Results of Proficiency Test
Fuel Oil
January 2014

Organised by: Institute for Interlaboratory Studies
Spijkenisse, the Netherlands

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1 INTRODUCTION

Since 1994 the Institute for Interlaboratory Studies organizes a proficiency test for Fuel Oil every year. In the annual proficiency testing program of 2013/2014, it was decided to continue the round robin for the analysis of Fuel Oil. In this interlaboratory study 210 laboratories in 75 different countries have participated. See appendix 3 for the number of participants per country. In this report, the results of the 2014 interlaboratory study on Fuel Oil are presented and discussed.

2 SET-UP

The Institute for Interlaboratory Studies (iis) in Spijkenisse, the Netherlands, was the organiser of this proficiency test. Sample analyses for fit-for-use and homogeneity testing were subcontracted to an accredited laboratory. It was decided to send one bottle of 1L Fuel Oil (labelled #14001), and/or one bottle of 0.1L (labelled #14002) specifically for metals. Participants were requested to report rounded and unrounded results. The unrounded 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/IEC 17043:2010 (R007), since January 2000, by the Dutch Accreditation Council (Raad voor Accreditatie). This ensures strict adherence to protocols for sample preparation and statistical evaluation and 100% confidentially 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 organisation was the one as described for proficiency testing in the report 'iis Interlaboratory Studies: Protocol for the Organisation, Statistics and Evaluation' of January 2010 (iis-protocol, version 3.2). This protocol can be downloaded via the FAQ page of the iis website http://www.iisnl.com.

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

In this proficiency test two different samples were prepared, a regular Fuel Oil and a Fuel Oil positive on metals.
From 400 litre Fuel Oil, purchased from a supplier in the United Kingdom, 356 amber glass bottles of 1L were filled after heating to 60°C and homogenisation. The homogeneity of the subsamples #14001 was checked by determination of density @15°C in accordance with ISO12185 on 16 stratified randomly selected samples. The lowest density test result was 1000.3 kg/m^3 and the highest density test result was 1000.7 kg/m^3. The repeatability of the density test results was calculated and compared with 0.3 times the corresponding target reproducibility in agreement with the procedure of ISO 13528, Annex B2 in the next table:

	Density @15°C in kg/m^3
r (Observed)	0.49
Reference method	ISO12185:96
0.3 * R (ref. method)	0.45

Table 1: repeatabilities of test results of subsamples #14001

The calculated repeatability for Density was in agreement with 0.3 times the corresponding target reproducibility of the respective reference method. Therefore, homogeneity of the subsamples of #14001 was assumed.

For Subsample #14002, 18 litre Fuel Oil was spiked with Calcium (approx 81 mg/kg), Phosphorus (approx 20 mg/kg) and Zinc (approx 23 mg/kg).
The homogeneity of the subsamples was checked by determination of Phosphorous in accordance with IP501 and density @15°C in accordance with ISO12185 on 8 stratified randomly selected samples.

	Phosphorus in mg/kg	Density @15°C in kg/m^3
Sample #14002-1	24	997.1
Sample #14002-2	24	997.1
Sample #14002-3	24	997.1
Sample #14002-4	24	997.1
Sample #14002-5	24	997.1
Sample #14002-6	24	997.1
Sample #14002-7	24	997.1
Sample #14002-8	24	997.1

Table 2: homogeneity test results of subsamples #14002

From the test results of table 2, the repeatabilities were calculated and compared with 0.3 times the corresponding reproducibilities in agreement with the procedure of ISO 13528, Annex B2 in the next table:

	Phosphorus in mg/kg	Density @15°C in kg/m^3
r (Observed)	0.0	0.00
Reference method	IP501:05	ISO12185:96
0.3 * R (ref. method)	2.2	0.45

Table 3: repeatability of Aluminium results of subsamples #14002

The calculated repeatabilities for Phosphorus and Density are respectively in agreement with 0.3 times the corresponding target reproducibilities of IP501:05 and ISO12185:96. Therefore, homogeneity of the subsamples of #14002 was assumed.

Depending on the registration of the participant one bottle of 1L, labelled #14001 and/or one bottle of 100ml, labelled #14002 were sent to each of the participating laboratories on January 15, 2014.

2.5 STABILITY OF THE SAMPLES

The stability of Fuel Oil, packed in the amber glass and plastic bottles was checked. The material has been found sufficiently stable for the period of the proficiency test.

2.6 ANALYSES

The participants were asked to determine on sample #14001: Acid Number, API gravity, Ash Content, Asphaltenes, Calculated Carbon Aromaticity Index, Conradson Carbon Residue, Density @15°C, Flash Point PMcc, Heat of Combustion (Gross and Net), Kinematic Viscosity (@ 50°C and 100°C), Viscosity Stabinger (@ 50ºC and 100ºC), Micro Carbon Residue, Pour Point (Lower, Upper and Automated), Sediments by Extraction, Total Sediment (By Hot filtration, Potential and Accelerated), Total Sulphur, Nitrogen, Water by Distillation, Water and Sediment, Distillation (IBP, 5%-50% and FBP), and Total Carbon, Hydrogen and Nitrogen (CHN-analyzer).

On sample #14002 was requested to analyze: Aluminium, Silicon, Sum Aluminium and Silicon, Calcium, Nickel, Sodium, Phosphorus, Vanadium and Zinc content.
To get comparable results a detailed report form, on which the units were prescribed as well as some of the required standards and a letter of instructions were prepared and made available for download on the iis website www.iisnl.com.
A SDS and a form to confirm receipt of the samples were added to the sample package.

3 RESULTS

During four weeks after sample despatch, the results of the individual laboratories were received. The original data are tabulated per sample in the appendix 1 of this report. The laboratories are represented by their code numbers.

Directly after deadline, a reminder fax was sent to those laboratories that did not report results at that moment. Shortly after the deadline, the available results were screened for suspect data. A 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 results. Additional or corrected results are used for the data analysis and the original results are placed under 'Remarks' in the result tables in appendix 1.

3.1 STATISTICS

Statistical calculations were performed as described in the report 'iis Interlaboratory Studies: Protocol for the Organisation, Statistics and Evaluation' of January 2010 (iis-protocol, version 3.2).

For the statistical evaluation the *unrounded* (when available) figures were used instead of the rounded results. 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. After removal of outliers this check was repeated. In case a data set does not have a normal distribution, the (results of the) statistical evaluation should be used with due care.
In accordance to ISO 5725 (1986 and 1994) the original results per determination were submitted subsequently to Dixon and Grubbs outlier tests. Outliers are marked by D(0.01) for the Dixon test and by G(0.01) or DG(0.01) for the Grubbs test and by R(0.01) for the Rosner General ESD test (see appendix 4, ref. 15). Stragglers are marked by D(0.05) for the Dixon test and by G(0.05) or DG(0.05) for the Grubbs test and by R(0.05) for the Rosner General ESD test. Both outliers and stragglers were not included in the calculations of the averages and the 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. When the uncertainty passed the evaluation, no remarks are made in the report. However, when the uncertainty failed the evaluation it is mentioned in the report and it will have consequences for the evaluation of the test results.

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

3.2 GRAPHICS

In order to visualise 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 analysis results are plotted. The corresponding laboratory numbers are under 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 standard. 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 (see appendix 4, nos.13-14).

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, e.g. ASTM reproducibilities, the z-scores were calculated using a target standard deviation. This results in an evaluation independent of the spread of this interlaboratory study. The target standard deviation was calculated from the literature reproducibility by division with 2.8.

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 the fit-for-useness of the reported test result.
The z-scores were calculated according to:

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

The $z_{(target)}$ scores are listed in the tables in appendices 1 and 2.
Absolute values for z<2 are very common and absolute values for z>3 are very rare. The usual interpretation of z-scores is as follows:

	$\lvert z \rvert$	< 1	good
1 <	$\lvert z \rvert$	< 2	satisfactory
2 <	$\lvert z \rvert$	< 3	questionable
3 <	$\lvert z \rvert$		unsatisfactory

4 EVALUATION

In this proficiency test major problems were encountered with the despatch of the samples. Several laboratories in Azerbaijan, Brazil, India, Malaysia, Nigeria, Saudi Arabia, Sudan, Russia, Thailand and U.S.A. received the samples late or not at all.
For sample #14001, in total, ten participants did not report any test results and fourty-six laboratories reported the test results after the final reporting date. For sample #14002, in total twenty-one participants did not report any test results and eighteen participants reported the test results after the final reporting date.
Not all laboratories were able to report all analyses requested. Finally, 200 participants reported in total 3835 numerical results. Observed were 112 statistically outlying results, which is 2.9%. In proficiency studies, outlier percentages of 3% - 7.5% are quite normal.

4.1 EVALUATION PER SAMPLE AND PER TEST

In this section, the results are discussed per sample and per test. The methods, which are used by the various laboratories, are taken into account for explaining the observed differences where possible and applicable. These methods are also in the tables together with the reported data. The abbreviations, used in these tables, are listed in appendix 4.
In the iis PT reports, ASTM methods are referred to with a number (e.g. D2086) and an added designation for the year that the method was adopted or revised (e.g. D2086-08). If applicable, a designation in parentheses is added to designate the year of reapproval (e.g. D2086-08 (2013)). In the results tables of Appendix 1 only the method number and year of adoption or revision will be used.

Not all original data sets proved to have a normal distribution. Not normal distributions were found for the following determinations: Acid Number, API Gravity, Ash, CCAI, Density, Flash Point, Heat of Combustion (Gross and Net), Kin. Viscosity @ 100 ºC, Viscosity Stabinger @ 100ºC, Sediment by Extraction, Sediment by hot Filtration, Sediment Potential, Sediment Accelerated, Water by Distillation, Water and Sediment, Total Hydrogen, Total Aluminium+Silicon, Calcium, Nickel, Sodium, Vanadium and Zinc. In these cases the statistical evaluation should be used with due care.

Sample #14001

Acid Number: This determination was not problematic. One statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier is in agreement with the requirements of ASTM D664A:11a.

API Gravity: This determination was not problematic. Two statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in good agreement with the requirements of ISO12185:96.

Ash: This determination was very problematic. Six statistical outliers were observed. And two test results were excluded because the reported ash

temperature was outside the acceptable oven range of 775 ± 25 ºC. The calculated reproducibility, after rejection of the eight suspect test results is not at all in agreement with requirements of ISO6245:01.

Asphaltenes: This determination was problematic for a number of laboratories. Five statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in full agreement with the requirements of IP143:04.
Three laboratories reported to have used ASTM D3279 which may not be equivalent to IP143:04.

Calculated Carbon Aromaticity Index: This determination was not problematic. Three statistical outliers were observed and two test results were excluded from statistical evaluation as these results probably contained some calculation errors. However, the calculated reproducibility after rejection of the suspect data is in agreement with the requirements of ISO8217:12.

CCR: This determination was not problematic. Three statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of ASTM D189:10.

Density @ 15°C: This determination was not problematic. A large number of results had to be corrected as these were reported in another unit than requested (kg/L instead of kg/m^3). Only one statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier is in agreement with the requirements of ISO12185:96.

Flash Point PMcc: This determination was not problematic. Two statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of ISO2719:02.

HOC Gross: This determination of the Gross Heat of Combustion was problematic for a number of laboratories. Four statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of ASTM D240:09.
Thirty-seven laboratories reported to have used ASTM D4868, which is a method for the estimation of the Gross Heat of Combustion.
Three laboratories reported to have used ASTM D4809. This method is specially designed for aviation turbine fuels.

HOC Net: This determination of the Net Heat of Combustion was problematic for a number of laboratories. Six statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of ASTM D240:09.
Thirty-eight laboratories reported to have used ASTM D4868, which is a method for the estimation of the Net Heat of Combustion.

Four laboratories reported to have used ASTM D4809. This method is specially designed for designed for aviation turbine fuels.

Kin. Visc. @ 50°C: This determination was not problematic. One statistical outlier was observed and one test result was excluded as the reported test method is not equivalent to ISO3104:94. However, the calculated reproducibility after rejection of the suspect data is in agreement with the requirements of ISO3104:94.

Kin. Visc. @100°C: This determination was problematic. Nine statistical outliers were observed and one test result was excluded as the reported test method is not equivalent to ISO3104:94. The calculated reproducibility after rejection of the suspect data is not in agreement with the requirements of ISO3104:94.

Vis Stab.@ 50°C :
Vis Stab.@ 100°C The test method ASTM D7042 is intended for Newtonian flow behaviour liquids only (see §1.2 in ASTM D7042) and therefore it may not be suitable for Fuel Oil. And the precision data mentioned in D7042 may not be applicable for Fuel Oil. Therefore no significant conclusions were drawn. The mean values for the Stabinger Viscosity (50°C and 100°C) do not differ significantly from the mean values for the Kinematic Viscosity determinations.

MCRT: 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 of ISO10370:93.

Pour Point Lower: This determination was problematic. One statistical outlier was observed and one test result was excluded as the reported result for lower PP is higher then the result for upper PP. The calculated reproducibility after rejection of the suspect data is not in agreement with the requirements of ISO3016:94. Rounding to 3 degrees acc. ISO3016:94 may (partly) explain the large spread.

Pour Point Upper: This determination was problematic. Two statistical outliers were observed and one test result was excluded as the reported result for upper PP is smaller then the result for lower PP. The calculated reproducibility after rejection of the suspect data is not in agreement with ISO3016:94. Rounding to 3 degrees acc. ISO3016:94 may (partly) explain the large spread.

Pour Point: Automated This determination was problematic. One statistical outlier was observed and twelve test results were excluded prior to the statistical analysis, as the reported test method was a manual method. The calculated reproducibility is not in agreement with ASTM D5950:12a.The large spread may (partly) be explained by possible problems with the detector sensitivity.

Sediment by: Extraction — This determination was not problematic. Four statistical outliers were observed and one test result was excluded as the reported test method is not equivalent to ASTM D473:07. However, the calculated reproducibility after rejection of the suspect data is in agreement with the requirements of ASTM D473:07.

Sediment by: hot filtration — This determination was not problematic. No statistical outliers were observed and the calculated reproducibility is in agreement with the requirements of IP375:99.

Total sediment: (Potential) — This determination was not problematic. No statistical outliers were observed. The calculated reproducibility in good agreement with IP390:11. (IP390:11 is identical to ISO10307-2:09). ASTM D4870 (App. X1) is technically equivalent to IP390.

Total sediment: (Accelarated) — This determination was not problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in good agreement with IP390:11. (IP390:11 is identical to ISO10307-2:09). ASTM D4870 (App. X1) is technically equivalent to IP390.

Total Sulphur: — This determination was problematic for a number of laboratories. Four statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in full agreement with the requirements of ASTM D4294:10.
When the D4294 data were evaluated separately, the calculated reproducibility is also in agreement with the requirements of ASTM D4294:10. However, when the IP336/ISO8754 data were evaluated separately, the calculated reproducibility is not in agreement with the requirements of IP336/ISO8754.

Nitrogen: — This determination was problematic. One statistical outlier was observed and six test results were excluded as Toluene was used as solvent instead of Xylene. The calculated reproducibility after rejection of the suspect data is not in agreement with the requirements of ASTM D5762:12.
Four laboratories reported to have used ASTM D4629 which may not be equivalent to ASTM D5762:12.

Water by distillation: — This determination was not problematic. One statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier is in good agreement with the requirements of ASTM D95:13e.
Not all laboratories used the distillation method. Five laboratories reported to have used EN1428 which may not be equivalent to ASTM D95:13e1.

Water and sediment: This determination was not problematic. One statistical outlier was observed. The calculated reproducibility after rejection of the statisticaloutlier is in agreement with the requirements of ASTM D1796:11e1

Distillation: This determination may be problematic. In total fourteen statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement for IBP, 5%, and 30% recovered, and FBP with the requirements of ASTM D1160:06. The calculated reproducibilities for 10%, 20%, 40% recovered are not in agreement with the requirements of ASTM D1160:06.

CHN-Analyzer: This determination was not problematic for Carbon and Hydrogen. Only one statistical outlier was observed for Hydrogen. The calculated reproducibilities for Carbon and Hydrogen are both in agreement with the requirements of ASTM D5291:10.
No statistical outliers were observed for the Nitrogen determination. However, the calculated reproducibility for Nitrogen is not in agreement with the requirements of ASTM D5291:10.

Sample #14002:

Two laboratories used ASTM D5185 as test method for metals in Fuel Oil. This test method may not be applicable to Fuel Oil.

Aluminium: This determination was problematic. Four statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with IP501:05.
Thirty laboratories reported according to IP470. When the IP470 data were evaluated separately, the calculated reproducibility is in full agreement with the requirements of IP470.

Silicon: This determination was problematic. Three statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with IP501:05.
Twenty-eight laboratories reported according to IP470. When the IP470 data were evaluated separately, the calculated reproducibility is in agreement with the requirements of IP470.

Total Al/Si: This determination was problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the estimated reproducibility of IP501:05.
Twenty-five laboratories reported according to IP470. When the IP470 data were evaluated separately, the calculated reproducibility is in full agreement with the requirements of IP470.

Iron: This determination was problematic. Four statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the estimated reproducibility of IP501:05.
Twenty-six laboratories reported according to IP470. When the IP470 data were evaluated separately, the calculated reproducibility is in good agreement with the requirements of IP470.

Nickel: This determination was not problematic. One statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier is in agreement with the estimated reproducibility of IP501:05.
Thirty-one laboratories reported according to IP470. When the IP470 data were evaluated separately, the calculated reproducibility is in good agreement with the requirements of IP470.
Eight laboratories reported according to ASTM D5863. When the ASTM D5863 data were evaluated separately, the calculated reproducibility is not in agreement with the requirements of ASTM D5863.

Sodium: This determination was problematic. No statistical outliers were observed. However, the calculated reproducibility is not in agreement with the estimated reproducibility of IP501:05.
Thirty-five laboratories reported according to IP470. When the IP470 data were evaluated separately, the calculated reproducibility is in agreement with the requirements of IP470.
Seven laboratories reported according to ASTM D5863. When the ASTM D5863 data were evaluated separately, the calculated reproducibility is not in agreement with the requirements of ASTM D5863.

Vanadium: This determination was not problematic. Three statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in good agreement with the estimated reproducibility of IP501:05.
Twenty-nine laboratories reported according to IP470. When the IP470 data were evaluated separately, the calculated reproducibility is in good agreement with the requirements of IP470.
Twelve laboratories reported according to ASTM D5863. When the ASTM D5863 data were evaluated separately, the calculated reproducibility is not in agreement with the requirements of ASTM D5863.

Calcium: This determination was problematic. Seven statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the estimated reproducibility of IP501:05.
Twenty-one laboratories reported according to IP470. When the IP470 data were evaluated separately, the calculated reproducibility is not agreement with the requirements of IP470.

The average recovery of Calcium (theoretical increment of 81.4 mg Calcium/kg) may be good: “less then 118%” (the actual blank Calcium content is unknown).

Phosphorous: This determination was not problematic. Four statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in agreement with the estimated reproducibility of IP501:05.
Twelve laboratories reported according to IP500. When the IP500 data were evaluated separately, the calculated reproducibility is not in agreement with the requirements of IP500.
The average recovery of Phosphorous (theoretical increment of 20.3 mg Phosphorous/kg) may be good: “less then 115%” (the actual blank Phosphorous content is unknown).

Zinc: This determination was not problematic. Six statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in agreement with the estimated reproducibility of IP501:05.
Twenty-four laboratories reported according to IP470. When the IP470 data were evaluated separately, the calculated reproducibility is in full agreement with the requirements of IP470.
The average recovery of Zinc (theoretical increment of 23.1 mg Zinc/kg) may be satisfactory: “less then 93%” (the actual blank Zinc content is unknown).

Finally it should be noted that proper attention for homogenisation is crucial for a material such as Fuel Oil. Due to the nature of the material it is very susceptible to problems when not handled correctly. Practically all methods for the determination of metals in Fuel Oil have similar statements regarding homogenization. Recommended is the use of a quality control fuel oil with known amounts of metals like Al, Fe, Si and V. This control standard may be of use to detect deviations in metals with respect to the preparation steps.

4.2 PERFORMANCE EVALUATION FOR THE GROUP OF LABORATORIES

A comparison has been made between the reproducibility as declared by the relevant standard and the reproducibility as found for the group of participating laboratories that participated. The average results of the evaluated parameters, calculated reproducibilities and reproducibilities, derived from literature standards (in casu ASTM, EN, ISO and IP standards) are compared in the next table.

Parameters	Unit	n	average	2.8 * sd	R (lit)
Acid Number	mg KOH/g	97	0.26	0.11	0.18
API gravity		93	9.79	0.21	0.50
Ash	%M/M	151	0.024	0.010	0.005
Asphaltenes	%M/M	94	8.24	1.59	1.65
Calc. Carbon Aromaticity Index		69	859.2	1.38	2.30
Conradson Carbon Residue	%M/M	63	15.69	1.66	2.47
Density @ 15°C	kg/m^3	182	1000.8	1.3	1.5
Flash Point PMcc	°C	174	90.4	6.6	6.0
Heat of Combustion Gross	MJ/kg	99	42.71	0.37	0.40
Heat of Combustion Net	MJ/kg	82	40.50	0.28	0.40
Kinematic Viscosity @50°C	mm^2/s	158	489.3	29.0	36.2
Kinematic Viscosity @100°C	mm^2/s	129	39.41	2.09	1.90
Micro Carbon Residue	%M/M	115	15.51	0.89	0.87
Nitrogen	µg/g	34	4345	1339	1156
Stabinger Viscosity @50ºC	mm^2/s	22	492.0	28.3	unknown
Stabinger Viscosity @100ºC	mm^2/s	25	39.44	1.75	unknown
Pour Point Lower	°C	76	-1.1	8.6	6.6
Pour Point Upper	°C	117	1.1	9.8	6.6
Pour Point (automated)	°C	22	-4.8	7.3	6.1
Sediment by Extraction	%M/M	113	0.020	0.021	0.038
Total Sediment (Hot Filtration)	%M/M	69	0.017	0.020	0.038
Total Sediment (Potential)	%M/M	80	0.018	0.019	0.039
Total Sediment (Accelerated)	%M/M	80	0.018	0.019	0.039
Total Sulphur	%M/M	179	0.80	0.06	0.06
Water by Distillation	%V/V	118	0.06	0.08	0.20
Water and Sediment	%V/V	49	0.06	0.09	0.11
Distillation @ 760 mm Hg					
IBP	°C	32	191.6	29.9	49.4
5% recovered	°C	30	250.2	25.0	23.5
10% recovered	°C	31	286.7	24.3	21.5
20% recovered	°C	32	366.8	25.5	20.7
30% recovered	°C	30	428.1	17.7	19.7
40% recovered	°C	30	492.6	23.8	15.0
50% recovered	°C	2	561.4	n.e	n.e
FBP	°C	24	518.0	25.5	26.9

CHN analyzer					
Total Carbon	%M/M	40	88.1	2.0	2.5
Total Hydrogen	%M/M	34	10.2	0.6	0.7
Total Nitrogen	%M/M	28	0.5	0.2	0.1

Table 4: summary of test results on Fuel Oil sample #14001

Parameters	Unit	n	average	2.8 * sd	R (lit)
Aluminium	mg/kg	96	13.09	4.90	4.41
Silicon	mg/kg	94	11.74	6.01	3.90
Total Aluminium+Silicon	mg/kg	89	24.75	10.80	5.89
Iron as Fe	mg/kg	83	7.78	3.54	2.90
Nickel as Ni	mg/kg	100	16.90	5.24	7.96
Sodium as Na	mg/kg	105	14.37	6.67	4.62
Vanadium as V	mg/kg	104	15.24	3.60	8.61
Calcium as Ca	mg/kg	75	95.51	19.43	12.47
Phosphorous	mg/kg	68	23.05	6.10	7.17
Zinc	mg/kg	77	21.50	4.23	4.35

Table 5: summary of test results on Fuel Oil sample #14002

Without further statistical calculations it can be concluded that for a number tests there is a good compliance of the group of participating laboratories with the relevant standards. The problematic tests have been discussed in paragraph 4.1.

4.3 COMPARISON OF THE PROFICIENCY TEST OF JANUARY 2014 WITH PREVIOUS PTS

	January 2014	January 2013	January 2012	February 2011
Number of reporting labs	200	188	75	113
Number of results reported	3835	3261	1195	1267
Statistical outliers	112	98	74	60
Percentage outliers	2.9%	3.2%	6.2%	4.7%

Table 6: 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 against the requirements of the respective standards. The conclusions are given the following table:

Determination	January 2014	January 2013	February 2012	February 2011
Acid Number	+	+/-	+	++
API Gravity	++	++	--	n.e.
Ash	--	--	--	--
Asphaltenes	+	+/-	--	--
Calc. Carb. Aromaticity Index	+	++	+/-	--
Conradson Carbon Residue	+	+/-	-	--
Density @ 15 °C	+	-	-	--
Distillation D1160	+/-	+	--	--
Flash Point PMcc	+/-	-	--	--
Heat of Combustion Gross	+	+/-	--	++

Heat of Combustion Net	+	+/-	+/-	+/-
Kinematic Viscosity @ 50 °C	+	+	+	+
Kinematic Viscosity @ 100 °C	-	-	++	+
Micro Carbon Residue	+/-	-	--	--
Nitrogen	-	-	--	-
Pour Point Lower	-	-	--	--
Pour Point Upper	-	-	--	--
Pour Point (automated)	-	-	-	--
Sediments by Extraction	+	+	++	++
Total Sediment (Hot Filtration)	+	n.e	n.e	n.e
Total Sediment (Accelerated)	++	++	++	++
Total Sediment (Potential)	++	++	++	++
Total Sulphur	+/-	-	--	-
Water by Distillation	++	+	++	++
Water and Sediment	+	+/-	n.e.	n.e.
Total Carbon	+	+	++	+/-
Total Hydrogen	+	+	+	+/-
Total Nitrogen	-	-	++	++
Aluminium as Al	-	--	++	--
Silicon as Si	-	--	++	+
Total Aluminium/Silicon	-	--	+/-	n.e.
Iron as Fe	-	n.e	n.e	n.e
Nickel as Ni	+	++	++	++
Sodium as Na	-	--	--	-
Vanadium as V	++	++	++	(++)
Calcium as Ca	-	n.e	n.e	n.e
Phosphorous	+	n.e	n.e	n.e
Zinc as Zn	+/-	n.e	n.e	n.e

Table 7: comparison determinations against the standard
results between brackets should used with care, because the average was below the application range

The performance of the determinations against the requirements of the respective standards is listed in the above table. The following performance categories were used:

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

APPENDIX 1

Determination of Acid Number on sample #14001; results in mg KOH/g

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
52	D664	0.22		-0.60	922	D664	0.280		0.35
62	D664	0.36		1.62	962		-----		-----
90		-----		-----	963	D664	0.37		1.77
92		-----		-----	971		-----		-----
120	D664	0.22		-0.60	974		-----		-----
131	D664	0.228		-0.47	982		-----		-----
132	D664	0.24		-0.28	993		-----		-----
154		-----		-----	994	D664	0.28		0.35
159	D664	0.23		-0.44	995	D664	0.2725		0.23
168		-----		-----	996		-----		-----
169		-----		-----	997		-----		-----
171		-----		-----	1011	D664	0.376	C	1.87
175		-----		-----	1016	D664	0.221		-0.58
179	D664	0.16		-1.54	1022		-----		-----
193		-----		-----	1059	ISO6619	0.27		0.19
194	D664	0.26		0.04	1062		-----		-----
212	D664	0.19		-1.07	1065	D664	0.242		-0.25
221		-----		-----	1066	D664	0.238		-0.31
224	D974	0.18	C	-1.23	1095	D664	0.262		0.07
225		-----		-----	1109	D664	0.252		-0.09
228		-----		-----	1121		-----		-----
230	D664	0.232		-0.41	1126		-----		-----
237	D664	0.24		-0.28	1131		-----		-----
238		-----		-----	1134	D664	0.26		0.04
252		-----		-----	1161	D664	0.258		0.00
253		-----		-----	1167		-----		-----
254		-----		-----	1177		-----		-----
256		-----		-----	1201	D664	0.27		0.19
273	D664	0.17		-1.38	1205		-----		-----
311	D664	0.35		1.46	1215		-----		-----
313		-----		-----	1231	D664	0.2727		0.24
323	D664	0.29		0.51	1233	D664	0.25		-0.12
331	D664	0.244		-0.22	1259	D664	0.268		0.16
333	D664	0.25		-0.12	1266		-----		-----
334		-----		-----	1269		-----		-----
336	D664	0.34		1.30	1271		-----		-----
337		-----		-----	1275		-----		-----
340	D664	0.250		-0.12	1299	D664	0.330		1.14
343	D664	0.28		0.35	1337		-----		-----
349	D664	0.22		-0.60	1340		-----		-----
351		-----		-----	1347	D974	0.23		-0.44
353		-----		-----	1348	D664	0.26		0.04
356	D664	0.30		0.67	1356	D664	0.25		-0.12
360		-----		-----	1381		-----		-----
370		-----		-----	1385	D664	0.28		0.35
372	D664	0.26		0.04	1395		-----		-----
391	D664	0.256		-0.03	1402	D664	0.25		-0.12
398	D664	0.268		0.16	1403		-----		-----
399		-----		-----	1404	D664	0.26		0.04
440		-----		-----	1412		-----		-----
444		-----		-----	1419		-----		-----
445	D664	0.275		0.27	1428		-----		-----
447		-----		-----	1431		-----		-----
463	D664	0.323		1.03	1455	D664	0.25		-0.12
494	D664	0.263		0.08	1459		-----		-----
495	D664	0.29	C	0.51	1460		-----		-----
507		-----		-----	1501	D664	0.274		0.26
511		-----		-----	1510		-----		-----
529		-----		-----	1520	D664	0.297		0.62
541		-----		-----	1539		-----		-----
551	D664	0.260		0.04	1543		-----		-----
557	D664	0.2603		0.04	1556	D664	<0.1	C, false neg?	<-2.46
562		-----		-----	1564	D664	0.24		-0.28
575		-----		-----	1569	D664	0.50	G(0.01)	3.83
603		-----		-----	1586	D664	0.33		1.14
604		-----		-----	1610		-----		-----
605	D664	0.257		-0.01	1613		-----		-----
607		-----		-----	1622		-----		-----
608	D664	0.232		-0.41	1631	D664	0.221		-0.58
631		-----		-----	1636		-----		-----
634		-----		-----	1643		-----		-----
657	D664	0.27		0.19	1648	D664	0.282		0.38

663	D664	0.2395	-0.29
671		-----	-----
704	D664	0.165	-1.46
705	D664	0.236	-0.34
732		-----	-----
750		-----	-----
753	D664	0.273	0.24
781	D664	0.246	-0.18
784	D664	0.209	-0.77
785		-----	-----
791		-----	-----
823	D664	0.27	0.19
824		-----	-----
840	D664	0.256	-0.03
851		-----	-----
855	D664	0.254	-0.06
858	D664	0.25	-0.12
859	D664	0.24	-0.28
862	D664	0.254	-0.06
863	D664	0.20	-0.91
864	D664	0.248	-0.15
865	D664	0.250	-0.12
867	D664	0.21	-0.75
873		-----	-----
874		-----	-----
875	D664	0.29	0.51
886		-----	-----
887	D664	0.25	-0.12
902	D664	0.254	-0.06
904		-----	-----
912	D664	0.3359	1.23
913	D664	0.318	0.95

1650		-----	-----
1654		-----	-----
1677	D664	0.21	-0.75
1681		-----	-----
1707	D664	0.269	0.18
1710	D664	0.242	-0.25
1720		-----	-----
1724	D664	0.213	-0.71
1740	D664	0.26	0.04
1761		-----	-----
1773		-----	-----
1774		-----	-----
1775		-----	-----
1776	D664	0.21	C -0.75
1784	D664	0.26	0.04
1807		-----	-----
1810		-----	-----
1811		-----	-----
1832		-----	-----
1833	D664	0.249	-0.14
1842		-----	-----
1849		-----	-----
1854	D664	0.25	-0.12
1906		-----	-----
1914	D664	0.30	0.67
1915		-----	-----
1936		-----	-----
1937		-----	-----
1938		-----	-----
1942		-----	-----
1948		-----	-----
1951		-----	-----
2129	D664	0.22	-0.60

normality	not OK
n	97
outliers	1
mean (n)	0.258
st.dev. (n)	0.0405
R(calc.)	0.113
R(D664:11a)	0.177

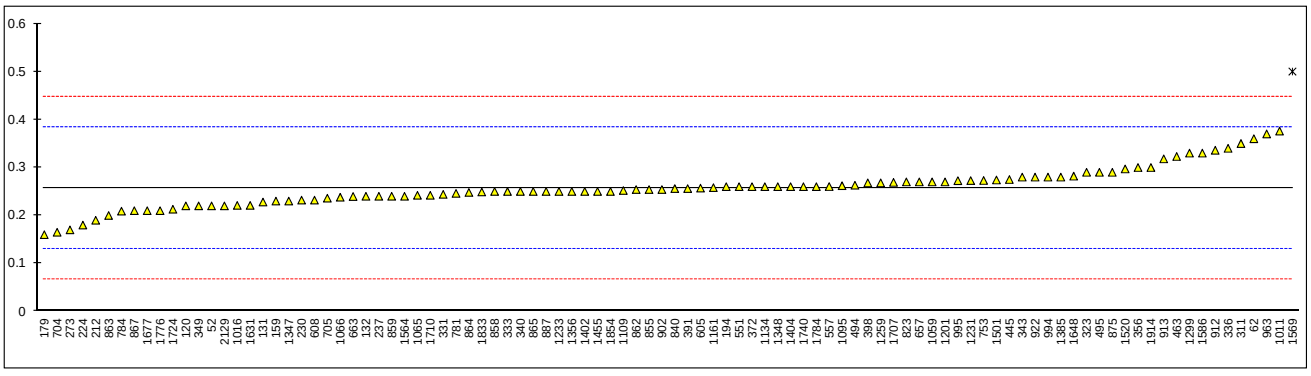
Lab 224 first reported: 0.51

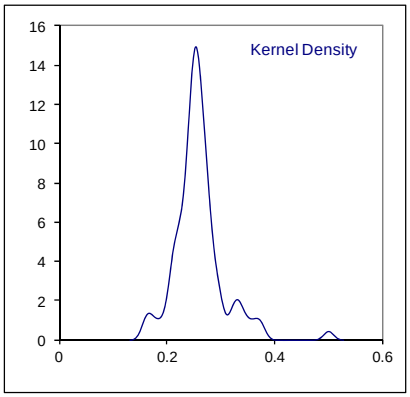
Lab 495 first reported: 0.42

Lab 1011 first reported: 0.4290

Lab 1556 first reported: 1.89

Lab 1776 first reported: 2.50





Determination of API Gravity on sample #14001;

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
52	D4052	9.8		0.07	922		-----		-----
62	D4052	9.7		-0.49	962		-----		-----
90	D1298	9.8		0.07	963	D4052	9.83		0.24
92		-----		-----	971		9.83		0.24
120	D4052	9.8		0.07	974	Calc.	9.84		0.30
131	D4052	9.7		-0.49	982	Calc.	9.84		0.30
132	D4052	9.82		0.19	993	D1250	9.75		-0.21
154	D287	9.6		-1.05	994	D1250	9.77		-0.09
159	D4052	9.7		-0.49	995	Conv.	9.79		0.02
168	D287	9.8	C	0.07	996		-----		-----
169	D1298	9.8		0.07	997		-----		-----
171	D287	9.9		0.63	1011		-----		-----
175	D4052	9.8		0.07	1016		-----		-----
179	D4052	9.8		0.07	1022		-----		-----
193		-----		-----	1059	Calc.	9.591		-1.10
194	D4052	9.71		-0.43	1062		-----		-----
212		-----		-----	1065		-----		-----
221		-----		-----	1066		9.84		0.30
224	D1298	9.69		-0.54	1095		-----		-----
225		-----		-----	1109		-----		-----
228	Conv.	9.92		0.75	1121		9.77		-0.09
230		-----		-----	1126		-----		-----
237	D4052	9.8		0.07	1131		-----		-----
238		-----		-----	1134	Calc.	9.82		0.19
252		-----		-----	1161	D287	9.93	C	0.80
253		9.93		0.80	1167		-----		-----
254		-----		-----	1177		-----		-----
256		-----		-----	1201		9.84		0.30
273		-----		-----	1205		-----		-----
311		-----		-----	1215	D1298	9.8		0.07
313		-----		-----	1231	D1298	10.2	C,G(0.01)	2.31
323		-----		-----	1233		-----		-----
331		9.80		0.07	1259		9.68		-0.60
333		-----		-----	1266		-----		-----
334		-----		-----	1269		-----		-----
336		-----		-----	1271		-----		-----
337		-----		-----	1275		-----		-----
340		-----		-----	1299		-----		-----
343		-----		-----	1337		-----		-----
349		-----		-----	1340		-----		-----
351		-----		-----	1347	D4052	9.79		0.02
353		-----		-----	1348		9.77		-0.09
356		-----		-----	1356		-----		-----
360	ISO12185	9.84		0.30	1381		-----		-----
370		-----		-----	1385		9.8		0.07
372	D4052	9.84		0.30	1395		-----		-----
391		9.89		0.58	1402	D4052	9.73		-0.32
398		-----		-----	1403		-----		-----
399		8.79	G(0.01)	-5.58	1404		-----		-----
440		-----		-----	1412		-----		-----
444		-----		-----	1419		-----		-----
445		-----		-----	1428		9.74		-0.26
447	Calc.	9.83		0.24	1431		-----		-----
463		9.84		0.30	1455		9.8		0.07
494		9.76		-0.15	1459		-----		-----
495		9.72		-0.37	1460		-----		-----
507		-----		-----	1501	Calc.	9.76		-0.15
511	D4052	9.8		0.07	1510		-----		-----
529	D287	9.63		-0.88	1520		9.795		0.05
541	D5002	10.0		1.19	1539		-----		-----
551	D4052	9.7		-0.49	1543		-----		-----
557	D1250	9.7		-0.49	1556		-----		-----
562	D1298	9.6		-1.05	1564		-----		-----
575		-----		-----	1569		-----		-----
603	D4052	9.73		-0.32	1586		9.83		0.24
604	D4052	9.75		-0.21	1610		-----		-----
605	D4052	9.73		-0.32	1613	D4052	9.75		-0.21
607		-----		-----	1622	D4052	9.8		0.07
608	D4052	9.73		-0.32	1631		-----		-----
631	D4052	9.82		0.19	1636		-----		-----
634	D1298	9.760		-0.15	1643		-----		-----
657	ISO12185	9.8		0.07	1648		-----		-----
663	D4052	9.79		0.02	1650		-----		-----
671	D287	10.0		1.19	1654		-----		-----

704	D1250	9.83	0.24
705	D1250	9.74	-0.26
732		-----	-----
750		-----	-----
753	D1250	9.793	0.04
781	D1250	9.714	-0.41
784	D1250	9.72	-0.37
785		-----	-----
791		-----	-----
823	D4052	9.78	-0.04
824		-----	-----
840	ISO12185	9.78	-0.04
851		-----	-----
855	D1298	9.84	0.30
858	D1298	9.83	0.24
859	D1298	9.84	0.30
862	D287	9.83	0.24
863	ISO12185	9.81	0.13
864		9.84	0.30
865	ISO3675	9.84	0.30
867	D1298	9.81	0.13
873	D1250	9.798	0.06
874		-----	-----
875		-----	-----
886		-----	-----
887		-----	-----
902	D4052	9.65	-0.77
904	Conv.	9.7	-0.49
912		9.844	0.32
913	D287	9.85	0.35

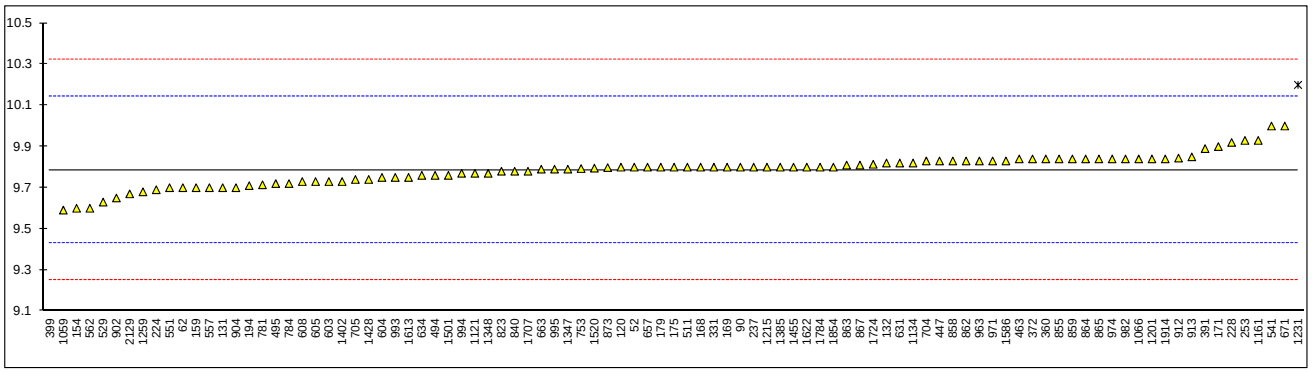
normality	not OK
n	93
outliers	2
mean (n)	9.787
st.dev. (n)	0.0746
R(calc.)	0.209
R(ISO12185:96)	0.500

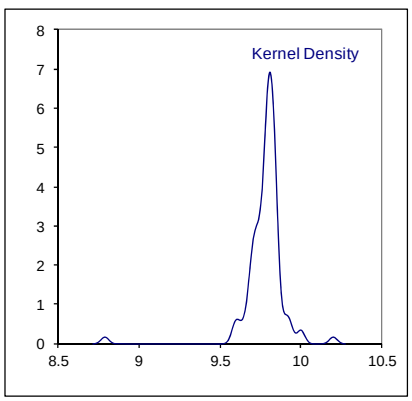
1677		-----	-----
1681		-----	-----
1707		9.78	-0.04
1710		-----	-----
1720		-----	-----
1724	D4052	9.814	0.15
1740		-----	-----
1761		-----	-----
1773		-----	-----
1774		-----	-----
1775		-----	-----
1776		-----	-----
1784		9.8	0.07
1807		-----	-----
1810		-----	-----
1811		-----	-----
1832		-----	-----
1833		-----	-----
1842		-----	-----
1849		-----	-----
1854		9.8	0.07
1906		-----	-----
1914	Calc.	9.84	0.30
1915		-----	-----
1936		-----	-----
1937		-----	-----
1938		-----	-----
1942		-----	-----
1948		-----	-----
1951		-----	-----
2129	Calc.	9.67	-0.65

Lab 168 first reported: 9.4

Lab 1161 first reported: 10.28

Lab 1231 first reported: 10.7





Determination of Ash on sample #14001; results in %M/M

lab	method	value	mark	ash	z(targ)	lab	method	value	mark	ash temp	z(targ)
52	D482	0.025		750	0.62	922	D482	0.019		-----	-2.74
62	D482	0.022		-----	-1.06	962		-----		-----	-----
90	D482	0.0208		-----	-1.73	963	ISO6245	0.019		800	-2.74
92	D482	0.023		775	-0.50	971	ISO6245	0.0234		750	-0.28
120	D482	0.026		775	1.18	974	D482	0.025		750	0.62
131	D482	0.022		780	-1.06	982		-----		-----	-----
132	ISO6245	0.0221		775	-1.01	993		-----		-----	-----
154	D482	0.0233		-----	-0.33	994	D482	0.028		775	2.30
159	D482	0.026		775	1.18	995	D482	0.0250		750	0.62
168	D482	0.0218		-----	-1.17	996	D482	0.0276		775	2.07
169	D482	0.0400	G(0.01)	775	9.02	997	D482	0.0236		-----	-0.17
171	D482	0.0320		-----	4.54	1011	D482	0.020		-----	-2.18
175	D482	0.024		775	0.06	1016	D482	0.0280	C	-----	2.30
179	D482	0.027		-----	1.74	1022	ISO6245	0.0205		775	-1.90
193		-----		-----	-----	1059	ISO6245	0.019		-----	-2.74
194	ISO6245	0.0208		775	-1.73	1062		-----		-----	-----
212	ISO6245	0.029		775	2.86	1065	D482	0.024		-----	0.06
221		-----		-----	-----	1066	ISO6245	0.021		775	-1.62
224		-----		-----	-----	1095	ISO6245	0.021		-----	-1.62
225	D482	0.026		780	1.18	1109	D482	0.0224	C	800	-0.84
228	D482	0.0281		-----	2.35	1121	IP4	0.02		775	-2.18
230	ISO6245	0.0258		775	1.07	1126		-----		-----	-----
237	D482	0.025		775	0.62	1131	ISO6245	0.0227		775	-0.67
238		-----		-----	-----	1134	IP4	0.019		775	-2.74
252	D482	0.02172		775	-1.22	1161	ISO6245	0.033		800	5.10
253		-----		-----	-----	1167	ISO6245	0.0244		-----	0.28
254	D482	0.0234		775	-0.28	1177		-----		-----	-----
256	D482	<0.03		750	-----	1201	ISO6245	0.018	ex	**725**	-3.30
273	D482	0.019		-----	-2.74	1205		-----		-----	-----
311	ISO6245	0.027		775	1.74	1215	D482	0.0251		-----	0.67
313		-----		-----	-----	1231	D482	0.0225		-----	-0.78
323	ISO6245	0.024		750	0.06	1233	ISO6245	0.026		775	1.18
331	ISO6245	0.0262		775	1.29	1259	ISO6245	0.01741		-----	-3.63
333	ISO6245	0.011	DG(0.05)	-----	-7.22	1266	ISO6245	0.028		776	2.30
334		-----		-----	-----	1269		-----		-----	-----
336		-----		-----	-----	1271	ISO6245	0.022		750	-1.06
337		-----		-----	-----	1275	IP4	0.0209		775	-1.68
340		-----		-----	-----	1299	D482	0.220	G(0.01)	-----	109.82
343	ISO6245	0.024	C	775	0.06	1337		-----		-----	-----
349		-----		-----	-----	1340	ISO6245	0.019		775	-2.74
351	ISO6245	0.0229		775	-0.56	1347	D482	0.0251		-----	0.67
353		-----		-----	-----	1348	D482	0.0168		775	-3.97
356		-----		-----	-----	1356	ISO6245	0.027		775	1.74
360	ISO6245	0.0219		800	-1.12	1381	ISO6245	0.0220		790	-1.06
370	ISO6245	0.0252		775.0	0.73	1385	D482	0.0330		775	5.10
372	ISO6245	0.0236		780	-0.17	1395	D482	0.023		-----	-0.50
391	ISO6245	0.024		775	0.06	1402	ISO6245	0.020		775	-2.18
398	ISO6245	0.0198		775	-2.29	1403		-----		-----	-----
399	ISO6245	0.020		-----	-2.18	1404	ISO6245	0.023		775	-0.50
440		-----		-----	-----	1412		-----		-----	-----
444	D482	0.0229	C	750	-0.56	1419	ISO6245	0.027		775	1.74
445	IP4	0.023		775	-0.50	1428	ISO6245	0.024		775	0.06
447	ISO6245	0.044	G(0.01)	775	11.26	1431	D482	0.0217		800	-1.23
463	ISO6245	0.0249		775	0.56	1455	ISO6245	0.018		775	-3.30
494	ISO6245	0.0186		775	-2.97	1459		-----		-----	-----
495	ISO6245	0.0319		750	4.48	1460		-----		-----	-----
507		-----		-----	-----	1501	ISO6245	0.0219		775	-1.12
511	D482	0.0229		-----	-0.56	1510	ISO6245	0.067	G(0.01)	-----	24.14
529	D482	0.0228		790	-0.61	1520	ISO6245	0.0264		775	1.40
541	ISO6245	0.027		-----	1.74	1539	ISO6245	0.023		775	-0.50
551	D482	0.01767		775	-3.49	1543		-----		-----	-----
557	D482	0.0195		750	-2.46	1556	ISO6245	0.0107	DG(0.05)	750	-7.39
562	D482	0.0209		780	-1.68	1564	D482	0.027		-----	1.74
575		-----		-----	-----	1569	ISO6245	0.0222		773	-0.95
603		-----		-----	-----	1586	ISO6245	0.0164		-----	-4.20
604		-----		-----	-----	1610		-----		-----	-----
605	D482	0.0243		775	0.23	1613	D482	0.0269		775	1.68
607	D482	0.0242		775	0.17	1622		-----		-----	-----
608	D482	0.0229		-----	-0.56	1631	ISO6245	0.023		-----	-0.50
631	D482	0.0231		750	-0.45	1636	ISO6245	0.0256		-----	0.95
634	D482	0.0228		775.0	-0.61	1643	D482	0.0194		-----	-2.52
657	ISO6245	0.029		775	2.86	1648	ISO6245	0.022		-----	-1.06
663	D482	0.0226		785	-0.73	1650	ISO6245	0.0232		775	-0.39
671	D482	0.023	C	-----	-0.50	1654	ISO6245	0.0225		770	-0.78

704	D482	0.0210		775	-1.62
705	ISO6245	0.0254		775	0.84
732	D482	0.027		750.0	1.74
750		-----		-----	-----
753	D482	0.0205		775	-1.90
781	ISO6245	0.0231		775	-0.45
784	ISO6245	0.033		775.0	5.10
785		-----		-----	-----
791		-----		-----	-----
823	ISO6245	0.025		750	0.62
824	ISO6245	0.036		-----	6.78
840	D482	0.0264		775	1.40
851	ISO6245	0.03218		775	4.64
855	D482	0.0231		775	-0.45
858	D482	0.0253		775	0.79
859	ISO6245	0.0243		775	0.23
862	ISO6245	0.0271		775	1.79
863	ISO6245	0.0230		775	-0.50
864	D482	0.0242		775	0.17
865	ISO6245	0.024		775	0.06
867	D482	0.0231		775	-0.45
873	ISO6245	0.0274		775	1.96
874	D482	0.0267		775	1.57
875	D482	0.032		775	4.54
886		-----		-----	-----
887		-----		-----	-----
902	D482	0.0243		775	0.23
904	ISO6245	0.0246		-----	0.39
912	ISO6245	0.020		-----	-2.18
913	D482	0.021		-----	-1.62

normality	not OK	
n	151	
outliers	6	+ 2 excl
mean (n)	0.0239	
st.dev. (n)	0.00358	
R(calc.)	0.0100	
R(ISO6245:01)	0.0050	

1677	D482	0.03		750	3.42
1681	ISO6245	0.0255	C	750	0.90
1707	ISO6245	0.0241		775	0.11
1710	ISO6245	0.0245		775.0	0.34
1720		-----		-----	-----
1724	D482	0.024		775	0.06
1740	ISO6245	0.023		775	-0.50
1761		-----		-----	-----
1773	ISO6245	0.024		770	0.06
1774		-----		-----	-----
1775	ISO12879	0.23	C, ex	**550**	115.42
1776		-----		-----	-----
1784	ISO6245	0.025		775	0.62
1807	ISO6245	0.0224		-----	-0.84
1810		-----		-----	-----
1811	ISO6245	0.028		-----	2.30
1832	ISO6245	0.0270		-----	1.74
1833	ISO6245	0.024		-----	0.06
1842	IP4	0.0254		-----	0.84
1849	ISO6245	0.0229		-----	-0.56
1854	ISO6245	0.024		800	0.06
1906		-----		-----	-----
1914	ISO6245	0.021		750	-1.62
1915		-----		-----	-----
1936		-----		-----	-----
1937		-----		-----	-----
1938		-----		-----	-----
1942	D482	0.0261		-----	1.23
1948	ISO6245	0.0313		775	4.15
1951	ISO6245	0.0134	C	800	-5.88
2129	ISO6245	0.0200		-----	-2.18

Acceptable oven range: 775 ± 25 ºC

Lab 343 first reported: 0.0124

Lab 444 first reported: 0.00226

Lab 671 first reported: 0.05095

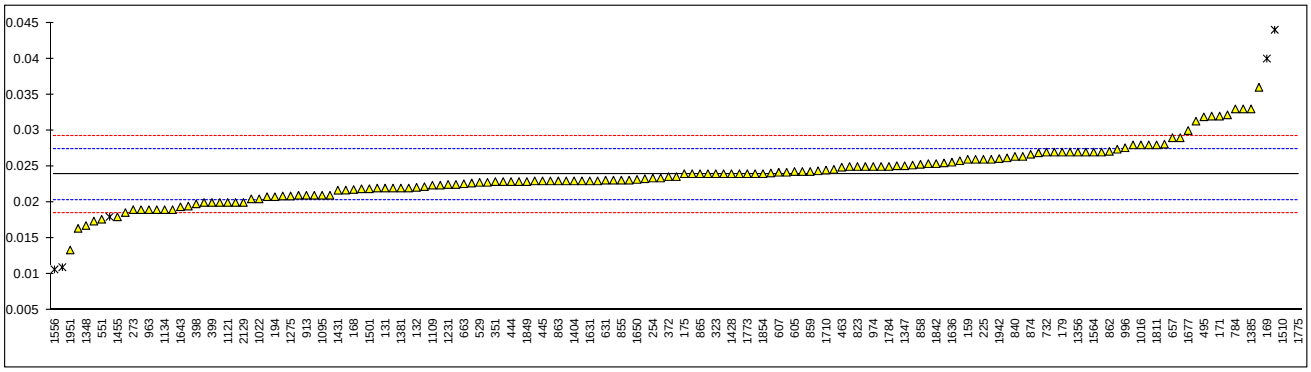
Lab 1016 first reported: 0.0347

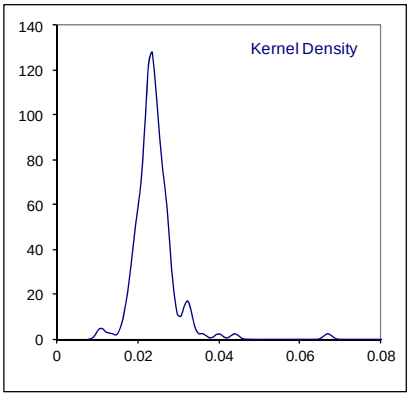
Lab 1109 first reported: 0.224

Lab 1681 first reported: 0.0348

Lab 1775 first reported: 0.21

Lab 1951 first reported: 0.0341





Determination of Asphaltenes on sample #14001; results in %M/M

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
52	IP143	8.0		-0.41	922		-----		-----
62	IP143	9.57	C	2.25	962		-----		-----
90	IP143	7.646		-1.01	963	IP143	9.15		1.54
92		-----		-----	971	IP143	8.42		0.30
120	D3279	8.2	see §4.1	-0.07	974	IP143	7.58		-1.13
131	IP143	7.9		-0.58	982		-----		-----
132	IP143	7.84		-0.69	993		-----		-----
154	D6560	8.7012		0.78	994	IP143	7.65		-1.01
159	D3279	9.57	see §4.1	2.25	995	IP143	7.8665		-0.64
168	D3279	8.32	see §4.1	0.13	996		-----		-----
169		-----		-----	997		-----		-----
171	IP143	7.88		-0.62	1011	in house	7.7		-0.92
175		-----		-----	1016		-----		-----
179		-----		-----	1022	IP143	8.72	C	0.81
193		-----		-----	1059		-----		-----
194	IP143	8.15		-0.16	1062	IP143	12.34	G(0.01)	6.96
212		-----		-----	1065		-----		-----
221		-----		-----	1066	IP143	9.7		2.47
224		-----		-----	1095	IP143	8.6		0.61
225	D6560	7.7		-0.92	1109		-----		-----
228		-----		-----	1121	IP143	8.9		1.11
230	IP143	8.01		-0.40	1126		-----		-----
237		-----		-----	1131		-----		-----
238		-----		-----	1134	IP143	9.03		1.34
252		-----		-----	1161		-----		-----
253		-----		-----	1167		-----		-----
254		-----		-----	1177		-----		-----
256		-----		-----	1201	IP143	7.11		-1.93
273		-----		-----	1205		-----		-----
311	IP143	8.0		-0.41	1215	IP143	7.917		-0.55
313		-----		-----	1231	IP143	6.439	C,DG(0.05)	-3.06
323	IP143	8.5		0.44	1233		-----		-----
331		-----		-----	1259	IP143	8.549		0.52
333		-----		-----	1266		-----		-----
334	IP143	7.9		-0.58	1269		-----		-----
336		-----		-----	1271	IP143	8.90		1.11
337		-----		-----	1275		-----		-----
340		-----		-----	1299	IP143	6.25	DG(0.05)	-3.39
343	IP143	11.146	C,G(0.01)	4.93	1337		-----		-----
349		-----		-----	1340		-----		-----
351		-----		-----	1347	IP143	8.590		0.59
353		-----		-----	1348	IP143	8.79		0.93
356		-----		-----	1356	D6560	8.25		0.01
360	IP143	8.24		-0.01	1381		-----		-----
370	IP143	7.58		-1.13	1385	IP143	8.22		-0.04
372	IP143	7.8		-0.75	1395		-----		-----
391	IP143	7.4		-1.43	1402	IP143	7.6		-1.09
398	IP143	8.064		-0.30	1403		-----		-----
399		-----		-----	1404	in house	8.105		-0.24
440		-----		-----	1412	IP143	7.95		-0.50
444	IP143	3.77	C,G(0.01)	-7.60	1419		-----		-----
445	IP143	8.9		1.11	1428		-----		-----
447	IP143	7.83		-0.70	1431	D6560	8.20		-0.07
463		-----		-----	1455	IP143	7.7		-0.92
494	IP143	8.45		0.35	1459		-----		-----
495	IP143	8.67		0.72	1460		-----		-----
507		-----		-----	1501	IP143	8.02		-0.38
511	D6560	7.0253		-2.07	1510		-----		-----
529		-----		-----	1520	IP143	7.66		-0.99
541		-----		-----	1539		-----		-----
551		-----		-----	1543		-----		-----
557	D6560	8.042		-0.34	1556	IP143	7.88		-0.62
562		-----		-----	1564	IP143	9.4		1.96
575		-----		-----	1569	IP143	9.03		1.34
603		-----		-----	1586	IP143	7.70		-0.92
604		-----		-----	1610		-----		-----
605	IP143	8.39		0.25	1613	D6560	7.083		-1.97
607	IP143	8.26		0.03	1622	IP143	8.87		1.06
608	IP143	9.25		1.71	1631		-----		-----
631	IP143	8.09		-0.26	1636		-----		-----
634		-----		-----	1643		-----		-----
657	IP143	9.0		1.28	1648		-----		-----
663	IP143	8.01		-0.40	1650		-----		-----
671		-----		-----	1654		-----		-----

704	IP143	7.76	-0.82
705	IP143	8.35	0.18
732		-----	-----
750		-----	-----
753	IP143	8.40	0.27
781	IP143	8.60	0.61
784	IP143	7.99	-0.43
785		-----	-----
791		-----	-----
823	IP143	7.87	-0.63
824		-----	-----
840	IP143	8.45	0.35
851		-----	-----
855	IP143	7.92	-0.55
858	IP143	7.64	-1.02
859	IP143	7.755	-0.83
862	IP143	7.89	-0.60
863	IP143	8.00	-0.41
864	IP143	7.76	-0.82
865	IP143	8.22	-0.04
867	IP143	8.02	-0.38
873	IP143	8.84	1.01
874	IP143	8.889	1.10
875		-----	-----
886		-----	-----
887		-----	-----
902	IP143	7.88	-0.62
904	IP143	8.0	-0.41
912		-----	-----
913	IP143	9.158	1.55
1677	IP143	9.72	2.51
1681		-----	-----
1707		-----	-----
1710	IP143	8.65	0.69
1720		-----	-----
1724		-----	-----
1740	IP143	8.19	-0.09
1761		-----	-----
1773		-----	-----
1774		-----	-----
1775		-----	-----
1776		-----	-----
1784	IP143	8.21	-0.06
1807		-----	-----
1810		-----	-----
1811		-----	-----
1832		-----	-----
1833		-----	-----
1842	IP143	7.97	-0.46
1849		-----	-----
1854	IP143	8.12	-0.21
1906		-----	-----
1914	IP143	8.3	0.10
1915		-----	-----
1936		-----	-----
1937		-----	-----
1938		-----	-----
1942		-----	-----
1948		-----	-----
1951	IP143	8.52	0.47
2129	IP143	8.09	-0.26

normality	OK
n	94
outliers	5
mean (n)	8.244
st.dev. (n)	0.5681
R(calc.)	1.591
R(IP143:04)	1.649

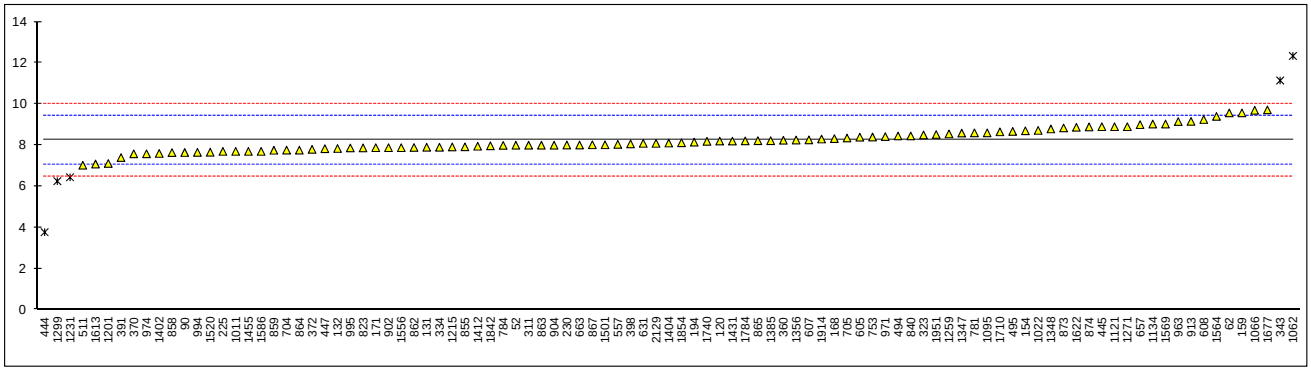
Lab 62 first reported: 14.8

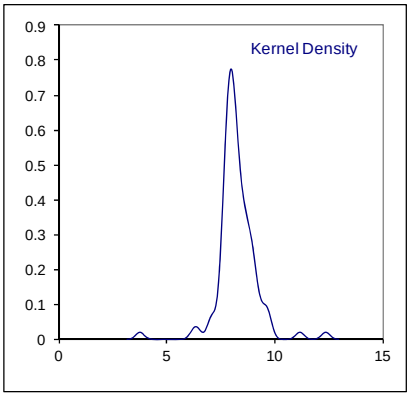
Lab 343 first reported: 10.07

Lab 444 first reported: 12.38

Lab 1022 first reported: 6.05

Lab 1231 first reported: 4.0445





Determination of Calculated Carbon Aromaticity Index on sample #14001;

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
52	ISO8217	860		0.96	922		859.1		-0.14
62		-----		-----	962		-----		-----
90		-----		-----	963	ISO8217	859.0		-0.26
92		-----		-----	971		859.4		0.23
120	ISO8217	859		-0.26	974	Calc.	859		-0.26
131	ISO8217	860.2		1.20	982		-----		-----
132	ISO8217	859		-0.26	993		-----		-----
154		-----		-----	994		-----		-----
159		860		0.96	995		-----		-----
168		-----		-----	996		-----		-----
169		-----		-----	997		-----		-----
171	ISO8217	859	C	-0.26	1011		-----		-----
175		-----		-----	1016		-----		-----
179		-----		-----	1022		-----		-----
193		-----		-----	1059		-----		-----
194	ISO8217	860		0.96	1062		-----		-----
212	ISO8217	859		-0.26	1065		-----		-----
221		-----		-----	1066		-----		-----
224		-----		-----	1095		-----		-----
225	Calc.	859.3		0.11	1109		-----		-----
228		859		-0.26	1121	ISO8217	860		0.96
230	ISO8217	859.4		0.23	1126		-----		-----
237		-----		-----	1131		-----		-----
238		-----		-----	1134	ISO8217	858.8		-0.50
252		-----		-----	1161		-----		-----
253		-----		-----	1167		-----		-----
254	ISO8217	860		0.96	1177		-----		-----
256	in house	859.0		-0.26	1201		859		-0.26
273		-----		-----	1205		-----		-----
311		859		-0.26	1215		-----		-----
313		-----		-----	1231	Calc.	856	C,G(0.01)	-3.91
323		858.89		-0.39	1233		-----		-----
331		859		-0.26	1259		-----		-----
333		-----		-----	1266		-----		-----
334		-----		-----	1269		-----		-----
336		860		0.96	1271		-----		-----
337		-----		-----	1275		-----		-----
340		-----		-----	1299		-----		-----
343		-----		-----	1337		-----		-----
349		-----		-----	1340		-----		-----
351	ISO8217	858.18		-1.26	1347		-----		-----
353		-----		-----	1348		858.94		-0.33
356		-----		-----	1356		-----		-----
360	ISO8217	859.1		-0.14	1381		-----		-----
370		-----		-----	1385		859.6		0.47
372	ISO8217	859		-0.26	1395		-----		-----
391		858.9		-0.38	1402		860		0.96
398	ISO8217	859		-0.26	1403		-----		-----
399		-----		-----	1404		859		-0.26
440		-----		-----	1412		-----		-----
444		-----		-----	1419		-----		-----
445		-----		-----	1428		-----		-----
447	Calc.	889	G(0.01)	36.26	1431		-----		-----
463	ISO8217	858.8		-0.50	1455		859		-0.26
494		859		-0.26	1459		-----		-----
495		860		0.96	1460		-----		-----
507		-----		-----	1501	ISO8217	859.4		0.23
511		-----		-----	1510		858.3		-1.11
529		-----		-----	1520		859.0		-0.26
541		-----		-----	1539		-----		-----
551		-----		-----	1543		-----		-----
557		859.4		0.23	1556		-----		-----
562		-----		-----	1564		-----		-----
575		-----		-----	1569		-----		-----
603		-----		-----	1586		860	ex, E	0.96
604		-----		-----	1610		-----		-----
605		-----		-----	1613		-----		-----
607		-----		-----	1622		-----		-----
608		-----		-----	1631		-----		-----
631	ISO8217	859		-0.26	1636		-----		-----
634		-----		-----	1643		-----		-----
657	ISO8217	859.2		-0.02	1648	Calc.	857.4		-2.21
663	Calc.	860		0.96	1650		-----		-----
671		-----		-----	1654		-----		-----

704	ISO8217	859		-0.26
705	ISO8217	860		0.96
732		-----		-----
750		-----		-----
753	ISO8217	860.7	ex, E	1.81
781	ISO8217	859.8		0.71
784	ISO8217	859.7		0.59
785		-----		-----
791		-----		-----
823		859		-0.26
824		-----		-----
840	ISO8217	859.44		0.28
851	ISO8217	858.73		-0.59
855	ISO8217	858.9		-0.38
858	ISO8217	859.5		0.35
859	ISO8217	859.0		-0.26
862	ISO8217	859.2		-0.02
863	ISO8217	859.0		-0.26
864	ISO8217	859.0		-0.26
865	ISO8217	859.75		0.65
867	ISO8217	859.0		-0.26
873	ISO8217	859.2		-0.02
874	ISO8217	859.0		-0.26
875		-----		-----
886		-----		-----
887		-----		-----
902		-----		-----
904		-----		-----
912		857	G(0.01)	-2.69
913		-----		-----

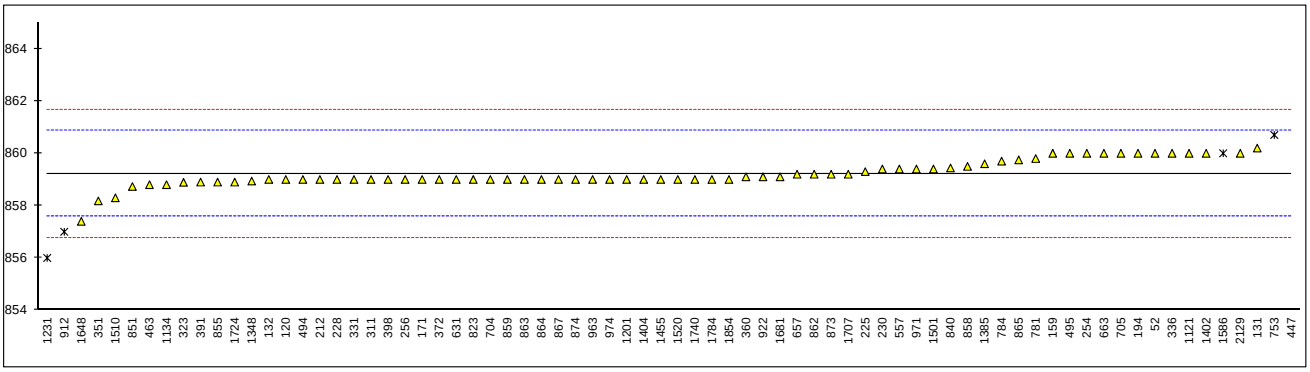
1677		-----	-----
1681	ISO8217	859.1	-0.14
1707		859.2	-0.02
1710		-----	-----
1720		-----	-----
1724		858.9	-0.38
1740	ISO8217	859	-0.26
1761		-----	-----
1773		-----	-----
1774		-----	-----
1775		-----	-----
1776		-----	-----
1784		859	-0.26
1807		-----	-----
1810		-----	-----
1811		-----	-----
1832		-----	-----
1833		-----	-----
1842		-----	-----
1849		-----	-----
1854		859	-0.26
1906		-----	-----
1914		-----	-----
1915		-----	-----
1936		-----	-----
1937		-----	-----
1938		-----	-----
1942		-----	-----
1948		-----	-----
1951		-----	-----
2129	Calc.	860	0.96

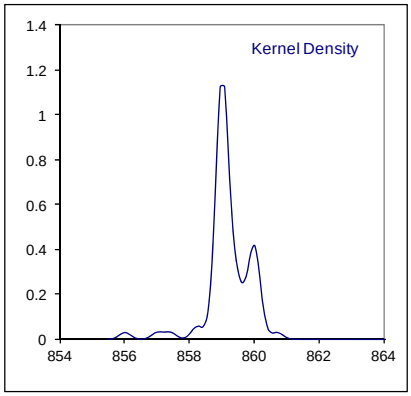
normality	not OK	
n	69	
outliers	3	+ 2 excl.
mean (n)	859.21	
st.dev. (n)	0.495	
R(calc.)	1.38	
R(ISO8217:12)	2.30	

ex = excluded, see § 4.1 probably calculation error

Lab 171 probably unit error, reported 8.59

Lab 1231 first reported: 853





Determination of Conradson Carbon Residue on sample #14001; results in %M/M

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
52		-----		-----	922	D189	15.50		-0.22
62		-----		-----	962		-----		-----
90		-----		-----	963	D189	16.8		1.25
92		-----		-----	971	D189	15.11		-0.66
120		-----		-----	974		-----		-----
131		-----		-----	982		-----		-----
132		-----		-----	993		-----		-----
154	D189	15.4351		-0.29	994	D189	15.85		0.18
159		-----		-----	995	D189	15.8761		0.21
168		-----		-----	996	D189	15.73		0.04
169		-----		-----	997	D189	15.243		-0.51
171	D189	15.505		-0.21	1011		-----		-----
175		-----		-----	1016		-----		-----
179	D189	7.01	G(0.01)	-9.85	1022		-----		-----
193		-----		-----	1059		-----		-----
194		-----		-----	1062		-----		-----
212		15.63		-0.07	1065		-----		-----
221		-----		-----	1066		-----		-----
224		-----		-----	1095		-----		-----
225		-----		-----	1109		-----		-----
228	D189	15.99		0.34	1121		-----		-----
230	D189	16.02		0.37	1126		-----		-----
237	D189	15.09		-0.69	1131		-----		-----
238		-----		-----	1134	IP13	15.40		-0.33
252	D189	15.27		-0.48	1161		-----		-----
253		-----		-----	1167		-----		-----
254	D189	15.26		-0.49	1177		-----		-----
256	D189	15.80	C	0.12	1201	D4530	16.67		1.11
273	D189	15.85		0.18	1205		-----		-----
311		-----		-----	1215		-----		-----
313		-----		-----	1231		-----		-----
323		-----		-----	1233		-----		-----
331		-----		-----	1259	D189	16.321		0.71
333		-----		-----	1266		-----		-----
334		-----		-----	1269		-----		-----
336		-----		-----	1271		-----		-----
337		-----		-----	1275		-----		-----
340		-----		-----	1299	D4530	14.90		-0.90
343		-----		-----	1337		-----		-----
349		-----		-----	1340		-----		-----
351		-----		-----	1347	D189	15.743		0.06
353		-----		-----	1348		-----		-----
356		-----		-----	1356		-----		-----
360	D189	15.73		0.04	1381		-----		-----
370	D189	15.61		-0.10	1385		-----		-----
372	D189	15.8		0.12	1395		-----		-----
391		-----		-----	1402	D189	15.71		0.02
398	D189	15.63		-0.07	1403		-----		-----
399		-----		-----	1404		-----		-----
440		-----		-----	1412	D189	15.97		0.31
444	D189	30.999	C,G(0.01)	17.36	1419		-----		-----
445	D189	16.06		0.41	1428		-----		-----
447		-----		-----	1431	D524	12.16	G(0.01)	-4.01
463		-----		-----	1455		-----		-----
494		-----		-----	1459		-----		-----
495		-----		-----	1460		-----		-----
507		-----		-----	1501		-----		-----
511	D189	15.7581		0.07	1510	D189	15.36		-0.38
529		-----		-----	1520		-----		-----
541	D189	15.689		-0.01	1539	ISO6615	15.12		-0.65
551	D189	13.38		-2.62	1543		-----		-----
557	D524conv	15.0298		-0.75	1556		-----		-----
562	D189	16.04		0.39	1564		-----		-----
575		-----		-----	1569		-----		-----
603		-----		-----	1586	D189	15.8		0.12
604		-----		-----	1610		-----		-----
605		-----		-----	1613	D189	15.737		0.05
607		-----		-----	1622	D189	16.22		0.60
608		-----		-----	1631		-----		-----
631		-----		-----	1636		-----		-----
634	D189	15.097	C	-0.68	1643	D189	16.3851		0.78
657		-----		-----	1648	D189	14.055		-1.86
663		-----		-----	1650	D189	16.395		0.79
671		-----		-----	1654		-----		-----

704	D189	15.64	-0.06
705	D189	15.57	-0.14
732		-----	-----
750		-----	-----
753	D189	16.36	0.75
781	D189	15.61	-0.10
784		-----	-----
785		-----	-----
791		-----	-----
823	D189	15.11	-0.66
824		-----	-----
840	D189	16.17	0.54
851		-----	-----
855		-----	-----
858	D189	15.85	0.18
859	D189	16.10	0.46
862	D189	15.603	-0.10
863		-----	-----
864		-----	-----
865	D189	15.40	-0.33
867		-----	-----
873		-----	-----
874		-----	-----
875		-----	-----
886		-----	-----
887		-----	-----
902		-----	-----
904		-----	-----
912	D189	16.81	1.27
913	D189	15.59	-0.12

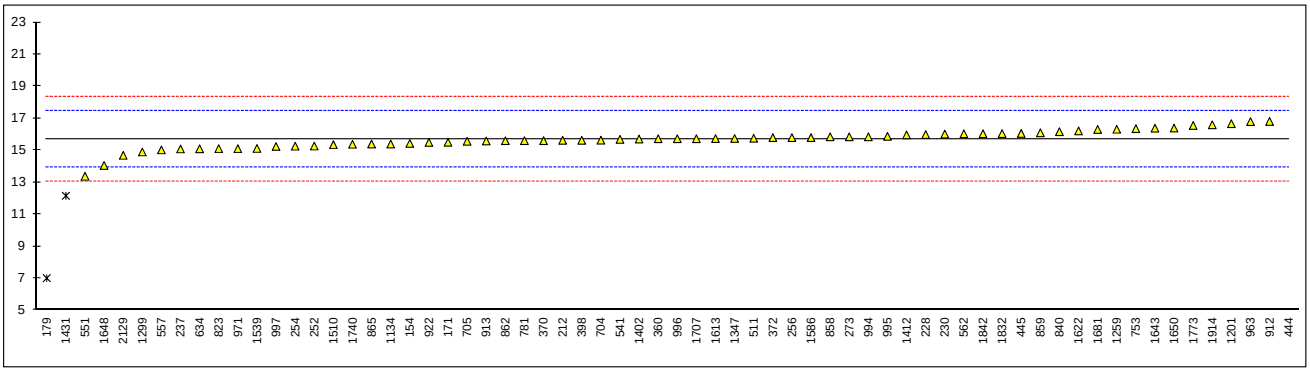
1677		-----	-----
1681	D189	16.31	0.70
1707	D189	15.73	0.04
1710		-----	-----
1720		-----	-----
1724		-----	-----
1740	D189	15.38	-0.36
1761		-----	-----
1773	ISO6615	16.56	0.98
1774		-----	-----
1775		-----	-----
1776		-----	-----
1784		-----	-----
1807		-----	-----
1810		-----	-----
1811		-----	-----
1832	ISO6615	16.050	0.40
1833		-----	-----
1842	D189	16.04	0.39
1849		-----	-----
1854		-----	-----
1906		-----	-----
1914	D189	16.6	1.03
1915		-----	-----
1936		-----	-----
1937		-----	-----
1938		-----	-----
1942		-----	-----
1948		-----	-----
1951		-----	-----
2129	D189	14.69	C -1.14

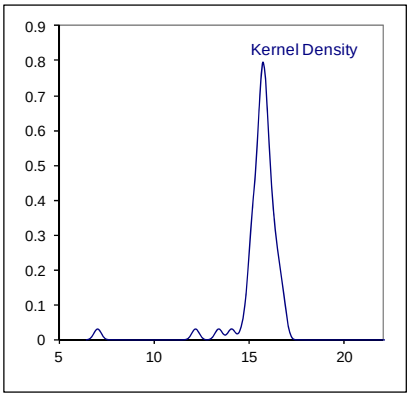
normality	OK
n	63
outliers	3
mean (n)	15.694
st.dev. (n)	0.5926
R(calc.)	1.659
R(D189:10)	2.469

Lab 256 first reported: 14.08 Lab 2129 first reported: 13.97

Lab 444 first reported: 20.018

Lab 634 first reported: 14.186





Determination of Density @ 15 °C on sample #14001; results in kg/m^3

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
52	D4052	1001.2		0.76	922	D4052	1000.1		-1.29
62	D4052	1001		0.39	962		-----		-----
90	D1298	1000.6		-0.36	963	ISO12185	1000.6		-0.36
92	D1298	1000.5		-0.54	971	ISO12185	1000.6		-0.36
120	ISO12185	1000.8		0.02	974	D4052	1000.5		-0.54
131	D4052	1001.2		0.76	982	D1298	1000.5		-0.54
132	D4052	1000.7		-0.17	993	ISO12185	1001.2		0.76
154		-----		-----	994	ISO12185	1001.0		0.39
159	D4052	1001.5		1.32	995	D4052	1000.92		0.24
168		-----		-----	996	D4052	1001.0		0.39
169		-----		-----	997	D4052	1001.0		0.39
171	ISO12185	1000.8	C	0.02	1011	D4052	1000.18		-1.14
175	D4052	1000.5		-0.54	1016		-----		-----
179	D4052	1000.3		-0.92	1022	ISO12185	1001.48		1.29
193		-----		-----	1059	ISO12185	1001.9		2.07
194	ISO12185	1001.4		1.14	1062	ISO12185	1001.7		1.70
212	ISO12185	1000.6		-0.36	1065		-----		-----
221		-----		-----	1066	ISO12185	1000.5		-0.54
224	D1298	1001.55		1.42	1095	ISO12185	1000.8		0.02
225	D4052	1000.4		-0.73	1109	D4052	1000.1		-1.29
228	D1298	1000.6		-0.36	1121	IP365	1000.8	C	0.02
230	ISO3675	1000.9		0.20	1126	ISO12185	999.7		-2.04
237	D4052	1000.3		-0.92	1131	ISO12185	1000.95		0.30
238		-----		-----	1134	IP365	1000.7		-0.17
252		-----		-----	1161	ISO3675	1000.50	C	-0.54
253	D4052	999.9		-1.66	1167	ISO12185	1000.7		-0.17
254	D1298	1001.2		0.76	1177		-----		-----
256	D1298	1001.0		0.39	1201	ISO12185	1000.5		-0.54
273	ISO12185	1000.3		-0.92	1205		-----		-----
311	ISO12185	1000.5		-0.54	1215	D1298	1000.8		0.02
313	ISO12185	1000.4		-0.73	1231	D1298	998.0	C,G(0.01)	-5.21
323	ISO12185	1000.9		0.20	1233	ISO12185	1000.6		-0.36
331	ISO12185	1000.5		-0.54	1259	ISO3675	1001.6		1.51
333	ISO12185	1000.6		-0.36	1266	ISO3675	1001.9		2.07
334	D4052	1000.7		-0.17	1269		-----		-----
336	ISO12185	1001.0		0.39	1271	ISO12185	1000.6		-0.36
337	ISO12185	1001.5		1.32	1275	IP365	1001.3		0.95
340	ISO12185	1001.30		0.95	1299	ISO12185	1000.7		-0.17
343	ISO12185	1000.45		-0.64	1337		-----		-----
349		-----		-----	1340	D3675	1000.8		0.02
351	ISO3675	999.8		-1.85	1347	D4052	1000.6		-0.36
353	IP365	1000.5		-0.54	1348	D4052	1000.7		-0.17
356	ISO12185	1000.6	C	-0.36	1356	ISO12185	1000.6		-0.36
360	ISO12185	1000.5		-0.54	1381	ISO12185	1000.76		-0.06
370	ISO12185	1001.1		0.58	1385	D4052	1000.8		0.02
372	ISO12185	1000.5		-0.54	1395	ISO12185	1000.9	C	0.20
391	ISO12185	1000.2		-1.10	1402	ISO12185	1001.3		0.95
398	ISO12185	1000.7		-0.17	1403		-----		-----
399	ISO12185	1000.8		0.02	1404	ISO12185	1000.7		-0.17
440	D4052	1000.5		-0.54	1412	D4052	1001.0		0.39
444	D4052	1000.3		-0.92	1419	ISO12185	1001.0		0.39
445	IP365	1000.6		-0.36	1428	ISO12185	1000.9	C	0.20
447	ISO12185	1000.6		-0.36	1431	D4052	1001.1		0.58
463	ISO12185	1000.5		-0.54	1455	ISO12185	1000.6		-0.36
494	ISO12185	1001.1		0.58	1459	ISO12185	1001.4		1.14
495	ISO12185	1001.1		0.58	1460		-----		-----
507		-----		-----	1501	ISO12185	1001.1		0.58
511	D4052	1000.8		0.02	1510	ISO12185	1000.1	C	-1.29
529	D5002	1001.65		1.60	1520	ISO12185	1000.55		-0.45
541	ISO12185	1000		-1.48	1539	ISO3675	999.9		-1.66
551	D4052	1001.6		1.51	1543		-----		-----
557	D4052	1001.35		1.04	1556	ISO12185	1000.7		-0.17
562	D1298	1001.5	C	1.32	1564	D4052	1000.5		-0.54
575	D1298	999.75		-1.94	1569	ISO12185	1000.8		0.02
603	D1298	1001.7		1.70	1586	ISO12185	1000.6		-0.36
604	D4052	1000.9		0.20	1610	IP365	1000.2		-1.10
605	D1298	1001.2	C	0.76	1613	D4052	1000.9		0.20
607	D1298	1001.2	C	0.76	1622	D4052	1000.8	C	0.02
608	D4052	1000.9		0.20	1631	ISO12185	1000.4	C	-0.73
631	D4052	1000.7		-0.17	1636	ISO3675	1001.1		0.58
634	D1298	1001.1		0.58	1643	ISO12185	1002.3		2.82
657	ISO12185	1000.6		-0.36	1648	ISO3675	1001.0		0.39
663	D4052	1000.9	C	0.20	1650	ISO12185	1000.8		0.02
671	D1298	999.4		-2.60	1654	ISO12185	1000.6		-0.36

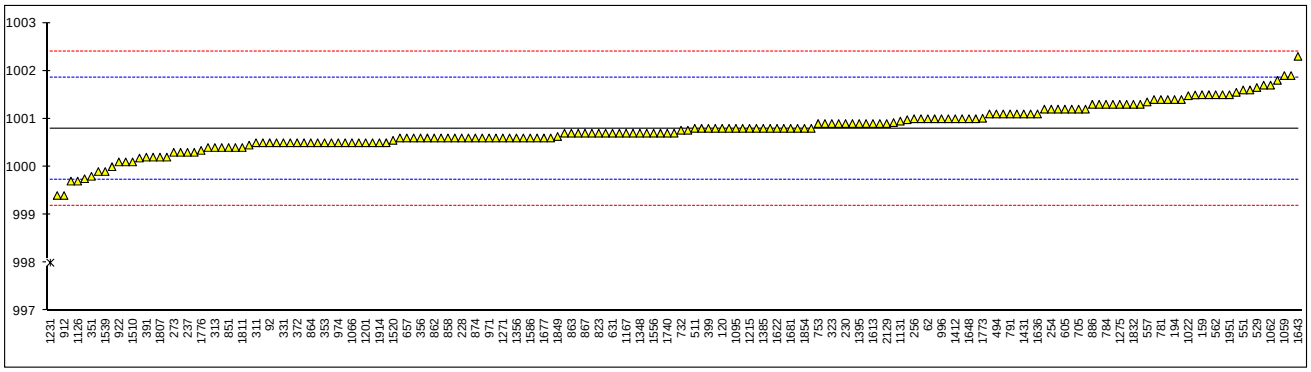
704	ISO12185	1000.6		-0.36
705	D1298	1001.2		0.76
732	ISO12185	1000.76	C	-0.06
750	D4052	1000.7		-0.17
753	ISO12185	1000.9		0.20
781	ISO12185	1001.4		1.14
784	ISO12185	1001.3		0.95
785	D1298	1001.4	C	1.14
791	D1298	1001.1		0.58
823	ISO12185	1000.7		-0.17
824	ISO12185	1000.8		0.02
840	ISO12185	1000.98		0.35
851	ISO12185	1000.4		-0.73
855	ISO12185	1000.4		-0.73
858	ISO12185	1000.6		-0.36
859	ISO12185	1000.5		-0.54
862	ISO12185	1000.6		-0.36
863	ISO12185	1000.7		-0.17
864	ISO12185	1000.5		-0.54
865	ISO12185	1000.5		-0.54
867	D1298	1000.7		-0.17
873	ISO12185	1000.8		0.02
874	ISO12185	1000.6		-0.36
875	D1298	1001.4		1.14
886	D1298	1001.3		0.95
887		-----		-----
902	D4052	1001.5		1.32
904	ISO12185	1001.3		0.95
912	D1298	999.4		-2.60
913	D1298	999.7		-2.04

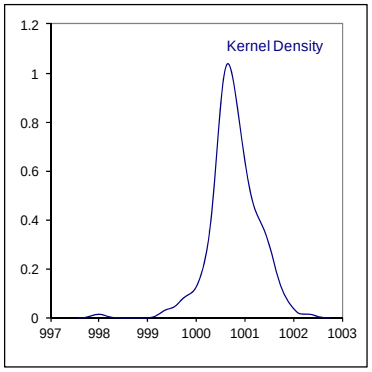
normality	not OK
n	182
outliers	1
mean (n)	1000.79
st.dev. (n)	0.465
R(calc.)	1.30
R(ISO12185:96)	1.50

1677	D4052	1000.6		-0.36
1681	ISO12185	1000.8		0.02
1707	ISO12185	1000.8		0.02
1710	ISO12185	1000.6	C	-0.36
1720		-----		-----
1724	D4052	1000.7		-0.17
1740	ISO3675	1000.7		-0.17
1761		-----		-----
1773	ISO3675	1001.01	C	0.41
1774		-----		-----
1775		-----		-----
1776	ISO12185	1000.34		-0.84
1784	ISO12185	1000.9		0.20
1807	ISO3675	1000.2		-1.10
1810	ISO12185	1001.8		1.88
1811	ISO12185	1000.4		-0.73
1832	ISO12185	1001.3	C	0.95
1833	ISO12185	1000.2	C	-1.10
1842	IP365	1001.0	C	0.39
1849	ISO12185	1000.63		-0.30
1854	ISO12185	1000.8		0.02
1906		-----		-----
1914	ISO12185	1000.5		-0.54
1915		-----		-----
1936	ISO12185	1000.5		-0.54
1937	ISO12185	1000.8		0.02
1938	ISO12185	1000.7		-0.17
1942	D7042	1001.496	C	1.32
1948	ISO12185	1001.3		0.95
1951	ISO12185	1001.5	C	1.32
2129	D4052	1000.9		0.20

First reported results: Lab 562:1002.2, Lab 605:1.0012, Lab 607:1.0012, Lab 663:1.0009, Lab 732:1.00076, Lab 785 :1.0014, Lab 1121 :1.0008, Lab 1161: 998.0, Lab 1231: 994.5, Lab 1395:971.1, Lab 1428 :1.0009, Lab 1510 :1.0001, Lab 1622 :1.0008, Lab 1631:1.0004, Lab 1710 :1002.4, Lab 1773:985.18, Lab 1832 :1.0013, Lab 1833 :1.0002, Lab 1842:1.0010, Lab 1942: 998.845, Lab 1951:1.0015.

Probably unit error: Lab 179, reported: 1.0003





Determination of Flash Point PMcc on sample #14001; results in °C

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
52	D93	90.5		0.05	922	D93	95		2.15
62	D93	86.0		-2.05	962		-----		-----
90		-----		-----	963	ISO2719	87.0		-1.58
92	D93	88.5		-0.88	971	ISO2719	88.0		-1.11
120	D93	90		-0.18	974	D93	89.0		-0.65
131	D93	91.0		0.29	982	D93	88.0		-1.11
132	ISO2719	87.0		-1.58	993	ISO2719	91.0		0.29
154	D93	88.5		-0.88	994	ISO2719	90.5		0.05
159	D93	88.3		-0.97	995	D93	90.0		-0.18
168	D93	88.9		-0.69	996	D93	90.0		-0.18
169	D93	88.9		-0.69	997	D93	89.5		-0.41
171	D93	87.0		-1.58	1011	ISO2719	98.0		3.55
175	D93	90		-0.18	1016		-----		-----
179		-----		-----	1022		-----		-----
193		-----		-----	1059	ISO2719	91.5		0.52
194	ISO2719	91.66		0.59	1062	D93	83.0		-3.45
212	ISO2719	89.7		-0.32	1065	D93	108	G(0.01)	8.22
221		-----		-----	1066	ISO2719	92.0		0.75
224	D93	89.07		-0.61	1095	D93	91.0		0.29
225	D93	89.0		-0.65	1109	D93	88.0		-1.11
228	D93B	90		-0.18	1121	IP34	91.0		0.29
230	ISO2719	89.0		-0.65	1126		-----		-----
237	D93	91.0		0.29	1131	D93	89.5		-0.41
238		-----		-----	1134	IP34	88.7		-0.79
252		-----		-----	1161	ISO2719	87.5	C	-1.35
253	D93	85.0	C	-2.51	1167	ISO2719	91.0		0.29
254	D93	91.0		0.29	1177		-----		-----
256	D93	91.0		0.29	1201	ISO2719	91.0		0.29
273	D93	87.0		-1.58	1205	D93	92.0		0.75
311	ISO2719	93.0		1.22	1215	D93	92.0		0.75
313	ISO2719	90.0		-0.18	1231	D93	93.0		1.22
323		-----		-----	1233	ISO2719	85.0		-2.51
331	ISO2719	92.0		0.75	1259	ISO2719	94.0		1.69
333	ISO2719	91.0		0.29	1266	ISO2719	89.5		-0.41
334	ISO2719	89.5		-0.41	1269	D93	91.5		0.52
336	ISO2719	91.0		0.29	1271	ISO2719	89.2		-0.55
337		-----		-----	1275		-----		-----
340	ISO2719	89.5		-0.41	1299	D93	89.5		-0.41
343	ISO2719	93.0		1.22	1337	ISO2719	90.48		0.04
349		-----		-----	1340	ISO2719	89.0		-0.65
351	ISO2719	91.0		0.29	1347	D93	94.44		1.89
353	IP34	91.550		0.54	1348	D93	96		2.62
356		-----		-----	1356	ISO2719	77	C,G(0.01)	-6.25
360	ISO2719	90.0		-0.18	1381	ISO2719	91.0		0.29
370	ISO2719	95.0		2.15	1385	D93	96		2.62
372	ISO2719	89.0		-0.65	1395	D93	94.0		1.69
391	ISO2719	90.0		-0.18	1402	ISO2719	91.5		0.52
398	ISO2719	90.0		-0.18	1403		-----		-----
399	ISO2719	89.0		-0.65	1404	ISO2719	90.5		0.05
440	D93	89.8		-0.27	1412	D93	90.5		0.05
444	D93	94.6		1.97	1419		-----		-----
445	IP34	95.0		2.15	1428	ISO2719	92.5		0.99
447	D93	91.8		0.66	1431	D93	90.7		0.15
463	D93	93.5		1.45	1455	ISO2719	90.0		-0.18
494	ISO2719	88.0		-1.11	1459	ISO2719	88.0		-1.11
495	ISO2719	88.0		-1.11	1460		-----		-----
507		-----		-----	1501	ISO2719	89.5		-0.41
511	D93	87.7		-1.25	1510	ISO2719	83		-3.45
529	D93	88.05		-1.09	1520	ISO2719	95.00		2.15
541	ISO2719	90.0		-0.18	1539	ISO2719	92.5		0.99
551		-----		-----	1543		-----		-----
557	D93	97.5		3.32	1556	ISO2719	88.5		-0.88
562	D93	90.9		0.24	1564	D93	90.5		0.05
575	D93	87		-1.58	1569		-----		-----
603	D93	91.5		0.52	1586	ISO2719	89.0		-0.65
604	D93	89.0		-0.65	1610	D93	92.0		0.75
605	D93	90.0		-0.18	1613	D93	89.0		-0.65
607	D93	91.0		0.29	1622	D93	90.0		-0.18
608	D93	90.0		-0.18	1631	ISO2719	90		-0.18
631	D93	92.0		0.75	1636	ISO2719	92.5		0.99
634	D93	92.0		0.75	1643	D93	92.1		0.80
657	ISO2719	96.0	C	2.62	1648	ISO2719	93.0		1.22
663	D93	93.5	C	1.45	1650		-----		-----
671	D93	89		-0.65	1654	ISO2719	91.0		0.29

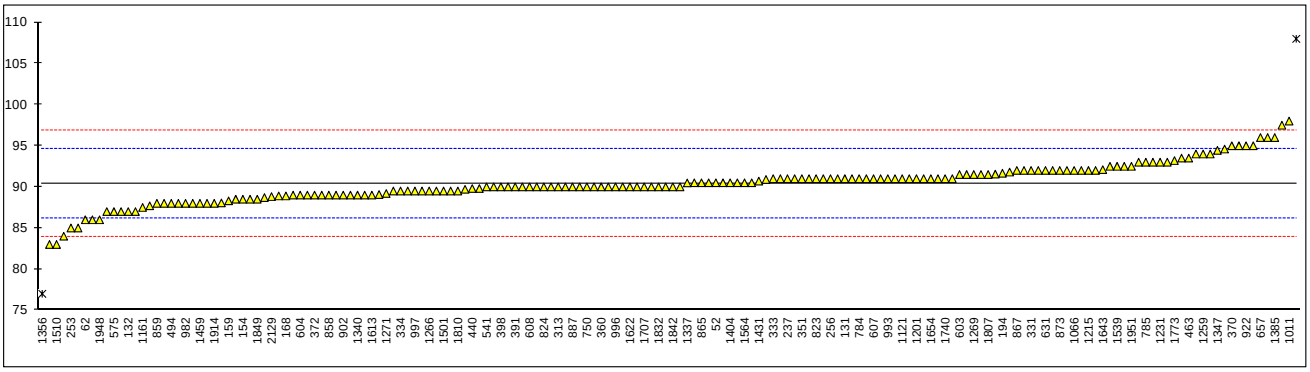
704	ISO2719	90.0		-0.18
705	ISO2719	90.0		-0.18
732	ISO2719	94.0		1.69
750	D93	90.0		-0.18
753	D93	89.5		-0.41
781	ISO2919	91.0		0.29
784	ISO2719	91.0		0.29
785	D93	93.0		1.22
791	D93	92.0		0.75
823	ISO2719	91.0		0.29
824	ISO2719	90.0		-0.18
840	D93	91.0		0.29
851	ISO2719	90.0		-0.18
855	D93	91.0		0.29
858	D93	89		-0.65
859	ISO2719	88.0		-1.11
862	ISO2719	90.0		-0.18
863	ISO2719	90.5		0.05
864	D93	90.5		0.05
865	ISO2719	90.5		0.05
867	D93	92.0		0.75
873	ISO2719	92.0		0.75
874	ISO2719	92.0		0.75
875	D93	91.0		0.29
886	D93	91.0		0.29
887	D93	90.0		-0.18
902	D93	89.0		-0.65
904	ISO2719	86.0		-2.05
912	ISO2719B	91.0		0.29
913	ISO2719	92.0		0.75
1677	D93	91.0		0.29
1681	ISO2719	90.5		0.05
1707	ISO2719	90		-0.18
1710	ISO2719	84	C	-2.98
1720		-----		-----
1724	D93	90		-0.18
1740	ISO2719	91.0		0.29
1761		-----		-----
1773	ISO2719	93.2		1.31
1774		-----		-----
1775	ISO2719	88.0		-1.11
1776	ISO2719	89.5		-0.41
1784	ISO2719	91		0.29
1807	ISO2719	91.5		0.52
1810	ISO2719	89.5		-0.41
1811	ISO2719	89.8		-0.27
1832	ISO2719	90.0		-0.18
1833	ISO2719	90		-0.18
1842	D93	90		-0.18
1849	ISO2719	88.5		-0.88
1854	ISO2719	90		-0.18
1906		-----		-----
1914	ISO2719	88.0		-1.11
1915		-----		-----
1936		-----		-----
1937		-----		-----
1938		-----		-----
1942		-----		-----
1948	ISO2719	86	C	-2.05
1951	ISO2719	92.5		0.99
2129	ISO2719	88.82		-0.73

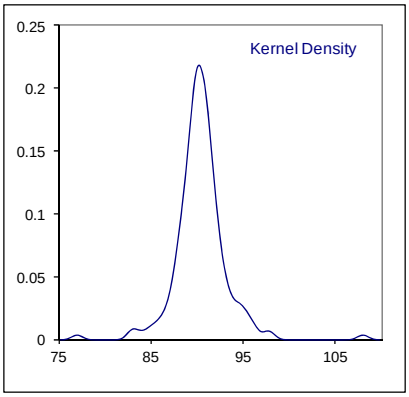
normality	not OK
n	174
outliers	2
mean (n)	90.39
st.dev. (n)	2.355
R(calc.)	6.59
R(ISO2719:02)	6.00

Lab 253 first reported: 80.0 Lab 1161 first reported: 82.5 Lab 1948 first reported: 83.0

Lab 657 first reported: 83.5Lab 1356 first reported: 82

Lab 663 first reported: 95.5 Lab 1710 first reported: 81.0





Determination of Heat of Combustion Gross on sample #14001; results in MJ/kg

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
52	D240	42.655		-0.39	922	D240	42.72		0.06
62	D4868	42.76		0.34	962		-----		-----
90	D240	42.477		-1.64	963		-----		-----
92	D240	42.817		0.74	971	D4868	42.81		0.69
120	D240	42.70		-0.08	974	D4868	42.84		0.90
131	D240	42.908		1.38	982		-----		-----
132	D240	42.4302		-1.97	993		-----		-----
154		-----		-----	994	D4868	42.7883		0.54
159	D240	42.56		-1.06	995	D4868	42.79		0.55
168		-----		-----	996		-----		-----
169		-----		-----	997		-----		-----
171	D240	42.425		-2.00	1011	D240	42.78	C	0.48
175	D240	42.69		-0.15	1016		-----		-----
179	D240	41.340	G(0.01)	-9.60	1022	D240	43.08		2.58
193		-----		-----	1059		-----		-----
194	D240	42.5284		-1.28	1062		-----		-----
212		-----		-----	1065		-----		-----
221		-----		-----	1066	D240	42.480		-1.62
224		-----		-----	1095	D240	42.705		-0.04
225	D4868	42.83		0.83	1109		-----		-----
228		-----		-----	1121		-----		-----
230	D4868	42.782		0.50	1126		-----		-----
237		-----		-----	1131		-----		-----
238		-----		-----	1134	D240	42.6074		-0.73
252		-----		-----	1161	D240	42.600		-0.78
253		-----		-----	1167	DIN51900	42.720		0.06
254		-----		-----	1177	DIN51900	42.667		-0.31
256		-----		-----	1201	D4868	42.845		0.94
273		-----		-----	1205		-----		-----
311	D240	42.560		-1.06	1215		-----		-----
313		-----		-----	1231	D240	42.5703		-0.98
323	D240	42.670		-0.29	1233		-----		-----
331		-----		-----	1259	D4868	42.77		0.41
333	D240	42.710		-0.01	1266	D4868	42.76		0.34
334		-----		-----	1269	DIN51900	42.576		-0.94
336		-----		-----	1271	D4868	42.823		0.78
337		-----		-----	1275		-----		-----
340		-----		-----	1299	D240	43.367	G(0.01)	4.59
343	D240	42.788		0.54	1337		-----		-----
349		-----		-----	1340	D240	42.615		-0.67
351		-----		-----	1347	D4868	42.808		0.68
353		-----		-----	1348	D4868	42.82		0.76
356		-----		-----	1356		-----		-----
360	D240	42.546		-1.15	1381	D240	42.5914		-0.84
370		-----		-----	1385	D4868	42.82		0.76
372	D4868	42.792		0.57	1395	D4868	42.83	C	0.83
391		-----		-----	1402	IP12	42.72		0.06
398		-----		-----	1403	D240	42.50		-1.48
399		-----		-----	1404		-----		-----
440		-----		-----	1412		-----		-----
444		-----		-----	1419		-----		-----
445	D240	42.518		-1.35	1428	D240	42.64		-0.50
447	D240	42.725		0.10	1431	D4809	42.676	see §4.1	-0.24
463		-----		-----	1455		-----		-----
494	ISO8217	40.80	G(0.01)	-13.38	1459		-----		-----
495		-----		-----	1460		-----		-----
507		-----		-----	1501	D4868	42.781		0.49
511	D4868	42.805		0.66	1510	D240	42.855		1.01
529		-----		-----	1520	D4868	42.802		0.64
541		-----		-----	1539	INH-86	42.670		-0.29
551	D4868	42.73		0.13	1543		-----		-----
557	D4868	42.80		0.62	1556	D4868	42.79		0.55
562		-----		-----	1564		-----		-----
575		-----		-----	1569	D240	42.732		0.15
603		-----		-----	1586	D240	42.524		-1.31
604		-----		-----	1610		-----		-----
605		-----		-----	1613	D240	42.551		-1.12
607	D240	42.60		-0.78	1622	D4868	42.79		0.55
608	D240	42.785		0.52	1631		-----		-----
631	D240	42.712		0.01	1636	D4868	42.807		0.67
634	D240	42.838		0.89	1643	D240	42.631		-0.56
657	D240	42.545		-1.16	1648		-----		-----
663		-----		-----	1650		-----		-----
671		-----		-----	1654		-----		-----

704		-----	-----
705		-----	-----
732	D4868	42.802	0.64
750		-----	-----
753	D4868	42.813	0.71
781	D4868	42.80	0.62
784	D4868	42.81	0.69
785		-----	-----
791		-----	-----
823	D240	42.4386	-1.91
824	D240	42.664	-0.33
840	D240	42.650	-0.43
851	D4868	42.80	0.62
855	D4868	42.82	0.76
858	D4868	42.82	0.76
859	D4868	42.845	0.94
862	D240	42.635	-0.53
863	D4868	42.816	0.74
864		-----	-----
865	D4868	42.824	0.79
867	D4868	42.82	0.76
873	D4868	42.79	0.55
874		-----	-----
875		-----	-----
886		-----	-----
887		-----	-----
902		-----	-----
904		-----	-----
912		-----	-----
913		-----	-----

normality	not OK
n	99
outliers	4
mean (n)	42.711
st.dev. (n)	0.1305
R(calc.)	0.365
R(D240:09)	0.400

1677	D4868	42.81	0.69
1681		-----	-----
1707		-----	-----
1710	D4809	42.526	C, see §4.1 -1.29
1720		-----	-----
1724		-----	-----
1740	D240	42.823	0.78
1761		-----	-----
1773	INH-3965	42.6619	-0.34
1774	INH-86	42.6751	-0.25
1775	EN15170	37.340	C,G(0.01) -37.60
1776		-----	-----
1784	D240	42.673	-0.27
1807	D240	42.476	-1.64
1810	D240	42.60	-0.78
1811	D240	42.53	-1.27
1832		-----	-----
1833		-----	-----
1842		-----	-----
1849		-----	-----
1854	D240	42.704	-0.05
1906	D4809	42.618	see §4.1 -0.65
1914	ISO8217	43.10	2.72
1915		-----	-----
1936		-----	-----
1937		-----	-----
1938		-----	-----
1942	D240	42.622	-0.62
1948		-----	-----
1951		-----	-----
2129	D240	42.8478	0.96

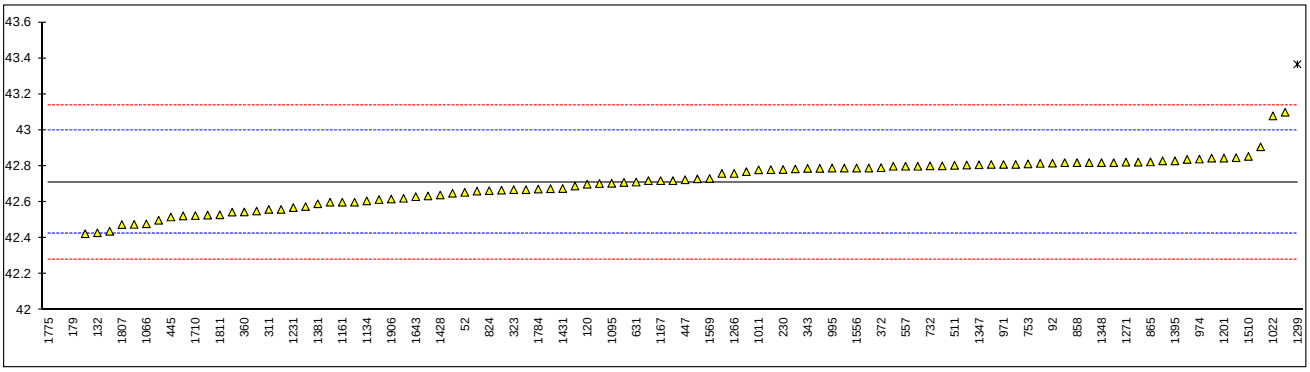
	Only ASTM D4868 data	Only ASTM D240
suspect	37	51
OK	0	2
	42.804	42.648
	0.0242	0.1344
	0.068	0.376
	0.150	0.400

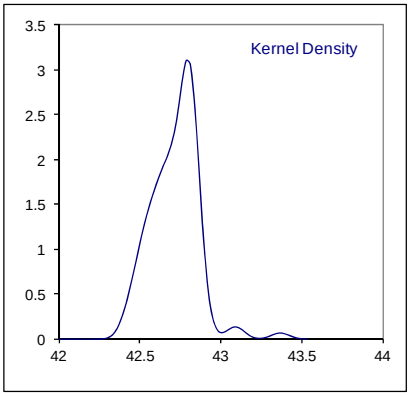
Lab 1011 first reported: 43.32

Lab 1775 first reported: 36.75

Lab 1395 first reported: 43.22

Lab 1710 first reported: 42.112





Determination of Heat of Combustion Net on sample #14001; results in MJ/kg

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
52		-----		-----	922	D240	40.76		1.82
62	D4868	40.46		-0.28	962		-----		-----
90		-----		-----	963		-----		-----
92		-----		-----	971	D4868	40.51		0.07
120	D240	40.40		-0.70	974	D4868	40.53		0.21
131		-----		-----	982		-----		-----
132		-----		-----	993		-----		-----
154		-----		-----	994	D4868	40.488		-0.09
159		-----		-----	995	D4868	40.487		-0.09
168		-----		-----	996		-----		-----
169		-----		-----	997		-----		-----
171		-----		-----	1011	D240	40.55	C	0.35
175		-----		-----	1016		-----		-----
179	D240	36.150	G(0.01)	-30.45	1022	D240	40.78		1.96
193		-----		-----	1059		-----		-----
194		-----		-----	1062		-----		-----
212		-----		-----	1065		-----		-----
221		-----		-----	1066	D240	40.295		-1.44
224		-----		-----	1095	D240	40.535		0.24
225	D4868	40.52		0.14	1109		-----		-----
228		-----		-----	1121		-----		-----
230	D4868	40.482		-0.13	1126		-----		-----
237		-----		-----	1131	D4809	40.4315	see §4.1	-0.48
238		-----		-----	1134	D240	40.445		-0.39
252		-----		-----	1161	D240	40.493		-0.05
253		-----		-----	1167		-----		-----
254		-----		-----	1177	DIN51900	40.460		-0.28
256		-----		-----	1201	D4868	40.452		-0.34
273		-----		-----	1205		-----		-----
311	D240	40.395	C	-0.74	1215		-----		-----
313		-----		-----	1231		-----		-----
323	D240	40.485		-0.11	1233		-----		-----
331		-----		-----	1259	D240	40.48		-0.14
333		-----		-----	1266	D4868	40.46		-0.28
334		-----		-----	1269		-----		-----
336		-----		-----	1271	D4868	40.519		0.13
337		-----		-----	1275		-----		-----
340		-----		-----	1299	D240	41.137	G(0.01)	4.46
343	D240	40.581		0.56	1337		-----		-----
349		-----		-----	1340	D240	40.52		0.14
351		-----		-----	1347	D4868	40.506		0.04
353		-----		-----	1348	D4868	40.51		0.07
356		-----		-----	1356		-----		-----
360	D240	40.300		-1.40	1381	D240	40.4270		-0.51
370		-----		-----	1385	D4868	40.52		0.14
372	D4868	40.490		-0.07	1395	D4868	40.53	C	0.21
391		-----		-----	1402	IP12	40.64		0.98
398		-----		-----	1403	D240	41.22	G(0.01)	5.04
399		-----		-----	1404		-----		-----
440		-----		-----	1412		-----		-----
444		-----		-----	1419		-----		-----
445	D240	40.41		-0.63	1428		-----		-----
447	D240	40.560		0.42	1431	D4809	40.507	see §4.1	0.05
463		-----		-----	1455		-----		-----
494	ISO8217	43.09	G(0.01)	18.13	1459		-----		-----
495		-----		-----	1460		-----		-----
507		-----		-----	1501	D4868	40.481		-0.14
511	D4868	40.503		0.02	1510	D240	40.610		0.77
529		-----		-----	1520	D4868	40.501		0.00
541		-----		-----	1539	INH-86	40.437		-0.44
551	D4868	40.43		-0.49	1543		-----		-----
557	D4868	40.50		0.00	1556	D4868	40.49		-0.07
562		-----		-----	1564		-----		-----
575		-----		-----	1569	D240	40.577		0.54
603		-----		-----	1586		-----		-----
604		-----		-----	1610		-----		-----
605		-----		-----	1613	D240	40.640		0.98
607		-----		-----	1622	D4868	40.46		-0.28
608	D240	40.810		2.17	1631		-----		-----
631	D4868	40.485		-0.11	1636	D4868	40.507		0.05
634	D240	40.310		-1.33	1643	D240	40.467		-0.23
657	D240	40.440		-0.42	1648		-----		-----
663		-----		-----	1650		-----		-----
671	D240	42.63	C,G(0.01)	14.91	1654		-----		-----

704		-----	-----
705		-----	-----
732	D4868	40.500	0.00
750		-----	-----
753	D4868	40.511	0.07
781	D4868	40.50	0.00
784	D4868	40.51	0.07
785		-----	-----
791		-----	-----
823	D240	40.2213	-1.95
824		-----	-----
840	D4868	40.503	0.02
851	D4868	40.49	-0.07
855	D4868	40.51	0.07
858	D4868	40.52	0.14
859	D4868	40.542	0.29
862	D240	40.535	0.24
863	D4868	40.514	0.10
864		-----	-----
865	D4868	40.521	0.14
867	D4868	40.51	0.07
873	D4868	40.49	-0.07
874		-----	-----
875		-----	-----
886		-----	-----
887		-----	-----
902		-----	-----
904		-----	-----
912		-----	-----
913		-----	-----

1677	D4868	40.51	0.07
1681		-----	-----
1707		-----	-----
1710	D4809	40.347	C,see §4.1 -1.07
1720		-----	-----
1724		-----	-----
1740	D240	40.637	0.96
1761		-----	-----
1773	INH-3965	40.4308	-0.49
1774	INH-86	40.4397	-0.42
1775	EN15170	34.787	G(0.01), C -39.99
1776		-----	-----
1784	D240	40.500	0.00
1807	D240	40.394	-0.74
1810	D240	40.50	0.00
1811	D240	40.39	-0.77
1832		-----	-----
1833		-----	-----
1842		-----	-----
1849		-----	-----
1854	D240	40.541	0.28
1906	D4809	40.464	see §4.1 -0.25
1914	ISO8217	40.80	2.10
1915		-----	-----
1936		-----	-----
1937		-----	-----
1938		-----	-----
1942	D240	40.451	-0.35
1948		-----	-----
1951		-----	-----
2129	D240	40.677	1.24

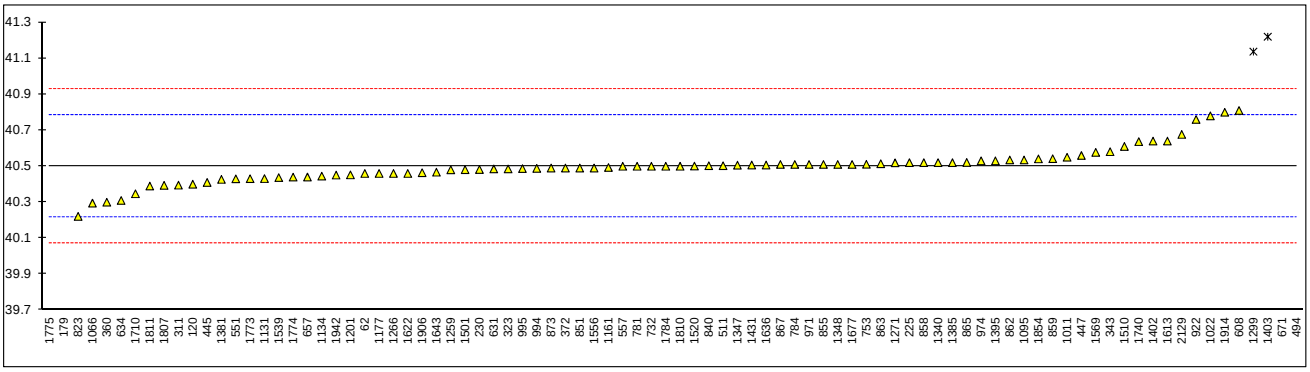
	normality	not OK	
	n	82	
	outliers	6	
	mean (n)	40.500	
	st.dev. (n)	0.0984	
	R(calc.)	0.276	
	R(D240:09)	0.400	

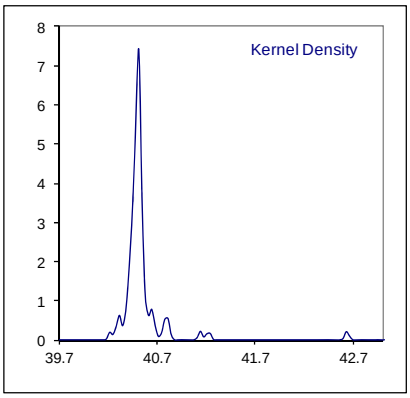
Only ASTM D4868	Only ASTM D240
suspect	OK
38	33
0	4
40.499	40.504
0.0233	0.1381
0.065	0.387
0.150	0.400

Lab 311 first reported: 39.630 Lab 1395 first reported: 40.84

Lab 671 first reported: 42.73 Lab 1710 first reported: 39.930

Lab 1011 first reported: 41.08 Lab 1775 first reported: 35.23





Determination of Kinematic Viscosity @ 50°C on sample #14001; results in mm²/s

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
52	D445	470.3		-1.47	922	D445	485.8		-0.27
62	D445	490.4		0.09	962		-----		-----
90	D445	481.77		-0.58	963	ISO3104	488.1		-0.09
92	D445	487.089		-0.17	971	ISO3104	488.6		-0.05
120	D445	490.2		0.07	974	D445	490.2		0.07
131	D445	475.4		-1.07	982	D445	497.9		0.67
132	ISO3104	478.33		-0.85	993		-----		-----
154	D445	492.2		0.23	994	D445	492.8		0.27
159	D445	468.08		-1.64	995	D445	500.46		0.87
168	D445	490.81		0.12	996	D445	490.45		0.09
169	D445	471.7004		-1.36	997	D445	500.22		0.85
171	D445	480.2		-0.70	1011	D445	487.01		-0.17
175	D445	488.3		-0.07	1016		-----		-----
179	D445	496.14		0.53	1022	ISO3104	488.80		-0.04
193		-----		-----	1059	ISO3104	499.88		0.82
194	ISO3104	483.35		-0.46	1062		-----		-----
212	ISO3104	501.6		0.95	1065	D445	489.9		0.05
221		-----		-----	1066	ISO3104	501.5		0.95
224		-----		-----	1095	D445	479.2		-0.78
225	D445	489.7		0.03	1109		-----		-----
228	D445	502.08		0.99	1121	IP71	501.6		0.95
230	ISO3104	479.64		-0.74	1126	D445	461.3		-2.16
237	D445	487.9		-0.11	1131	ISO3104	507.54		1.41
238		-----		-----	1134	IP74	505.416		1.25
252		-----		-----	1161	ISO3104	491		0.13
253	D445	470.03		-1.49	1167		-----		-----
254	D445	487.0		-0.18	1177		-----		-----
256	D445	488.0		-0.10	1201	ISO3104	478.0		-0.87
273	D445	499.8		0.81	1205		-----		-----
311	ISO3104	480.9		-0.65	1215	D445	487.8		-0.11
313	ISO3104	478.2		-0.86	1231	D445	490.35		0.08
323	ISO3104	510.0		1.60	1233	ISO3104	496.67		0.57
331	ISO3104	477.69		-0.90	1259	ISO3104	495.27253		0.46
333	ISO3104	480.9		-0.65	1266	ISO3104	492.4		0.24
334	D445	484.3		-0.38	1269		-----		-----
336	ISO3104	482.9		-0.49	1271	ISO3104	498.955		0.75
337		-----		-----	1275		-----		-----
340	ISO3104	495.89		0.51	1299	D445	506.3		1.32
343	ISO3104	476.18	C	-1.01	1337		-----		-----
349		-----		-----	1340	ISO3104	503.5		1.10
351	ISO3104	489.95		0.05	1347	D445	496.401		0.55
353		-----		-----	1348	D445	505		1.22
356	ISO3104	484.77		-0.35	1356	ISO3104	499.1		0.76
360	ISO3104	478.20		-0.86	1381	ISO3104	494.45		0.40
370	ISO3104	493.33		0.31	1385	D445	465		-1.88
372	ISO3104	493.5		0.33	1395		-----		-----
391	ISO3104	473.1		-1.25	1402	IP71	497.6		0.64
398	ISO3104	475.53		-1.06	1403		-----		-----
399	ISO3104	469.75		-1.51	1404	ISO3104	502.35		1.01
440		-----		-----	1412		-----		-----
444	D445	509.14		1.54	1419		-----		-----
445		-----		-----	1428	ISO3104	493.4		0.32
447	D445	43.64	G(0.01)	-34.46	1431		-----		-----
463	D445	494.74		0.42	1455	ISO3104	484.7		-0.35
494	ISO3104	510.625		1.65	1459		-----		-----
495	ISO3104	493.51		0.33	1460		-----		-----
507		-----		-----	1501		-----		-----
511	D445	487.0305		-0.17	1510	ISO3104	501.5		0.95
529		-----		-----	1520	ISO3104	488.66		-0.05
541	ISO3104	474.6		-1.13	1539	ISO3104	501.7		0.96
551	D445	501.3		0.93	1543		-----		-----
557	D445	489.20		0.00	1556	ISO3104	478.01		-0.87
562	D445	479.50		-0.76	1564	D445	499.1		0.76
575	D445	486.1438		-0.24	1569	ISO3104	507.8		1.43
603	D445	491.5		0.17	1586	ISO3104	498.5		0.71
604	D445	485.42		-0.30	1610	IP71	501.56		0.95
605	D445	481.99		-0.56	1613	D445	491.4		0.17
607	D445	479.7		-0.74	1622	D445	499.5		0.79
608	D445	486.2		-0.24	1631		-----		-----
631	D445	472.07		-1.33	1636	ISO3104	476.96		-0.95
634	D445	479.89		-0.72	1643	D445	489.27		0.00
657	ISO3104	478.7		-0.82	1648	D445	490.75		0.11
663	D445	478.76		-0.81	1650	ISO3104	483.9		-0.41
671	D445	476.8		-0.96	1654		-----		-----

704	ISO3104	477.57		-0.90
705	ISO3104	475.60		-1.06
732	ISO3104	494.75		0.42
750	D445	487.3		-0.15
753	D445	489.55		0.02
781	ISO3104	490.4		0.09
784	ISO3104	489.1		-0.01
785	D445	481.7		-0.58
791	D445	491.3		0.16
823	ISO3104	481.87		-0.57
824	ISO3104	476.3		-1.00
840	D445	486.01		-0.25
851	ISO3104	492.6		0.26
855	D445	487.50		-0.14
858	D445	489.8		0.04
859	ISO3104	485.30		-0.31
862	ISO3104	480.98		-0.64
863	ISO3104	493.80		0.35
864	D445	486.6		-0.21
865	ISO3104	487.39		-0.14
867	D445	493.98		0.36
873	ISO3104	489.7		0.03
874	ISO3104	487.5		-0.14
875	D445	487.8		-0.11
886	D445	484.5		-0.37
887	D445	482.6		-0.52
902	D445	485.8		-0.27
904	ISO3104	483.7		-0.43
912	ISO3104	504.5		1.18
913	D445	505.5		1.26

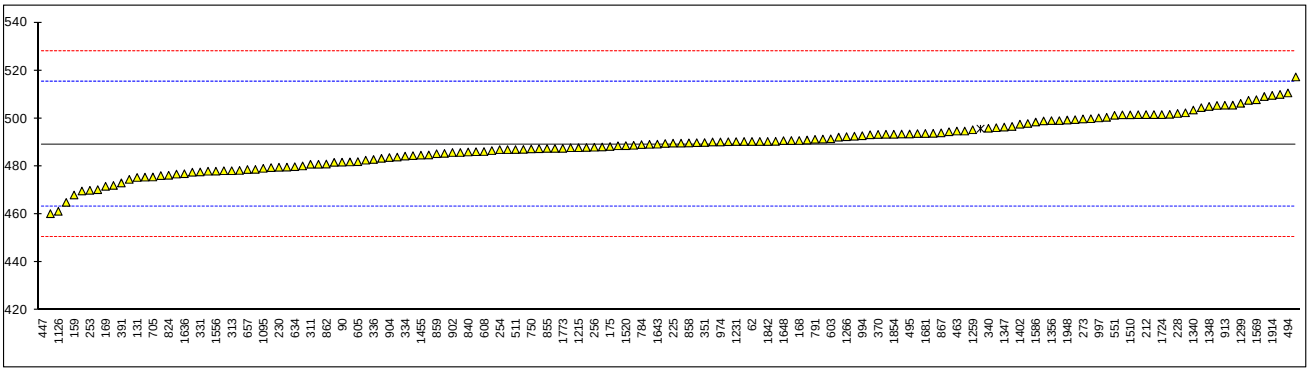
normality	OK	
n	158	
outliers	1	+1 excl.
mean (n)	489.263	
st.dev. (n)	10.3437	
R(calc.)	28.962	
R(ISO3104:94)	36.205	

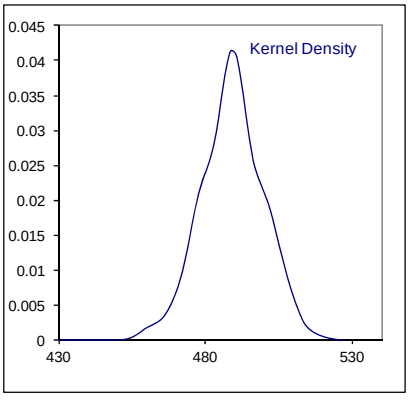
1677	ISO3104	517.3		2.17
1681	ISO3104	493.72		0.34
1707	ISO3104	490.8		0.12
1710		-----	W	-----
1720		-----		-----
1724	D445	501.61		0.95
1740	ISO3104	490.3		0.08
1761		-----		-----
1773	ISO3104	487.53		-0.13
1774		-----		-----
1775		-----		-----
1776		-----		-----
1784	ISO3104	490.4		0.09
1807		-----		-----
1810		-----		-----
1811		-----		-----
1832	ISO3104	493.690		0.34
1833	ISO3104	493.2		0.30
1842	IP71	490.4		0.09
1849		-----		-----
1854	ISO3104	493.4		0.32
1906		-----		-----
1914	ISO3104	509.6		1.57
1915		-----		-----
1936		-----		-----
1937		-----		-----
1938		-----		-----
1942	D7042	495.71	ex	0.50
1948	ISO3104	499.34		0.78
1951	ISO3104	460.3		-2.24
2129	ISO3104	505.53		1.26

Lab 343 first reported: 746.1

Lab 1710 result withdrawn, reported:546.9

Lab 1942 result excluded, D7042 is Viscocity Stabinger.





Determination of Kinematic Viscosity @ 100°C on sample #14001; results in mm²/s

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
52		-----		-----	922		-----		-----
62		-----		-----	962		-----		-----
90		-----		-----	963	ISO3104	40.34		1.37
92		-----		-----	971	ISO3104	38.91		-0.74
120		-----		-----	974	D445	38.96		-0.67
131		-----		-----	982	D445	39.62		0.31
132		-----		-----	993		-----		-----
154		-----		-----	994	D445	38.99		-0.63
159		-----		-----	995	D445	40.33		1.35
168		-----		-----	996	D445	39.22		-0.29
169	D445	39.6208		0.31	997	D445	38.457		-1.41
171	D445	38.66		-1.11	1011	D445	38.457		-1.41
175		-----		-----	1016		-----		-----
179	D445	38.50		-1.35	1022	ISO3104	38.826		-0.87
193		-----		-----	1059	ISO3104	39.23		-0.27
194		-----		-----	1062	D445	38.97		-0.65
212		-----		-----	1065	D445	40.06		0.95
221		-----		-----	1066	ISO3104	39.17		-0.36
224		-----		-----	1095	D445	39.12		-0.43
225	D445	39.68		0.39	1109	D445	40.128		1.06
228		-----		-----	1121		-----		-----
230	ISO3104	39.335		-0.12	1126		-----		-----
237	D445	38.89		-0.77	1131	ISO3104	39.185		-0.34
238		-----		-----	1134	IP74	40.897		2.19
252		-----		-----	1161	ISO3104	38.975		-0.65
253	D445	40.80	C	2.05	1167	ISO3104	39.473		0.09
254		-----		-----	1177		-----		-----
256		-----		-----	1201	ISO3104	39.19		-0.33
273	D445	46.26	C,G(0.01)	10.11	1205		-----		-----
311		-----		-----	1215		-----		-----
313		-----		-----	1231	D445	39.475		0.09
323	ISO3104	40.34		1.37	1233		-----		-----
331	ISO3104	38.34		-1.58	1259	ISO3104	38.90683		-0.75
333	ISO3104	38.19		-1.81	1266		-----		-----
334		-----		-----	1269		-----		-----
336	ISO3104	38.35		-1.57	1271	ISO3104	39.498		0.12
337		-----		-----	1275		-----		-----
340	ISO3104	39.156		-0.38	1299	D445	52.77	G(0.01)	19.72
343	ISO3104	39.481		0.10	1337		-----		-----
349		-----		-----	1340	ISO3104	38.99		-0.63
351	ISO3104	38.545		-1.28	1347	D445	36.882		-3.74
353	IP74	40.0527		0.94	1348	D445	43.7	G(0.01)	6.33
356	ISO3104	38.186		-1.81	1356		-----		-----
360	ISO3104	39.445		0.05	1381	ISO3104	39.670		0.38
370	ISO3104	39.247		-0.25	1385	D445	41.52		3.11
372	ISO3104	39.40		-0.02	1395		-----		-----
391	ISO3104	38.74		-0.99	1402	IP71	41.58	C	3.20
398		-----		-----	1403		-----		-----
399	ISO3104	38.40		-1.50	1404	ISO3104	39.28		-0.20
440	D445	39.845		0.64	1412	D445	40.12		1.04
444	D445	66.24	C,G(0.01)	39.61	1419	ISO3104	38.78		-0.94
445		-----		-----	1428	ISO3104	39.16		-0.37
447	D445	39.02		-0.58	1431		-----		-----
463	D445	40.493		1.59	1455	ISO3104	40.88		2.17
494	ISO3104	39.888		0.70	1459		-----		-----
495	ISO3104	39.208		-0.30	1460		-----		-----
507		-----		-----	1501		-----		-----
511	D445	38.116		-1.92	1510	ISO3104	39.95		0.79
529		-----		-----	1520	ISO3104	39.475		0.09
541	ISO3104	38.77		-0.95	1539	ISO3104	39.28		-0.20
551	D445	39.23		-0.27	1543		-----		-----
557	D445	35.578	G(0.05)	-5.66	1556	ISO3104	38.829		-0.86
562	D445	39.389		-0.04	1564	D445	39.07		-0.51
575	D445	39.4324		0.03	1569	ISO3104	42.46	G(0.05)	4.50
603		-----		-----	1586	ISO3104	39.91		0.73
604		-----		-----	1610		-----		-----
605	D445	40.081		0.99	1613	D445	38.87		-0.80
607		-----		-----	1622	D445	39.66		0.36
608	D445	39.73		0.47	1631	ISO3104	39.304		-0.16
631	D445	40.947		2.26	1636	ISO3104	39.172		-0.36
634	D445	39.840		0.63	1643	D445	39.102		-0.46
657	ISO3104	39.42		0.01	1648	D445	39.282		-0.19
663	D445	39.838		0.63	1650	ISO3104	39.876		0.68
671	D445	38.75		-0.98	1654	ISO3104	39.02		-0.58

704	ISO3104	39.550		0.20
705	ISO3104	39.154		-0.38
732	ISO3104	39.27		-0.21
750		-----		-----
753	D445	39.505		0.14
781	ISO3104	40.24		1.22
784	ISO3104	40.57		1.71
785	D445	39.30		-0.17
791		-----		-----
823	ISO3104	39.289		-0.18
824	ISO3104	40.61		1.77
840	D445	39.580		0.25
851		-----		-----
855	D445	38.967		-0.66
858	D445	39.21		-0.30
859	ISO3104	39.502		0.13
862	ISO3104	39.208		-0.30
863	ISO3104	39.230		-0.27
864	D445	39.18		-0.34
865	ISO3104	38.99		-0.63
867	D445	39.237		-0.26
873	ISO3104	39.96		0.81
874	ISO3104	39.83		0.62
875	D445	40.13		1.06
886		-----		-----
887	D445	39.44		0.04
902	D445	38.67		-1.10
904	ISO3104	38.93		-0.71
912	ISO3104	41.45		3.01
913	D445	41.40		2.93

normality	not OK	
n	129	
outliers	9	+1 excl.
mean (n)	39.413	
st.dev. (n)	0.7480	
R(calc.)	2.094	
R(ISO3104:94)	1.897	

1677	ISO3104	43.28	G(0.01)	5.71
1681	ISO3104	38.875		-0.79
1707	ISO3104	38.92		-0.73
1710	ISO3104	41.35	C	2.86
1720		-----		-----
1724	D445	39.061		-0.52
1740	ISO3104	39.48		0.10
1761		-----		-----
1773	ISO3104	39.16		-0.37
1774		-----		-----
1775		-----		-----
1776		-----		-----
1784	ISO3104	39.32		-0.14
1807	ISO3104	39.64		0.33
1810		-----		-----
1811		-----		-----
1832		-----		-----
1833	ISO3104	38.93		-0.71
1842	IP71	43.81	G(0.01)	6.49
1849	ISO3104	38.12		-1.91
1854	ISO3104	39.15		-0.39
1906		-----		-----
1914	ISO3104	40.23		1.21
1915		-----		-----
1936	ISO3104	39.37		-0.06
1937	ISO3104	39.38		-0.05
1938	ISO3104	39.365		-0.07
1942	D7042	39.26	ex	-0.23
1948	ISO3104	39.54		0.19
1951	ISO3104	38.63		-1.16
2129	ISO3104	44.98	C,G(0.01)	8.22

Lab 253 first reported: 41.22

Lab 273 first reported: 41.39

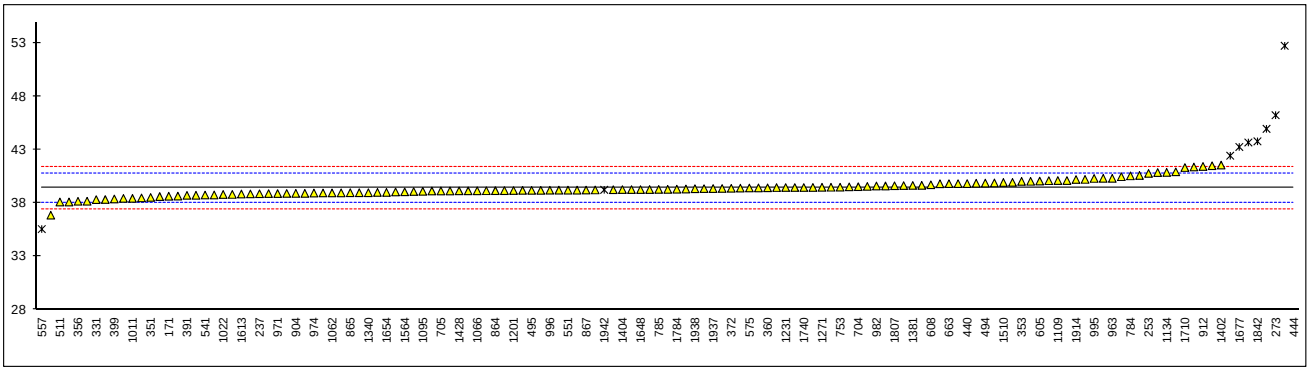
Lab 444 first reported: 46.24

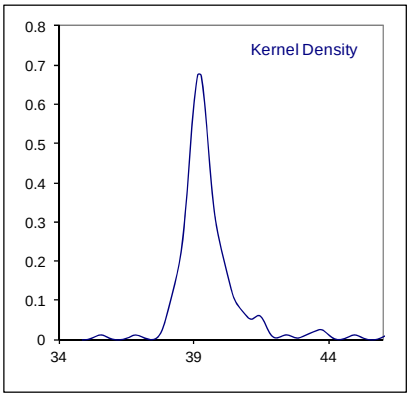
Lab 1402 first reported:35.38

Lab 1710 first reported: 42.23

Lab 1942 result excluded D7042 is Viscosity Stabinger.

Lab 2129 first reported: 42.814





Determination of Viscosity Stabinger @ 50°C on sample #14001; results in mm²/s

lab	method	value	mark	z(targ)	lab	method	Value	mark	z(targ)
52		-----		-----	922	D7042	492.6		-----
62		-----		-----	962		-----		-----
90		-----		-----	963	D7042	490.0		-----
92		-----		-----	971	D7042	492.4		-----
120		-----		-----	974	D7042	495.45		-----
131		-----		-----	982		-----		-----
132		-----		-----	993		-----		-----
154		-----		-----	994	D7042	489.9		-----
159		-----		-----	995		-----		-----
168		-----		-----	996		-----		-----
169		-----		-----	997		-----		-----
171	D7042	491.4		-----	1011		-----		-----
175		-----		-----	1016		-----		-----
179		-----		-----	1022		-----		-----
193		-----		-----	1059		-----		-----
194		-----		-----	1062		-----		-----
212		-----		-----	1065		-----		-----
221		-----		-----	1066	D7042	498.1		-----
224		-----		-----	1095		-----		-----
225		-----		-----	1109		-----		-----
228		-----		-----	1121		-----		-----
230		-----		-----	1126		-----		-----
237		-----		-----	1131		-----		-----
238		-----		-----	1134		-----		-----
252		-----		-----	1161		-----		-----
253		-----		-----	1167		-----		-----
254		-----		-----	1177		-----		-----
256		-----		-----	1201		-----		-----
273		-----		-----	1205		-----		-----
311		-----		-----	1215		-----		-----
313		-----		-----	1231		-----		-----
323		-----		-----	1233		-----		-----
331		-----		-----	1259		-----		-----
333		-----		-----	1266		-----		-----
334		-----		-----	1269		-----		-----
336		-----		-----	1271	D7042	498.30		-----
337		-----		-----	1275		-----		-----
340		-----		-----	1299		-----		-----
343		-----		-----	1337		-----		-----
349		-----		-----	1340		-----		-----
351		-----		-----	1347		-----		-----
353		-----		-----	1348		-----		-----
356		-----		-----	1356		-----		-----
360	D7042	472.5		-----	1381	D7042	514.80		-----
370		-----		-----	1385		-----		-----
372		-----		-----	1395		-----		-----
391	D7042	478.9		-----	1402		-----		-----
398		-----		-----	1403		-----		-----
399		-----		-----	1404		-----		-----
440		-----		-----	1412		-----		-----
444		-----		-----	1419		-----		-----
445		-----		-----	1428		-----		-----
447		-----		-----	1431	D7042	490.19		-----
463		-----		-----	1455		-----		-----
494	D7042	475.7		-----	1459	D7042	497.9		-----
495	D7042	513.97		-----	1460		-----		-----
507		-----		-----	1501	D7042	494.31		-----
511		-----		-----	1510		-----		-----
529		-----		-----	1520		-----		-----
541	D7042	482.5		-----	1539		-----		-----
551		-----		-----	1543		-----		-----
557		-----		-----	1556		-----		-----
562		-----		-----	1564		-----		-----
575		-----		-----	1569		-----		-----
603		-----		-----	1586		-----		-----
604		-----		-----	1610		-----		-----
605		-----		-----	1613		-----		-----
607		-----		-----	1622		-----		-----
608		-----		-----	1631		-----		-----
631		-----		-----	1636		-----		-----
634		-----		-----	1643		-----		-----
657		-----		-----	1648		-----		-----
663		-----		-----	1650		-----		-----
671		-----		-----	1654		-----		-----

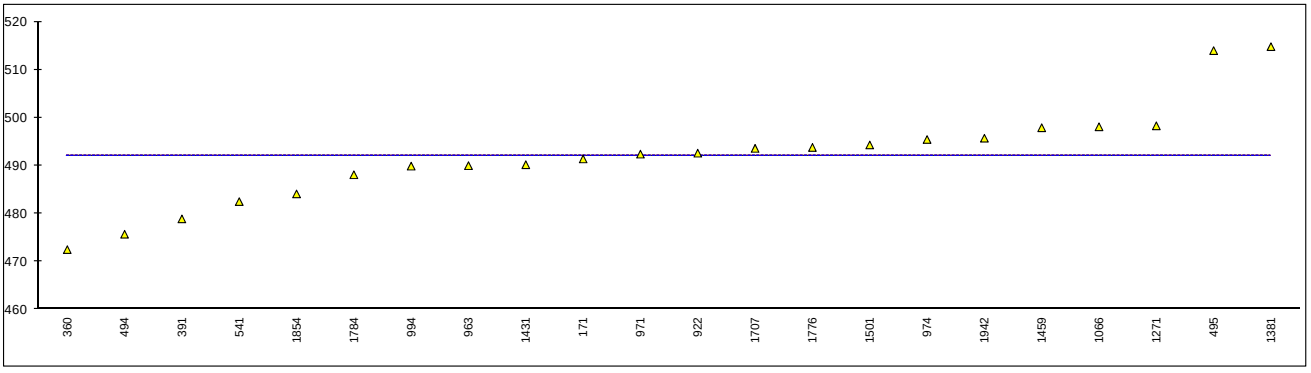
704		-----		-----
705		-----		-----
732		-----		-----
750		-----		-----
753		-----		-----
781		-----		-----
784		-----		-----
785		-----		-----
791		-----		-----
823		-----		-----
824		-----		-----
840		-----		-----
851		-----		-----
855		-----		-----
858		-----		-----
859		-----		-----
862		-----		-----
863		-----		-----
864		-----		-----
865		-----		-----
867		-----		-----
873		-----		-----
874		-----		-----
875		-----		-----
886		-----		-----
887		-----		-----
902		-----		-----
904		-----		-----
912		-----		-----
913		-----		-----

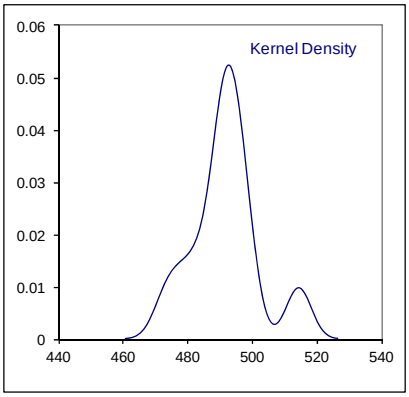
1677		-----		-----
1681		-----		-----
1707	D7042	493.6		-----
1710		-----	W	-----
1720		-----		-----
1724		-----		-----
1740		-----		-----
1761		-----		-----
1773		-----		-----
1774		-----		-----
1775		-----		-----
1776	D7042	493.79		-----
1784	D7042	488.1		-----
1807		-----		-----
1810		-----		-----
1811		-----		-----
1832		-----		-----
1833		-----		-----
1842		-----		-----
1849		-----		-----
1854	D7042	484.1		-----
1906		-----		-----
1914		-----		-----
1915		-----		-----
1936		-----		-----
1937		-----		-----
1938		-----		-----
1942	D7042	495.71	C	-----
1948		-----		-----
1951		-----		-----
2129		-----		-----

normality	OK
n	22
outliers	0
mean (n)	492.010
st.dev. (n)	10.1159
R(calc.)	28.325
R(D7042:12a)	(unknown)

Lab 1710 result withdrawn, first reported: 539.6

Lab 1942 result was reported under kin. viscosity @ 50 ºC





Determination of Viscosity Stabinger @ 100°C on sample #14001; results in mm²/s

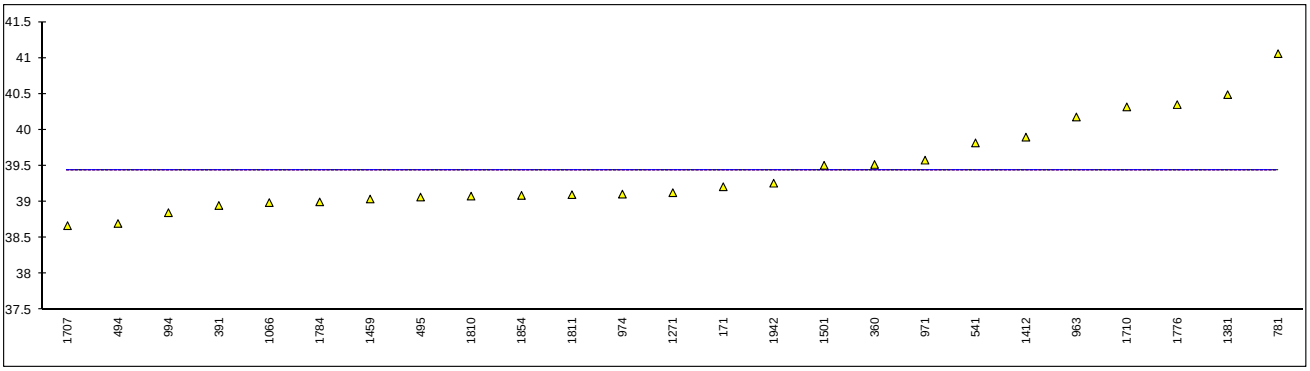
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
52		-----		-----	922		-----		-----
62		-----		-----	962		-----		-----
90		-----		-----	963	D7042	40.18		-----
92		-----		-----	971	D7042	39.58		-----
120		-----		-----	974	D7042	39.108		-----
131		-----		-----	982		-----		-----
132		-----		-----	993		-----		-----
154		-----		-----	994	D7042	38.85		-----
159		-----		-----	995		-----		-----
168		-----		-----	996		-----		-----
169		-----		-----	997		-----		-----
171	D7042	39.21		-----	1011		-----		-----
175		-----		-----	1016		-----		-----
179		-----		-----	1022		-----		-----
193		-----		-----	1059		-----		-----
194		-----		-----	1062		-----		-----
212		-----		-----	1065		-----		-----
221		-----		-----	1066	D7042	38.99		-----
224		-----		-----	1095		-----		-----
225		-----		-----	1109		-----		-----
228		-----		-----	1121		-----		-----
230		-----		-----	1126		-----		-----
237		-----		-----	1131		-----		-----
238		-----		-----	1134		-----		-----
252		-----		-----	1161		-----		-----
253		-----		-----	1167		-----		-----
254		-----		-----	1177		-----		-----
256		-----		-----	1201		-----		-----
273		-----		-----	1205		-----		-----
311		-----		-----	1215		-----		-----
313		-----		-----	1231		-----		-----
323		-----		-----	1233		-----		-----
331		-----		-----	1259		-----		-----
333		-----		-----	1266		-----		-----
334		-----		-----	1269		-----		-----
336		-----		-----	1271	D7042	39.128		-----
337		-----		-----	1275		-----		-----
340		-----		-----	1299		-----		-----
343		-----		-----	1337		-----		-----
349		-----		-----	1340		-----		-----
351		-----		-----	1347		-----		-----
353		-----		-----	1348		-----		-----
356		-----		-----	1356		-----		-----
360	D7042	39.52		-----	1381	D7042	40.490		-----
370		-----		-----	1385		-----		-----
372		-----		-----	1395		-----		-----
391	D7042	38.95		-----	1402		-----		-----
398		-----		-----	1403		-----		-----
399		-----		-----	1404		-----		-----
440		-----		-----	1412	D7042	39.90		-----
444		-----		-----	1419		-----		-----
445		-----		-----	1428		-----		-----
447		-----		-----	1431		-----		-----
463		-----		-----	1455		-----		-----
494	D7042	38.70		-----	1459	D7042	39.04		-----
495	D7042	39.067		-----	1460		-----		-----
507		-----		-----	1501	D7042	39.509		-----
511		-----		-----	1510		-----		-----
529		-----		-----	1520		-----		-----
541	D7042	39.82		-----	1539		-----		-----
551		-----		-----	1543		-----		-----
557		-----		-----	1556		-----		-----
562		-----		-----	1564		-----		-----
575		-----		-----	1569		-----		-----
603		-----		-----	1586		-----		-----
604		-----		-----	1610		-----		-----
605		-----		-----	1613		-----		-----
607		-----		-----	1622		-----		-----
608		-----		-----	1631		-----		-----
631		-----		-----	1636		-----		-----
634		-----		-----	1643		-----		-----
657		-----		-----	1648		-----		-----
663		-----		-----	1650		-----		-----
671		-----		-----	1654		-----		-----

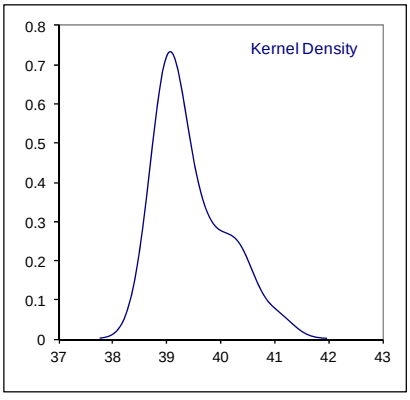
704		-----	-----
705		-----	-----
732		-----	-----
750		-----	-----
753		-----	-----
781	D7042	41.06	-----
784		-----	-----
785		-----	-----
791		-----	-----
823		-----	-----
824		-----	-----
840		-----	-----
851		-----	-----
855		-----	-----
858		-----	-----
859		-----	-----
862		-----	-----
863		-----	-----
864		-----	-----
865		-----	-----
867		-----	-----
873		-----	-----
874		-----	-----
875		-----	-----
886		-----	-----
887		-----	-----
902		-----	-----
904		-----	-----
912		-----	-----
913		-----	-----

1677		-----	-----
1681		-----	-----
1707	D7042	38.67	-----
1710	D7042	40.32	-----
1720		-----	-----
1724		-----	-----
1740		-----	-----
1761		-----	-----
1773		-----	-----
1774		-----	-----
1775		-----	-----
1776	D7042	40.352	-----
1784	D7042	39.00	-----
1807		-----	-----
1810	D7042	39.08	-----
1811	D7042	39.10	-----
1832		-----	-----
1833		-----	-----
1842		-----	-----
1849		-----	-----
1854	D7042	39.09	-----
1906		-----	-----
1914		-----	-----
1915		-----	-----
1936		-----	-----
1937		-----	-----
1938		-----	-----
1942	D7042	39.26	C -----
1948		-----	-----
1951		-----	-----
2129		-----	-----

normality	not OK
n	25
outliers	0
mean (n)	39.439
st.dev. (n)	0.6242
R(calc.)	1.748
R(D7042:12a)	(unknown)

Lab 1942 result was reported under kin. viscosity @ 100 ºC





Determination of Micro Carbon Residue Test on sample #14001; results in %M/M

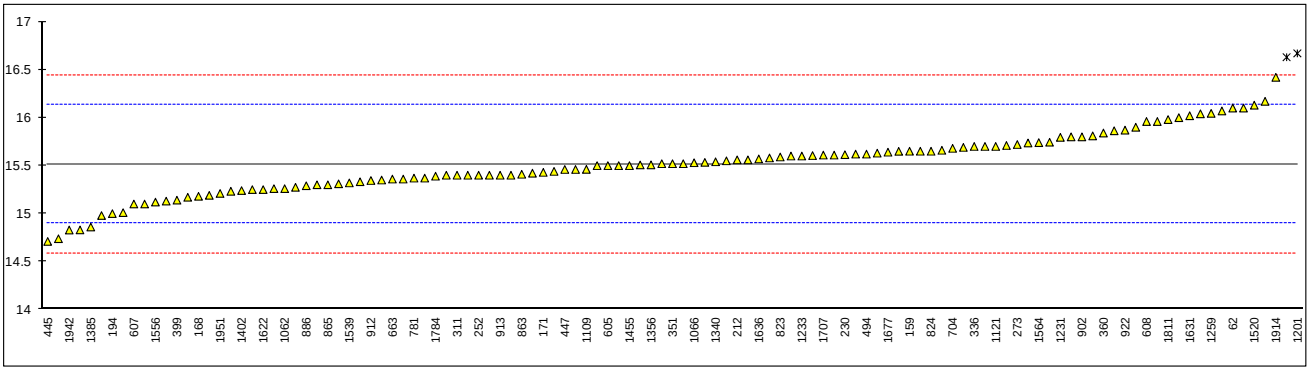
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
52	D4530	15.4		-0.37	922	D4530	15.87		1.15
62	D4530	16.1		1.89	962		-----		-----
90		-----		-----	963	ISO10370	16.07	C	1.80
92		-----		-----	971	ISO10370	15.01		-1.63
120	D4530	15.6		0.28	974		-----		-----
131	D4530	15.9		1.25	982		-----		-----
132	ISO10370	15.649		0.44	993		-----		-----
154	D4530	15.2325		-0.91	994		-----		-----
159	D4530	15.65		0.44	995		-----		-----
168	D4530	15.18		-1.08	996		-----		-----
169		-----		-----	997		-----		-----
171	D4530	15.43		-0.27	1011	D4530	15.50		-0.05
175	D4530	15.4		-0.37	1016		-----		-----
179		-----		-----	1022	ISO10370	16.17		2.12
193		-----		-----	1059	ISO10370	15.26		-0.82
194	ISO10370	15.00		-1.66	1062	D4530	15.26		-0.82
212	ISO10370	15.56		0.15	1065		-----		-----
221		-----		-----	1066	ISO10370	15.53		0.05
224		-----		-----	1095	D4530	16.0		1.57
225		-----		-----	1109	D4530	15.461		-0.17
228		-----		-----	1121	IP398	15.7		0.60
230	ISO10370	15.614		0.32	1126		-----		-----
237	D4530	15.5		-0.05	1131		-----		-----
238		-----		-----	1134		-----		-----
252	D4530	15.40		-0.37	1161		-----		-----
253		-----		-----	1167		-----		-----
254		-----		-----	1177		-----		-----
256		-----		-----	1201	ISO10370	16.67	DG(0.05)	3.73
273	D4530	15.72		0.66	1205		-----		-----
311	ISO10370	15.4		-0.37	1215	D4530	16.10		1.89
313		-----		-----	1231	D4530	15.795		0.91
323	D4530	15.8		0.92	1233	ISO10370	15.6	C	0.28
331	ISO10370	15.25		-0.85	1259	ISO10370	16.0446		1.71
333		-----		-----	1266		-----		-----
334	ISO10370	14.83		-2.21	1269		-----		-----
336	ISO10370	15.70		0.60	1271	ISO10370	15.46		-0.18
337		-----		-----	1275		-----		-----
340	ISO10370	15.560		0.15	1299		-----		-----
343	ISO10370	15.62		0.34	1337		-----		-----
349		-----		-----	1340	ISO10370	15.54		0.08
351	ISO10370	15.520		0.02	1347	D4530	15.863		1.13
353		-----		-----	1348	D4530	15.69		0.57
356		-----		-----	1356	ISO10370	15.508		-0.02
360	ISO10370	15.84		1.05	1381	ISO10370	15.605		0.29
370	ISO10370	15.58		0.21	1385	D4530	14.86		-2.11
372	ISO10370	15.71		0.63	1395		-----		-----
391	ISO10370	15.63		0.37	1402	ISO10370	15.24		-0.89
398		-----		-----	1403		-----		-----
399	ISO10370	15.14		-1.21	1404	ISO10370	15.13		-1.24
440		-----		-----	1412		-----		-----
444		-----		-----	1419		-----		-----
445	ISO10370	14.71		-2.60	1428	ISO10370	15.44		-0.24
447	IP398	15.46		-0.18	1431		-----		-----
463	ISO10370	15.534		0.06	1455	ISO10370	15.5		-0.05
494	ISO10370	15.62		0.34	1459		-----		-----
495	ISO10370	15.52		0.02	1460		-----		-----
507		-----		-----	1501	ISO10370	15.274		-0.78
511		-----		-----	1510	D4530	15.35		-0.53
529		-----		-----	1520	ISO10370	16.13		1.99
541		-----		-----	1539	ISO10370	15.32		-0.63
551	ISO10370	16.63	DG(0.05)	3.60	1543		-----		-----
557		-----		-----	1556	ISO10370	15.12		-1.27
562		-----		-----	1564	D4530	15.74		0.73
575		-----		-----	1569	ISO10370	15.736		0.72
603	D4530	15.65		0.44	1586	ISO10370	16.04		1.70
604		-----		-----	1610		-----		-----
605	D4530	15.50		-0.05	1613	D4530	15.37		-0.47
607	D4530	15.1		-1.34	1622	D4530	15.25		-0.85
608	D4530	15.96		1.44	1631	ISO10370	16.02		1.63
631	D4530	15.19		-1.05	1636	ISO10370	15.570		0.18
634		-----		-----	1643		-----		-----
657	ISO10370	15.3		-0.69	1648		-----		-----
663	D4530	15.36		-0.50	1650		-----		-----
671	D4530	15.7		0.60	1654		-----		-----

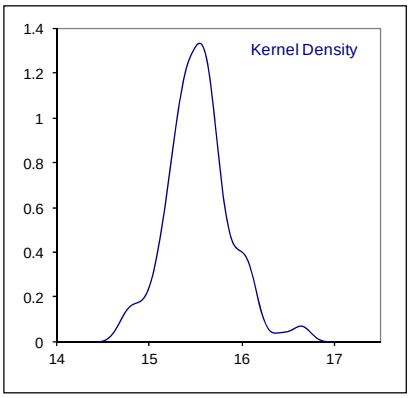
704	ISO10370	15.68	0.54
705		-----	-----
732		-----	-----
750		-----	-----
753	D4530	14.98	-1.73
781	ISO10370	15.37	-0.47
784		-----	-----
785		-----	-----
791		-----	-----
823	ISO10370	15.59	0.24
824	ISO10370	15.65	0.44
840		-----	-----
851	ISO10370	15.744	0.74
855	D4530	15.421	-0.30
858		-----	-----
859		-----	-----
862	ISO10370	15.507	-0.02
863	ISO10370	15.410	-0.34
864	D4530	15.31	-0.66
865	ISO10370	15.30	-0.69
867		-----	-----
873	ISO10370	15.332	-0.59
874	ISO10370	15.36	-0.50
875	D4530	15.1	-1.34
886	D4530	15.29	-0.72
887		-----	-----
902	D4530	15.8	0.92
904	ISO10370	15.4	-0.37
912	ISO10370	15.345	-0.55
913	ISO10370	15.40	-0.37
1677	ISO10370	15.64	0.41
1681		-----	-----
1707	ISO10370	15.61	0.31
1710	ISO10370	15.81	0.96
1720		-----	-----
1724	D4530	15.96	1.44
1740	ISO10370	15.17	-1.11
1761		-----	-----
1773		-----	-----
1774		-----	-----
1775		-----	-----
1776		-----	-----
1784	ISO10370	15.39	-0.40
1807	ISO10370	15.4	-0.37
1810	ISO10370	15.66	0.47
1811	ISO10370	15.98	1.50
1832		-----	-----
1833	ISO10370	15.55	0.12
1842	D4530	15.52	0.02
1849		-----	-----
1854	ISO10370	15.61	0.31
1906		-----	-----
1914	ISO10370	16.42	2.93
1915		-----	-----
1936		-----	-----
1937		-----	-----
1938		-----	-----
1942	D4530	14.829	-2.21
1948		-----	-----
1951	ISO10370	15.21	-0.98
2129	ISO10370	14.738	-2.51

normality	OK
n	115
outliers	2
mean (n)	15.514
st.dev. (n)	0.3162
R(calc.)	0.885
R(ISO10370:93)	0.867

Lab 963 first reported: 16.7

Lab 1233 first reported: 12.2





Determination of Pour Point (Lower) on sample #14001; results in °C

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
52		-----		-----	922	D97	-3		-0.79
62	D97	0		0.49	962		-----		-----
90		-----		-----	963	ISO3016	-3		-0.79
92	D97	-9	G(0.05)	-3.34	971		-----		-----
120		-----		-----	974	D97	3		1.76
131	D97	-6		-2.06	982	D97	3		1.76
132	ISO3016	-3		-0.79	993	ISO3016	0		0.49
154		-----		-----	994	ISO3016	0		0.49
159		-----		-----	995	D97	0		0.49
168		-----		-----	996	D97	0		0.49
169		-----		-----	997	D97	0		0.49
171	D97	-3		-0.79	1011		-----		-----
175		-----		-----	1016		-----		-----
179		-----		-----	1022		-----		-----
193		-----		-----	1059		-----		-----
194		-----		-----	1062		-----		-----
212	ISO3016	-3		-0.79	1065		-----		-----
221		-----		-----	1066		-----		-----
224	D97	6	C	3.04	1095	ISO3016	6		3.04
225		-----		-----	1109	D97	3		1.76
228		-----		-----	1121	IP15	0		0.49
230	ISO3016	-5.5		-1.85	1126		-----		-----
237		-----		-----	1131		-----		-----
238		-----		-----	1134		-----		-----
252		-----		-----	1161		-----		-----
253		-----		-----	1167	ISO3016	0		0.49
254		-----		-----	1177		-----		-----
256		-----		-----	1201		-----		-----
273		-----		-----	1205		-----		-----
311		-----		-----	1215		-----		-----
313		-----		-----	1231		-----		-----
323		-----		-----	1233		-----		-----
331		-----		-----	1259	ISO3016	-3		-0.79
333		-----		-----	1266		-----		-----
334		-----		-----	1269		-----		-----
336		-----		-----	1271	ISO3016	-3		-0.79
337		-----		-----	1275		-----		-----
340	ISO3016	-3		-0.79	1299		-----		-----
343		-----		-----	1337		-----		-----
349		-----		-----	1340		-----		-----
351		-----		-----	1347	D97	0		0.49
353		-----		-----	1348	D97	-6		-2.06
356		-----		-----	1356		-----		-----
360	ISO3016	3		1.76	1381	ISO3016	-0.8	C	0.15
370	ISO3016	-3		-0.79	1385	D97	3		1.76
372	ISO3016	-3		-0.79	1395		-----		-----
391	ISO3016	-6		-2.06	1402		-----		-----
398	ISO3016	-6		-2.06	1403		-----		-----
399	ISO3016	-6		-2.06	1404		-----		-----
440		-----		-----	1412		-----		-----
444		-----		-----	1419		-----		-----
445		-----		-----	1428	ISO3016	-3		-0.79
447		-----		-----	1431		-----		-----
463		-----		-----	1455	D5950	-6		-2.06
494		-----		-----	1459		-----		-----
495		-----		-----	1460		-----		-----
507		-----		-----	1501	ISO3016	0		0.49
511		-----		-----	1510	ISO3016	0		0.49
529	D97	0		0.49	1520		-----		-----
541	ISO3016	-3		-0.79	1539	ISO3016	3		1.76
551		-----		-----	1543		-----		-----
557	D97	0.0		0.49	1556		-----		-----
562	D97	0		0.49	1564		-----		-----
575		-----		-----	1569		-----		-----
603	D97	0		0.49	1586		-----		-----
604	D97	0		0.49	1610		-----		-----
605	D97	0		0.49	1613	D97	-3		-0.79
607		-----		-----	1622	D97	-3		-0.79
608		-----		-----	1631		-----		-----
631		-----		-----	1636		-----		-----
634		-----		-----	1643		-----		-----
657	ISO3016	3		1.76	1648	ISO3016	-3		-0.79
663	D97	3		1.76	1650		-----		-----
671	D97	0		0.49	1654		-----		-----

704		-----		-----
705		-----		-----
732	D97	-3.0		-0.79
750		-----		-----
753	D97	0		0.49
781	ISO3016	0		0.49
784	D97	3		1.76
785		-----		-----
791		-----		-----
823		-----		-----
824	ISO3016	0		0.49
840	D97	-3		-0.79
851		-----		-----
855	D97	-6		-2.06
858		-----		-----
859		-----		-----
862	ISO3016	-6		-2.06
863	ISO3016	-3		-0.79
864	D97	-6		-2.06
865	ISO3016	-6		-2.06
867	D97	-3		-0.79
873	ISO3016	3		1.76
874	ISO3016	0		0.49
875	D97	3		1.76
886		-----		-----
887		-----		-----
902		-----		-----
904	ISO3016	0+		-----
912		-----		-----
913	ISO3016	0		0.49

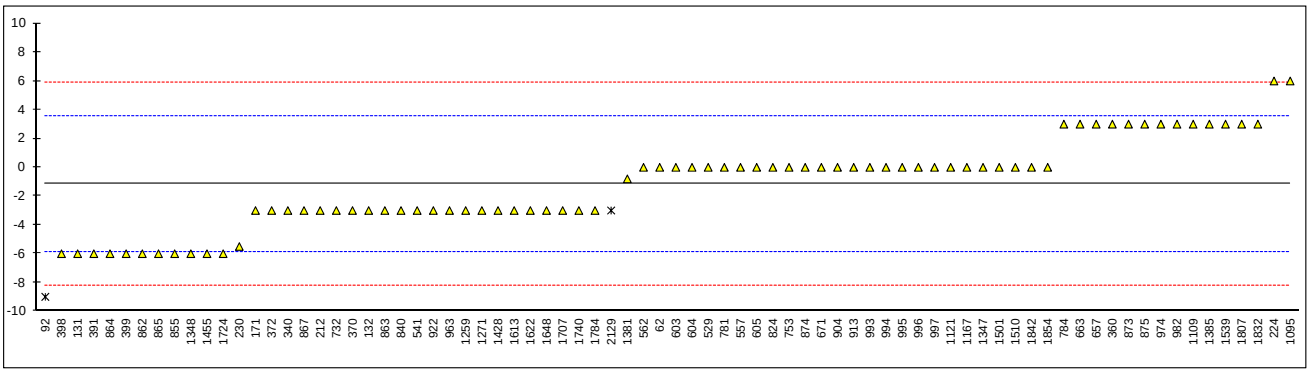
normality	OK	
n	76	
outliers	1	+ 1 excl
mean (n)	-1.15	
st.dev. (n)	3.085	
R(calc.)	8.64	
R(ISO3016:94)	6.59	

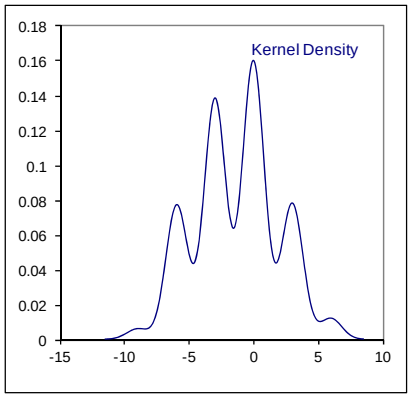
1677		-----		-----
1681		-----		-----
1707	ISO3016	-3		-0.79
1710		-----		-----
1720		-----		-----
1724	D97	-6		-2.06
1740	ISO3016	-3		-0.79
1761		-----		-----
1773		-----		-----
1774		-----		-----
1775		-----		-----
1776		-----		-----
1784	ISO3016	-3		-0.79
1807	ISO3016	3		1.76
1810		-----		-----
1811		-----		-----
1832	ISO3016	3		1.76
1833		-----		-----
1842	D5853	0		0.49
1849		-----		-----
1854	ISO3016	0		0.49
1906		-----		-----
1914		-----		-----
1915		-----		-----
1936		-----		-----
1937		-----		-----
1938		-----		-----
1942		-----		-----
1948		-----		-----
1951		-----		-----
2129	ISO3016	-3	ex	-0.79

ex = excluded, see §4.1 lower PP > upper PP

Lab 224 first reported: 13

Lab 1381 first reported: -0.85





Determination of Pour Point (Upper) on sample #14001; results in °C

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
52	D97	-3		-1.74	922	D97	0		-0.47
62	D97	-3		-1.74	962		-----		-----
90	D97	6		2.08	963	ISO3016	0		-0.47
92	D97	-6		-3.02	971	ISO3016	0		-0.47
120	D97	3		0.81	974	D97	3		0.81
131	D97	-3		-1.74	982	D97	6		2.08
132	ISO3016	-3		-1.74	993	ISO3016	3		0.81
154		-----		-----	994	ISO3016	3		0.81
159		-----		-----	995	D97	3		0.81
168	D97	3		0.81	996	D97	3		0.81
169		-----		-----	997	D97	3		0.81
171		-----		-----	1011	D97	-3		-1.74
175	D97	0		-0.47	1016		-----		-----
179		-----		-----	1022		-----		-----
193		-----		-----	1059		-----		-----
194	ISO3016	-6.0		-3.02	1062		-----		-----
212		-----		-----	1065		-----		-----
221		-----		-----	1066	ISO3016	-3		-1.74
224	D97	12	C,G(0.05)	4.63	1095		-----		-----
225	D97	9		3.36	1109	D97	6		2.08
228	D97	3		0.81	1121	IP15	3		0.81
230	ISO3016	0.5		-0.25	1126		-----		-----
237	D97	0		-0.47	1131		-----		-----
238		-----		-----	1134	IP15	3		0.81
252	D97	0		-0.47	1161	ISO3016	3		0.81
253	D97	3		0.81	1167	ISO3016	3		0.81
254	D97	0		-0.47	1177		-----		-----
256	D97	3		0.81	1201		-----		-----
273	D97	3		0.81	1205		-----		-----
311		-----		-----	1215		-----		-----
313		-----		-----	1231		-----		-----
323	D97	6		2.08	1233		-6		-3.02
331		-----		-----	1259	ISO3016	0		-0.47
333		-----		-----	1266		-----		-----
334	D95	-3	C	-1.74	1269		-----		-----
336		-----		-----	1271	ISO3016	0		-0.47
337		-----		-----	1275		-----		-----
340		-----		-----	1299		-----		-----
343		-----		-----	1337		-----		-----
349		-----		-----	1340		-----		-----
351		-----		-----	1347	D97	3		0.81
353		-----		-----	1348	D97	-3		-1.74
356		-----		-----	1356	ISO3016	0		-0.47
360	ISO3016	6		2.08	1381	ISO3016	2.2	C	0.47
370	ISO3016	0		-0.47	1385	D97	6		2.08
372	ISO3016	0		-0.47	1395		-----		-----
391	ISO3016	-3		-1.74	1402	IP15	-3		-1.74
398	ISO3016	-3		-1.74	1403		-----		-----
399	ISO3016	0		-0.47	1404		-----		-----
440		-----		-----	1412	D97	6		2.08
444		-----		-----	1419		-----		-----
445	IP441	0		-0.47	1428	ISO3016	0		-0.47
447	IP15	0		-0.47	1431	D97	3		0.81
463		-----		-----	1455	D5950	-6		-3.02
494		-----		-----	1459		-----		-----
495	ISO3016	9		3.36	1460		-----		-----
507		-----		-----	1501	ISO3016	3		0.81
511		-----		-----	1510	ISO3016	6		2.08
529	D97	3		0.81	1520	ISO3016	3		0.81
541	ISO3016	0		-0.47	1539	ISO3016	6		2.08
551		-----		-----	1543		-----		-----
557		-----		-----	1556	ISO3016	-8.5	G(0.05)	-4.08
562	D97	3		0.81	1564		-----		-----
575		-----		-----	1569		-----		-----
603	D97	3		0.81	1586	ISO3016	-6		-3.02
604	D97	3		0.81	1610		-----		-----
605	D97	3		0.81	1613	D97	0		-0.47
607		-----		-----	1622	D97	0		-0.47
608		-----		-----	1631	ISO3016	-3		-1.74
631		-----		-----	1636	ISO3016	3		0.81
634		-----		-----	1643	D97	6		2.08
657	ISO3016	6		2.08	1648	ISO3016	0		-0.47
663	D97	6		2.08	1650		-----		-----
671	D97	0		-0.47	1654		-----		-----

704	ISO3016	0		-0.47
705	ISO3016	0		-0.47
732	D97	0		-0.47
750	D97	6		2.08
753	D97	3		0.81
781	ISO3016	3		0.81
784	D97	6		2.08
785		-----		-----
791		-----		-----
823	ISO3016	-3		-1.74
824	ISO3016	0		-0.47
840	D97	0		-0.47
851	ISO3016	-3		-1.74
855	D97	-3		-1.74
858	D97	-3		-1.74
859	ISO3016	-3		-1.74
862	ISO3016	-3		-1.74
863	ISO3016	-3		-1.74
864	D97	-3		-1.74
865	ISO3016	-3		-1.74
867	D97	-3		-1.74
873	ISO3016	6		2.08
874	ISO3016	3		0.81
875	D97	6		2.08
886		-----		-----
887		-----		-----
902	D97	0		-0.47
904	ISO3016	3		0.81
912	ISO3016	0		-0.47
913	ISO3016	3		0.81
1677	ISO3016	3		0.81
1681		-----		-----
1707	ISO3016	0		-0.47
1710		-----		-----
1720		-----		-----
1724	D97	-3		-1.74
1740	ISO3016	0		-0.47
1761		-----		-----
1773		-----		-----
1774		-----		-----
1775		-----		-----
1776		-----		-----
1784	ISO3016	0		-0.47
1807		-----		-----
1810		-----		-----
1811		-----		-----
1832	ISO3016	6		2.08
1833	ISO3016	-3		-1.74
1842	D5853	3		0.81
1849	ISO3016	-3	C	-1.74
1854	ISO3016	3		0.81
1906		-----		-----
1914	ISO3016	9		3.36
1915		-----		-----
1936		-----		-----
1937		-----		-----
1938		-----		-----
1942		-----		-----
1948		-----		-----
1951		-----		-----
2129	ISO3016	-6	ex	-3.02

normality	OK	
n	117	
outliers	2	+ 1 excl
mean (n)	1.10	
st.dev. (n)	3.510	
R(calc.)	9.83	
R(ISO3016:94)	6.59	

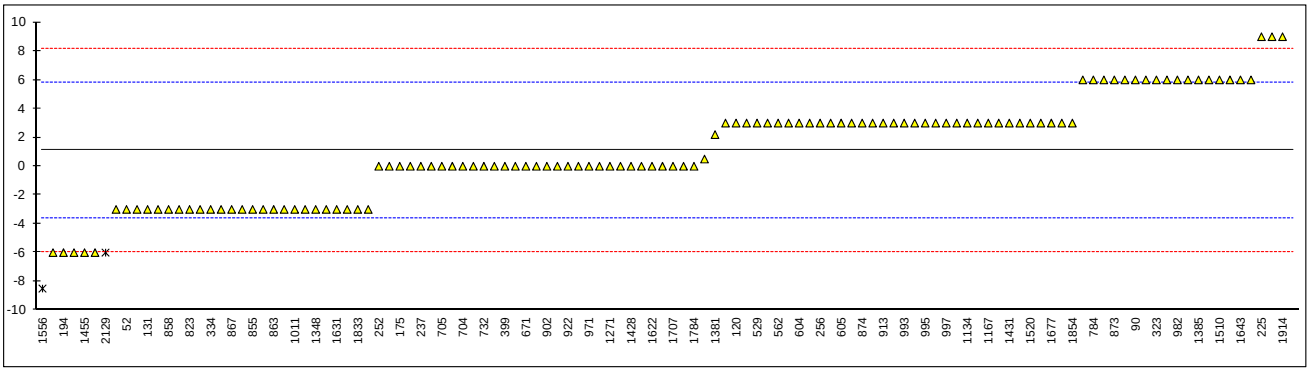
ex = excluded, see §4.1 higher PP < lower PP

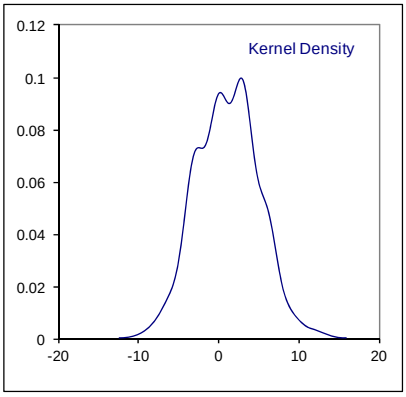
Lab 1381 first reported: 2.15

Lab 224 first reported: 7

Lab 1849 first reported: 1.0

Lab 334 first reported: -9





Determination of Pour Point (Automated) on sample #14001; results in °C

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
52		-----		-----	922		-----		-----
62		-----		-----	962		-----		-----
90		-----		-----	963		-----		-----
92		-----		-----	971		-----		-----
120		-----		-----	974		-----		-----
131		-----		-----	982		-----		-----
132		-----		-----	993		-----		-----
154		-----		-----	994		-----		-----
159		-----		-----	995		-----		-----
168		-----		-----	996		-----		-----
169		-----		-----	997		-----		-----
171		-----		-----	1011		-----		-----
175		-----		-----	1016		-----		-----
179		-----		-----	1022		-----		-----
193		-----		-----	1059	ISO3016	-3	ex	0.83
194		-----		-----	1062	D97	-6	ex	-0.54
212		-----		-----	1065	D5950	-9		-1.92
221		-----		-----	1066		-9		-1.92
224		-----		-----	1095		-----		-----
225		-----		-----	1109		-----		-----
228		-----		-----	1121		-----		-----
230		-----		-----	1126		-----		-----
237		-----		-----	1131		-----		-----
238		-----		-----	1134		-----		-----
252		-----		-----	1161	D6749	3	G(0.05)	3.59
253		-----		-----	1167	D6749	0		2.21
254		-----		-----	1177		-----		-----
256		-----		-----	1201		-3		0.83
273		-----		-----	1205		-----		-----
311		-----		-----	1215	D5950	0		2.21
313		-----		-----	1231	D5950	-6		-0.54
323		-----		-----	1233		-----		-----
331	ISO3016	-3.0	ex	0.83	1259		-----		-----
333	D5950	-3		0.83	1266		-----		-----
334		-----		-----	1269		-----		-----
336		-----		-----	1271		-----		-----
337		-----		-----	1275		-----		-----
340		-----		-----	1299	D97	-6	ex	-0.54
343	ISO3016	0	ex	2.21	1337		-----		-----
349		-----		-----	1340	ISO3016	-3	ex	0.83
351		-----		-----	1347		-----		-----
353		-----		-----	1348		-----		-----
356		-----		-----	1356		-----		-----
360		-----		-----	1381		-----		-----
370		-----		-----	1385		-----		-----
372	D5950	-3		0.83	1395		-----		-----
391		-----		-----	1402		-----		-----
398		-----		-----	1403		-----		-----
399		-----		-----	1404	ISO3016	0	ex	2.21
440		-----		-----	1412		-----		-----
444		-----		-----	1419		-----		-----
445		-----		-----	1428	D6749	-3		0.83
447		-----		-----	1431		-----		-----
463	D6892	-6		-0.54	1455		-----		-----
494	D6892	-6		-0.54	1459	ISO3016	-6	ex	-0.54
495		-----		-----	1460		-----		-----
507		-----		-----	1501		-----		-----
511		-----		-----	1510		-----		-----
529		-----		-----	1520		-----		-----
541		-----		-----	1539		-----		-----
551		-----		-----	1543		-----		-----
557		-----		-----	1556		-----		-----
562		-----		-----	1564	D5950	-3		0.83
575		-----		-----	1569	D6892	-9		-1.92
603		-----		-----	1586		-6		-0.54
604		-----		-----	1610		-----		-----
605		-----		-----	1613		-----		-----
607		-----		-----	1622		-----		-----
608		-----		-----	1631		-----		-----
631		-----		-----	1636		-----		-----
634		-----		-----	1643		-----		-----
657		-----		-----	1648		-----		-----
663		-----		-----	1650	D5950	-6.0		-0.54
671		-----		-----	1654	ISO3016	-3.0	ex	0.83

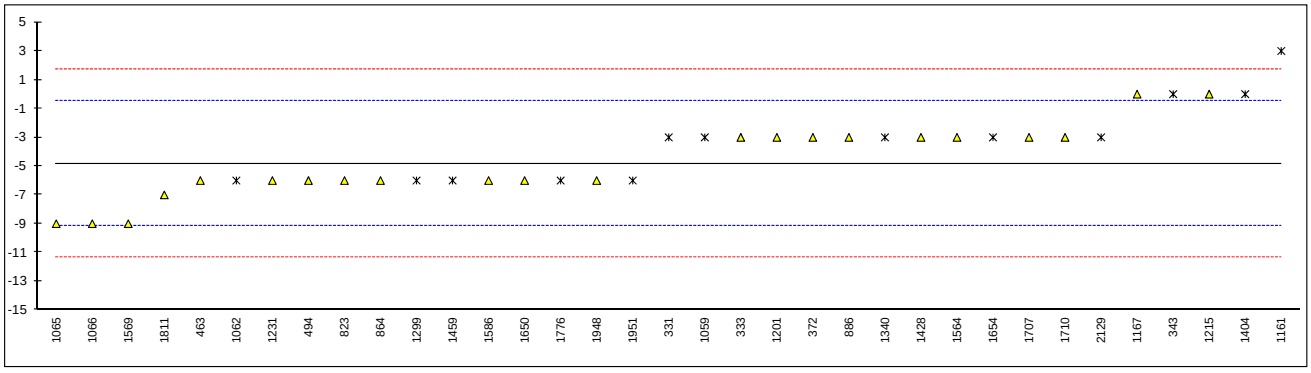
704		-----	-----
705		-----	-----
732		-----	-----
750		-----	-----
753		-----	-----
781		-----	-----
784		-----	-----
785		-----	-----
791		-----	-----
823	D5950	-6	-0.54
824		-----	-----
840		-----	-----
851		-----	-----
855		-----	-----
858		-----	-----
859		-----	-----
862		-----	-----
863		-----	-----
864		-6	-0.54
865		-----	-----
867		-----	-----
873		-----	-----
874		-----	-----
875		-----	-----
886	D5950	-3	0.83
887		-----	-----
902		-----	-----
904		-----	-----
912		-----	-----
913		-----	-----

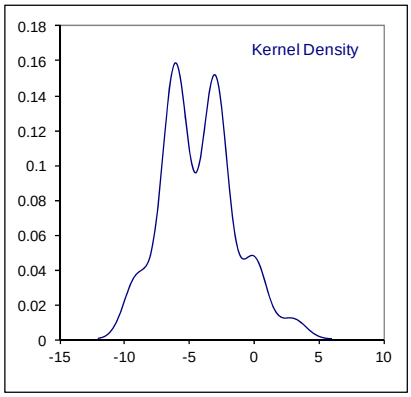
1677		-----	-----
1681		-----	-----
1707	D5950	-3	0.83
1710		-3	0.83
1720		-----	-----
1724		-----	-----
1740		-----	-----
1761		-----	-----
1773		-----	-----
1774		-----	-----
1775		-----	-----
1776	D97	-6	ex -0.54
1784		-----	-----
1807		-----	-----
1810		-----	-----
1811		-7	C -1.00
1832		-----	-----
1833		-----	-----
1842		-----	-----
1849		-----	-----
1854		-----	-----
1906		-----	-----
1914		-----	-----
1915		-----	-----
1936		-----	-----
1937		-----	-----
1938		-----	-----
1942		-----	-----
1948		-6	-0.54
1951	ISO3016	-6	ex -0.54
2129	D97	-3	ex 0.83

normality	OK
n	22
outliers	1 + 12 excl.
mean (n)	-4.82
st.dev. (n)	2.594
R(calc.)	7.26
R(5950:12a)	6.10

ex = excluded, see § 4.1

Lab 1811 first reported: -4





Determination of Sediment by Extraction on sample #14001; results in %M/M

lab	method	value	mark	z(targ)	lab	Method	value	mark	z(targ)
52	D473	0.02		0.01	922	D473	0.017		-0.21
62	D473	0.03		0.75	962		-----		-----
90	D473	0.0204		0.04	963	D473	0.014		-0.43
92	D473	0.126	G(0.01)	7.81	971	ISO3735	0.024		0.30
120	D473	0.02		0.01	974	D473	0.026		0.45
131	D473	0.01		-0.73	982		-----		-----
132	D473	0.0169		-0.22	993	D473	0.021		0.08
154	D473	0.0311		0.83	994	D473	0.023		0.23
159	D473	0.036		1.19	995	D473	0.0272		0.54
168	D473	0.0288		0.66	996		-----		-----
169		-----		-----	997	D473	0.023		0.23
171	D473	0.009		-0.80	1011		-----		-----
175	D473	0.03		0.75	1016		-----		-----
179	D473	<0.01		-----	1022		-----		-----
193		-----		-----	1059		-----		-----
194	D473	0.025		0.38	1062		-----		-----
212	D473	0.03		0.75	1065		-----		-----
221		-----		-----	1066	D473	0.014		-0.43
224		-----		-----	1095	D473	0.01		-0.73
225	D473	0.023		0.23	1109	D473	0.013		-0.51
228	D473	0.3	G(0.01)	20.60	1121	IP53	0.01		-0.73
230	D473	0.015		-0.36	1126		-----		-----
237	D473	0.019		-0.06	1131		-----		-----
238		-----		-----	1134	IP53	0.03		0.75
252	D473	0.0228		0.22	1161	ISO3735	0.03		0.75
253		-----		-----	1167		-----		-----
254	D473	0.02		0.01	1177		-----		-----
256	D473	0.02		0.01	1201	D473	0.019		-0.06
273	D473	0.024		0.30	1205		-----		-----
311	D473	0.02		0.01	1215	D473	0.008		-0.87
313		-----		-----	1231		-----		-----
323	D473	0.02	C	0.01	1233		-----		-----
331		-----		-----	1259		-----		-----
333	D473	<0.01		-----	1266		-----		-----
334		-----		-----	1269		-----		-----
336		-----		-----	1271		-----		-----
337		-----		-----	1275		-----		-----
340	D473	0.007		-0.95	1299		-----		-----
343		-----		-----	1337		-----		-----
349		-----		-----	1340		-----		-----
351		-----		-----	1347	D473	0.0168		-0.23
353	IP53	0.0172		-0.20	1348	D473	0.01		-0.73
356		-----		-----	1356		-----		-----
360	ISO3735	0.019		-0.06	1381	D473	0.0142		-0.42
370	D473	0.017		-0.21	1385		-----		-----
372	D473	0.020		0.01	1395		-----		-----
391	D473	0.02		0.01	1402	D473	0.03		0.75
398	ISO3735	0.018		-0.14	1403		-----		-----
399	D473	0.01		-0.73	1404		-----		-----
440		-----		-----	1412		-----		-----
444		-----		-----	1419		-----		-----
445	ISO3735	0.01		-0.73	1428	D473	0.021		0.08
447	D473	0.01		-0.73	1431		-----		-----
463	ISO3735	0.019		-0.06	1455	D473	0.015		-0.36
494	D473	0.021		0.08	1459		-----		-----
495	D473	0.03		0.75	1460		-----		-----
507		-----		-----	1501	ISO3735	0.031		0.82
511	D473	0.026		0.45	1510	D473	0.018		-0.14
529		-----		-----	1520	D473	0.013		-0.51
541	D473	0.03		0.75	1539	ISO3735	0.012		-0.58
551	D473	0.043	DG(0.05)	1.70	1543		-----		-----
557	D473	0.015		-0.36	1556	ISO3735	0.014		-0.43
562	D473	0.021		0.08	1564		-----		-----
575	D473	0.009		-0.80	1569		-----		-----
603	D473	0.0475	DG(0.05)	2.03	1586	D473	0.005		-1.09
604		-----		-----	1610		-----		-----
605	D473	0.021		0.08	1613	D473	0.028		0.60
607	D473	0.024		0.30	1622	D473	0.03		0.75
608	D473	0.033		0.97	1631		-----		-----
631	D473	0.007		-0.95	1636		-----		-----
634	D473	0.005	C	-1.09	1643		-----		-----
657	D473	0.02		0.01	1648		-----		-----
663	D473	0.011		-0.65	1650	D473	0.010		-0.73
671	D473	0.036		1.19	1654		-----		-----

704	D473	0.027		0.52
705	D473	0.023		0.23
732	D473	0.020		0.01
750		-----		-----
753	D473	0.030		0.75
781	D473	0.02		0.01
784	D473	0.015		-0.36
785	D473	0.02		0.01
791		-----		-----
823	ISO3735	0.015		-0.36
824	D473	0.02		0.01
840	D473	0.028		0.60
851		-----		-----
855	D473	0.014		-0.43
858	D473	0.016		-0.28
859	D473	0.013		-0.51
862	D473	0.012		-0.58
863	D473	0.017		-0.21
864	D473	0.012		-0.58
865	D473	0.015		-0.36
867	D473	0.014		-0.43
873	D473	0.033		0.97
874	D473	0.029		0.67
875	D473	0.02		0.01
886		-----		-----
887		-----		-----
902	D473	0.03		0.75
904	D473	0.03		0.75
912		-----		-----
913	D473	0.0318		0.88

1677	D473	0.02	0.01
1681	D473	0.005	-1.09
1707		-----	-----
1710		-----	-----
1720		-----	-----
1724		-----	-----
1740	D473	0.021	0.08
1761		-----	-----
1773		-----	-----
1774		-----	-----
1775		-----	-----
1776		-----	-----
1784	D473	0.019	-0.06
1807	D473	0.03	0.75
1810		-----	-----
1811		-----	-----
1832	INH-6370	0.0148	-0.37
1833		-----	-----
1842	D473	0.0243	0.33
1849		-----	-----
1854	D473	0.018	-0.14
1906		-----	-----
1914	D473	0.02	0.01
1915		-----	-----
1936		-----	-----
1937		-----	-----
1938		-----	-----
1942		-----	-----
1948		-----	-----
1951	ISO3735	0.024	0.30
2129	IP375	0.0197 ex	-0.01

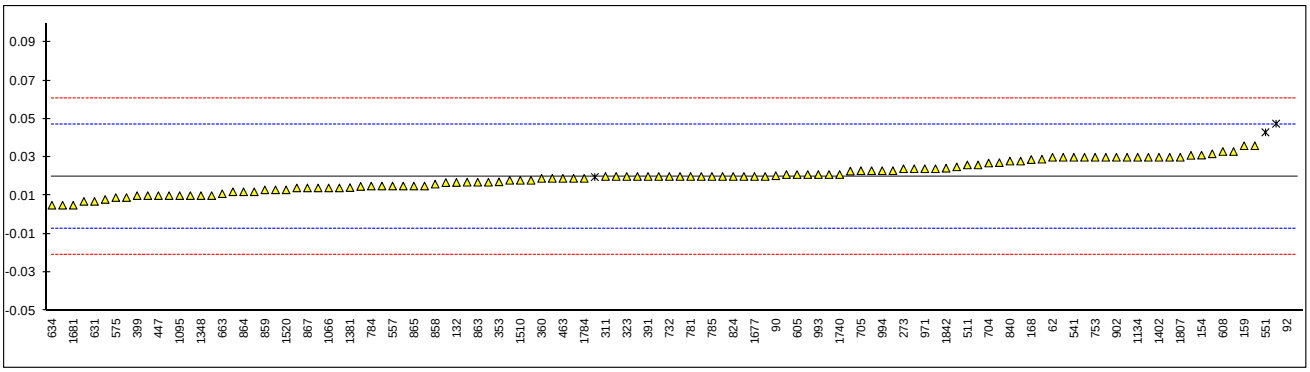
normality	not OK	
n	113	
outliers	4	+1 excl.
mean (n)	0.0199	
st.dev. (n)	0.00747	
R(calc.)	0.0209	
R(D473:07)	0.0381	

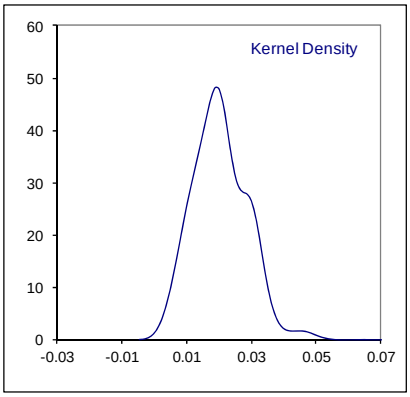
R(D473) = R(IP53)=R(ISO3735)

ex = excluded, see §4.1

Lab 323 first reported: 0.05

Lab 634 first reported: 0.05





Determination of Total Sediment by hot filtration of sample #14001; results in %M/M

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
52	D4870	0.01		-0.49	922	ISO10307-1	0.012		-0.34
62	D4870	0.01		-0.49	962		-----		-----
90		-----		-----	963	IP375	0.011		-0.42
92		-----		-----	971	ISO10307-1	0.021		0.32
120	D4870	0.02		0.25	974		-----		-----
131		-----		-----	982		-----		-----
132	ISO10307-1	<0.01		-----	993		-----		-----
154	IP375	0.0212		0.34	994	IP375	0.021		0.32
159		-----		-----	995	IP375	0.0129		-0.28
168		-----		-----	996		-----		-----
169		-----		-----	997		-----		-----
171	IP375	0.009		-0.56	1011	ISO10307-1	0.03		0.99
175		-----		-----	1016		-----		-----
179		-----		-----	1022		-----		-----
193		-----		-----	1059		-----		-----
194		-----		-----	1062		-----		-----
212		-----		-----	1065	IP375	0.035		1.36
221		-----		-----	1066	IP375	0.01		-0.49
224		-----		-----	1095		-----		-----
225		-----		-----	1109		-----		-----
228		-----		-----	1121	IP375	0.03		0.99
230	ISO10307-1	0.017		0.03	1126		-----		-----
237		-----		-----	1131		-----		-----
238		-----		-----	1134	IP375	0.010		-0.49
252		-----		-----	1161		-----		-----
253		-----		-----	1167	ISO10307-1	0.02		0.25
254		-----		-----	1177		-----		-----
256		-----		-----	1201	IP375	0.01		-0.49
273		-----		-----	1205		-----		-----
311		-----		-----	1215		-----		-----
313		-----		-----	1231		-----		-----
323		-----		-----	1233		-----		-----
331		-----		-----	1259		-----		-----
333		-----		-----	1266		-----		-----
334		-----		-----	1269		-----		-----
336	IP375	0.02		0.25	1271		-----		-----
337		-----		-----	1275		-----		-----
340		-----		-----	1299	IP375	0.01		-0.49
343	IP375	<0.01		-----	1337		-----		-----
349		-----		-----	1340		-----		-----
351		-----		-----	1347		-----		-----
353		-----		-----	1348		-----		-----
356	IP375	0.018		0.10	1356	ISO10307-1	0.022		0.40
360	ISO10307-1	0.012		-0.34	1381		-----		-----
370	IP375	0.013		-0.27	1385		-----		-----
372	IP375	0.025		0.62	1395		-----		-----
391	IP375	0.01		-0.49	1402	IP375	0.04		1.72
398	ISO10307-1	0.026		0.69	1403		-----		-----
399		-----		-----	1404		-----		-----
440		-----		-----	1412		-----		-----
444		-----		-----	1419		-----		-----
445	IP375	0.003		-1.01	1428	ISO10307-1	0.017		0.03
447	IP375	0.02		0.25	1431	D4870	0.031173		1.07
463	IP375	0.0016		-1.11	1455	IP375	0.02		0.25
494	ISO10307-1	0.009		-0.56	1459		-----		-----
495		-----		-----	1460		-----		-----
507		-----		-----	1501	ISO10307-1	0.010		-0.49
511		-----		-----	1510		-----		-----
529		-----		-----	1520	IP375	0.006		-0.79
541		-----		-----	1539		-----		-----
551		-----		-----	1543		-----		-----
557		-----		-----	1556		-----		-----
562		-----		-----	1564		-----		-----
575		-----		-----	1569		-----		-----
603		-----		-----	1586		-----		-----
604		-----		-----	1610		-----		-----
605	IP375	0.021		0.32	1613		-----		-----
607		-----		-----	1622		-----		-----
608		-----		-----	1631		-----		-----
631	D4870	0.007		-0.71	1636		-----		-----
634		-----		-----	1643		-----		-----
657	IP375	0.02		0.25	1648		-----		-----
663		-----		-----	1650		-----		-----
671		-----		-----	1654		-----		-----
704	IP375	0.014		-0.20	1677		-----		-----

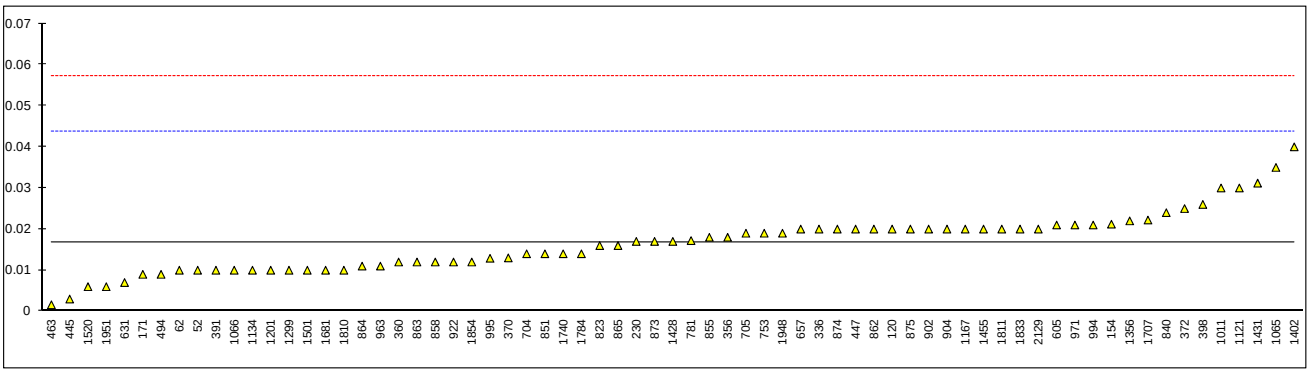
705	IP375	0.019	0.17
732		-----	-----
750		-----	-----
753	IP375	0.019	0.17
781	IP375	0.0172	0.04
784		-----	-----
785		-----	-----
791		-----	-----
823	ISO10307-1	0.016	-0.05
824		-----	-----
840	ISO10307-1	0.024	0.54
851	ISO10307-1	0.014	-0.20
855	ISO10307-1	0.018	0.10
858	D4870	0.012	-0.34
859		-----	-----
862	IP375	0.020	0.25
863	IP375	0.012	-0.34
864	ISO10307-1	0.011	-0.42
865	ISO10307-1	0.016	-0.05
867		-----	-----
873	IP375	0.017	0.03
874	IP375	0.020	0.25
875	IP375	0.02	0.25
886		-----	-----
887		-----	-----
902	IP375	0.02	0.25
904	ISO10307-1	0.02	0.25
912		-----	-----
913		-----	-----

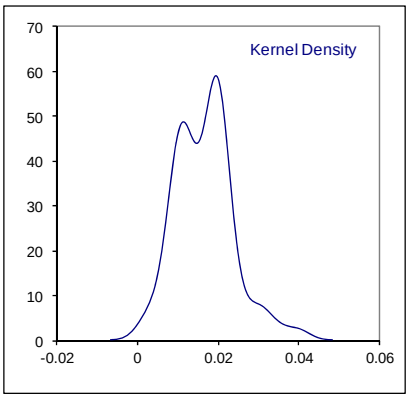
1681	IP375	0.010		-0.49
1707	ISO10307-1	0.0222		0.41
1710		-----		-----
1720		-----		-----
1724		-----		-----
1740	ISO10307-1	0.014		-0.20
1761		-----		-----
1773		-----		-----
1774		-----		-----
1775		-----		-----
1776		-----		-----
1784	IP375	0.014		-0.20
1807		-----		-----
1810	IP375	0.010		-0.49
1811	IP375	0.02		0.25
1832		-----		-----
1833	IP375	0.02		0.25
1842	IP375	<0.01		-----
1849		-----		-----
1854	IP375	0.012		-0.34
1906		-----		-----
1914		-----		-----
1915		-----		-----
1936		-----		-----
1937		-----		-----
1938		-----		-----
1942		-----		-----
1948	IP375	0.019	C	0.17
1951	IP375	0.006		-0.79
2129	IP375	0.020		0.25

normality	not OK
n	69
outliers	0
mean (n)	0.0166
st.dev. (n)	0.00717
R(calc.)	0.0201
R(IP375:99)	0.0379

R (IP375)=R(ISO10307-1)=R(D4870)

Lab 1948 first reported: 0.19





Determination of Total Sediment (Potential) of sample #14001; results in %M/M

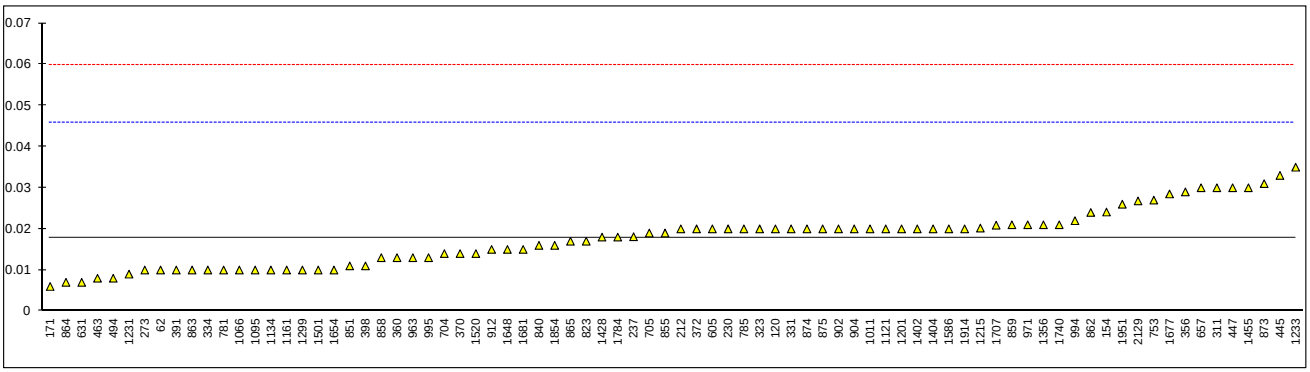
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
52		-----		-----	922		-----		-----
62	D4870	0.01		-0.56	962		-----		-----
90		-----		-----	963	IP390	0.013		-0.34
92		-----		-----	971	ISO10307-2	0.021		0.23
120	D4870	0.02		0.16	974		-----		-----
131		-----		-----	982		-----		-----
132	ISO10307-2	<0.01		-----	993		-----		-----
154	IP390	0.0241		0.45	994	IP390	0.022		0.30
159		-----		-----	995	IP390	0.0130		-0.34
168		-----		-----	996		-----		-----
169		-----		-----	997		-----		-----
171	IP390	0.006		-0.84	1011	ISO10307-2	0.02		0.16
175		-----		-----	1016		-----		-----
179		-----		-----	1022		-----		-----
193		-----		-----	1059		-----		-----
194		-----		-----	1062		-----		-----
212	ISO10307-2	0.02		0.16	1065		-----		-----
221		-----		-----	1066	IP390	0.01		-0.56
224		-----		-----	1095	IP390	0.01		-0.56
225		-----		-----	1109		-----		-----
228		-----		-----	1121	IP390	0.02		0.16
230	ISO10307	0.020		0.16	1126		-----		-----
237	D4870	0.0181		0.02	1131		-----		-----
238		-----		-----	1134	IP390	0.010		-0.56
252		-----		-----	1161	IP390	0.01		-0.56
253		-----		-----	1167		-----		-----
254		-----		-----	1177		-----		-----
256		-----		-----	1201	IP390	0.02		0.16
273	IP390	0.01		-0.56	1205		-----		-----
311	IP390	0.03		0.87	1215	D4870	0.0202		0.17
313		-----		-----	1231	D4870	0.009		-0.63
323	IP390	0.02		0.16	1233	IP390	0.035		1.23
331	ISO10307-2	0.020		0.16	1259		-----		-----
333		-----		-----	1266		-----		-----
334	ISO10370	0.01		-0.56	1269		-----		-----
336		-----		-----	1271		-----		-----
337		-----		-----	1275		-----		-----
340		-----		-----	1299	IP390	0.01		-0.56
343	IP390	<0.01		-----	1337		-----		-----
349		-----		-----	1340		-----		-----
351		-----		-----	1347		-----		-----
353		-----		-----	1348		-----		-----
356	IP390	0.029		0.80	1356	ISO10307-2	0.021		0.23
360	ISO10307-2	0.013		-0.34	1381		-----		-----
370	IP390	0.014		-0.27	1385		-----		-----
372	IP390	0.020		0.16	1395		-----		-----
391	IP390	0.01		-0.56	1402	IP390	0.02		0.16
398	ISO10307-2	0.011		-0.49	1403		-----		-----
399		-----		-----	1404	IP390	0.02		0.16
440		-----		-----	1412		-----		-----
444		-----		-----	1419		-----		-----
445	IP390	0.033		1.08	1428	ISO10307	0.018		0.01
447	IP390	0.03		0.87	1431		-----		-----
463	ISO10307-2	0.008		-0.70	1455	IP390	0.03		0.87
494	ISO10307-2	0.008		-0.70	1459		-----		-----
495		-----		-----	1460		-----		-----
507		-----		-----	1501	ISO10307	0.010		-0.56
511		-----		-----	1510		-----		-----
529		-----		-----	1520	IP390	0.014		-0.27
541		-----		-----	1539		-----		-----
551		-----		-----	1543		-----		-----
557		-----		-----	1556		-----		-----
562		-----		-----	1564		-----		-----
575		-----		-----	1569		-----		-----
603		-----		-----	1586	IP390	0.02		0.16
604		-----		-----	1610		-----		-----
605	IP390	0.02		0.16	1613		-----		-----
607		-----		-----	1622		-----		-----
608		-----		-----	1631		-----		-----
631	D4870	0.007		-0.77	1636		-----		-----
634		-----		-----	1643		-----		-----
657	IP390	0.03		0.87	1648	IP390	0.015		-0.20
663		-----		-----	1650		-----		-----
671		-----		-----	1654	ISO10307	0.01		-0.56
704	IP390	0.014		-0.27	1677	IP390	0.0285		0.76

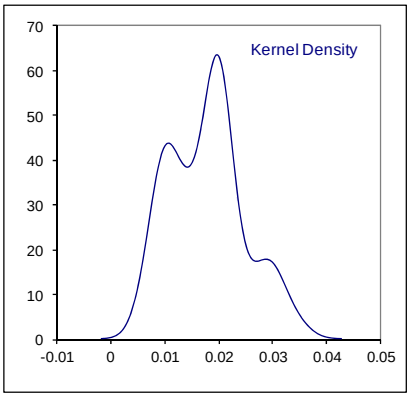
705	IP390	0.019	0.08
732		-----	-----
750		-----	-----
753	IP390	0.027	0.65
781	IP390	0.010	-0.56
784		-----	-----
785	IP390	0.02	0.16
791		-----	-----
823	ISO10307-2	0.017	-0.06
824		-----	-----
840	ISO10307-2	0.016	-0.13
851	ISO10307-2	0.011	-0.49
855	ISO10307-2	0.019	0.08
858	D4870	0.013	-0.34
859	IP390	0.021	0.23
862	IP390	0.024	0.44
863	IP390	0.010	-0.56
864	ISO10307-1	0.007	-0.77
865	ISO10307-2	0.017	-0.06
867		-----	-----
873	IP390	0.031	0.94
874	IP390	0.020	0.16
875	IP390	0.02	0.16
886	IP390	<0.01	-----
887		-----	-----
902	IP390	0.02	0.16
904	ISO10307-2	0.02	0.16
912	ISO10307-2	0.015	-0.20
913		-----	-----

normality	not OK
n	80
outliers	0
mean (n)	0.0178
st.dev. (n)	0.00685
R(calc.)	0.019
R(IP390:11)	0.039

1681	IP390	0.015	-0.20
1707	ISO10307	0.0209	0.22
1710		-----	-----
1720		-----	-----
1724		-----	-----
1740	ISO10307	0.021	0.23
1761		-----	-----
1773		-----	-----
1774		-----	-----
1775		-----	-----
1776		-----	-----
1784	IP390	0.018	0.01
1807		-----	-----
1810		-----	-----
1811		-----	-----
1832		-----	-----
1833		-----	-----
1842		-----	-----
1849		-----	-----
1854	IP390	0.016	-0.13
1906		-----	-----
1914	IP390	0.02	0.16
1915		-----	-----
1936		-----	-----
1937		-----	-----
1938		-----	-----
1942		-----	-----
1948		-----	-----
1951	IP390	0.026	0.5836
2129	IP390	0.0268	0.64

R(IP390)=R(ISO10307-2)





Determination of Total Sediment (Accelerated) of sample #14001; results in %M/M

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
52		-----		-----	922		-----		-----
62	D4870	0.01		-0.56	962		-----		-----
90		-----		-----	963	IP390	0.012		-0.42
92		-----		-----	971	ISO10307-2	0.023		0.37
120	D4870	0.02		0.15	974		-----		-----
131		-----		-----	982		-----		-----
132	ISO10307-2	<0.01		-----	993		-----		-----
154	IP390	0.0244		0.47	994	IP390	0.021		0.23
159	D4870	0.045		1.94	995	IP390	0.0126		-0.37
168		-----		-----	996		-----		-----
169		-----		-----	997		-----		-----
171	IP390	0.007		-0.77	1011	ISO10307-2	0.04		1.58
175		-----		-----	1016		-----		-----
179		-----		-----	1022		-----		-----
193		-----		-----	1059		-----		-----
194		-----		-----	1062	IP390	0.01		-0.56
212	ISO10307-2	0.02		0.15	1065		-----		-----
221		-----		-----	1066	IP390	0.02		0.15
224		-----		-----	1095		-----	W	-----
225	IP390	0.02		0.15	1109		-----		-----
228		-----		-----	1121		-----		-----
230	ISO10307-2	0.018		0.01	1126		-----		-----
237	D4870	0.0176		-0.02	1131		-----		-----
238		-----		-----	1134	IP390	0.007		-0.77
252		-----		-----	1161	IP390	0.01		-0.56
253		-----		-----	1167		-----		-----
254		-----		-----	1177		-----		-----
256		-----		-----	1201	IP390	0.02		0.15
273		-----		-----	1205		-----		-----
311	IP390	0.03		0.87	1215		-----		-----
313		-----		-----	1231		-----		-----
323	IP390	0.02		0.15	1233	IP390	<0.01		-----
331	ISO10307-2	0.017		-0.06	1259		-----		-----
333		-----		-----	1266		-----		-----
334	ISO10370	0.01		-0.56	1269		-----		-----
336		-----		-----	1271		-----		-----
337		-----		-----	1275		-----		-----
340		-----		-----	1299	IP390	0.01		-0.56
343	IP390	<0.01		-----	1337		-----		-----
349		-----		-----	1340		-----		-----
351		-----		-----	1347	D4870	0.0886	G(0.01)	5.05
353		-----		-----	1348	D4870	0.01		-0.56
356	IP390	0.018		0.01	1356	ISO10307-2	0.022		0.30
360	ISO10307-2	0.015		-0.20	1381		-----		-----
370	IP390	0.014		-0.27	1385	D4870	0.0728	G(0.01)	3.92
372	IP390	0.027		0.65	1395		-----		-----
391	IP390	0.01		-0.56	1402	IP390	0.02		0.15
398	ISO10307-2	0.012		-0.42	1403		-----		-----
399		-----		-----	1404	IP390	0.02		0.15
440		-----		-----	1412		-----		-----
444		-----		-----	1419		-----		-----
445	IP390	0.012		-0.42	1428	ISO10307	0.018		0.01
447	IP390	0.01		-0.56	1431		-----		-----
463	ISO10307-2	0.014		-0.27	1455	IP390	0.02		0.15
494	ISO10307-2	0.009		-0.63	1459		-----		-----
495		-----		-----	1460		-----		-----
507		-----		-----	1501	ISO10307-2	0.010		-0.56
511		-----		-----	1510		-----		-----
529		-----		-----	1520	IP390	0.013		-0.34
541		-----		-----	1539		-----		-----
551		-----		-----	1543		-----		-----
557		-----		-----	1556	ISO10307-2	0.020		0.15
562		-----		-----	1564		-----		-----
575		-----		-----	1569		-----		-----
603		-----		-----	1586	IP390	0.02		0.15
604		-----		-----	1610		-----		-----
605	IP390	0.032		1.01	1613		-----		-----
607		-----		-----	1622		-----		-----
608		-----		-----	1631	ISO10307-2	0.02		0.15
631	D4870	0.010		-0.56	1636		-----		-----
634		-----		-----	1643		-----		-----
657	IP390	0.02		0.15	1648		-----		-----
663		-----		-----	1650		-----		-----
671		-----		-----	1654		-----		-----

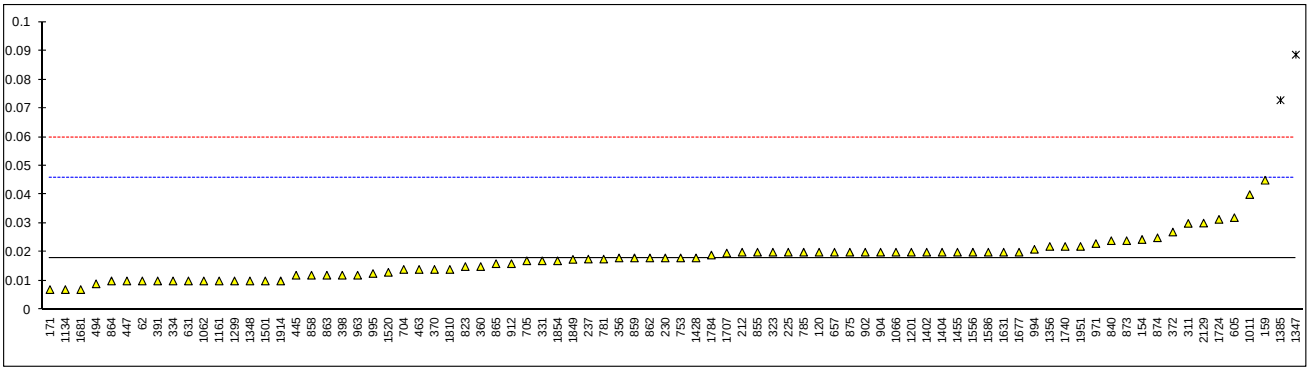
704	IP390	0.014	-0.27
705	IP390	0.017	-0.06
732		-----	-----
750		-----	-----
753	IP390	0.018	0.01
781	IP390	0.0176	-0.02
784		-----	-----
785	IP390	0.02	0.15
791		-----	-----
823	ISO10307-2	0.015	-0.20
824		-----	-----
840	ISO10307-2	0.024	0.44
851		-----	-----
855	ISO10307-2	0.020	0.15
858	D4870	0.012	-0.42
859	IP390	0.018	0.01
862	IP390	0.018	0.01
863	IP390	0.012	-0.42
864	ISO10307-1	0.010	-0.56
865	ISO10307-2	0.016	-0.13
867		-----	-----
873	IP390	0.024	0.44
874	IP390	0.025	0.51
875	IP390	0.02	0.15
886		-----	-----
887		-----	-----
902	IP390	0.02	0.15
904	ISO10307-2	0.02	0.15
912	ISO10307-2	0.016	-0.13
913		-----	-----

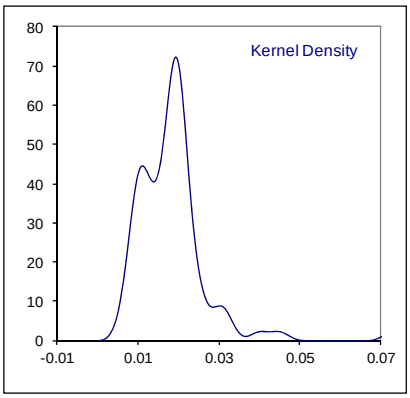
normality	not OK
n	80
outliers	2
mean (n)	0.0178
st.dev. (n)	0.00696
R(calc.)	0.0195
R(IP390:11)	0.0393

1677	IP390	0.02	0.15
1681	IP390	0.007	-0.77
1707	ISO10307-2	0.0197	0.13
1710		-----	-----
1720		-----	-----
1724	IP390	0.0314	0.97
1740	ISO10307-2	0.022	0.30
1761		-----	-----
1773		-----	-----
1774		-----	-----
1775		-----	-----
1776		-----	-----
1784	IP390	0.019	0.08
1807	D4870	<0.01	-----
1810	IP390	0.014	-0.27
1811		-----	-----
1832		-----	-----
1833		-----	-----
1842		-----	-----
1849	IP390	0.0175	-0.02
1854	IP390	0.017	-0.06
1906		-----	-----
1914	IP390	0.01	-0.56
1915		-----	-----
1936		-----	-----
1937		-----	-----
1938		-----	-----
1942		-----	-----
1948		-----	-----
1951	IP390	0.022	0.30
2129	IP390	0.0301	0.87

R(IP390)=R(ISO10307-2)

Lab 1095 , result withdrawn, first reported: 0.04





Determination of Total Sulphur on sample #14001; results in %M/M

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
52	D4294	0.835		1.74	922	D4294	0.790		-0.27
62	D4294	0.847		2.27	962		-----		-----
90	D4294	0.8292		1.48	963	D4294	0.7975		0.06
92	D4294	0.844		2.14	971	D4294	0.796		0.00
120	D4294	0.808		0.53	974	D4294	0.798		0.09
131	D4294	0.821		1.11	982		-----		-----
132	D4294	0.835		1.74	993	D4294	0.804		0.35
154	D4294	0.8053		0.41	994	D4294	0.819		1.02
159	D4294	0.8456		2.21	995		-----		-----
168	D4294	0.8289		1.47	996	D4294	0.810		0.62
169	D4294	0.7586		-1.67	997	D4294	0.795		-0.05
171	D4294	0.8172		0.94	1011	D4294	0.77		-1.16
175	D4294	0.808		0.53	1016	ISO8754	0.792		-0.18
179	D4294	0.8803	G(0.05)	3.76	1022	D4294	0.801		0.22
193		-----		-----	1059	ISO14596	0.750		-2.06
194	D4294	0.8142		0.81	1062	ISO8754	0.80		0.18
212	ISO8754	0.77		-1.16	1065	IP336	0.77		-1.16
221		-----		-----	1066	D4294	0.776		-0.90
224	D4294	1.09	C,G(0.01)	13.12	1095	D4294	0.783		-0.58
225	D4294	0.76		-1.61	1109	D2622	0.7919		-0.19
228	D4294	0.818		0.98	1121	IP336	0.847		2.27
230	ISO8754	0.804		0.35	1126	in house	0.793		-0.14
237	D4294	0.808		0.53	1131	ISO8754	0.76		-1.61
238		-----		-----	1134	IP336	0.77		-1.16
252		-----		-----	1161	ISO8754	0.74		-2.50
253		-----		-----	1167	ISO8754	0.77		-1.16
254		-----		-----	1177	DIN51900	0.795		-0.05
256	D4294	0.79		-0.27	1201	D4294	0.78		-0.72
273	D4294	0.77		-1.16	1205		-----		-----
311	D4294	0.79		-0.27	1215		-----		-----
313	D4294	0.80		0.18	1231	D2622	0.8286		1.45
323	ISO8754	0.77		-1.16	1233	D4294	0.78		-0.72
331	ISO8754	0.8116		0.69	1259	ISO8754	0.797		0.04
333	D2622	0.805		0.40	1266	ISO8754	0.864		3.03
334	D4294	0.785		-0.49	1269	ISO14596	0.82		1.07
336	D4294	0.792		-0.18	1271	D4294	0.771		-1.12
337		-----		-----	1275	IP336	0.781		-0.67
340	INH-040	0.748		-2.15	1299	D2622	0.78		-0.72
343	D4294	0.858		2.77	1337	ISO8754	0.796		0.00
349		-----		-----	1340	ISO8754	0.767		-1.30
351	ISO8754	0.805		0.40	1347	D4294	0.812		0.71
353	IP336	0.8188		1.02	1348	D4294	0.788		-0.36
356	D4294	0.797		0.04	1356	ISO8754	0.755		-1.83
360	D4294	0.810		0.62	1381	ISO8754	0.812		0.71
370	D4294	0.78		-0.72	1385	D4294	0.788		-0.36
372	D4294	0.800		0.18	1395	ISO8754	0.8	C	0.18
391	D4294	0.766		-1.34	1402	IP336	0.80		0.18
398	D4294	0.763		-1.48	1403	in house	0.750		-2.06
399	D4294	0.760		-1.61	1404	ISO8754	0.81		0.62
440		-----		-----	1412	D4294	0.810		0.62
444	IP336	1.0266	C,G(0.01)	10.29	1419	ISO8754	0.781		-0.67
445	D4294	0.795		-0.05	1428	ISO8754	0.78		-0.72
447	IP336	0.823		1.20	1431	D4294	0.7511		-2.01
463	D4294	0.828		1.43	1455	D2622	0.785		-0.49
494	D4294	0.787		-0.40	1459	ISO8745	0.811		0.67
495	D4294	0.8233		1.22	1460		-----		-----
507		-----		-----	1501	D4294	0.8029		0.31
511	D4294	0.81261		0.74	1510	D4294	0.817		0.93
529		-----		-----	1520	D4294	0.8277		1.41
541	D4294	0.816		0.89	1539	ISO8754	0.778		-0.81
551	D4294	0.808365		0.55	1543		-----		-----
557	D4294	0.86309		2.99	1556	ISO8754	0.795		-0.05
562	D4294	0.7309	C	-2.91	1564	D4294	0.80		0.18
575		-----		-----	1569	ISO8754	0.806		0.44
603	D4294	0.795		-0.05	1586	D4294	0.793		-0.14
604	D4294	0.793		-0.14	1610	IP336	0.81		0.62
605	D4294	0.788		-0.36	1613	D4294	0.795		-0.05
607	D4294	0.788		-0.36	1622	D4294	0.8575		2.74
608		-----		-----	1631	ISO8754	0.79	C	-0.27
631	D4294	0.8080		0.53	1636	ISO8754	0.786		-0.45
634	D4294	0.7893		-0.30	1643	D1552	0.791		-0.23
657	D4294	0.771		-1.12	1648	D4294	0.798		0.09
663	D4294	0.790		-0.27	1650	D4294	0.793		-0.14
671	D4294	0.822		1.16	1654	ISO8754	0.785		-0.49
704	D4294	0.8149		0.84	1677	D4294	0.825		1.29

705	D4294	0.787	-0.40
732	D4294	0.806	0.44
750	D4294	0.790	-0.27
753	D4294	0.7865	-0.43
781	D4294	0.785	-0.49
784	D4294	0.778	-0.81
785	D4294	0.785	-0.49
791	D4294	0.793	-0.14
823	D4294	0.7915	-0.20
824	D4294	0.828	1.43
840	D4294	0.8024	0.28
851	ISO8754	0.7845	-0.52
855	D4294	0.771	-1.12
858	D4294	0.790	-0.27
859	D4294	0.771	-1.12
862	D2622	0.764	-1.43
863	D4294	0.7835	-0.56
864	D4294	0.776	-0.90
865	ISO8754	0.775	-0.94
867	D4294	0.7863	-0.44
873	D4294	0.7873	-0.39
874	D4294	0.788	-0.36
875	D4294	0.787	-0.40
886	D4294	0.7806	-0.69
887		-----	-----
902	D4294	0.81	0.62
904	D4294	0.80	0.18
912	D4294	0.795	-0.05
913		-----	-----
1681		-----	-----
1707	D4294	0.80	0.18
1710	D4294	0.77	-1.16
1720		-----	-----
1724	IP336	0.790	-0.27
1740	ISO8754	0.80	0.18
1761	ISO8754	0.809	0.58
1773	ISO8754	0.801	0.22
1774	in house	0.7847	-0.51
1775	ISO15289	0.95 C,G(0.01)	6.87
1776	ISO8754	0.808	0.53
1784	D4294	0.80	0.18
1807	D4294	0.79	-0.27
1810	D4294	0.807	0.49
1811	D4294	0.79	-0.27
1832	ISO8754	0.777	-0.85
1833	D4294	0.82	1.07
1842	D2622	0.769	-1.21
1849	D4294	0.8	0.18
1854	D4294	0.80	0.18
1906	D5623	0.81	0.62
1914	D4294	0.786	-0.45
1915		-----	-----
1936		-----	-----
1937	ISO8754	0.810	0.62
1938	D4294	0.811	0.67
1942	D4294	0.793	-0.14
1948	D4294	0.81	0.62
1951	IP336	0.80	0.18
2129	D4294	0.788	-0.36

	normality	OK	
	n	179	
	outliers	4	
	mean (n)	0.796	
	st.dev. (n)	0.0227	
	R(calc.)	0.064	
	R(D4294:10)	0.063	

Only ASTM D4292 data	Only IP336/ISO8754 data
not OK	not OK
118	46
2	0
0.798	0.799
0.0222	0.0411
0.062	0.115
0.063	0.088

Lab 224 first reported: 1.076

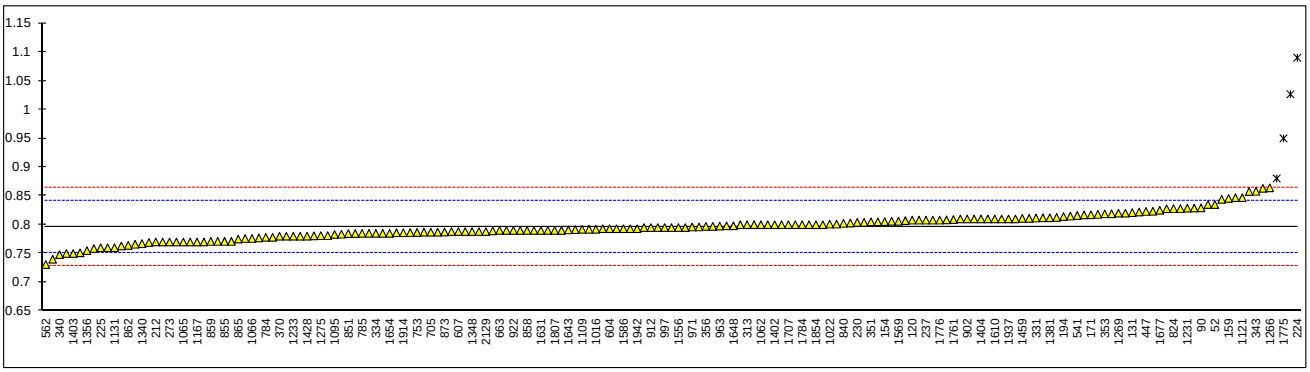
Lab 444 first reported: 1.099

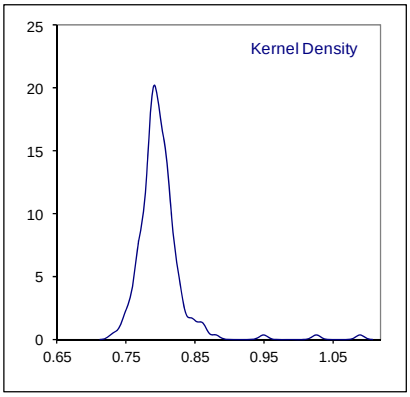
Lab 562 first reported: 0.6993

Lab 1395 first reported: 1.135

Lab 1631 first reported: 0.7

Lab 1775 first reported: 1.03





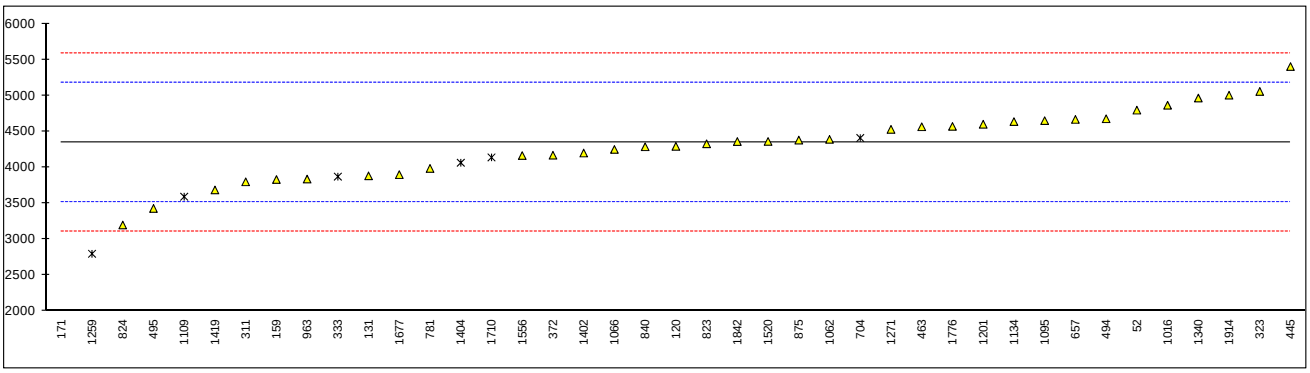
Determination of Nitrogen on sample #14001; results in µg/g

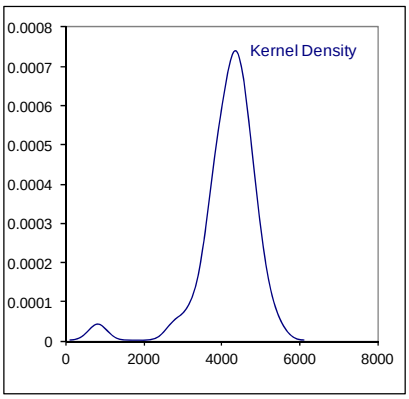
lab	method	value	mark	solvent	z(targ)	lab	method	value	mark	solvent	z(targ)
52	D5762	4796		Xylene	1.09	922		-----		-----	-----
62		-----		-----	-----	962		-----		-----	-----
90		-----		-----	-----	963	D5762	3838		Xylene	-1.23
92		-----		-----	-----	971		-----		-----	-----
120	D5762	4293		-----	-0.13	974		-----		-----	-----
131	D4629	3883	see §4.1	Xylene	-1.12	982		-----		-----	-----
132		-----		-----	-----	993		-----		-----	-----
154		-----		-----	-----	994		-----		-----	-----
159	D4629	3832	see §4.1	-----	-1.24	995		-----		-----	-----
168		-----		-----	-----	996		-----		-----	-----
169		-----		-----	-----	997		-----		-----	-----
171	D5762	829.50	G(0.01)	-----	-8.52	1011		-----		-----	-----
175		-----		-----	-----	1016	D5762	4864		-----	1.26
179		-----		-----	-----	1022		-----		-----	-----
193		-----		-----	-----	1059		-----		-----	-----
194		-----		-----	-----	1062	D5762	4390		-----	0.11
212		-----		-----	-----	1065		-----		-----	-----
221		-----		-----	-----	1066	D5762	4250		Xylene	-0.23
224		-----		-----	-----	1095	D5762	4650		-----	0.74
225		-----		-----	-----	1109	D4629	3593	ex	Toluene	-1.82
228		-----		-----	-----	1121		-----		-----	-----
230		-----		-----	-----	1126		-----		-----	-----
237		-----		-----	-----	1131		-----		-----	-----
238		-----		-----	-----	1134	D5762	4637.03		Xylene	0.71
252		-----		-----	-----	1161		-----		-----	-----
253		-----		-----	-----	1167		-----		-----	-----
254		-----		-----	-----	1177		-----		-----	-----
256		-----		-----	-----	1201	D5762	4600		Xylene	0.62
273		-----		-----	-----	1205		-----		-----	-----
311	D5762	3800		Xylene	-1.32	1215		-----		-----	-----
313		-----		-----	-----	1231		-----		-----	-----
323	D5762	5056		Xylene	1.72	1233		-----		-----	-----
331		-----		-----	-----	1259	D4629	2800	ex	Toluene	-3.74
333	D5762	3872	ex	Toluene	-1.15	1266		-----		-----	-----
334		-----		-----	-----	1269		-----		-----	-----
336		-----		-----	-----	1271	D3228	4529		-----	0.45
337		-----		-----	-----	1275		-----		-----	-----
340		-----		-----	-----	1299		-----		-----	-----
343		-----		-----	-----	1337		-----		-----	-----
349		-----		-----	-----	1340	D5762	4964.1		Xylene	1.50
351		-----		-----	-----	1347		-----		-----	-----
353		-----		-----	-----	1348		-----		-----	-----
356		-----		-----	-----	1356		-----		-----	-----
360		-----		-----	-----	1381		-----		-----	-----
370		-----		-----	-----	1385		-----		-----	-----
372	D5762	4170		-----	-0.42	1395		-----		-----	-----
391		-----		-----	-----	1402	D5762	4200		Xylene	-0.35
398		-----		-----	-----	1403		-----		-----	-----
399		-----		-----	-----	1404	D5762	4065	ex	Toluene	-0.68
440		-----		-----	-----	1412		-----		-----	-----
444		-----		-----	-----	1419	D5762	3687		Xylene	-1.59
445	D5762	5402		Xylene	2.56	1428		-----		-----	-----
447		-----		-----	-----	1431		-----		-----	-----
463	D5762	4565		Xylene	0.53	1455		-----		-----	-----
494	D5762	4676		Xylene	0.80	1459		-----		-----	-----
495	D5762	3430		Xylene	-2.22	1460		-----		-----	-----
507		-----		-----	-----	1501		-----		-----	-----
511		-----		-----	-----	1510		-----		-----	-----
529		-----		-----	-----	1520	D5762	4361.2		Xylene	0.04
541		-----		-----	-----	1539		-----		-----	-----
551		-----		-----	-----	1543		-----		-----	-----
557		-----		-----	-----	1556	D5762	4165		Xylene	-0.44
562		-----		-----	-----	1564		-----		-----	-----
575		-----		-----	-----	1569		-----		-----	-----
603		-----		-----	-----	1586		-----		-----	-----
604		-----		-----	-----	1610		-----		-----	-----
605		-----		-----	-----	1613		-----		-----	-----
607		-----		-----	-----	1622		-----		-----	-----
608		-----		-----	-----	1631		-----		-----	-----
631		-----		-----	-----	1636		-----		-----	-----
634		-----		-----	-----	1643		-----		-----	-----
657	D5762	4667		Xylene	0.78	1648		-----		-----	-----
663		-----		-----	-----	1650		-----		-----	-----
671		-----		-----	-----	1654		-----		-----	-----

704	D5762	4409	ex	Toluene	0.16
705		-----		-----	-----
732		-----		-----	-----
750		-----		-----	-----
753		-----		-----	-----
781	D3228	3986		-----	-0.87
784		-----		-----	-----
785		-----		-----	-----
791		-----		-----	-----
823	D5762	4328		-----	-0.04
824	D5762	3200		Xylene	-2.77
840	D3228	4287		-----	-0.14
851		-----		-----	-----
855		-----		-----	-----
858		-----		-----	-----
859		-----		-----	-----
862		-----		-----	-----
863		-----		-----	-----
864		-----		-----	-----
865		-----		-----	-----
867		-----		-----	-----
873		-----		-----	-----
874		-----		-----	-----
875	D5762	4380		-----	0.09
886		-----		-----	-----
887		-----		-----	-----
902		-----		-----	-----
904		-----		-----	-----
912		-----		-----	-----
913		-----		-----	-----

1677	D5762	3900		-----	-1.08
1681		-----		-----	-----
1707		-----		-----	-----
1710	D5762	4139	ex	Toluene	-0.50
1720		-----		-----	-----
1724		-----		-----	-----
1740		-----		-----	-----
1761		-----		-----	-----
1773		-----		-----	-----
1774		-----		-----	-----
1775		-----		-----	-----
1776	D5762	4570		Xylene	0.55
1784		-----		-----	-----
1807		-----		-----	-----
1810		-----		-----	-----
1811		-----		-----	-----
1832		-----		-----	-----
1833		-----		-----	-----
1842	D5762	4360		-----	0.04
1849		-----		-----	-----
1854		-----		-----	-----
1906		-----		-----	-----
1914	D5762	5004		Xylene	1.60
1915		-----		-----	-----
1936		-----		-----	-----
1937		-----		-----	-----
1938		-----		-----	-----
1942		-----		-----	-----
1948		-----		-----	-----
1951		-----		-----	-----
2129		-----		-----	-----

		Only Xylene	Only Toluene
normality	OK	OK	OK
n	34	21	6
outliers	1 + 6 excl	0	0
mean (n)	4344.72	4369.11	3813.00
st.dev. (n)	478.144	570.331	566.224
R(calc.)	1338.80	1596.93	1585.43
R(D5762:12)	1155.69	1155.69	1014.26





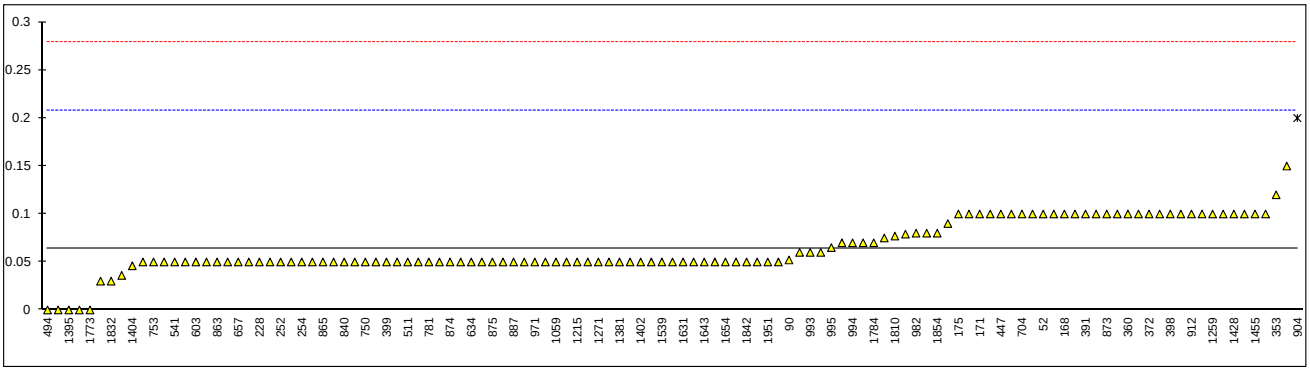
Determination of Water by distillation on sample #14001; results in %V/V

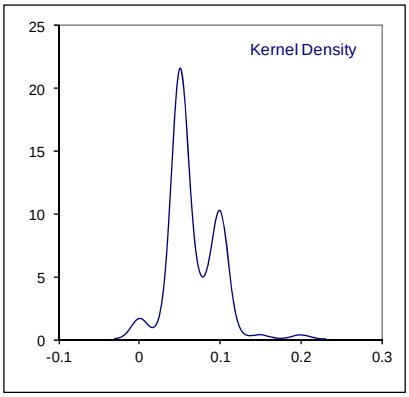
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
52	D95	0.10		0.50	922	D95	<0.10		-----
62	D95	0.1		0.50	962		-----		-----
90	D95	0.0521		-0.17	963	D95	0.05		-0.20
92	D95	<0.1		-----	971	D95	0.05		-0.20
120	D95	0.05		-0.20	974		-----		-----
131		-----		-----	982	D95	0.08		0.22
132	D95	0.150		1.20	993	D95	0.06		-0.06
154	D95	0.05		-0.20	994	D95	0.07		0.08
159	D95	0.05		-0.20	995	D95	0.065		0.01
168	D95	0.1		0.50	996	D95	0.05		-0.20
169		-----		-----	997	D95	0.079		0.20
171	D95	0.10		0.50	1011		-----		-----
175	D95	0.10		0.50	1016		-----		-----
179	D95	0.05		-0.20	1022	D95	<0.05		-----
193		-----		-----	1059	ISO3733	0.050		-0.20
194	D95	0.100		0.50	1062		-----		-----
212	ISO3733	<0.1		-----	1065		-----		-----
221		-----		-----	1066	D95	<0.1		-----
224		-----		-----	1095	D95	<0.10		-----
225	D95	0.05		-0.20	1109	D95	0.05		-0.20
228	D95	0.05		-0.20	1121	IP74	<0.05		-----
230	ISO3733	0.10		0.50	1126		-----		-----
237	D95	<0.05		-----	1131	ISO3733	0.03		-0.48
238		-----		-----	1134	IP71	<0.05		-----
252	D95	0.05		-0.20	1161	D95	0.1		0.50
253	D95	0.10		0.50	1167	EN1428	<1	see §4.1	-----
254	D95	0.05		-0.20	1177		-----		-----
256	D95	0.05		-0.20	1201	D95	<0.1		-----
273		-----		-----	1205		-----		-----
311	D95	<0.05		-----	1215	D95	0.05		-0.20
313	D95	0.05		-0.20	1231	D95	<0.10		-----
323		-----		-----	1233	D95	0.08		0.22
331	ISO3733	0.05		-0.20	1259	ISO3733	0.1		0.50
333		-----		-----	1266	UNE51027	0.05		-0.20
334		-----		-----	1269		-----		-----
336		-----		-----	1271	D95	0.05		-0.20
337	D95	<0.1		-----	1275	IP74	<0.10		-----
340		-----		-----	1299	D95	0.10		0.50
343	D95	<0.1		-----	1337		-----		-----
349	D95	<0.1		-----	1340		-----		-----
351	ISO3733	<0.10		-----	1347	D95	<0.1		-----
353	IP439	0.12		0.78	1348	D95	0.05		-0.20
356	D95	0.10		0.50	1356	ISO3733	0.036		-0.40
360	D95	0.10		0.50	1381	ISO3733	0.050		-0.20
370	D95	0.10		0.50	1385	D95	0.05		-0.20
372	D95	0.10		0.50	1395	D95	0.00		-0.90
391	D95	0.10		0.50	1402	D95	0.05		-0.20
398	D95	0.10		0.50	1403		-----		-----
399	D95	0.05		-0.20	1404	D95	0.046		-0.26
440	IP74	0.05		-0.20	1412		-----		-----
444	D95	<0.05		-----	1419		-----		-----
445	IP74	0.05		-0.20	1428	EN1428	0.1	see §4.1	0.50
447	D95	0.10		0.50	1431	D95	0.10		0.50
463	D95	<0.1		-----	1455	D95	0.1		0.50
494	D95	0		-0.90	1459	in house	0.09		0.36
495		-----		-----	1460		-----		-----
507		-----		-----	1501	D95	0.075		0.15
511	D95	0.05		-0.20	1510	IP74	0.05		-0.20
529		-----		-----	1520	D95	<0.05		-----
541	D95	0.05		-0.20	1539	ISO3733	0.05		-0.20
551		-----		-----	1543		-----		-----
557	D95	0.10		0.50	1556	D6304	0.1		0.50
562		-----		-----	1564		-----		-----
575	D95	0.05		-0.20	1569	D95	<0.1		-----
603	D95	0.05		-0.20	1586		-----		-----
604		-----		-----	1610	IP74	<0.05		-----
605	D95	<0.05		-----	1613	D95	<0.05		-----
607	D95	<0.05		-----	1622	D95	0.05		-0.20
608	D95	0.10		0.50	1631	EN1428	0.05	see §4.1	-0.20
631	D95	0.10		0.50	1636	ISO3733	0.05		-0.20
634	D95	0.05		-0.20	1643	D95	0.05		-0.20
657	D95	0.05		-0.20	1648	D95	0.05		-0.20
663	D95	<0.1		-----	1650	D95	<0.05		-----
671	D95	<0.1		-----	1654	D95	0.05		-0.20

704	D95	0.10		0.50
705	D95	0.05		-0.20
732	INH-2477	0.06		-0.06
750	D95	0.05		-0.20
753	D95	0.05		-0.20
781	D95	0.05		-0.20
784	D95	0.05		-0.20
785		-----		-----
791		-----		-----
823	D95	0.05		-0.20
824	D95	0.00		-0.90
840	D95	0.05		-0.20
851	ISO3733	0.1		0.50
855	D95	0.05		-0.20
858	D95	<0.05		-----
859	D95	<0.05		-----
862	D95	<0.05		-----
863	D95	0.05		-0.20
864	D95	0.05		-0.20
865	D95	0.05		-0.20
867	D95	0.05		-0.20
873	D95	0.10		0.50
874	D95	0.05		-0.20
875	D95	0.05		-0.20
886	D95	0.05		-0.20
887	D95	0.05		-0.20
902	D95	0.1		0.50
904	D95	0.20	G(0.01)	1.90
912	D95	0.10		0.50
913	D95	0.07		0.08

1677	D95	<0.10		-----
1681	D95	<0.05		-----
1707	D95	<0.1		-----
1710	D95	0.0		-0.90
1720		-----		-----
1724	D95	<0.05		-----
1740	ISO3733	0.07		0.08
1761		-----		-----
1773	ISO3733	0		-0.90
1774		-----		-----
1775	ISO3733	<0.1		-----
1776		-----		-----
1784	D95	0.07		0.08
1807		-----		-----
1810	D95	0.077		0.18
1811	ISO760	0.06		-0.06
1832	INH-3477	0.03		-0.48
1833	D95	0.05		-0.20
1842	D95	0.05		-0.20
1849	D95	0.05		-0.20
1854	D95	0.08		0.22
1906		-----		-----
1914		-----		-----
1915		-----		-----
1936	EN1428	<0.1	see §4.1	-----
1937	EN1428	<0.1	see §4.1	-----
1938	D95	<0.1		-----
1942		-----		-----
1948	D95	<0.1		-----
1951	D95	0.05		-0.20
2129	D95	0.05		-0.20

normality	not OK
n	118
outliers	1
mean (n)	0.064
st.dev. (n)	0.0274
R(calc.)	0.077
R(D95:13e1)	0.200





Determination of Water and sediment on sample #14001; results in %M/M

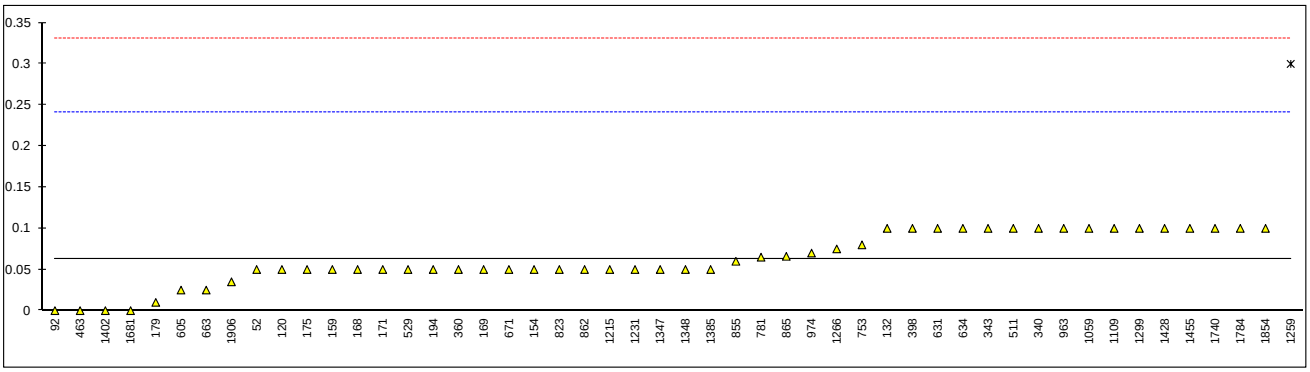
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
52	D1796	0.05		-0.33	922	D1796	<0.10		-----
62		-----		-----	962		-----		-----
90		-----		-----	963	D4007	0.10		1.00
92	D4007	0		-1.67	971		-----		-----
120	D1796	0.05		-0.33	974	D1796	0.07		0.20
131	D4007	<0.05		-----	982		-----		-----
132	D1796	0.10		1.00	993		-----		-----
154	D4007	0.05		-0.33	994		-----		-----
159	D4007	0.05		-0.33	995		-----		-----
168	D4007	0.05		-0.33	996		-----		-----
169	D4007	0.050		-0.33	997		-----		-----
171	D4007	0.050		-0.33	1011	D1796	<0.2		-----
175	D1796	0.05		-0.33	1016		-----		-----
179	D1796	0.010		-1.40	1022		-----		-----
193		-----		-----	1059	ISO3734	0.10		1.00
194	D1796	0.050		-0.33	1062		-----		-----
212		-----		-----	1065		-----		-----
221		-----		-----	1066		-----		-----
224		-----		-----	1095		-----		-----
225		-----		-----	1109	D4007	0.1		1.00
228		-----		-----	1121		-----		-----
230		-----		-----	1126		-----		-----
237		-----		-----	1131		-----		-----
238		-----		-----	1134		-----		-----
252		-----		-----	1161		-----		-----
253		-----		-----	1167		-----		-----
254		-----		-----	1177		-----		-----
256		-----		-----	1201	D4007	<0.1		-----
273		-----		-----	1205		-----		-----
311		-----		-----	1215	D1796	0.050		-0.33
313		-----		-----	1231	D1796	0.05		-0.33
323		-----		-----	1233		-----		-----
331		-----		-----	1259	ISO3734	0.30	G(0.01)	6.33
333		-----		-----	1266	UNE51082	0.075		0.33
334		-----		-----	1269		-----		-----
336		-----		-----	1271		-----		-----
337		-----		-----	1275		-----		-----
340	D4007	0.100		1.00	1299	D1796	0.10		1.00
343	D1796	0.1		1.00	1337		-----		-----
349		-----		-----	1340		-----		-----
351		-----		-----	1347	D1796	0.05		-0.33
353		-----		-----	1348	D1796	0.05		-0.33
356		-----		-----	1356		-----		-----
360	D1796	0.05		-0.33	1381		-----		-----
370		-----		-----	1385	D1796	0.05		-0.33
372		-----		-----	1395		-----		-----
391		-----		-----	1402	D4007	0		-1.67
398	D4007	0.10		1.00	1403		-----		-----
399		-----		-----	1404		-----		-----
440		-----		-----	1412		-----		-----
444		-----		-----	1419		-----		-----
445		-----		-----	1428	D1796	0.1		1.00
447		-----		-----	1431		-----		-----
463	D1796	0.0		-1.67	1455	D4007	0.10		1.00
494		-----		-----	1459		-----		-----
495	D4007	<0.05		-----	1460		-----		-----
507		-----		-----	1501		-----		-----
511	D4007	0.100		1.00	1510		-----		-----
529	D4007	0.05		-0.33	1520		-----		-----
541		-----		-----	1539		-----		-----
551		-----		-----	1543		-----		-----
557		-----		-----	1556		-----		-----
562		-----		-----	1564		-----		-----
575		-----		-----	1569		-----		-----
603		-----		-----	1586		-----	W	-----
604		-----		-----	1610		-----		-----
605	D1796	0.025		-1.00	1613	D1796	<0.05		-----
607		-----		-----	1622		-----		-----
608		-----		-----	1631		-----		-----
631	D1796	0.10		1.00	1636		-----		-----
634	D1796	0.10		1.00	1643		-----		-----
657	D1796	<0.05		-----	1648		-----		-----
663	D1796	0.025		-1.00	1650		-----		-----
671	D1796	0.05		-0.33	1654		-----		-----
704		-----		-----	1677		-----		-----

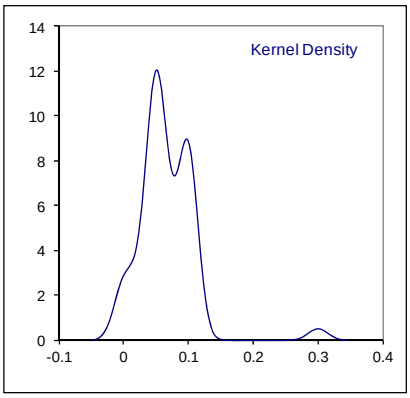
705		-----	-----
732		-----	-----
750		-----	-----
753	Calc.	0.080	0.47
781	D4007	0.065	0.07
784		-----	-----
785		-----	-----
791		-----	-----
823	D4007	0.05	-0.33
824		-----	-----
840		-----	-----
851		-----	-----
855	D473	0.060	-0.07
858		-----	-----
859		-----	-----
862	D4007	0.050	-0.33
863		-----	-----
864		-----	-----
865	D4007	0.066	0.09
867		-----	-----
873		-----	-----
874		-----	-----
875		-----	-----
886		-----	-----
887		-----	-----
902		-----	-----
904		-----	-----
912		-----	-----
913		-----	-----

normality	not OK
n	49
outliers	1
mean (n)	0.062
st.dev. (n)	0.0316
R(calc.)	0.089
R(D1796:11e1)	0.105

1681	D1796	0.00	-1.67
1707		-----	-----
1710		-----	-----
1720		-----	-----
1724		-----	-----
1740	D4007	0.10	1.00
1761		-----	-----
1773		-----	-----
1774		-----	-----
1775		-----	-----
1776		-----	-----
1784	D4007	0.10	1.00
1807		-----	-----
1810		-----	-----
1811		-----	-----
1832		-----	-----
1833		-----	-----
1842		-----	-----
1849		-----	-----
1854	D4007	0.10	1.00
1906	D6304	0.035	-0.73
1914	D1796	<0.05	-----
1915		-----	-----
1936		-----	-----
1937		-----	-----
1938		-----	-----
1942		-----	-----
1948		-----	-----
1951		-----	-----
2129		-----	-----

Lab 1586, result withdrawn, reported: 0.20





Distillation according to ASTM D1160 on sample #14001, results in °C

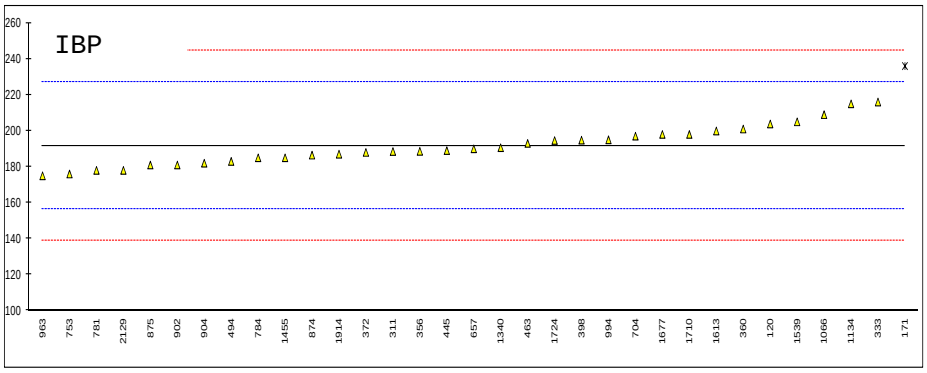
lab	method	IBP	5%	10%	20%	30%	40%	50%	FBP
52		-----	-----	-----	-----	-----	-----	-----	-----
62		-----	-----	-----	-----	-----	-----	-----	-----
90		-----	-----	-----	-----	-----	-----	-----	-----
92		-----	-----	-----	-----	-----	-----	-----	-----
120	D1160	203.8	265.4	304.2	376.5	439.7	507.8	-----	507.8
131		-----	-----	-----	-----	-----	-----	-----	-----
132		-----	-----	-----	-----	-----	-----	-----	-----
154		-----	-----	-----	-----	-----	-----	-----	-----
159		-----	-----	-----	-----	-----	-----	-----	-----
168		-----	-----	-----	-----	-----	-----	-----	-----
169		-----	-----	-----	-----	-----	-----	-----	-----
171	D1160	**236**	*272*	**318**	*387*	**451**	**524**	-----	**548**
175		-----	-----	-----	-----	-----	-----	-----	-----
179		-----	-----	-----	-----	-----	-----	-----	-----
193		-----	-----	-----	-----	-----	-----	-----	-----
194		-----	-----	-----	-----	-----	-----	-----	-----
212		-----	-----	-----	-----	-----	-----	-----	-----
221		-----	-----	-----	-----	-----	-----	-----	-----
224		-----	-----	-----	-----	-----	-----	-----	-----
225		-----	-----	-----	-----	-----	-----	-----	-----
228		-----	-----	-----	-----	-----	-----	-----	-----
230		-----	-----	-----	-----	-----	-----	-----	-----
237		-----	-----	-----	-----	-----	-----	-----	-----
238		-----	-----	-----	-----	-----	-----	-----	-----
252		-----	-----	-----	-----	-----	-----	-----	-----
253		-----	-----	-----	-----	-----	-----	-----	-----
254		-----	-----	-----	-----	-----	-----	-----	-----
256		-----	-----	-----	-----	-----	-----	-----	-----
273		-----	-----	-----	-----	-----	-----	-----	-----
311	D1160	188.5	245.6	284.2	363.5	427.3	494.2	-----	518.7
313		-----	-----	-----	-----	-----	-----	-----	-----
323		-----	-----	-----	-----	-----	-----	-----	-----
331		-----	-----	-----	-----	-----	-----	-----	-----
333	D1160	216	**280**	**315**	389	**449**	**520**	574	**576**
334		-----	-----	-----	-----	-----	-----	-----	-----
336		-----	-----	-----	-----	-----	-----	-----	-----
337		-----	-----	-----	-----	-----	-----	-----	-----
340		-----	-----	-----	-----	-----	-----	-----	-----
343		-----	-----	-----	-----	-----	-----	-----	-----
349		-----	-----	-----	-----	-----	-----	-----	-----
351		-----	-----	-----	-----	-----	-----	-----	-----
353		-----	-----	-----	-----	-----	-----	-----	-----
356	D1160	188.6	254.6	291.8	372.8	435.2	503.3	548.7	**552.2**
360	D1160	201	255	299	375	436	500	-----	520
370		-----	-----	-----	-----	-----	-----	-----	-----
372	D1160	188	248	288	367	428	495	-----	518
391		-----	-----	-----	-----	-----	-----	-----	-----
398	D1160	194.8	239.9	280.4	367.3	426.9	498.1	-----	504.7
399		-----	-----	-----	-----	-----	-----	-----	-----
440		-----	-----	-----	-----	-----	-----	-----	-----
444		-----	-----	-----	-----	-----	-----	-----	-----
445	D1160	189	245	281	356	419	479	-----	509
447		-----	-----	-----	-----	-----	-----	-----	-----
463	D1160	193	248	280	363	426	499	-----	536
494	D1160	183	257	298	382	**492**	-----	-----	512.2
495		-----	-----	-----	-----	-----	-----	-----	-----
507		-----	-----	-----	-----	-----	-----	-----	-----
511		-----	-----	-----	-----	-----	-----	-----	-----
529		-----	-----	-----	-----	-----	-----	-----	-----
541		-----	-----	-----	-----	-----	-----	-----	-----
551		-----	-----	-----	-----	-----	-----	-----	-----
557		-----	-----	-----	-----	-----	-----	-----	-----
562		-----	-----	-----	-----	-----	-----	-----	-----
575		-----	-----	-----	-----	-----	-----	-----	-----
603		-----	-----	-----	-----	-----	-----	-----	-----
604		-----	-----	-----	-----	-----	-----	-----	-----
605		-----	-----	-----	-----	-----	-----	-----	-----
607		-----	-----	-----	-----	-----	-----	-----	-----
608		-----	-----	-----	-----	-----	-----	-----	-----
631		-----	-----	-----	-----	-----	-----	-----	-----
634		-----	-----	-----	-----	-----	-----	-----	-----
657	D1160	190	252	289	368	430	490	-----	-----
663		-----	-----	-----	-----	-----	-----	-----	-----
671		-----	-----	-----	-----	-----	-----	-----	-----
704	D1160	197	254	290	372	433	495	-----	517

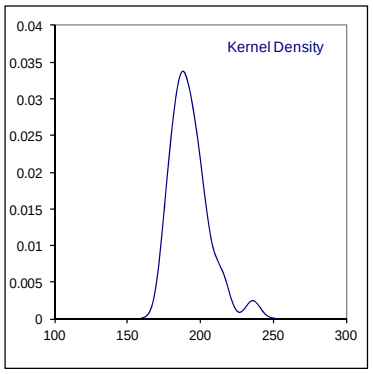
705		-----	-----	-----	-----	-----	-----	-----	-----
732		-----	-----	-----	-----	-----	-----	-----	-----
750		-----	-----	-----	-----	-----	-----	-----	-----
753	D1160	176	**220**	262	346	415	474	-----	**486**
781	D1160	178	239	283	366	423	494	-----	515
784	D1160	185.0	246.0	278.0	362.0	420.0	489.0	-----	522.0
785		-----	-----	-----	-----	-----	-----	-----	-----
791		-----	-----	-----	-----	-----	-----	-----	-----
823		-----	-----	-----	-----	-----	-----	-----	-----
824		-----	----	-----	-----	-----	-----	-----	-----
840		-----	-----	-----	-----	-----	-----	-----	-----
851		-----	-----	-----	-----	-----	-----	-----	-----
855		-----	-----	-----	-----	-----	-----	-----	-----
858		-----	-----	-----	-----	-----	-----	-----	-----
859		-----	-----	-----	-----	-----	-----	-----	-----
862		-----	-----	-----	-----	-----	-----	-----	-----
863		-----	-----	-----	-----	-----	-----	-----	-----
864		-----	-----	-----	-----	-----	-----	-----	-----
865		-----	-----	-----	-----	-----	-----	-----	-----
867		-----	-----	-----	-----	-----	-----	-----	-----
873		-----	-----	-----	-----	-----	-----	-----	-----
874	D1160	186.5	239.0	281.1	364.0	420.2	490.0	-----	519.0
875	D1160	181	250	282	368	428	502	-----	522
886		-----	-----	-----	-----	-----	-----	-----	-----
887		-----	-----	-----	-----	-----	-----	-----	-----
902	D1160	181	247	284	361	426	488	-----	514
904	D1160	182.0	245.0	286.0	360.0	426.0	494.0	-----	516.0
912		-----	-----	-----	-----	-----	-----	-----	-----
913		-----	-----	-----	-----	-----	-----	-----	-----
922		-----	-----	-----	-----	-----	-----	-----	-----
962		-----	-----	-----	-----	-----	-----	-----	-----
963	D1160	175	234	271	347	422	477	-----	503
971		-----	-----	-----	-----	-----	-----	-----	-----
974		-----	-----	-----	-----	-----	-----	-----	-----
982		-----	-----	-----	-----	-----	-----	-----	-----
993		-----	-----	-----	-----	-----	-----	-----	-----
994	D1160	195.0	238.0	283.0	355.0	430.0	485.0	-----	520
995		-----	-----	-----	-----	-----	-----	-----	-----
996		-----	-----	-----	-----	-----	-----	-----	-----
997		-----	-----	-----	-----	-----	-----	-----	-----
1011		-----	-----	-----	-----	-----	-----	-----	-----
1016		-----	-----	-----	-----	-----	-----	-----	-----
1022		-----	-----	-----	-----	-----	-----	-----	-----
1059		-----	-----	-----	-----	-----	-----	-----	-----
1062		-----	-----	-----	-----	-----	-----	-----	-----
1065		-----	-----	-----	-----	-----	-----	-----	-----
1066	D1160	209	252	288	365	428	495	-----	518
1095		-----	-----	-----	-----	-----	-----	-----	-----
1109		-----	-----	-----	-----	-----	-----	-----	-----
1121		-----	-----	-----	-----	-----	-----	-----	-----
1126		-----	-----	-----	-----	-----	-----	-----	-----
1131		-----	-----	-----	-----	-----	-----	-----	-----
1134	D1160	215	271	283	368	429	496	-----	-----
1161		-----	-----	-----	-----	-----	-----	-----	-----
1167		-----	-----	-----	-----	-----	-----	-----	-----
1177		-----	-----	-----	-----	-----	-----	-----	-----
1201		-----	-----	-----	-----	-----	-----	-----	-----
1205		-----	-----	-----	-----	-----	-----	-----	-----
1215		-----	-----	-----	-----	-----	-----	-----	-----
1231		-----	-----	-----	-----	-----	-----	-----	-----
1233		-----	-----	-----	-----	-----	-----	-----	-----
1259		-----	-----	-----	-----	-----	-----	-----	-----
1266		-----	-----	-----	-----	-----	-----	-----	-----
1269		-----	-----	-----	-----	-----	-----	-----	-----
1271		-----	-----	-----	-----	-----	-----	-----	-----
1275		-----	-----	-----	-----	-----	-----	-----	-----
1299		-----	-----	-----	-----	-----	-----	-----	-----
1337		-----	-----	-----	-----	-----	-----	-----	-----
1340	D1160	190.6	255.7	292.5	368.1	430.0	495.0	-----	517.9
1347		-----	-----	-----	-----	-----	-----	-----	-----
1348		-----	-----	-----	-----	-----	-----	-----	-----
1356		-----	-----	-----	-----	-----	-----	-----	-----
1381		-----	-----	-----	-----	-----	-----	-----	-----
1385		-----	-----	-----	-----	-----	-----	-----	-----
1395		-----	-----	-----	-----	-----	-----	-----	-----
1402		-----	-----	-----	-----	-----	-----	-----	-----
1403		-----	-----	-----	-----	-----	-----	-----	-----
1404		-----	-----	-----	-----	-----	-----	-----	-----
1412		-----	-----	-----	-----	-----	-----	-----	-----

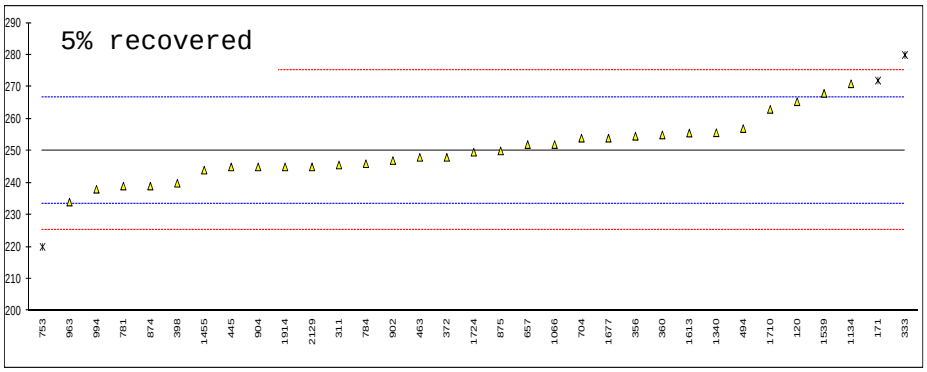
1419		-----	-----	-----	-----	-----	-----	-----	-----
1428		-----	-----	-----	-----	-----	-----	-----	-----
1431		-----	-----	-----	-----	-----	-----	-----	-----
1455	D1160	185	244	282	364	428	497	-----	510
1459		-----	-----	-----	-----	-----	-----	-----	-----
1460		-----	-----	-----	-----	-----	-----	-----	-----
1501		-----	-----	-----	-----	-----	-----	-----	-----
1510		-----	-----	-----	-----	-----	-----	-----	-----
1520		-----	-----	-----	-----	-----	-----	-----	-----
1539	D1160	205	268	301	375	439	505	-----	523
1543		-----	-----	-----	-----	-----	-----	-----	-----
1556		-----	-----	-----	-----	-----	-----	-----	-----
1564		-----	-----	-----	-----	-----	-----	-----	-----
1569		-----	-----	-----	-----	-----	-----	-----	-----
1586		-----	-----	-----	-----	-----	-----	-----	-----
1610		-----	-----	-----	-----	-----	-----	-----	-----
1613	D1160	199.9	255.6	294.5	377.1	438.3	485.2	-----	-----
1622		-----	-----	-----	-----	-----	-----	-----	-----
1631		-----	-----	-----	-----	-----	-----	-----	-----
1636		-----	-----	-----	-----	-----	-----	-----	-----
1643		-----	-----	-----	-----	-----	-----	-----	-----
1648		-----	-----	-----	-----	-----	-----	-----	-----
1650		-----	-----	-----	-----	-----	-----	-----	-----
1654		-----	-----	-----	-----	-----	-----	-----	-----
1677	D1160	198	254	289	364	426	479	-----	-----
1681		-----	-----	-----	-----	-----	-----	-----	-----
1707		-----	-----	-----	-----	-----	-----	-----	-----
1710	D1160	198.0	263.0	298.0	375.0	435.0	503.0	-----	545.5
1720		-----	-----	-----	-----	-----	-----	-----	-----
1724	D1160	194.6	249.6	290.6	373.0	430.2	495.9	-----	-----
1740		-----	-----	-----	-----	-----	-----	-----	-----
1761		-----	-----	-----	-----	-----	-----	-----	-----
1773		-----	-----	-----	-----	-----	-----	-----	-----
1774		-----	-----	-----	-----	-----	-----	-----	-----
1775		-----	-----	-----	-----	-----	-----	-----	-----
1776		-----	-----	-----	-----	-----	-----	-----	-----
1784		-----	-----	-----	-----	-----	-----	-----	-----
1807		-----	-----	-----	-----	-----	-----	-----	-----
1810		-----	-----	-----	-----	-----	-----	-----	-----
1811		-----	-----	-----	-----	-----	-----	-----	-----
1832		-----	-----	-----	-----	-----	-----	-----	-----
1833		-----	-----	-----	-----	-----	-----	-----	-----
1842		-----	-----	-----	-----	-----	-----	-----	-----
1849		-----	-----	-----	-----	-----	-----	-----	-----
1854		-----	-----	-----	-----	-----	-----	-----	-----
1906		-----	-----	-----	-----	-----	-----	-----	-----
1914	D1160	187	245	286	357	417	484	-----	517
1915		-----	-----	-----	-----	-----	-----	-----	-----
1936		-----	-----	-----	-----	-----	-----	-----	-----
1937		-----	-----	-----	-----	-----	-----	-----	-----
1938		-----	-----	-----	-----	-----	-----	-----	-----
1942		-----	-----	-----	-----	-----	-----	-----	-----
1948		-----	-----	-----	-----	-----	-----	-----	-----
1951		-----	-----	-----	-----	-----	-----	-----	-----
2129	D1160	178	245	288	369	431	489	-----	525
	normality	OK	OK	OK	OK	OK	not OK	n.a	OK
	n	32	30	31	32	30	30	2	24
	outliers	1	2 + 1excl	2	0 + 1excl.	3	2	n.a	4
	mean (n)	191.63	250.18	286.72	366.76	428.09	492.62	492.62	517.95
	st.dev. (n)	10.673	8.909	8.680	9.106	6.311	8.508	n.a	9.116
	R(calc.)	29.88	24.95	24.30	25.50	17.67	23.82	n.a	25.52
	R(D1160:13)	49.45	23.38	21.53	20.71	19.71	15.03	n.a	26.89

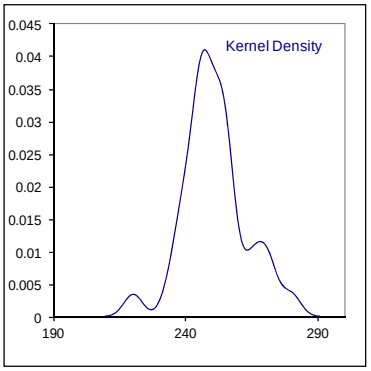
Test results underlined and bold are statistical outliers acc. to Grubbs/Dixon outlier test.

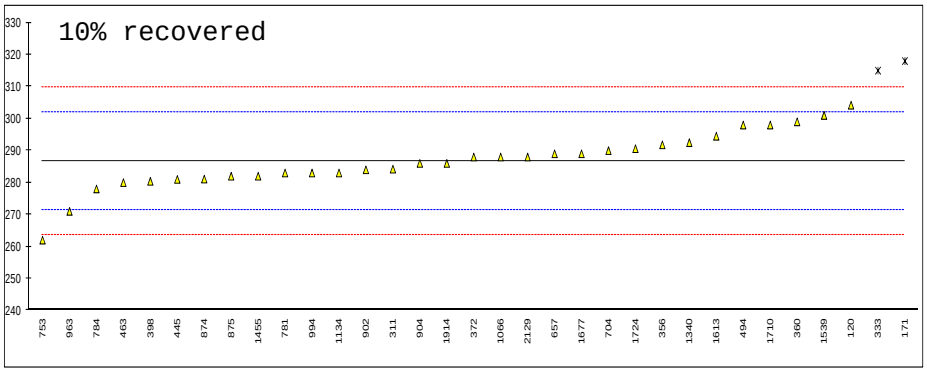
The underlined and Italic 5% and 20% recovered results of lab 171 were excluded, see §4.1

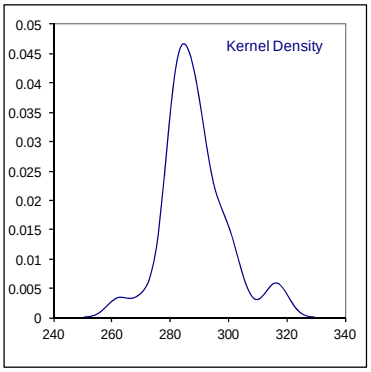

IBP

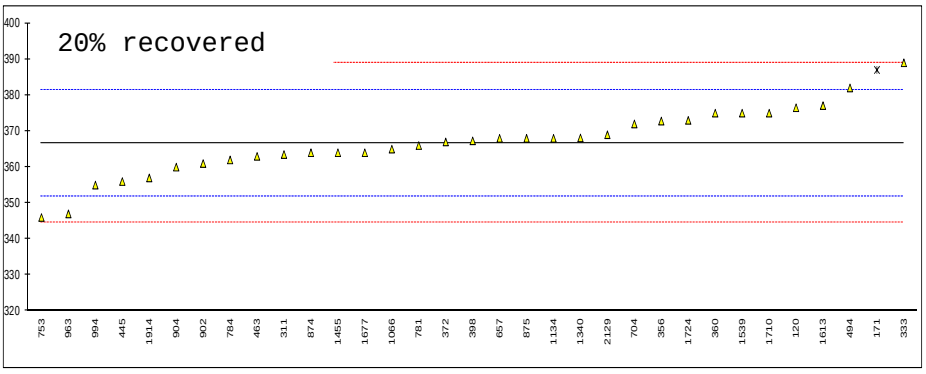

Kernel Density

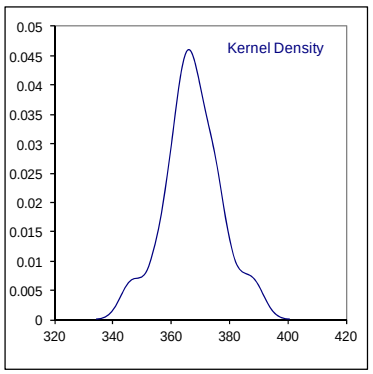

5% recovered

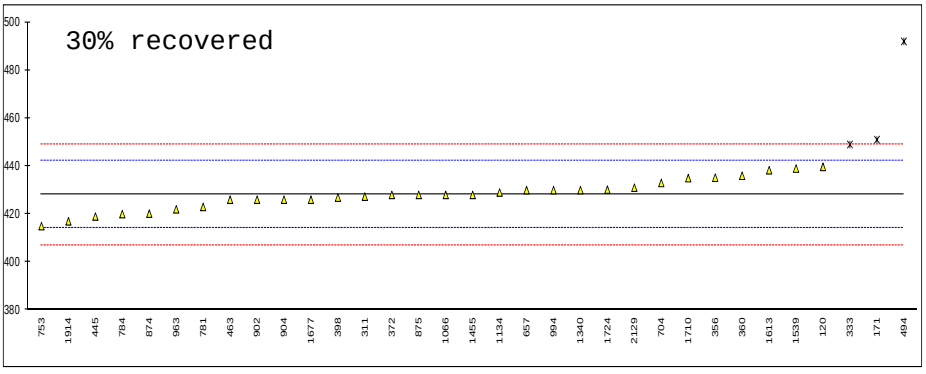

Kernel Density

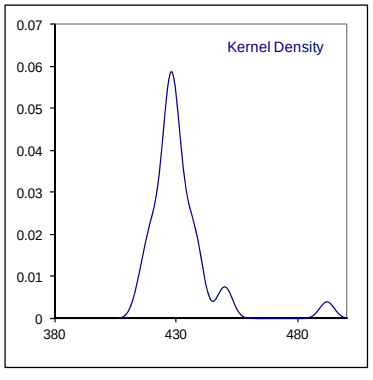

10% recovered

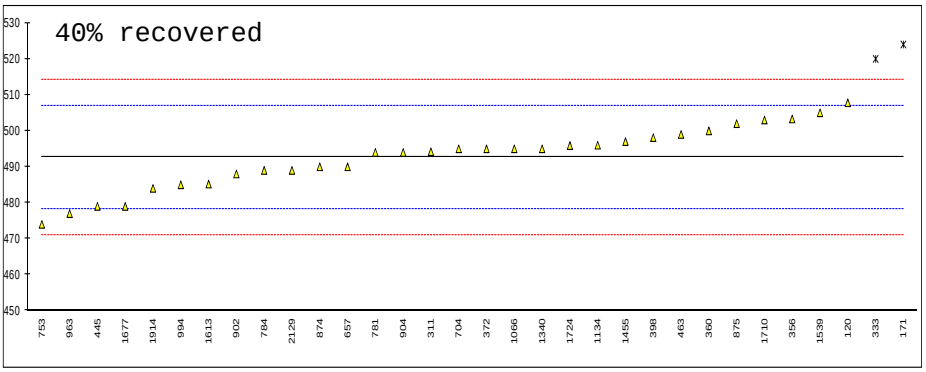

Kernel Density

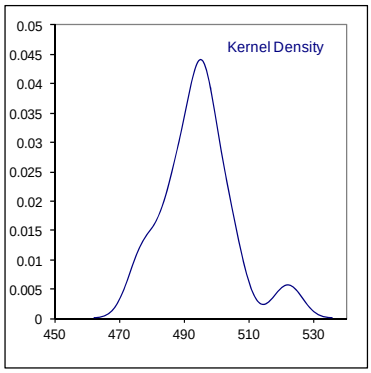

20% recovered

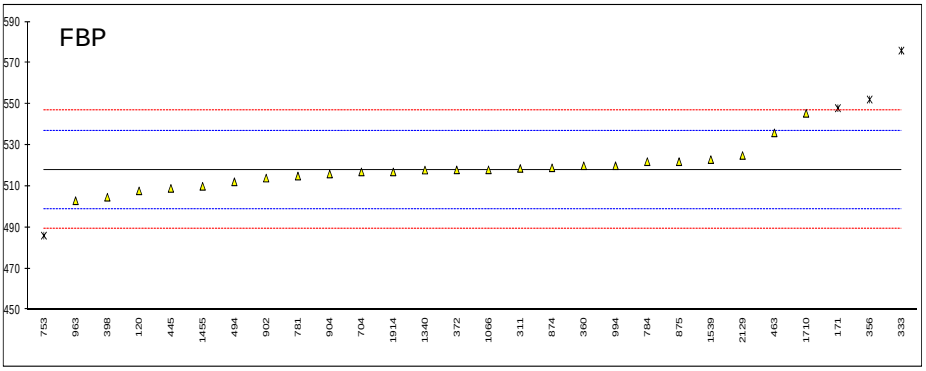

Kernel Density

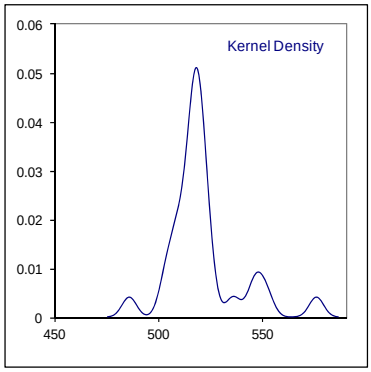

30% recovered


Kernel Density


40% recovered
530
520
510
500
490
480
470
460
450
753 963 445 1677 1914 994 1613 902 784 2129 874 657 781 904 311 704 372 1066 1340 1724 1134 1455 398 463 360 875 1710 356 1539 120 333 171


Kernel Density
0.05
0.045
0.04
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
450 470 490 510 530


FBP
590
570
550
530
510
490
470
450
753 963 398 120 445 1455 494 902 781 904 704 1914 1340 372 1066 311 874 360 994 784 875 1539 2129 463 1710 171 356 333


Kernel Density
0.06
0.05
0.04
0.03
0.02
0.01
0
450 500 550

Distillation according to ASTM D1160 (Continued) on sample #14001,

lab	method	vol in receiver	vol in cold trap	recovery	bottom temp @ FBP
52		-----	-----	-----	-----
62		-----	-----	-----	-----
90		-----	-----	-----	-----
92		-----	-----	-----	-----
120	D1160	45	45	47.7	548.1
131		-----	-----	-----	-----
132		-----	-----	-----	-----
154		-----	-----	-----	-----
159		-----	-----	-----	-----
168		-----	-----	-----	-----
169		-----	-----	-----	-----
171		-----	-----	49.9	-----
175		-----	-----	-----	-----
179		-----	-----	-----	-----
193		-----	-----	-----	-----
194		-----	-----	-----	-----
212		-----	-----	-----	-----
221		-----	-----	-----	-----
224		-----	-----	-----	-----
225		-----	-----	-----	-----
228		-----	-----	-----	-----
230		-----	-----	-----	-----
237		-----	-----	-----	-----
238		-----	-----	-----	-----
252		-----	-----	-----	-----
253		-----	-----	-----	-----
254		-----	-----	-----	-----
256		-----	-----	-----	-----
273		-----	-----	-----	-----
311		-----	-----	44.3	400
313		-----	-----	-----	-----
323		-----	-----	-----	-----
331		-----	-----	-----	-----
333		-----	-----	-----	-----
334		-----	-----	-----	-----
336		-----	-----	-----	-----
337		-----	-----	-----	-----
340		-----	-----	-----	-----
343		-----	-----	-----	-----
349		-----	-----	-----	-----
351		-----	-----	-----	-----
353		-----	-----	-----	-----
356		108	0.1	54	400
360		88	-----	45.5	554
370		-----	-----	-----	-----
372		88	0.6	44	388
391		-----	-----	-----	-----
398	D1160	65.9	<0.1	45.3	390.3
399		-----	-----	-----	-----
440		-----	-----	-----	-----
444		-----	-----	-----	-----
445		92.0	1.0	46.0	400
447		-----	-----	-----	-----
463		97	-----	48.5	333
494		83	<0.1	38.9	400
495		-----	-----	-----	-----
507		-----	-----	-----	-----
511		-----	-----	-----	-----
529		-----	-----	-----	-----
541		-----	-----	-----	-----
551		-----	-----	-----	-----
557		-----	-----	-----	-----
562		-----	-----	-----	-----
575		-----	-----	-----	-----
603		-----	-----	-----	-----
604		-----	-----	-----	-----
605		-----	-----	-----	-----
607		-----	-----	-----	-----
608		-----	-----	-----	-----
631		-----	-----	-----	-----
634		-----	-----	-----	-----
657		88.8	-----	44.4	510.2
663		-----	-----	-----	-----
671		-----	-----	-----	-----
704		90.0	2.0	45.7	400.0

705		-----	-----	-----	-----
732		-----	-----	-----	-----
750		-----	-----	-----	-----
753		86.0	0.0	43.0	398.5
781		87	1.0	44	396
784		87.0	3.0	45.0	-----
785		-----	-----	-----	-----
791		-----	-----	-----	-----
823		-----	-----	-----	-----
824		-----	-----	-----	-----
840		-----	-----	-----	-----
851		-----	-----	-----	-----
855		-----	-----	-----	-----
858		-----	-----	-----	-----
859		-----	-----	-----	-----
862		-----	-----	-----	-----
863		-----	-----	-----	-----
864		-----	-----	-----	-----
865		-----	-----	-----	-----
867		-----	-----	-----	-----
873		-----	-----	-----	-----
874		45.5	4.0	49.5	380.0
875		86	1.0	43.5	-----
886		-----	-----	-----	-----
887		-----	-----	-----	-----
902	D1160	44.2	-----	44.2	400
904	D1160	45.0	-----	-----	-----
912		-----	-----	-----	-----
913		-----	-----	-----	-----
922		-----	-----	-----	-----
962		-----	-----	-----	-----
963	D1160	98.0	<0.1	49.0	-----
971		-----	-----	-----	-----
974		-----	-----	-----	-----
982		-----	-----	-----	-----
993		-----	-----	-----	-----
994		88	1	45	400
995		-----	-----	-----	-----
996		-----	-----	-----	-----
997		-----	-----	-----	-----
1011		-----	-----	-----	-----
1016		-----	-----	-----	-----
1022		-----	-----	-----	-----
1059		-----	-----	-----	-----
1062		-----	-----	-----	-----
1065		-----	-----	-----	-----
1066		88	-----	44	348
1095		-----	-----	-----	-----
1109		-----	-----	-----	-----
1121		-----	-----	-----	-----
1126		-----	-----	-----	-----
1131		-----	-----	-----	-----
1134	D1160	45	-----	45	-----
1161		-----	-----	-----	-----
1167		-----	-----	-----	-----
1177		-----	-----	-----	-----
1201		-----	-----	-----	-----
1205		-----	-----	-----	-----
1215		-----	-----	-----	-----
1231		-----	-----	-----	-----
1233		-----	-----	-----	-----
1259		-----	-----	-----	-----
1266		-----	-----	-----	-----
1269		-----	-----	-----	-----
1271		-----	-----	-----	-----
1275		-----	-----	-----	-----
1299		-----	-----	-----	-----
1337		-----	-----	-----	-----
1340		88.8	0.2	44.5	400.2
1347		-----	-----	-----	-----
1348		-----	-----	-----	-----
1356		-----	-----	-----	-----
1381		-----	-----	-----	-----
1385		-----	-----	-----	-----
1395		-----	-----	-----	-----
1402		-----	-----	-----	-----
1403		-----	-----	-----	-----
1404		-----	-----	-----	-----
1412		-----	-----	-----	-----

1419	-----	-----	-----	-----
1428	-----	-----	-----	-----
1431	-----	-----	-----	-----
1455	-----	<1	42	400
1459	-----	-----	-----	-----
1460	-----	-----	-----	-----
1501	-----	-----	-----	-----
1510	-----	-----	-----	-----
1520	-----	-----	-----	-----
1539	-----	-----	41.9	-----
1543	-----	-----	-----	-----
1556	-----	-----	-----	-----
1564	-----	-----	-----	-----
1569	-----	-----	-----	-----
1586	-----	-----	-----	-----
1610	-----	-----	-----	-----
1613	-----	-----	-----	-----
1622	-----	-----	-----	-----
1631	-----	-----	-----	-----
1636	-----	-----	-----	-----
1643	-----	-----	-----	-----
1648	-----	-----	-----	-----
1650	-----	-----	-----	-----
1654	-----	-----	-----	-----
1677	96.0	0	48.0	-----
1681	-----	-----	-----	-----
1707	-----	-----	-----	-----
1710	-----	-----	46.5	-----
1720	-----	-----	-----	-----
1724	-----	-----	-----	-----
1740	-----	-----	-----	-----
1761	-----	-----	-----	-----
1773	-----	-----	-----	-----
1774	-----	-----	-----	-----
1775	-----	-----	-----	-----
1776	-----	-----	-----	-----
1784	-----	-----	-----	-----
1807	-----	-----	-----	-----
1810	-----	-----	-----	-----
1811	-----	-----	-----	-----
1832	-----	-----	-----	-----
1833	-----	-----	-----	-----
1842	-----	-----	-----	-----
1849	-----	-----	-----	-----
1854	-----	-----	-----	-----
1906	-----	-----	-----	-----
1914	49.0	0	49.0	378
1915	-----	-----	-----	-----
1936	-----	-----	-----	-----
1937	-----	-----	-----	-----
1938	-----	-----	-----	-----
1942	-----	-----	-----	-----
1948	-----	-----	-----	-----
1951	-----	-----	-----	-----
2129	48	1	49	400

Determination of Total Carbon, Hydrogen and Nitrogen on sample #14001; results in %M/M

Lab	method	Tot.Carbon	Mark	z(targ)	Tot.Hydrogen	mark	z(targ)	Tot.Nitrogen	mark	z(targ)	remarks
52		-----		-----	-----		-----	-----		-----	
62		-----		-----	-----		-----	-----		-----	
90		-----		-----	-----		-----	-----		-----	
92		-----		-----	-----		-----	-----		-----	
120		-----		-----	-----		-----	-----		-----	
131		-----		-----	-----		-----	-----		-----	
132		-----		-----	-----		-----	-----		-----	
154		-----		-----	-----		-----	-----		-----	
159		-----		-----	-----		-----	-----		-----	
168		-----		-----	-----		-----	-----		-----	
169		-----		-----	-----		-----	-----		-----	
171		-----		-----	-----		-----	-----		-----	
175		-----		-----	-----		-----	-----		-----	
179		-----		-----	-----		-----	-----		-----	
193		-----		-----	-----		-----	-----		-----	
194		-----		-----	-----		-----	-----		-----	
212		-----		-----	-----		-----	-----		-----	
221		-----		-----	-----		-----	-----		-----	
224		-----		-----	-----		-----	-----		-----	
225		-----		-----	-----		-----	-----		-----	
228		-----		-----	-----		-----	-----		-----	
230		-----		-----	-----		-----	-----		-----	
237		-----		-----	-----		-----	-----		-----	
238		-----		-----	-----		-----	-----		-----	
252		-----		-----	-----		-----	-----		-----	
253		-----		-----	-----		-----	-----		-----	
254		-----		-----	-----		-----	-----		-----	
256		-----		-----	-----		-----	-----		-----	
273		-----		-----	-----		-----	-----		-----	
311	D5291	87.5	C	-0.67	10.2	C	-0.15	<0.75		-----	
313		-----		-----	-----		-----	-----		-----	
323	D5291C	88.2		0.13	10.3		0.23	-----		-----	
331		-----		-----	-----		-----	-----		-----	
333		-----		-----	-----		-----	-----		-----	
334		-----		-----	-----		-----	-----		-----	
336		-----		-----	-----		-----	-----		-----	
337		-----		-----	-----		-----	-----		-----	
340		-----		-----	-----		-----	-----		-----	
343	D5291A	87.1	C	-1.13	10.4		0.61	0.34	C	-4.33	
349		-----		-----	-----		-----	-----		-----	
351		-----		-----	-----		-----	-----		-----	
353		-----		-----	-----		-----	-----		-----	
356		-----		-----	-----		-----	-----		-----	
360		-----		-----	-----		-----	-----		-----	
370		-----		-----	-----		-----	-----		-----	
372		-----		-----	-----		-----	-----		-----	
391	D5291A	88.46		0.42	10.69		1.71	0.44		-1.63	
398		-----		-----	-----		-----	-----		-----	
399		-----		-----	-----		-----	-----		-----	
440		-----		-----	-----		-----	-----		-----	
444		-----		-----	-----		-----	-----		-----	
445	D5291	87.78		-0.35	9.91		-1.24	0.46		-1.09	
447	D5291	89.08		1.13	10.21		-0.11	-----		-----	
463		-----		-----	-----		-----	-----		-----	
494		-----		-----	-----		-----	-----		-----	
495		-----		-----	-----		-----	-----		-----	
507		-----		-----	-----		-----	-----		-----	
511		-----		-----	-----		-----	-----		-----	
529		-----		-----	-----		-----	-----		-----	
541		-----		-----	-----		-----	-----		-----	
551		-----		-----	-----		-----	-----		-----	
557		-----		-----	-----		-----	-----		-----	
562		-----		-----	-----		-----	-----		-----	
575		-----		-----	-----		-----	-----		-----	
603		-----		-----	-----		-----	-----		-----	
604		-----		-----	-----		-----	-----		-----	
605		-----		-----	-----		-----	-----		-----	
607		-----		-----	-----		-----	-----		-----	
608		-----		-----	-----		-----	-----		-----	
631		-----		-----	-----		-----	-----		-----	
634		-----		-----	-----		-----	-----		-----	
657	D5291D	87.83		-0.30	10.44		0.76	0.48		-0.55	
663		-----		-----	-----		-----	-----		-----	
671		-----		-----	-----		-----	-----		-----	

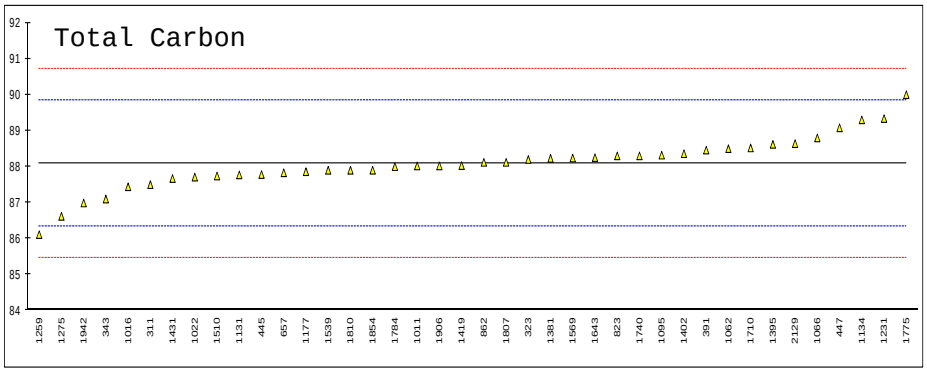
704		-----	-----	-----		-----	-----	-----
705		-----	-----	-----		-----	-----	-----
732		-----	-----	-----		-----	-----	-----
750		-----	-----	-----		-----	-----	-----
753		-----	-----	-----		-----	-----	-----
781		-----	-----	-----		-----	-----	-----
784		-----	-----	-----		-----	-----	-----
785		-----	-----	-----		-----	-----	-----
791		-----	-----	-----		-----	-----	-----
823	D5291	88.30	0.24	10.45		0.80	-----	-----
824		-----	-----	-----		-----	-----	-----
840		-----	-----	-----		-----	-----	-----
851		-----	-----	-----		-----	-----	-----
855		-----	-----	-----		-----	-----	-----
858		-----	-----	-----		-----	-----	-----
859		-----	-----	-----		-----	-----	-----
862	D5291	88.12	0.03	9.86		-1.43	0.43	-1.90
863		-----	-----	-----		-----	-----	-----
864		-----	-----	-----		-----	-----	-----
865		-----	-----	-----		-----	-----	-----
867		-----	-----	-----		-----	-----	-----
873		-----	-----	-----		-----	-----	-----
874		-----	-----	-----		-----	-----	-----
875		-----	-----	-----		-----	-----	-----
886		-----	-----	-----		-----	-----	-----
887		-----	-----	-----		-----	-----	-----
902		-----	-----	-----		-----	-----	-----
904		-----	-----	-----		-----	-----	-----
912		-----	-----	-----		-----	-----	-----
913		-----	-----	-----		-----	-----	-----
922		-----	-----	-----		-----	-----	-----
962		-----	-----	-----		-----	-----	-----
963		-----	-----	-----		-----	-----	-----
971		-----	-----	-----		-----	-----	-----
974		-----	-----	-----		-----	-----	-----
982		-----	-----	-----		-----	-----	-----
993		-----	-----	-----		-----	-----	-----
994		-----	-----	-----		-----	-----	-----
995		-----	-----	-----		-----	-----	-----
996		-----	-----	-----		-----	-----	-----
997		-----	-----	-----		-----	-----	-----
1011	D5291A	88.02	-0.08	10.73		1.86	0.59	2.41
1016	D5291	87.44	-0.74	-----		-----	0.505	0.12
1022	D5291A	87.71	-0.43	-----		-----	-----	-----
1059		-----	-----	-----		-----	-----	-----
1062	D5291	88.5	0.47	-----		-----	-----	-----
1065	D5291	-----	-----	-----		-----	0.50	-0.01
1066	D5291	88.8	0.81	10.30		0.23	0.50	-0.01
1095	D5291	88.320	0.26	10.24		0.00	0.57	1.88
1109		-----	-----	-----		-----	-----	-----
1121		-----	-----	-----		-----	-----	-----
1126		-----	-----	-----		-----	-----	-----
1131	D5291D	87.77	-0.36	10.06		-0.68	0.51	0.26
1134	D5291A	89.3	1.38	10.2		-0.15	0.5	-0.01
1161		-----	-----	-----		-----	-----	-----
1167		-----	-----	-----		-----	-----	-----
1177	D5291C	87.86	-0.26	10.37		0.50	0.520	0.53
1201		-----	-----	-----		-----	-----	-----
1205		-----	-----	-----		-----	-----	-----
1215		-----	-----	-----		-----	-----	-----
1231	D5291	89.335	1.42	10.68		1.67	0.58	2.15
1233		-----	-----	-----		-----	-----	-----
1259	D5291	86.11	-2.25	9.94		-1.13	0.53	0.80
1266		-----	-----	-----		-----	-----	-----
1269		-----	-----	-----		-----	-----	-----
1271		-----	-----	-----		-----	-----	-----
1275	in house	86.620	-1.67	-----		-----	-----	-----
1299		-----	-----	-----		-----	-----	-----
1337		-----	-----	-----		-----	-----	-----
1340		-----	-----	-----		-----	-----	-----
1347		-----	-----	-----		-----	-----	-----
1348		-----	-----	-----		-----	-----	-----
1356		-----	-----	-----		-----	-----	-----
1381	INH580	88.23	0.16	10.203		-0.14	-----	-----
1385		-----	-----	-----		-----	-----	-----
1395	D5291	88.62	0.60	11.18	G(0.01)	3.56	0.58	2.15
1402	D5291	88.36	0.31	9.82		-1.58	-----	-----
1403		-----	-----	-----		-----	-----	-----
1404		-----	-----	-----		-----	-----	-----

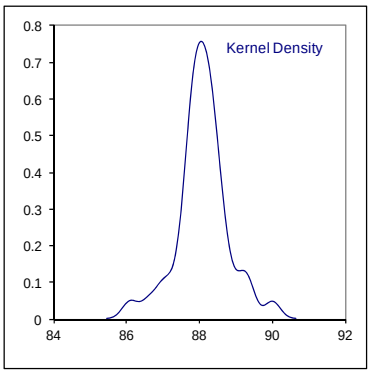
1412		-----	-----	-----	-----	-----	-----
1419	D5291A	88.03	-0.07	10.22	-0.07	0.49	-0.28
1428		-----	-----	-----	-----	-----	-----
1431	D5291C	87.669	-0.48	10.217	-0.08	0.477	-0.63
1455		-----	-----	-----	-----	-----	-----
1459		-----	-----	-----	-----	-----	-----
1460		-----	-----	-----	-----	-----	-----
1501		-----	-----	-----	-----	-----	-----
1510	D5291	87.74	-0.40	10.57	1.25	0.48	-0.55
1520		-----	-----	-----	-----	-----	-----
1539	D5291	87.9	-0.22	10.29	0.19	0.52	0.53
1543		-----	-----	-----	-----	-----	-----
1556		-----	-----	-----	-----	-----	-----
1564		-----	-----	-----	-----	-----	-----
1569	D5291	88.24	0.17	10.16	-0.30	0.44	-1.63
1586		-----	-----	-----	-----	-----	-----
1610		-----	-----	-----	-----	-----	-----
1613		-----	-----	-----	-----	-----	-----
1622		-----	-----	-----	-----	-----	-----
1631		-----	-----	-----	-----	-----	-----
1636		-----	-----	-----	-----	-----	-----
1643	D5291A	88.25	0.18	10.22	-0.07	0.42	-2.17
1648		-----	-----	-----	-----	-----	-----
1650		-----	-----	-----	-----	-----	-----
1654		-----	-----	-----	-----	-----	-----
1677		-----	-----	-----	-----	-----	-----
1681		-----	-----	-----	-----	-----	-----
1707		-----	-----	-----	-----	-----	-----
1710	D5291B	88.52	0.49	10.27	0.12	-----	-----
1720		-----	-----	-----	-----	-----	-----
1724		-----	-----	-----	-----	-----	-----
1740	D5291A	88.3	0.24	10.3	0.23	0.47	-0.82
1761		-----	-----	-----	-----	-----	-----
1773		-----	-----	-----	-----	-----	-----
1774		-----	-----	-----	-----	-----	-----
1775	in house	90.0	2.18	-----	-----	-----	-----
1776		-----	-----	-----	-----	-----	-----
1784	D5291	88.00	-0.10	10.25	0.04	-----	-----
1807	D5291	88.12	0.03	9.81	-1.62	0.62	3.22
1810	D5291C	87.9	-0.22	10.0	-0.90	0.43	-1.90
1811		-----	-----	-----	-----	-----	-----
1832		-----	-----	-----	-----	-----	-----
1833		-----	-----	-----	-----	-----	-----
1842		-----	-----	-----	-----	-----	-----
1849		-----	-----	-----	-----	-----	-----
1854	D5291	87.90	-0.22	10.2	-0.15	-----	-----
1906	D5291D	88.02 C	-0.08	10.150	-0.34	0.580	2.15
1914		-----	-----	-----	-----	-----	-----
1915		-----	-----	-----	-----	-----	-----
1936		-----	-----	-----	-----	-----	-----
1937		-----	-----	-----	-----	-----	-----
1938		-----	-----	-----	-----	-----	-----
1942	D5291	86.99	-1.252	10.23	-0.033	0.57	1.88
1948		-----	-----	-----	-----	-----	-----
1951		-----	-----	-----	-----	-----	-----
2129	D5291	88.64	0.63	10.23	-0.03	0.48	-0.55
	normality	OK		not OK		OK	
	n	40		34		28	
	outliers	0		1		0	
	mean (n)	88.09		10.24		0.500	
	st.dev. (n)	0.706		0.227		0.0628	
	R(calc.)	1.98		0.64		0.176	
	R(D5291:10)	2.46		0.74		0.104	

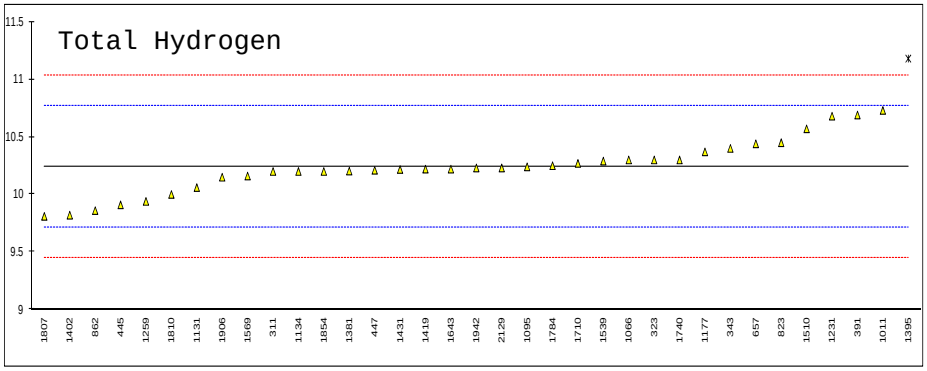
Lab 311 total carbon first reported: 86.2 Lab 311 total hydogen first reported: 13.8

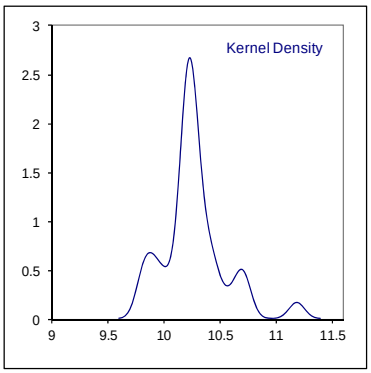
Lab 343 total carbon first reported: 86.7 Lab 343 total nitrogen first reported: 0.85

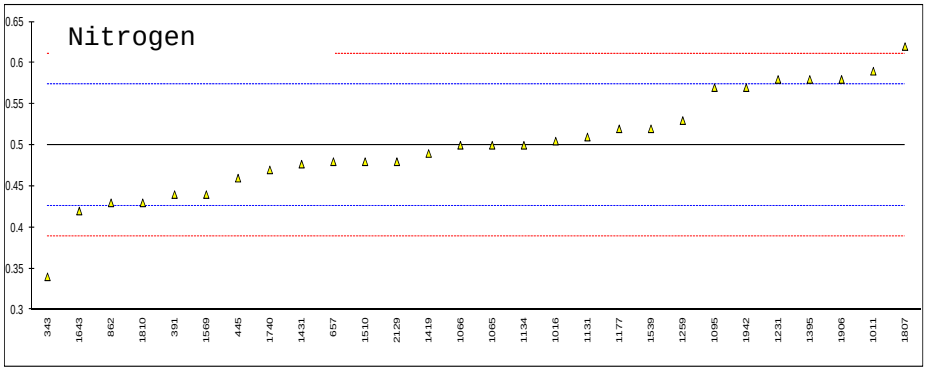
Lab 1906 total carbon first reported: 86.540

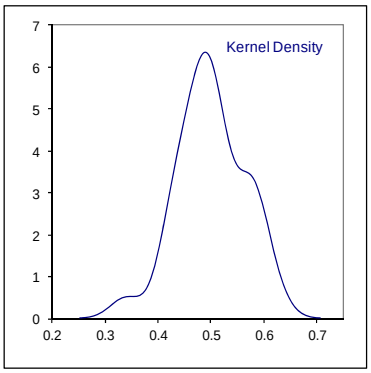

Total Carbon


Kernel Density


Total Hydrogen


Kernel Density

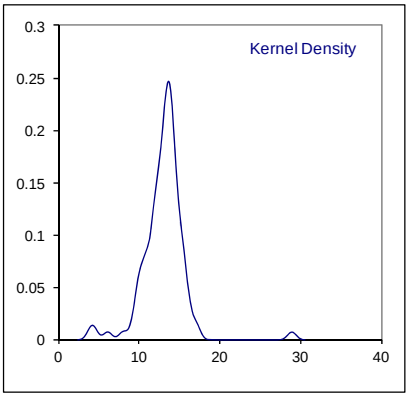

Nitrogen

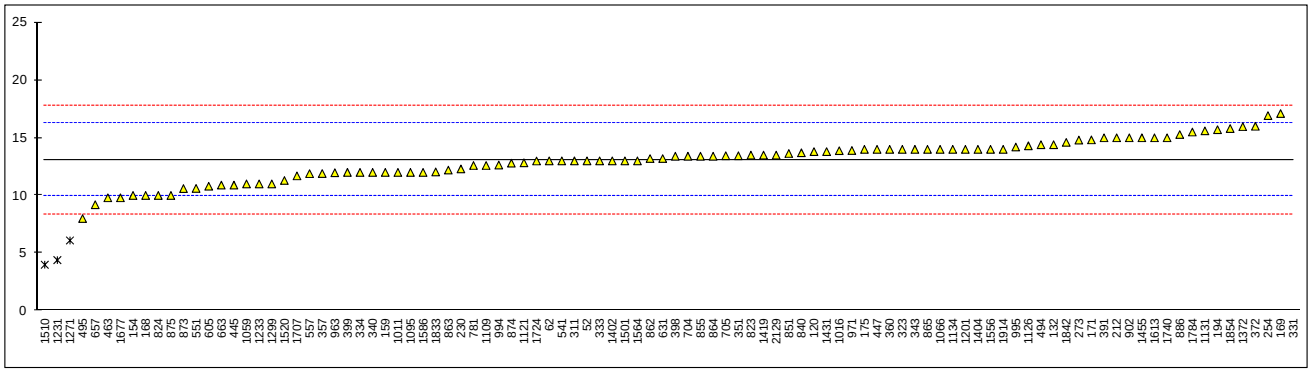

Kernel Density

Determination of Aluminium on sample #14002; results in mg/kg

lab	method	value	mark	z(targ)	remarks
52	IP470	13		-0.06	
62	IP470	13		-0.06	
92		-----		-----	
120	IP501	13.8		0.45	
131		-----		-----	
132	IP470	14.4		0.83	
154	D5184	10		-1.96	
159	D5184	12		-0.69	
168	D5184	10.00		-1.96	
169	D5184	17.1		2.54	
171	IP501	14.82		1.10	
175	D5184	14		0.58	
193		-----		-----	
194	IP470	15.7		1.65	
212	IP470	15		1.21	
221		-----		-----	
225		-----		-----	
230	IP470	12.3		-0.50	
237		-----		-----	
242		-----		-----	
254	D5184	16.92		2.43	
273	IP470	14.8		1.08	
311	IP501	13		-0.06	
323	IP501	14		0.58	
331	IP501	28.9	G(0.01)	10.03	
333	IP501	13		-0.06	
334	IP470	12		-0.69	
336		-----		-----	
340	IP501	12		-0.69	
343	IP501	14		0.58	
351	IP501	13.44		0.22	
357	IP501	11.9		-0.76	
360	IP501	14		0.58	
370		-----		-----	
372	IP470	16		1.85	
391	IP501	15		1.21	
398	IP470	13.4		0.20	
399	IP501	12		-0.69	
444		-----		-----	
445	IP501	10.9		-1.39	
447	IP470	14		0.58	
463	IP470	9.8		-2.09	
494	IP501	14.4		0.83	
495	D5185	8		-3.23	see §4.1
507		-----		-----	
511		-----		-----	
541	IP470	13		-0.06	
551	IP501	10.61		-1.58	
557	IP501	11.89398		-0.76	
603		-----		-----	
605	IP501	10.8		-1.45	
607		-----		-----	
608		-----		-----	
631	IP470	13.2	C	0.07	first reported: 6.12
657	IP501	9.2		-2.47	
663	IP501	10.9		-1.39	
704	IP470	13.4		0.20	
705	IP470	13.44		0.22	
753		-----		-----	
781	IP501	12.6		-0.31	
785		-----		-----	
791		-----		-----	
823	IP501	13.5		0.26	
824	IP501	10		-1.96	
840	IP470	13.7		0.39	
851	IP501	13.64		0.35	
855	IP470	13.4		0.20	
862	IP501	13.2		0.07	
863	IP501	12.2		-0.57	
864	IP501	13.4		0.20	
865	IP501	14.0		0.58	
873	IP470	10.6		-1.58	
874	IP470	12.8		-0.19	
875	IP470	10		-1.96	

886	IP501	15.28		1.39	
902	IP470	15		1.21	
904		-----		-----	
913		-----		-----	
922		-----		-----	
963	IP501	11.97		-0.71	
971	IP501	13.9		0.51	
993		-----		-----	
994	IP501	12.64		-0.29	
995	IP377	14.2		0.70	
997		-----		-----	
1011	IP377	12		-0.69	
1016	IP501	13.88		0.50	
1059	IP501	11		-1.33	
1066	IP501	14		0.58	
1095	IP501	12.0		-0.69	
1109	IP470	12.6		-0.31	
1121	IP501	12.83	C	-0.17	first reported: 7.838
1126	IP501	14.3		0.77	
1131	IP470	15.6		1.59	
1134	IP501	14		0.58	
1201	IP501	14		0.58	
1231	in house	4.4	C,G(0.01)	-5.52	first reported: 6.05
1233	IP501	11		-1.33	
1271	in house	6.10	C,G(0.01)	-4.44	first reported: 5.70
1299	IP470	11		-1.33	
1372	IP501	15.97		1.83	
1402	IP501	13		-0.06	
1403		-----		-----	
1404	IP470	14		0.58	
1419	IP501	13.50		0.26	
1428		-----	W	-----	result withdrawn: 24
1431	in house	13.8		0.45	
1455	IP501	15		1.21	
1460		-----		-----	
1501	IP470	13.0		-0.06	
1510	IP501	4	G(0.01)	-5.77	
1520	IP470	11.3		-1.14	
1556	IP470	14		0.58	
1564	IP501	13		-0.06	
1586	IP501	12		-0.69	
1613	IP470	15.0		1.21	
1643		-----		-----	
1677	IP501	9.8		-2.09	
1707	IP501	11.7	C	-0.88	first reported: 23.7
1720		-----		-----	
1724	IP501	12.99		-0.06	
1740	IP501	15		1.21	
1784	IP501	15.5		1.53	
1833	IP501	12.04		-0.67	
1842	IP501	14.6		0.96	
1854	IP501	15.8		1.72	
1914	IP501	14		0.58	
1915		-----		-----	
1951		-----		-----	
2129	IP377	13.5		0.26	
			Only IP470 data		
	normality	OK	OK		
	n	96	30		
	outliers	4	0		
	mean (n)	13.092	13.281		
	st.dev. (n)	1.7502	1.6152		
	R(calc.)	4.901	4.523		
	R(IP501:05)	4.412	4.463		



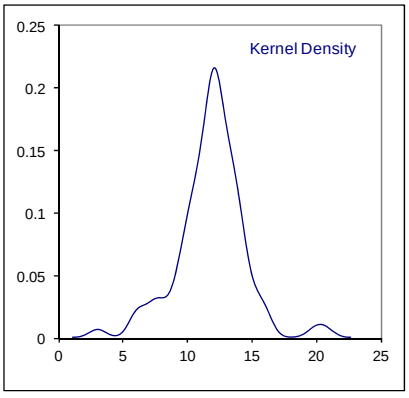


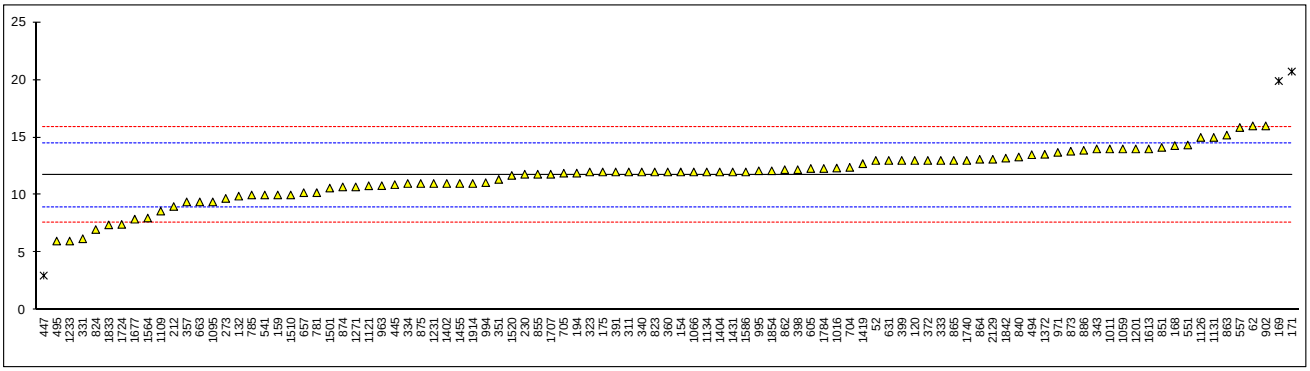
Determination of Silicon on sample #14002; results in mg/kg

lab	method	value	mark	z(targ)	remarks
52	IP470	13		0.91	
62	IP470	16		3.06	
92		-----		-----	
120	IP501	13.0		0.91	
131		-----		-----	
132	IP470	9.9		-1.32	
154	D5184	12		0.19	
159	D5184	10		-1.25	
168	D5184	14.29		1.84	
169	D5184	19.9	G(0.05)	5.87	
171	IP501	20.72	G(0.05)	6.46	
175	D5184	12		0.19	
193		-----		-----	
194	IP470	11.9		0.12	
212	IP470	9		-1.97	
221		-----		-----	
225		-----		-----	
230	IP470	11.8		0.05	
237		-----		-----	
242		-----		-----	
254		-----		-----	
273	IP470	9.7		-1.46	
311	IP501	12		0.19	
323	IP501	12		0.19	
331	IP501	6.2		-3.98	
333	IP501	13		0.91	
334	IP470	11		-0.53	
336		-----		-----	
340	IP501	12		0.19	
343	IP501	14		1.63	
351	IP501	11.35		-0.28	
357	IP501	9.4		-1.68	
360	IP501	12		0.19	
370		-----		-----	
372	IP470	13		0.91	
391	IP501	12		0.19	
398	IP470	12.2		0.33	
399	IP501	13		0.91	
444		-----		-----	
445	IP501	10.9		-0.60	
447	IP470	3	G(0.05)	-6.28	
463	IP470	<10		-----	
494	IP501	13.5		1.27	
495	D5185	6		-4.12	see §4.1
507		-----		-----	
511		-----		-----	
541	IP470	10		-1.25	
551	IP501	14.34		1.87	
557	IP501	15.85958		2.96	
603		-----		-----	
605	IP501	12.3		0.41	
607		-----		-----	
608		-----		-----	
631	IP470	13.0	C	0.91	first reported: 6.30
657	IP501	10.2	C	-1.10	first reported: 5.8
663	IP501	9.4		-1.68	
704	IP470	12.4		0.48	
705	IP470	11.89		0.11	
753		-----		-----	
781	IP501	10.2		-1.10	
785	IP470	10		-1.25	
791		-----		-----	
823	IP501	12.0		0.19	
824	IP501	7		-3.40	
840	IP470	13.3		1.12	
851	IP501	14.13		1.72	
855	IP470	11.8		0.05	
862	IP501	12.2		0.33	
863	IP501	15.2		2.49	
864	IP501	13.1		0.98	
865	IP501	13.0		0.91	
873	IP470	13.8		1.48	
874	IP470	10.7		-0.74	
875	IP470	11		-0.53	

886	IP501	13.88		1.54	
902	IP470	16		3.06	
904		-----		-----	
913		-----		-----	
922		-----		-----	
963	IP501	10.81		-0.67	
971	IP501	13.7		1.41	
993		-----		-----	
994	IP501	11.07		-0.48	
995	IP377	12.1		0.26	
997		-----		-----	
1011	IP377	14		1.63	
1016	IP501	12.34		0.43	
1059	IP501	14		1.63	
1066	IP501	12		0.19	
1095	IP501	9.4		-1.68	
1109	IP470	8.6		-2.25	
1121	IP501	10.80	C	-0.67	first reported: 6.595
1126	IP501	15.0		2.35	
1131	IP470	15.0		2.35	
1134	IP501	12		0.19	
1201	IP501	14		1.63	
1231	in house	11.0	C	-0.53	first reported: 6.50
1233	IP501	6		-4.12	
1271	in house	10.70	C	-0.74	
1299	IP470	<1		-----	
1372	IP501	13.53		1.29	
1402	IP501	11		-0.53	
1403		-----		-----	
1404	IP470	12		0.19	
1419	IP501	12.72		0.71	
1428		-----	W	-----	result withdrawn, reported: 26
1431	in house	12.0		0.19	
1455	IP501	11		-0.53	
1460		-----		-----	
1501	IP470	10.6		-0.82	
1510	IP501	10		-1.25	
1520	IP470	11.7		-0.03	
1556	IP470	<10		-----	
1564	IP501	8	C	-2.68	first reported: 5
1586	IP501	12		0.19	
1613	IP470	14.0		1.63	
1643		-----		-----	
1677	IP501	7.9		-2.76	
1707	IP501	11.8	C	0.05	first reported: 24.8
1720		-----		-----	
1724	IP501	7.446		-3.08	
1740	IP501	13		0.91	
1784	IP501	12.3		0.41	
1833	IP501	7.40		-3.12	
1842	IP501	13.2		1.05	
1854	IP501	12.1		0.26	
1914	IP501	11		-0.53	
1915		-----		-----	
1951		-----		-----	
2129	IP377	13.1		0.98	

			Only IP470 data
	normality	OK	OK
	n	94	27
	outliers	3	1
	mean (n)	11.736	11.974
	st.dev. (n)	2.1453	1.9336
	R(calc.)	6.007	5.414
	R(IP501:05)	3.896	7.325

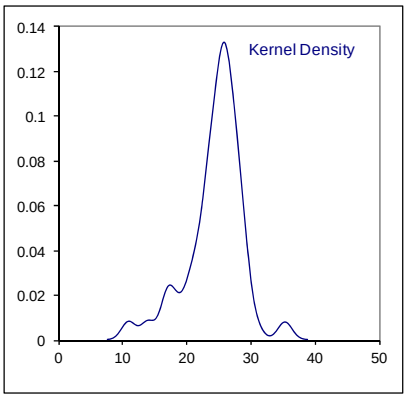


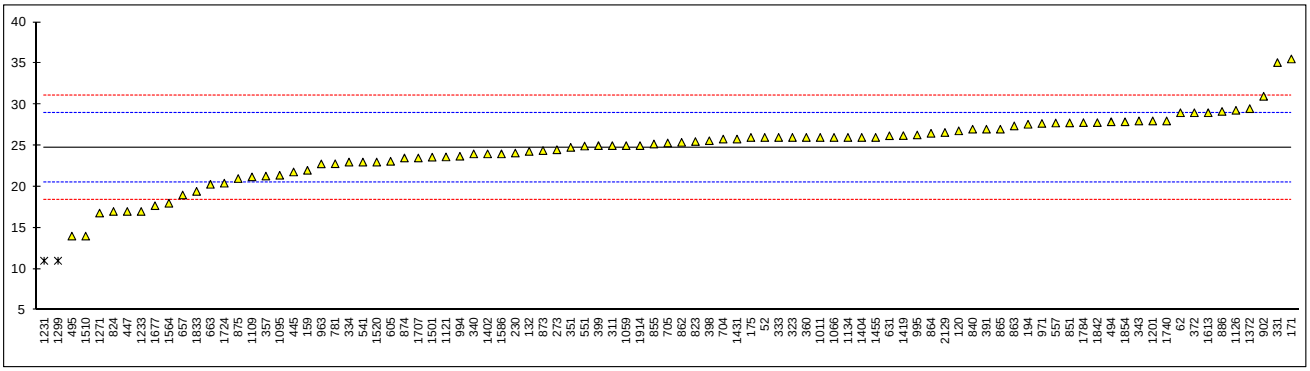


Determination of Total Aluminium + Silicon on sample #14002; results in mg/kg

lab	method	value	mark	z(targ)	remarks
52	IP470	26		0.60	
62	IP470	29		2.02	
92		-----		-----	
120	IP501	26.8		0.98	
131		-----		-----	
132	IP470	24.3		-0.21	
154		-----		-----	
159	D5184	22		-1.31	
168		-----		-----	
169		-----		-----	
171	IP501	35.54		5.13	
175	IP501	26		0.60	
193		-----		-----	
194	IP470	27.6		1.36	
212		-----		-----	
221		-----		-----	
225		-----		-----	
230	IP470	24.1		-0.31	
237		-----		-----	
242		-----		-----	
254		-----		-----	
273	IP470	24.5		-0.12	
311	IP501	25		0.12	
323	IP501	26		0.60	
331	IP501	35.1		4.92	
333	IP501	26		0.60	
334	IP470	23		-0.83	
336		-----		-----	
340	IP501	24		-0.36	
343	IP501	28		1.55	
351	IP501	24.79		0.02	
357	IP501	21.3		-1.64	
360	IP501	26		0.60	
370		-----		-----	
372	IP470	29		2.02	
391	IP501	27		1.07	
398	IP470	25.6		0.41	
399	IP501	25		0.12	
444		-----		-----	
445	IP501	21.8		-1.40	
447	IP470	17		-3.69	
463	IP470	<20	C	-----	first reported: 10
494	IP501	27.9		1.50	
495	D5185	14		-5.11	see §4.1
507		-----		-----	
511		-----		-----	
541	IP470	23		-0.83	
551	IP501	24.95		0.10	
557	IP501	27.75356		1.43	
603		-----		-----	
605	IP501	23.1		-0.78	
607		-----		-----	
608		-----		-----	
631	IP470	26.2	C	0.69	first reported: 12.42
657	IP501	19	C	-2.73	first reported: 15
663	IP501	20.3		-2.12	
704	IP470	25.8		0.50	
705	IP470	25.33		0.28	
753		-----		-----	
781	IP501	22.8		-0.93	
785		-----		-----	
791		-----		-----	
823	IP501	25.5		0.36	
824	IP501	17		-3.69	
840	IP470	27.0		1.07	
851	IP501	27.77		1.44	
855	IP470	25.2		0.22	
862	IP501	25.4		0.31	
863	IP501	27.4		1.26	
864	IP501	26.5		0.83	
865	IP501	27.0		1.07	
873	IP470	24.4		-0.17	
874	IP470	23.5		-0.59	
875	IP470	21		-1.78	

886	IP501	29.16		2.10	
902	IP470	31		2.97	
904		-----		-----	
913		-----		-----	
922		-----		-----	
963	IP501	22.78		-0.94	
971	IP501	27.7		1.40	
993		-----		-----	
994	IP501	23.71		-0.49	
995	IP377	26.3		0.74	
997		-----		-----	
1011	IP377	26		0.60	
1016		-----		-----	
1059	in house	25		0.12	
1066	IP501	26		0.60	
1095	IP501	21.4		-1.59	
1109	IP470	21.2		-1.69	
1121	IP501	23.63	C	-0.53	first reported: 14.43
1126	IP501	29.3		2.17	
1131		-----		-----	
1134	IP501	26		0.60	
1201	IP501	28		1.55	
1231	in house	11.0	C,DG(0.01)	-6.54	first reported: 12.70
1233	IP501	17		-3.69	
1271	in house	16.80	C	-3.78	first reported: 12.20
1299	IP470	11	DG(0.01)	-6.54	
1372	IP501	29.50		2.26	
1402	IP501	24		-0.36	
1403		-----		-----	
1404	IP470	26		0.60	
1419	IP501	26.22		0.70	
1428		-----	W	-----	result withdrawnfirst reported: 50
1431	in house	25.8		0.50	
1455	IP501	26		0.60	
1460		-----		-----	
1501	Calc.	23.6		-0.55	
1510	IP501	14		-5.11	
1520	IP470	23.0		-0.83	
1556		-----		-----	
1564	IP501	18		-3.21	
1586	IP501	24		-0.36	
1613	IP470	29.0		2.02	
1643		-----		-----	
1677	IP501	17.7		-3.35	
1707	IP501	23.5	C	-0.59	first reported: 48.5
1720		-----		-----	
1724	IP501	20.436		-2.05	
1740	IP501	28		1.55	
1784	IP501	27.8		1.45	
1833	IP501	19.44		-2.52	
1842	IP501	27.8		1.45	
1854	IP501	27.9		1.50	
1914	IP501	25		0.12	
1915		-----		-----	
1951		-----		-----	
2129	Calc.	26.6		0.88	
			Only IP470 data		
	normality	not OK	OK		
	n	89	24		
	outliers	2	1		
	mean (n)	24.747	25.072		
	st.dev. (n)	3.8567	3.0203		
	R(calc.)	10.799	8.457		
	R(IP501:05)	5.886	8.577		



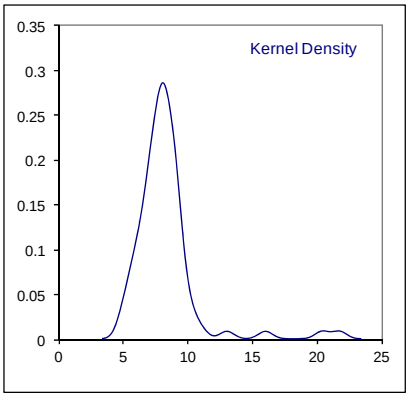


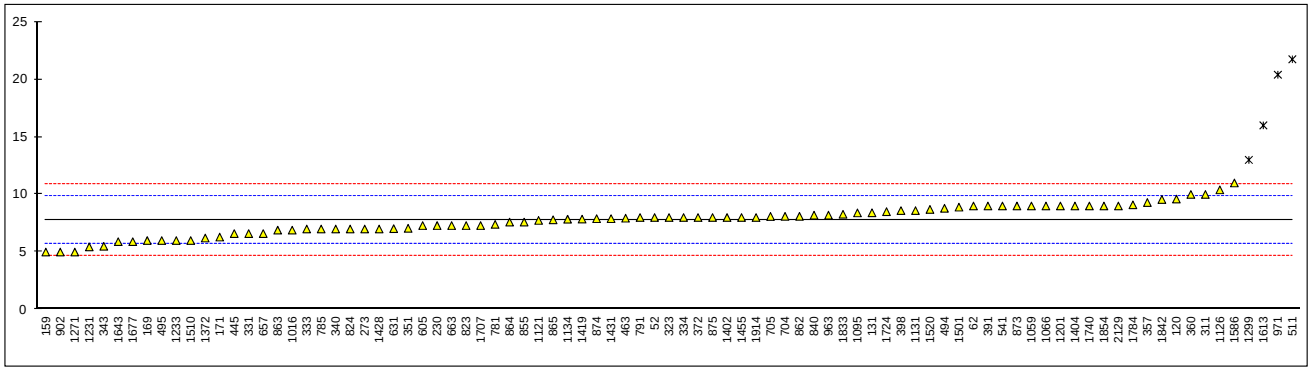
Determination of Iron on sample #14002; results in mg/kg

lab	method	value	mark	z(targ)	remarks
52	IP470	8		0.21	
62	IP470	9		1.18	
92		-----		-----	
120	IP501	9.6		1.76	
131	IP501	8.41		0.61	
132		-----		-----	
154		-----		-----	
159	D5863	5		-2.69	
168		-----		-----	
169	D5863	6		-1.72	
171	IP501	6.3		-1.43	
175		-----		-----	
193		-----		-----	
194		-----		-----	
212		-----		-----	
221		-----		-----	
225		-----		-----	
230	IP470	7.3		-0.47	
237		-----		-----	
242		-----		-----	
254		-----		-----	
273	IP470	7.0	C	-0.76	first reported: 24.1
311	IP501	10		2.14	
323	IP501	8		0.21	
331	IP501	6.6		-1.14	
333	IP501	7		-0.76	
334	IP470	8		0.21	
336		-----		-----	
340	IP501	7		-0.76	
343	D5708	5.50		-2.20	
351	IP501	7.06		-0.70	
357	IP501	9.3		1.47	
360	IP501	10		2.14	
370		-----		-----	
372	IP470	8		0.21	
391	IP501	9		1.18	
398	IP470	8.6		0.79	
399		-----		-----	
444		-----		-----	
445	IP501	6.6		-1.14	
447		-----		-----	
463	IP470	7.94		0.15	
494	IP501	8.8		0.98	
495	D5185	6		-1.72	see §4.1
507		-----		-----	
511	D5863	21.741	G(0.01)	13.49	
541	IP470	9		1.18	
551		-----		-----	
557		-----		-----	
603		-----		-----	
605	IP501	7.3		-0.47	
607		-----		-----	
608		-----		-----	
631	IP470	7.03		-0.73	
657	IP501	6.6		-1.14	
663	IP501	7.3		-0.47	
704	IP470	8.1		0.31	
705	IP470	8.09		0.30	
753		-----		-----	
781	IP501	7.4		-0.37	
785	IP470	7		-0.76	
791	IP470	8		0.21	
823	IP501	7.3		-0.47	
824	IP501	7		-0.76	
840	IP470	8.2		0.40	
851		-----		-----	
855	IP470	7.6		-0.18	
862	IP501	8.1		0.31	
863	IP501	6.9		-0.85	
864	IP501	7.6		-0.18	
865	IP501	7.8		0.02	
873	IP470	9.0		1.18	
874	IP470	7.9		0.11	
875	IP470	8		0.21	

886		-----		-----	
902	IP470	5		-2.69	
904		-----		-----	
913		-----		-----	
922		-----		-----	
963	IP501	8.20		0.40	
971	IP501	20.4	G(0.01)	12.19	
993		-----		-----	
994		-----		-----	
995		-----		-----	
997		-----		-----	
1011		-----		-----	
1016	in house	6.9		-0.85	
1059	in house	9		1.18	
1066	IP501	9		1.18	
1095	IP501	8.4		0.60	
1109		-----		-----	
1121	IP501	7.747	C	-0.03	first reported: 4.732
1126	IP501	10.4		2.53	
1131	IP470	8.6		0.79	
1134	IP501	7.85		0.07	
1201	IP501	9		1.18	
1231	in house	5.445		-2.26	
1233	IP501	6		-1.72	
1271	in house	5.0		-2.69	
1299	IP470	13	G(0.01)	5.04	
1372	D5708	6.218		-1.51	
1402	IP501	8		0.21	
1403		-----		-----	
1404	IP470	9		1.18	
1419	IP501	7.86		0.08	
1428	IP501	7		-0.76	
1431	in house	7.9		0.11	
1455	IP501	8		0.21	
1460		-----		-----	
1501	IP470	8.9		1.08	
1510	IP501	6		-1.72	
1520	IP470	8.7		0.89	
1556		-----		-----	
1564		-----		-----	
1586	IP501	11		3.11	
1613	D5863	16.0	G(0.01)	7.94	
1643	D5185	5.9		-1.82	see §4.1
1677	IP501	5.9		-1.82	
1707	IP501	7.3		-0.47	
1720		-----		-----	
1724	IP501	8.505		0.70	
1740	IP501	9		1.18	
1784	IP501	9.1		1.27	
1833	IP501	8.28		0.48	
1842	IP501	9.56		1.72	
1854	IP501	9.0		1.18	
1914	IP501	8		0.21	
1915		-----		-----	
1951		-----		-----	
2129	IP470	9.0		1.18	

		Only IP 470
normality	OK	not OK
n	83	25
outliers	4	1
mean (n)	7.782	8.038
st.dev. (n)	1.2650	0.9047
R(calc.)	3.542	2.533
R(IP501:05)	2.898	6.590



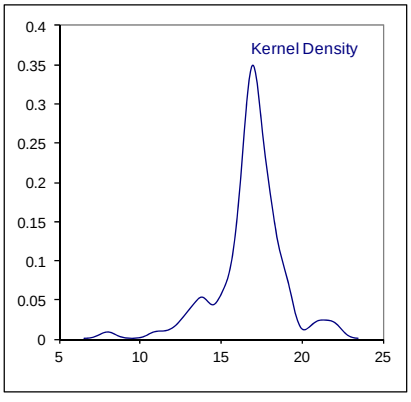


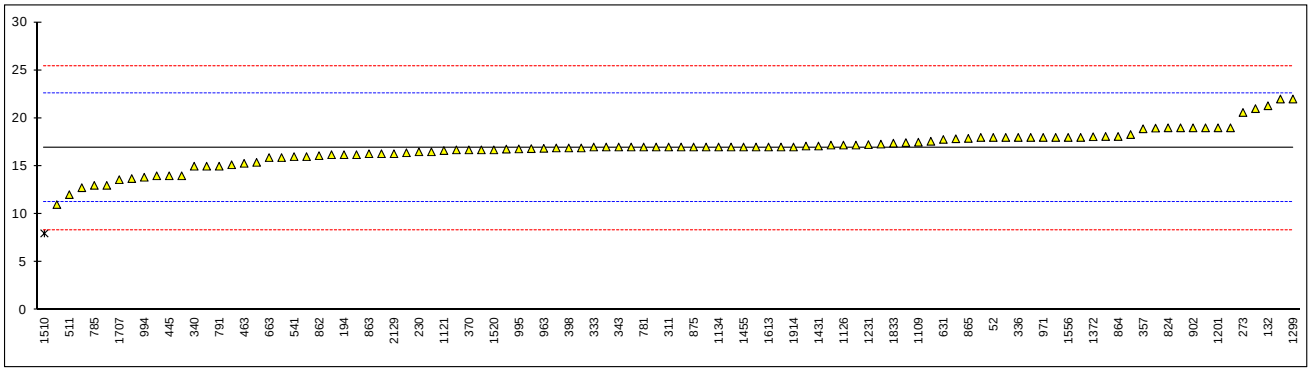
Determination of Nickel on sample #14002; results in mg/kg

lab	method	value	mark	z(targ)	remarks
52	IP470	18		0.39	
62	IP470	18		0.39	
92		-----		-----	
120	IP501	17.2		0.10	
131	IP501	12.76		-1.46	
132	IP470	21.3		1.55	
154		-----		-----	
159	D5863	17		0.03	
168		-----		-----	
169	D5863	22		1.79	
171	IP501	13.71		-1.12	
175	D5863	17		0.03	
193		-----		-----	
194	IP470	16.2		-0.25	
212		-----		-----	
221		-----		-----	
225		-----		-----	
230	IP470	16.5		-0.14	
237		-----		-----	
242		-----		-----	
254		-----		-----	
273	IP470	20.6		1.30	
311	IP501	17		0.03	
323	IP501	18		0.39	
331	IP501	16.2		-0.25	
333	IP501	17		0.03	
334	IP470	17		0.03	
336	D5853	18		0.39	
340	IP501	15		-0.67	
343	D5708	17.0		0.03	
351	IP501	15.15		-0.62	
357	IP501	18.9		0.70	
360	IP501	21		1.44	
370	IP470	16.7		-0.07	
372	IP470	17		0.03	
391	IP501	19		0.74	
398	IP470	16.9		0.00	
399	IP501	15		-0.67	
444		-----		-----	
445	IP501	14.0		-1.02	
447	IP470	14		-1.02	
463	IP470	15.3		-0.56	
494	IP501	16.9		0.00	
495	D5185	18		0.39	see §4.1
507		-----		-----	
511	D5863	12.038		-1.71	
541	IP470	16		-0.32	
551		-----		-----	
557		-----		-----	
603		-----		-----	
605	IP501	16.7		-0.07	
607		-----		-----	
608		-----		-----	
631	IP470	17.79		0.31	
657	IP501	15.4		-0.53	
663	IP501	15.9		-0.35	
704	IP470	18.3		0.49	
705	IP470	17.86		0.34	
753		-----		-----	
781	IP501	17.0		0.03	
785	IP470	13		-1.37	
791	IP470	15	C	-0.67	first reported: 12
823	IP501	16.5		-0.14	
824	IP501	19		0.74	
840	IP470	16.2		-0.25	
851		-----		-----	
855	IP470	18.1		0.42	
862	IP501	16.1		-0.28	
863	IP501	16.3		-0.21	
864	IP501	18.1		0.42	
865	IP501	17.9		0.35	
873	IP470	16.4		-0.18	
874	IP470	17.1		0.07	
875	IP470	17		0.03	

886	IP501	18.97		0.73	
902	IP470	19		0.74	
904		-----		-----	
913		-----		-----	
922		-----		-----	
963	IP501	16.86		-0.01	
971	IP501	18.0		0.39	
993		-----		-----	
994	IP501	13.85		-1.07	
995	D5863	16.8		-0.04	
997	D5863	16.83		-0.03	
1011	D5863	18		0.39	
1016	in house	16.9		0.00	
1059	IP501	17		0.03	
1066	IP501	19		0.74	
1095	IP501	16.7		-0.07	
1109	IP470	17.5		0.21	
1121	IP501	16.63	C	-0.10	first reported: 10.116
1126	IP501	17.2		0.10	
1131	IP470	17.3		0.14	
1134	IP501	17.0		0.03	
1201	IP501	19		0.74	
1231	in house	17.25		0.12	
1233	IP501	11		-2.08	
1271	in house	15.9		-0.35	
1299	IP470	22		1.79	
1372	D5708	18.070		0.41	
1402	IP501	17		0.03	
1403		-----		-----	
1404	IP470	19		0.74	
1419	in house	16.78		-0.04	
1428	IP501	14		-1.02	
1431	in house	17.1		0.07	
1455	IP501	17		0.03	
1460		-----		-----	
1501	IP470	17.0		0.03	
1510	IP501	8	G(0.01)	-3.13	
1520	IP470	16.7		-0.07	
1556	ISO14597	18		0.39	
1564		-----		-----	
1586	IP501	18		0.39	
1613	D5863	17.0		0.03	
1643	D5185	16.3		-0.21	see §4.1
1677	IP501	13.0		-1.37	
1707	IP501	13.6		-1.16	
1720		-----		-----	
1724	IP501	17.46		0.20	
1740	IP501	16		-0.32	
1784	IP501	17.2		0.10	
1833	IP501	17.4		0.18	
1842	IP501	17.0		0.03	
1854	IP501	17.6		0.25	
1914	IP501	17		0.03	
1915		-----		-----	
1951		-----		-----	
2129	IP470	16.3		-0.21	

		Only IP 470	Only ASTM D5863
normality	not OK	OK	not OK
n	100	31	8
outliers	1	0	0
mean (n)	16.902	17.260	17.083
st.dev. (n)	1.8711	1.8658	2.6895
R(calc.)	5.239	5.224	7.531
R(IP501:05)	7.962	11.176	5.851



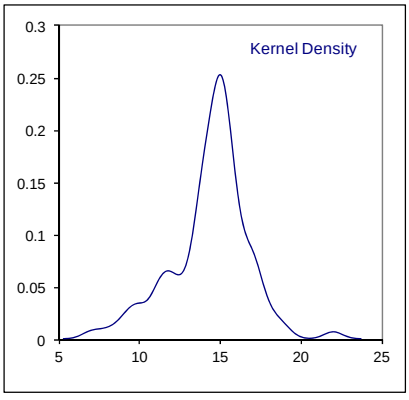


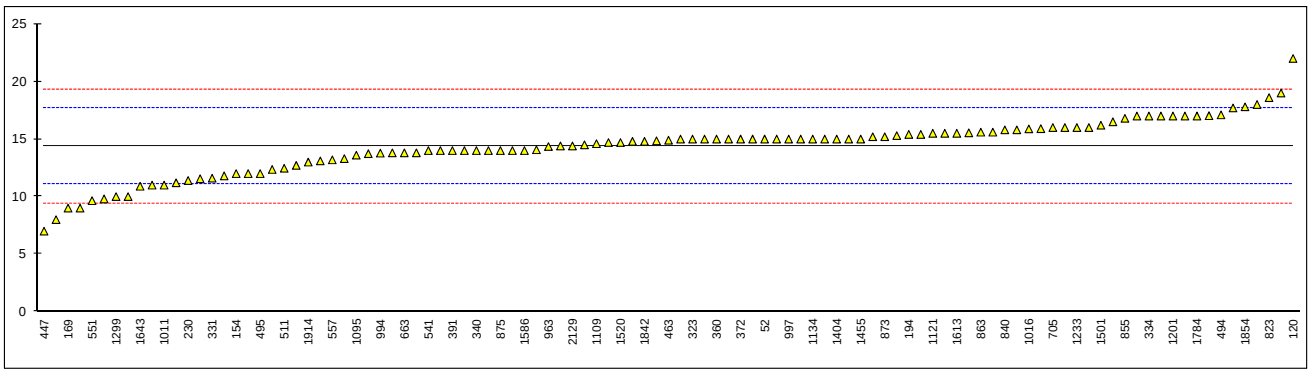
Determination of Sodium on sample #14002; results in mg/kg

lab	method	value	mark	z(targ)	remarks
52	IP470	15		0.38	
62	IP470	15		0.38	
92		-----		-----	
120	IP501	22.0	C	4.63	first reported: 3.7
131	IP501	15.54		0.71	
132	IP470	15.2		0.51	
154	D5863	12	C	-1.43	first reported: 7
159	D5863	8		-3.86	
168	D5863	13.73	C	-0.39	first reported: 8.576
169	D5863	9		-3.25	
171	IP501	17.03		1.61	
175		-----		-----	
193		-----		-----	
194	IP470	15.4		0.63	
212	IP470	17		1.60	
221		-----		-----	
225		-----		-----	
230	IP470	11.4		-1.80	
237		-----		-----	
242		-----		-----	
254	IP464	14.07	C	-0.18	first reported: 40.07
273	IP470	9.8		-2.77	
311	IP501	16		0.99	
323	IP501	15		0.38	
331	IP501	11.6		-1.68	
333	IP501	15		0.38	
334	IP470	17		1.60	
336	D5853	14		-0.22	
340	IP501	14		-0.22	
343	IP501	15		0.38	
351	IP501	12.36		-1.22	
357	IP501	15.4		0.63	
360	IP501	15		0.38	
370	IP470	14.5		0.08	
372	IP470	15		0.38	
391	IP501	14		-0.22	
398	IP470	13.8		-0.34	
399	IP501	14		-0.22	
444	IP288	<1		-----	
445	IP501	14.4		0.02	
447	IP470	7		-4.47	
463	IP470	14.9		0.32	
494	IP501	17.1		1.66	
495	D5185	12		-1.43	see §4.1
507		-----		-----	
511	D5863	12.463		-1.15	
541	IP470	14		-0.22	
551	IP501	9.65		-2.86	
557	IP501	13.19625		-0.71	
603		-----		-----	
605	IP501	13.1		-0.77	
607		-----		-----	
608		-----		-----	
631	IP470	14.0	C	-0.22	first reported: 20.31
657	IP501	13.3		-0.65	
663	IP501	13.8		-0.34	
704	IP470	15.3		0.57	
705	IP470	16.00		0.99	
753		-----		-----	
781	IP501	13.8		-0.34	
785	IP470	12		-1.43	
791	IP470	11		-2.04	
823	IP501	18.6		2.57	
824	IP501	15		0.38	
840	IP470	15.8		0.87	
851	IP501	18.995		2.81	
855	IP470	16.8		1.48	
862	IP501	15.9		0.93	
863	IP501	15.6		0.75	
864	IP501	17.7		2.02	
865	IP501	15.8		0.87	
873	IP470	15.2		0.51	
874	IP470	15.0		0.38	
875	IP470	14		-0.22	

886		-----		-----	
902	IP470	14		-0.22	
904		-----		-----	
913		-----		-----	
922		-----		-----	
963	IP501	14.35		-0.01	
971	IP501	14.8		0.26	
993		-----		-----	
994	IP501	13.78		-0.36	
995	IP470	14.7		0.20	
997	IP470	15.0		0.38	
1011	D5863	11		-2.04	
1016	NEN6966	15.88		0.92	
1059		-----		-----	
1066	IP501	15		0.38	
1095	IP501	13.6		-0.46	
1109	IP470	14.6		0.14	
1121	IP501	15.50	C	0.69	first reported: 9.470
1126	IP501	17.0		1.60	
1131	IP470	15.6		0.75	
1134	IP501	15		0.38	
1201	IP501	17		1.60	
1231	in house	11.55		-1.71	
1233	IP501	16		0.99	
1271	in house	11.8	C	-1.56	first reported: 8.8
1299	IP470	10		-2.65	
1372	IP501	12.71		-1.00	
1402	IP501	15		0.38	
1403		-----		-----	
1404	IP470	15		0.38	
1419	IP501	14.85		0.29	
1428	IP501	15		0.38	
1431	in house	15.5		0.69	
1455	IP501	15		0.38	
1460		-----		-----	
1501	IP470	16.2		1.11	
1510	IP501	9		-3.25	
1520	IP470	14.7		0.20	
1556	IP470	17		1.60	
1564	IP501	10		-2.65	
1586	IP501	14		-0.22	
1613	D5863	15.5		0.69	
1643	D5185	10.9		-2.10	see §4.1
1677	IP501	11.2		-1.92	
1707	IP501	18.0		2.20	
1720		-----		-----	
1724		-----		-----	
1740	IP501	16		0.99	
1784	IP501	17.0		1.60	
1833	IP501	16.5		1.29	
1842	IP501	14.8		0.26	
1854	IP501	17.8		2.08	
1914	IP501	13		-0.83	
1915		-----		-----	
1951		-----		-----	
2129	IP470	14.4		0.02	

		Only IP470	Only ASTM 5863
normality	not OK	not OK	OK
n	105	34	7
outliers	0	1	0
mean (n)	14.366	14.562	11.670
st.dev. (n)	2.3809	1.8190	2.6044
R(calc.)	6.666	5.093	7.292
R(IP501:05)	4.619	6.499	4.619



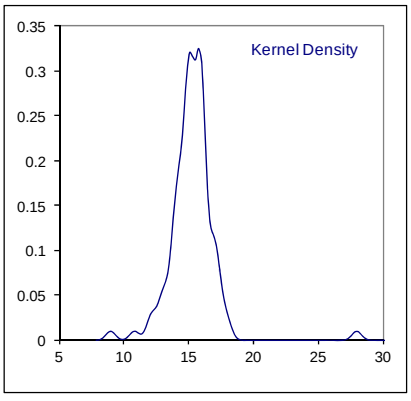


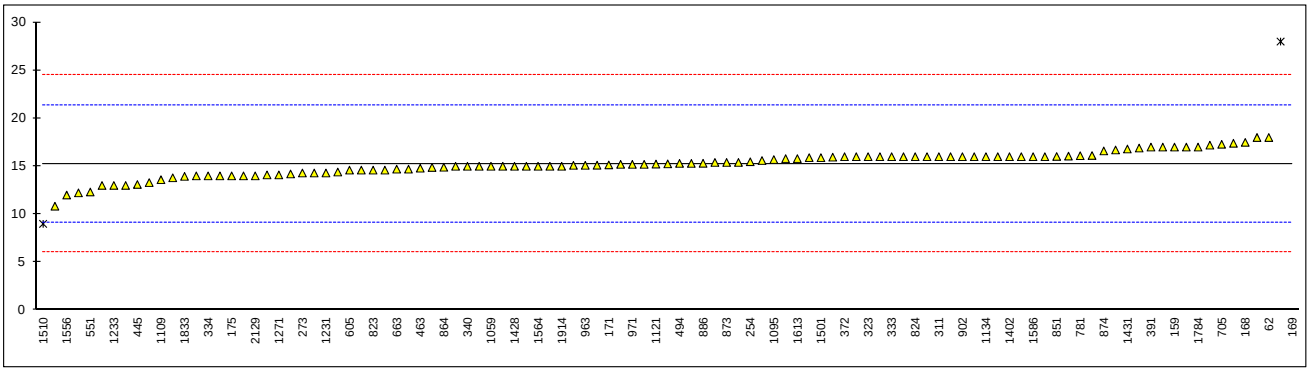
Determination of Vanadium on sample #14002; results in mg/kg

lab	method	value	mark	z(targ)	remarks
52	IP470	17		0.57	
62	IP470	18		0.90	
92		-----		-----	
120	IP501	14.6		-0.21	
131	IP501	12.23		-0.98	
132	IP470	14.6		-0.21	
154	D5863	18	C	0.90	first reported: 22
159	D5863	17		0.57	
168	D5863	17.49		0.73	
169	D5863	66	G(0.01)	16.51	
171	IP501	15.14		-0.03	
175	D5863	14		-0.40	
193		-----		-----	
194	IP470	14.3	C	-0.30	first reported: 11.5
212	IP470	28	G(0.01)	4.15	
221		-----		-----	
225		-----		-----	
230	IP470	14.4		-0.27	
237		-----		-----	
242		-----		-----	
254	D5863	15.47		0.08	
273	IP470	14.3		-0.30	
311	IP501	16		0.25	
323	IP501	16		0.25	
331	IP501	15.8		0.18	
333	IP501	16		0.25	
334	IP470	14		-0.40	
336	D5853	14		-0.40	
340	IP501	15		-0.08	
343	D5708	15.4		0.05	
351	IP501	15.95		0.23	
357	IP501	16.0		0.25	
360	IP501	16		0.25	
370		-----		-----	
372	IP470	16		0.25	
391	IP501	17		0.57	
398	IP470	17.2		0.64	
399	IP501	16		0.25	
444		-----		-----	
445	IP501	13.1		-0.69	
447	IP470	16		0.25	
463	IP470	14.8		-0.14	
494	IP501	15.3		0.02	
495	D5185	14		-0.40	see §4.1
507		-----		-----	
511	D5863	10.838		-1.43	
541	IP470	15		-0.08	
551	IP501	12.32		-0.95	
557	IP501	15.1139		-0.04	
603		-----		-----	
605	IP501	14.6		-0.21	
607		-----		-----	
608		-----		-----	
631	D5863	13.00		-0.73	
657	IP501	14.2		-0.34	
663	IP501	14.7		-0.17	
704	IP470	17.4		0.70	
705	IP470	17.29		0.67	
753		-----		-----	
781	IP501	16.1		0.28	
785	IP470	15		-0.08	
791	IP470	14		-0.40	
823	IP501	14.6		-0.21	
824	IP501	16		0.25	
840	IP470	13.8		-0.47	
851	IP501	16.02		0.25	
855	IP470	16.7		0.48	
862	IP501	15.2		-0.01	
863	IP501	15.1		-0.04	
864	IP501	14.9		-0.11	
865	IP501	16.0		0.25	
873	IP470	15.4		0.05	
874	IP470	16.6		0.44	
875	IP470	17		0.57	

886	IP501	15.31		0.02	
902	IP470	16		0.25	
904		-----		-----	
913		-----		-----	
922		-----		-----	
963	IP501	15.10		-0.04	
971	IP501	15.2		-0.01	
993		-----		-----	
994	IP501	14.1		-0.37	
995	D5863	15.9		0.22	
997	D5863	16.12		0.29	
1011	D5863	16		0.25	
1016	in house	15.3		0.02	
1059	IP501	15		-0.08	
1066	IP501	15		-0.08	
1095	IP501	15.7		0.15	
1109	IP470	13.6		-0.53	
1121	IP501	15.23	C	0.00	first reported: 9.302
1126	IP501	15.6		0.12	
1131		-----		-----	
1134	IP501	16		0.25	
1201	IP501	16		0.25	
1231	in house	14.3		-0.30	
1233	IP501	13		-0.73	
1271	in house	14.1		-0.37	
1299	IP470	13		-0.73	
1372	D5708	16.059		0.27	
1402	IP501	16		0.25	
1403		-----		-----	
1404	IP470	16		0.25	
1419	in house	14.88		-0.12	
1428	IP501	15		-0.08	
1431	in house	16.8		0.51	
1455	IP501	15		-0.08	
1460		-----		-----	
1501	IP470	15.9		0.22	
1510	IP501	9	G(0.01)	-2.03	
1520	IP470	15.4		0.05	
1556	ISO14597	12		-1.05	
1564	IP501	15		-0.08	
1586	IP501	16		0.25	
1613	D5863	15.8		0.18	
1643	D5185	15.0		-0.08	see §4.1
1677	IP501	13.3		-0.63	
1707	IP501	14.7		-0.17	
1720		-----		-----	
1724	IP501	15.25		0.00	
1740	IP501	16		0.25	
1784	IP501	17.0		0.57	
1833	IP501	13.95		-0.42	
1842	IP501	15.2		-0.01	
1854	IP501	16.9		0.54	
1914	IP501	15		-0.08	
1915		-----		-----	
1951		-----		-----	
2129	IP470	14.0		-0.40	

		Only IP470	Only ASTM D5863
normality	OK	OK	OK
n	104	28	11
outliers	3	1	1
mean (n)	15.237	15.453	15.420
st.dev. (n)	1.2854	1.3555	2.0859
R(calc.)	3.599	3.796	5.840
R(IP501:05)	8.610	12.815	3.871

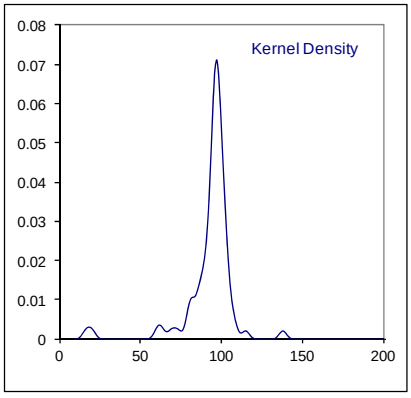


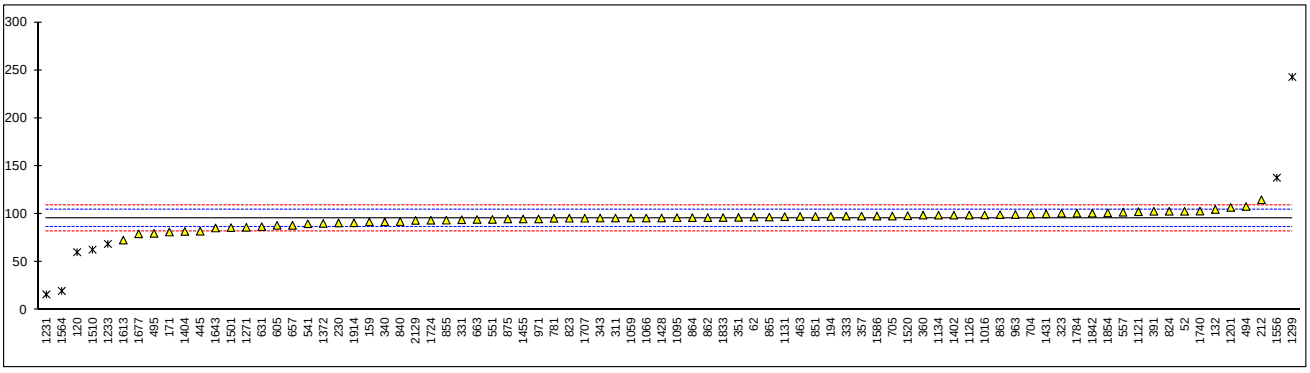


Determination of Calcium on sample #14002; results in mg/kg

lab	method	value	mark	z(targ)	remarks
52	IP470	103		1.68	
62	IP470	97		0.33	
92		-----		-----	
120	IP501	60.4	C,G(0.01)	-7.88	first reported: 74.3
131		-----		-----	
132	IP470	104.9		2.11	
154		-----		-----	
159	D5863	92		-0.79	
168		-----		-----	
169		-----		-----	
171	IP501	81.44		-3.16	
175		-----		-----	
193		-----		-----	
194	IP470	97.7		0.49	
212	IP470	115		4.38	
221		-----		-----	
225		-----		-----	
230	IP470	90.9		-1.03	
237		-----		-----	
242		-----		-----	
254		-----		-----	
273		-----		-----	
311	IP501	96		0.11	
323	IP501	101		1.23	
331	IP501	94.2		-0.29	
333	IP501	98		0.56	
334		-----		-----	
336		-----		-----	
340	IP501	92		-0.79	
343	IP501	96		0.11	
351	IP501	96.69		0.27	
357	IP501	98.0		0.56	
360	IP501	99		0.78	
370		-----		-----	
372		-----		-----	
391	IP501	103		1.68	
398		-----		-----	
399		-----		-----	
444		-----		-----	
445	IP501	82.2		-2.99	
447		-----		-----	
463	IP470	97.6		0.47	
494	IP501	108		2.80	
495	D5185	80		-3.48	see §4.1
507		-----		-----	
511		-----		-----	
541	IP470	90		-1.24	
551	IP501	94.51		-0.22	
557	IP501	102.097		1.48	
603		-----		-----	
605	IP501	88.3		-1.62	
607		-----		-----	
608		-----		-----	
631	IP470	87	C	-1.91	first reported: 70.29
657	IP501	88.4		-1.60	
663	IP501	94.5		-0.23	
704	IP470	100.1		1.03	
705	IP470	98.07		0.57	
753		-----		-----	
781	IP501	95.7		0.04	
785		-----		-----	
791		-----		-----	
823	IP501	95.8		0.07	
824	IP501	103		1.68	
840	IP470	92.3		-0.72	
851	IP501	97.61		0.47	
855	IP470	93.8		-0.38	
862	IP501	96.4		0.20	
863	IP501	99.5		0.90	
864	IP501	96.4		0.20	
865	IP501	97.0		0.33	
873		-----		-----	
874		-----		-----	
875	IP470	95		-0.11	

886		-----		-----	
902		-----		-----	
904		-----		-----	
913		-----		-----	
922		-----		-----	
963	IP501	99.70		0.94	
971	IP501	95.1		-0.09	
993		-----		-----	
994		-----		-----	
995		-----		-----	
997		-----		-----	
1011		-----		-----	
1016	IP501	99.18		0.82	
1059	IP501	96		0.11	
1066	IP501	96		0.11	
1095	IP501	96.3		0.18	
1109		-----		-----	
1121	IP501	102.6	C	1.59	first reported: 62.68
1126	IP501	99.1		0.81	
1131	IP470	97.4		0.42	
1134	IP501	99		0.78	
1201	IP501	107		2.58	
1231	in house	16.37	C,G(0.05)	-17.77	first reported: 17.2
1233	IP501	69	G(0.05)	-5.95	
1271	in house	86.3		-2.07	
1299	IP470	243	G(0.01)	33.11	
1372	IP501	90.34		-1.16	
1402	IP501	99		0.78	
1403		-----		-----	
1404	IP470	82		-3.03	
1419		-----		-----	
1428	IP501	96		0.11	
1431	in house	100.4		1.10	
1455	IP501	95		-0.11	
1460		-----		-----	
1501	IP470	86.0		-2.13	
1510	IP501	63	G(0.01)	-7.30	
1520	IP470	98.4		0.65	
1556	INH-1129	138	G(0.05)	9.54	
1564	IP501	20	C,G(0.01)	-16.95	first reported: 24
1586	IP501	98		0.56	
1613	IP470	73.0		-5.05	
1643	D5185	85.6		-2.22	see §4.1
1677	IP501	79.5		-3.59	
1707	IP501	95.8		0.07	
1720		-----		-----	
1724	IP501	93.64		-0.42	
1740	IP501	103.2	C	1.73	first reported: 114
1784	IP501	101.0	C	1.23	first reported: 110
1833	IP501	96.5		0.22	
f1842	IP501	101.0		1.23	
1854	IP501	101.4	C	1.32	first reported: 114
1914	IP501	91		-1.01	
1915		-----		-----	
1951		-----		-----	
2129	IP470	93.6	C	-0.43	first reported:38.7
					Only IP470
	normality	not OK			OK
	n	75			20
	outliers	7	Spike		1
	mean (n)	95.509	81.4	<118%	94.638
	st.dev. (n)	6.9384			8.8279
	R(calc.)	19.428			24.718
	R(IP501:05)	12.471			15.330

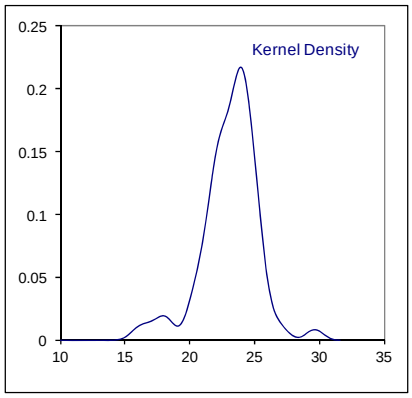


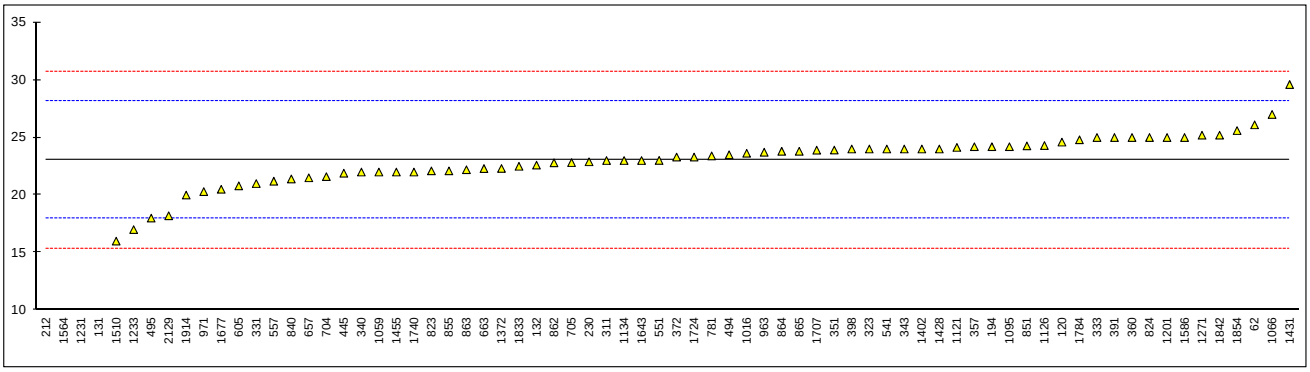


Determination of Phosphorus on sample #14002; results in mg/kg

lab	method	value	mark	z(targ)	remarks
52		-----		-----	
62	IP500	26.1	C	1.19	first reported: 31.8
92		-----		-----	
120	IP501	24.6		0.60	
131	IP501	7.74	G(0.01)	-5.98	
132	IP500	22.6		-0.18	
154		-----		-----	
159		-----		-----	
168		-----		-----	
169		-----		-----	
171	IP501	<1		-----	
175		-----		-----	
193		-----		-----	
194	IP500	24.2		0.45	
212	IP500	1	G(0.01)	-8.61	
221		-----		-----	
225		-----		-----	
230	IP500	22.89	C	-0.06	first reported: 0.23
237		-----		-----	
242		-----		-----	
254		-----		-----	
273		-----		-----	
311	IP501	23		-0.02	
323	IP501	24		0.37	
331	IP501	21.0		-0.80	
333	IP501	25		0.76	
334		-----		-----	
336		-----		-----	
340	IP501	22		-0.41	
343	IP501	24		0.37	
351	IP501	23.91		0.33	
357	IP501	24.2		0.45	
360	IP501	25		0.76	
370		-----		-----	
372	IP500	23.3		0.10	
391	IP501	25		0.76	
398	IP500	24.0		0.37	
399		-----		-----	
444		-----		-----	
445	IP501	21.9		-0.45	
447		-----		-----	
463		-----		-----	
494	IP501	23.5		0.17	
495	D5185	18		-1.97	see §4.1
507		-----		-----	
511		-----		-----	
541	IP501	24		0.37	
551	IP501	23.01		-0.02	
557	IP501	21.2025		-0.72	
603		-----		-----	
605	IP501	20.8		-0.88	
607		-----		-----	
608		-----		-----	
631		-----		-----	
657	IP501	21.5		-0.61	
663	IP501	22.3		-0.29	
704	IP500	21.60		-0.57	
705	IP500	22.82		-0.09	
753		-----		-----	
781	IP501	23.4		0.13	
785		-----		-----	
791		-----		-----	
823	IP501	22.1		-0.37	
824	IP501	25		0.76	
840	IP500	21.4		-0.65	
851	IP501	24.27		0.47	
855	IP500	22.1		-0.37	
862	IP501	22.8		-0.10	
863	IP501	22.2		-0.33	
864	IP501	23.8		0.29	
865	IP501	23.8		0.29	
873		-----		-----	
874		-----		-----	
875		-----		-----	

886		-----		-----	
902		-----		-----	
904		-----		-----	
913		-----		-----	
922		-----		-----	
963	IP501	23.72		0.26	
971	IP501	20.3		-1.08	
993		-----		-----	
994		-----		-----	
995		-----		-----	
997		-----		-----	
1011		-----		-----	
1016	IP501	23.63		0.22	
1059	IP501	22		-0.41	
1066	IP501	27		1.54	
1095	IP501	24.2		0.45	
1109		-----		-----	
1121	IP501	24.14	C	0.42	first reported: 14.75
1126	IP501	24.3		0.49	
1131		-----		-----	
1134	IP501	23		-0.02	
1201	IP501	25		0.76	
1231	in house	5.6	C,G(0.01)	-6.82	first reported: 4.9
1233	IP501	17		-2.36	
1271	in house	25.2		0.84	
1299		-----		-----	
1372	IP501	22.31		-0.29	
1402	IP501	24		0.37	
1403		-----		-----	
1404		-----		-----	
1419		-----		-----	
1428	IP501	24		0.37	
1431	in house	29.6		2.56	
1455	IP501	22		-0.41	
1460		-----		-----	
1501		-----		-----	
1510	IP501	16		-2.75	
1520		-----		-----	
1556		-----		-----	
1564	IP501	4	C,G(0.01)	-7.44	first reported: 5
1586	IP501	25		0.76	
1613		-----		-----	
1643	D5185	23.0		-0.02	see §4.1
1677	IP501	20.5		-1.00	
1707	IP501	23.9		0.33	
1720		-----		-----	
1724	IP501	23.30		0.10	
1740	IP501	22		-0.41	
1784	IP501	24.8		0.68	
1833	IP501	22.5		-0.22	
1842	IP501	25.2		0.84	
1854	IP501	25.6		0.99	
1914	IP501	20		-1.19	
1915		-----		-----	
1951		-----		-----	
2129	IP500	18.2		-1.90	
					Only IP500
	normality	not OK			OK
	n	68			11
	outliers	4	Spike		1
	mean (n)	23.054	20.3	<115%	22.655
	st.dev. (n)	2.1783			1.9852
	R(calc.)	6.099			5.558
	R(IP501:05)	7.170			4.217

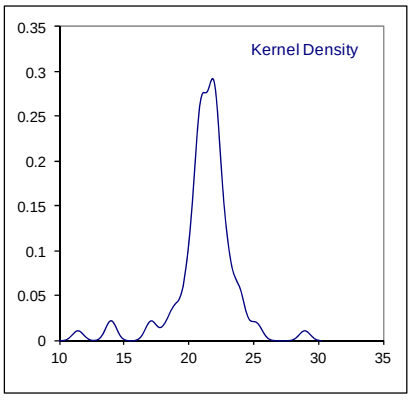


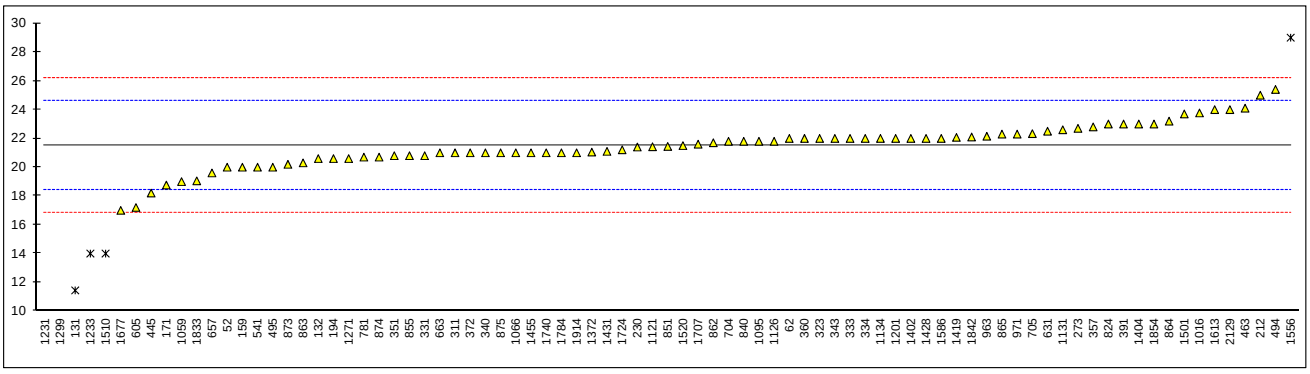


Determination of Zinc on sample #14002; results in mg/kg

lab	method	value	mark	z(targ)	remarks
52	IP470	20		-0.97	
62	IP470	22		0.32	
92		-----		-----	
120		-----		-----	
131	IP501	11.44	G(0.01)	-6.47	
132	IP470	20.6		-0.58	
154		-----		-----	
159	D5863	20		-0.97	
168		-----		-----	
169		-----		-----	
171	IP501	18.76		-1.76	
175		-----		-----	
193		-----		-----	
194	IP470	20.6		-0.58	
212	IP470	25		2.25	
221		-----		-----	
225		-----		-----	
230	IP470	21.4		-0.06	
237		-----		-----	
242		-----		-----	
254		-----		-----	
273	IP470	22.7		0.77	
311	IP501	21		-0.32	
323	IP501	22		0.32	
331	IP501	20.8		-0.45	
333	IP501	22		0.32	
334	IP470	22		0.32	
336		-----		-----	
340	IP501	21		-0.32	
343	IP501	22		0.32	
351	IP501	20.80		-0.45	
357	IP501	22.8		0.84	
360	IP501	22		0.32	
370		-----		-----	
372	IP470	21		-0.32	
391	IP501	23		0.96	
398		-----		-----	
399		-----		-----	
444		-----		-----	
445	IP501	18.2		-2.12	
447		-----		-----	
463	IP470	24.1		1.67	
494	IP501	25.4		2.51	
495	D5185	20		-0.97	see §4.1
507		-----		-----	
511		-----		-----	
541	IP470	20		-0.97	
551		-----		-----	
557		-----		-----	
603		-----		-----	
605	IP501	17.2		-2.77	
607		-----		-----	
608		-----		-----	
631	IP470	22.5	C	0.64	first reported: 32.46
657	IP501	19.6		-1.22	
663	IP501	21.0		-0.32	
704	IP470	21.8		0.19	
705	IP470	22.33		0.53	
753		-----		-----	
781	IP501	20.7		-0.52	
785		-----		-----	
791		-----		-----	
823		-----		-----	
824	IP501	23		0.96	
840	IP500	21.8		0.19	
851	IP501	21.44		-0.04	
855	IP470	20.8		-0.45	
862	IP501	21.7		0.13	
863	IP501	20.3		-0.77	
864	IP501	23.2		1.09	
865	IP501	22.3		0.51	
873	IP470	20.2		-0.84	
874	IP470	20.7		-0.52	
875	IP470	21		-0.32	

886		-----		-----	
902		-----		-----	
904		-----		-----	
913		-----		-----	
922		-----		-----	
963	IP501	22.15		0.42	
971	IP501	22.3		0.51	
993		-----		-----	
994		-----		-----	
995		-----		-----	
997		-----		-----	
1011		-----		-----	
1016	IP501	23.77		1.46	
1059	IP501	19		-1.61	
1066	IP501	21		-0.32	
1095	IP501	21.8		0.19	
1109		-----		-----	
1121	IP501	21.42	C	-0.05	first reported: 13.09
1126	IP501	21.8		0.19	
1131	IP470	22.6		0.71	
1134	IP501	22		0.32	
1201	IP501	22		0.32	
1231	in house	0	C,G(0.01)	-13.83	first reported: 1.2
1233	IP501	14	G(0.05)	-4.83	
1271	in house	20.6		-0.58	
1299	IP470	4	G(0.01)	-11.26	
1372	IP501	21.05		-0.29	
1402	IP501	22		0.32	
1403		-----		-----	
1404	IP470	23		0.96	
1419	IP501	22.07		0.37	
1428	IP501	22		0.32	
1431	in house	21.1		-0.26	
1455	IP501	21	C	-0.32	first reported: 15
1460		-----		-----	
1501	IP470	23.7		1.41	
1510	IP501	14	G(0.01)	-4.83	
1520	IP470	21.5		0.00	
1556	INH-1129	29	G(0.05)	4.82	
1564	IP501	<1		-----	
1586	IP501	22		0.32	
1613	IP470	24.0		1.61	
1643		-----		-----	
1677	IP501	17.0		-2.90	
1707	IP501	21.6		0.06	
1720		-----		-----	
1724	IP501	21.21		-0.19	
1740	IP501	21		-0.32	
1784	IP501	21.0		-0.32	
1833	IP501	19.05		-1.58	
1842	IP501	22.1		0.39	
1854	IP501	23.0		0.96	
1914	IP501	21		-0.32	
1915		-----		-----	
1951		-----		-----	
2129	IP500	24.0		1.61	
					Only IP470
	normality	not OK			OK
	n	77			23
	outliers	6	Spike		1
	mean (n)	21.501	23.1	<93%	21.893
	st.dev. (n)	1.5107			1.4010
	R(calc.)	4.230			3.923
	R(IP501:05)	4.353			5.870





APPENDIX 2

Z-scores Distillation according to ASTM D1160 on sample #14001

lab	IBP	5%	10%	20%	30%	40%	50%	FBP
52	-----	-----	-----	-----	-----	-----	-----	-----
62	-----	-----	-----	-----	-----	-----	-----	-----
90	-----	-----	-----	-----	-----	-----	-----	-----
92	-----	-----	-----	-----	-----	-----	-----	-----
120	0.69	1.82	2.27	1.32	1.65	2.83	-----	-1.06
131	-----	-----	-----	-----	-----	-----	-----	-----
132	-----	-----	-----	-----	-----	-----	-----	-----
154	-----	-----	-----	-----	-----	-----	-----	-----
159	-----	-----	-----	-----	-----	-----	-----	-----
168	-----	-----	-----	-----	-----	-----	-----	-----
169	-----	-----	-----	-----	-----	-----	-----	-----
171	**2.51**	*2.64*	**4.07**	*2.78*	**3.30**	**5.83**	-----	**3.17**
175	-----	-----	-----	-----	-----	-----	-----	-----
179	-----	-----	-----	-----	-----	-----	-----	-----
193	-----	-----	-----	-----	-----	-----	-----	-----
194	-----	-----	-----	-----	-----	-----	-----	-----
212	-----	-----	-----	-----	-----	-----	-----	-----
221	-----	-----	-----	-----	-----	-----	-----	-----
224	-----	-----	-----	-----	-----	-----	-----	-----
225	-----	-----	-----	-----	-----	-----	-----	-----
228	-----	-----	-----	-----	-----	-----	-----	-----
230	-----	-----	-----	-----	-----	-----	-----	-----
237	-----	-----	-----	-----	-----	-----	-----	-----
238	-----	-----	-----	-----	-----	-----	-----	-----
252	-----	-----	-----	-----	-----	-----	-----	-----
253	-----	-----	-----	-----	-----	-----	-----	-----
254	-----	-----	-----	-----	-----	-----	-----	-----
256	-----	-----	-----	-----	-----	-----	-----	-----
273	-----	-----	-----	-----	-----	-----	-----	-----
311	-0.18	-0.55	-0.33	-0.44	-0.11	0.30	-----	0.08
313	-----	-----	-----	-----	-----	-----	-----	-----
323	-----	-----	-----	-----	-----	-----	-----	-----
331	-----	-----	-----	-----	-----	-----	-----	-----
333	1.38	**3.57**	**3.68**	3.01	**2.96**	**5.10**	-----	**6.04**
334	-----	-----	-----	-----	-----	-----	-----	-----
336	-----	-----	-----	-----	-----	-----	-----	-----
337	-----	-----	-----	-----	-----	-----	-----	-----
340	-----	-----	-----	-----	-----	-----	-----	-----
343	-----	-----	-----	-----	-----	-----	-----	-----
349	-----	-----	-----	-----	-----	-----	-----	-----
351	-----	-----	-----	-----	-----	-----	-----	-----
353	-----	-----	-----	-----	-----	-----	-----	-----
356	-0.17	0.53	0.66	0.82	1.01	1.99	-----	**3.57**
360	0.53	0.58	1.60	1.11	1.12	1.38	-----	0.21
370	-----	-----	-----	-----	-----	-----	-----	-----
372	-0.21	-0.26	0.17	0.03	-0.01	0.44	-----	0.01
391	-----	-----	-----	-----	-----	-----	-----	-----
398	0.18	-1.23	-0.82	0.07	-0.17	1.02	-----	-1.38
399	-----	-----	-----	-----	-----	-----	-----	-----
440	-----	-----	-----	-----	-----	-----	-----	-----
444	-----	-----	-----	-----	-----	-----	-----	-----
445	-0.15	-0.62	-0.74	-1.45	-1.29	-2.54	-----	-0.93
447	-----	-----	-----	-----	-----	-----	-----	-----
463	0.08	-0.26	-0.87	-0.51	-0.30	1.19	-----	1.88
494	-0.49	0.82	1.47	2.06	**9.06**	-----	-----	-0.60
495	-----	-----	-----	-----	-----	-----	-----	-----
507	-----	-----	-----	-----	-----	-----	-----	-----
511	-----	-----	-----	-----	-----	-----	-----	-----
529	-----	-----	-----	-----	-----	-----	-----	-----
541	-----	-----	-----	-----	-----	-----	-----	-----
551	-----	-----	-----	-----	-----	-----	-----	-----
557	-----	-----	-----	-----	-----	-----	-----	-----
562	-----	-----	-----	-----	-----	-----	-----	-----
575	-----	-----	-----	-----	-----	-----	-----	-----
603	-----	-----	-----	-----	-----	-----	-----	-----
604	-----	-----	-----	-----	-----	-----	-----	-----
605	-----	-----	-----	-----	-----	-----	-----	-----
607	-----	-----	-----	-----	-----	-----	-----	-----
608	-----	-----	-----	-----	-----	-----	-----	-----
631	-----	-----	-----	-----	-----	-----	-----	-----
634	-----	-----	-----	-----	-----	-----	-----	-----

657	-0.09	0.22	0.30	0.17	0.27	-0.49	-----	-----
663	-----	-----	-----	-----	-----	-----	-----	-----
671	-----	-----	-----	-----	-----	-----	-----	-----
704	0.30	0.46	0.43	0.71	0.70	0.44	-----	-0.10
705	-----	-----	-----	-----	-----	-----	-----	-----
732	-----	-----	-----	-----	-----	-----	-----	-----
750	-----	-----	-----	-----	-----	-----	-----	-----
753	-0.89	**-3.61**	-3.22	-2.81	-1.86	-3.47	-----	**-3.33**
781	-0.77	-1.34	-0.48	-0.10	-0.72	0.26	-----	-0.31
784	-0.38	-0.50	-1.13	-0.64	-1.15	-0.67	-----	0.42
785	-----	-----	-----	-----	-----	-----	-----	-----
791	-----	-----	-----	-----	-----	-----	-----	-----
823	-----	-----	-----	-----	-----	-----	-----	-----
824	-----	-----	-----	-----	-----	-----	-----	-----
840	-----	-----	-----	-----	-----	-----	-----	-----
851	-----	-----	-----	-----	-----	-----	-----	-----
855	-----	-----	-----	-----	-----	-----	-----	-----
858	-----	-----	-----	-----	-----	-----	-----	-----
859	-----	-----	-----	-----	-----	-----	-----	-----
862	-----	-----	-----	-----	-----	-----	-----	-----
863	-----	-----	-----	-----	-----	-----	-----	-----
864	-----	-----	-----	-----	-----	-----	-----	-----
865	-----	-----	-----	-----	-----	-----	-----	-----
867	-----	-----	-----	-----	-----	-----	-----	-----
873	-----	-----	-----	-----	-----	-----	-----	-----
874	-0.29	-1.34	-0.73	-0.37	-1.12	-0.49	-----	0.11
875	-0.60	-0.02	-0.61	0.17	-0.01	1.75	-----	0.42
886	-----	-----	-----	-----	-----	-----	-----	-----
887	-----	-----	-----	-----	-----	-----	-----	-----
902	-0.60	-0.38	-0.35	-0.78	-0.30	-0.86	-----	-0.41
904	-0.55	-0.62	-0.09	-0.91	-0.30	0.26	-----	-0.20
912	-----	-----	-----	-----	-----	-----	-----	-----
913	-----	-----	-----	-----	-----	-----	-----	-----
922	-----	-----	-----	-----	-----	-----	-----	-----
962	-----	-----	-----	-----	-----	-----	-----	-----
963	-0.94	-1.94	-2.04	-2.67	-0.86	-2.91	-----	-1.56
971	-----	-----	-----	-----	-----	-----	-----	-----
974	-----	-----	-----	-----	-----	-----	-----	-----
982	-----	-----	-----	-----	-----	-----	-----	-----
993	-----	-----	-----	-----	-----	-----	-----	-----
994	0.19	-1.46	-0.48	-1.59	0.27	-1.42	-----	0.21
995	-----	-----	-----	-----	-----	-----	-----	-----
996	-----	-----	-----	-----	-----	-----	-----	-----
997	-----	-----	-----	-----	-----	-----	-----	-----
1011	-----	-----	-----	-----	-----	-----	-----	-----
1016	-----	-----	-----	-----	-----	-----	-----	-----
1022	-----	-----	-----	-----	-----	-----	-----	-----
1059	-----	-----	-----	-----	-----	-----	-----	-----
1062	-----	-----	-----	-----	-----	-----	-----	-----
1065	-----	-----	-----	-----	-----	-----	-----	-----
1066	0.98	0.22	0.17	-0.24	-0.01	0.44	-----	0.01
1095	-----	-----	-----	-----	-----	-----	-----	-----
1109	-----	-----	-----	-----	-----	-----	-----	-----
1121	-----	-----	-----	-----	-----	-----	-----	-----
1126	-----	-----	-----	-----	-----	-----	-----	-----
1131	-----	-----	-----	-----	-----	-----	-----	-----
1134	1.32	2.49	-0.48	0.17	0.13	0.63	-----	-----
1161	-----	-----	-----	-----	-----	-----	-----	-----
1167	-----	-----	-----	-----	-----	-----	-----	-----
1177	-----	-----	-----	-----	-----	-----	-----	-----
1201	-----	-----	-----	-----	-----	-----	-----	-----
1205	-----	-----	-----	-----	-----	-----	-----	-----
1215	-----	-----	-----	-----	-----	-----	-----	-----
1231	-----	-----	-----	-----	-----	-----	-----	-----
1233	-----	-----	-----	-----	-----	-----	-----	-----
1259	-----	-----	-----	-----	-----	-----	-----	-----
1266	-----	-----	-----	-----	-----	-----	-----	-----
1269	-----	-----	-----	-----	-----	-----	-----	-----
1271	-----	-----	-----	-----	-----	-----	-----	-----
1275	-----	-----	-----	-----	-----	-----	-----	-----
1299	-----	-----	-----	-----	-----	-----	-----	-----
1337	-----	-----	-----	-----	-----	-----	-----	-----
1340	-0.06	0.66	0.75	0.18	0.27	0.44	-----	-0.01
1347	-----	-----	-----	-----	-----	-----	-----	-----
1348	-----	-----	-----	-----	-----	-----	-----	-----
1356	-----	-----	-----	-----	-----	-----	-----	-----
1381	-----	-----	-----	-----	-----	-----	-----	-----
1385	-----	-----	-----	-----	-----	-----	-----	-----
1395	-----	-----	-----	-----	-----	-----	-----	-----

1402	-----	-----	-----	-----	-----	-----	-----	-----
1403	-----	-----	-----	-----	-----	-----	-----	-----
1404	-----	-----	-----	-----	-----	-----	-----	-----
1412	-----	-----	-----	-----	-----	-----	-----	-----
1419	-----	-----	-----	-----	-----	-----	-----	-----
1428	-----	-----	-----	-----	-----	-----	-----	-----
1431	-----	-----	-----	-----	-----	-----	-----	-----
1455	-0.38	-0.74	-0.61	-0.37	-0.01	0.82	-----	-0.83
1459	-----	-----	-----	-----	-----	-----	-----	-----
1460	-----	-----	-----	-----	-----	-----	-----	-----
1501	-----	-----	-----	-----	-----	-----	-----	-----
1510	-----	-----	-----	-----	-----	-----	-----	-----
1520	-----	-----	-----	-----	-----	-----	-----	-----
1539	0.76	2.13	1.86	1.11	1.55	2.31	-----	0.53
1543	-----	-----	-----	-----	-----	-----	-----	-----
1556	-----	-----	-----	-----	-----	-----	-----	-----
1564	-----	-----	-----	-----	-----	-----	-----	-----
1569	-----	-----	-----	-----	-----	-----	-----	-----
1586	-----	-----	-----	-----	-----	-----	-----	-----
1610	-----	-----	-----	-----	-----	-----	-----	-----
1613	0.47	0.65	1.01	1.40	1.45	-1.38	-----	-----
1622	-----	-----	-----	-----	-----	-----	-----	-----
1631	-----	-----	-----	-----	-----	-----	-----	-----
1636	-----	-----	-----	-----	-----	-----	-----	-----
1643	-----	-----	-----	-----	-----	-----	-----	-----
1648	-----	-----	-----	-----	-----	-----	-----	-----
1650	-----	-----	-----	-----	-----	-----	-----	-----
1654	-----	-----	-----	-----	-----	-----	-----	-----
1677	0.36	0.46	0.30	-0.37	-0.30	-2.54	-----	-----
1681	-----	-----	-----	-----	-----	-----	-----	-----
1707	-----	-----	-----	-----	-----	-----	-----	-----
1710	0.36	1.54	1.47	1.11	0.98	1.93	-----	2.87
1720	-----	-----	-----	-----	-----	-----	-----	-----
1724	0.17	-0.07	0.50	0.84	0.30	0.61	-----	-----
1740	-----	-----	-----	-----	-----	-----	-----	-----
1761	-----	-----	-----	-----	-----	-----	-----	-----
1773	-----	-----	-----	-----	-----	-----	-----	-----
1774	-----	-----	-----	-----	-----	-----	-----	-----
1775	-----	-----	-----	-----	-----	-----	-----	-----
1776	-----	-----	-----	-----	-----	-----	-----	-----
1784	-----	-----	-----	-----	-----	-----	-----	-----
1807	-----	-----	-----	-----	-----	-----	-----	-----
1810	-----	-----	-----	-----	-----	-----	-----	-----
1811	-----	-----	-----	-----	-----	-----	-----	-----
1832	-----	-----	-----	-----	-----	-----	-----	-----
1833	-----	-----	-----	-----	-----	-----	-----	-----
1842	-----	-----	-----	-----	-----	-----	-----	-----
1849	-----	-----	-----	-----	-----	-----	-----	-----
1854	-----	-----	-----	-----	-----	-----	-----	-----
1906	-----	-----	-----	-----	-----	-----	-----	-----
1914	-0.26	-0.62	-0.09	-1.32	-1.57	-1.61	-----	-0.10
1915	-----	-----	-----	-----	-----	-----	-----	-----
1936	-----	-----	-----	-----	-----	-----	-----	-----
1937	-----	-----	-----	-----	-----	-----	-----	-----
1938	-----	-----	-----	-----	-----	-----	-----	-----
1942	-----	-----	-----	-----	-----	-----	-----	-----
1948	-----	-----	-----	-----	-----	-----	-----	-----
1951	-----	-----	-----	-----	-----	-----	-----	-----
2129	-0.77	-0.62	0.17	0.30	0.41	-0.67	-----	0.73

Z-scores underlined and bold belong to the statistical outliers acc. to Grubbs/Dixon outlier test.

The underlined and Italic 5% and 20% recovered results of lab 171 were excluded, see §4.1

APPENDIX 3

Number of participants per country

1 lab in	ARGENTINA
1 lab in	AUSTRALIA
3 labs in	AZERBAIJAN
4 labs in	BELGIUM
2 labs in	BOSNIA and HERZEGOVINA
2 labs in	BRAZIL
2 labs in	BULGARIA
4 labs in	CANADA
1 lab in	CHILE
8 labs in	CHINA, People's Republic
1 lab in	COLOMBIA
1 lab in	COTE D'IVOIRE
2 labs in	CROATIA
1 lab in	CYPRUS
2 labs in	CZECH REPUBLIC
1 lab in	DJIBOUTI
1 lab in	EGYPT
4 labs in	ESTONIA
1 lab in	FINLAND
8 labs in	FRANCE
2 labs in	GEORGIA
2 labs in	GERMANY
6 labs in	GREECE
1 lab in	GUAM
1 lab in	GUINEA REPUBLIC
1 lab in	HONG KONG
1 lab in	HUNGARY
2 labs in	INDIA
1 lab in	INDONESIA
1 lab in	IRAN, Islamic Republic of
1 lab in	IRELAND
1 lab in	ISRAEL
3 labs in	ITALY
1 lab in	JORDAN
1 lab in	KAZAKHSTAN
2 labs in	KENYA
1 lab in	KOREA
2 labs in	LATVIA
3 labs in	LEBANON
3 labs in	LITHUANIA
2 labs in	MACEDONIA
5 labs in	MALAYSIA
2 labs in	MALTA
1 lab in	MAURITIUS
1 lab in	MEXICO
1 lab in	MOROCCO
7 labs in	NETHERLANDS
2 labs in	NIGERIA
1 lab in	PAKISTAN
1 lab in	PANAMA
1 lab in	PERU
2 labs in	PHILIPPINES
2 labs in	POLAND
4 labs in	PORTUGAL
1 lab in	REPUBLIC OF CONGO
9 labs in	RUSSIAN FEDERATION
4 labs in	SAUDI ARABIA
1 lab in	SENEGAL
1 lab in	SINGAPORE
1 lab in	SLOVAKIA
2 labs in	SLOVENIA
1 lab in	SOUTH AFRICA
3 labs in	SOUTH KOREA
9 labs in	SPAIN
2 labs in	SUDAN
5 labs in	SWEDEN
2 labs in	TAIWAN
1 lab in	TANZANIA
3 labs in	THAILAND
1 lab in	TOGO
15 labs in	TURKEY
1 lab in	TURKMENISTAN
2 labs in	UKRAINE
2 labs in	UNITED ARAB EMIRATES
15 labs in	UNITED KINGDOM
12 labs in	UNITED STATES OF AMERICA
1 lab in	VIETNAM

APPENDIX 4

Abbreviations:

C = final result after checking of first reported suspect 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(0.05) = straggler in Rosner's outlier test
R(0.01) = outlier in Rosner's outlier test
ex = excluded from calculations
E = error in calculations
n.a. = not applicable

Literature:

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