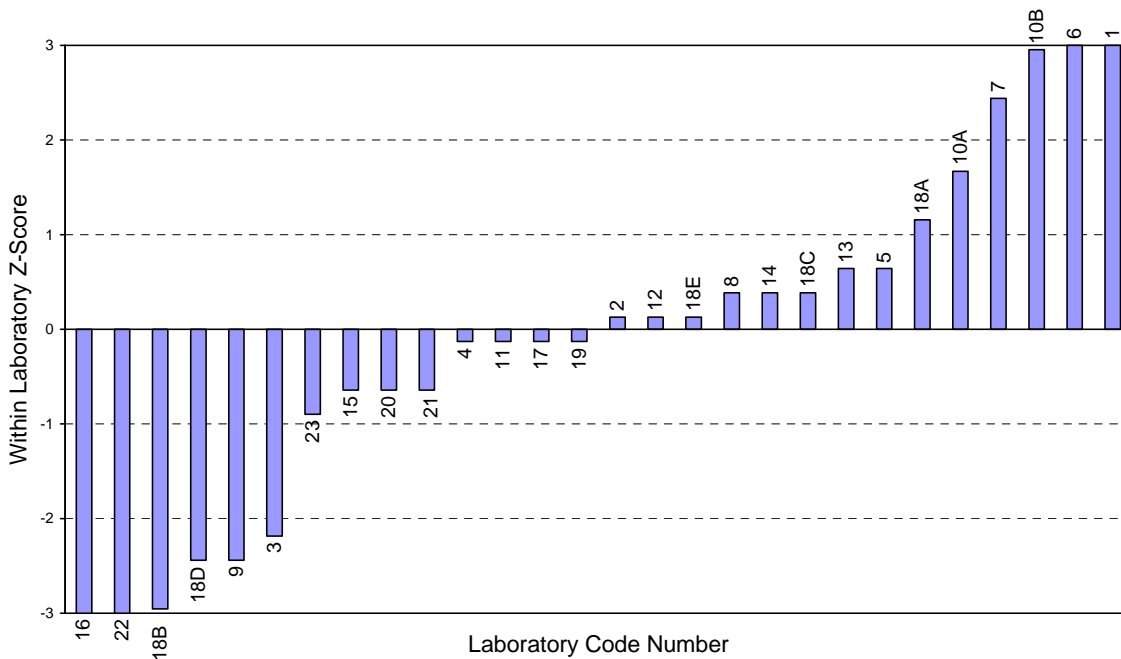
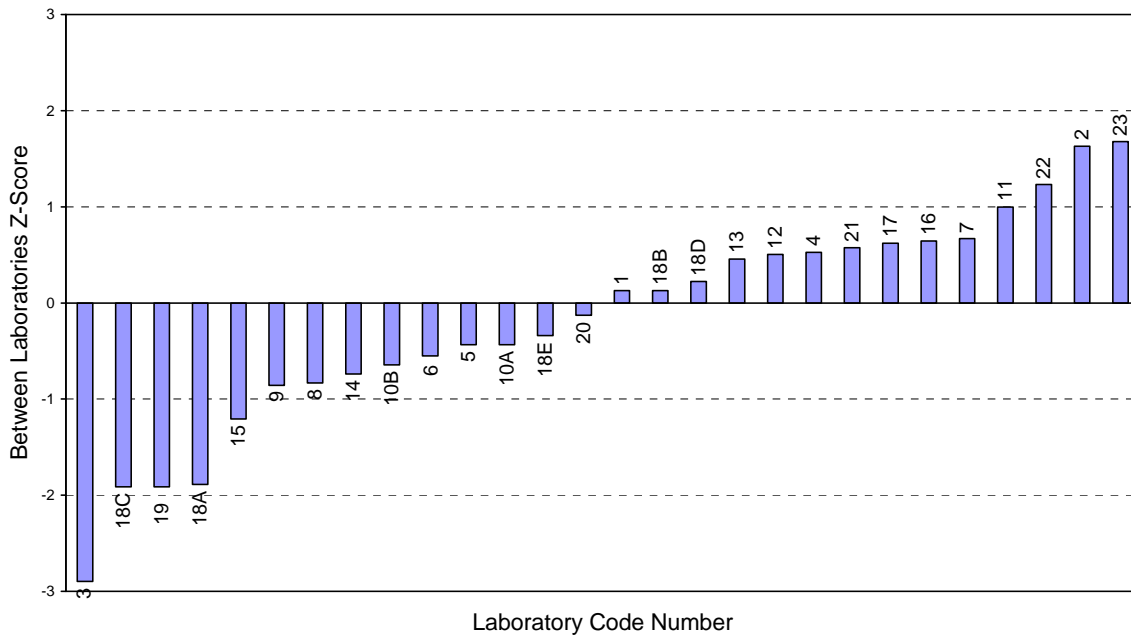
Lab Code	Results		Z-Scores ¹	
	Sample A	Sample B	Between Laboratories	Within Laboratory
1	46.67	46.39	0.13	7.32 §
2	46.85	46.85	1.63	0.13
3	45.84	45.93	-2.90	-2.18
4	46.61	46.62	0.53	-0.13
5	46.42	46.4	-0.43	0.64
6	46.48	46.29	-0.55	5.01 §
7	46.69	46.6	0.67	2.44
8	46.33	46.32	-0.83	0.39
9	46.27	46.37	-0.86	-2.44
10A	46.44	46.38	-0.43	1.67
10B	46.42	46.31	-0.65	2.95
11	46.71	46.72	1.00	-0.13
12	46.61	46.61	0.50	0.13
13	46.61	46.59	0.46	0.64
14	46.35	46.34	-0.74	0.39
15	46.23	46.26	-1.21	-0.64
16	46.43	46.85	0.65	-10.66 §
17	46.63	46.64	0.62	-0.13
18A	46.12	46.08	-1.89	1.16
18B	46.47	46.59	0.13	-2.95
18C	46.1	46.09	-1.91	0.39
18D	46.5	46.6	0.22	-2.44
18E	46.43	46.43	-0.34	0.13
19	46.09	46.1	-1.91	-0.13
20	46.46	46.49	-0.13	-0.64
21	46.61	46.64	0.57	-0.64
22	46.61	46.92	1.23	-7.84 §
23	46.84	46.88	1.68	-0.90

<i>No of Results:</i>	28	28
<i>Median:</i>	46.465	46.460
<i>Normalised IQR:</i>	0.196	0.228
<i>Robust CV:</i>	0.4%	0.5%
<i>Minimum:</i>	45.84	45.93
<i>Maximum:</i>	46.85	46.92
<i>Range:</i>	1.01	0.99

¹ "§"s denote outliers (i.e. those results for which |z-score| > 3).

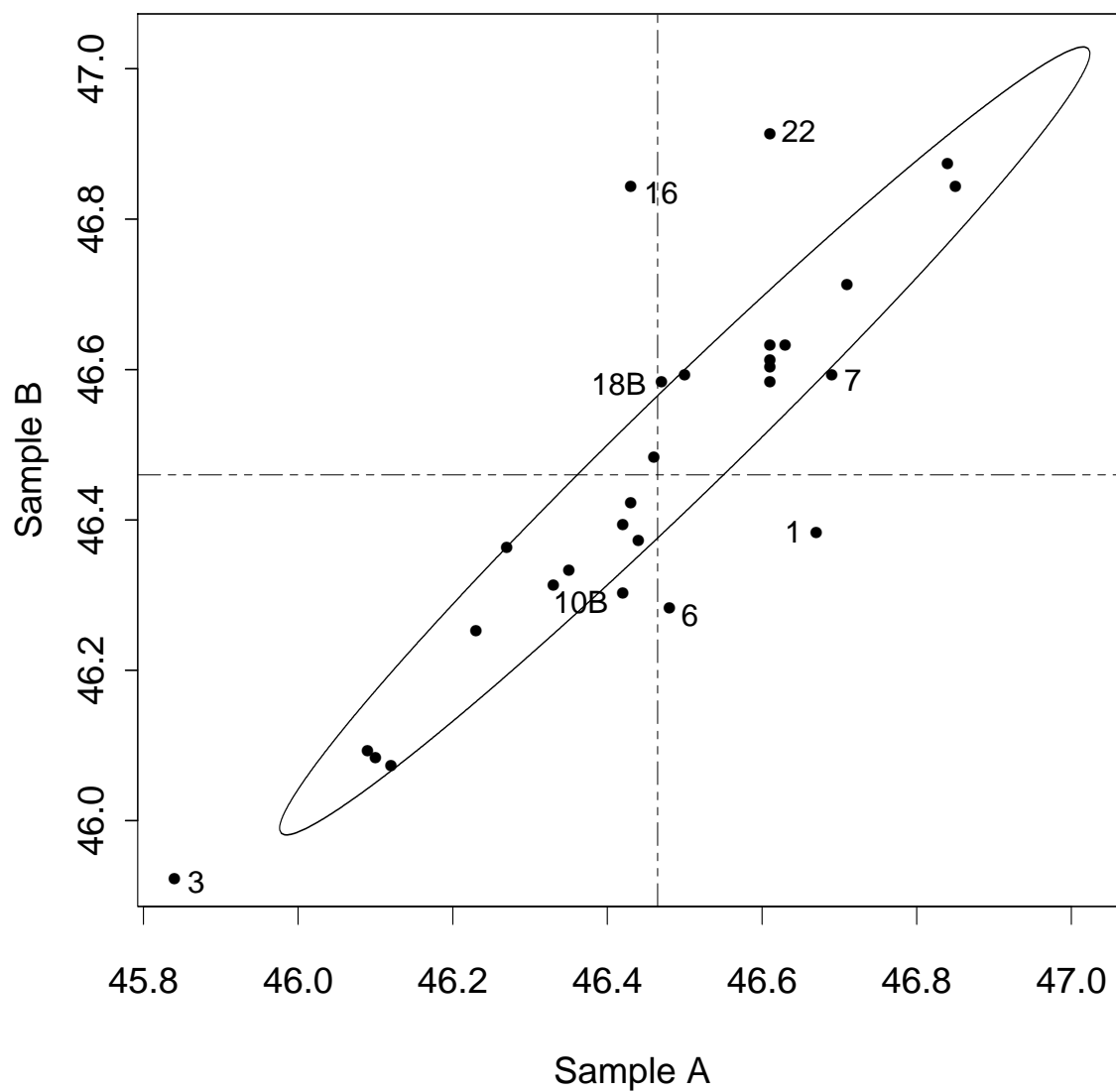
Non-Volatiles by Mass – AS 1580.301.1

Between Laboratories & Within Laboratory Z-Score Charts



Youden Diagram

Non-Volatiles by Mass - AS 1580 301.1



pH of Water Based Paints - AS 1580 505.1***Results by Laboratory Code***

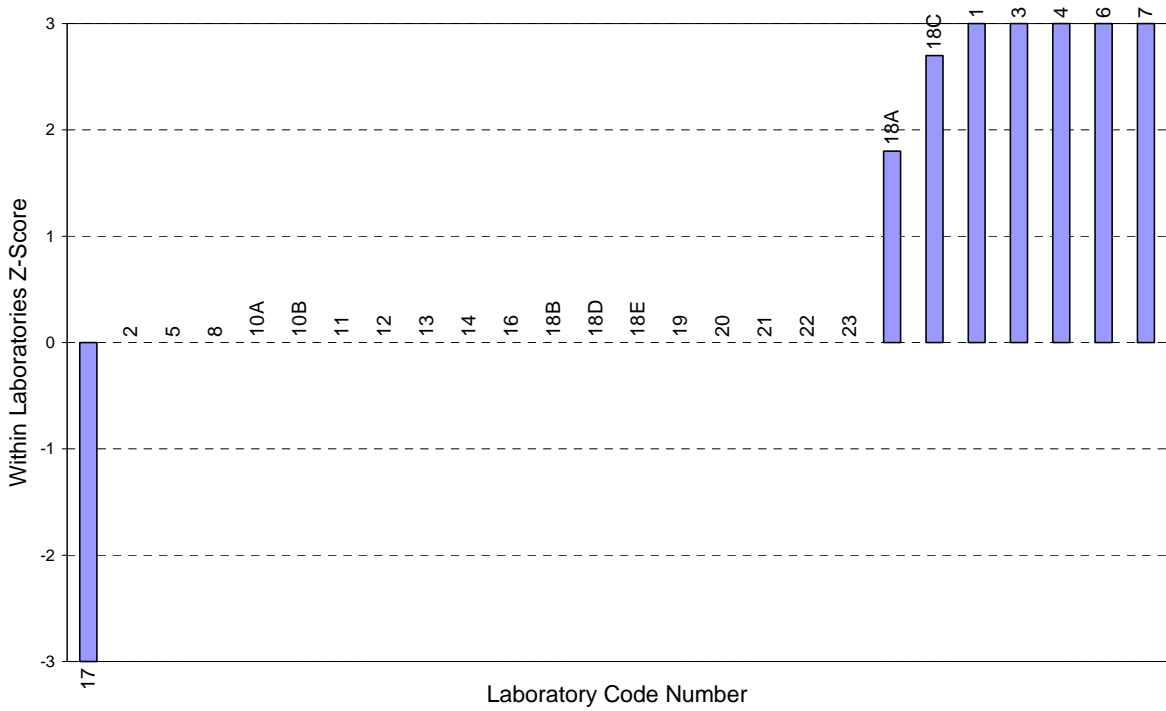
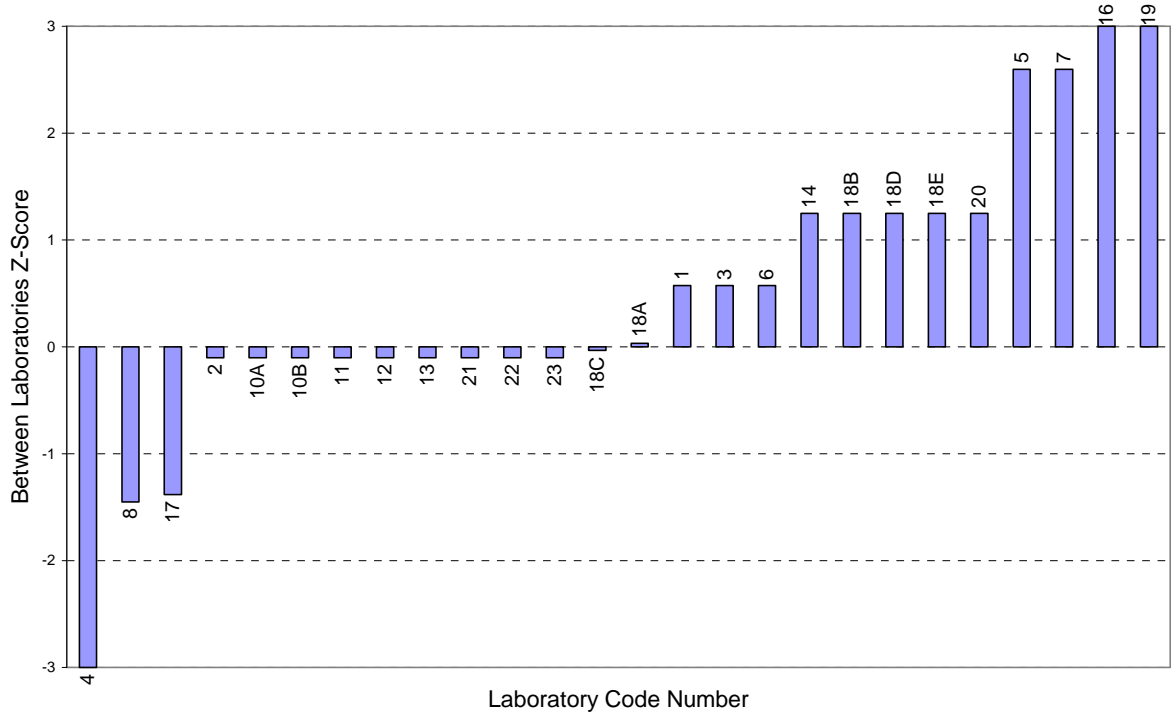
Lab Code	Results		Z-Scores ¹	
	Sample A	Sample B	Between Laboratories	Within Laboratory
1	8.4	8.5	0.57	8.99 §
2	8.4	8.4	-0.10	0.00
3	8.4	8.5	0.57	8.99 §
4	8.1	8.2	-3.47 §	8.99 §
5	8.6	8.6	2.60	0.00
6	8.4	8.5	0.57	8.99 §
7	8.5	8.7	2.60	17.99 §
8	8.3	8.3	-1.45	0.00
10A	8.4	8.4	-0.10	0.00
10B	8.4	8.4	-0.10	0.00
11	8.4	8.4	-0.10	0.00
12	8.4	8.4	-0.10	0.00
13	8.4	8.4	-0.10	0.00
14	8.5	8.5	1.25	0.00
16	8.7	8.7	3.95 §	0.00
17	8.34	8.27	-1.38	-6.30 §
18A	8.4	8.42	0.03	1.80
18B	8.5	8.5	1.25	0.00
18C	8.39	8.42	-0.03	2.70
18D	8.5	8.5	1.25	0.00
18E	8.5	8.5	1.25	0.00
19	8.8	8.8	5.29 §	0.00
20	8.5	8.5	1.25	0.00
21	8.4	8.4	-0.10	0.00
22	8.4	8.4	-0.10	0.00
23	8.4	8.4	-0.10	0.00

<i>No of Results:</i>	26	26
<i>Median:</i>	8.40	8.42
<i>Normalised IQR:</i>	0.07	0.07
<i>Robust CV:</i>	0.9%	0.9%
<i>Minimum:</i>	8.1	8.2
<i>Maximum:</i>	8.8	8.8
<i>Range:</i>	0.70	0.6

¹ "§"s denote outliers (i.e. those results for which |z-score| > 3).

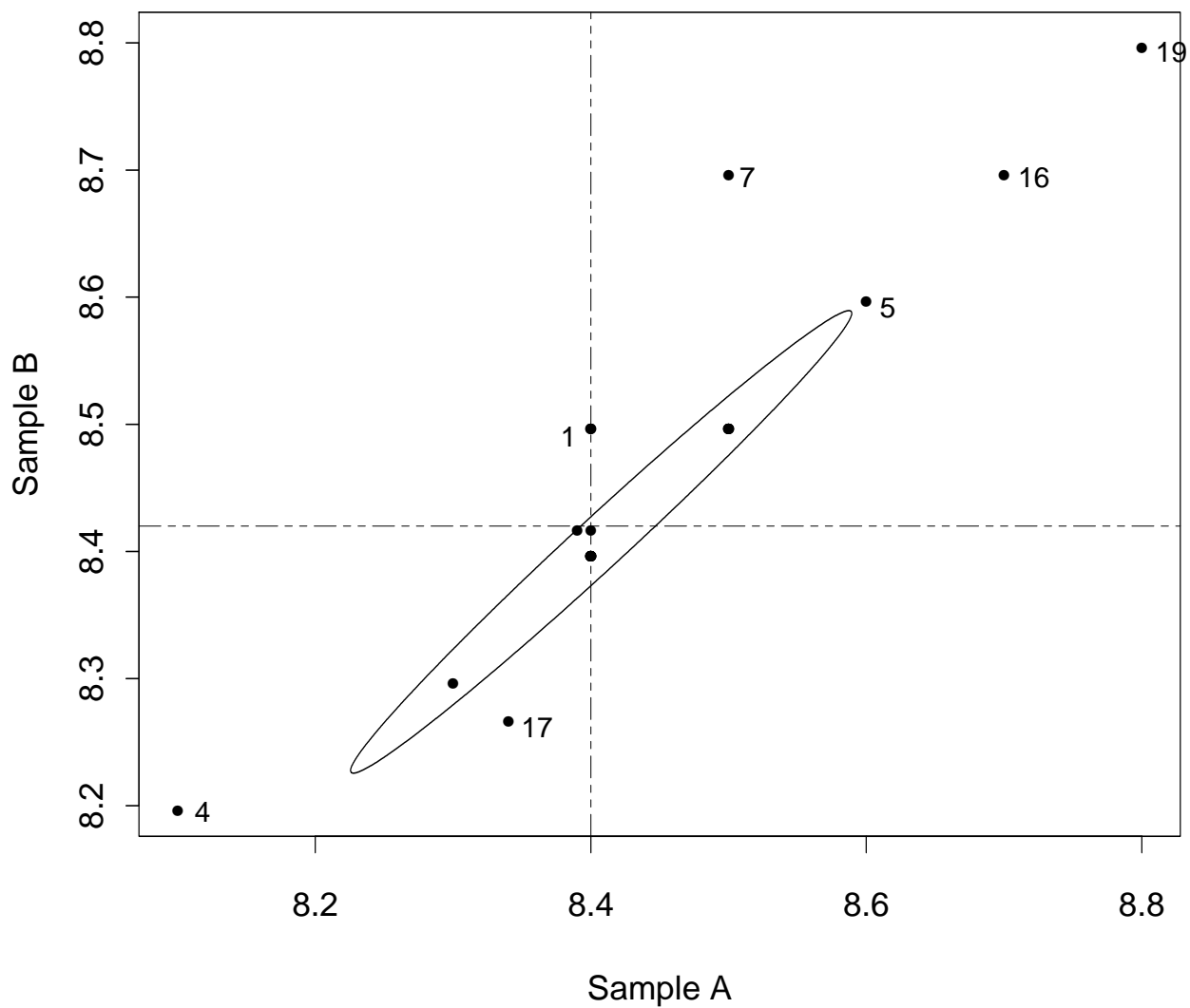
pH of Water Based Paints - AS 1580 505.1

**Between Laboratories & Within Laboratory
Z-Score Charts**



Youden Diagram

pH of Water Based Paints - AS 1580 505.1



Measurement of Specular Gloss at 60° - AS 1580.602.2

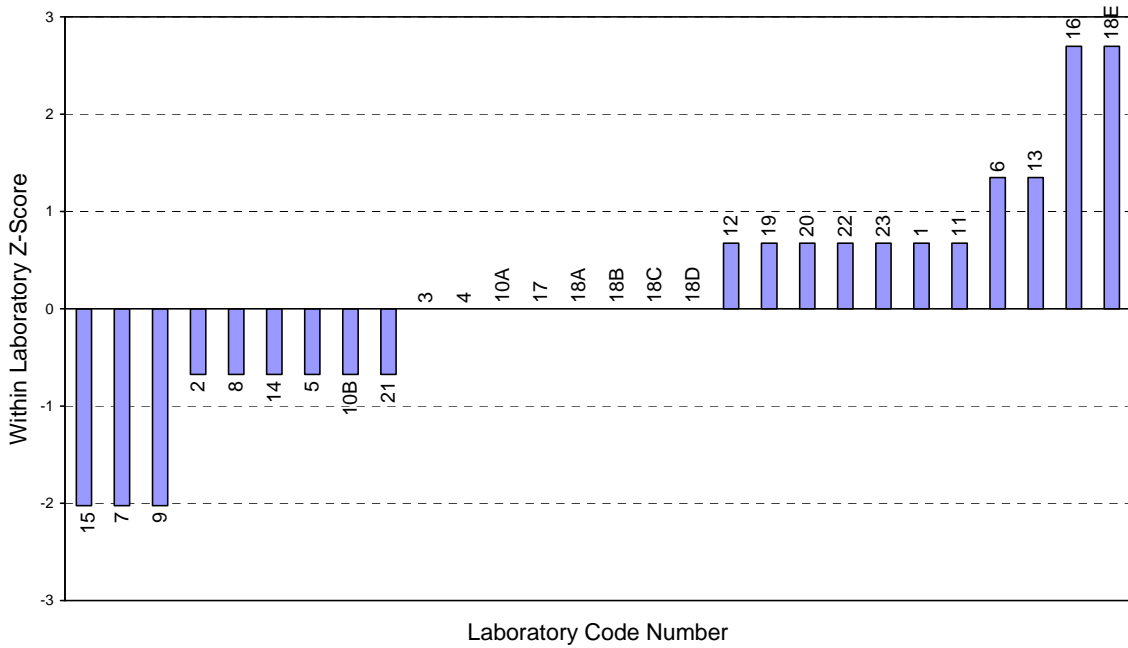
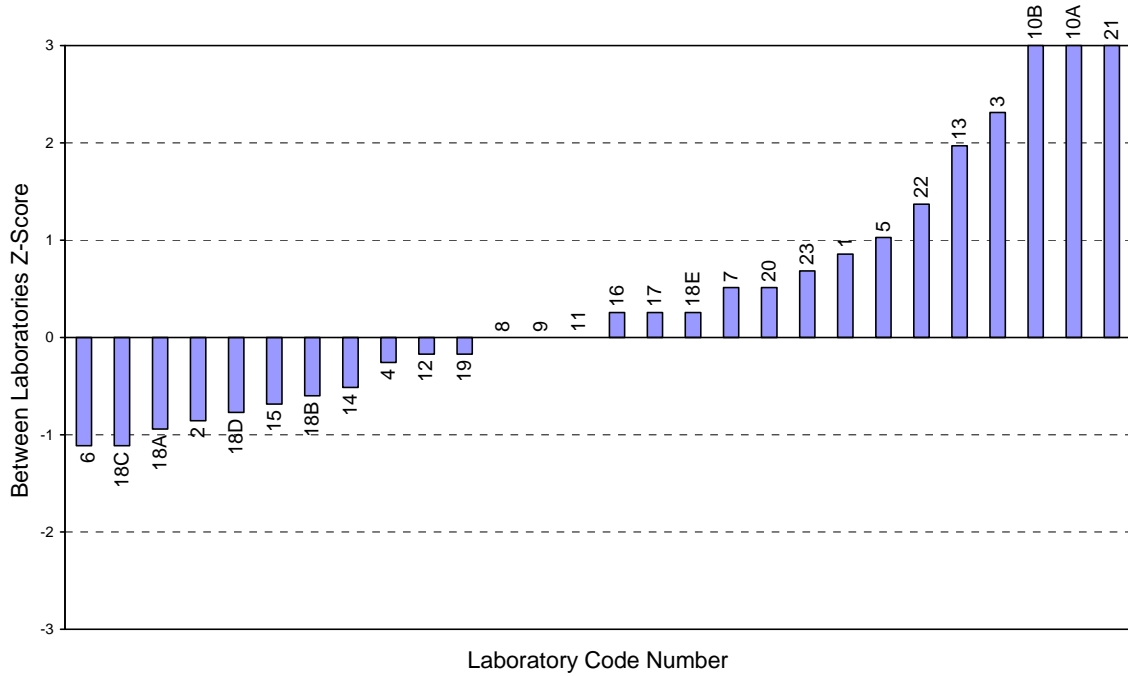
Results by Laboratory Code

Lab Code	Results		Z-Scores ¹	
	Sample A	Sample B	Between Laboratories	Within Laboratory
1	6.1	6.2	0.86	0.67
2	5.2	5.1	-0.86	-0.67
3	7	7	2.31	0.00
4	5.5	5.5	-0.26	0.00
5	6.3	6.2	1.03	-0.67
6	4.9	5.1	-1.11	1.35
7	6.1	5.8	0.51	-2.02
8	5.7	5.6	0.00	-0.67
9	5.8	5.5	0.00	-2.02
10A	7.6	7.6	3.34 §	0.00
10B	7.6	7.5	3.25 §	-0.67
11	5.6	5.7	0.00	0.67
12	5.5	5.6	-0.17	0.67
13	6.7	6.9	1.97	1.35
14	5.4	5.3	-0.51	-0.67
15	5.4	5.1	-0.69	-2.02
16	5.6	6	0.26	2.70
17	5.8	5.8	0.26	0.00
18A	5.1	5.1	-0.94	0.00
18B	5.3	5.3	-0.60	0.00
18C	5	5	-1.11	0.00
18D	5.2	5.2	-0.77	0.00
18E	5.6	6	0.26	2.70
19	5.5	5.6	-0.17	0.67
20	5.9	6	0.51	0.67
21	8.2	8.1	4.28 §	-0.67
22	6.4	6.5	1.37	0.67
23	6	6.1	0.69	0.67
<i>No of Results:</i>	28	28		
<i>Median:</i>	5.65	5.75		
<i>Normalised IQR:</i>	0.56	0.67		
<i>Robust CV:</i>	9.8%	11.6%		
<i>Minimum:</i>	4.9	5		
<i>Maximum:</i>	8.2	8.1		
<i>Range:</i>	3.3	3.1		

¹ "§"s denote outliers (i.e. those results for which |z-score| > 3).

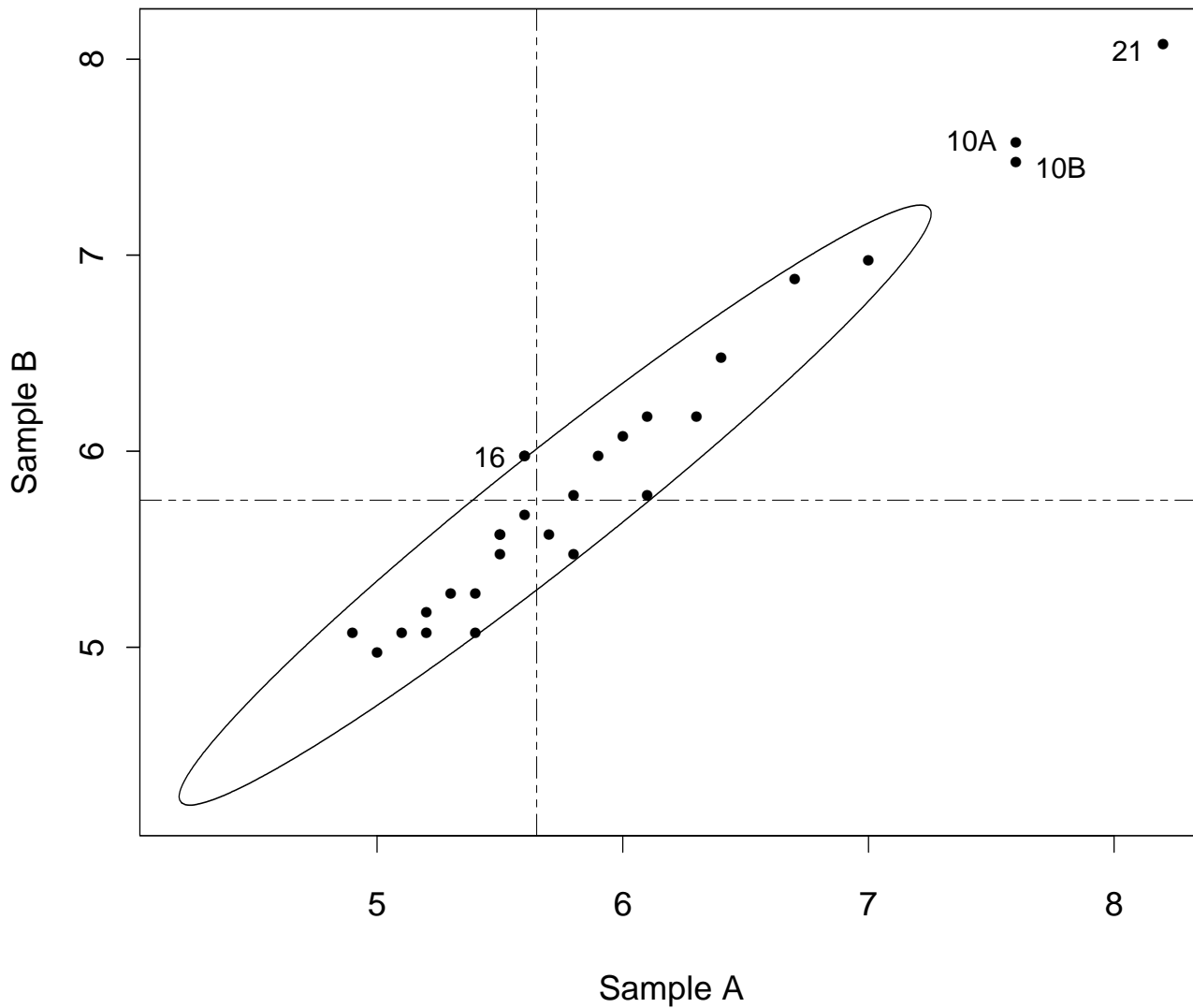
Measurement of Specular Gloss at 60° - AS 1580.602.2

**Between Laboratories & Within Laboratory
Z-Score Charts**



Youden Diagram

Specular Gloss Film at 60 - AS 1580 602.2



Measurement of Specular Gloss at 85° - AS 1580.602.2

Results by Laboratory Code

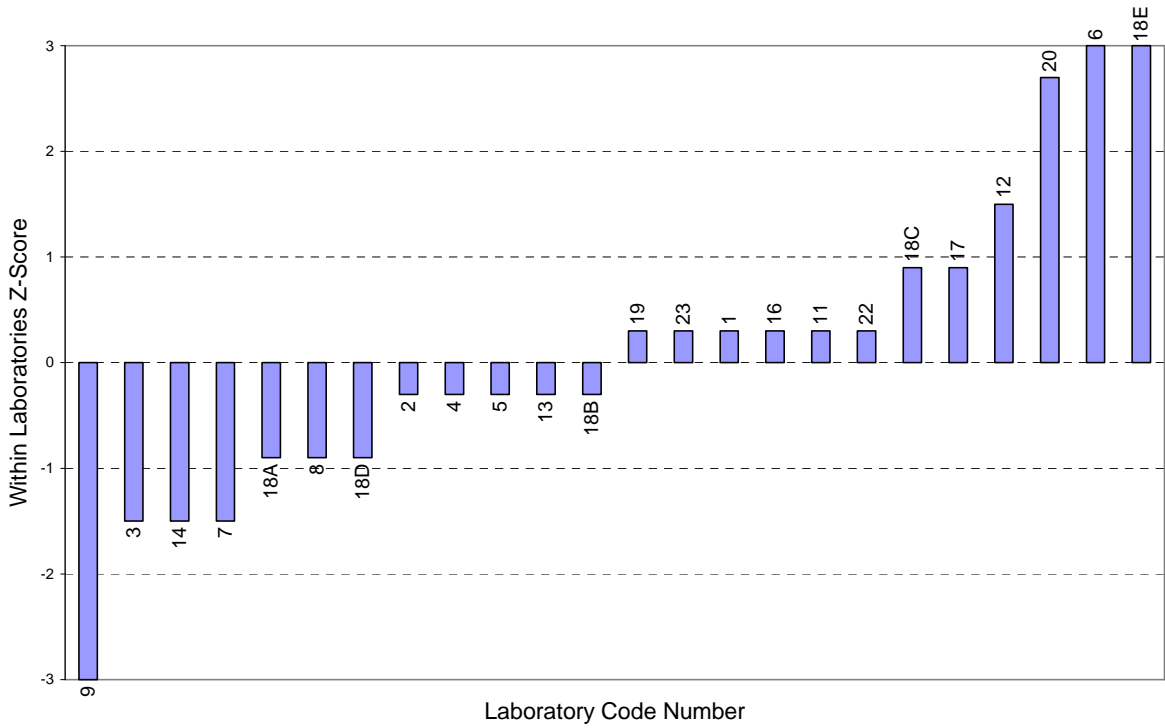
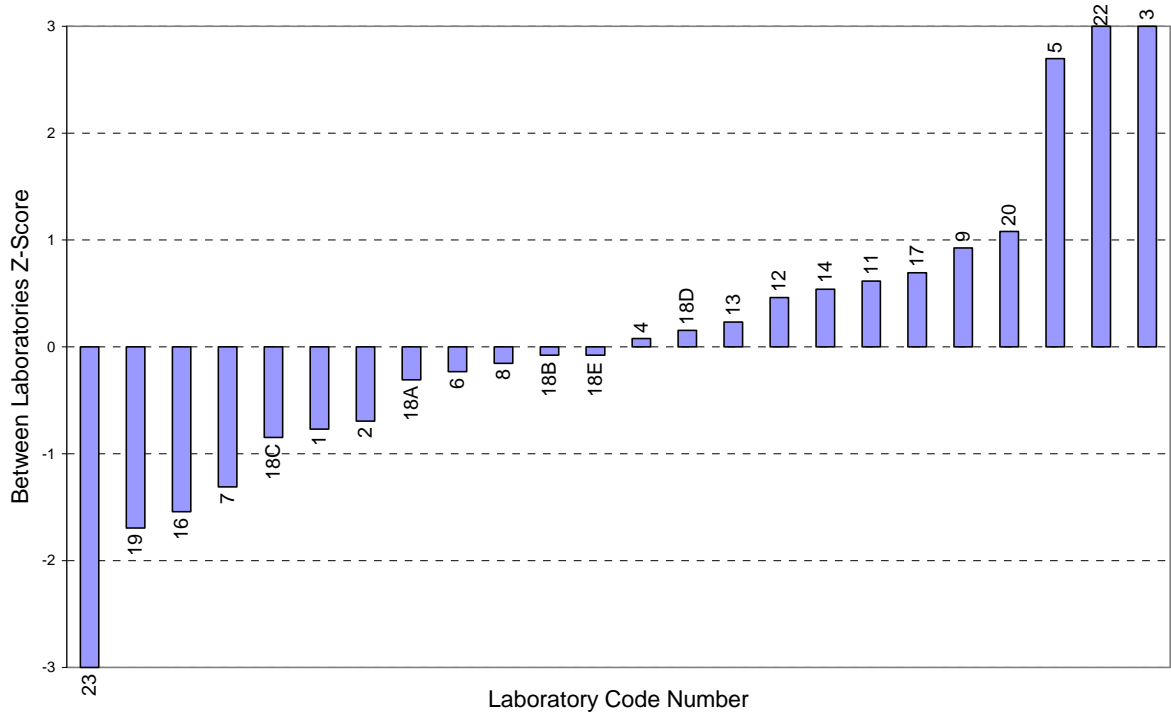
Lab Code	Results		Z-Scores ¹	
	Sample A	Sample B	Between Laboratories	Within Laboratory
1	7.3	7.4	-0.77	0.30
2	7.4	7.4	-0.69	-0.30
3	13.4	13.2	8.40 §	-1.50
4	7.9	7.9	0.08	-0.30
5	9.6	9.6	2.70	-0.30
6	7.4	8	-0.23	3.30 §
7	7.1	6.9	-1.31	-1.50
8	7.8	7.7	-0.15	-0.90
9	8.7	8.2	0.93	-3.30 §
11	8.2	8.3	0.62	0.30
12	8	8.3	0.46	1.50
13	8	8	0.23	-0.30
14	8.3	8.1	0.54	-1.50
16	6.8	6.9	-1.54	0.30
17	8.2	8.4	0.69	0.90
18A	7.7	7.6	-0.31	-0.90
18B	7.8	7.8	-0.08	-0.30
18C	7.2	7.4	-0.85	0.90
18D	8	7.9	0.15	-0.90
18E	7.5	8.1	-0.08	3.30 §
19	6.7	6.8	-1.70	0.30
20	8.3	8.8	1.08	2.70
22	11.7	11.8	6.01 §	0.30
23	5.2	5.3	-4.01 §	0.30

<i>No of Results:</i>	24	24
<i>Median:</i>	7.85	7.95
<i>Normalised IQR:</i>	0.63	0.67
<i>Robust CV:</i>	8.0%	8.4%
<i>Minimum:</i>	5.2	5.3
<i>Maximum:</i>	13.4	13.2
<i>Range:</i>	8.2	7.9

¹ "§"s denote outliers (i.e. those results for which |z-score| > 3).

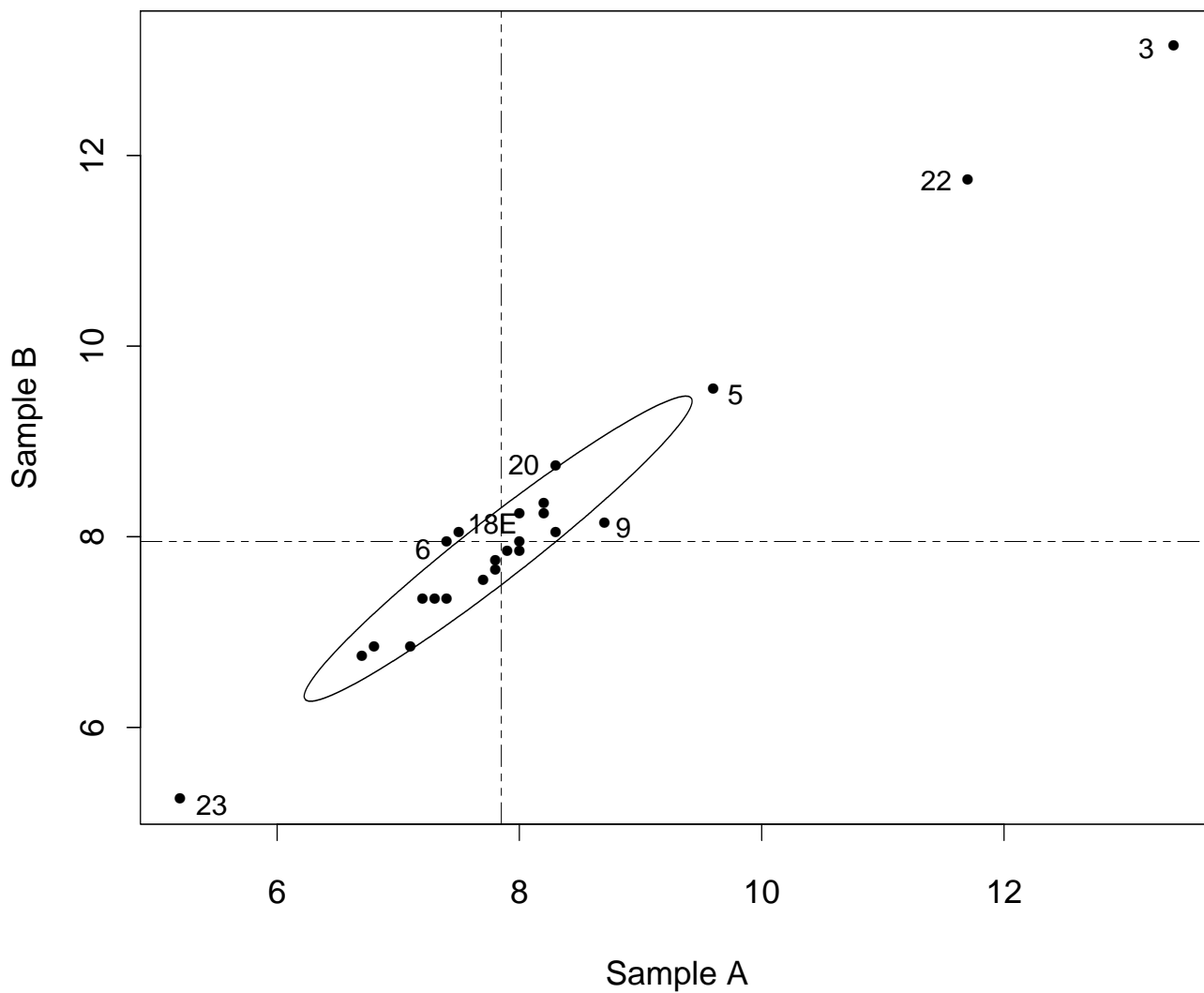
Measurement of Specular Gloss at 85° - AS 1580.602.2

**Between Laboratories & Within Laboratory
Z-Score Charts**



Youden Diagram

Specular Gloss Film at 85 - AS 1580 602.2



APPENDIX B

Sample Homogeneity

Homogeneity Testing

Prior to sample distribution, ten statistically randomly selected samples from a batch of high gloss white paint were analysed in duplicate for AS.1580.202.1 – Density. The following results were obtained for the purpose of homogeneity testing. The samples were tested by Wattyl NSW.

Density by AS 1580.202.1 (kg/L)

Sample Number	Result 1	Result 2
9	1.2625	1.2627
13	1.2631	1.2625
21	1.2629	1.2623
27	1.2631	1.2623
42	1.2631	1.2629
46	1.2627	1.2629
55	1.2633	1.2629
58	1.2625	1.2625
64	1.2629	1.2627
69	1.2629	1.2633

Average	1.2628
Standard Deviation	0.00030
CV	0.02%

From the statistical analysis of these results, it was considered that the samples were sufficiently homogenous for this round of the program. Therefore, any results later identified as outliers cannot be attributed to any significant sample variability.

APPENDIX C

Documentation

Instructions to Participants	C1
Results Sheet	C3

PROFICIENCY TESTING AUSTRALIA

Proficiency Testing Program

Paint Round 12

INSTRUCTIONS TO PARTICIPANTS

Please read the following carefully **BEFORE** commencing testing.

Each participant will be supplied with two 500ml tins of low sheen acrylic water based paint. These have been labelled "Sample A" and "Sample B".

To ensure the appropriate analysis of results, participants are asked to adhere carefully to the following instructions:

- 1) The following tests are to be performed on both samples A and B:
 - (v) AS 1580 202.1 1995 - Density
 - (vi) AS 1580 301.1 2005/AMDT1 2006 – Non-Volatiles by Mass
 - (vii) AS 1580 505.1 1996– pH of Water Based Paints.
 - (viii) AS 1580 602.2 1995 - Measurement of Specular Gloss of Non-Metallic Film
- 2) Determinations on each sample are to be conducted in accordance with the appropriate method (stated on the Results Sheet). NATA accredited laboratories are required to carry out tests for which they are accredited, but may also attempt those tests not included in their terms of accreditation.
- 3) As one aim of the program will be to determine 'within-laboratory variation' the determinations on samples A and B for each separate test must be performed by a single operator using the same method and the same apparatus in as short a time interval as possible. Different operators may be used for different tests. The name of the operator is to be supplied for each test.
- 4) Please read carefully the specific instructions relating to each test on the following pages.
- 5) For this program your laboratory has been allocated the following code number: «Code_No». This is to allow for the confidential treatment of your results in the final report.

- 6) **All laboratories are asked to return results and reports by**

Friday 24 July 2009 to:

Charlotte Nohra

Proficiency Testing Australia.

PO Box 7507,

Silverwater NSW 2128, Australia.

phone: +61 2 9736 8397

fax: +61 2 9743 6664

email: cnohra@pta.asn.au

PROFICIENCY TESTING AUSTRALIA

Proficiency Testing Program

Paint Round 12

SPECIFIC INSTRUCTIONS FOR EACH TEST

- PLEASE CONDUCT THE TESTS IN THE ORDER LISTED BELOW -

(i) Density (AS 1580 202.1 - 1995)

The samples should be stirred gently for a maximum of 1 minute prior to testing to ensure contents are mixed. As the paint is thick, gentle tapping may be required to dispel any trapped air.

Results are to be reported in kg/L to three decimal places (i.e. to the nearest 1g/L).

(ii) Non-Volatiles by Mass (AS 1580 301.1 – 2005/ AMDT1 2006)

The test results should be reported to two decimal places (i.e. 0.01%).

(iii) pH of Water Based Paints (AS 1580 505.1 - 1996)

The test should be conducted in accordance to routine method. Results are to be reported to the nearest 0.1 pH unit. The pH meter make and model should also be reported.

(iv) Consistency - Measurement of Specular Gloss of Non-metallic Film (AS 1580 602.2 - 1995)

The samples should be stirred gently for a maximum of 1 minute prior to testing to ensure contents are mixed. As the paint is thick, gentle tapping may be required to dispel any trapped air.

Measurement of specular gloss of non metallic paint film @ 60 and 85 degrees. The measurement should be made on **Clear Glass**, preferably clear float glass, using a **100µm doctor blade**. Report **Wet Film Thickness (WFT)** and **Dry Film Thickness (DFT)**.

NOTE: Samples are to be left to dry for **4 hrs** before testing commences.

PROFICIENCY TESTING AUSTRALIA
Paint Round 12 - Proficiency Testing Program
Results Sheet

 Lab Code:

Test	AS 1580		Sample B	Name of Operator
Density (report in kg/L to 3 decimal places)	202.1			
Non-Volatiles by Mass (report % to 2 decimal places)	301.1			

Test	AS 1580	pH Meter Make / Model		Sample B	Name of Operator
pH (report to the nearest 0.1 pH unit)	505.1				

Test	AS 1580	WFT	DFT		Sample B	Name of Operator
Specular Gloss Film @ 60° (report to 1 decimal place)	602.2					
Specular Gloss Film @ 85° (report to 1 decimal place)	602.2					

Signed: _____

Date: _____

Results and endorsed reports are to be returned by Friday 24 July 2009 to:

Charlotte Nohra, Proficiency Testing Australia.

PO Box 7507

Silverwater NSW 2128, Australia.

phone: +61 2 9736 8397

fax: +61 2 9743 6664

 email: cnohra@pta.asn.au

-- End of Report --