Results of Proficiency Test
Gasoil - EN (summer)
February 2022

Organized by: Institute for Interlaboratory Studies
Spijkenisse, the Netherlands

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1 INTRODUCTION

Since 1994 the Institute for Interlaboratory Studies (iis) organizes a proficiency scheme for the analysis of Gasoil twice a year. One round in accordance with the latest version of EN590 and one round in accordance with the latest version of ASTM D975. During the annual proficiency testing program 2021/2022 it was decided to continue the round robin for the analysis of Gasoil summer quality in accordance with the latest version of EN590.

In this interlaboratory study registered for participation:
- 165 laboratories in 61 countries on Gasoil - EN (summer) iis22G01EN
- 51 laboratories in 28 countries on Gasoil - EN Cetane Number and DCN iis22G01CN
- 84 laboratories in 37 countries on Gasoil - EN Total Contamination iis22G01TC
- 64 participants in 32 countries on Gasoil - EN Oxidation Stability iis22G01OX

In total 170 laboratories in 61 different countries registered for participation in one or more proficiency tests. See appendix 3 for the number of participants per country. In this report the results of the four Gasoil - EN (summer) proficiency tests are presented and discussed. This report is also electronically available through the iis website www.iisnl.com.

2 SET UP

The Institute for Interlaboratory Studies (iis) in Spijkenisse, the Netherlands, was the organizer of this proficiency test (PT). Sample analyzes for fit-for-use and homogeneity testing were subcontracted to an ISO/IEC17025 accredited laboratory.
In this proficiency test the participants received, depending on the registration, from one up to four different samples of Gasoil, see table below.

Sample ID	PT ID	Quantity	Purpose
#22005	iis22G01EN	1x 1L + 1x 0.5L	Regular analyzes
#22006	iis22G01CN	4x 1L	Cetane Number and DCN
#22007	iis22G01TC	1x 1L	Total Contamination
#22008	iis22G01OX	1x 1L	Oxidation Stability

Table 1: Gasoil samples used in PT iis22G01

The participants were requested to report rounded and unrounded test results. The unrounded test results were preferably used for statistical evaluation.

2.1 ACCREDITATION

The Institute for Interlaboratory Studies in Spijkenisse, the Netherlands, is accredited in agreement with ISO/IEC17043:2010 (R007), since January 2000, by the Dutch Accreditation Council (Raad voor Accreditatie). This PT falls under the accredited scope. This ensures strict adherence to protocols for sample preparation and statistical evaluation and 100% confidentiality of participant's data. Feedback from the participants on the reported data is encouraged and customer's satisfaction is measured on regular basis by sending out questionnaires.

2.2 PROTOCOL

The protocol followed in the organization of this proficiency test was the one as described for proficiency testing in the report 'iis Interlaboratory Studies: Protocol for the Organisation, Statistics and Evaluation' of June 2018 (iis-protocol, version 3.5). This protocol is electronically available through the iis website www.iisnl.com, from the FAQ page.

2.3 CONFIDENTIALITY STATEMENT

All data presented in this report must be regarded as confidential and for use by the participating companies only. Disclosure of the information in this report is only allowed by means of the entire report. Use of the contents of this report for third parties is only allowed by written permission of the Institute for Interlaboratory Studies. Disclosure of the identity of one or more of the participating companies will be done only after receipt of a written agreement of the companies involved.

2.4 SAMPLES

For the preparation of the sample for the regular PT Gasoil - EN (summer) a batch of approximately 400 liters of Gasoil was obtained from the local market. After homogenization 207 amber glass bottles of 1L and 207 amber glass bottles of 0.5L were filled and labelled #22005.
The homogeneity of the subsamples was checked by the determination of Density at 15°C in accordance with ISO12185 on 14 stratified randomly selected subsamples.

	Density at 15°C in kg/m^3
sample #22005-1	827.46
sample #22005-2	827.44
sample #22005-3	827.44
sample #22005-4	827.44
sample #22005-5	827.39
sample #22005-6	827.41
sample #22005-7	827.42
sample #22005-8	827.40
sample #22005-9	827.45
sample #22005-10	827.46
sample #22005-11	827.43
sample #22005-12	827.36
sample #22005-13	827.44
sample #22005-14	827.42

Table 2: homogeneity test results of subsamples #22005

From the above test results the repeatability was calculated and compared with 0.3 times the reproducibility of the reference test method in agreement with the procedure of ISO13528, Annex B2 in the next table.

	Density at 15°C in kg/m^3
r (observed)	0.08
reference test method	ISO12185:96
0.3 x R (reference test method)	0.15

Table 3: evaluation of the repeatability of subsamples #22005

The calculated repeatability is in agreement with 0.3 times the reproducibility of the reference test method. Therefore, homogeneity of the subsamples was assumed.

For the preparation of the sample for the PT Gasoil - EN Cetane Number and DCN a batch of approximately 400 liters of Gasoil was obtained from the local market. After homogenization 280 amber glass bottles of 1L were filled and labelled #22006.
The homogeneity of the subsamples was checked by the determination of Density at 15°C in accordance with ISO12185 on 12 stratified randomly selected subsamples.

	Density at 15°C in kg/m^3
sample #22006-1	827.47
sample #22006-2	827.47
sample #22006-3	827.46
sample #22006-4	827.47
sample #22006-5	827.46
sample #22006-6	827.47
sample #22006-7	827.46
sample #22006-8	827.45
sample #22006-9	827.46
sample #22006-10	827.47
sample #22006-11	827.46
sample #22006-12	827.47

Table 4: homogeneity test results of subsamples #22006

From the above test results the repeatability was calculated and compared with 0.3 times the reproducibility of the reference test method in agreement with the procedure of ISO13528, Annex B2 in the next table.

	Density at 15°C in kg/m^3
r (observed)	0.02
reference test method	ISO12185:96
0.3 x R (reference test method)	0.15

Table 5: evaluation of the repeatability of subsamples #22006

The calculated repeatability is in agreement with 0.3 times the reproducibility of the reference test method. Therefore, homogeneity of the subsamples was assumed.

For the preparation of the sample for the PT Gasoil - EN Total Contamination a batch of approximately 200 liters of Gasoil was used. A defined volume of fresh prepared and well shaken dust suspension of Arizona Dust material in oil was added to a 1L empty amber glass bottle by means of a calibrated pipette. The addition was checked by weighing the bottle before and after the addition. In total 112 bottles were prepared and subsequently filled up to 1L from this batch of Gasoil. After homogenization the subsamples were labelled #22007.

For the preparation of the sample for the PT Gasoil - EN Oxidation Stability a batch of approximately 105 liters of mixed oxidated Gasoil was made. After homogenization 104 amber glass bottles of 1L were filled and labelled #22008.
The homogeneity of the subsamples was checked by the determination of Density at 15°C in accordance with ISO12185 on 8 stratified randomly selected subsamples.

	Density at 15°C in kg/m^3
sample #22008-1	837.81
sample #22008-2	837.81
sample #22008-3	837.83
sample #22008-4	837.81
sample #22008-5	837.81
sample #22006-6	837.81
sample #22008-7	837.81
sample #22008-8	837.81

Table 6: homogeneity test results of subsamples #22008

From the above test results the repeatability was calculated and compared with 0.3 times the reproducibility of the reference test method in agreement with the procedure of ISO13528, Annex B2 in the next table.

	Density at 15°C in kg/m^3
r (observed)	0.02
reference test method	ISO12185:96
0.3 x R (reference test method)	0.15

Table 7: evaluation of the repeatability of subsamples #22008

The calculated repeatability is in agreement with 0.3 times the reproducibility of the reference test method. Therefore, homogeneity of the subsamples was assumed.

Depending on the registration of the participant the appropriate set of PT samples was sent on January 19, 2022. An SDS was added to the sample package.

2.5 STABILITY OF THE SAMPLES

The stability of Gasoil packed in amber glass bottles was checked. The material was found sufficiently stable for the period of the proficiency test.

2.6 ANALYZES

The participants were requested to determine on sample #22005: Total Acid Number, Ash content, Calculated Cetane Index (four variables), Cloud Point, Cold Filter Plugging Point (CFPP), Carbon Residue (micro method) on 10% residue, Copper Corrosion 3hrs at 50°C, Density at 15°C, Distillation at 760 mmHg (IBP, 10%, 50%, 90%, 95% recovered, FBP and Volume at 250°C and 350°C), FAME, Flash Point PMcc, Kinematic Viscosity at 40°C, Lubricity by HFRR at 60°C, Manganese as Mn, Nitrogen, Aromatic Hydrocarbons (Polycyclic, Mono, Di, Tri+ and Total), Pour Point (Manual and Automated), Sulfur and Water.
It was also requested to report some analytical details for the determination of Nitrogen.
On sample #22006 it was requested to determine: Cetane Number and Derived Cetane Number (EN15195 and EN16715).
On sample #22007 it was requested to determine: Total Contamination.
On sample #22008 it was requested to determine: Oxidation Stability Induction period and Oxidation Stability Filterable Insolubles, Adherent Insolubles and Total Insolubles.

It was explicitly requested to treat the samples as if they were routine samples and to report the test results using the indicated units on the report form and not to round the test results, but report as much significant figures as possible. It was also requested not to report ‘less than’ test results, which are above the detection limit, because such test results cannot be used for meaningful statistical evaluations.

To get comparable test results a detailed report form and a letter of instructions are prepared. On the report form the reporting units are given as well as the reference test methods (when applicable) that will be used during the evaluation. The detailed report form and the letter of instructions are both made available on the data entry portal www.kpmd.co.uk/sgs-iis/. The participating laboratories are also requested to confirm the sample receipt on this data entry portal. The letter of instructions can also be downloaded from the iis website www.iisnl.com.

3 RESULTS

During five weeks after sample dispatch, the test results of the individual laboratories were gathered via the data entry portal www.kpmd.co.uk/sgs-iis/. The reported test results are tabulated per determination in appendix 1 of this report. The laboratories are presented by their code numbers.

Directly after the deadline, a reminder was sent to those laboratories that had not reported test results at that moment. Shortly after the deadline, the available test results were screened for suspect data. A test result was called suspect in case the Huber Elimination Rule (a robust outlier test) found it to be an outlier. The laboratories that produced these suspect data were asked to check the reported test results (no reanalyzes). Additional or corrected test results are used for data analysis and the original test results are placed under 'Remarks' in the result tables in appendix 1. Test results that came in after the deadline were not taken into account in this screening for suspect data and thus these participants were not requested for checks.

3.1 STATISTICS

The protocol followed in the organization of this proficiency test was the one as described for proficiency testing in the report 'iis Interlaboratory Studies: Protocol for the Organisation, Statistics and Evaluation' of June 2018 (iis-protocol, version 3.5).
For the statistical evaluation the unrounded (when available) figures were used instead of the rounded test results. Test results reported as '<…' or '>…' were not used in the statistical evaluation.

First, the normality of the distribution of the various data sets per determination was checked by means of the Lilliefors-test, a variant of the Kolmogorov-Smirnov test and by the calculation of skewness and kurtosis. Evaluation of the three normality indicators in combination with the visual evaluation of the graphic Kernel density plot, lead to judgement of the normality being either 'unknown', 'OK', 'suspect' or 'not OK'. After removal of outliers, this check was repeated. If a data set does not have a normal distribution, the (results of the) statistical evaluation should be used with due care.

The assigned value is determined by consensus based on the test results of the group of participants after rejection of the statistical outliers and/or suspect data.

According to ISO13528 all (original received or corrected) results per determination were submitted to outlier tests. In the iis procedure for proficiency tests, outliers are detected prior to calculation of the mean, standard deviation and reproducibility. For small data sets, Dixon (up to 20 test results) or Grubbs (up to 40 test results) outlier tests can be used. For larger data sets (above 20 test results) Rosner's outlier test can be used. Outliers are marked by D(0.01) for the Dixon's test, by G(0.01) or DG(0.01) for the Grubbs' test and by R(0.01) for the Rosner's test. Stragglers are marked by D(0.05) for the Dixon's test, by G(0.05) or DG(0.05) for the Grubbs' test and by R(0.05) for the Rosner's test. Both outliers and stragglers were not included in the calculations of averages and standard deviations.

For each assigned value the uncertainty was determined in accordance with ISO13528. Subsequently the calculated uncertainty was evaluated against the respective requirement based on the target reproducibility in accordance with ISO13528. In this PT, the criterion of ISO13528, paragraph 9.2.1. was met for all evaluated tests, therefore, the uncertainty of all assigned values may be negligible and need not be included in the PT report.

Finally, the reproducibilities were calculated from the standard deviations by multiplying them with a factor of 2.8.

3.2 GRAPHICS

In order to visualize the data against the reproducibilities from literature, Gauss plots were made, using the sorted data for one determination (see appendix 1). On the Y-axis the reported test results are plotted. The corresponding laboratory numbers are on the X-axis. The straight horizontal line presents the consensus value (a trimmed mean). The four striped lines, parallel to the consensus value line, are the +3s, +2s, -2s and -3s target reproducibility limits of the selected reference test method. Outliers and other data, which were excluded from the calculations, are represented as a cross. Accepted data are represented as a triangle.

Furthermore, Kernel Density Graphs were made. This is a method for producing a smooth density approximation to a set of data that avoids some problems associated with histograms. Also, a normal Gauss curve (dotted line) was projected over the Kernel Density Graph (smooth line) for reference. The Gauss curve is calculated from the consensus value and the corresponding standard deviation.

3.3 Z-SCORES

To evaluate the performance of the participating laboratories the z-scores were calculated. As it was decided to evaluate the performance of the participants in this proficiency test (PT) against the literature requirements (derived from e.g. ISO or ASTM test methods), the z-scores were calculated using a target standard deviation. This results in an evaluation independent of the variation in this interlaboratory study.

The target standard deviation was calculated from the literature reproducibility by division with 2.8. In case no literature reproducibility was available, other target values were used, like Horwitz or an estimated reproducibility based on former iis proficiency tests.

When a laboratory did use a test method with a reproducibility that is significantly different from the reproducibility of the reference test method used in this report, it is strongly advised to recalculate the z-score, while using the reproducibility of the actual test method used, this in order to evaluate whether the reported test result is fit-for-use.

The z-scores were calculated according to:

$z_{(target)}$ = (test result - average of PT) / target standard deviation

The $z_{(target)}$ scores are listed in the test result tables in appendix 1.

Absolute values for z<2 are very common and absolute values for z>3 are very rare. Therefore, the usual interpretation of z-scores is as follows:

	|z|	< 1	good
1 <	|z|	< 2	satisfactory
2 <	|z|	< 3	questionable
3 <	|z|		unsatisfactory

4 EVALUATION

In this proficiency test some problems were encountered with the dispatch of the samples.
For the regular Gasoil PT seven participants reported test results after the final reporting date and eleven other participants did not report any test results.
For the Cetane Number PT fifteen participants did not report any test results.
For the Total Contamination PT five participants reported test results after the final reporting date and eight other participants did not report any test results.
For the Oxidation Stability PT three participants reported test results after the final reporting date and thirteen other participants did not report any test results.
Not all participants were able to report all tests requested.

In total 159 participants reported 3134 numerical test results. Observed were 70 outlying test results, which is 2.2%. In proficiency tests outlier percentages of 3% - 7.5% are quite normal.

Not all data sets proved to have a normal Gaussian distribution. These are referred to as “not OK” or “suspect”. The statistical evaluation of these data sets should be used with due care, see also paragraph 3.1.

4.1 EVALUATION PER SAMPLE AND PER TEST

In this section the reported test results are discussed per sample and per test. The test methods which were used by the various laboratories were taken into account for explaining the observed differences when possible and applicable. These test methods are also in the tables together with the original data in appendix 1. The abbreviations, used in these tables, are explained in appendix 4.

In the iis PT reports ASTM test methods are referred to with a number (e.g. D5950) and an added designation for the year that the test method was adopted or revised (e.g. D5950:14). If applicable, a designation in parentheses is added to designate the year of reapproval (e.g. D5950:14(2020)). In the test results tables of appendix 1 only the test method number and year of adoption or revision (e.g. D5950:14) will be used.

sample #22005

Total Acid Number: This determination was problematic. One statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier is not in agreement with the requirements of ASTM D974:21 and ASTM D664:18e2. When the test results are evaluated separately for ASTM D974/ ISO6618/ IP139 and ASTM D664/ IP177 only the calculated reproducibilities are not in agreement with the respective requirements of test method ASTM D974:21 and ASTM D664:18e2.

Ash content: This determination was not problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of ISO6245:01.

Calculated Cetane Index, four variables: Regretfully, no reproducibility is mentioned in procedure A of ASTM D4737:10(2016) nor in the equivalent test methods ISO4264 and IP380. Therefore, iis has estimated a reproducibility for Calculated Cetane Index by Four Variable Equation based on previous iis PTs (see iis memo 1904).
This determination was not problematic. No statistical outliers were observed. The calculated reproducibility is in full agreement with the estimated target reproducibility based on iis memo 1904.

Cloud Point: This determination was not problematic. Eight statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of ISO3015:19.
NB: test method EN23015 is withdrawn per 2019.

CFPP: This determination was not problematic. Three statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of EN116:15.

Carbon Residue (micro method) on 10% residue: This determination was problematic. Two statistical outliers were observed and one other test result was excluded. The calculated reproducibility after rejection of the suspect data is not in agreement with ISO10370:14.

Copper Corrosion: This determination was not problematic. All reporting laboratories agreed on a result of 1 (1A/1B).

Density at 15°C: This determination was not problematic. Nine statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with ISO12185:96.

Distillation at 760 mmHg: This determination was not problematic. In total three statistical outliers were observed over eight parameters. All calculated reproducibilities after rejection of the statistical outliers are in agreement with the requirements of ISO3405:19 automated mode.
When evaluated against the requirements of ISO3405:19 manual mode only the calculated reproducibilities for IBP, 95% rec. and FBP are not in agreement.

FAME: This determination was problematic dependent on mode used. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of EN14078:14 mode B and but not with mode A.
When evaluated separately over mode A or mode B the calculated reproducibility over mode A is still not in agreement.

Flash Point PMcc: This determination was not problematic. No statistical outliers were observed. The calculated reproducibility is in full agreement with the requirements of ISO2719-A:16.

Kinematic Viscosity at 40°C: This determination was problematic for a number of participants. Six statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with ISO3104:20.

Lubricity by HFRR at 60°C: This determination was not problematic. Three statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of modes A and B of ISO12156-1:18 and in agreement with ASTM D6079:18.

Manganese: This determination was not problematic. The majority of the reporting participants agreed on a test of less than 0.5 mg/kg. Therefore, no z-scores are calculated.

Nitrogen: This determination was problematic. No statistical outliers were observed. However, the calculated reproducibility is not in agreement with ASTM D4629:17.
An extra question about the calculation of the Nitrogen was asked. The reported answers are given in appendix 2. No effect of the details was observed.

Polycyclic Aromatic Hydrocarbons: This determination was not problematic. No statistical outliers were observed. The calculated reproducibility is in agreement with the requirements EN12916:19.

Mono Aromatic Hydrocarbons: This determination was not problematic. No statistical outliers were observed. The calculated reproducibility is in full agreement with the requirements EN12916:19.

Di Aromatic Hydrocarbons: This determination was not problematic. No statistical outliers were observed. The calculated reproducibility is in full agreement with the requirements EN12916:19.

Tri+ Aromatic Hydrocarbons: This determination was not problematic. Five statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements EN12916:19.

Total Aromatic Hydrocarbons: This determination was not problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in full agreement with the requirements EN12916:19.

Pour Point Manual: This determination was not problematic. No statistical outliers were observed. The calculated reproducibility is in agreement with ISO3016:19.

Pour Point Automated: This determination was not problematic. One statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier is in agreement with ASTM D5950:14(2020) 3°C interval.

Sulfur: This determination was not problematic. Four statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of ISO20846:19.

Water: This determination was not problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of ISO12937:00.

sample #22006

Cetane Number: This determination was not problematic. No statistical outliers were observed. The calculated reproducibility is in agreement with the requirements of ISO5165:20 and ASTM D613:18a e1.

DCN - EN15195: This determination may not be problematic. No statistical outliers were observed. The calculated reproducibility is in agreement with the requirements of EN15195:14.
Only two participants reported a test result for Ignition Delay (ID). Therefore, no z-scores were calculated.

DCN - EN16715: This determination was problematic. No statistical outliers were observed over three parameters. The calculated reproducibility for Combustion Delay is in full agreement with the requirements of EN16715:15. However, the calculated reproducibilities for Derived Cetane Number and Ignition Delay are not in agreement with the requirements of EN16715:15.

sample #22007

Total Contamination: This determination was problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in not in agreement with the requirements of EN12662:14.

sample #22008

Oxidation Stability Induction period: This determination was problematic. Five statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with EN15751:14.

Oxidation Stability Insolubles: This determination was very problematic. In total ten outliers were observed over three parameters. The calculated reproducibilities after rejection of the statistical outliers are not in agreement with the respective requirements of ISO12205:95. The variation in the test results was very high for Filterable Insolubles (A) and Total Insolubles (A + B), therefore it was decided to calculate no z-scores for these two parameters.

4.2 PERFORMANCE EVALUATION FOR THE GROUP OF LABORATORIES

A comparison has been made between the reproducibility as declared by the reference test method and the reproducibility as found for the group of participating laboratories. The number of significant test results, the average, the calculated reproducibility (2.8 * standard deviation) and the target reproducibility derived from reference test methods (in casu ASTM, EN and ISO test methods) or based on previous proficiency tests are presented in the next tables.

Parameter	unit	n	average	2.8 * sd	R(lit)
Total Acid Number	mg KOH/g	75	0.057	0.049	0.04
Ash content	%M/M	51	0.0009	0.0023	0.005
Calc. Cetane Index, 4 variables		114	52.30	0.99	0.91
Cloud Point	°C	120	-6.6	2.0	4
Cold Filter Plugging Point	°C	111	-18.1	2.7	4.1
Carbon Residue on 10% residue	%M/M	47	0.013	0.020	0.013
Copper Corrosion 3 hrs at 50°C		110	1 (1A/1B)	n.a.	n.a.
Density at 15°C	kg/m^3	141	827.5	0.2	0.5
Initial Boiling Point	°C	134	161.7	6.3	8.9
Temp at 10% recovery	°C	136	186.4	4.2	4.1
Temp at 50% recovery	°C	135	259.8	3.2	3.0
Temp at 90% recovery	°C	135	331.8	4.1	5.0
Temp at 95% recovery	°C	135	346.7	6.5	8.5
Final Boiling Point	°C	133	357.0	6.0	7.1
Volume at 250°C	%V/V	131	44.7	1.9	2.7
Volume at 350°C	%V/V	131	95.8	1.5	2.7
FAME	%V/V	85	6.38	0.47	0.46
Flash Point PMcc	°C	142	55.9	3.8	4.0
Kinematic Viscosity at 40°C	mm^2/s	121	2.328	0.024	0.027
Lubricity by HFRR at 60°C	µm	70	203	43	80
Manganese as Mn	mg/L	32	<0.5	n.e.	n.e.
Nitrogen	mg/kg	46	25.9	6.2	4.3
Polycyclic Arom. Hydrocarbons	%M/M	53	2.24	0.70	0.88
Mono Aromatic Hydrocarbons	%M/M	52	17.8	2.0	2.2
Di Aromatic Hydrocarbons	%M/M	52	2.00	0.63	0.64
Tri$^+$ Aromatic Hydrocarbons	%M/M	44	0.16	0.18	0.54
Total Aromatic Hydrocarbons	%M/M	52	20.1	2.3	2.4
Pour Point Manual	°C	87	-16.9	4.9	9
Pour Point Automated Δ3°C	°C	37	-15.9	4.2	6.1
Sulfur	mg/kg	127	7.8	1.6	2.0
Water	mg/kg	125	56.7	18.1	51.8

Table 8: reproducibilities of tests on sample #22005

Parameter	unit	n	average	2.8 * sd	R(lit)
Cetane Number		24	53.0	3.2	4.4
DCN (EN15195)		3	53.1	1.3	2.5
Ignition Delay (EN15195)	ms	2	n.e.	n.e.	n.e.
DCN (EN16715)		9	53.9	1.8	1.5
Ignition Delay (EN16715)	ms	7	2.954	0.174	0.148
Combustion Delay (EN16715)	ms	7	4.406	0.127	0.125
Total Contamination	mg/kg	70	39.9	15.0	10.7
Ox. Stab. Induction period	hours	22	7.3	2.0	1.8

Parameter	unit	n	average	2.8 * sd	R(lit)
Ox. Stab. Filt. Insolubles (A)	g/m^3	29	18.5	71.9	(8.8)
Ox. Stab. Adh. Insolubles (B)	g/m^3	33	6.5	16.0	8.8
Ox. Stab. Total Insolubles (A + B)	g/m^3	34	18.8	59.2	(12.4)

Table 9: reproducibilities of tests on samples #22006, #22007 and #22008

Results between between brackets no z-scores are calculated

Without further statistical calculations, it can be concluded that for many tests there is a good compliance of the group of participants with the reference test methods. The problematic tests have been discussed in paragraph 4.1.

4.3 COMPARISON OF THE PROFICIENCY TEST OF FEBRUARY 2022 WITH PREVIOUS PTS

	February 2022	February 2021	February 2020	March 2019	March 2018
Number of reporting laboratories	159	179	170	173	180
Number of test results	3134	3637	3624	3565	3748
Number of statistical outliers	70	90	93	108	77
Percentage of statistical outliers	2.2%	2.5%	2.6%	3.0%	2.1%

Table 10: comparison with previous proficiency tests

In proficiency tests, outlier percentages of 3% - 7.5% are quite normal.

The performance of the determinations of the proficiency tests was compared to the requirements of the reference test methods. The conclusions are given in the following table.

Parameter	February 2022	February 2021	February 2020	March 2019	March 2018
Total Acid Number	-	+	+	+	+
Ash content	++	++	++	++	++
Calc. Cetane Index, 4 variables	+/-	+/-	+	-	n.e.
Cloud Point	++	+	+	+	+
Cold Filter Plugging Point	+	+/-	+	-	+
Carbon Residue on 10% residue	-	-	-	--	+/-
Density at 15°C	++	++	++	+	+
Distillation at 760 mmHg	+	+	+	+	+
FAME	+/-	-	-	--	--
Flash Point PMcc	+/-	+	+	+/-	+
Kinematic Viscosity at 40°C	+	+	+	+	+/-
Lubricity by HFRR at 60°C	+	+	+	+	-
Manganese as Mn	n.e.	-	--	--	n.e.
Nitrogen	-	-	--	-	--
Polycyclic Aromatics	+	+/-	--	+/-	+/-
Mono, Di, Tri$^+$ Aromatics	+	+	+	+/-	+
Total Aromatics	+/-	+	+	+	+

Parameter	February 2022	February 2021	February 2020	March 2019	March 2018
Pour Point	+	+	+	+	+
Sulfur	+	+/-	+/-	+	+/-
Water	++	++	++	++	++
Cetane Number	+	+	+	+	+
DCN (EN15195)	+	-	+	-	-
DCN (EN16715)	-	-	-	-	+
Total Contamination	-	+/-	-	-	-
Ox. Stability Induction period	-	-	-	--	--
Ox. Stability Insolubles	(--)	+	(--)	+	+

Table 11: comparison determinations against the reference test methods

Results between brackets no z-scores are calculated

The following performance categories were used:

- ++ : group performed much better than the reference test method
- + : group performed better than the reference test method
- +/- : group performance equals the reference test method
- - : group performed worse than the reference test method
- -- : group performed much worse than the reference test method
- n.e. : not evaluated

APPENDIX 1

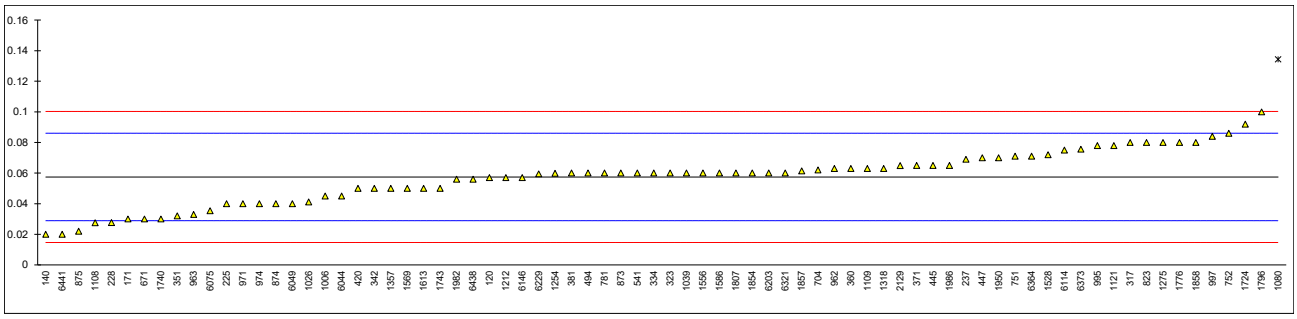
Determination of Total Acid Number on sample #22005; result in mg KOH/g

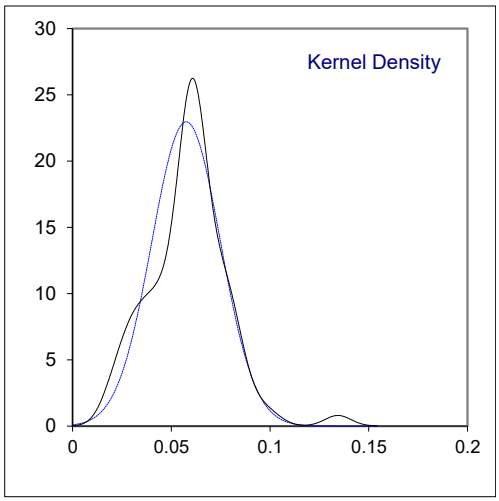
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
120	D664-A	0.057		-0.03	873	D974	0.06		0.18
140	D974	0.02		-2.62	874	D974	0.04		-1.22
171	D974	0.03		-1.92	875	D664-A	0.022		-2.48
206		-----		-----	902	D664-A	<0.10		-----
207		-----		-----	904	D664-A	<0.10		-----
208		-----		-----	913		-----		-----
209		-----		-----	914		-----		-----
225	D974	0.04		-1.22	962	D974	0.063		0.39
228	D974	0.02765		-2.09	963	D974	0.033		-1.71
237	D974	0.069		0.81	971	D974	0.04		-1.22
238		-----		-----	974	D974	0.04		-1.22
311	D664-A	<0.10		-----	995	D974	0.078		1.44
312		-----		-----	997	D974	0.084		1.86
317	D974	0.08	C	1.58	1006	D664-A	0.045		-0.87
323	D974	0.06		0.18	1026	D664-A	0.0412		-1.14
328		-----		-----	1039	D664-A	0.06		0.18
331	D664Mod.	<0.05		-----	1059		-----		-----
333		-----		-----	1080	D664-A	0.1343	R(0.01)	5.38
334	D664-A	0.06		0.18	1097		-----		-----
335		-----		-----	1108		0.0275		-2.10
337		-----		-----	1109	D974	0.063		0.39
338		-----		-----	1121	D664-A	0.078		1.44
342	D664-A	0.05		-0.52	1126		-----		-----
343	D664-A	<0,1		-----	1146		-----		-----
345		-----		-----	1150		-----		-----
351	D664-A	0.032		-1.78	1199		-----		-----
360	D974	0.063		0.39	1205		-----		-----
365		-----		-----	1212	D974	0.057		-0.03
369		-----		-----	1254	D664-A	0.0598		0.17
370		-----		-----	1259		-----		-----
371	D974	0.065		0.53	1266		-----		-----
381	D974	0.06		0.18	1275	IP177	0.08		1.58
391		-----		-----	1286		-----		-----
398		-----		-----	1318	D664-A	0.063		0.39
399		-----		-----	1356	D664-A	<0.05		-----
404		-----		-----	1357	D974	0.05		-0.52
420	ISO6618	0.05		-0.52	1397		-----		-----
431		-----		-----	1399		-----		-----
432		-----		-----	1438		-----		-----
440		-----		-----	1498		-----		-----
444		-----		-----	1528	D974	0.072		1.02
445	D974	0.065		0.53	1556	D664-A	0.06		0.18
447	IP139	0.07		0.88	1569	D664-A	0.05		-0.52
480		-----		-----	1586	D664-A	0.06		0.18
494	D664-A	0.06		0.18	1612		-----		-----
495		-----		-----	1613	D664-A	0.05		-0.52
498		-----		-----	1631		-----		-----
541	D974	0.060		0.18	1656	D664-A	<0.1		-----
631		-----		-----	1681		-----		-----
663	D664-A	<0.1		-----	1724	D664-A	0.092		2.42
671	D664-A	0.03		-1.92	1730		-----		-----
704	D974	0.062		0.32	1740	D664-A	0.03		-1.92
734		-----		-----	1742		-----		-----
736		-----		-----	1743	D664-A	0.05		-0.52
751	D974	0.071		0.95	1776	D664-A	0.08		1.58
752	D664-A	0.086		2.00	1796	D664-A	0.10		2.98
759		-----		-----	1807	D664-A	0.06		0.18
778		-----		-----	1833		-----		-----
779		-----		-----	1849		-----		-----
781	D974	0.06		0.18	1854	D664-A	0.06		0.18
782		-----		-----	1857	D974	0.0614		0.28
785		-----		-----	1858	D664-A	0.08		1.58
798		-----		-----	1950	D974	0.07		0.88
823	D664-A	0.08		1.58	1953		-----		-----
872		-----		-----	1961		-----		-----

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
1967		-----		-----	6146	D664-A	0.057		-0.03
1976		-----		-----	6170		-----		-----
1982	D974	0.056		-0.10	6203	D664-A	0.06		0.18
1984		-----		-----	6229	D664-A	0.0595		0.14
1986	D664-A	0.065		0.53	6242		-----		-----
2129	IP139	0.0649		0.52	6279		-----		-----
2130		-----		-----	6298	D664-A	<0.10		-----
2146		-----		-----	6299		-----		-----
6012		-----		-----	6307		-----		-----
6018		-----		-----	6317		-----		-----
6026		-----		-----	6321	D664-A	0.06		0.18
6044	D664-A	0.045		-0.87	6364	D974	0.071		0.95
6049	D664-A	0.04		-1.22	6373	D974	0.0756		1.27
6075	D974	0.0354		-1.54	6379		-----		-----
6114	D664-A	0.075		1.23	6416		-----		-----
6142		-----		-----	6438	D664	0.056		-0.10
6143		-----		-----	6441	D664-A	0.02	C	-2.62
					6443		-----		-----

			D974/ISO6618/IP139 only	D664/IP177 only
	normality	OK	OK	OK
	n	75	37	39
	outliers	1	0	1
	mean (n)	0.05744	0.05661	0.05746
	st.dev. (n)	0.017374	0.016375	0.018886
	R(calc.)	0.04865	0.04585	0.05288
	st.dev.(D974:21)	0.014286	0.014286	-----
	R(D974:21)	0.04	0.04	-----
Compare				
	R(D664A:18e2)	0.04	-----	0.04

Lab 317 first reported 0.12
Lab 6441 first reported 0.2





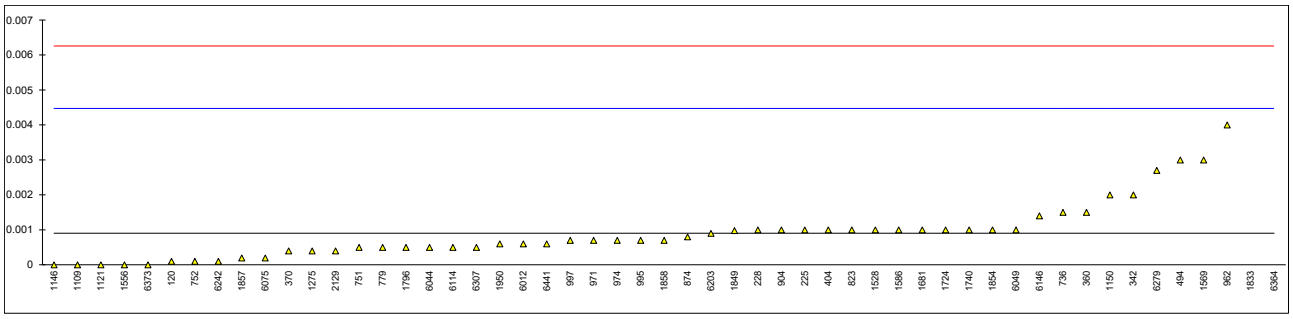
Determination of Ash content on sample #22005; result in %M/M

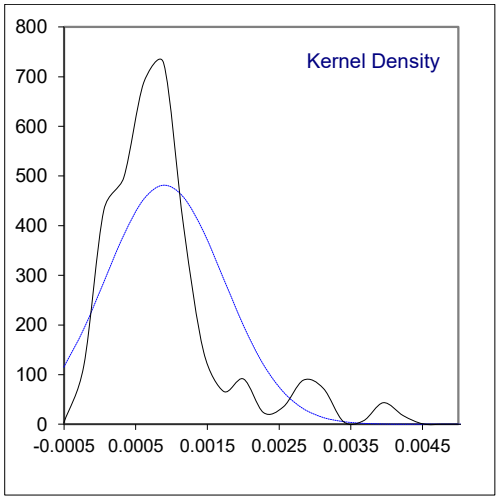
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
120	D482	0.0001		-0.45	873	D482	<0.010		-----
140	ISO6245	<0.001		-----	874	ISO6245	0.0008		-0.06
171	D482	<0.010		-----	875	ISO6245	<0.01		-----
206		-----		-----	902	D482	<0.01		-----
207		-----		-----	904	ISO6245	0.001		0.06
208		-----		-----	913		-----		-----
209		-----		-----	914		-----		-----
225	D482	0.001		0.06	962	D482	0.004		1.74
228	D482	0.001		0.06	963	ISO6245	<0.01		-----
237	D482	<0.01		-----	971	ISO6245	0.0007		-0.11
238		-----		-----	974	D482	0.0007		-0.11
311	ISO6245	<0.001		-----	995	ISO6245	0.0007		-0.11
312		-----		-----	997	ISO6245	0.0007		-0.11
317	ISO6245	<0.001		-----	1006		-----		-----
323	ISO6245	< 0.001		-----	1026	ISO6245	<0.001		-----
328		-----		-----	1039	ISO6245	<0.001		-----
331	ISO6245	<0.001		-----	1059	ISO6245	<0.001		-----
333		-----		-----	1080		-----		-----
334	ISO6245	<0.001		-----	1097		-----		-----
335		-----		-----	1108		-----		-----
337		-----		-----	1109	D482	0.0000		-0.50
338		-----		-----	1121	ISO6245	0.000		-0.50
342	D482	0.002		0.62	1126		-----		-----
343	ISO6245	<0.001	C	-----	1146	D482	0.0000		-0.50
345	ISO6245	<0.001	C	-----	1150	ISO6245	0.002		0.62
351	ISO6245	<0.001		-----	1199		-----		-----
360	D482	0.0015		0.34	1205		-----		-----
365	IP4	<0.001		-----	1212	ISO6245	<0.001		-----
369	ISO6245	<0.001		-----	1254	ISO6245	< 0.001		-----
370	ISO6245	0.0004		-0.28	1259		-----		-----
371	ISO6245	<0.001		-----	1266		-----		-----
381		-----		-----	1275	IP4	0.0004		-0.28
391		-----		-----	1286		-----		-----
398		-----		-----	1318		-----		-----
399		-----		-----	1356	ISO6245	<0.010		-----
404	ISO6245	0.001		0.06	1357	D482	<0.01		-----
420	ISO6245	<0.001		-----	1397		-----		-----
431		-----		-----	1399		-----		-----
432		-----		-----	1438		-----		-----
440		-----		-----	1498		-----		-----
444		-----		-----	1528	ISO6245	0.0010		0.06
445	IP4	<0.0001		-----	1556	ISO6245	0.000		-0.50
447	ISO6245	<0.001		-----	1569	ISO6245	0.003		1.18
480		-----		-----	1586	ISO6245	0.001		0.06
494	ISO6245	0.003		1.18	1612		-----		-----
495		-----		-----	1613	D482	<0.01		-----
498		-----		-----	1631	ISO6245	<0.001		-----
541	ISO6245	<0.001		-----	1656	ISO6245	<0.01		-----
631	D482	<0.01		-----	1681	ISO6245	0.0010		0.06
663	D482	<0.010		-----	1724	D482	0.001		0.06
671	D482	<0.001		-----	1730		-----		-----
704	ISO6245	<0.001		-----	1740	IP4	0.001		0.06
734		-----		-----	1742		-----		-----
736	GOST1461	0.0015		0.34	1743	ISO6245	<0.001		-----
751	D482	0.0005		-0.22	1776		-----		-----
752	D482	0.0001		-0.45	1796	D482	0.0005		-0.22
759	ISO6245	<0.001		-----	1807		-----		-----
778		-----		-----	1833	ISO6245	0.01	R(0.01)	5.10
779	ISO6245	0.0005		-0.22	1849	ISO6245	0.00098		0.04
781	ISO6245	<0.001		-----	1854	ISO6245	0.001		0.06
782		-----		-----	1857	ISO6245	0.0002		-0.39
785	D482	<0.01		-----	1858	D482	0.0007		-0.11
798		-----		-----	1950	D482	0.0006		-0.17
823	ISO6245	0.001		0.06	1953		-----		-----
872		-----		-----	1961		-----		-----

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
1967		-----		-----	6146	ISO6245	0.0014		0.28
1976		-----		-----	6170		-----		-----
1982		-----		-----	6203	ISO6245	0.0009		0.00
1984		-----		-----	6229		-----		-----
1986	ISO6245	<0.001		-----	6242	ISO6245	0.0001		-0.45
2129	IP4	0.0004		-0.28	6279	ISO6245	0.0027		1.01
2130		-----		-----	6298	D482	<0.010		-----
2146		-----		-----	6299		-----		-----
6012	ISO6245	0.0006		-0.17	6307	IP4	0.0005		-0.22
6018		-----		-----	6317		-----		-----
6026		-----		-----	6321	IP4	<0.001		-----
6044	ISO6245	0.0005		-0.22	6364	D482	0.07	R(0.01)	38.70
6049	ISO6245	0.001		0.06	6373	D482	0		-0.50
6075	ISO6245	0.0002		-0.39	6379		-----		-----
6114	ISO6245	0.0005		-0.22	6416		-----		-----
6142		-----		-----	6438		-----		-----
6143		-----		-----	6441	ISO6245	0.0006		-0.17
					6443		-----		-----

normality	not OK
n	51
outliers	2
mean (n)	0.00090
st.dev. (n)	0.000829
R(calc.)	0.00232
st.dev.(ISO6245:01)	0.001786
R(ISO6245:01)	0.005

Lab 343 first reported 0.13
Lab 345 first reported 0.13





Determination of Calculated Cetane Index, four variables on sample #22005

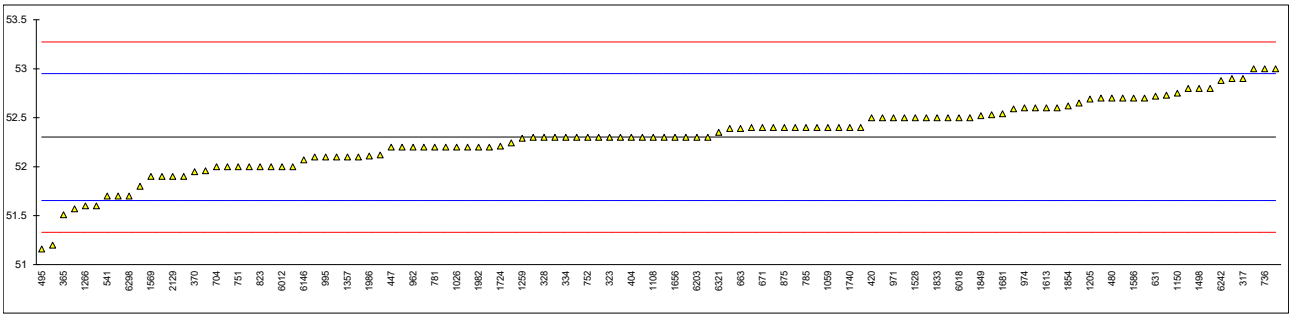
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
120		-----		-----	873	D4737-A	52.2		-0.32
140	ISO4264	52.6		0.92	874	ISO4264	52.4		0.30
171		-----		-----	875	ISO4264	52.4		0.30
206		-----		-----	902	ISO4264	52		-0.94
207		-----		-----	904	ISO4264	52.3		-0.01
208		-----		-----	913		-----		-----
209		-----		-----	914		-----		-----
225	D4737-A	52.39		0.27	962	D4737-A	52.2		-0.32
228		-----		-----	963	ISO4264	52.4		0.30
237	D4737-A	52.1		-0.63	971	D4737-B	52.5		0.61
238		-----		-----	974	D4737-A	52.6		0.92
311		-----		-----	995	ISO4264	52.1		-0.63
312	ISO4264	52.4		0.30	997	ISO4264	52.0		-0.94
317	ISO4264	52.9		1.84	1006	D4737-A	52.8		1.53
323	ISO4264	52.3		-0.01	1026	ISO4264	52.2		-0.32
328	ISO4264	52.3		-0.01	1039	D976	52.7		1.23
331		-----		-----	1059	ISO4264	52.4		0.30
333		-----		-----	1080		-----		-----
334	ISO4264	52.3		-0.01	1097	ISO4264	52.3		-0.01
335	ISO4264	52.5		0.61	1108	D4737-A	52.3		-0.01
337		-----		-----	1109	D4737-A	52.3		-0.01
338		-----		-----	1121	ISO4264	52.242		-0.19
342	ISO4264	52.4		0.30	1126		-----		-----
343	ISO4264	52.2		-0.32	1146	ISO4264	52.59		0.89
345		-----		-----	1150	ISO4264	52.75	E	1.38
351	ISO4264	52.3		-0.01	1199		-----		-----
360	ISO4264	52.3		-0.01	1205	ISO4264	52.69		1.19
365	IP380	51.51		-2.45	1212	ISO4264	52.4		0.30
369	ISO4264	51.96		-1.06	1254	ISO4264	52.53		0.70
370	ISO4264	51.95		-1.09	1259	ISO4264	52.29		-0.04
371	ISO4264	52.7		1.23	1266	ISO4264	51.6	E	-2.17
381	ISO4264	52.65	C	1.07	1275	IP380	51.8		-1.55
391		-----		-----	1286		-----		-----
398		-----		-----	1318		-----		-----
399	D4737-A	52.9	C	1.84	1356	ISO4264	52	E	-0.94
404	ISO4264	52.3		-0.01	1357	D4737-A	52.1		-0.63
420	ISO4264	52.5		0.61	1397	ISO4264	52.5	C	0.61
431		-----		-----	1399		-----		-----
432		-----		-----	1438		-----		-----
440		-----		-----	1498	D4737-A	52.8		1.53
444		-----		-----	1528	ISO4264	52.5		0.61
445	IP380	51.2	E	-3.41	1556	ISO4264	52.5		0.61
447	IP380	52.2		-0.32	1569	ISO4264	51.9		-1.24
480	ISO4264	52.7		1.23	1586	ISO4264	52.7		1.23
494	ISO4264	52.3		-0.01	1612		-----		-----
495	D4737-B	51.16		-3.53	1613	D4737-A	52.6		0.92
498		-----		-----	1631		-----		-----
541	D4737-A	51.70		-1.86	1656	ISO4264	52.3		-0.01
631	D4737-A	52.72		1.29	1681	ISO4264	52.54		0.73
663	D4737-A	52.39		0.27	1724	D4737-A	52.21		-0.29
671	D4737-A	52.40		0.30	1730		-----		-----
704	D4737-A	52.0		-0.94	1740	IP380	52.4		0.30
734	ISO4264	52.73		1.32	1742		-----		-----
736	D4737	53.0		2.15	1743	ISO4264	52.1		-0.63
751	D4737-A	52.0		-0.94	1776	ISO4264	51.6		-2.17
752	D4737-A	52.3		-0.01	1796	D4737-A	52.2		-0.32
759	ISO4264	52.2		-0.32	1807	D4737-A	51.9		-1.24
778		-----		-----	1833	ISO4264	52.5	E	0.61
779	ISO4264	52.3		-0.01	1849	ISO4264	52.52		0.67
781	ISO4264	52.2		-0.32	1854	D4737-A	52.62		0.98
782	D4737-A	52.1		-0.63	1857	ISO4264	52.3		-0.01
785	ISO4264	52.4		0.30	1858	D4737-A	51.7		-1.86
798	D4737-A	53.0		2.15	1950		-----		-----
823	D4737-A	52.0		-0.94	1953		-----		-----
872		-----		-----	1961		-----		-----

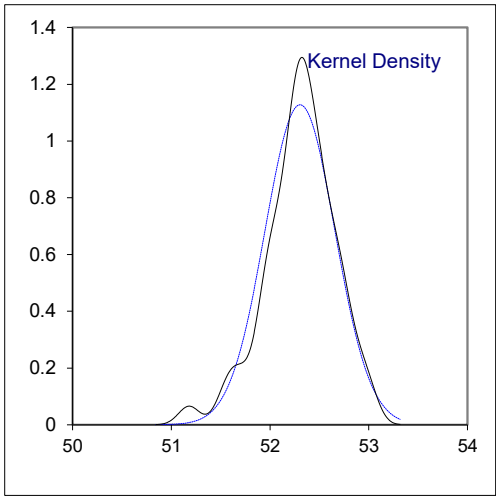
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
1967		-----		-----	6146	ISO4264	52.07		-0.72
1976	D4737-A	52.7		1.23	6170		-----		-----
1982	ISO4264	52.2	E	-0.32	6203	ISO4264	52.3		-0.01
1984	ISO4264	52.5		0.61	6229		-----		-----
1986	ISO4264	52.11	C	-0.60	6242	ISO4264	52.88		1.78
2129	IP380	51.9		-1.24	6279	ISO4264	51.57	E	-2.26
2130	D4737-A	52.12		-0.56	6298	D4737-A	51.7		-1.86
2146		-----		-----	6299	ISO4264	52.5		0.61
6012	ISO4264	52		-0.94	6307		-----		-----
6018	ISO4264	52.5		0.61	6317		-----		-----
6026		-----		-----	6321	IP380	52.3514		0.15
6044	ISO4264	53		2.15	6364	D976	51.9		-1.24
6049	ISO4264	52.4		0.30	6373	ISO4264	52.2		-0.32
6075		-----		-----	6379		-----		-----
6114	ISO4264	52.6		0.92	6416	D4737-A	52.8		1.53
6142		-----		-----	6438	D4737B	52.0		-0.94
6143		-----		-----	6441	ISO4264	52.3		-0.01
					6443		-----		-----

normality	OK
n	114
outliers	0
mean (n)	52.303
st.dev. (n)	0.3539
R(calc.)	0.991
st.dev.(iis memo 1904)	0.3239
R(iis memo 1904)	0.907

Lab 381 first reported 42.65
Lab 399 first reported 53.3
Lab 1397 first reported 48.5
Lab 1986 first reported 51.1

For labs with an E iis calculated a difference in CCL:
Lab 445: 52.1
Lab 1150: 52.3
Lab 1266: 52.0
Lab 1356: 52.2
Lab 1833: 52.1
Lab 1982: 52.5
Lab 6279: 52.4



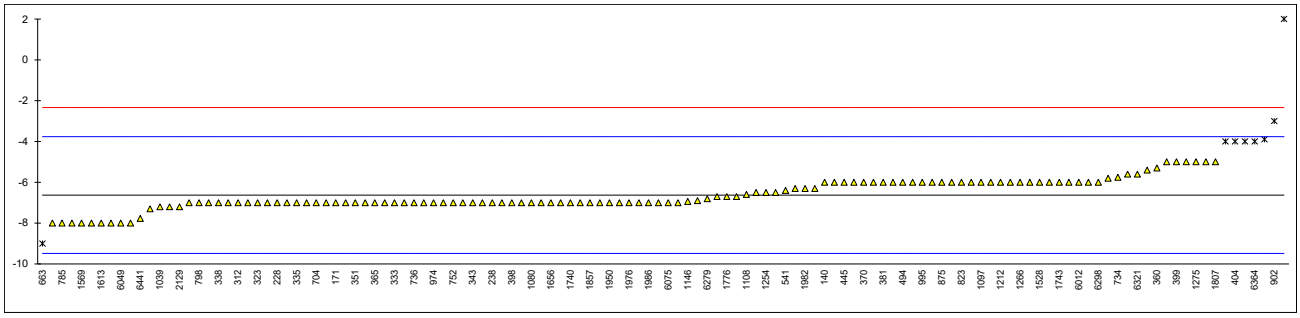


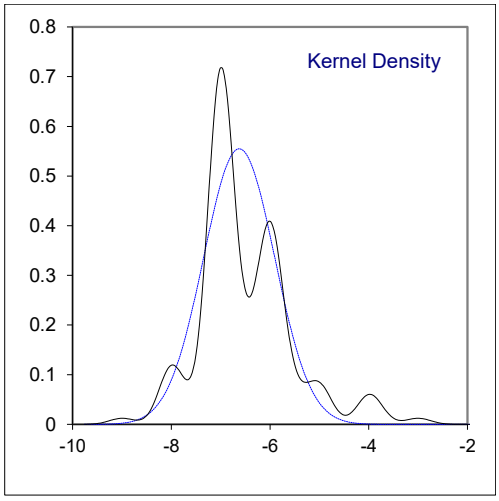
Determination of Cloud Point on sample #22005; result in °C

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
120	D5773	-6.3		0.23	873	D2500	-6		0.44
140	EN23015	-6		0.44	874	ISO3015	-6		0.44
171	D2500	-7		-0.26	875	EN23015	-6		0.44
206		-----		-----	902	ISO3015	-3	R(0.05)	2.54
207		-----		-----	904	ISO3015	-4	R(0.05)	1.84
208		-----		-----	913		-----		-----
209		-----		-----	914		-----		-----
225	D2500	-6		0.44	962	D2500	-7		-0.26
228	D2500	-7		-0.26	963	ISO3015	-8		-0.96
237	D2500	-5		1.14	971	D2500	-7		-0.26
238	D2500	-7		-0.26	974	D2500	-7		-0.26
311	D2500	-7		-0.26	995	ISO3015	-6		0.44
312	EN23015	-7		-0.26	997	ISO3015	-7		-0.26
317	D5771	-7		-0.26	1006		-----		-----
323	ISO3015	-7		-0.26	1026	D5773	-6		0.44
328	ISO3015	-7		-0.26	1039	ISO3015	-7.2		-0.40
331		-----		-----	1059	ISO3015	-8		-0.96
333	D2500	-7.0		-0.26	1080	D2500	-7		-0.26
334	ISO3015	-7		-0.26	1097	ISO3015	-6		0.44
335	ISO3015	-7		-0.26	1108	D5771	-6.6		0.02
337	ISO3015	-7		-0.26	1109	D5773	-5.8		0.58
338	ISO3015	-7		-0.26	1121	ISO3015	-3.9	R(0.05)	1.91
342	ISO3015	-6		0.44	1126		-----		-----
343	ISO3015	-7		-0.26	1146	ISO3015	-6.94		-0.22
345	D5771	-6.9		-0.19	1150	ISO3015	-6		0.44
351	D7683	-7.0		-0.26	1199		-----		-----
360	ISO3015	-5.3		0.93	1205		-----		-----
365	IP219	-7		-0.26	1212	D7689	-6		0.44
369	EN23015	-7		-0.26	1254	ISO3015	-6.5		0.09
370	ISO3015	-6		0.44	1259	EN23015	-6		0.44
371	ISO3015	-7		-0.26	1266	ISO22995	-6.0		0.44
381	ISO3015	-6		0.44	1275	IP219	-5		1.14
391	ISO3015	-6		0.44	1286		-----		-----
398	EN23015	-7		-0.26	1318	D7689	-6.7		-0.05
399	ISO3015	-5		1.14	1356	EN23015	2	R(0.01)	6.04
404	D2500	-4	R(0.05)	1.84	1357	D5772	-6.0		0.44
420	ISO3015	-7		-0.26	1397	EN23015	-7		-0.26
431		-----		-----	1399		-----		-----
432		-----		-----	1438		-----		-----
440		-----		-----	1498	D2500	-5		1.14
444		-----		-----	1528	ISO3015	-6		0.44
445	IP219	-6		0.44	1556	ISO3015	-7.2		-0.40
447	IP219	-7		-0.26	1569	EN23015	-8		-0.96
480		-----		-----	1586	D2500	-8		-0.96
494	ISO3015	-6		0.44	1612		-----		-----
495	ISO22995	-6		0.44	1613	D2500	-8.0		-0.96
498		-----		-----	1631	ISO3015	-8		-0.96
541	D5771	-6.4		0.16	1656	IP219	-7		-0.26
631	D5773	-6.5		0.09	1681	ISO3015	-7		-0.26
663	D2500	-9	R(0.05)	-1.66	1724	D2500	-6		0.44
671	D2500	-5		1.14	1730		-----		-----
704	D2500	-7		-0.26	1740	IP219	-7		-0.26
734	D7683	-5.75		0.61	1742		-----		-----
736	EN23015	-7		-0.26	1743	ISO3015	-6		0.44
751	ISO3015	-7		-0.26	1776	ISO3015	-6.7		-0.05
752	D2500	-7		-0.26	1796	D2500	-7		-0.26
759	ISO3015	-7		-0.26	1807	ISO3015	-5		1.14
778	D2500	-7		-0.26	1833		-----		-----
779	ISO3015	-7		-0.26	1849		-----		-----
781	ISO3015	-6		0.44	1854	D2500	-6		0.44
782	ISO3015	-7		-0.26	1857	ISO3015	-7		-0.26
785	D7683	-8		-0.96	1858	D2500	-7		-0.26
798	D2500	-7		-0.26	1950	D2500	-7		-0.26
823	ISO3015	-6		0.44	1953	D7683	-7		-0.26
872	D2500	-7		-0.26	1961		-----		-----

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
1967		-----		-----	6146	ISO3015	-7.3		-0.47
1976	ISO3015	-7		-0.26	6170		-----		-----
1982	D2500	-6.3		0.23	6203	ISO3015	-4	R(0.05)	1.84
1984	ISO3015	-7		-0.26	6229		-----		-----
1986	ISO3015	-7		-0.26	6242	ISO3015	-6.7		-0.05
2129	D2500	-7.2		-0.40	6279	ISO3015	-6.8		-0.12
2130	D5771	-5.6		0.72	6298	D2500	-6		0.44
2146		-----		-----	6299	ISO3015	-7		-0.26
6012	D2500	-6		0.44	6307		-----		-----
6018	ISO3015	-7		-0.26	6317		-----		-----
6026		-----		-----	6321	D5773	-5.6		0.72
6044	ISO3015	-6.3		0.23	6364	D2500	-4	R(0.05)	1.84
6049	ISO3015	-8.0		-0.96	6373	ISO3015	-6.5		0.09
6075	EN23015	-7		-0.26	6379		-----		-----
6114	ISO3015	-5.4		0.86	6416		-----		-----
6142		-----		-----	6438	D2500	-8		-0.96
6143	D2500	-6		0.44	6441	D2500	-7.77		-0.80
					6443		-----		-----

normality	OK
n	120
outliers	8
mean (n)	-6.63
st.dev. (n)	0.719
R(calc.)	2.01
st.dev.(ISO3015:19)	1.429
R(ISO3015:19)	4



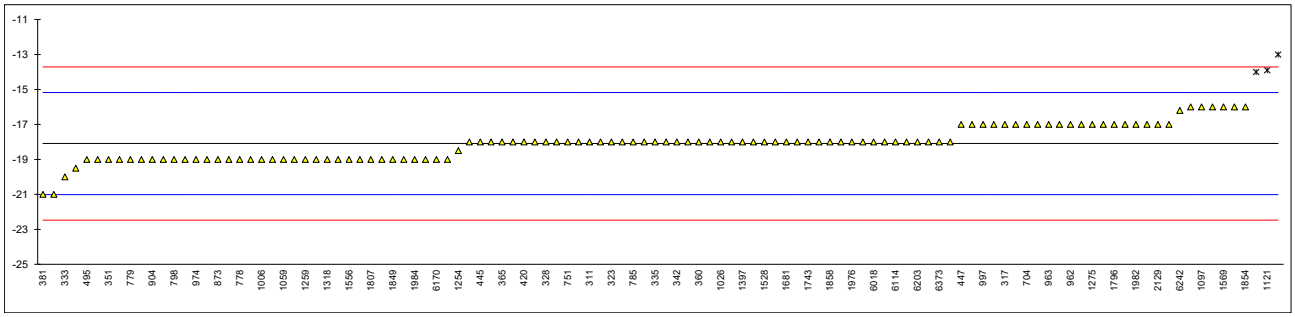


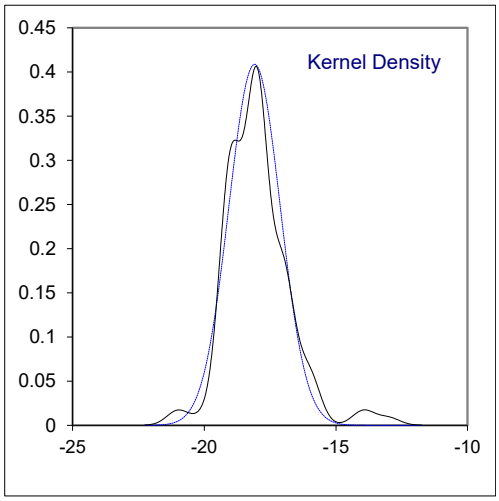
Determination of Cold Filter Plugging Point (CFPP) on sample #22005; result in °C

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
120	D6371	-13.0	R(0.01)	3.49	873	EN116	-19		-0.62
140		-----		-----	874	EN116	-19		-0.62
171	EN116	-16		1.43	875	EN116	-18		0.06
206		-----		-----	902	EN116	-18		0.06
207		-----		-----	904	EN116	-19		-0.62
208		-----		-----	913		-----		-----
209		-----		-----	914		-----		-----
225		-----		-----	962	D6371	-17		0.75
228		-----		-----	963	EN116	-17		0.75
237	D6371	-18		0.06	971	IP309	-19		-0.62
238		-----		-----	974	IP309	-19		-0.62
311	EN116	-18		0.06	995		-----		-----
312	EN116	-18		0.06	997	EN116	-17		0.75
317	EN116	-17		0.75	1006	D6371	-19		-0.62
323	EN116	-18		0.06	1026	EN16329	-18		0.06
328	EN116	-18		0.06	1039	EN116	-19		-0.62
331		-----		-----	1059	EN116	-19		-0.62
333	EN116	-20.0		-1.31	1080		-----		-----
334	EN116	-17		0.75	1097	EN116	-16		1.43
335	EN116	-18		0.06	1108	EN116	-18		0.06
337	EN116	-18		0.06	1109		-----		-----
338	EN116	-19		-0.62	1121	IP309	-13.9	R(0.01)	2.87
342	EN116	-18		0.06	1126		-----		-----
343	EN116	-17		0.75	1146		-----		-----
345	EN116	-17		0.75	1150	EN116	-19		-0.62
351	EN116	-19		-0.62	1199		-----		-----
360	EN116	-18		0.06	1205		-----		-----
365	IP309	-18		0.06	1212	EN116	-16		1.43
369		-----		-----	1254	EN116	-18.5		-0.28
370	EN116	-19		-0.62	1259	EN116	-19		-0.62
371	EN116	-19		-0.62	1266	EN116	-19.0		-0.62
381	EN116	-21		-1.99	1275	IP309	-17		0.75
391	EN116	-19		-0.62	1286		-----		-----
398	EN116	-18		0.06	1318	D6371	-19		-0.62
399		-----		-----	1356	EN116	-19		-0.62
404	EN116	-18		0.06	1357	D6371	n.a		-----
420	EN116	-18		0.06	1397	EN116	-18		0.06
431	EN116	-19		-0.62	1399		-----		-----
432		-----		-----	1438		-----		-----
440	IP309	-17.0		0.75	1498	D6371	-18		0.06
444		-----		-----	1528	EN116	-18		0.06
445	IP309	-18.0		0.06	1556	EN116	-19		-0.62
447	IP309	-17		0.75	1569	EN116	-16		1.43
480		-----		-----	1586	EN116	-18		0.06
494	EN116	-17		0.75	1612		-----		-----
495	EN116	-19		-0.62	1613	D6371	-21.0		-1.99
498		-----		-----	1631	EN116	-19		-0.62
541	EN116	-18		0.06	1656	IP309	-16		1.43
631		-----		-----	1681	EN116	-18.0		0.06
663	EN116	-14	R(0.01)	2.80	1724	IP309	-18		0.06
671		-----		-----	1730		-----		-----
704	EN116	-17		0.75	1740	IP309	-17		0.75
734	EN116	-17		0.75	1742		-----		-----
736	EN116	-18		0.06	1743	EN116	-18		0.06
751	D6371	-18		0.06	1776	EN116	-18		0.06
752	D6371	-19		-0.62	1796	D6371	-17		0.75
759	D6371	-18		0.06	1807	EN116	-19		-0.62
778	EN116	-19		-0.62	1833	EN116	-19		-0.62
779	EN116	-19		-0.62	1849	EN116	-19		-0.62
781	EN116	-18		0.06	1854	EN116	-16		1.43
782	D6371	-19.5		-0.97	1857	EN116	-17		0.75
785	EN116	-18		0.06	1858	IP309	-18		0.06
798	D6371	-19		-0.62	1950	IP309	-19		-0.62
823	D6371	-18		0.06	1953	EN116	-18		0.06
872		-----		-----	1961		-----		-----

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
1967		-----		-----	6146	EN116	-18		0.06
1976	EN116	-18		0.06	6170	EN116	-19		-0.62
1982	D6371	-17.0		0.75	6203	EN116	-18		0.06
1984	EN116	-19		-0.62	6229		-----		-----
1986	EN116	-17		0.75	6242	EN116	-16.2		1.30
2129	EN116	-17		0.75	6279	EN116	-19.0		-0.62
2130	D6371	-18.0		0.06	6298		-----		-----
2146		-----		-----	6299		-----		-----
6012	EN116	-19		-0.62	6307		-----		-----
6018	EN116	-18		0.06	6317		-----		-----
6026		-----		-----	6321	IP309	-18		0.06
6044	EN116	-17		0.75	6364		-----		-----
6049	EN116	-18.0		0.06	6373	EN116	-18		0.06
6075		-----		-----	6379		-----		-----
6114	EN116	-18		0.06	6416		-----		-----
6142		-----		-----	6438		-----		-----
6143		-----		-----	6441	EN116	-18.0		0.06
					6443		-----		-----

normality	OK
n	111
outliers	3
mean (n)	-18.09
st.dev. (n)	0.976
R(calc.)	2.73
st.dev.(EN116:15)	1.459
R(EN116:15)	4.09





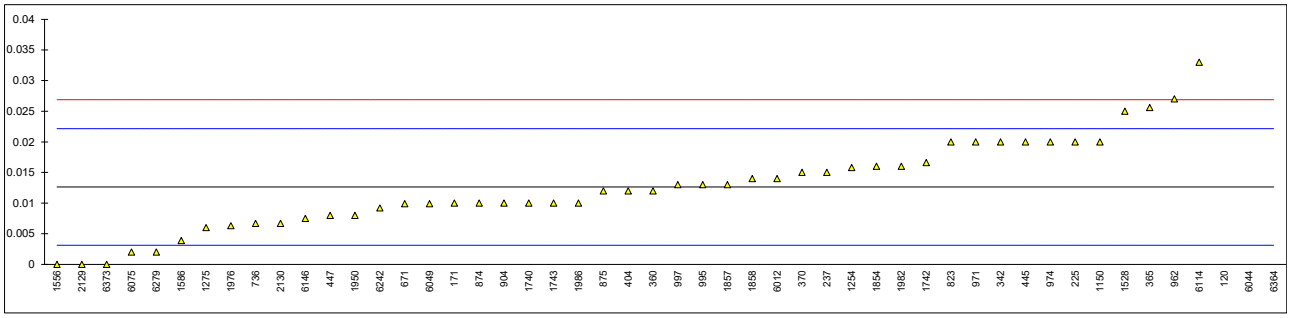
Determination of Carbon Residue (micro method) on 10% residue on sample #22005; result in %M/M

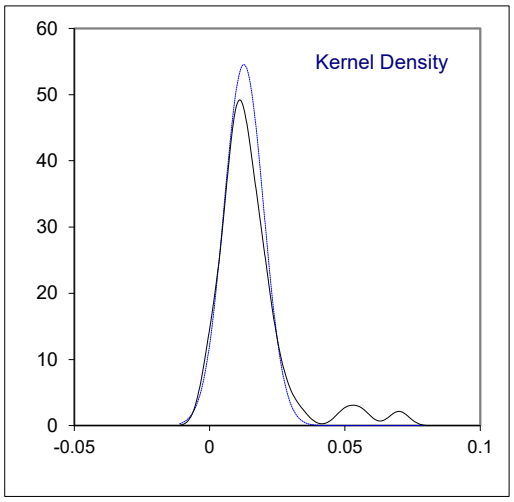
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
120	ISO10370	0.05	R(0.01)	7.87	873	ISO10370	<0.1		-----
140	ISO10370	<0.10		-----	874	ISO10370	0.010		-0.56
171	D189	0.01		-0.56	875	ISO10370	0.012		-0.13
206		-----		-----	902	ISO10370	<0,10		-----
207		-----		-----	904	ISO10370	0.01		-0.56
208		-----		-----	913		-----		-----
209		-----		-----	914		-----		-----
225	D4530	0.02		1.55	962	D4530	0.027		3.02
228		-----		-----	963	ISO10370	<0.01		-----
237	D4530	0.015		0.50	971	ISO10370	0.02		1.55
238		-----		-----	974	D4530	0.02		1.55
311	ISO10370	<0.10		-----	995	D189	0.013		0.08
312		-----		-----	997	ISO10370	0.013		0.08
317	ISO10370	<0.10		-----	1006		-----		-----
323	ISO10370	< 0.10		-----	1026	ISO10370	<0.10		-----
328	ISO10370	<0.10		-----	1039	ISO10370	<0.10		-----
331		-----		-----	1059	ISO10370	<0,10		-----
333		-----		-----	1080		-----		-----
334	ISO10370	<0.10		-----	1097		-----		-----
335		-----		-----	1108		-----		-----
337		-----		-----	1109	D4530	<0.1		-----
338		-----		-----	1121	ISO10370	<0.01		-----
342	ISO10370	0.02		1.55	1126		-----		-----
343	ISO10370	<0.1		-----	1146		-----		-----
345		-----		-----	1150	ISO6615	0.02		1.55
351	ISO10370	<0.10		-----	1199		-----		-----
360	D4530	0.012		-0.13	1205		-----		-----
365	IP13	0.0256		2.73	1212	ISO10370	<0.10		-----
369	ISO10370	<0.01		-----	1254	ISO10370	0.0158		0.67
370	ISO10370	0.015		0.50	1259		-----		-----
371		-----		-----	1266		-----		-----
381		-----		-----	1275	IP398	0.006		-1.40
391		-----		-----	1286		-----		-----
398		-----		-----	1318		-----		-----
399		-----		-----	1356	ISO10370	<0.01		-----
404	ISO10370	0.012		-0.13	1357	D4530	<0.1		-----
420	ISO6615	<0.01		-----	1397		-----		-----
431		-----		-----	1399		-----		-----
432		-----		-----	1438		-----		-----
440		-----		-----	1498		-----		-----
444		-----		-----	1528	ISO10370	0.025		2.60
445	ISO10370	0.02		1.55	1556	ISO10370	0.000		-2.66
447	IP398	0.008		-0.98	1569	ISO10370	<0.10		-----
480		-----		-----	1586	ISO10370	0.0039		-1.84
494	ISO10370	<0.03		-----	1612		-----		-----
495		-----		-----	1613	D189	<0.1		-----
498		-----		-----	1631	ISO10370	<0.1		-----
541	ISO10370	<0.10		-----	1656	ISO10370	<0.1		-----
631	D4530	<0.1		-----	1681		-----		-----
663	D4530	<0.1		-----	1724	D4530	<0.1		-----
671	D4530	0.0099		-0.58	1730		-----		-----
704	ISO10370	<0.1		-----	1740	IP398	0.01		-0.56
734		-----		-----	1742	ISO10370	0.0166		0.83
736	GOST32392	0.0067		-1.25	1743	ISO10370	0.01		-0.56
751	D4530	<0.1		-----	1776		-----		-----
752		-----		-----	1796		-----		-----
759		-----		-----	1807		-----		-----
778		-----		-----	1833	ISO10370	<0.10		-----
779		-----		-----	1849		-----		-----
781	ISO10370	<0.10		-----	1854	ISO10370	0.016		0.71
782		-----		-----	1857	ISO10370	0.013		0.08
785	ISO10370	<0.10		-----	1858	D4530	0.0140		0.29
798		-----		-----	1950	ISO10370	0.008		-0.98
823	ISO10370	0.02		1.55	1953		-----		-----
872		-----		-----	1961		-----		-----

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
1967		-----		-----	6146	ISO10370	0.0075		-1.08
1976	ISO10370	0.0063		-1.33	6170		-----		-----
1982	D4530	0.016		0.71	6203		-----		-----
1984		-----		-----	6229		-----		-----
1986	ISO10370	0.010		-0.56	6242	ISO10370	0.0092		-0.72
2129	IP398	0		-2.66	6279	ISO10370	0.002		-2.24
2130	IP398	0.0067		-1.25	6298	D4530	<0.10		-----
2146		-----		-----	6299		-----		-----
6012	D189	0.014		0.29	6307		-----		-----
6018		-----		-----	6317		-----		-----
6026		-----		-----	6321	IP398	<0.10		-----
6044	ISO10370	0.056	R(0.01)	9.13	6364	D524	0.07	ex	12.08
6049	ISO10370	0.0099		-0.58	6373	ISO10370	0		-2.66
6075	ISO10370	0.002		-2.24	6379		-----		-----
6114	ISO10370	0.033		4.29	6416		-----		-----
6142		-----		-----	6438		-----		-----
6143		-----		-----	6441		-----		-----
					6443		-----		-----

normality	OK
n	47
outliers	2+1ex
mean (n)	0.01264
st.dev. (n)	0.007314
R(calc.)	0.02048
st.dev.(ISO10370:14)	0.004750
R(ISO10370:14)	0.01330

Lab 6321: test value is excluded because ASTM D524 has a bias compared to test method ISO10370





Determination of Copper Corrosion 3 hrs at 50°C on sample #22005

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
120	D130	1A		-----	873	D130	1?		-----
140	D130	1a		-----	874	D130	1a		-----
171	D130	1a		-----	875	D130	1a		-----
206		-----		-----	902	D130	1a		-----
207		-----		-----	904	ISO2160	1a		-----
208		-----		-----	913		-----		-----
209		-----		-----	914		-----		-----
225	D130	1a		-----	962	D130	1A		-----
228	D130	1A		-----	963	D130	1a		-----
237	D130	1A		-----	971	ISO2160	1a		-----
238	D130	1A		-----	974	D130	1a		-----
311	D130	1A		-----	995	D130	1a		-----
312	D130	1a		-----	997		-----		-----
317	D130	1A		-----	1006	D130	1a		-----
323	D130	1A		-----	1026	ISO2160	1A		-----
328	ISO2160	1		-----	1039	ISO2160	1A		-----
331		-----		-----	1059	ISO2160	1a		-----
333		-----		-----	1080		-----		-----
334	ISO2160	1		-----	1097	ISO2160	1a		-----
335	D130	1		-----	1108	ISO2160	1		-----
337		-----		-----	1109	D130	1a		-----
338		-----		-----	1121	D130	1a		-----
342	ISO2160	1a		-----	1126		-----		-----
343	ISO2160	1a		-----	1146		-----		-----
345	ISO2160	1a		-----	1150	ISO2160	1a		-----
351	ISO2160	1a		-----	1199		-----		-----
360	D130	1A		-----	1205		-----		-----
365	IP154	1a		-----	1212	ISO2160	1a		-----
369	ISO2160	1A		-----	1254	ISO2160	1A		-----
370	ISO2160	1A		-----	1259		-----		-----
371	ISO2160	1a		-----	1266	ISO2160	1a		-----
381		-----		-----	1275	IP154	1A		-----
391		-----		-----	1286		-----		-----
398		-----		-----	1318	D130	1a		-----
399	D130	1A		-----	1356		-----		-----
404	ISO2160	clasa 1		-----	1357	D130	1a		-----
420	ISO2160	1a		-----	1397		-----		-----
431		-----		-----	1399		-----		-----
432		-----		-----	1438		-----		-----
440	IP154	1b		-----	1498		-----		-----
444		-----		-----	1528	ISO2160	1a		-----
445	IP154	1a		-----	1556	ISO2160	class 1		-----
447	IP154	1a		-----	1569	ISO2160	1a		-----
480	ISO2160	1		-----	1586	D130	1A		-----
494	ISO2160	1a		-----	1612		-----		-----
495		-----		-----	1613	D130	1a		-----
498		-----		-----	1631	ISO2160	1A		-----
541	D130	1a		-----	1656	IP154	1a		-----
631	D130	1a		-----	1681	ISO2160	1a		-----
663	D130	1a		-----	1724	D130	1a		-----
671	D130	1A		-----	1730		-----		-----
704	ISO2160	1a		-----	1740	ISO2160	1a		-----
734		-----		-----	1742		-----		-----
736	GOST32392	1?		-----	1743	ISO2160	1a		-----
751	D130	1a		-----	1776		-----		-----
752		-----		-----	1796	D130	1a		-----
759		-----		-----	1807	ISO2160	1a		-----
778		-----		-----	1833	D130	1		-----
779	ISO2160	1a		-----	1849	ISO2160	1A		-----
781	ISO2160	1a		-----	1854	ISO2160	1A		-----
782		-----		-----	1857	D130	1a		-----
785	D130	1a		-----	1858	D130	1a		-----
798	D130	1a		-----	1950	D130	1a		-----
823	D130	1a		-----	1953	ISO2160	Class 1A		-----
872		-----		-----	1961	ISO2160	1a		-----

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
1967		-----		-----	6146	ISO2160	1a		-----
1976	ISO2160	1a		-----	6170		-----		-----
1982		-----		-----	6203	ISO2160	1b		-----
1984		-----		-----	6229		-----		-----
1986	ISO2160	1A		-----	6242	ISO2160	1a		-----
2129	IP154	1a		-----	6279		-----		-----
2130	D130	1a		-----	6298	D130	1A		-----
2146		-----		-----	6299	ISO2160	1B		-----
6012	D130	1A		-----	6307		-----		-----
6018	ISO2160	1a		-----	6317	D130	1a		-----
6026		-----		-----	6321	IP154	1A		-----
6044		-----		-----	6364	D130	1A		-----
6049	ISO2160	1a		-----	6373	D130	1A		-----
6075	ISO2160	1a		-----	6379		-----		-----
6114	ISO2160	1a		-----	6416	D130	1A		-----
6142		-----		-----	6438	D130	1a		-----
6143		-----		-----	6441		-----		-----
					6443	D130	1a		-----

n	110
mean (n)	1 (1A/1B)

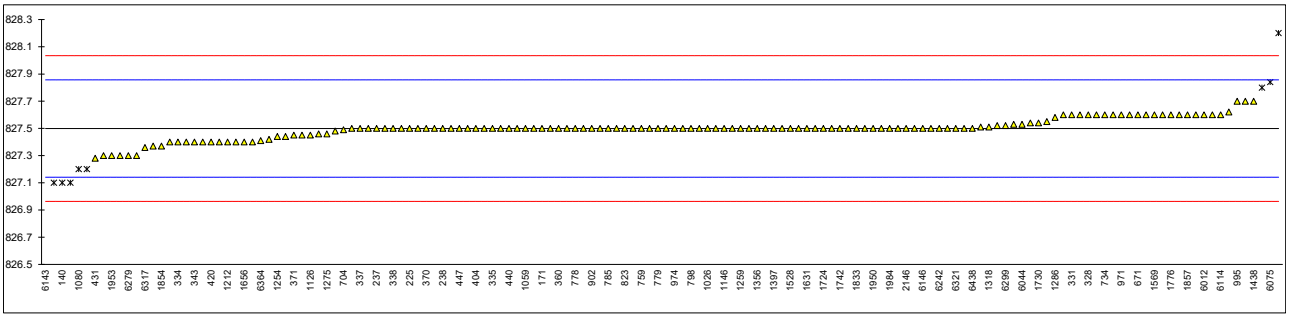
Determination of Density at 15°C on sample #22005; result in kg/m^3

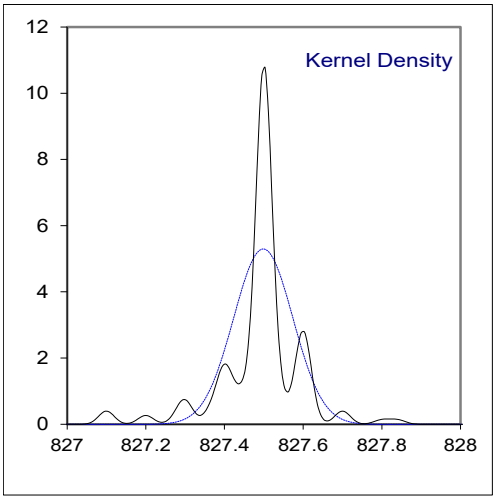
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
120	D4052	827.1	R(0.01)	-2.23	873	D4052	827.5		0.01
140	D4052	827.1	R(0.01)	-2.23	874	ISO12185	827.5		0.01
171	D4052	827.5		0.01	875	ISO12185	827.5		0.01
206		-----		-----	902	D4052	827.5		0.01
207		-----		-----	904	ISO12185	827.7		1.13
208		-----		-----	913		-----		-----
209		-----		-----	914		-----		-----
225	D4052	827.5		0.01	962	D4052	827.5		0.01
228	D4052	827.6		0.57	963	ISO12185	827.5		0.01
237	D4052	827.5		0.01	971	ISO12185	827.6		0.57
238	D4052	827.5		0.01	974	D1298	827.5		0.01
311	ISO12185	827.5		0.01	995	ISO12185	827.7		1.13
312	ISO12185	827.5		0.01	997	ISO12185	827.5		0.01
317	D4052	827.5		0.01	1006	D4052	827.5		0.01
323	ISO12185	827.6		0.57	1026	D4052	827.5		0.01
328	ISO12185	827.6		0.57	1039	ISO12185	827.5		0.01
331	ISO12185	827.6		0.57	1059	ISO12185	827.5		0.01
333	ISO12185	827.5		0.01	1080	ISO12185	827.2	R(0.05)	-1.67
334	ISO12185	827.4		-0.55	1097	ISO12185	827.54		0.23
335	ISO12185	827.5		0.01	1108	ISO12185	827.46		-0.22
337	ISO12185	827.5		0.01	1109	D4052	827.37		-0.72
338	ISO12185	827.5		0.01	1121	ISO12185	827.62		0.68
342	D4052	827.5		0.01	1126	ISO12185	827.45		-0.27
343	ISO12185	827.4		-0.55	1146	D4052	827.5		0.01
345	ISO12185	827.5		0.01	1150	ISO12185	827.5		0.01
351	ISO12185	827.45		-0.27	1199		-----		-----
360	D4052	827.5		0.01	1205	ISO12185	827.52		0.12
365	IP365	827.5		0.01	1212	ISO12185	827.4		-0.55
369	ISO12185	827.6		0.57	1254	ISO12185	827.44		-0.33
370	ISO12185	827.5		0.01	1259	ISO12185	827.5		0.01
371	ISO12185	827.45		-0.27	1266	ISO3675	827.5	C	0.01
381	ISO12185	827.3		-1.11	1275	IP365	827.46		-0.22
391	ISO12185	827.4		-0.55	1286	ISO12185	827.580		0.46
398	ISO12185	827.5		0.01	1318	D4052	827.51		0.06
399	ISO12185	827.5		0.01	1356	ISO12185	827.5		0.01
404	D4052	827.5		0.01	1357	D4052	827.5		0.01
420	ISO12185	827.4		-0.55	1397	ISO12185	827.5	C	0.01
431	ISO12185	827.28		-1.22	1399		-----		-----
432	ISO12185	827.51		0.06	1438	D1298	827.7		1.13
440	D4052	827.5		0.01	1498	D4052	827.5		0.01
444	D4052	827.4		-0.55	1528	ISO12185	827.5		0.01
445	IP365	827.6		0.57	1556	ISO12185	827.55		0.29
447	IP365	827.5		0.01	1569	ISO12185	827.6		0.57
480	ISO12185	827.4		-0.55	1586	D4052	827.5		0.01
494	ISO12185	827.5		0.01	1612		-----		-----
495	ISO12185	827.42		-0.44	1613	D4052	827.4		-0.55
498		-----		-----	1631	ISO12185	827.5		0.01
541	ISO12185	827.50		0.01	1656	ISO12185	827.4		-0.55
631	D4052	827.6		0.57	1681	ISO12185	827.5		0.01
663	D4052	827.48		-0.10	1724	D4052	827.5		0.01
671	D4052	827.6		0.57	1730	D4052	827.54		0.23
704	ISO12185	827.49		-0.05	1740	IP365	827.5		0.01
734	D4052	827.6		0.57	1742	ISO12185	827.5		0.01
736	ISO12185	827.6		0.57	1743	ISO12185	827.6		0.57
751	D4052	827.5		0.01	1776	ISO12185	827.6		0.57
752	D4052	827.5		0.01	1796	D4052	827.6		0.57
759	ISO12185	827.5		0.01	1807	ISO12185	827.5		0.01
778	ISO12185	827.5		0.01	1833	ISO12185	827.5		0.01
779	ISO12185	827.5		0.01	1849	ISO12185	827.53		0.18
781	ISO12185	827.5		0.01	1854	ISO12185	827.37		-0.72
782	ISO12185	827.5		0.01	1857	D4052	827.6		0.57
785	D4052	827.5		0.01	1858	D4052	827.5		0.01
798	D4052	827.5		0.01	1950	D4052	827.5		0.01
823	ISO12185	827.5		0.01	1953	In house	827.3		-1.11
872	ISO12185	827.4		-0.55	1961		-----		-----

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
1967		-----		-----	6146	ISO12185	827.50		0.01
1976	ISO12185	827.3		-1.11	6170	ISO3675	827.2	R(0.05)	-1.67
1982	D4052	827.5		0.01	6203	ISO12185	827.5		0.01
1984	ISO12185	827.5		0.01	6229	D7042	828.2	R(0.01)	3.93
1986	ISO12185	827.6		0.57	6242	ISO12185	827.50		0.01
2129	D4052	827.5		0.01	6279	ISO12185	827.30		-1.11
2130	D4052	827.4		-0.55	6298	D4052	827.5		0.01
2146	ISO12185	827.5		0.01	6299	ISO12185	827.52		0.12
6012	ISO3675	827.6		0.57	6307	IP365	827.44		-0.33
6018	ISO12185	827.6		0.57	6317	D4052	827.36	C	-0.78
6026		-----		-----	6321	IP365	827.5		0.01
6044	ISO12185	827.53		0.18	6364	D4052	827.41		-0.50
6049	ISO12185	827.5		0.01	6373	ISO12185	827.5		0.01
6075	ISO12185	827.84	R(0.05)	1.91	6379		-----		-----
6114	ISO12185	827.6		0.57	6416	D1298	827.1	R(0.01)	-2.23
6142		-----		-----	6438	D4052	827.5		0.01
6143	D1298	826.2	C,R(0.01)	-7.27	6441	ISO12185	827.80	R(0.05)	1.69
					6443	D4052	827.3		-1.11

normality	suspect
n	141
outliers	9
mean (n)	827.50
st.dev. (n)	0.075
R(calc.)	0.21
st.dev.(ISO12185:96)	0.179
R(ISO12185:96)	0.5

Lab 1266 first reported 828.5
Lab 1397 first reported 837.9
Lab 6143 first reported 0.826 kg/L
Lab 6317 first reported 0.82736 kg/m^3





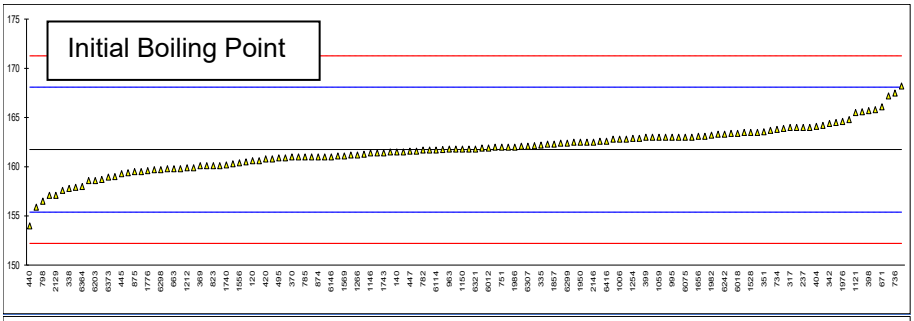
Determination of Distillation at 760 mmHg on sample #22005; result in °C

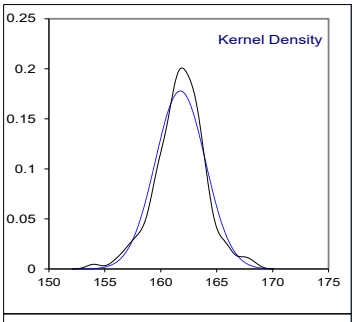
lab	method	IBP	10%rec	50%rec	90%rec	95%rec	FBP
120	D86-automated	160.6	186.6	260.1	332.3	347.7	358.2
140	D86-automated	161.5	187.2	259.8	331.7	344.8	358.2
171	D86-automated	162.8	187.1	261.0	332.0	346.5	357.9
206		-----	-----	-----	-----	-----	-----
207		-----	-----	-----	-----	-----	-----
208		-----	-----	-----	-----	-----	-----
209		-----	-----	-----	-----	-----	-----
225	D86-manual	163.0	187.0	260.0	336.0	351.0	360.0
228	D86-manual	163.0	189.0	259.0	328.0	340.0	356.0
237	D86-manual	164.0	188.0	258.0	331 C	345 C	354.0
238		-----	-----	-----	-----	-----	-----
311	D86-automated	161.9	185.6	259.3	331.3	346.7	356.2
312	ISO3405-automated	164.2	185.2	260.2	331.6	346.1	356.3
317	D86-automated	164.0	187.8	262.3	335.0	351.8	358.5
323	ISO3405-automated	163.5	186.9	259.7	330.7	344.9	355.0
328	ISO3405-automated	160.1	185.8	260.1	331.4	346.3	356.3
331		-----	-----	-----	-----	-----	-----
333	ISO3405-automated	155.9	184.6	259.1	330.8	345.4	352.9
334	ISO3405	158.7	186.5	259.4	329.7	344.1	353.0
335	D86-automated	162.2	187.7	260.2	332.8	348.4	357.2
337		-----	-----	-----	-----	-----	-----
338	ISO3405-automated	157.8	186.1	260.1	331.7	347.5	354.8
342	D86-automated	164.4	186.4	260.0	333.1	349.2	356.9
343		-----	-----	-----	-----	-----	-----
345	ISO3405-automated	159	187.11	259.21	331.35	346.63	356.70
351	ISO3405-automated	163.55	184.85	260.10	332.70	348.45	354.40
360	D86-automated	157.1	184.7	260.2	332.9	348.5	354.9
365	IP123-automated	160.9	182.7	256.8	329.1	345.3	355.6
369	ISO3405-automated	160.1	186.0	258.3	333.3	348.0	356.2
370	ISO3405-automated	161.0	186.2	258.0	332.0	349.5	358.5
371	ISO3405-manual	162.3	185.9	261.5	334.5	351.0	357.2
381	ISO3405-automated	161.6	185.7	261.2	333.7	347.9	356.8
391		-----	-----	-----	-----	-----	-----
398	ISO3405-automated	165.7	189.3	261.4 C	334.6	350.9	361.1
399	D86-manual	163.0	188.0	262 C	334.5 C	352.0	362.0
404	D86-automated	164.1	185.3	260.0	331.1	345.5	357.9
420	ISO3405-automated	160.8	186.5	259.8	329.8	343.8	356.8
431	ISO3405-automated	160.5	183.5	260.4	334.1	351.7	356.8
432		-----	-----	-----	-----	-----	-----
440	D86-automated	154.0	183.6	257.8	332.0	346.3	350.2
444	D86-automated	160.3	186	261.7	332.4	347.8	357.7
445	IP123-automated	159.3	185.7	258.9	331.3	346.7	355.9
447	IP123-automated	161.6	187.1	259.1	331.9	347.8	355.6
480	D86-automated	161.75	187.1	261.05	332.35	346.55	356.7
494	ISO3405-automated	159.8	187.2	259.5	331.6	345.8	357.0
495	D86-automated	160.9	184.9	259.2	330.3	344.2	355.9
498		-----	-----	-----	-----	-----	-----
541	ISO3405-manual	161.0	182.0	258.0	333.0	348.0	359.0
631	D86-manual	164.5	189.5	261.0	334.0	348.0	361.5
663	D86-automated	159.80	185.90	260.25	331.15	345.60	356.25
671	D86-automated	166.1	189.6	259.3	330.9	345.0	351.7
704	ISO3405-manual	164.0	186.5	259.0	328.5	340.5	354.5
734	D86-automated	163.80	189.90	260.87	331.78	346.07	356.73
736	GOST2177	167.5	187.0	263.0	333.0	348.0	359.0
751	ISO3405-manual	162.0	186.0	258.5	332.0	347.5	357.5
752	D86-manual	161.0	187.5	259.5	332.0	347.0	360.0
759	ISO3405-manual	161.0	186.5	259.0	331.5	347.5	358.0
778		-----	-----	-----	-----	-----	-----
779	ISO3405-manual	161.2	189.0	258.7	331.7	345.5	360.0
781	ISO3405-automated	160.6	185.6	259.4	330.1	344.0	356.2
782	ISO3405-automated	161.7	185.9	258.6	333.3	350.2	358.7
785	D86-manual	161.0	186.5	260.0	331.5	346.5	357.0
798	D86-manual	156.5	186.5	263.0	334.0	349.0	361.0
823	ISO3405-automated	160.1	185.6	260.0	332.1	347.0	358.6
872		-----	-----	-----	-----	-----	-----
873	ISO3405	162.5	185.5	259.5	332.5	347.5	357.5
874	ISO3405-manual	161.0	186.0	260.0	332.0	347.0	357.5
875	ISO3405-automated	159.5	186.7	259.9	331.4	347.5	357.2
902	D86-automated	163.7	184.4	258.6	330.6	345.6	356.7
904	ISO3405-automated	162.0	187.4	259.5	329.7	343.8	357.5
913		-----	-----	-----	-----	-----	-----
914		-----	-----	-----	-----	-----	-----
962	D86-automated	161.5	186.4	259.2	331.5	346.4	356.4
963	ISO3405-automated	161.8	188.4	259.4	329.8	343.6	353.6
971	ISO3405-automated	163.9	187.4	260.5	332.7	349.3	357.6

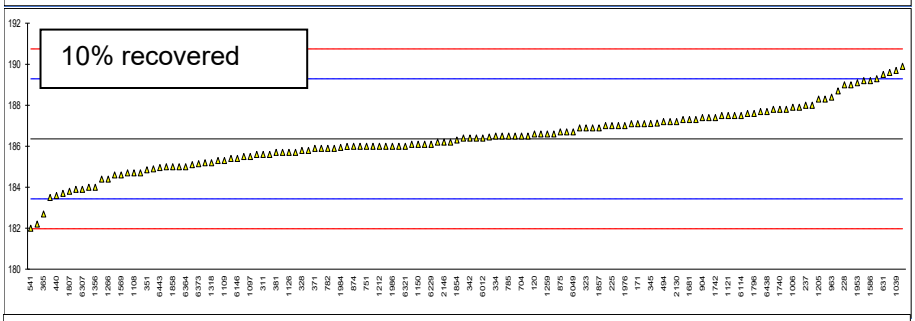
lab	method	IBP	10%rec	50%rec	90%rec	95%rec	FBP
974	D86-automated	165.8	187.0	261.1	333.1	349.2	358.2
995	ISO3405-manual	163.0	184.0	260.0	-----	-----	-----
997	D86-manual	163.0	185.0	258.5	332.0	348.0	358.5
1006	D86-automated	162.8	187.9	261.5	332.3	347.1	356.7
1026	ISO3405-automated	163.4	186.9	258.7	330.1	344.0	357.3
1039	D2887	167.2	189.7	206.4 R1	333.7	348.5	361.0
1059	ISO3405-automated	163.0	186.4	259.9	332.0	347.6	357.8
1080		-----	-----	-----	-----	-----	-----
1097	ISO3405-automated	160.1	185.5	260.3	333.5	349.1	357.9
1108	D86-automated	162.0	184.7	259.9	331.3	347.4	356.1
1109	D86-automated	161.8	185.3	259.9	331.7	346.9	357.3
1121	ISO3405-automated	165.5	187.5	259.2	331.1	345.4	358.4
1126	ISO3405-automated	161.1	185.7	260.0	331.2	345.7	359.8
1146	D86-automated	161.4	187.9	260.6	332.6	346.9	359.0
1150	ISO3405-automated	161.8	186.1	259.65	332.35	345.95	357.25
1199		-----	-----	-----	-----	-----	-----
1205	D86-automated	164.8	188.3	261.0	331.4	345.6	358.3
1212	ISO3405-automated	159.9	186.0	259.9	332.0	347.5	358.2
1254	ISO3405-automated	162.9	186.6	260.5	332.3	348.6	357.0
1259	ISO3405-automated	162.6	186.6	259.5	329.7	343.0	356.7
1266	ISO3405-automated	161.2	184.4	258.8	334.5	350.5	356.0
1275	IP123-automated	157.6	183.9	257.8	330.7	347.1	354.1
1286		-----	-----	-----	-----	-----	-----
1318	D86-automated	161.8	185.2	259.1	331.7	345.8	355.7
1356		-----	184	260	330 C	-----	-----
1357	D86-automated	n.a	n.a	n.a	n.a	345.5	n.a
1397	ISO3405-automated	164.0	189.2	259.9	331.6	345.5	355.1
1399		-----	-----	-----	-----	-----	-----
1438	D86-automated	159.5	187.6	260.9	331.5	348.0	353.7
1498	D86-automated	161.7	186.9	261.8	335.5	354.2	358.3
1528	ISO3405-automated	163.5	188.3	259.9	332.3	348.3	356.6
1556	D86-automated	160.4	187.3	260.6	332.6	348.0	357.0
1569	D86-automated	161.1	184.6	257.8	332.4	345.2	354.2
1586	D86-automated	159.9	189.2	260.9	332.5	347.8	356.8
1612		-----	-----	-----	-----	-----	-----
1613	D86-automated	165.6	188.7	259.8	331.4	345.3	359.0
1631		-----	186.6	259.7	331.5	346.4	-----
1656	D86-automated	163.1	185.4	259.6	332.6	349.0	358.4
1681	ISO3405-automated	163.3	187.3	260.5	330.8	344.4	355.8
1724	D86-automated	161.4	185.7	259.4	331.4	347.2	355.7
1730		-----	-----	-----	-----	-----	-----
1740	IP123-automated	160.2	187.8	259.5	331.4	346.8	357.4
1742	ISO3405-automated	163.1	187.4	260.3	331.9	347.1	358.4
1743	ISO3405-automated	161.4	184.7	259.1	331.0	346.1	356.9
1776	ISO3405-automated	159.6	182.2	257.7	329.9	345.8	355.0
1796	D86-manual	159.4	187.6	259.2	330.5	344.0	356.6
1807	D86-automated	160.8	183.8	258.6	330.3	344	356.4
1833	ISO3405	159.7	185.1	258.8	330.1	344.9	356.4
1849	ISO3405-automated	162.4	186.7	260.5	331.5	345.4	358
1854	ISO3405-automated	162.9	186.3	261.0	333.3	346.7	355.4
1857	D86-automated	162.3	186.9	259.7	329.8	343.1	356.3
1858	D86-manual	161.5	185.0	257.0	329.0	342.5	354.5
1950	D86-manual	162.5	186.0	260.5	332.0	347.5	357.0
1953	ISO3405-automated	162.1	189.1	258.5	333.9	348.1	359.4
1961		-----	-----	-----	-----	-----	-----
1967		-----	-----	-----	-----	-----	-----
1976	ISO3405-automated	164.6	187.0	260.8	331.3	345.3	357.8
1982	ISO3405-automated	163.22	187.13	260.21	332.57	347.43	358.87
1984		162.5	185.95	260.75	332.35	347.2	358.0
1986	ISO3405-manual	162.0	186.0	259.0	329.0	343.0	356.0
2129	D86-automated	157.1	183.7	258.4	329.7	344.0	354.9
2130	D86-automated	158.6	187.2	258.3	328.8	342.4	353.0
2146	ISO3405-automated	162.5	186.2	260.5	333.0	349.4	358.8
6012	D86-manual	161.9	186.4	258.5	331.5	343.1	358.6
6018	ISO3405-automated	163.4	187.8	260.6	332.2	347.0	358.1
6026		-----	-----	-----	-----	-----	-----
6044	D86-automated	168.2	187.5	262.1	334.7	351.1	360.8
6049	ISO3405-automated	159.8	186.7	259.9	331.3	346.2	355.9
6075	ISO3405-automated	163.0	185.9	260.6	332.5	348.4	357.3
6114	ISO3405-automated	161.7	187.5	261.0	333.3	349.4	358.8
6142		-----	-----	-----	-----	-----	-----
6143		-----	-----	-----	-----	-----	-----
6146	ISO3405-automated	161.0	185.4	258.8	330.1	344.4	359.0
6170	ISO3405-manual	163.0	186.0	259.5	331.5	347.0	357.5
6203	ISO3405-automated	158.6	186.1	259.6	331.8	346.4	357.6
6229	D86-automated	157.9	186.1	259.6	331	346.7	355.6
6242		163.3	187.3	262.2	332.8	347.0	359.9
6279	ISO3405-automated	162.8	186.45	259.75	331.0	342.37	352.2

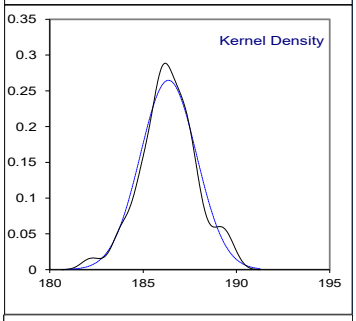
lab	method	IBP	10%rec	50%rec	90%rec	95%rec	FBP
6298	D86-automated	159.7	185.0	257.9	329.9	344.8	356.3
6299	ISO3405-automated	162.4	185.8	260.6	333.3	349.9	357.2
6307	IP123-automated	162.1	183.9	258.2	331.6	346.7	360.4
6317		-----	-----	-----	-----	-----	-----
6321	IP123-automated	161.8	186.0	259.8	331.6	346.7	356.8
6364	D86-manual	158.0	185.0	258.0	330.0	345.0	349.0
6373	ISO3405-automated	158.95	185.15	259.35	330.75	345.35	355.45
6379		-----	-----	-----	-----	-----	-----
6416	D86-automated	162.6	186.2	261.4	333.6	349.4	358.2
6438	D86	163.5	187.7	261.9	333.8	349.0	357.5
6441	ISO3405-automated	161.29	185.99	259.64	329.50	342.66	356.46
6443	D86-manual	162.14	184.96	258.29	332.56	347.89	362.02
	normality	suspect	OK	OK	OK	OK	suspect
	n	134	136	135	135	135	133
	outliers	0	0	1	0	0	0
	mean (n)	161.75	186.36	259.79	331.79	346.72	357.01
	st.dev. (n)	2.242	1.506	1.156	1.464	2.309	2.130
	R(calc.)	6.28	4.22	3.24	4.10	6.47	5.97
	st.dev.(ISO3405-A:19)	3.177	1.464	1.071	1.777	3.031	2.536
	R(ISO3405-A:19)	8.90	4.10	3.0	4.98	8.49	7.1
Compare							
	R(ISO3405-M:19)	5.09	4.40	4.22	4.38	5.15	3.96

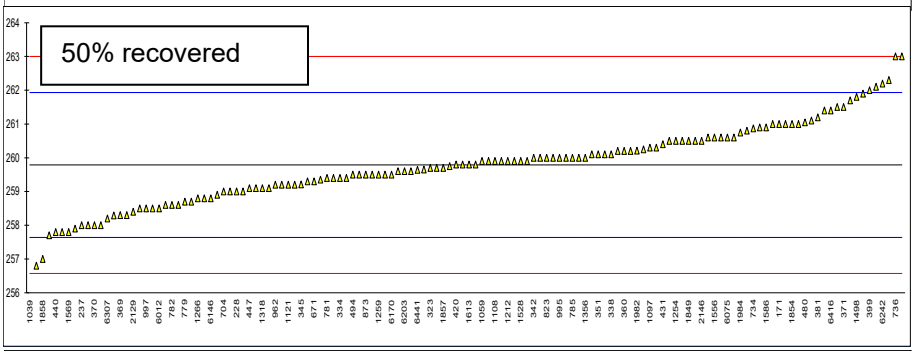
Lab 237 first reported 327.0 for 90% rec and 339.0 for 95% rec
Lab 398 first reported 263.4 for 50% rec
Lab 399 first reported 264.0 for 50% rec and 337.0 for 90% rec
Lab 1356 first reported 336 for 90% rec

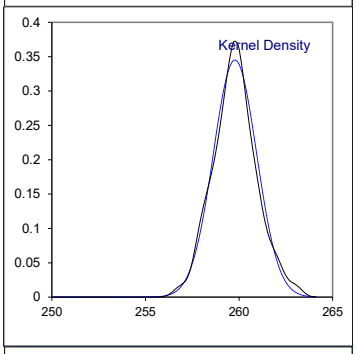

Initial Boiling Point

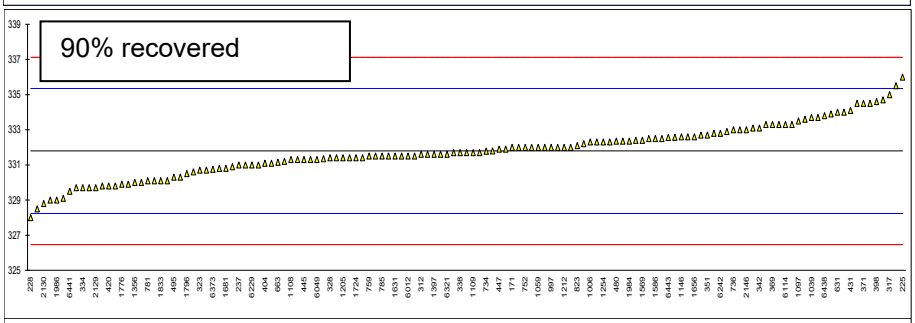

Kernel Density

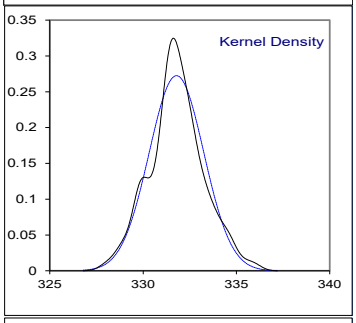

10% recovered

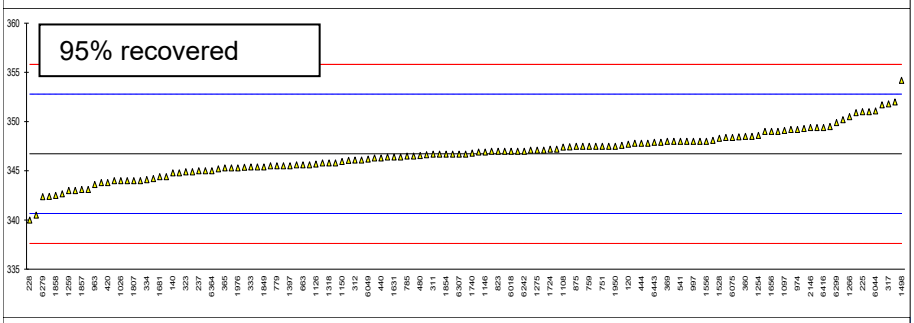

Kernel Density

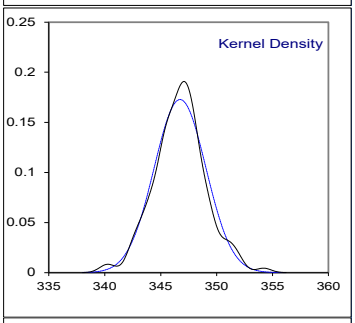

50% recovered

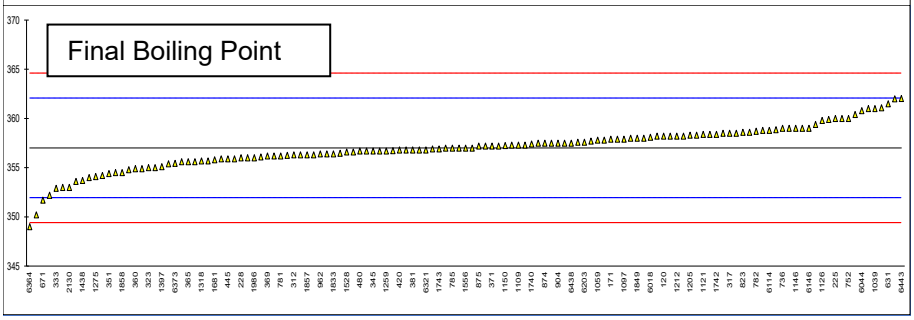

Kernel Density

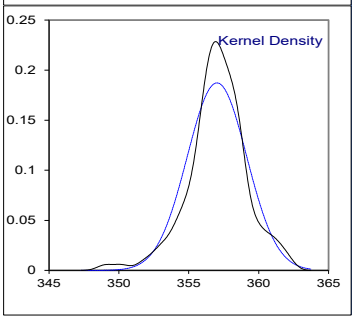

90% recovered


Kernel Density


95% recovered


Kernel Density


Final Boiling Point


Kernel Density

z-scores Distillation at 760 mmHg on sample #22005

lab	IBP	10%rec	50%rec	90%rec	95%rec	FBP
120	-0.36	0.17	0.29	0.28	0.32	0.47
140	-0.08	0.58	0.01	-0.05	-0.63	0.47
171	0.33	0.51	1.13	0.12	-0.07	0.35
206	-----	-----	-----	-----	-----	-----
207	-----	-----	-----	-----	-----	-----
208	-----	-----	-----	-----	-----	-----
209	-----	-----	-----	-----	-----	-----
225	0.39	0.44	0.20	2.37	1.41	1.18
228	0.39	1.80	-0.74	-2.14	-2.22	-0.40
237	0.71	1.12	-1.67	-0.45	-0.57	-1.19
238	-----	-----	-----	-----	-----	-----
311	0.05	-0.52	-0.46	-0.28	-0.01	-0.32
312	0.77	-0.79	0.38	-0.11	-0.21	-0.28
317	0.71	0.99	2.34	1.80	1.68	0.59
323	0.55	0.37	-0.08	-0.62	-0.60	-0.79
328	-0.52	-0.38	0.29	-0.22	-0.14	-0.28
331	-----	-----	-----	-----	-----	-----
333	-1.84	-1.20	-0.64	-0.56	-0.44	-1.62
334	-0.96	0.10	-0.36	-1.18	-0.87	-1.58
335	0.14	0.92	0.38	0.57	0.55	0.07
337	-----	-----	-----	-----	-----	-----
338	-1.24	-0.18	0.29	-0.05	0.26	-0.87
342	0.83	0.03	0.20	0.73	0.82	-0.04
343	-----	-----	-----	-----	-----	-----
345	-0.87	0.51	-0.54	-0.25	-0.03	-0.12
351	0.57	-1.03	0.29	0.51	0.57	-1.03
360	-1.46	-1.13	0.38	0.62	0.59	-0.83
365	-0.27	-2.50	-2.79	-1.52	-0.47	-0.56
369	-0.52	-0.24	-1.39	0.85	0.42	-0.32
370	-0.24	-0.11	-1.67	0.12	0.92	0.59
371	0.17	-0.31	1.60	1.52	1.41	0.07
381	-0.05	-0.45	1.32	1.07	0.39	-0.08
391	-----	-----	-----	-----	-----	-----
398	1.24	2.01	1.50	1.58	1.38	1.61
399	0.39	1.12	2.06	1.52	1.74	1.97
404	0.74	-0.72	0.20	-0.39	-0.40	0.35
420	-0.30	0.10	0.01	-1.12	-0.96	-0.08
431	-0.39	-1.95	0.57	1.30	1.64	-0.08
432	-----	-----	-----	-----	-----	-----
440	-2.44	-1.88	-1.86	0.12	-0.14	-2.69
444	-0.46	-0.24	1.78	0.34	0.36	0.27
445	-0.77	-0.45	-0.83	-0.28	-0.01	-0.44
447	-0.05	0.51	-0.64	0.06	0.36	-0.56
480	0.00	0.51	1.18	0.31	-0.06	-0.12
494	-0.61	0.58	-0.27	-0.11	-0.30	0.00
495	-0.27	-1.00	-0.55	-0.84	-0.83	-0.44
498	-----	-----	-----	-----	-----	-----
541	-0.24	-2.98	-1.67	0.68	0.42	0.78
631	0.87	2.15	1.13	1.24	0.42	1.77
663	-0.61	-0.31	0.43	-0.36	-0.37	-0.30
671	1.37	2.21	-0.46	-0.50	-0.57	-2.09
704	0.71	0.10	-0.74	-1.85	-2.05	-0.99
734	0.65	2.42	1.01	-0.01	-0.22	-0.11
736	1.81	0.44	3.00	0.68	0.42	0.78
751	0.08	-0.24	-1.20	0.12	0.26	0.19
752	-0.24	0.78	-0.27	0.12	0.09	1.18
759	-0.24	0.10	-0.74	-0.17	0.26	0.39
778	-----	-----	-----	-----	-----	-----
779	-0.17	1.80	-1.02	-0.05	-0.40	1.18
781	-0.36	-0.52	-0.36	-0.95	-0.90	-0.32
782	-0.02	-0.31	-1.11	0.85	1.15	0.67
785	-0.24	0.10	0.20	-0.17	-0.07	0.00
798	-1.65	0.10	3.00	1.24	0.75	1.57
823	-0.52	-0.52	0.20	0.17	0.09	0.63
872	-----	-----	-----	-----	-----	-----
873	0.24	-0.59	-0.27	0.40	0.26	0.19
874	-0.24	-0.24	0.20	0.12	0.09	0.19
875	-0.71	0.23	0.10	-0.22	0.26	0.07
902	0.61	-1.34	-1.11	-0.67	-0.37	-0.12
904	0.08	0.71	-0.27	-1.18	-0.96	0.19
913	-----	-----	-----	-----	-----	-----
914	-----	-----	-----	-----	-----	-----
962	-0.08	0.03	-0.55	-0.17	-0.11	-0.24
963	0.02	1.40	-0.36	-1.12	-1.03	-1.35
971	0.68	0.71	0.66	0.51	0.85	0.23

lab	IBP	10%rec	50%rec	90%rec	95%rec	FBP
974	1.28	0.44	1.22	0.73	0.82	0.47
995	0.39	-1.61	0.20	-----	-----	-----
997	0.39	-0.93	-1.20	0.12	0.42	0.59
1006	0.33	1.05	1.60	0.28	0.12	-0.12
1026	0.52	0.37	-1.02	-0.95	-0.90	0.11
1039	1.72	2.28	-49.83	1.07	0.59	1.57
1059	0.39	0.03	0.10	0.12	0.29	0.31
1080	-----	-----	-----	-----	-----	-----
1097	-0.52	-0.59	0.48	0.96	0.78	0.35
1108	0.08	-1.13	0.10	-0.28	0.22	-0.36
1109	0.02	-0.72	0.10	-0.05	0.06	0.11
1121	1.18	0.78	-0.55	-0.39	-0.44	0.55
1126	-0.20	-0.45	0.20	-0.33	-0.34	1.10
1146	-0.11	1.05	0.76	0.45	0.06	0.78
1150	0.02	-0.18	-0.13	0.31	-0.26	0.09
1199	-----	-----	-----	-----	-----	-----
1205	0.96	1.33	1.13	-0.22	-0.37	0.51
1212	-0.58	-0.24	0.10	0.12	0.26	0.47
1254	0.36	0.17	0.66	0.28	0.62	0.00
1259	0.27	0.17	-0.27	-1.18	-1.23	-0.12
1266	-0.17	-1.34	-0.92	1.52	1.25	-0.40
1275	-1.31	-1.68	-1.86	-0.62	0.12	-1.15
1286	-----	-----	-----	-----	-----	-----
1318	0.02	-0.79	-0.64	-0.05	-0.30	-0.52
1356	-----	-1.61	0.20	-1.01	-----	-----
1357	-----	-----	-----	-----	-0.40	-----
1397	0.71	1.94	0.10	-0.11	-0.40	-0.75
1399	-----	-----	-----	-----	-----	-----
1438	-0.71	0.85	1.04	-0.17	0.42	-1.31
1498	-0.02	0.37	1.88	2.08	2.47	0.51
1528	0.55	1.33	0.10	0.28	0.52	-0.16
1556	-0.42	0.64	0.76	0.45	0.42	0.00
1569	-0.20	-1.20	-1.86	0.34	-0.50	-1.11
1586	-0.58	1.94	1.04	0.40	0.36	-0.08
1612	-----	-----	-----	-----	-----	-----
1613	1.21	1.60	0.01	-0.22	-0.47	0.78
1631	-----	0.17	-0.08	-0.17	-0.11	-----
1656	0.43	-0.65	-0.18	0.45	0.75	0.55
1681	0.49	0.64	0.66	-0.56	-0.77	-0.48
1724	-0.11	-0.45	-0.36	-0.22	0.16	-0.52
1730	-----	-----	-----	-----	-----	-----
1740	-0.49	0.99	-0.27	-0.22	0.03	0.15
1742	0.43	0.71	0.48	0.06	0.12	0.55
1743	-0.11	-1.13	-0.64	-0.45	-0.21	-0.04
1776	-0.68	-2.84	-1.95	-1.07	-0.30	-0.79
1796	-0.74	0.85	-0.55	-0.73	-0.90	-0.16
1807	-0.30	-1.75	-1.11	-0.84	-0.90	-0.24
1833	-0.64	-0.86	-0.92	-0.95	-0.60	-0.24
1849	0.21	0.23	0.66	-0.17	-0.44	0.39
1854	0.36	-0.04	1.13	0.85	-0.01	-0.64
1857	0.17	0.37	-0.08	-1.12	-1.20	-0.28
1858	-0.08	-0.93	-2.60	-1.57	-1.39	-0.99
1950	0.24	-0.24	0.66	0.12	0.26	0.00
1953	0.11	1.87	-1.20	1.18	0.45	0.94
1961	-----	-----	-----	-----	-----	-----
1967	-----	-----	-----	-----	-----	-----
1976	0.90	0.44	0.94	-0.28	-0.47	0.31
1982	0.46	0.53	0.39	0.44	0.23	0.73
1984	0.24	-0.28	0.90	0.31	0.16	0.39
1986	0.08	-0.24	-0.74	-1.57	-1.23	-0.40
2129	-1.46	-1.81	-1.30	-1.18	-0.90	-0.83
2130	-0.99	0.58	-1.39	-1.68	-1.43	-1.58
2146	0.24	-0.11	0.66	0.68	0.88	0.71
6012	0.05	0.03	-1.20	-0.17	-1.20	0.63
6018	0.52	0.99	0.76	0.23	0.09	0.43
6026	-----	-----	-----	-----	-----	-----
6044	2.03	0.78	2.16	1.63	1.44	1.49
6049	-0.61	0.23	0.10	-0.28	-0.17	-0.44
6075	0.39	-0.31	0.76	0.40	0.55	0.11
6114	-0.02	0.78	1.13	0.85	0.88	0.71
6142	-----	-----	-----	-----	-----	-----
6143	-----	-----	-----	-----	-----	-----
6146	-0.24	-0.65	-0.92	-0.95	-0.77	0.78
6170	0.39	-0.24	-0.27	-0.17	0.09	0.19
6203	-0.99	-0.18	-0.18	0.00	-0.11	0.23
6229	-1.21	-0.18	-0.18	-0.45	-0.01	-0.56
6242	0.49	0.64	2.25	0.57	0.09	1.14
6279	0.33	0.06	-0.04	-0.45	-1.44	-1.90

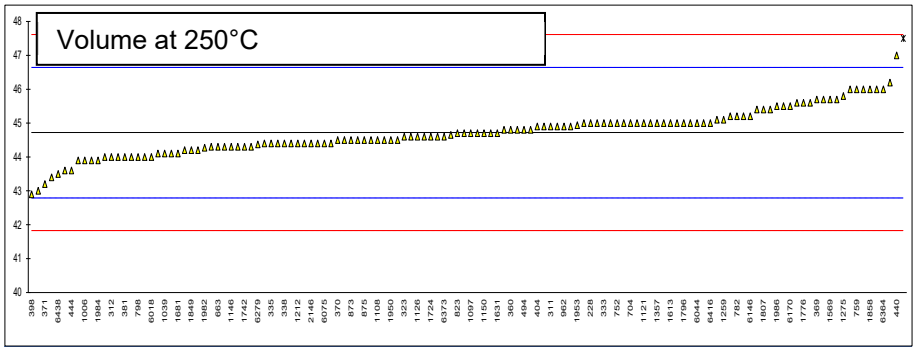
lab	IBP	10%rec	50%rec	90%rec	95%rec	FBP
6298	-0.64	-0.93	-1.76	-1.07	-0.63	-0.28
6299	0.21	-0.38	0.76	0.85	1.05	0.07
6307	0.11	-1.68	-1.48	-0.11	-0.01	1.34
6317	-----	-----	-----	-----	-----	-----
6321	0.02	-0.24	0.01	-0.11	-0.01	-0.08
6364	-1.18	-0.93	-1.67	-1.01	-0.57	-3.16
6373	-0.88	-0.82	-0.41	-0.59	-0.45	-0.62
6379	-----	-----	-----	-----	-----	-----
6416	0.27	-0.11	1.50	1.02	0.88	0.47
6438	0.55	0.92	1.97	1.13	0.75	0.19
6441	-0.14	-0.25	-0.14	-1.29	-1.34	-0.22
6443	0.12	-0.95	-1.40	0.43	0.38	1.98

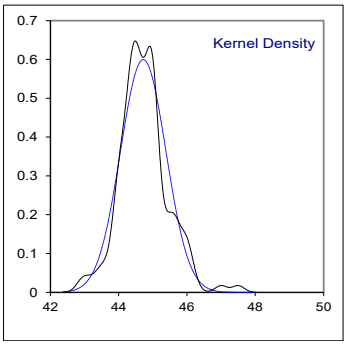
Determination of Distillation at 760 mmHg on sample #22005; result in %V/V

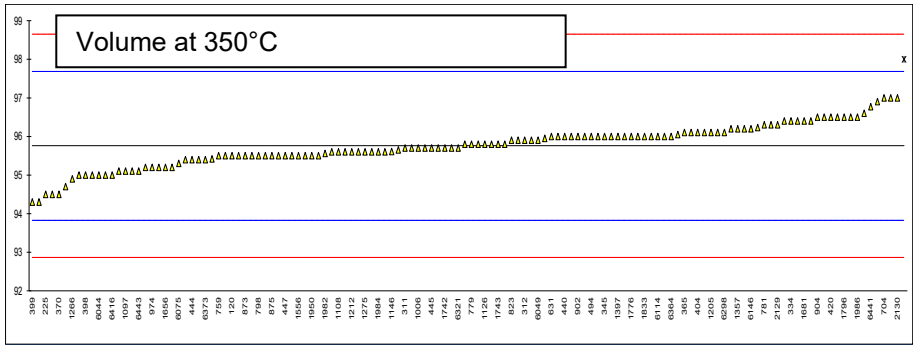
lab	method	Vol.250°C	mark	z(targ)	Vol.350°C	mark	z(targ)
120	D86-automated	44.7		-0.02	95.5		-0.27
140	D86-automated	-----		-----	-----		-----
171	D86-automated	47.5	R(0.01)	2.88	96.1		0.35
206		-----		-----	-----		-----
207		-----		-----	-----		-----
208		-----		-----	-----		-----
209		-----		-----	-----		-----
225	D86-manual	45.0		0.29	94.5		-1.31
228	D86-manual	45.0		0.29	98.0	R(0.01)	2.32
237	D86-manual	45.0		0.29	97.0		1.29
238		-----		-----	-----		-----
311	D86-automated	44.9		0.19	95.7		-0.06
312	ISO3405-automated	44.0		-0.75	95.9		0.15
317	D86-automated	43.6		-1.16	94.7		-1.10
323	ISO3405-automated	44.6		-0.12	96.3		0.56
328	ISO3405-automated	44.4		-0.33	95.8		0.04
331		-----		-----	-----		-----
333	ISO3405-automated	45.0		0.29	96.2		0.46
334	ISO3405	44.9		0.19	96.4		0.66
335	D86-automated	44.4		-0.33	95.2		-0.58
337		-----		-----	-----		-----
338	ISO3405-automated	44.4		-0.33	95.6		-0.16
342	D86-automated	44.5		-0.23	95.1		-0.68
343		-----		-----	-----		-----
345	ISO3405-automated	45		0.29	96		0.25
351	ISO3405-automated	44.5		-0.23	95.4		-0.37
360	D86-automated	44.8		0.08	95.8		0.04
365	IP123-automated	46.2		1.53	96.1		0.35
369	ISO3405-automated	45.7		1.02	96.0		0.25
370	ISO3405-automated	44.5		-0.23	94.5		-1.31
371	ISO3405-manual	43.2		-1.58	94.5		-1.31
381	ISO3405-automated	44.0		-0.75	95.7		-0.06
391		-----		-----	-----		-----
398	ISO3405-automated	42.9		-1.89	95.0		-0.79
399	D86-manual	43.0		-1.78	94.3		-1.51
404	D86-automated	44.9		0.19	96.1		0.35
420	ISO3405-automated	44.8		0.08	96.5		0.77
431	ISO3405-automated	44.3		-0.44	94.3		-1.51
432		-----		-----	-----		-----
440	D86-automated	47.0		2.36	96.0		0.25
444	D86-automated	43.6		-1.16	95.4		-0.37
445	IP123-automated	45.2		0.50	95.7		-0.06
447	IP123-automated	45.0		0.29	95.5		-0.27
480	D86-automated	44.1		-0.64	95.9		0.15
494	ISO3405-automated	44.8		0.08	96.0		0.25
495	D86-automated	45.1		0.39	96.4		0.66
498		-----		-----	-----		-----
541	ISO3405-manual	46.00		1.33	96.00		0.25
631	D86-manual	44		-0.75	96		0.25
663	D86-automated	44.30		-0.44	95.95		0.20
671	D86-automated	-----		-----	-----		-----
704	ISO3405-manual	45.0		0.29	97.0		1.29
734	D86-automated	44.3		-0.44	96.0		0.25
736	GOST2177	44.0		-0.75	96.0		0.25
751	ISO3405-manual	46.0		1.33	95.5		-0.27
752	D86-manual	45.0		0.29	96.0		0.25
759	ISO3405-manual	46.0		1.33	95.5		-0.27
778		-----		-----	-----		-----
779	ISO3405-manual	45.7		1.02	95.8		0.04
781	ISO3405-automated	44.6		-0.12	96.3		0.56
782	ISO3405-automated	45.2		0.50	95.0		-0.79
785	D86-manual	44.5		-0.23	95.5		-0.27
798	D86-manual	44.0		-0.75	95.5		-0.27
823	ISO3405-automated	44.7		-0.02	95.9		0.15
872		-----		-----	-----		-----
873	ISO3405	44.5		-0.23	95.5		-0.27
874	ISO3405-manual	44.0		-0.75	95.5		-0.27
875	ISO3405-automated	44.5		-0.23	95.5		-0.27
902	D86-automated	45.4		0.71	96		0.25
904	ISO3405-automated	44.8		0.08	96.5		0.77
913		-----		-----	-----		-----
914		-----		-----	-----		-----
962	D86-automated	44.9		0.19	95.7		-0.06
963	ISO3405-automated	44.9		0.19	96.5		0.77
971	ISO3405-automated	44.4		-0.33	95.2		-0.58

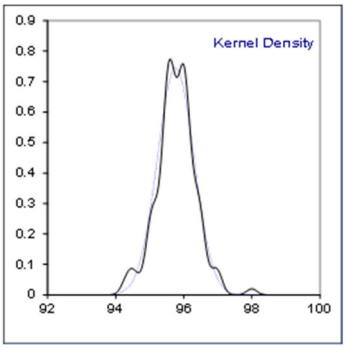
lab	method	Vol.250°C	mark	z(targ)	Vol.350°C	mark	z(targ)
974	D86-automated	43.9		-0.85	95.2		-0.58
995	ISO3405-manual	-----		-----	-----		-----
997	D86-manual	45.0		0.29	95.5		-0.27
1006	D86-automated	43.9		-0.85	95.7		-0.06
1026	ISO3405-automated	45.2		0.50	96.4		0.66
1039	D2887	44.1		-0.64	95.6		-0.16
1059	ISO3405-automated	44.4		-0.33	95.5		-0.27
1080		-----		-----	-----		-----
1097	ISO3405-automated	44.7		-0.02	95.1		-0.68
1108	D86-automated	44.5		-0.23	95.6		-0.16
1109	D86-automated	44.7		-0.02	95.7		-0.06
1121	ISO3405-automated	45.0		0.29	96.1		0.35
1126	ISO3405-automated	44.6		-0.12	95.8		0.04
1146	D86-automated	44.30		-0.44	95.61		-0.15
1150	ISO3405-automated	44.7		-0.02	96.05		0.30
1199		-----		-----	-----		-----
1205	D86-automated	44.2		-0.54	96.1		0.35
1212	ISO3405-automated	44.4		-0.33	95.6		-0.16
1254	ISO3405-automated	44.7		-0.02	95.6		-0.16
1259	ISO3405-automated	45.1		0.39	96.9		1.18
1266	ISO3405-automated	45.0		0.29	94.9		-0.89
1275	IP123-automated	45.8		1.12	95.6		-0.16
1286		-----		-----	-----		-----
1318	D86-automated	45.6		0.91	95.9		0.15
1356		-----		-----	-----		-----
1357	D86-automated	45.0		0.29	96.2		0.46
1397	ISO3405-automated	44.4		-0.33	96.0		0.25
1399		-----		-----	-----		-----
1438	D86-automated	44.3		-0.44	95.5		-0.27
1498	D86-automated	45		0.29	95		-0.79
1528	ISO3405-automated	44.5		-0.23	95.4		-0.37
1556	D86-automated	43.9		-0.85	95.5		-0.27
1569	D86-automated	45.7		1.02	96.5		0.77
1586	D86-automated	44.1		-0.64	95.5		-0.27
1612		-----		-----	-----		-----
1613	D86-automated	45		0.29	96		0.25
1631		44.7		-0.02	95.8		0.04
1656	D86-automated	44.6		-0.12	95.2		-0.58
1681	ISO3405-automated	44.1		-0.64	96.4		0.66
1724	D86-automated	44.6		-0.12	95.6		-0.16
1730		-----		-----	-----		-----
1740	IP123-automated	44.9		0.19	96.4		0.66
1742	ISO3405-automated	44.3		-0.44	95.7		-0.06
1743	ISO3405-automated	45.0		0.29	95.8		0.04
1776	ISO3405-automated	45.6		0.91	96.0		0.25
1796	D86-manual	45.0		0.29	96.5		0.77
1807	D86-automated	45.4		0.71	96.0		0.25
1833	ISO3405	45.4		0.71	96.0		0.25
1849	ISO3405-automated	44.2		-0.54	96.2		0.46
1854	ISO3405-automated	-----		-----	-----		-----
1857	D86-automated	44.6		-0.12	96.6		0.87
1858	D86-manual	46.0		1.33	96.5		0.77
1950	D86-manual	44.5		-0.23	95.5		-0.27
1953	ISO3405-automated	44.94		0.23	95.42		-0.35
1961		-----		-----	-----		-----
1967		-----		-----	-----		-----
1976	ISO3405-automated	44		-0.75	96.1		0.35
1982	ISO3405-automated	44.27		-0.47	95.56		-0.21
1984		43.9		-0.85	95.6		-0.16
1986	ISO3405-manual	45.5		0.81	96.5		0.77
2129	D86-automated	45.6		0.91	96.3		0.56
2130	D86-automated	45.5		0.81	97.0		1.29
2146	ISO3405-automated	44.4		-0.33	95.1		-0.68
6012	D86-manual	45		0.29	96		0.25
6018	ISO3405-automated	44.0		-0.75	95.6		-0.16
6026		-----		-----	-----		-----
6044	D86-automated	45		0.29	95		-0.79
6049	ISO3405-automated	44.4		-0.33	95.9		0.15
6075	ISO3405-automated	44.4		-0.33	95.3		-0.48
6114	ISO3405-automated	45		0.29	96		0.25
6142		-----		-----	-----		-----
6143		-----		-----	-----		-----
6146	ISO3405-automated	45.2		0.50	96.2		0.46
6170	ISO3405-manual	45.5		0.81	96.0		0.25
6203	ISO3405-automated	44.8		0.08	95.8		0.04
6229	D86-automated	44.5		-0.23	95.5		-0.27
6242		43.4		-1.37	95.7		-0.06
6279	ISO3405-automated	44.37		-0.36	96.23		0.49

lab	method	Vol.250°C	mark	z(targ)	Vol.350°C	mark	z(targ)
6298	D86-automated	46.0		1.33	96.1		0.35
6299	ISO3405-automated	44.4		-0.33	95.0		-0.79
6307	IP123-automated	45.7		1.02	95.65		-0.11
6317		-----		-----	-----		-----
6321	IP123-automated	44.3		-0.44	95.7		-0.06
6364	D86-manual	46.0		1.33	96.0		0.25
6373	ISO3405-automated	44.6		-0.12	95.4		-0.37
6379		-----		-----	-----		-----
6416	D86-automated	45		0.29	95		-0.79
6438	D86	43.5		-1.27	95.2		-0.58
6441	ISO3405-automated	44.65		-0.07	96.77		1.05
6443	D86-manual	44.2		-0.54	95.1		-0.68
	normality	OK			OK		
	n	131			131		
	outliers	1			1		
	mean (n)	44.72			95.76		
	st.dev. (n)	0.666			0.537		
	R(calc.)	1.86			1.50		
	st.dev.(ISO3405-A:19)	0.964			0.96		
	R(ISO3405-A:19)	2.7			2.7		
Compare							
	R(ISO3405-M:19)	2.47			2.10		









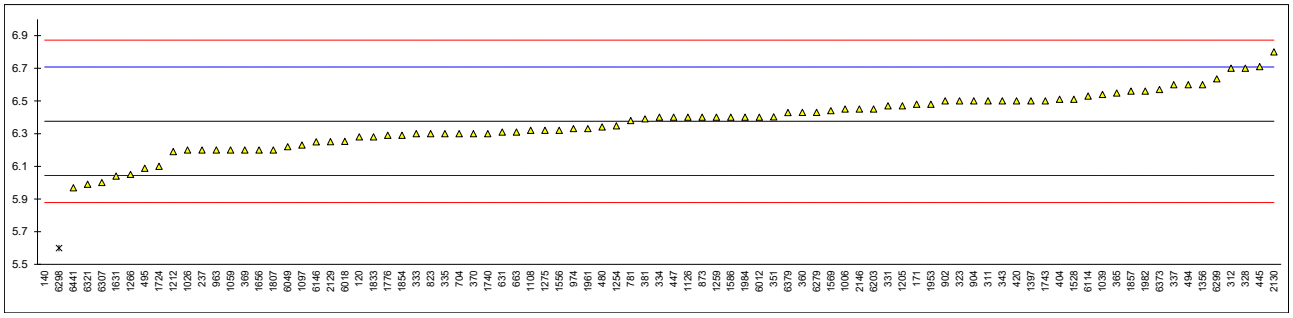
Determination of FAME on sample #22005; result in %V/V

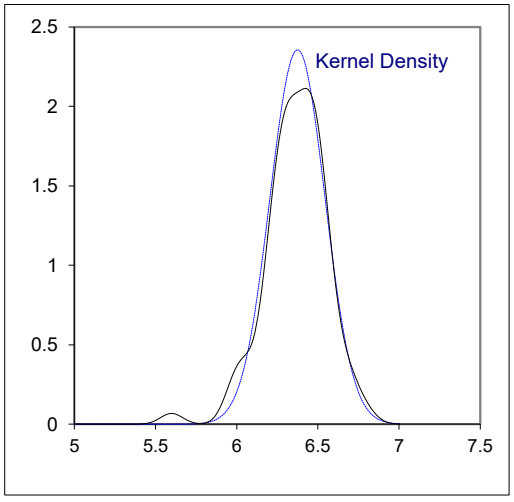
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
120	D7371	6.28		-0.58	873	EN14078-A	6.4		0.15
140	EN14078-A	4.2	R(0.01)	-13.12	874		-----		-----
171	D7371	6.48		0.63	875		-----		-----
206		-----		-----	902	EN14078-B	6.5		0.75
207		-----		-----	904	EN14078-A	6.5		0.75
208		-----		-----	913		-----		-----
209		-----		-----	914		-----		-----
225		-----		-----	962		-----		-----
228		-----		-----	963	EN14078-A	6.2		-1.06
237	D7371	6.2		-1.06	971		-----		-----
238		-----		-----	974	EN14078-B	6.33		-0.27
311	EN14078-B	6.5		0.75	995		-----		-----
312	EN14078-B	6.7	C	1.96	997		-----		-----
317		-----		-----	1006	EN14078-A	6.45		0.45
323	EN14078-A	6.5		0.75	1026	EN14078-B	6.2		-1.06
328	EN14078-B	6.7		1.96	1039	EN14078-B	6.54		0.99
331	EN14078-B	6.47		0.57	1059	EN14078-B	6.2		-1.06
333	EN14078-B	6.3		-0.46	1080		-----		-----
334	EN14078-B	6.4		0.15	1097	EN14078-B	6.23		-0.88
335	EN14078-B	6.3		-0.46	1108	EN14078-B	6.32		-0.34
337	EN14078-A	6.6		1.35	1109		-----		-----
338		-----		-----	1121		-----		-----
342		-----		-----	1126	EN14078-A	6.4		0.15
343	EN14078-B	6.5		0.75	1146		-----		-----
345		-----		-----	1150		-----		-----
351	EN14078-B	6.402		0.16	1199		-----		-----
360	EN14078-B	6.43		0.33	1205	D7371	6.47		0.57
365	EN14078-A	6.548		1.04	1212	EN14078-A	6.19		-1.12
369	EN14078-B	6.2		-1.06	1254	EN14078-B	6.348		-0.17
370	EN14078-B	6.3		-0.46	1259	EN14078-B	6.4		0.15
371		-----		-----	1266	EN14078-A	6.05		-1.96
381	EN14078-B	6.39		0.09	1275	IP579	6.32		-0.34
391		-----		-----	1286		-----		-----
398		-----		-----	1318		-----		-----
399		-----		-----	1356	EN14078-A	6.6		1.35
404	EN14078-B	6.51		0.81	1357	EN14078-A	n.a		-----
420	EN14078-A	6.5		0.75	1397	EN14078-A	6.5		0.75
431		-----		-----	1399		-----		-----
432		-----		-----	1438		-----		-----
440		-----		-----	1498		-----		-----
444		-----		-----	1528	EN14078-B	6.51		0.81
445	EN14078-B	6.71		2.02	1556	EN14078-A	6.3201		-0.33
447	EN14078-B	6.4		0.15	1569	EN14078-B	6.44		0.39
480	EN14078-A	6.34		-0.21	1586	EN14078-A	6.4		0.15
494	EN14078-B	6.6		1.35	1612		-----		-----
495	EN14078-B	6.0885		-1.73	1613		-----		-----
498		-----		-----	1631	EN14078-A	6.04		-2.02
541		-----		-----	1656	EN14078-A	6.2		-1.06
631	EN14078-A	6.31		-0.40	1681		-----		-----
663	EN14078-B	6.31		-0.40	1724	EN14078-A	6.1		-1.66
671		-----		-----	1730		-----		-----
704	EN14078-B	6.30		-0.46	1740	EN14078-B	6.30		-0.46
734		-----		-----	1742		-----		-----
736		-----		-----	1743	EN14078-B	6.5		0.75
751		-----		-----	1776	EN14078-A	6.29		-0.52
752		-----		-----	1796		-----		-----
759		-----		-----	1807	EN14078-B	6.2		-1.06
778		-----		-----	1833	EN14078-B	6.28		-0.58
779		-----		-----	1849		-----		-----
781	EN14078-B	6.38		0.03	1854	EN14078-A	6.29		-0.52
782		-----		-----	1857	EN14078-B	6.56		1.11
785		-----		-----	1858		-----		-----
798		-----		-----	1950		-----		-----
823	EN14078-A	6.3		-0.46	1953	In house	6.48		0.63
872		-----		-----	1961	EN14078-B	6.33		-0.27

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
1967		-----		-----	6146	EN14078-B	6.25		-0.76
1976		-----		-----	6170		-----		-----
1982	EN14078-A	6.56		1.11	6203	EN14078-B	6.45		0.45
1984	EN14078-B	6.4		0.15	6229		-----		-----
1986		-----		-----	6242		-----		-----
2129	EN14078-B	6.2508		-0.75	6279	EN14078-B	6.43		0.33
2130	EN14078-B	6.8	C	2.56	6298	EN14078-A	5.6	R(0.01)	-4.68
2146	In house	6.45		0.45	6299	EN14078-B	6.635		1.56
6012	EN14078-B	6.4		0.15	6307	In house	6.0		-2.26
6018	EN14078-B	6.25254		-0.74	6317		-----		-----
6026		-----		-----	6321	D8274	5.99		-2.33
6044		-----		-----	6364		-----		-----
6049	EN14078-A	6.22		-0.94	6373	EN14078-B	6.57		1.17
6075		-----		-----	6379	EN14078-B	6.429		0.32
6114	EN14078-A	6.53		0.93	6416		-----		-----
6142		-----		-----	6438		-----		-----
6143		-----		-----	6441	EN14078-A	5.9684		-2.46
					6443		c		-----

			EN14078-B only	EN14078-A only
	normality	OK	OK	OK
	n	85	49	27
	outliers	2	0	2
	mean (n)	6.376	6.407	6.345
	st.dev. (n)	0.1693	0.1530	0.1799
	R(calc.)	0.474	0.428	0.504
	st.dev.(EN14078-B:14)	0.1658	0.1667	-----
	R(EN14078-B:14)	0.464	0.467	-----
Compare				
	R(EN14078-A:14)	0.341	-----	0.340

Lab 312 first reported 7.0
Lab 2130 first reported 7.0



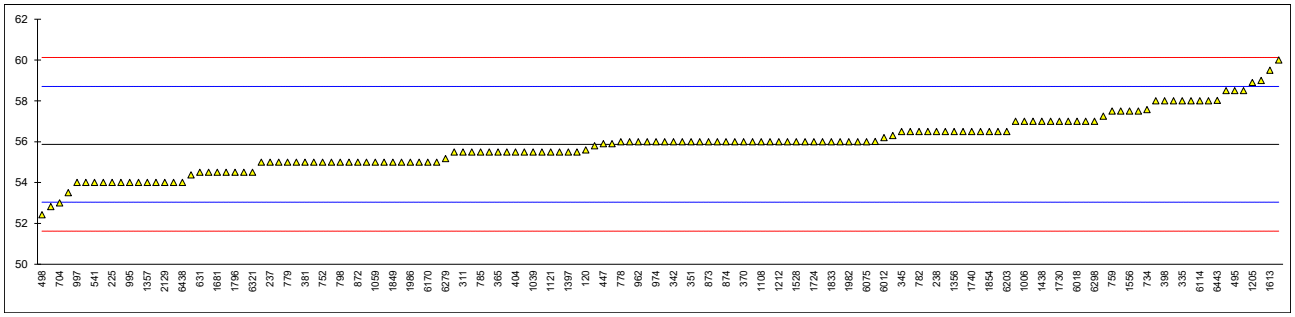


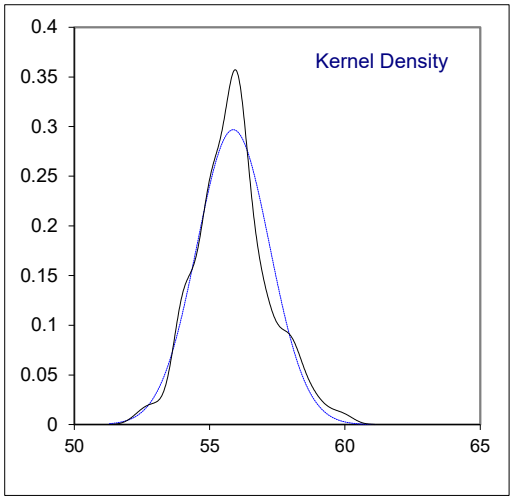
Determination of Flash Point PMcc on sample #22005; result in °C

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
120	D93-A	55.6		-0.19	873	D93-A	56.0		0.09
140	ISO2719-A	55.5		-0.26	874	ISO2719-A	56.0		0.09
171	D93-A	55.5		-0.26	875	ISO2719-A	56.0		0.09
206		-----		-----	902		-----		-----
207		-----		-----	904		-----		-----
208		-----		-----	913		-----		-----
209		-----		-----	914		-----		-----
225	D93-A	54.0		-1.32	962	D93-A	56.0		0.09
228	D93-A	56.0		0.09	963	D93-A	56.0		0.09
237	D93-A	55.0		-0.62	971	ISO2719-A	55.5		-0.26
238	D93-A	56.5		0.44	974	D93-A	56.0		0.09
311	D93-A	55.5		-0.26	995	ISO2719-A	54.0		-1.32
312	ISO2719-A	56.5		0.44	997	ISO2719-A	54.0		-1.32
317	ISO2719-A	55.5		-0.26	1006	D93-A	57.0		0.79
323	ISO2719-B	54.0		-1.32	1026	D93-A	55.0		-0.62
328	ISO2719-A	57.5		1.15	1039	ISO2719-A	55.5		-0.26
331	D93-A	58		1.50	1059	ISO2719-A	55.0		-0.62
333	D93-A	56.0		0.09	1080		-----		-----
334	ISO2719-A	57.0		0.79	1097	ISO2719-A	56.3		0.30
335	ISO2719-A	58.0		1.50	1108	D93-A	56		0.09
337	ISO2719-A	58.5		1.85	1109	D93-A	55.5		-0.26
338	ISO2719-A	58.5		1.85	1121	ISO2719-A	55.5		-0.26
342	ISO2719-A	56		0.09	1126	ISO2719-A	56		0.09
343	ISO2719-A	58		1.50	1146		-----		-----
345	ISO2719-B	56.5		0.44	1150	ISO2719-A	53.5		-1.68
351	ISO2719-A	56.0		0.09	1199		-----		-----
360	D93-A	56.0		0.09	1205	D7215	58.9		2.14
365	IP34-A	55.5		-0.26	1212	ISO2719-A	56.0		0.09
369	ISO2719-A	55.0		-0.62	1254	ISO2719-A	56.0		0.09
370	ISO2719-A	56.0		0.09	1259	ISO2719-A	56.5		0.44
371	ISO2719-A	55.0		-0.62	1266	ISO2719-A	55.8		-0.05
381	ISO2719-A	55.0		-0.62	1275	IP34-A	55.5		-0.26
391	ISO2719-A	58		1.50	1286		-----		-----
398	ISO2719-A	58		1.50	1318	D93-A	54.0		-1.32
399	ISO2719-A	57		0.79	1356	ISO2719-A	56.5		0.44
404	ISO2719-A	55.5		-0.26	1357	D93-A	54.0		-1.32
420	ISO2719-A	54.0		-1.32	1397	ISO2719-A	55.5		-0.26
431		-----		-----	1399		-----		-----
432	ISO2719-A	55.0		-0.62	1438	D93-A	57		0.79
440	D93-B	56.0		0.09	1498	D93-A	56.5		0.44
444	D93-A	56.0		0.09	1528	ISO2719-A	56		0.09
445	D93-A	56.0		0.09	1556	ISO2719-A	57.5		1.15
447	IP34-A	55.9		0.02	1569	ISO2719-A	54.5		-0.97
480	ISO2719-A	55.5		-0.26	1586	D93-A	57.0		0.79
494	ISO2719-A	59.0		2.21	1612		-----		-----
495	ISO2719-A	58.5		1.85	1613	D93-A	59.5		2.56
498	ISO2719-B	52.42		-2.44	1631	ISO2719-A	56		0.09
541	ISO2719-A	54.00		-1.32	1656		-----		-----
631	D93-A	54.5		-0.97	1681	ISO2719-A	54.5		-0.97
663	D93-A	52.82		-2.16	1724	D93-A	56		0.09
671	D93-A	55.0		-0.62	1730	ISO2719-A	57.0		0.79
704	ISO2719-A	53.0		-2.03	1740	IP34-A	56.5		0.44
734	ISO2719-A	57.57		1.20	1742	ISO2719-A	54.5		-0.97
736	ISO2719	56.5		0.44	1743	ISO2719-A	55.0		-0.62
751	ISO2719-A	55.0		-0.62	1776	ISO2719-A	56.0		0.09
752	D93-A	55.0		-0.62	1796	D93-A	54.5		-0.97
759	ISO2719-A	57.5		1.15	1807	D93-A	56.5		0.44
778	ISO2719-A	56.0		0.09	1833	ISO2719-A	56		0.09
779	ISO2719-A	55.0		-0.62	1849	ISO2719-A	55		-0.62
781	ISO2719-A	54.0		-1.32	1854	ISO2719-A	56.5		0.44
782	ISO2719-A	56.5		0.44	1857	D93-A	57.0		0.79
785	ISO2719-A	55.5		-0.26	1858	D93-A	56.5		0.44
798	D93-A	55.0		-0.62	1950	D93-A	55.0		-0.62
823	ISO2719-A	55.0		-0.62	1953	ISO2719-A	56		0.09
872	D93-A	55.0		-0.62	1961		-----		-----

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
1967		-----		-----	6146	ISO2719-A	55.9		0.02
1976	ISO2719-A	54		-1.32	6170	ISO2719-A	55.0		-0.62
1982	D93-A	56.0		0.09	6203	ISO2719-A	56.5		0.44
1984	ISO2719-A	54.5		-0.97	6229	D93-A	57		0.79
1986	ISO2719-A	55.0		-0.62	6242	ISO2719-A	55.0		-0.62
2129	IP34-A	54.0		-1.32	6279	ISO2719-A	55.17		-0.50
2130	D93-A	56.0		0.09	6298	D93-A	57.0		0.79
2146		-----		-----	6299	ISO2719-A	56.01		0.10
6012	D93-A	56.2		0.23	6307	IP523	54.375		-1.06
6018	ISO2719-A	57.0		0.79	6317		-----		-----
6026		-----		-----	6321	IP34-A	54.5		-0.97
6044	D93-A	60		2.91	6364	D93-A	58.0		1.50
6049	ISO2719-A	55.0		-0.62	6373	D93-A	57.25		0.97
6075	ISO2719-A	56.0		0.09	6379		-----		-----
6114	ISO2719-A	58.0		1.50	6416	D93-A	55.5		-0.26
6142		-----		-----	6438	D93	54		-1.32
6143	D93-A	54		-1.32	6441	D93-A	57.5		1.15
					6443	D93-A	58.025		1.52

normality	OK
n	142
outliers	0
mean (n)	55.875
st.dev. (n)	1.3446
R(calc.)	3.765
st.dev.(ISO2719-A:16)	1.417
R(ISO2719-A:16)	3.967





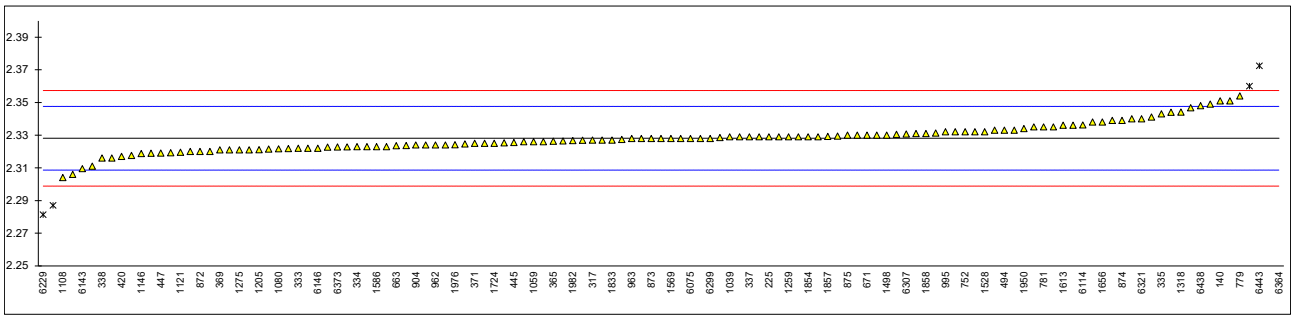
Determination of Kinematic Viscosity at 40°C on sample #22005; result in mm²/s

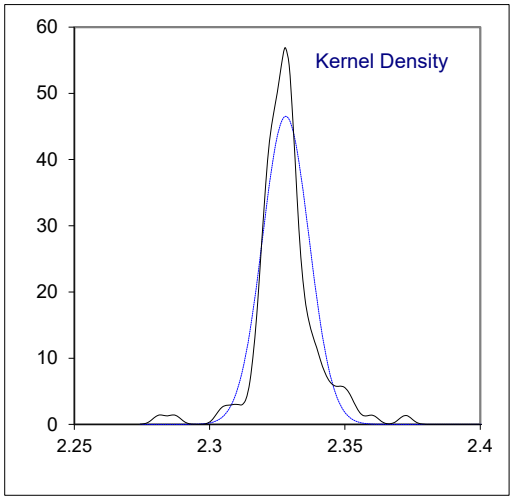
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
120	D445	2.327		-0.12	873	D445	2.328		-0.01
140	ISO3104	2.351		2.35	874	ISO3104	2.339		1.12
171	D445	2.326		-0.22	875	ISO3104	2.330		0.19
206		-----		-----	902	D445	2.330		0.19
207		-----		-----	904	ISO3104	2.324		-0.42
208		-----		-----	913		-----		-----
209		-----		-----	914		-----		-----
225	D445	2.329		0.09	962	D445	2.324		-0.42
228	D445	2.333		0.50	963	ISO3104	2.328		-0.01
237		-----		-----	971	ISO3104	2.338		1.01
238		-----		-----	974	D445	2.333		0.50
311	ISO3104	2.306		-2.27	995	ISO3104	2.332		0.40
312	ISO3104	2.329		0.09	997	ISO3104	2.339		1.12
317	ISO3104	2.327		-0.12	1006	D445	2.328		-0.01
323	ISO3104	2.321		-0.73	1026	D445	2.320		-0.83
328	ISO3104	2.344		1.63	1039	ISO3104	2.329		0.09
331		-----		-----	1059	ISO3104	2.326		-0.22
333	D445	2.322		-0.63	1080	D7042	2.3216		-0.67
334	ISO3104	2.323		-0.53	1097	ISO3104	2.3294		0.13
335	D445	2.343		1.53	1108	D7042	2.304		-2.48
337	ISO3104	2.329		0.09	1109	D445	2.3228		-0.55
338	ISO3104	2.316		-1.24	1121	ISO3104	2.3195		-0.89
342	ISO3104	2.3285		0.04	1126		-----		-----
343	ISO3104	2.326		-0.22	1146	D445	2.3187		-0.97
345	ISO3104	2.3240		-0.42	1150	ISO3104	2.351		2.35
351	ISO3104	2.323		-0.53	1199		-----		-----
360	D445	2.328		-0.01	1205	EN16896	2.3211		-0.72
365	IP71	2.3262		-0.20	1212	ISO3104	2.3175		-1.09
369	ISO3104	2.321		-0.73	1254	ISO3104	2.324		-0.42
370	ISO3104	2.3269		-0.13	1259	ISO3104	2.329		0.09
371	ISO3104	2.325		-0.32	1266	ISO3104	2.3305		0.24
381	D445	2.330		0.19	1275	IP71	2.321		-0.73
391	ISO3104	2.335		0.70	1286		-----		-----
398		-----		-----	1318	D7042	2.3441		1.64
399		-----		-----	1356	ISO3104	2.331		0.29
404		-----		-----	1357	D445	2.332		0.40
420	ISO3104	2.317		-1.14	1397	D7042	2.360	C,R(0.05)	3.27
431		-----		-----	1399		-----		-----
432		-----		-----	1438		-----		-----
440		-----		-----	1498	D445	2.330		0.19
444		-----		-----	1528	ISO3104	2.332		0.40
445	IP71	2.3255		-0.27	1556	ISO3104	2.321		-0.73
447	IP71	2.319		-0.94	1569	ISO3104	2.328		-0.01
480		-----		-----	1586	D445	2.323		-0.53
494	ISO3104	2.333		0.50	1612		-----		-----
495	D445	2.3253		-0.29	1613	D7042	2.336		0.81
498		-----		-----	1631	ISO3104	2.325		-0.32
541	ISO3104	2.3110		-1.76	1656	IP71	2.338		1.01
631	D445	2.3214		-0.69	1681	ISO3104	2.3218		-0.65
663	D445	2.3235		-0.48	1724	D445	2.325		-0.32
671	D445	2.33		0.19	1730		-----		-----
704	ISO3104	2.3246		-0.36	1740	IP71	2.329		0.09
734		-----		-----	1742	ISO3104	2.3312		0.31
736	GOST33	2.3467		1.91	1743	D7279	2.320		-0.83
751	D445	2.332		0.40	1776	D7042	2.316		-1.24
752	D445	2.332		0.40	1796	D445	2.328		-0.01
759	ISO3104	2.329		0.09	1807	D445	2.341		1.32
778	ISO3104	2.340		1.22	1833	ISO3104	2.327		-0.12
779	ISO3104	2.354		2.65	1849	ISO3104	2.3236		-0.46
781	ISO3104	2.335		0.70	1854	ISO3104	2.329		0.09
782		-----		-----	1857	D445	2.3292		0.11
785	D445	2.329		0.09	1858	D445	2.331		0.29
798	D445	2.3193		-0.91	1950	D445	2.334		0.60
823	ISO3104	2.3264		-0.18	1953		-----		-----
872	ISO3104	2.320		-0.83	1961		-----		-----

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
1967		-----		-----	6146	ISO3104	2.3220		-0.63
1976	ISO3104	2.3242		-0.40	6170		-----		-----
1982	D445	2.3267		-0.15	6203		-----		-----
1984	ISO3104	2.329		0.09	6229	ISO3104	2.2813	R(0.01)	-4.80
1986	ISO3104	2.335		0.70	6242	ISO3104	2.3280		-0.01
2129	ISO3104	2.322		-0.63	6279	ISO3104	2.3273		-0.09
2130		-----		-----	6298	D445	2.336		0.81
2146		-----		-----	6299	ISO3104	2.328		-0.01
6012	ISO3104	2.349		2.14	6307	IP71	2.330638		0.26
6018	ISO3104	2.4907	R(0.01)	16.68	6317	D7042	2.3189		-0.95
6026		-----		-----	6321	IP71	2.340		1.22
6044	D7042	2.287	R(0.01)	-4.22	6364	D445	2.637	R(0.01)	31.69
6049	ISO3104	2.323		-0.53	6373	ISO3104	2.3227		-0.56
6075	ISO3104	2.328		-0.01	6379		-----		-----
6114	ISO3104	2.3362		0.83	6416		-----		-----
6142		-----		-----	6438	D7042	2.348		2.04
6143	D445	2.3095		-1.91	6441	ISO3104	2.3226		-0.57
					6443	D445	2.3724	C,R(0.01)	4.54

normality	suspect
n	121
outliers	6
mean (n)	2.3281
st.dev. (n)	0.00858
R(calc.)	0.0240
st.dev.(ISO3104:20)	0.00975
R(ISO3104:20)	0.0273

Lab 1397 first reported 2.811
Lab 6443 first reported 2.3953





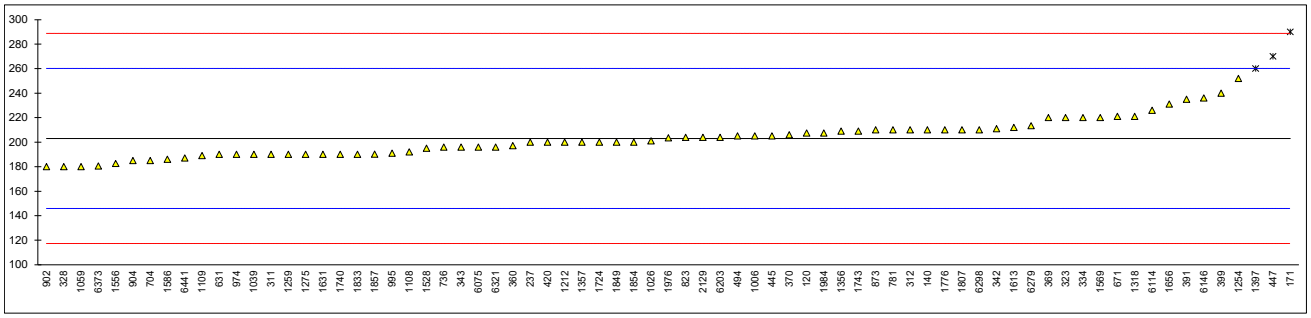
Determination of Lubricity by HFRR at 60°C on sample #22005; result in µm

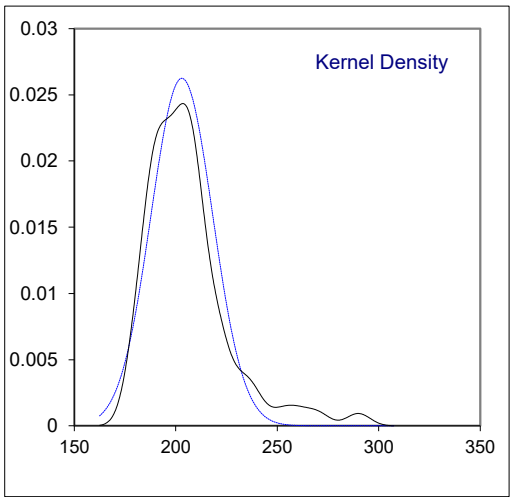
lab	method	value	mark	z(targ)	corr.?	lab	method	value	mark	z(targ)	corr.?
120	D6079	207.5		0.16	No	873	ISO12156-1-A	210		0.24	No
140	ISO12156-1 (2006)	210		0.24		874		-----		-----	
171	D6079	290	R(0.01)	3.04		875		-----		-----	
206		-----		-----		902	ISO12156-1-A	180		-0.81	
207		-----		-----		904	ISO12156-1-A	185		-0.63	Yes
208		-----		-----		913		-----		-----	
209		-----		-----		914		-----		-----	
225		-----		-----		962		-----		-----	
228		-----		-----		963		-----		-----	Yes
237	D6079	200	C	-0.11	No	971		-----		-----	
238		-----		-----		974	D6079	190		-0.46	No
311	ISO12156-1 (2006)	190		-0.46	No	995	ISO12156-1-A	191		-0.42	No
312	ISO12156-1-A	210		0.24	No	997		-----		-----	
317		-----		-----		1006	D6079	205		0.07	
323	ISO12156-1-B	220		0.59		1026	ISO12156-1-B	201		-0.07	No
328	ISO12156-1-A	180		-0.81		1039	ISO12156-1 (2006)	190		-0.46	No
331		-----		-----		1059	ISO12156-1-A	180		-0.81	
333		-----		-----		1080		-----		-----	
334	ISO12156-1-B	220		0.59	No	1097		-----		-----	
335		-----		-----		1108	ISO12156-1-B	192		-0.39	No
337		-----		-----		1109	IP450	189	C	-0.49	Yes
338		-----		-----		1121		-----		-----	
342	ISO12156-1-B	211		0.28	No	1126		-----		-----	
343	ISO12156-1 (2006)	196		-0.25		1146		-----		-----	
345		-----		-----		1150		-----		-----	
351		-----		-----		1199		-----		-----	
360	ISO12156-1-B	197		-0.21	No	1205		-----		-----	
365		-----		-----		1212	ISO12156-1-A	200		-0.11	
369	ISO12156-1-B	220		0.59	No	1254	ISO12156-1-B	252		1.71	No
370	ISO12156-1-B	206		0.10	No	1259	ISO12156-1-B	190		-0.46	No
371		-----		-----		1266		-----		-----	
381		-----		-----		1275	IP450	190		-0.46	Yes
391	ISO12156-1-A	235		1.12		1286		-----		-----	
398		-----		-----		1318	ISO12156-1	221		0.63	
399	ISO12156-1-B	240		1.29	No	1356	ISO12156-1-B	209		0.21	
404		-----		-----		1357	D6079	200		-0.11	Yes
420	ISO12156-1 (2006)	200		-0.11		1397	ISO12156-1-B	260	R(0.05)	1.99	No
431		-----		-----		1399		-----		-----	
432		-----		-----		1438		-----		-----	
440		-----		-----		1498		-----		-----	
444		-----		-----		1528	ISO12156-1-A	195		-0.28	No
445	IP450	205		0.07	No	1556	ISO12156-1-A	182.5		-0.72	Yes
447	ISO12156-1-B	270	R(0.05)	2.34	No	1569	ISO12156-1-B	220		0.59	
480		-----		-----		1586	ISO12156-1 (2006)	186		-0.60	No
494	ISO12156-1-A	205		0.07	No	1612		-----		-----	
495		-----		-----		1613	ISO12156-1-A	212		0.31	No
498		-----		-----		1631	ISO12156-1-A	190		-0.46	Yes
541		-----		-----		1656	IP450	231		0.98	
631	D7688	190		-0.46	No	1681		-----		-----	
663		-----		-----		1724	IP450	200		-0.11	No
671	D6079	221		0.63	Yes	1730		-----		-----	
704	ISO12156-1-A	185		-0.63		1740	ISO12156-1-B	190		-0.46	Yes
734		-----		-----		1742		-----		-----	
736	ISO12156-1	196		-0.25	Yes	1743	ISO12156-1-B	209		0.21	No
751		-----		-----		1776	ISO12156-1-A	210		0.24	Yes
752		-----		-----		1796		-----		-----	
759		-----		-----		1807	ISO12156-1-B	210	C	0.24	
778		-----		-----		1833	ISO12156-1-A	190		-0.46	
779		-----		-----		1849	ISO12156-1-B	200		-0.11	No
781	ISO12156-1 (2006)	210		0.24	Yes	1854	ISO12156-1-A	200		-0.11	Yes
782		-----		-----		1857	ISO12156-1-A	190.2		-0.45	No
785		-----		-----		1858		-----		-----	
798		-----		-----		1950		-----		-----	
823	ISO12156-1 (2006)	204		0.03	No	1953		-----		-----	
872		-----		-----		1961		-----		-----	

lab	method	value	mark	z(targ)	corr.?	lab	method	value	mark	z(targ)	corr.?
1967		-----		-----		6146	ISO12156-1-A	236		1.15	No
1976	ISO12156-1-A	203.5		0.02		6170		-----		-----	
1982		-----		-----		6203	ISO12156-1-A	204	C	0.03	Yes
1984	ISO12156-1-A	207.5		0.16	Yes	6229		-----		-----	
1986		-----		-----		6242		-----		-----	
2129	ISO12156-1 (2006)	204		0.03	No	6279	ISO12156-1-A	213.33		0.36	No
2130		-----		-----		6298	D6079	210		0.24	Yes
2146		-----		-----		6299		-----		-----	
6012		-----		-----		6307		-----		-----	
6018		-----		-----		6317		-----		-----	
6026		-----		-----		6321	ISO12156-1-A	196		-0.25	No
6044		-----		-----		6364		-----		-----	
6049		-----		-----		6373	ISO12156-1-A	180.5		-0.79	No
6075	ISO12156-1-A	196		-0.25	No	6379		-----		-----	
6114	ISO12156-1-B	226		0.80	Yes	6416		-----		-----	
6142		-----		-----		6438		-----		-----	
6143		-----		-----		6441	D6079	187		-0.56	Yes
						6443		-----		-----	

	normality	OK	
	n	70	
	outliers	3	
	mean (n)	203.043	
	st.dev. (n)	15.2023	
	R(calc.)	42.567	
	st.dev.(ISO12156-1-A:18)	28.5714	
	R(ISO12156-1-A:18)	80	(digital camera)
Compare			
	R(ISO12156-1-B:18)	90	(visual)
	R(D6079:18)	80	

Lab 237 first reported 290
Lab 1109 first reported 0.189 µm
Lab 1807 first reported 290
Lab 6203 first reported 304





Determination of Manganese as Mn on sample #22005; result in mg/L

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
120		-----		-----	873		-----		-----
140	EN16576	<0.5		-----	874		-----		-----
171	EN16576	<0.5		-----	875		-----		-----
206		-----		-----	902	EN16576	<0,5		-----
207		-----		-----	904	EN16576	<0,5		-----
208		-----		-----	913		-----		-----
209		-----		-----	914		-----		-----
225		-----		-----	962	D7111	<0.1		-----
228		-----		-----	963		-----		-----
237	EN16576	<0.5		-----	971		-----		-----
238		-----		-----	974		-----		-----
311		-----		-----	995		-----		-----
312		-----		-----	997		-----		-----
317	EN16576	0.50		-----	1006		-----		-----
323	EN16576	< 0.50		-----	1026		-----		-----
328		-----		-----	1039		-----		-----
331	D5185	<1		-----	1059		-----		-----
333		-----		-----	1080		-----		-----
334		-----		-----	1097		-----		-----
335		-----		-----	1108		-----		-----
337		-----		-----	1109		-----		-----
338		-----		-----	1121		-----		-----
342		-----		-----	1126		-----		-----
343	EN16576	<0,5		-----	1146		-----		-----
345		-----		-----	1150		-----		-----
351		-----		-----	1199		-----		-----
360	EN16576	< 0.50		-----	1205		-----		-----
365		-----		-----	1212	EN16576	<0,5		-----
369	EN16576	<0.5		-----	1254		-----		-----
370		-----		-----	1259		-----		-----
371		-----		-----	1266		-----		-----
381	EN16576	<0,5		-----	1275		-----		-----
391		-----		-----	1286		-----		-----
398		-----		-----	1318		-----		-----
399		-----		-----	1356		-----		-----
404		-----		-----	1357	EN16576	n.a		-----
420	EN16576	<0,1		-----	1397		-----		-----
431		-----		-----	1399		-----		-----
432		-----		-----	1438		-----		-----
440		-----		-----	1498		-----		-----
444		-----		-----	1528	In house	<0.5		-----
445	EN16576	<0.1		-----	1556		-----		-----
447	EN16576	0.1		-----	1569	EN16576	<0,1		-----
480		-----		-----	1586	EN16576	0.01		-----
494	EN16576	<2		-----	1612		-----		-----
495		-----		-----	1613	EN16576	<0.5		-----
498		-----		-----	1631	EN16576	<0.5		-----
541		-----		-----	1656		-----		-----
631		-----		-----	1681		-----		-----
663		-----		-----	1724		-----		-----
671		-----		-----	1730		-----		-----
704	EN16576	<0.5		-----	1740	EN16576	<0.5		-----
734		-----		-----	1742		-----		-----
736		-----		-----	1743		-----		-----
751		-----		-----	1776		-----		-----
752		-----		-----	1796		-----		-----
759		-----		-----	1807		-----		-----
778		-----		-----	1833	EN16576	<0.5		-----
779		-----		-----	1849		-----		-----
781	EN16576	<0.5		-----	1854		-----		-----
782		-----		-----	1857	EN16576	0.02		-----
785		-----		-----	1858		-----		-----
798		-----		-----	1950		-----		-----
823		-----		-----	1953		-----		-----
872		-----		-----	1961		-----		-----

lab	method	Value	mark	z(targ)	lab	method	value	mark	z(targ)
1967		-----		-----	6146	EN16576	0.005		-----
1976		-----		-----	6170		-----		-----
1982		-----		-----	6203	EN16576	0.11		-----
1984		-----		-----	6229		-----		-----
1986	D3831	<0.25		-----	6242		-----		-----
2129	D7111	0.0		-----	6279		-----		-----
2130		-----		-----	6298		-----		-----
2146		-----		-----	6299		-----		-----
6012		-----		-----	6307		-----		-----
6018		-----		-----	6317		-----		-----
6026		-----		-----	6321		-----		-----
6044		-----		-----	6364		-----		-----
6049	EN16576	<0.5		-----	6373		-----		-----
6075		-----		-----	6379		-----		-----
6114		-----		-----	6416		-----		-----
6142		-----		-----	6438		-----		-----
6143		-----		-----	6441		<0.1		-----
					6443		-----		-----

n	32
mean (n)	<0.5

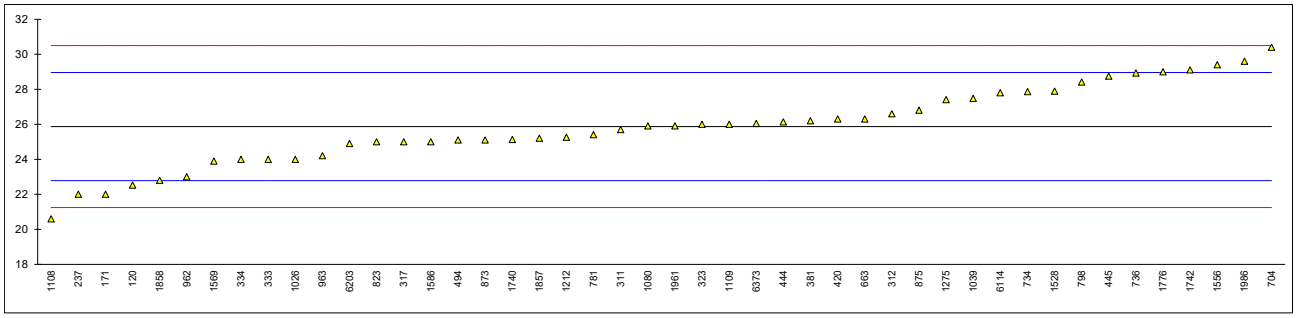
Determination of Nitrogen on sample #22005; result in mg/kg

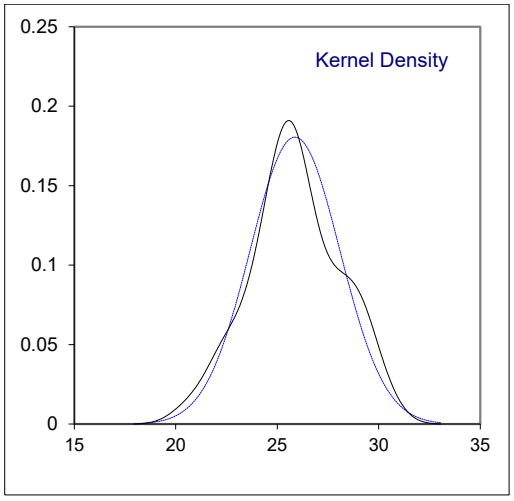
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
120	D4629	22.523		-2.17	873	D4629	25.1		-0.50
140		-----		-----	874		-----		-----
171	D4629	22		-2.51	875	D4629	26.8		0.60
206		-----		-----	902		-----		-----
207		-----		-----	904		-----		-----
208		-----		-----	913		-----		-----
209		-----		-----	914		-----		-----
225		-----		-----	962	D4629	23		-1.86
228		-----		-----	963	D4629	24.2		-1.08
237	D4629	22		-2.51	971		-----		-----
238		-----		-----	974		-----		-----
311	D4629	25.7		-0.11	995		-----		-----
312	D4629	26.6		0.47	997		-----		-----
317	D4629	25		-0.56	1006		-----		-----
323	D4629	26		0.08	1026	D4629	24		-1.21
328		-----		-----	1039	D4629	27.48		1.04
331		-----		-----	1059		-----		-----
333	D4629	24		-1.21	1080	D4629	25.9		0.02
334	D4629	24		-1.21	1097		-----		-----
335		-----		-----	1108	D5762	20.6		-3.41
337		-----		-----	1109	D4629	26		0.08
338		-----		-----	1121		-----		-----
342		-----		-----	1126		-----		-----
343	D5291	<1000		-----	1146		-----		-----
345		-----		-----	1150		-----		-----
351		-----		-----	1199		-----		-----
360		-----		-----	1205		-----		-----
365		-----		-----	1212	D4629	25.26		-0.40
369		-----		-----	1254		-----		-----
370		-----		-----	1259		-----		-----
371		-----		-----	1266		-----		-----
381	D4629	26.2		0.21	1275	IP379	27.41		1.00
391		-----		-----	1286		-----		-----
398		-----		-----	1318		-----		-----
399		-----		-----	1356		-----		-----
404		-----		-----	1357	D4629	n.a		-----
420	D4629	26.3		0.28	1397		-----		-----
431		-----		-----	1399		-----		-----
432		-----		-----	1438		-----		-----
440		-----		-----	1498		-----		-----
444	D4629	26.13		0.17	1528	D4629	27.89		1.31
445	D4629	28.75		1.87	1556	D4629	29.40		2.29
447		-----		-----	1569	D4629	23.9		-1.28
480		-----		-----	1586	D4629	25		-0.56
494	D4629	25.1		-0.50	1612		-----		-----
495		-----		-----	1613		-----		-----
498		-----		-----	1631		-----		-----
541		-----		-----	1656		-----		-----
631		-----		-----	1681		-----		-----
663	D4629	26.3		0.28	1724		-----		-----
671		-----		-----	1730		-----		-----
704	D4629	30.40		2.94	1740	D4629	25.13		-0.48
734	D4629	27.865		1.29	1742	D5762	29.1		2.09
736	D4629	28.920	C	1.98	1743		-----		-----
751		-----		-----	1776	D4629	29		2.03
752		-----		-----	1796		-----		-----
759		-----		-----	1807		-----		-----
778		-----		-----	1833		-----		-----
779		-----		-----	1849		-----		-----
781	D4629	25.4		-0.30	1854		-----		-----
782		-----		-----	1857	D4629	25.2		-0.43
785		-----		-----	1858	D4629	22.8		-1.99
798	D4629	28.41		1.65	1950		-----		-----
823	D4629	25		-0.56	1953		-----		-----
872		-----		-----	1961	D4629	25.9		0.02

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
1967		-----		-----	6146		-----		-----
1976		-----		-----	6170		-----		-----
1982		-----		-----	6203	D4629	24.9		-0.63
1984		-----		-----	6229		-----		-----
1986	D4629	29.6		2.42	6242		-----		-----
2129		-----		-----	6279		-----		-----
2130		-----		-----	6298		-----		-----
2146		-----		-----	6299		-----		-----
6012		-----		-----	6307		-----		-----
6018		-----		-----	6317		-----		-----
6026		-----		-----	6321		-----		-----
6044		-----		-----	6364		-----		-----
6049		-----		-----	6373	D4629	26.05		0.12
6075		-----		-----	6379		-----		-----
6114	D5762	27.8		1.25	6416		-----		-----
6142		-----		-----	6438		-----		-----
6143		-----		-----	6441		-----		-----
					6443		-----		-----

normality	OK
n	46
outliers	0
mean (n)	25.87
st.dev. (n)	2.210
R(calc.)	6.19
st.dev.(D4629:17)	1.543
R(D4629:17)	4.32

Lab 736 first reported 37.15





Determination of Polycyclic Aromatic Hydrocarbons [1] on sample #22005; result in %M/M

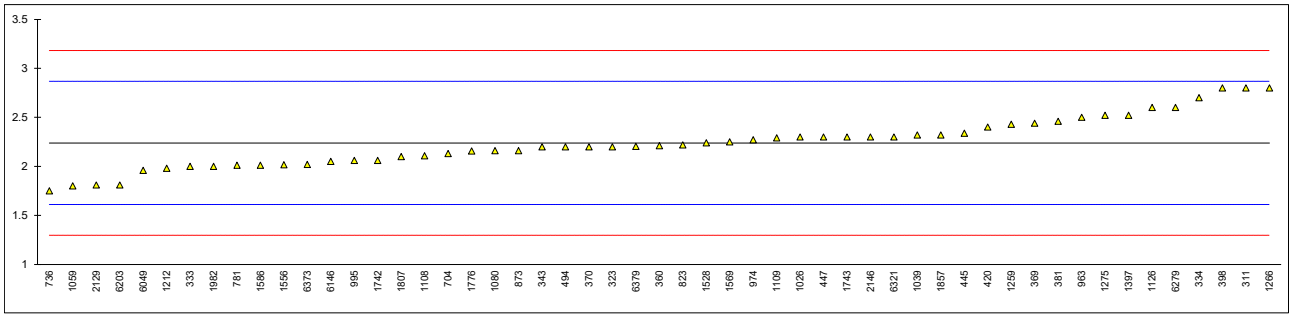
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
120		-----		-----	873	EN12916	2.16		-0.25
140		-----		-----	874		-----		-----
171		-----		-----	875		-----		-----
206		-----		-----	902		-----		-----
207		-----		-----	904		-----		-----
208		-----		-----	913		-----		-----
209		-----		-----	914		-----		-----
225		-----		-----	962		-----		-----
228		-----		-----	963	EN12916	2.5		0.83
237		-----		-----	971		-----		-----
238		-----		-----	974	IP391	2.27		0.10
311	EN12916	2.8		1.79	995	EN12916	2.06		-0.57
312		-----		-----	997		-----		-----
317		-----		-----	1006		-----		-----
323	EN12916	2.2		-0.13	1026	EN12916	2.3		0.19
328		-----		-----	1039	D6379	2.32		0.26
331		-----		-----	1059	EN12916	1.8		-1.40
333	EN12916	2.0		-0.76	1080	EN12916	2.16		-0.25
334	EN12916	2.7	E	1.47	1097		-----		-----
335		-----		-----	1108	EN12916	2.107		-0.42
337		-----		-----	1109	IP391	2.29		0.16
338		-----		-----	1121		-----		-----
342		-----		-----	1126		2.6		1.15
343	EN12916	2.2		-0.13	1146		-----		-----
345		-----		-----	1150		-----		-----
351		-----		-----	1199		-----		-----
360	EN12916	2.21		-0.09	1205		-----		-----
365		-----		-----	1212	EN12916	1.98		-0.83
369	EN12916	2.44		0.64	1254		-----		-----
370	EN12916	2.2		-0.13	1259	EN12916	2.43		0.61
371		-----		-----	1266	EN12916	2.8		1.79
381	EN12916	2.46		0.70	1275	IP391	2.52		0.89
391		-----		-----	1286		-----		-----
398	EN12916	2.80		1.79	1318		-----		-----
399		-----		-----	1356		-----		-----
404		-----		-----	1357	IP391	n.a		-----
420	EN12916	2.4		0.51	1397	EN12916	2.52		0.89
431		-----		-----	1399		-----		-----
432		-----		-----	1438		-----		-----
440		-----		-----	1498		-----		-----
444		-----		-----	1528	EN12916	2.24		0.00
445	IP391	2.337		0.31	1556	EN12916	2.0175		-0.71
447	IP391	2.3		0.19	1569	EN12916	2.25		0.03
480		-----		-----	1586	EN12916	2.01		-0.73
494	EN12916	2.2		-0.13	1612		-----		-----
495		-----		-----	1613		-----		-----
498		-----		-----	1631		-----		-----
541		-----		-----	1656		-----		-----
631		-----		-----	1681		-----		-----
663		-----		-----	1724		-----		-----
671		-----		-----	1730		-----		-----
704	EN12916	2.13		-0.35	1740		-----		-----
734		-----		-----	1742	EN12916	2.06		-0.57
736	EN12916	1.75121		-1.55	1743	EN12916	2.3		0.19
751		-----		-----	1776	EN12916	2.15688		-0.26
752		-----		-----	1796		-----		-----
759		-----		-----	1807		2.10		-0.44
778		-----		-----	1833		-----		-----
779		-----		-----	1849		-----		-----
781	EN12916	2.01		-0.73	1854		-----		-----
782		-----		-----	1857	EN12916	2.32		0.26
785		-----		-----	1858		-----		-----
798		-----		-----	1950		-----		-----
823	EN12916	2.22		-0.06	1953		-----		-----
872		-----		-----	1961		-----		-----

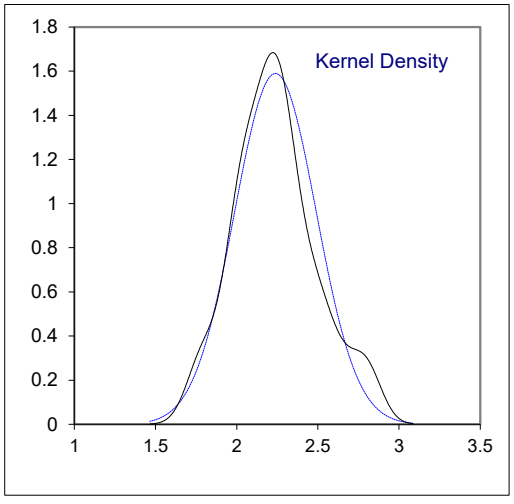
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
1967		-----		-----	6146	EN12916	2.05		-0.60
1976		-----		-----	6170		-----		-----
1982	EN12916	2.00		-0.76	6203	EN12916	1.81		-1.37
1984		-----		-----	6229		-----		-----
1986		-----		-----	6242		-----		-----
2129	IP391	1.81		-1.37	6279	EN12916	2.6		1.15
2130		-----		-----	6298		-----		-----
2146	EN12916	2.3		0.19	6299		-----		-----
6012		-----		-----	6307		-----		-----
6018		-----		-----	6317		-----		-----
6026		-----		-----	6321	IP391	2.3		0.19
6044		-----		-----	6364		-----		-----
6049	EN12916	1.96		-0.89	6373	EN12916	2.02		-0.70
6075		-----		-----	6379		2.2044		-0.11
6114		-----		-----	6416		-----		-----
6142		-----		-----	6438		-----		-----
6143		-----		-----	6441		-----		-----
					6443		-----		-----

normality	OK
n	53
outliers	0
mean (n)	2.239
st.dev. (n)	0.2510
R(calc.)	0.703
st.dev.(EN12916:19)	0.3140
R(EN12916:19)	0.879

[1)] Definition from EN12916: %Polycyclic Aromatic Hydrocarbons = sum of %di and %tri+ Aromatic Hydrocarbons

lab 334 E: iis calculated 2.4 (Tri$^+$ aromatic test result was corrected without correction of Total Aromatic test result)



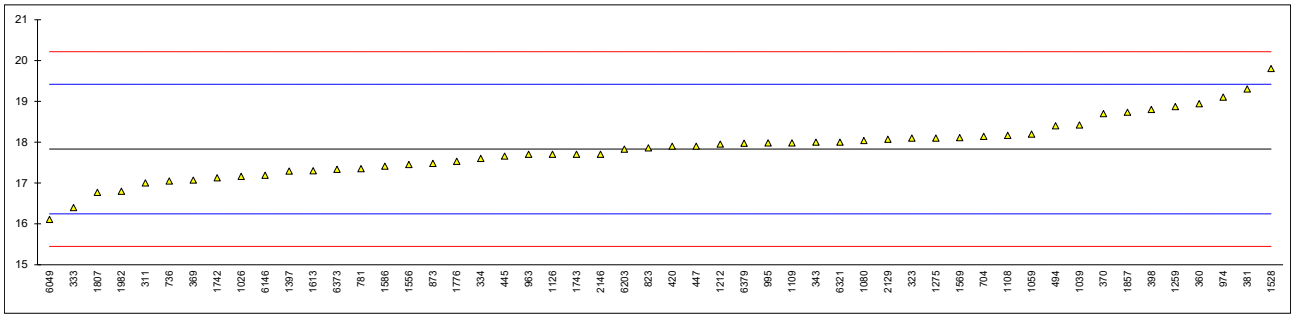


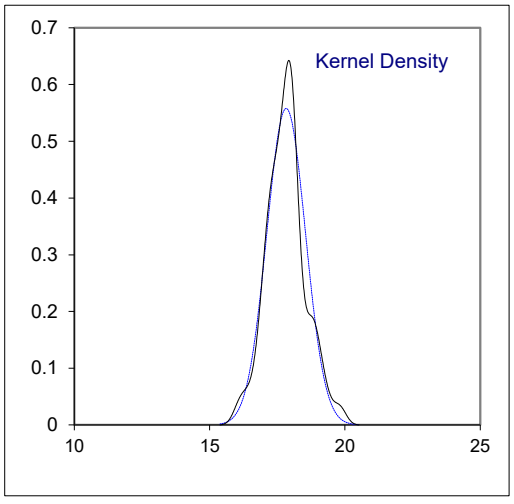
Determination of Mono Aromatic Hydrocarbons on sample #22005; result in %M/M

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
120		-----		-----	873	EN12916	17.48		-0.44
140		-----		-----	874		-----		-----
171		-----		-----	875		-----		-----
206		-----		-----	902		-----		-----
207		-----		-----	904		-----		-----
208		-----		-----	913		-----		-----
209		-----		-----	914		-----		-----
225		-----		-----	962		-----		-----
228		-----		-----	963	EN12916	17.7		-0.17
237		-----		-----	971		-----		-----
238		-----		-----	974	IP391	19.10		1.60
311	EN12916	17.0		-1.05	995	EN12916	17.98		0.19
312		-----		-----	997		-----		-----
317		-----		-----	1006		-----		-----
323	EN12916	18.1		0.34	1026	EN12916	17.16		-0.85
328		-----		-----	1039	D6379	18.42		0.74
331		-----		-----	1059	EN12916	18.2		0.46
333	EN12916	16.4		-1.80	1080	EN12916	18.04		0.26
334	EN12916	17.6		-0.29	1097		-----		-----
335		-----		-----	1108	EN12916	18.166		0.42
337		-----		-----	1109	IP391	17.98		0.19
338		-----		-----	1121		-----		-----
342		-----		-----	1126		17.7		-0.17
343	EN12916	18.0		0.21	1146		-----		-----
345		-----		-----	1150		-----		-----
351		-----		-----	1199		-----		-----
360	EN12916	18.94		1.40	1205		-----		-----
365		-----		-----	1212	EN12916	17.95		0.15
369	EN12916	17.07		-0.96	1254		-----		-----
370	EN12916	18.7		1.09	1259	EN12916	18.868		1.30
371		-----		-----	1266		-----		-----
381	EN12916	19.3		1.85	1275	IP391	18.10		0.34
391		-----		-----	1286		-----		-----
398	EN12916	18.8		1.22	1318		-----		-----
399		-----		-----	1356		-----		-----
404		-----		-----	1357	IP391	n.a		-----
420	EN12916	17.9		0.09	1397	EN12916	17.29		-0.68
431		-----		-----	1399		-----		-----
432		-----		-----	1438		-----		-----
440		-----		-----	1498		-----		-----
444		-----		-----	1528	EN12916	19.80		2.48
445	IP391	17.659		-0.22	1556	EN12916	17.45		-0.48
447	IP391	17.9		0.09	1569	EN12916	18.11		0.35
480		-----		-----	1586	EN12916	17.41		-0.53
494	EN12916	18.4		0.72	1612		-----		-----
495		-----		-----	1613	EN12916	17.3		-0.67
498		-----		-----	1631		-----		-----
541		-----		-----	1656		-----		-----
631		-----		-----	1681		-----		-----
663		-----		-----	1724		-----		-----
671		-----		-----	1730		-----		-----
704	EN12916	18.14		0.39	1740		-----		-----
734		-----		-----	1742	EN12916	17.13		-0.88
736	EN12916	17.04882		-0.99	1743	EN12916	17.7		-0.17
751		-----		-----	1776	EN12916	17.53214		-0.38
752		-----		-----	1796		-----		-----
759		-----		-----	1807		16.77		-1.34
778		-----		-----	1833		-----		-----
779		-----		-----	1849		-----		-----
781	EN12916	17.35		-0.61	1854		-----		-----
782		-----		-----	1857	EN12916	18.73		1.13
785		-----		-----	1858		-----		-----
798		-----		-----	1950		-----		-----
823	EN12916	17.86		0.04	1953		-----		-----
872		-----		-----	1961		-----		-----

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
1967		-----		-----	6146	EN12916	17.19		-0.81
1976		-----		-----	6170		-----		-----
1982	EN12916	16.80		-1.30	6203	EN12916	17.83		0.00
1984		-----		-----	6229		-----		-----
1986		-----		-----	6242		-----		-----
2129	IP391	18.07		0.30	6279		-----		-----
2130		-----		-----	6298		-----		-----
2146	EN12916	17.7		-0.17	6299		-----		-----
6012		-----		-----	6307		-----		-----
6018		-----		-----	6317		-----		-----
6026		-----		-----	6321	IP391	18.0		0.21
6044		-----		-----	6364		-----		-----
6049	EN12916	16.11		-2.17	6373	EN12916	17.335		-0.63
6075		-----		-----	6379		17.975		0.18
6114		-----		-----	6416		-----		-----
6142		-----		-----	6438		-----		-----
6143		-----		-----	6441		-----		-----
					6443		-----		-----

normality	OK
n	52
outliers	0
mean (n)	17.832
st.dev. (n)	0.7155
R(calc.)	2.003
st.dev.(EN12916:19)	0.7942
R(EN12916:19)	2.224



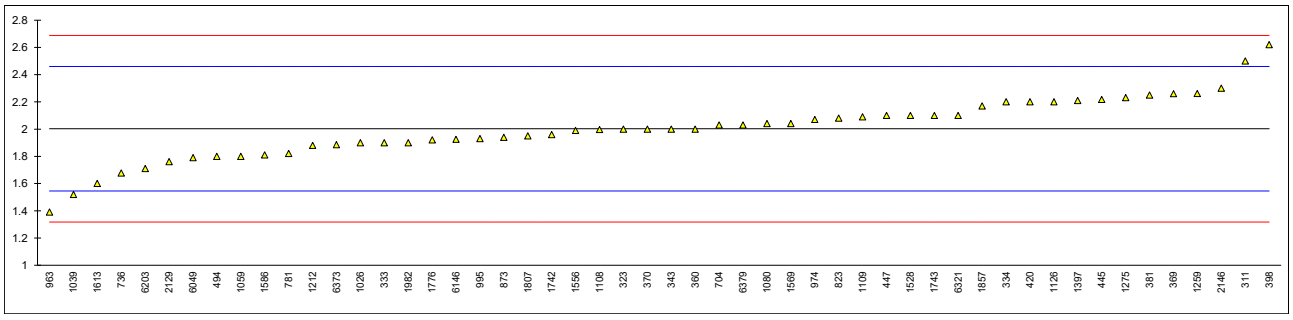


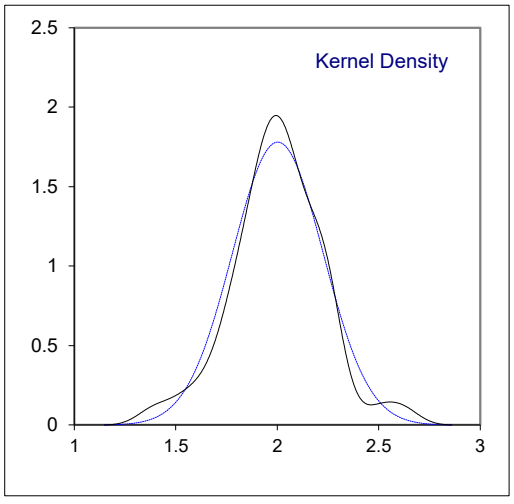
Determination of Di Aromatic Hydrocarbons on sample #22005; result in %M/M

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
120		-----		-----	873	EN12916	1.94		-0.28
140		-----		-----	874		-----		-----
171		-----		-----	875		-----		-----
206		-----		-----	902		-----		-----
207		-----		-----	904		-----		-----
208		-----		-----	913		-----		-----
209		-----		-----	914		-----		-----
225		-----		-----	962		-----		-----
228		-----		-----	963	EN12916	1.39		-2.68
237		-----		-----	971		-----		-----
238		-----		-----	974	IP391	2.07		0.29
311	EN12916	2.5		2.17	995	EN12916	1.93		-0.32
312		-----		-----	997		-----		-----
317		-----		-----	1006		-----		-----
323	EN12916	2.0		-0.01	1026	EN12916	1.90		-0.45
328		-----		-----	1039	D6379	1.52		-2.11
331		-----		-----	1059	EN12916	1.8		-0.89
333	EN12916	1.9		-0.45	1080	EN12916	2.04		0.16
334	EN12916	2.2		0.86	1097		-----		-----
335		-----		-----	1108	EN12916	1.997		-0.03
337		-----		-----	1109	IP391	2.09		0.38
338		-----		-----	1121		-----		-----
342		-----		-----	1126		2.2		0.86
343	EN12916	2.0		-0.01	1146		-----		-----
345		-----		-----	1150		-----		-----
351		-----		-----	1199		-----		-----
360	EN12916	2.00		-0.01	1205		-----		-----
365		-----		-----	1212	EN12916	1.88		-0.54
369	EN12916	2.26		1.12	1254		-----		-----
370	EN12916	2.0		-0.01	1259	EN12916	2.261		1.13
371		-----		-----	1266		-----		-----
381	EN12916	2.25		1.08	1275	IP391	2.23		0.99
391		-----		-----	1286		-----		-----
398	EN12916	2.62		2.70	1318		-----		-----
399		-----		-----	1356		-----		-----
404		-----		-----	1357	IP391	n.a		-----
420	EN12916	2.2		0.86	1397	EN12916	2.21		0.91
431		-----		-----	1399		-----		-----
432		-----		-----	1438		-----		-----
440		-----		-----	1498		-----		-----
444		-----		-----	1528	EN12916	2.10		0.42
445	IP391	2.217		0.94	1556	EN12916	1.99		-0.06
447	IP391	2.1		0.42	1569	EN12916	2.04		0.16
480		-----		-----	1586	EN12916	1.81		-0.84
494	EN12916	1.8		-0.89	1612		-----		-----
495		-----		-----	1613	EN12916	1.6		-1.76
498		-----		-----	1631		-----		-----
541		-----		-----	1656		-----		-----
631		-----		-----	1681		-----		-----
663		-----		-----	1724		-----		-----
671		-----		-----	1730		-----		-----
704	EN12916	2.03		0.12	1740		-----		-----
734		-----		-----	1742	EN12916	1.96		-0.19
736	EN12916	1.67727		-1.42	1743	EN12916	2.1		0.42
751		-----		-----	1776	EN12916	1.92086		-0.36
752		-----		-----	1796		-----		-----
759		-----		-----	1807		1.95		-0.23
778		-----		-----	1833		-----		-----
779		-----		-----	1849		-----		-----
781	EN12916	1.82		-0.80	1854		-----		-----
782		-----		-----	1857	EN12916	2.17		0.73
785		-----		-----	1858		-----		-----
798		-----		-----	1950		-----		-----
823	EN12916	2.08		0.34	1953		-----		-----
872		-----		-----	1961		-----		-----

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
1967		-----		-----	6146	EN12916	1.925		-0.34
1976		-----		-----	6170		-----		-----
1982	EN12916	1.90		-0.45	6203	EN12916	1.71		-1.28
1984		-----		-----	6229		-----		-----
1986		-----		-----	6242		-----		-----
2129	IP391	1.76		-1.06	6279		-----		-----
2130		-----		-----	6298		-----		-----
2146	EN12916	2.3		1.30	6299		-----		-----
6012		-----		-----	6307		-----		-----
6018		-----		-----	6317		-----		-----
6026		-----		-----	6321	IP391	2.1		0.42
6044		-----		-----	6364		-----		-----
6049	EN12916	1.79		-0.93	6373	EN12916	1.885		-0.52
6075		-----		-----	6379		2.03		0.12
6114		-----		-----	6416		-----		-----
6142		-----		-----	6438		-----		-----
6143		-----		-----	6441		-----		-----
					6443		-----		-----

normality	suspect
n	52
outliers	0
mean (n)	2.003
st.dev. (n)	0.2242
R(calc.)	0.628
st.dev.(EN12916:19)	0.2286
R(EN12916:19)	0.640





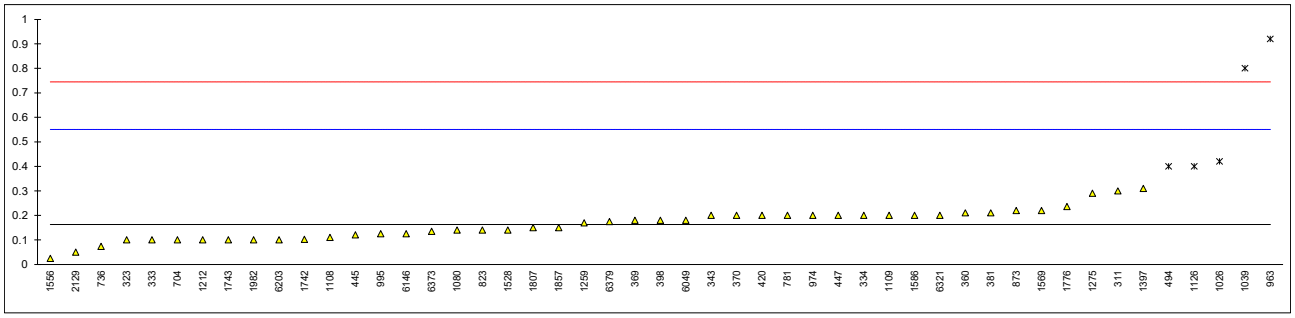
Determination of Tri+ Aromatic Hydrocarbons on sample #22005; result in %M/M

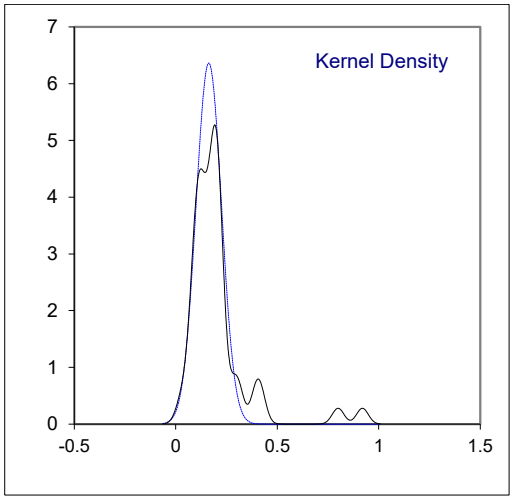
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
120		-----		-----	873	EN12916	0.22		0.29
140		-----		-----	874		-----		-----
171		-----		-----	875		-----		-----
206		-----		-----	902		-----		-----
207		-----		-----	904		-----		-----
208		-----		-----	913		-----		-----
209		-----		-----	914		-----		-----
225		-----		-----	962		-----		-----
228		-----		-----	963	EN12916	0.92	C,R(0.01)	3.90
237		-----		-----	971		-----		-----
238		-----		-----	974	IP391	0.20		0.19
311	EN12916	0.3		0.71	995	EN12916	0.125		-0.20
312		-----		-----	997		-----		-----
317		-----		-----	1006		-----		-----
323	EN12916	0.1		-0.32	1026	EN12916	0.42	R(0.05)	1.33
328		-----		-----	1039	D6379	0.80	R(0.01)	3.29
331		-----		-----	1059	EN12916	<0,1		-----
333	EN12916	0.1		-0.32	1080	EN12916	0.14		-0.12
334	EN12916	0.2	C	0.19	1097		-----		-----
335		-----		-----	1108	EN12916	0.110		-0.27
337		-----		-----	1109	IP391	0.20		0.19
338		-----		-----	1121		-----		-----
342		-----		-----	1126		0.4	R(0.05)	1.22
343	EN12916	0.2		0.19	1146		-----		-----
345		-----		-----	1150		-----		-----
351		-----		-----	1199		-----		-----
360	EN12916	0.21		0.24	1205		-----		-----
365		-----		-----	1212	EN12916	0.10		-0.32
369	EN12916	0.18		0.09	1254		-----		-----
370	EN12916	0.2		0.19	1259	EN12916	0.169		0.03
371		-----		-----	1266		-----		-----
381	EN12916	0.21		0.24	1275	IP391	0.29		0.66
391		-----		-----	1286		-----		-----
398	EN12916	0.18		0.09	1318		-----		-----
399		-----		-----	1356		-----		-----
404		-----		-----	1357	IP391	n.a		-----
420	EN12916	0.2		0.19	1397	EN12916	0.31		0.76
431		-----		-----	1399		-----		-----
432		-----		-----	1438		-----		-----
440		-----		-----	1498		-----		-----
444		-----		-----	1528	EN12916	0.14		-0.12
445	IP391	0.120		-0.22	1556	EN12916	0.0245		-0.71
447	IP391	0.2		0.19	1569	EN12916	0.22		0.29
480		-----		-----	1586	EN12916	0.20		0.19
494	EN12916	0.4	R(0.05)	1.22	1612		-----		-----
495		-----		-----	1613		-----		-----
498		-----		-----	1631		-----		-----
541		-----		-----	1656		-----		-----
631		-----		-----	1681		-----		-----
663		-----		-----	1724		-----		-----
671		-----		-----	1730		-----		-----
704	EN12916	0.10		-0.32	1740		-----		-----
734		-----		-----	1742	EN12916	0.102		-0.31
736	EN12916	0.07394		-0.46	1743	EN12916	0.1		-0.32
751		-----		-----	1776	EN12916	0.236015		0.38
752		-----		-----	1796		-----		-----
759		-----		-----	1807		0.15		-0.07
778		-----		-----	1833		-----		-----
779		-----		-----	1849		-----		-----
781	EN12916	0.20		0.19	1854		-----		-----
782		-----		-----	1857	EN12916	0.15		-0.07
785		-----		-----	1858		-----		-----
798		-----		-----	1950		-----		-----
823	EN12916	0.14		-0.12	1953		-----		-----
872		-----		-----	1961		-----		-----

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
1967		-----		-----	6146	EN12916	0.125		-0.20
1976		-----		-----	6170		-----		-----
1982	EN12916	0.10		-0.32	6203	EN12916	0.10		-0.32
1984		-----		-----	6229		-----		-----
1986		-----		-----	6242		-----		-----
2129	IP391	0.05		-0.58	6279		-----		-----
2130		-----		-----	6298		-----		-----
2146	EN12916	<0,1		-----	6299		-----		-----
6012		-----		-----	6307		-----		-----
6018		-----		-----	6317		-----		-----
6026		-----		-----	6321	IP391	0.2		0.19
6044		-----		-----	6364		-----		-----
6049	EN12916	0.18		0.09	6373	EN12916	0.135		-0.14
6075		-----		-----	6379		0.1744		0.06
6114		-----		-----	6416		-----		-----
6142		-----		-----	6438		-----		-----
6143		-----		-----	6441		-----		-----
					6443		-----		-----

normality	OK
n	44
outliers	5
mean (n)	0.163
st.dev. (n)	0.0627
R(calc.)	0.176
st.dev.(EN12916:19)	0.1939
R(EN12916:19)	0.543

Lab 334 first reported 0.5
Lab 963 first reported 1.1





Determination of Total Aromatic Hydrocarbons on sample #22005; result in %M/M

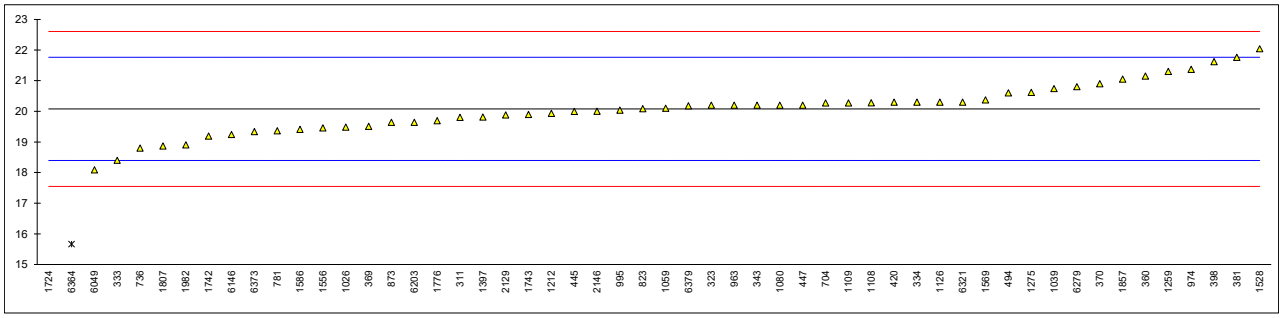
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
120		-----		-----	873	EN12916	19.64		-0.52
140		-----		-----	874		-----		-----
171		-----		-----	875		-----		-----
206		-----		-----	902		-----		-----
207		-----		-----	904		-----		-----
208		-----		-----	913		-----		-----
209		-----		-----	914		-----		-----
225		-----		-----	962		-----		-----
228		-----		-----	963	EN12916	20.2		0.14
237		-----		-----	971		-----		-----
238		-----		-----	974	IP391	21.37		1.53
311	EN12916	19.8		-0.33	995	EN12916	20.04		-0.05
312		-----		-----	997		-----		-----
317		-----		-----	1006		-----		-----
323	EN12916	20.2		0.14	1026	EN12916	19.48		-0.71
328		-----		-----	1039	D6379	20.74		0.79
331		-----		-----	1059	EN12916	20.1		0.03
333	EN12916	18.4		-1.99	1080	EN12916	20.2		0.14
334	EN12916	20.3	E	0.26	1097		-----		-----
335		-----		-----	1108	EN12916	20.273		0.23
337		-----		-----	1109	IP391	20.27		0.23
338		-----		-----	1121		-----		-----
342		-----		-----	1126		20.3		0.26
343	EN12916	20.2		0.14	1146		-----		-----
345		-----		-----	1150		-----		-----
351		-----		-----	1199		-----		-----
360	EN12916	21.15		1.27	1205		-----		-----
365		-----		-----	1212	EN12916	19.93		-0.18
369	EN12916	19.51		-0.67	1254		-----		-----
370	EN12916	20.9		0.98	1259	EN12916	21.298		1.45
371		-----		-----	1266		-----		-----
381	EN12916	21.76		2.00	1275	IP391	20.62		0.64
391		-----		-----	1286		-----		-----
398	EN12916	21.62		1.83	1318		-----		-----
399		-----		-----	1356		-----		-----
404		-----		-----	1357	IP391	n.a		-----
420	EN12916	20.3		0.26	1397	EN12916	19.81		-0.32
431		-----		-----	1399		-----		-----
432		-----		-----	1438		-----		-----
440		-----		-----	1498		-----		-----
444		-----		-----	1528	EN12916	22.04		2.33
445	IP391	19.995		-0.10	1556	EN12916	19.46		-0.73
447	IP391	20.2		0.14	1569	EN12916	20.37		0.35
480		-----		-----	1586	EN12916	19.41		-0.79
494	EN12916	20.6		0.62	1612		-----		-----
495		-----		-----	1613		-----		-----
498		-----		-----	1631		-----		-----
541		-----		-----	1656		-----		-----
631		-----		-----	1681		-----		-----
663		-----		-----	1724		2.72	C,R(0.01)	-20.60
671		-----		-----	1730		-----		-----
704	EN12916	20.27		0.23	1740		-----		-----
734		-----		-----	1742	EN12916	19.19		-1.05
736	EN12916	18.80003		-1.52	1743	EN12916	19.9		-0.21
751		-----		-----	1776	EN12916	19.68902		-0.46
752		-----		-----	1796		-----		-----
759		-----		-----	1807		18.87		-1.43
778		-----		-----	1833		-----		-----
779		-----		-----	1849		-----		-----
781	EN12916	19.36		-0.85	1854		-----		-----
782		-----		-----	1857	EN12916	21.05		1.15
785		-----		-----	1858		-----		-----
798		-----		-----	1950		-----		-----
823	EN12916	20.08		0.00	1953		-----		-----
872		-----		-----	1961		-----		-----

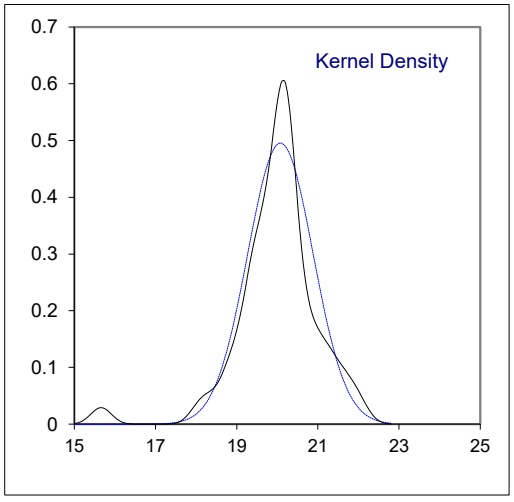
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
1967		-----		-----	6146	EN12916	19.24		-0.99
1976		-----		-----	6170		-----		-----
1982	EN12916	18.90		-1.40	6203	EN12916	19.64		-0.52
1984		-----		-----	6229		-----		-----
1986		-----		-----	6242		-----		-----
2129	IP391	19.88		-0.24	6279		20.8	C	0.86
2130		-----		-----	6298		-----		-----
2146	EN12916	20.0		-0.09	6299		-----		-----
6012		-----		-----	6307		-----		-----
6018		-----		-----	6317		-----		-----
6026		-----		-----	6321	IP391	20.3		0.26
6044		-----		-----	6364	D1319	15.66	R(0.01)	-5.24
6049	EN12916	18.09		-2.36	6373	EN12916	19.335		-0.88
6075		-----		-----	6379		20.1794		0.12
6114		-----		-----	6416		-----		-----
6142		-----		-----	6438		-----		-----
6143		-----		-----	6441		-----		-----
					6443		-----		-----

normality	OK
n	52
outliers	2
mean (n)	20.078
st.dev. (n)	0.8056
R(calc.)	2.256
st.dev.(EN12916:19)	0.8427
R(EN12916:19)	2.359

Lab 1724 first reported 2.11
Lab 6279 first reported 22.8

lab 334 E: iis calculated 20.0 (Tri$^+$ aromatic test result was corrected without correction of Total Aromatic test result)



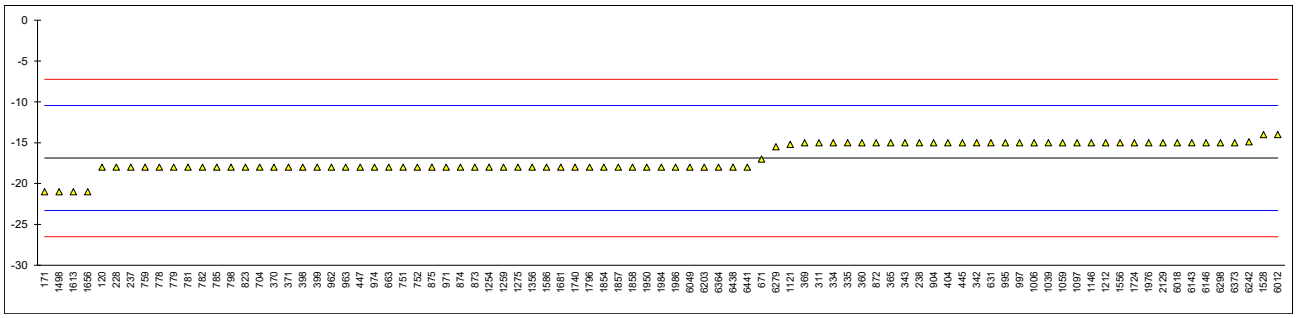


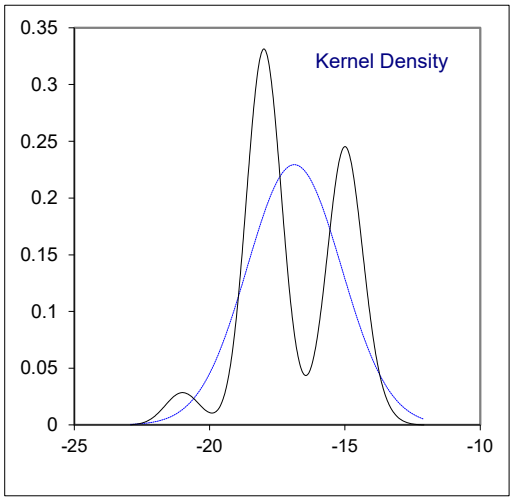
Determination of Pour Point Manual on sample #22005; result in °C

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
120	D97	-18.0		-0.35	873	D97	-18		-0.35
140		-----		-----	874	ISO3016-manual	-18		-0.35
171	D97	-21		-1.29	875	ISO3016-manual	-18		-0.35
206		-----		-----	902		-----		-----
207		-----		-----	904	ISO3016-manual	-15		0.58
208		-----		-----	913		-----		-----
209		-----		-----	914		-----		-----
225		-----		-----	962	D97	-18		-0.35
228	D97	-18.0		-0.35	963	ISO3016-automated	-18		-0.35
237	D97	-18		-0.35	971	ISO3016-manual	-18		-0.35
238	D97	-15		0.58	974	D97	-18		-0.35
311	ISO3016-manual	-15		0.58	995	ISO3016-manual	-15		0.58
312		-----		-----	997	ISO3016-manual	-15		0.58
317		-----		-----	1006	D97	-15		0.58
323		-----		-----	1026		-----		-----
328		-----		-----	1039	ISO3016-automated	-15		0.58
331		-----		-----	1059	ISO3016-automated	-15		0.58
333		-----		-----	1080		-----		-----
334	ISO3016-automated	-15		0.58	1097	NF T60-105	-15		0.58
335	ISO3016-automated	-15		0.58	1108		-----		-----
337		-----		-----	1109		-----		-----
338		-----		-----	1121	ISO3016-manual	-15.2		0.52
342	ISO3016-manual	-15		0.58	1126		-----		-----
343	ISO3016-automated	-15		0.58	1146	D97	-15		0.58
345		-----		-----	1150		-----		-----
351		-----		-----	1199		-----		-----
360	ISO3016-manual	-15		0.58	1205		-----		-----
365	IP15	-15		0.58	1212	ISO3016-manual	-15		0.58
369	ISO3016-manual	-15		0.58	1254	ISO3016-manual	-18		-0.35
370	ISO3016-manual	-18		-0.35	1259	ISO3016-manual	-18		-0.35
371	ISO3016-manual	-18		-0.35	1266		-----		-----
381		-----		-----	1275	IP15	-18		-0.35
391		-----		-----	1286		-----		-----
398	ISO3016-manual	-18		-0.35	1318		-----		-----
399	ISO3016-manual	-18		-0.35	1356	ISO3016-manual	-18		-0.35
404	D97	-15		0.58	1357	D97	n.a		-----
420		-----		-----	1397		-----		-----
431		-----		-----	1399		-----		-----
432		-----		-----	1438		-----		-----
440		-----		-----	1498	D97	-21		-1.29
444		-----		-----	1528	ISO3016-manual	-14		0.89
445	D97	-15		0.58	1556	ISO3016-automated	-15		0.58
447	IP15	-18		-0.35	1569		-----		-----
480		-----		-----	1586	D97	-18		-0.35
494		-----		-----	1612		-----		-----
495		-----		-----	1613	D97	-21		-1.29
498		-----		-----	1631		-----		-----
541		-----		-----	1656	IP15	-21		-1.29
631	D97	-15		0.58	1681	ISO3016-manual	-18		-0.35
663	D97	-18		-0.35	1724	D97	-15		0.58
671	D97	-17		-0.04	1730		-----		-----
704	ISO3016-manual	-18		-0.35	1740	IP15	-18		-0.35
734		-----		-----	1742		-----		-----
736		-----		-----	1743		-----		-----
751	D97	-18		-0.35	1776		-----		-----
752	D97	-18		-0.35	1796	D97	-18		-0.35
759	ISO3016-manual	-18		-0.35	1807		-----		-----
778	ISO3016-manual	-18		-0.35	1833		-----		-----
779	ISO3016-manual	-18		-0.35	1849		-----		-----
781	ISO3016-manual	-18		-0.35	1854	ISO3016-manual	-18		-0.35
782	ISO3016-manual	-18		-0.35	1857	ISO3016-manual	-18		-0.35
785	ISO3016-manual	-18		-0.35	1858	ISO3016-manual	-18		-0.35
798	D97	-18		-0.35	1950	ISO3016	-18		-0.35
823	ISO3016-manual	-18		-0.35	1953		-----		-----
872	D97	-15		0.58	1961		-----		-----

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
1967		-----		-----	6146	ISO3016-automated	-15		0.58
1976	ISO3016-automated	-15		0.58	6170		-----		-----
1982		-----		-----	6203	D97	-18		-0.35
1984	NF T60-105	-18		-0.35	6229		-----		-----
1986	ISO3016-manual	-18		-0.35	6242	ISO3016-manual	-14.9		0.61
2129	D97	-15		0.58	6279	ISO3016-automated	-15.5		0.43
2130		-----		-----	6298	D97	-15		0.58
2146		-----		-----	6299		-----		-----
6012	D97	-14		0.89	6307		-----		-----
6018	ISO3016-manual	-15		0.58	6317		-----		-----
6026		-----		-----	6321		-----		-----
6044		-----		-----	6364	D97	-18		-0.35
6049	ISO3016-manual	-18.0		-0.35	6373	ISO3016-manual	-15		0.58
6075		-----		-----	6379		-----		-----
6114		-----		-----	6416		-----		-----
6142		-----		-----	6438	D97	-18		-0.35
6143	D97	-15		0.58	6441	D97	-18.0		-0.35
					6443		-----		-----

normality	OK
n	87
outliers	0
mean (n)	-16.87
st.dev. (n)	1.740
R(calc.)	4.87
st.dev.(ISO3016:19)	3.214
R(ISO3016:19)	9



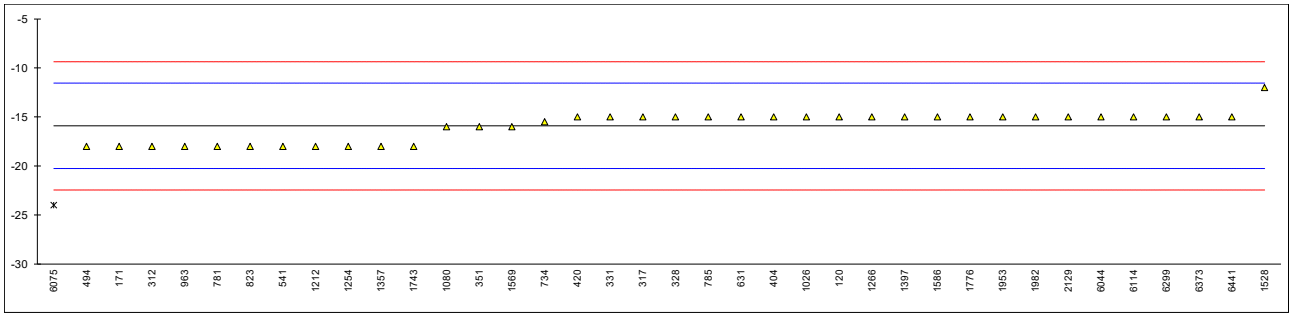


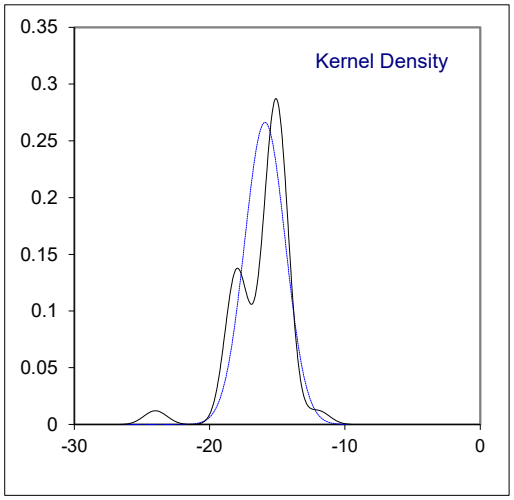
Determination of Pour Point Automated 3°C interval on sample #22005; result in °C

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
120	D5949	-15.0		0.42	873		-----		-----
140		-----		-----	874		-----		-----
171	D5950	-18		-0.96	875		-----		-----
206		-----		-----	902		-----		-----
207		-----		-----	904		-----		-----
208		-----		-----	913		-----		-----
209		-----		-----	914		-----		-----
225		-----		-----	962		-----		-----
228		-----		-----	963	D5950	-18		-0.96
237		-----		-----	971		-----		-----
238		-----		-----	974		-----		-----
311		-----		-----	995		-----		-----
312	D5950	-18		-0.96	997		-----		-----
317	D6749	-15		0.42	1006		-----		-----
323		-----		-----	1026	D5950	-15		0.42
328	D5950	-15		0.42	1039		-----		-----
331	D5950	-15		0.42	1059		-----		-----
333		-----		-----	1080	D6749	-16		-0.04
334		-----		-----	1097		-----		-----
335		-----		-----	1108		-----		-----
337		-----		-----	1109		-----		-----
338		-----		-----	1121		-----		-----
342		-----		-----	1126		-----		-----
343		-----		-----	1146		-----		-----
345		-----		-----	1150		-----		-----
351	D6749	-16		-0.04	1199		-----		-----
360		-----		-----	1205		-----		-----
365		-----		-----	1212	D7346	-18		-0.96
369		-----		-----	1254	D5950	-18		-0.96
370		-----		-----	1259		-----		-----
371		-----		-----	1266	D5950	-15.0		0.42
381		-----		-----	1275		-----		-----
391		-----		-----	1286		-----		-----
398		-----		-----	1318		-----		-----
399		-----		-----	1356		-----		-----
404	D6892	-15		0.42	1357	D5950	-18.0		-0.96
420	D6749	-15		0.42	1397	D5950	-15		0.42
431		-----		-----	1399		-----		-----
432		-----		-----	1438		-----		-----
440		-----		-----	1498		-----		-----
444		-----		-----	1528	D5950	-12		1.79
445		-----		-----	1556		-----		-----
447		-----		-----	1569	D5950	-16		-0.04
480		-----		-----	1586	D5950	-15		0.42
494	D5950	-18		-0.96	1612		-----		-----
495		-----		-----	1613		-----		-----
498		-----		-----	1631		-----		-----
541	D5950	-18		-0.96	1656		-----		-----
631	D5949	-15		0.42	1681		-----		-----
663		-----		-----	1724		-----		-----
671		-----		-----	1730		-----		-----
704		-----		-----	1740		-----		-----
734	D6749	-15.5		0.19	1742		-----		-----
736		-----		-----	1743	NF T60-105	-18		-0.96
751		-----		-----	1776	D5950	-15		0.42
752		-----		-----	1796		-----		-----
759		-----		-----	1807		-----		-----
778		-----		-----	1833		-----		-----
779		-----		-----	1849		-----		-----
781	D5950	-18		-0.96	1854		-----		-----
782		-----		-----	1857		-----		-----
785	D6749	-15		0.42	1858		-----		-----
798		-----		-----	1950		-----		-----
823	D5950	-18		-0.96	1953	D6749	-15		0.42
872		-----		-----	1961		-----		-----

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
1967		-----		-----	6146		-----		-----
1976		-----		-----	6170		-----		-----
1982	D6892	-15.0		0.42	6203		-----		-----
1984		-----		-----	6229		-----		-----
1986		-----		-----	6242		-----		-----
2129	D5950	-15		0.42	6279		-----		-----
2130		-----		-----	6298		-----		-----
2146		-----		-----	6299	NF T60-105	-15		0.42
6012		-----		-----	6307		-----		-----
6018		-----		-----	6317		-----		-----
6026		-----		-----	6321		-----		-----
6044	D6892	-15		0.42	6364		-----		-----
6049		-----		-----	6373	D5950	-15		0.42
6075	NF T60-105	-24	R(0.01)	-3.72	6379		-----		-----
6114	D5950	-15		0.42	6416		-----		-----
6142		-----		-----	6438		-----		-----
6143		-----		-----	6441	D6892	-15.0		0.42
					6443		-----		-----

normality	OK
n	37
outliers	1
mean (n)	-15.91
st.dev. (n)	1.499
R(calc.)	4.20
st.dev.(D5950:14)	2.179
R(D5950:14)	6.1





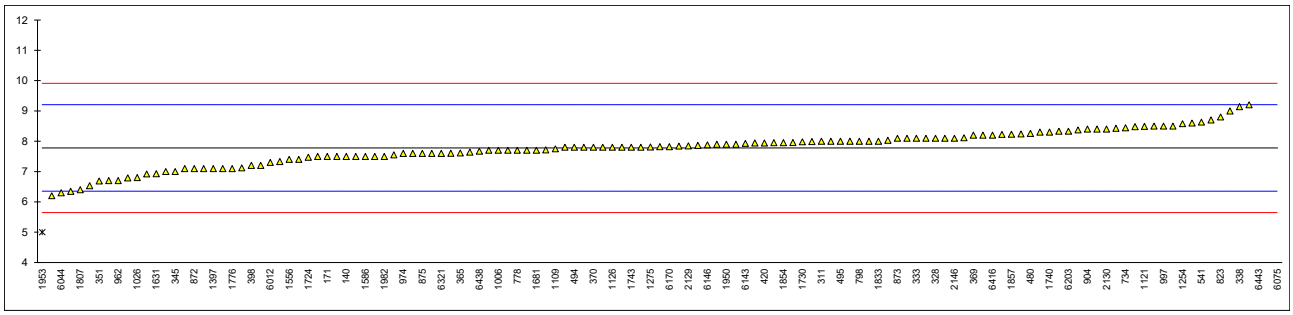
Determination of Sulfur on sample #22005; result in mg/kg

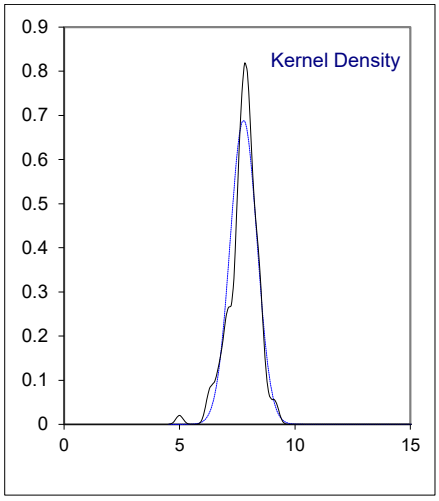
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
120	D5453	8.328		0.77	873	ISO20846	8.1		0.45
140	D2622	7.5		-0.39	874	ISO20846	8.0		0.31
171	D5453	7.5		-0.39	875	ISO20846	7.6		-0.25
206		-----		-----	902	ISO20846	8.6		1.16
207		-----		-----	904	ISO20846	8.4		0.88
208		-----		-----	913		-----		-----
209		-----		-----	914		-----		-----
225		-----		-----	962	D5453	6.7		-1.51
228		-----		-----	963	ISO20846	7.7		-0.11
237	D5453	8.0		0.31	971	ISO20846	7.6		-0.25
238		-----		-----	974	D5453	7.6		-0.25
311	ISO20846	8.0		0.31	995	ISO20846	8.1		0.45
312	ISO20846	7.2		-0.81	997	ISO20846	8.5		1.02
317	ISO20846	9.0		1.72	1006	D5453	7.7		-0.11
323	ISO20846	8.3		0.74	1026	ISO20846	6.8		-1.37
328	ISO20846	8.1		0.45	1039	ISO20884	7.0		-1.09
331		-----		-----	1059	ISO20846	6.2		-2.22
333	D5453	8.1		0.45	1080	D5453	7.8		0.03
334	ISO20846	7.8		0.03	1097	D5453	8.43		0.92
335	ISO20846	8.1		0.45	1108	D5453	7.955		0.25
337	ISO20846	8.4		0.88	1109	D7039	7.75		-0.04
338	ISO20846	9.14		1.92	1121	ISO20846	8.49		1.00
342		-----		-----	1126	ISO20846	7.8		0.03
343	ISO20846	7.1	C	-0.95	1146	D4294	<100		-----
345	ISO20846	7.0	C	-1.09	1150	ISO20884	8.37		0.83
351	ISO20846	6.69		-1.53	1199	ISO20884	6.53		-1.75
360	ISO20846	7.70		-0.11	1205	ISO20846	8.11		0.47
365	IP490	7.61		-0.24	1212	ISO20846	7.803		0.04
369	ISO20846	8.2		0.59	1254	ISO20846	8.577		1.12
370	ISO20846	7.8		0.03	1259	ISO20846	7.7		-0.11
371	ISO20846	8.48		0.99	1266	ISO20846	7.64		-0.19
381	ISO20846	8.1		0.45	1275	IP490	7.81		0.05
391	ISO20846	7.1		-0.95	1286		-----		-----
398	ISO20846	7.2		-0.81	1318	D5453	7.715		-0.09
399	ISO20846	7.5		-0.39	1356	ISO8754	<300		-----
404	D5453	7.99		0.30	1357	D5453	7.8		0.03
420	ISO20846	7.94		0.23	1397	ISO20846	7.1		-0.95
431		-----		-----	1399		-----		-----
432		-----		-----	1438		-----		-----
440		-----		-----	1498	D5453	9.2		2.00
444	D5453	8.03		0.36	1528	D2622	7.95		0.24
445	IP490	7.82		0.06	1556	ISO20884	7.4		-0.53
447	IP490	8.24		0.65	1569	ISO20846	7.5		-0.39
480	ISO20846	8.26		0.68	1586	ISO13032	7.5		-0.39
494	ISO20846	7.8		0.03	1612		-----		-----
495	ISO20846	8.0		0.31	1613	D5453	7.1		-0.95
498		-----		-----	1631	ISO20846	6.93		-1.19
541	ISO20846	8.63		1.20	1656	IP490	8.7		1.30
631	D7039	6.35		-2.01	1681	ISO13032	7.7		-0.11
663	D5453	7.94		0.23	1724	D5453	7.47		-0.43
671	D7039	7.12		-0.92	1730	ISO20846	7.98		0.29
704	ISO20846	8.50		1.02	1740	IP490	8.3		0.74
734	D5453	8.44		0.93	1742	ISO20846	7.5		-0.39
736	ISO20884	6.7		-1.51	1743	ISO20846	7.8		0.03
751	ISO20884	7.5		-0.39	1776	ISO20846	7.1		-0.95
752		-----		-----	1796		-----		-----
759		-----		-----	1807	ISO20846	6.4		-1.94
778	ISO20884	7.7		-0.11	1833	ISO20846	8.0		0.31
779	ISO20884	7.8		0.03	1849	ISO20846	7.84		0.09
781	ISO20846	6.79		-1.39	1854	ISO20846	7.95		0.24
782	ISO20884	7.55		-0.32	1857	ISO20846	8.23		0.64
785	ISO20884	8.0		0.31	1858	ISO20846	7.9		0.17
798	ISO20846	8.0		0.31	1950	ISO20884	7.9		0.17
823	D5453	8.8		1.44	1953	D4294	5	R(0.01)	-3.91
872	ISO20846	7.1		-0.95	1961		-----		-----

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
1967		-----		-----	6146	ISO20846	7.88		0.14
1976		-----		-----	6170	ISO20846	7.82		0.06
1982	D5453	7.5		-0.39	6203	ISO20846	8.33		0.78
1984	ISO20846	7.6		-0.25	6229	D1552	593	C,R(0.01)	823.00
1986	ISO20846	8.5		1.02	6242		-----		-----
2129	ISO20846	7.85		0.10	6279	ISO20884	7.4	C	-0.53
2130	IP490	8.4		0.88	6298	D4294	<17		-----
2146	ISO20846	8.1		0.45	6299	ISO20846	7.9		0.17
6012	ISO20846	7.3		-0.67	6307		-----		-----
6018	ISO20846	7.86		0.12	6317		-----		-----
6026		-----		-----	6321	ISO20846	7.6		-0.25
6044	D4294	6.3		-2.08	6364	D5453	7.603		-0.24
6049	ISO20846	8.2		0.59	6373	ISO20846	8.223		0.63
6075	ISO20846	8344	R(0.01)	11723.25	6379		-----		-----
6114	D5453	7.33		-0.63	6416	D5453	8.2		0.59
6142		-----		-----	6438	D5453	7.67		-0.15
6143	D7039	7.93		0.21	6441	ISO20846	6.92		-1.21
					6443	D4294	34	C,R(0.01)	36.88

normality	OK
n	127
outliers	4
mean (n)	7.777
st.dev. (n)	0.5791
R(calc.)	1.622
st.dev.(ISO20846:19)	0.7111
R(ISO20846:19)	1.991

Lab 343 first reported 5.6
Lab 345 first reported 5.094
Lab 6229 first reported 0.0593 mg/kg
Lab 6279 first reported 9.95
Lab 6443 first reported 94





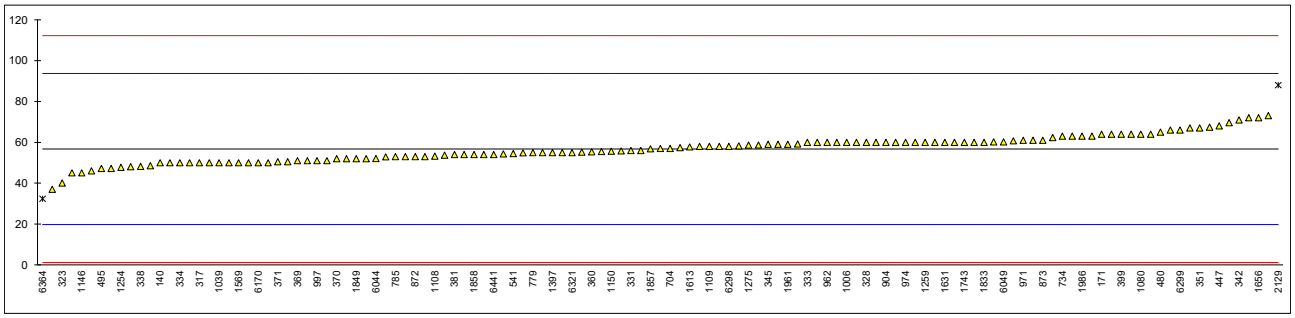
Determination of Water on sample #22005; result in mg/kg

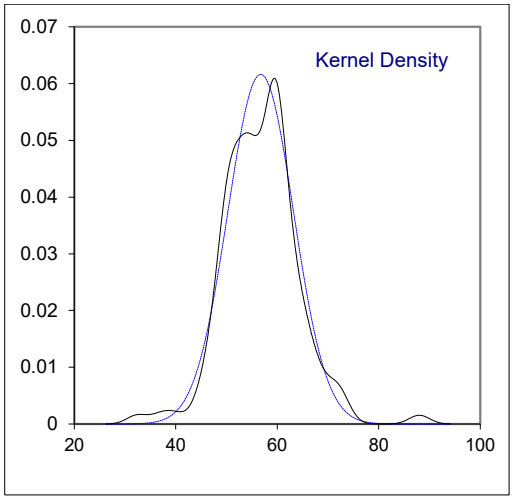
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
120		-----		-----	873	D6304-A	61		0.23
140	ISO12937	50		-0.36	874	ISO12937	64		0.39
171	D6304-A	64		0.39	875	ISO12937	53		-0.20
206		-----		-----	902	D6304-A	66		0.50
207		-----		-----	904	ISO12937	60		0.18
208		-----		-----	913		-----		-----
209		-----		-----	914		-----		-----
225		-----		-----	962	D6304-A	60		0.18
228		-----		-----	963	ISO12937	60		0.18
237	D6304-C	50		-0.36	971	ISO12937	61		0.23
238		-----		-----	974	D6304-A	60		0.18
311	ISO12937	54		-0.15	995	ISO12937	52		-0.26
312	ISO12937	60		0.18	997	ISO12937	51		-0.31
317	ISO12937	50		-0.36	1006	D6304-A	60		0.18
323	ISO12937	40		-0.90	1026	D6304-B	55		-0.09
328	ISO12937	60		0.18	1039	ISO12937	50		-0.36
331	D6304mod	56		-0.04	1059	ISO12937	60		0.18
333	ISO12937	60		0.18	1080	ISO12937	64		0.39
334	ISO12937	50		-0.36	1097		-----		-----
335	ISO12937	50		-0.36	1108	ISO12937	53.2		-0.19
337	ISO12937	60		0.18	1109	D6304-C	58		0.07
338	ISO12937	48.2		-0.46	1121	ISO12937	60.2	C	0.19
342	ISO12937	70.9		0.77	1126		-----		-----
343	ISO12937	73		0.88	1146	D6304-B	45		-0.63
345	ISO12937	59		0.12	1150	ISO12937	55.6		-0.06
351	ISO12937	67.0		0.56	1199		-----		-----
360	ISO12937	55.3		-0.08	1205		-----		-----
365	IP438	67		0.56	1212	ISO12937	57.4		0.04
369	ISO12937	51		-0.31	1254	ISO12937	47.7		-0.49
370	ISO12937	52		-0.26	1259	D6304-A	60		0.18
371	ISO12937	50.5		-0.34	1266	ISO12937	60.72		0.22
381	ISO12937	54.0		-0.15	1275	IP438	58.6		0.10
391	ISO12937	60		0.18	1286		-----		-----
398	ISO12937	60		0.18	1318	D6304	67.4		0.58
399	ISO12937	64		0.39	1356	ISO3733	<200		-----
404	D6304-A	50.0		-0.36	1357	IP438	n.a		-----
420	ISO12937	53.7		-0.16	1397	ISO12937	55		-0.09
431		-----		-----	1399		-----		-----
432		-----		-----	1438		-----		-----
440	IP438	55.78		-0.05	1498		-----		-----
444	E1064	61		0.23	1528	ISO12937	50.00		-0.36
445	D6304-A	64		0.39	1556	ISO12937	59		0.12
447	IP438	68		0.61	1569	ISO12937	50		-0.36
480	ISO12937	65		0.45	1586	ISO12937	60		0.18
494	ISO12937	72		0.83	1612		-----		-----
495	ISO12937	47.2		-0.51	1613	D6304-A	57.7		0.05
498	ISO12937	69.66		0.70	1631	ISO12937	60		0.18
541	ISO12937	54.5		-0.12	1656	ISO12937	72		0.83
631	D6304-A	55.5		-0.07	1681	ISO12937	55		-0.09
663	ISO12937	47.2		-0.51	1724	D6304-A	58.2		0.08
671		-----		-----	1730	ISO12937	60		0.18
704	ISO12937	57.0		0.01	1740	ISO12937	64		0.39
734	ISO12937	63.0		0.34	1742	ISO12937	54.3		-0.13
736	ISO12937	37		-1.07	1743	ISO12937	60		0.18
751	D6304-A	52.9		-0.21	1776	ISO12937	63		0.34
752		-----		-----	1796	IP439	56		-0.04
759	ISO12937	55.2		-0.08	1807	ISO12937	60		0.18
778	ISO12937	45		-0.63	1833	D6304-A	60		0.18
779	ISO12937	55		-0.09	1849	ISO12937	52		-0.26
781	ISO12937	57		0.01	1854	D6304-C	58		0.07
782		-----		-----	1857	D6304-A	56.8		0.00
785	ISO12937	53		-0.20	1858	IP438	54		-0.15
798	D6304-A	51		-0.31	1950	IP439	54		-0.15
823	ISO12937	58		0.07	1953	ISO12937	53		-0.20
872	D6304-A	53		-0.20	1961	ISO12937	59		0.12

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
1967		-----		-----	6146	ISO12937	59.2		0.13
1976	ISO12937	46.0		-0.58	6170	ISO12937	50		-0.36
1982	E1064	58.7		0.11	6203	ISO12937	50.5		-0.34
1984	ISO12937	48.5		-0.44	6229		-----	W	-----
1986	IP439	63		0.34	6242	ISO12937	62.3		0.30
2129	IP439	88	R(0.01)	1.69	6279	ISO12937	48.068		-0.47
2130		-----		-----	6298	D6304-A	58		0.07
2146		-----		-----	6299	ISO12937	66		0.50
6012	ISO12937	54.85		-0.10	6307		-----		-----
6018	ISO12937	51		-0.31	6317		-----		-----
6026		-----		-----	6321	IP438	55		-0.09
6044	D6304-C	52.1		-0.25	6364	D6304	32.36	R(0.05)	-1.32
6049	ISO12937	60.2		0.19	6373	ISO12937	50		-0.36
6075	ISO12937	50		-0.36	6379		-----		-----
6114	ISO12937	63		0.34	6416		-----		-----
6142		-----		-----	6438	D6304	52		-0.26
6143		-----		-----	6441	ISO12937	54		-0.15
					6443		-----		-----

normality	OK
n	125
outliers	2
mean (n)	56.726
st.dev. (n)	6.4775
R(calc.)	18.137
st.dev.(ISO12937:00)	18.4983
R(ISO12937:00)	51.795

Lab 1121 first reported 0.006 mg/kg
Lab 6229 test result withdrawn, reported 0.009%M/M

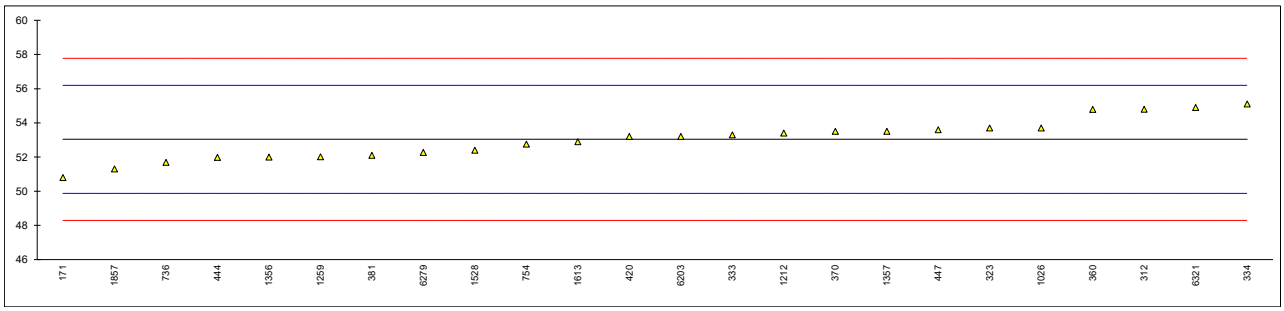


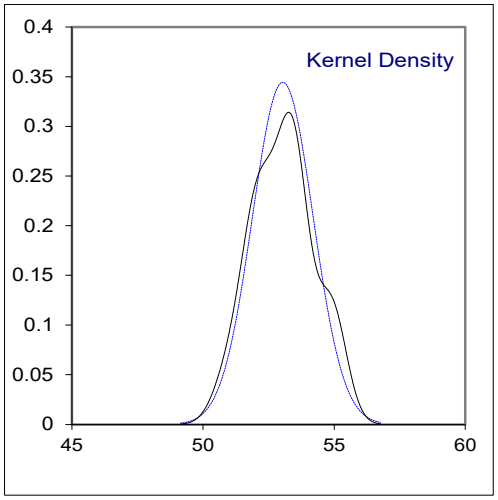


Determination of Cetane Number on sample #22006;

lab	method	value	mark	z(targ)	remarks
120		-----		-----	
140		-----		-----	
171	D613	50.8		-1.41	
206		-----		-----	
207		-----		-----	
209		-----		-----	
312	ISO5165	54.8		1.11	
323	ISO5165	53.7		0.42	
328		-----		-----	
333	D613	53.3		0.17	
334	ISO5165	55.1		1.30	
343		-----		-----	
360	D613	54.79		1.11	
370	ISO5165	53.5		0.29	
381	D613	52.1		-0.59	
420	ISO5165	53.2		0.10	
444	D613	51.98		-0.67	
445		-----		-----	
447	D613	53.6		0.36	
494		-----		-----	
736	GOST32508	51.688		-0.85	
754	ISO5165	52.76		-0.18	
1026	ISO5165	53.7		0.42	
1039		-----		-----	
1059		-----		-----	
1108		-----		-----	
1212	ISO5165	53.4		0.23	
1259	ISO5165	52.01		-0.65	
1275		-----		-----	
1356	ISO4264	52		-0.66	
1357	D613	53.5		0.29	
1399		-----		-----	
1528	ISO5165	52.4		-0.40	
1556		-----		-----	
1586		-----		-----	
1613	D613	52.9		-0.09	
1631		-----		-----	
1776		-----		-----	
1807		-----		-----	
1833		-----		-----	
1857	ISO5165	51.3		-1.10	
1950		-----		-----	
1967		-----		-----	
1976		-----		-----	
6044		-----		-----	
6075		-----		-----	
6142		-----		-----	
6203	ISO5165	53.2		0.10	
6279	ISO5165	52.27		-0.49	
6321	IP617	54.9		1.18	
6373		-----		-----	

	normality	OK
	n	24
	outliers	0
	mean (n)	53.04
	st.dev. (n)	1.158
	R(calc.)	3.24
	st.dev.(ISO5165:20)	1.582
	R(ISO5165:20)	4.43
Compare		
	R(D613:18a e1)	4.43


60
58
56
54
52
50
48
46
171
1857
736
444
1356
1259
381
6279
1528
754
1613
420
6203
333
1212
370
1357
447
323
1026
360
312
6321
334


Kernel Density
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
45
50
55
60

Determination of Derived Cetane Number (EN15195) on sample #22006;

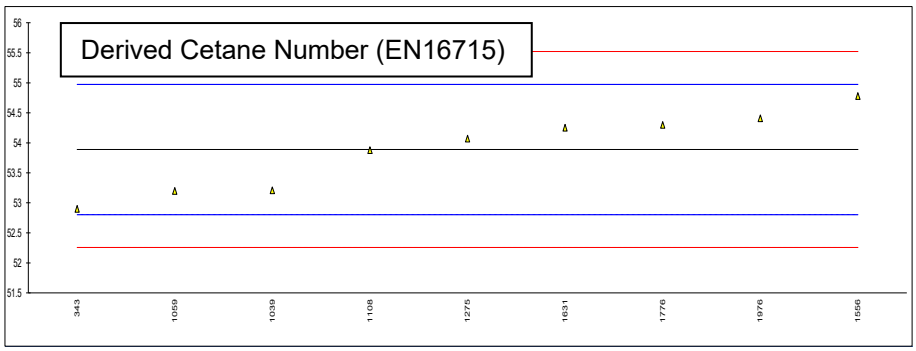
lab	method	DCN	mark	z(targ)	ID (ms)	mark	z(targ)	Air Temp. (°C)	mark
120		-----		-----	-----		-----	-----	
140		-----		-----	-----		-----	-----	
171		-----		-----	-----		-----	-----	
206		-----		-----	-----		-----	-----	
207		-----		-----	-----		-----	-----	
209		-----		-----	-----		-----	-----	
312		-----		-----	-----		-----	-----	
323		-----		-----	-----		-----	-----	
328		-----		-----	-----		-----	-----	
333		-----		-----	-----		-----	-----	
334		-----		-----	-----		-----	-----	
343		-----		-----	-----		-----	-----	
360		-----		-----	-----		-----	-----	
370		-----		-----	-----		-----	-----	
381		-----		-----	-----		-----	-----	
420		-----		-----	-----		-----	-----	
444		-----		-----	-----		-----	-----	
445	EN15195	53.47		0.39	3.807		-----	20.0	
447		-----		-----	-----		-----	-----	
494		-----		-----	-----		-----	-----	
736		-----		-----	-----		-----	-----	
754		-----		-----	-----		-----	-----	
1026		-----		-----	-----		-----	-----	
1039		-----		-----	-----		-----	-----	
1059		-----		-----	-----		-----	-----	
1108		-----		-----	-----		-----	-----	
1212		-----		-----	-----		-----	-----	
1259		-----		-----	-----		-----	-----	
1275		-----		-----	-----		-----	-----	
1356		-----		-----	-----		-----	-----	
1357	EN15195	n.a		-----	n.a		-----	n.a	
1399		-----		-----	-----		-----	-----	
1528		-----		-----	-----		-----	-----	
1556		-----		-----	-----		-----	-----	
1586	D7170	53.3		0.20	-----		-----	-----	
1613		-----		-----	-----		-----	-----	
1631		-----		-----	-----		-----	-----	
1776		-----		-----	-----		-----	-----	
1807	EN17155	52.59		-0.60	2.1891		-----	-----	
1833		-----		-----	-----		-----	-----	
1857		-----		-----	-----		-----	-----	
1950		-----		-----	-----		-----	-----	
1967		-----		-----	-----		-----	-----	
1976		-----		-----	-----		-----	-----	
6044		-----		-----	-----		-----	-----	
6075		-----		-----	-----		-----	-----	
6142		-----		-----	-----		-----	-----	
6203		-----		-----	-----		-----	-----	
6279		-----		-----	-----		-----	-----	
6321		-----		-----	-----		-----	-----	
6373		-----		-----	-----		-----	-----	

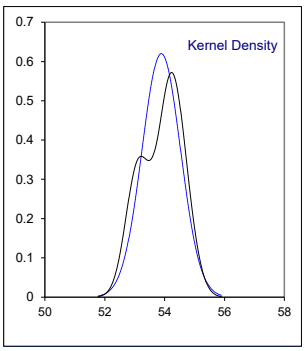
normality	unknown
n	3
outliers	0
mean (n)	53.12
st.dev. (n)	0.467
R(calc.)	1.31
st.dev.(EN15195:14)	0.888
R(EN15195:14)	2.49

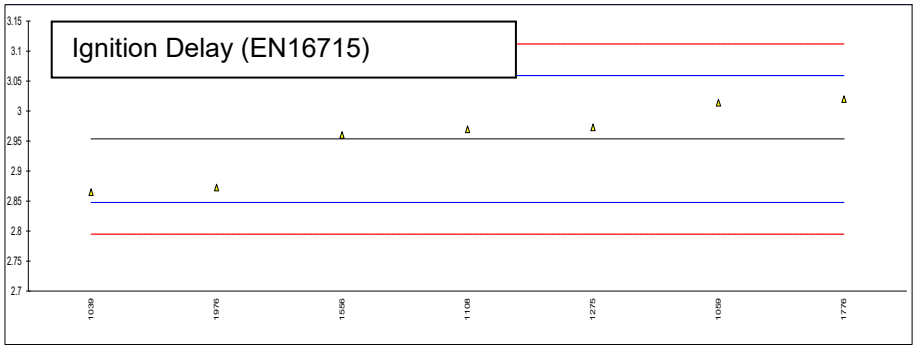
Determination of Derived Cetane Number (EN16715) on sample #22006;

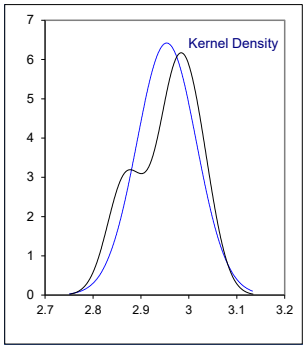
Lab	method	DCN	mark	z(targ)	ID (ms)	mark	z(targ)	CD (ms)	mark	z(targ)	W. T. (°C)	mark
120		-----		-----	-----		-----	-----		-----	-----	
140		-----		-----	-----		-----	-----		-----	-----	
171		-----		-----	-----		-----	-----		-----	-----	
206		-----		-----	-----		-----	-----		-----	-----	
207		-----		-----	-----		-----	-----		-----	-----	
209		-----		-----	-----		-----	-----		-----	-----	
312		-----		-----	-----		-----	-----		-----	-----	
323		-----		-----	-----		-----	-----		-----	-----	
328		-----		-----	-----		-----	-----		-----	-----	
333		-----		-----	-----		-----	-----		-----	-----	
334		-----		-----	-----		-----	-----		-----	-----	
343	D7668	52.9		-1.82	-----		-----	-----		-----	-----	
360		-----		-----	-----		-----	-----		-----	-----	
370		-----		-----	-----		-----	-----		-----	-----	
381		-----		-----	-----		-----	-----		-----	-----	
420		-----		-----	-----		-----	-----		-----	-----	
444		-----		-----	-----		-----	-----		-----	-----	
445		-----		-----	-----		-----	-----		-----	-----	
447		-----		-----	-----		-----	-----		-----	-----	
494		-----		-----	-----		-----	-----		-----	-----	
736		-----		-----	-----		-----	-----		-----	-----	
754		-----		-----	-----		-----	-----		-----	-----	
1026		-----		-----	-----		-----	-----		-----	-----	
1039	EN16715	53.21		-1.25	2.8648		-1.68	4.4614		1.24	595.85	
1059	EN16715	53.2		-1.27	3.0139		1.14	4.4683		1.40	593.13	
1108	D7668	53.88		-0.02	2.9699		0.31	4.4135		0.17	603.03	
1212		-----		-----	-----		-----	-----		-----	-----	
1259		-----		-----	-----		-----	-----		-----	-----	
1275	IP615	54.07		0.33	2.973		0.37	4.399		-0.15	581.60	
1356		-----		-----	-----		-----	-----		-----	-----	
1357	EN16715	n.a		-----	n.a		-----	n.a		-----	n.a	
1399		-----		-----	-----		-----	-----		-----	-----	
1528		-----		-----	-----		-----	-----		-----	-----	
1556	EN16715	54.78		1.64	2.9603		0.13	4.35		-1.25	583.13	
1586		-----		-----	-----		-----	-----		-----	-----	
1613		-----		-----	-----		-----	-----		-----	-----	
1631	EN16715	54.25	C	0.66	-----		-----	-----		-----	-----	
1776	EN16715	54.3		0.76	3.02		1.26	4.38		-0.58	589.3	
1807		-----		-----	-----		-----	-----		-----	-----	
1833		-----		-----	-----		-----	-----		-----	-----	
1857		-----		-----	-----		-----	-----		-----	-----	
1950		-----		-----	-----		-----	-----		-----	-----	
1967		-----		-----	-----		-----	-----		-----	-----	
1976	EN16715	54.41		0.96	2.8726		-1.53	4.3688		-0.83	604.92	
6044		-----		-----	-----		-----	-----		-----	-----	
6075		-----		-----	-----		-----	-----		-----	-----	
6142		-----		-----	-----		-----	-----		-----	-----	
6203		-----		-----	-----		-----	-----		-----	-----	
6279		-----		-----	-----		-----	-----		-----	-----	
6321		-----		-----	-----		-----	-----		-----	-----	
6373		-----		-----	-----		-----	-----		-----	-----	
	normality	OK			unknown			unknown				
	n	9			7			7				
	outliers	0			0			0				
	mean (n)	53.8889			2.9535			4.4059				
	st.dev. (n)	0.64336			0.06215			0.04519				
	R(calc.)	1.8014			0.1740			0.1265				
	st.dev.(EN16715:15)	0.54396			0.05279			0.04465				
	R(EN16715:15)	1.5231			0.1478			0.1250				
Compare												
	R(D7668:17)	1.5231			0.1478			0.1250				

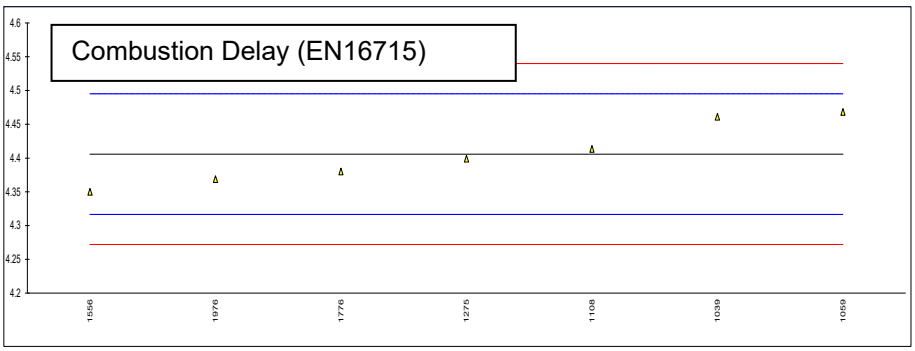
Lab 1631 first reported 55.79

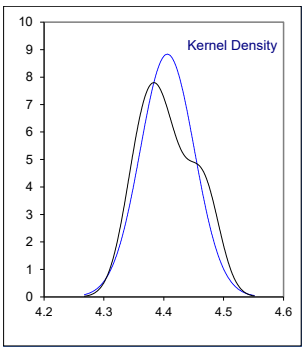

Derived Cetane Number (EN16715)
56
55.5
55
54.5
54
53.5
53
52.5
52
51.5
343
1059
1039
1108
1275
1631
1776
1976
1556


Kernel Density
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
50
52
54
56
58


Ignition Delay (EN16715)
3.15
3.1
3.05
3
2.95
2.9
2.85
2.8
2.75
2.7
1039
1976
1556
1108
1275
1069
1776


Kernel Density
7
6
5
4
3
2
1
0
2.7
2.8
2.9
3
3.1
3.2


Combustion Delay (EN16715)
4.6
4.55
4.5
4.45
4.4
4.35
4.3
4.25
4.2
1556
1976
1776
1275
1108
1039
1059


Kernel Density
10
9
8
7
6
5
4
3
2
1
0
4.2
4.3
4.4
4.5
4.6

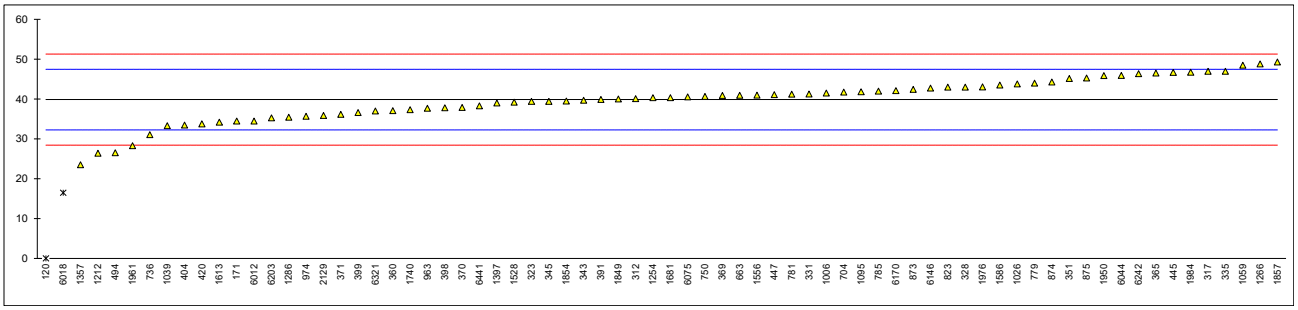
Determination of Total Contamination on sample #22007; result in mg/kg

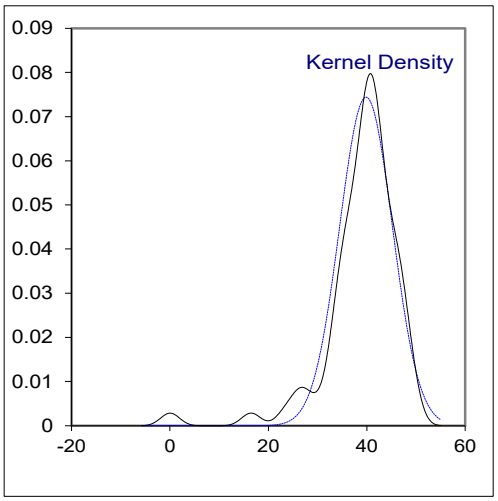
lab	method	Total C.	mark	z(targ)	complete	vol. filtered (mL)	stopped (min)	remarks
120	EN12662	0.0443	R(0.01)	-10.45	-----	300	1	
140		-----		-----	-----	-----	-----	
171	EN12662:2014	34.5		-1.41	-----	-----	-----	
311	EN12662:2014	>30		-----	Yes	-----	-----	
312	EN12662:2014	40.1		0.06	Yes	300	-----	
317	EN12662:2014	47.0		1.87	Yes	-----	-----	
323	EN12662:2014	39.4		-0.12	-----	300	-----	
328	EN12662:2014	43		0.82	-----	300	-----	
331	EN12662:2014	41.25		0.36	Yes	-----	-----	
334	EN12662:2014	>30.0		-----	Yes	300	-----	
335	EN12662:2014	47		1.87	Yes	-----	-----	
337	EN12662:2014	>30		-----	Yes	300	-----	
343	EN12662:2014	39.7		-0.04	-----	-----	-----	
345	EN12662:2014	39.4		-0.12	-----	-----	-----	
351	EN12662:2014	45.18		1.40	Yes	300	-----	
360	EN12662:2014	37.1		-0.73	Yes	300	-----	
365	IP440:2014	46.54		1.75	Yes	435	-----	
369	EN12662:2014	40.9		0.27	Yes	-----	-----	
370	EN12662:2014	37.9		-0.52	Yes	300	260	
371	EN12662:2014	36.14		-0.98	Yes	300	-----	
391	EN12662:2014	39.9		0.01	-----	-----	-----	
398	EN12662:2014	37.8		-0.54	Yes	-----	-----	
399	EN12662:2014	36.6		-0.86	Yes	300	-----	
404	EN12662:2014	33.5		-1.67	Yes	330	60	
420	EN12662:2014	33.79		-1.59	Yes	300	-----	
445	EN12662:2014	46.69		1.79	-----	300.0	15	
447	IP440	41.1		0.32	Yes	300	-----	
494	EN12662:2014	26.5		-3.51	Yes	-----	-----	
663	EN12662:2014	40.98		0.29	Yes	300	15	
704	EN12662:2014	41.75		0.50	Yes	-----	-----	
736	EN12662:2016	31.0601		-2.31	Yes	300	25	
750	EN12662:2014	40.631		0.20	Yes	300	16	
779	EN12662:2014	44.0		1.09	-----	-----	-----	
781	EN12662:2014	41.2		0.35	Yes	300	-----	
785	EN12662:2014	42.0		0.56	Yes	-----	-----	
823	EN12662:2014	43		0.82	-----	300	13	
873	EN12662:2014	42.4		0.67	Yes	300	-----	
874	EN12662:2014	44.3		1.16	No	300	<30	
875	EN12662:2014	45.3		1.43	-----	290	28	
963	EN12662:2014	37.7		-0.57	-----	300	-----	
974	IP440	35.7		-1.09	Yes	300	5	
1006	EN12662:2014	41.5		0.43	Yes	300	5	
1026	EN12662:2014	43.8		1.03	Yes	367	<30	
1039	EN12662:2014	33.3		-1.72	Yes	-----	-----	
1059	EN12662:2014	48.5		2.27	Yes	-----	-----	
1095	EN12662:2014	41.8		0.51	Yes	-----	-----	
1121		-----		-----	-----	-----	-----	
1212	EN12662:2014	26.42		-3.53	Yes	300	9.75	
1254	EN12662:2014	40.32		0.12	Yes	300	-----	
1266	EN12662:2014	48.83		2.35	Yes	1000	0	
1286	EN12662:2014	35.430		-1.16	Yes	246	15	
1357	IP440	23.5	C	-4.30	Yes	-----	-----	
1397	EN12662:2014	39.0		-0.23	Yes	-----	-----	
1399		-----		-----	-----	-----	-----	
1528	EN12662:2014	39.22		-0.17	Yes	300	15	
1556	EN12662:2014	40.99		0.30	Yes	324	7	
1586	EN12662:1998	43.5		0.95	Yes	300	-----	
1613	EN12662:2014	34.2		-1.49	Yes	300	-----	
1631	EN12662:2014	>30		-----	-----	-----	-----	
1681	EN12662:2014	40.32		0.12	Yes	221.4	24.02	
1740	EN12662:2014	37.3		-0.67	Yes	300	2	
1807		-----		-----	-----	-----	-----	
1833	EN12662	>30		-----	-----	-----	-----	
1849	EN12662:2014	40		0.04	Yes	-----	-----	
1854	EN12662:2014	39.5		-0.10	-----	300	-----	
1857	EN12662:2014	49.3		2.48	Yes	300	12	
1950	EN12662	45.9		1.58	-----	-----	-----	
1961	EN12662:2014	28.30		-3.04	Yes	294	-----	
1976	EN12662:1998	43.04		0.83	-----	300	-----	
1982		-----		-----	-----	-----	-----	
1984	EN12662:2014	46.75		1.81	Yes	-----	-----	

lab	method	Total C.	mark	z(targ)	complete	vol. filtered (mL)	stopped (min)	remarks
2129	EN12662:2014	35.9		-1.04	-----	-----	-----	
2130		-----		-----	-----	-----	-----	
6012	EN12662:2014	34.5		-1.41	Yes	300	-----	
6018	EN12662:2014	16.5	R(0.01)	-6.13	Yes	-----	-----	
6044	EN12662:1998	45.9158		1.59	Yes	300.55	25	
6075	EN12662:2014	40.54		0.18	Yes	-----	-----	
6146	EN12662:2014	42.77		0.76	Yes	-----	-----	
6170	EN12662:2014	42.1		0.59	Yes	300	-----	
6203	EN12662:2014	35.31		-1.20	Yes	300	7	
6242	EN12662:2014	46.38		1.71	Yes	280	-----	
6321	IP440	37.0		-0.75	-----	-----	-----	
6373		-----		-----	-----	-----	-----	
6441	EN12662:2014	38.3		-0.41	Yes	310	2.37	

normality	OK
n	70
outliers	2
mean (n)	39.86
st.dev. (n)	5.362
R(calc.)	15.01
st.dev.(EN12662:14)	3.809
R(EN12662:14)	10.66

Lab 1357 first reported 15.6

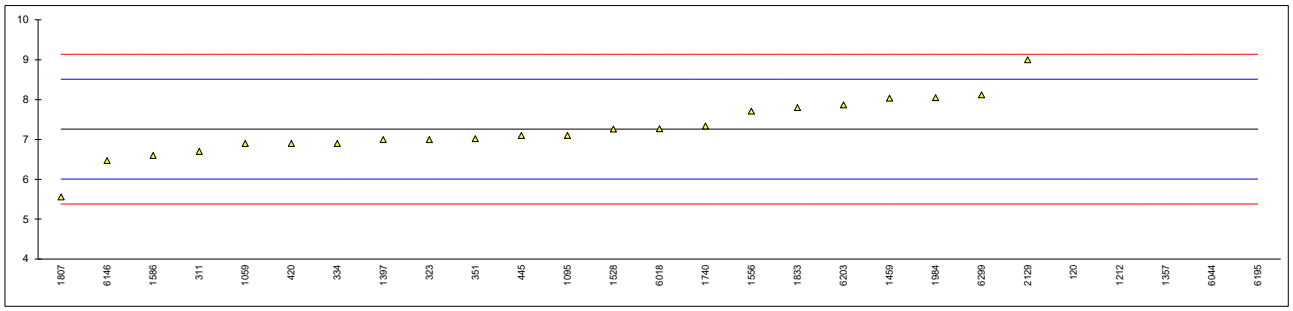


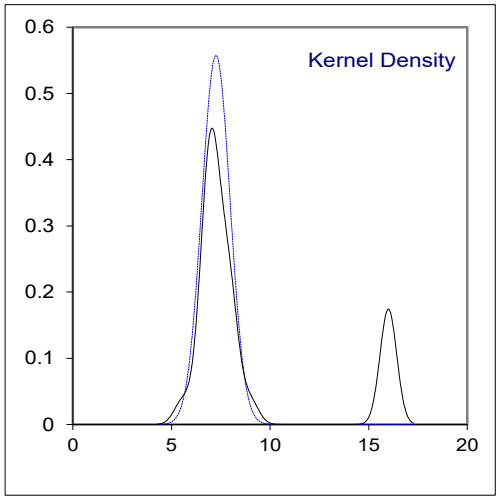


Determination of Oxidation Stability Induction period on sample #22008; results in hours

lab	method	value	mark	z(targ)	remarks
120	ISO12662	16	C,R(0.01)	13.95	first reported 15
140		-----		-----	
171		-----		-----	
311	EN15751	6.7		-0.89	
323	EN15751	7.0		-0.41	
334	EN15751	6.9		-0.57	
342		-----		-----	
343		-----		-----	
351	EN15751	7.02		-0.38	
360		-----		-----	
369		-----		-----	
370		-----		-----	
391		-----		-----	
420	EN15751	6.9		-0.57	
445	EN15751	7.1		-0.25	
447		-----		-----	
494		-----		-----	
671		-----		-----	
736		-----		-----	
750		-----		-----	
781		-----		-----	
823		-----		-----	
873		-----		-----	
874		-----		-----	
963		-----		-----	
974		-----		-----	
1006		-----		-----	
1026		-----		-----	
1039		-----		-----	
1059	EN15751	6.9		-0.57	
1095	EN15751	7.1		-0.25	
1109		-----		-----	
1121		-----		-----	
1212	EN15751	16	R(0.01)	13.95	
1357	EN15751	16	R(0.01)	13.95	
1397	EN15751	7.0		-0.41	
1459	EN15751	8.035		1.24	
1528	EN15751	7.26		0.00	
1556	EN15751	7.71		0.72	
1586	EN15751	6.6		-1.05	
1613		-----		-----	
1631		-----		-----	
1681		-----		-----	
1724		-----		-----	
1740	EN15751	7.34		0.13	
1807	EN15751	5.56		-2.71	
1833	EN15751	7.8		0.86	
1849		-----		-----	
1857		-----		-----	
1950		-----		-----	
1967		-----		-----	
1982		-----		-----	
1984	EN15751	8.05		1.26	
2129	EN15751	9	C	2.78	first reported 16 for IP388
2130		-----		-----	
6018	EN15751	7.27		0.02	
6044	EN15751	16	R(0.01)	13.95	
6075		-----		-----	
6146	EN15751	6.47		-1.26	
6195	D2274	16	R(0.01)	13.95	
6203	EN15751	7.87		0.97	
6299	EN15751	8.12		1.37	
6321		-----		-----	
6373		-----		-----	

normality	suspect
n	22
outliers	5
mean (n)	7.26
st.dev. (n)	0.716
R(calc.)	2.00
st.dev.(EN15751:14)	0.627
R(EN15751:14)	1.75


10
9
8
7
6
5
4
1807
6146
1586
311
1059
420
334
1397
323
351
445
1095
1528
6018
1740
1556
1833
6203
1459
1984
6299
2129
120
1212
1357
6044
6195

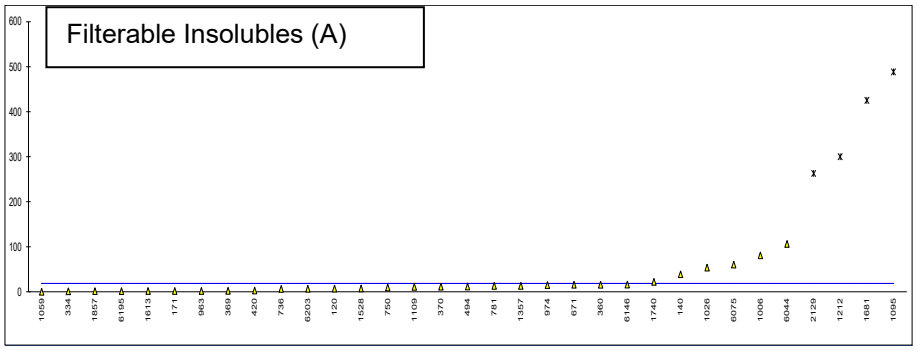

Kernel Density
0.6
0.5
0.4
0.3
0.2
0.1
0
0
5
10
15
20

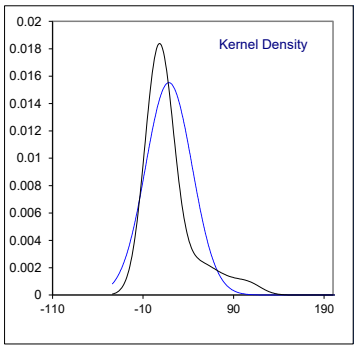
Determination of Oxidation Stability Insolubles on sample #22008; results in g/m^3

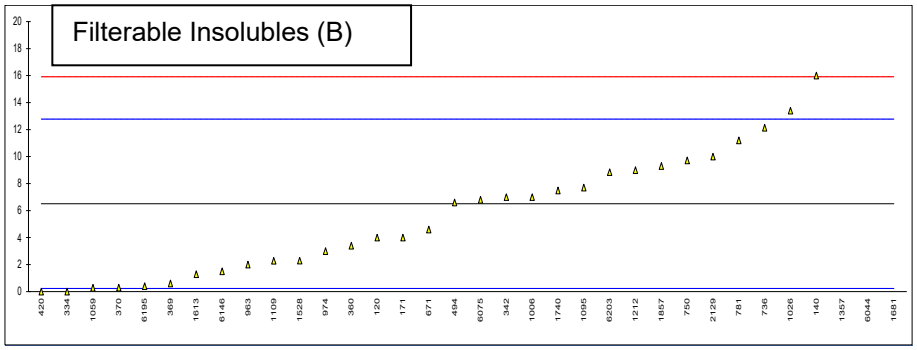
lab	method	Filterable (A)		z(targ)	Adherent (B)	mark	z(targ)	Total (A+B)	mark	z(targ)
120	ISO12662	7		-----	4		-0.80	11		-----
140	ISO12205	39		-----	16		3.03	55		-----
171	ISO12205	2		-----	4		-0.80	6		-----
311		-----		-----	-----		-----	-----		-----
323		-----		-----	-----		-----	-----		-----
334	ISO12205	1		-----	0		-2.07	1		-----
342		-----		-----	7		0.16	-----		-----
343		-----		-----	-----		-----	-----		-----
351		-----		-----	-----		-----	-----		-----
360	ISO12205	15.7		-----	3.4		-0.99	19.1		-----
369	ISO12205	2.32		-----	0.60		-1.88	2.92		-----
370	ISO12205	11.4		-----	0.3		-1.98	11.7		-----
391		-----		-----	-----		-----	-----		-----
420	ISO12205	2.86		-----	0		-2.07	2.86		-----
445	IP388	<1		-----	<1		-----	<1		-----
447		-----		-----	-----		-----	-----		-----
494	ISO12205	11.7		-----	6.6		0.03	18.3		-----
671	D2274	15.7		-----	4.6		-0.61	20.3		-----
736	ISO12205	6.286		-----	12.143		1.80	18.429		-----
750	ISO12205	9.714		-----	9.714		1.02	19.43		-----
781	ISO12205	13.0		-----	11.2		1.50	24.2		-----
823		-----		-----	-----		-----	-----		-----
873		-----		-----	-----		-----	-----		-----
874		-----		-----	-----		-----	-----		-----
963	ISO12205	2.0		-----	2.0		-1.44	4.0		-----
974	D2274	15		-----	3		-1.12	18		-----
1006	D2274	81		-----	7		0.16	88		-----
1026	ISO12205	53.7		-----	13.4		2.20	67.1		-----
1039		-----		-----	-----		-----	-----		-----
1059	ISO12205	0		-----	0.286		-1.98	0.286		-----
1095	ISO12205	488.29	R(0.01)	-----	7.71		0.38	496	R(0.01)	-----
1109	D2274	10.89		-----	2.28		-1.35	13.17		-----
1121		-----		-----	-----		-----	-----		-----
1212	ISO12205	300	R(0.01)	-----	9		0.80	309	R(0.01)	-----
1357	D2274	13	C	-----	21	C	4.62	34	C	-----
1397		-----		-----	-----		-----	-----		-----
1459		-----		-----	-----		-----	-----		-----
1528	ISO12205	7.40		-----	2.29		-1.34	9.69		-----
1556		-----		-----	-----		-----	-----		-----
1586		-----		-----	-----		-----	29.7		-----
1613	D2274	1.7		-----	1.3		-1.66	3.0		-----
1631		-----		-----	-----		-----	3		-----
1681	ISO12205	425.1	C,R(0.01)	-----	96.3	C,R(0.01)	28.64	521.4	C,R(0.01)	-----
1724		-----		-----	-----		-----	5.71		-----
1740	ISO12205	22.0		-----	7.5		0.32	29.5		-----
1807		-----		-----	-----		-----	-----		-----
1833		-----		-----	-----		-----	5.1		-----
1849		-----		-----	-----		-----	3.86		-----
1857	ISO12205	1.4		-----	9.3		0.89	10.7		-----
1950		-----		-----	-----		-----	-----		-----
1967		-----		-----	-----		-----	-----		-----
1982		-----		-----	-----		-----	2.37		-----
1984		-----		-----	-----		-----	-----		-----
2129	ISO12205	263	R(0.01)	-----	10		1.12	273	R(0.01)	-----
2130		-----		-----	-----		-----	-----		-----
6018		-----		-----	-----		-----	-----		-----
6044	D2274	106.3		-----	21.43		4.76	127.73	R(0.01)	-----
6075	ISO12205	60.5		-----	6.8		0.09	67.3		-----
6146	ISO12205	15.89		-----	1.51		-1.59	17.40		-----
6195	D2274	1.6		-----	0.4		-1.95	2.0		-----
6203	ISO12205	6.65		-----	8.85		0.75	15.5		-----
6299		-----		-----	-----		-----	-----		-----
6321		-----		-----	-----		-----	-----		-----
6373		-----		-----	-----		-----	-----		-----

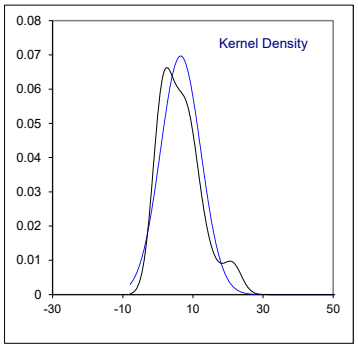
normality	not OK	suspect	not OK
n	29	33	34
outliers	4	1	5
mean (n)	18.51	6.50	18.81
st.dev. (n)	25.692	5.727	21.155
R(calc.)	71.94	16.03	59.23
st.dev.(ISO12205:95)	3.135	3.135	4.434
R(ISO12205:95)	8.78	8.78	12.41

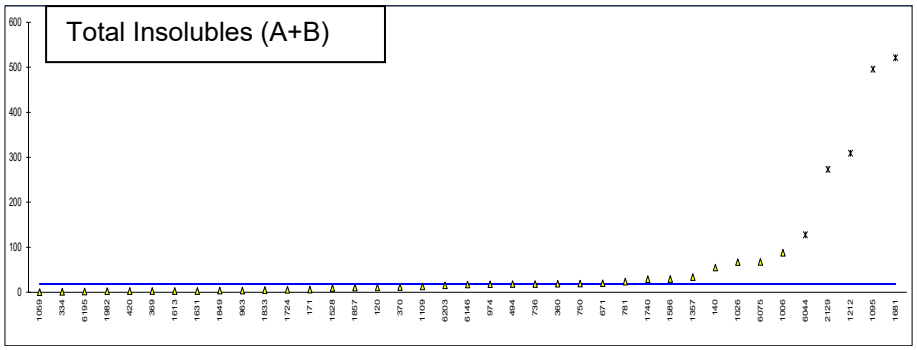
Lab 1357 first reported 0.6, 1.0 and 1.6 respectively
Lab 1681 first reported 447.71, 272.86 and 720.6 respectively

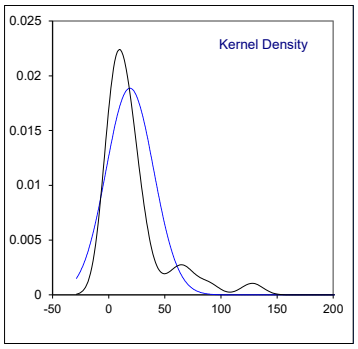












APPENDIX 2 Analytical details

lab	Nitrogen determination (ASTM D4629) – calculate the Nitrogen content in the sample
120	paragraph 12.3 ASTM D4629:17
140	---
171	---
206	---
207	---
208	---
209	---
225	---
228	---
237	paragraph 12.3 ASTM D4629:17
238	---
311	---
312	paragraph 12.1 ASTM D4629:17
317	---
323	---
328	---
331	---
333	---
334	paragraph 12.1 ASTM D4629:17
335	---
337	---
338	---
342	---
343	---
345	---
351	---
360	---
365	---
369	---
370	---
371	---
381	---
391	---
398	---
399	---
404	---
420	---
431	---
432	---
440	---
444	---
445	---
447	---
480	---
494	---
495	---
498	---
541	---
631	---
663	paragraph 12.1 ASTM D4629:17
671	---
704	paragraph 12.3 ASTM D4629:17
734	paragraph 12.3 ASTM D4629:17
736	paragraph 12.3 ASTM D4629:17
751	---
752	---
759	---
778	---
779	---
781	paragraph 12.1 ASTM D4629:17
782	---
785	---
798	---
823	paragraph 12.3 ASTM D4629:17
872	---
873	paragraph 12.1 ASTM D4629:17
874	---
875	---
902	---
904	---
913	---
914	---
962	---
963	---
971	---
974	---
995	---
997	---
1006	---
1026	paragraph 12.1 ASTM D4629:17
1039	paragraph 12.3 ASTM D4629:17
1059	---
1080	paragraph 12.1 ASTM D4629:17
1097	---
1108	---
1109	paragraph 12.1 ASTM D4629:17
1121	---
1126	---
1146	---
1150	---
1199	---
1205	---
1212	paragraph 12.3 ASTM D4629:17
1254	---
1259	---
1266	---
1275	---
1286	---
1318	---
1356	---
1357	---
1397	---
1399	---
1438	---
1498	---
1528	---
1556	paragraph 12.1 ASTM D4629:17
1569	paragraph 12.1 ASTM D4629:17
1586	paragraph 12.1 ASTM D4629:17
1612	---
1613	---
1631	---
1656	---
1681	---
1724	---
1730	---
1740	paragraph 12.1 ASTM D4629:17
1742	paragraph 12.1 ASTM D4629:17
1743	paragraph 12.1 ASTM D4629:17
1776	---
1796	---
1807	---
1833	---
1849	---
1854	---
1857	paragraph 12.3 ASTM D4629:17
1858	paragraph 12.1 ASTM D4629:17
1950	---
1953	---
1961	

lab	Nitrogen determination (ASTM D4629) – calculate the Nitrogen content in the sample
1967	---
1976	---
1982	---
1984	---
1986	---
2129	---
2130	---
2146	---
6012	---
6018	---
6026	---
6044	---
6049	---
6075	---
6114	---
6142	---
6143	---
6146	---
6170	---
6203	paragraph 12.1 ASTM D4629:17
6229	---
6242	---
6279	---
6298	---
6299	paragraph 12.3 ASTM D4629:17
6307	---
6317	---
6321	---
6364	---
6373	---
6379	---
6416	---
6438	---
6441	---
6443	---

For samples introduced volumetrically, paragraph 12.1 ASTM D4629:17
For analyzers equipped with a calibration adjust, paragraph 12.3 ASTM D4629:17

APPENDIX 3

Number of participants per country

1 lab in	ARGENTINA	1 lab in	KOREA, Republic of
1 lab in	AUSTRALIA	3 labs in	LATVIA
2 labs in	AUSTRIA	1 lab in	LITHUANIA
3 labs in	BELGIUM	1 lab in	MALTA
1 lab in	BOSNIA and HERZEGOVINA	1 lab in	MARTINIQUE
2 labs in	BULGARIA	4 labs in	MOROCCO
2 labs in	CHILE	7 labs in	NETHERLANDS
1 lab in	COTE D'IVOIRE	2 labs in	NIGERIA
3 labs in	CROATIA	1 lab in	NORTH MACEDONIA
1 lab in	CYPRUS	2 labs in	NORWAY
1 lab in	CZECH REPUBLIC	1 lab in	OMAN
1 lab in	DENMARK	1 lab in	PHILIPPINES
1 lab in	ESTONIA	2 labs in	POLAND
1 lab in	ETHIOPIA	4 labs in	PORTUGAL
3 labs in	FINLAND	3 labs in	ROMANIA
13 labs in	FRANCE	21 labs in	RUSSIAN FEDERATION
2 labs in	GEORGIA	3 labs in	SAUDI ARABIA
4 labs in	GERMANY	1 lab in	SERBIA
5 labs in	GREECE	1 lab in	SLOVENIA
1 lab in	GUAM	1 lab in	SOUTH AFRICA
1 lab in	HONG KONG	7 labs in	SPAIN
1 lab in	HUNGARY	4 labs in	SWEDEN
2 labs in	INDIA	1 lab in	TAIWAN
1 lab in	IRAQ	1 lab in	TANZANIA
2 labs in	IRELAND	1 lab in	THAILAND
1 lab in	ISRAEL	1 lab in	TOGO
5 labs in	ITALY	6 labs in	TURKEY
1 lab in	JORDAN	2 labs in	UKRAINE
2 labs in	KAZAKHSTAN	4 labs in	UNITED ARAB EMIRATES
1 lab in	KENYA	13 labs in	UNITED KINGDOM
		3 labs in	UNITED STATES OF AMERICA

APPENDIX 4

Abbreviations

C	= final test result after checking of first reported suspect test result
D(0.01)	= outlier in Dixon's outlier test
D(0.05)	= straggler in Dixon's outlier test
G(0.01)	= outlier in Grubbs' outlier test
G(0.05)	= straggler in Grubbs' outlier test
DG(0.01)	= outlier in Double Grubbs' outlier test
DG(0.05)	= straggler in Double Grubbs' outlier test
R(0.01)/R1	= outlier in Rosner's outlier test
R(0.05)	= straggler in Rosner's outlier test
E	= calculation difference between reported test result and result calculated by iis
W	= test result withdrawn on request of participant
ex	= test result excluded from statistical evaluation
n.a.	= not applicable
n.e.	= not evaluated
n.d.	= not detected
fr.	= first reported
f+?	= possibly a false positive test result?
f-?	= possibly a false negative test result?
SDS	= Safety Data Sheet

Literature

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