

**Results of Proficiency Test
Gasoline (EN specification)
October 2016**

Organised by: Institute for Interlaboratory Studies (iis)
Spijkenisse, the Netherlands

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1 INTRODUCTION

Since 1995, the Institute for Interlaboratory Studies (iis) organizes a proficiency scheme for Gasoline. During the annual proficiency testing program 2016/2017, it was decided to continue the round robin for the analysis of Gasoline in accordance with the latest applicable version of EN228 specification (2012). The interlaboratory study on Gasoline was extended with PTs for the determination of RON/MON and Dry Vapour Pressure Equivalent.

In the main PT 152 laboratories in 59 different countries did register for participation. In the PT for RON/MON, 84 laboratories in 46 different countries participated and in the PT on Dry Vapour Pressure Equivalent, 124 laboratories in 47 different countries participated. In total 158 laboratories did register for the three PTs, see appendix 3 for the number of participants per country for the main round. In this report, the results of the 2016 Gasoline proficiency test are presented and discussed. This report is also available as PDF file from the iis website www.iisnl.com.

2 SET UP

The Institute for Interlaboratory Studies (iis) in Spijkensisse, the Netherlands, was the organiser of this proficiency test (PT). Sample analyses for fit-for-use and homogeneity testing were subcontracted to an ISO/IEC 17025 accredited laboratory. In this proficiency test the participants received depended on their registration; 1 litre bottle (labelled #16210) containing regular Gasoline for the main round and/or 1 litre bottle (± 750 mL filled) with regular Gasoline (labelled #16212) for the DVPE round and/or 2 x 1 litre bottle (labelled #16211), with regular Gasoline, for the RON/MON round. Participants were requested to report rounded and unrounded test results. The unrounded test results were preferably used for statistical evaluation.

2.1 ACCREDITATION

The Institute for Interlaboratory Studies in Spijkensisse, the Netherlands, is accredited in agreement with ISO/IEC 17043:2010 (R007), since January 2000, by the Dutch Accreditation Council (Raad voor Accreditatie). This PT falls under the accredited scope. The accreditation ensures strict adherence to protocols for sample preparation and statistical evaluation and 100% confidentiality of participant's data. Feedback from the participants on the reported data is encouraged and customer's satisfaction is measured on regular basis by sending out questionnaires.

2.2 PROTOCOL

The protocol followed in the organisation of this proficiency test was the one as described for proficiency testing in the report 'iis Interlaboratory Studies: 'Protocol for the Organisation, Statistics and Evaluation' of April 2014 (iis-protocol, version 3.3). This protocol can be downloaded from the iis website www.iisnl.com, from the FAQ page.

2.3 CONFIDENTIALITY STATEMENT

All data presented in this report must be regarded as confidential and are 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

2.4.1 GASOLINE SAMPLES FOR MAIN ROUND AND FOR RON/MON

The necessary bulk material of approx. 350 litre of regular Gasoline was obtained from a local gasoline station. After homogenisation in a mixing vessel, 335 amber glass bottles of 1 litre were filled. From this bulk 160 bottles were labelled #16210 for the main round and 175 bottles were labelled #16211 for the RON/MON round.

The homogeneity of the subsamples #16210 and #16211 was checked by determination of Density at 15°C in accordance with ASTM D4052 on 10 stratified randomly selected samples.

	Density at 15°C in kg/m ³
Sample -1	733.19
Sample -2	733.19
Sample -3	733.22
Sample -4	733.26
Sample -5	733.36
Sample -6	733.18
Sample -7	733.19
Sample -8	733.20
Sample -9	733.24
Sample -10	733.29

Table 1: homogeneity test results of subsamples #16210 and #16211

From the above test results, the repeatability (r) was calculated and compared with 0.3 times the reproducibility (R) of the reference test method mentioned in EN228 specification in agreement with the procedure of ISO13528, Annex B2 in the next table:

	Density at 15°C in kg/m ³
r (observed)	0.16
reference test method	ISO12185:96
0.3 x R (ref. test method)	0.45

Table 2: evaluation of repeatability of subsamples #16210 and #16211

The calculated repeatability is less than 0.3 times the reproducibility of the reference test method. Therefore, homogeneity of the subsamples of #16210 and #16211 was assumed.

2.4.2 GASOLINE – SAMPLE FOR DVPE

For the preparation of the DVPE samples the necessary bulk material of approx. 150 litre of regular Gasoline was obtained from a local gasoline station. After homogenisation, 148 amber glass bottles of 1 litre were filled with approx. 750 mL for the DVPE round and labelled #16212. The homogeneity of the subsamples #16212 was checked by determination of DVPE according to ASTM D5191 on 8 stratified randomly selected samples.

	DVPE in kPa
Sample #16212-1	92.7
Sample #16212-2	93.0
Sample #16212-3	92.6
Sample #16212-4	92.6
Sample #16212-5	93.5
Sample #16212-6	93.6
Sample #16212-7	93.1
Sample #16212-8	92.8

Table 3: homogeneity test results of subsamples #16212

From the above test results the repeatability (r) was calculated and compared with 0.3 times the reproducibilities (R) of the reference test methods mentioned in EN228 in agreement with the procedure of ISO 13528, Annex B2 in the next table:

	DVPE in kPa
r (observed)	1.094
reference test method	EN13016-1:07
0.3 x R (ref. test method)	0.770
r (ref. test method)	1.518

Table 4: evaluation of repeatability of subsamples #16212

The calculated repeatability of the DVPE determination is not less than 0.3 times the reproducibility of the reference test method, but less than the repeatability of the reference test method. Therefore, homogeneity of the subsamples of #16212 was assumed.

On September 28, 2016 to each participant the following samples were dispatched (dependent on their registration): 1 x 1 litre of sample #16210 for the main round and/or 2 x 1 litre of sample #16211 for RON/MON only and/or 1 x 1 litre (\pm 750 ml filled) of sample #16212 for DVPE only.

2.5 STABILITY OF THE SAMPLES

The stability of Gasoline, packed in the brown glass bottles, was checked. The material was found sufficiently stable for the period of the proficiency test.

2.6 ANALYSES

The participants were requested to determine on sample #16210: API Gravity, Appearance, Aromatics by FIA and by GC, (%V/V and %M/M), Benzene, Copper Strip Corrosion, Density at 15°C, Distillation at 760 mm Hg, Doctor Test, Existent gum, Lead, Manganese, Olefins by FIA and by GC (%V/V and %M/M), Oxidation Stability, Oxygenates: Methanol, Ethanol, Iso-Propanol, Iso-Butanol, t-Butanol, Ethers (C5 or more C atoms), DIPE, ETBE, MTBE, TAME, sum of other oxygenates, Oxygen content and Sulphur.

The participants were requested to determine RON and MON on sample #16211.

The participants were requested to determine Air Saturated Vapour Pressure (ASVP) and Dry Vapour Pressure Equivalent (DVPE) according to EN13016-1 on sample #16212.

To get comparable test results a detailed report form, on which the units were prescribed as well as the required reference test methods and a letter of instructions were prepared and made available on the data entry portal www.kpmd.co.uk/sgs-iis/. The laboratories were also requested to confirm the sample receipt on the same data entry portal. A SDS was added to the sample.

3 RESULTS

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

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

3.1 STATISTICS

The protocol followed in the organization of this proficiency test was the one as described for proficiency testing in the report 'iis Interlaboratory Studies: Protocol for the Organisation, Statistics and Evaluation' of April 2014 (iis-protocol, version 3.3).

For the statistical evaluation the *unrounded* (when available) figures were used instead of the rounded test results. Test results reported as '<... ' or '>...' were not used in the statistical evaluation.

First, the normality of the distribution of the various data sets per determination was checked by means of the Lilliefors-test a variant of the Kolmogorov-Smirnov test and by the calculation of skewness and kurtosis. Evaluation of the three normality indicators in combination with the visual evaluation of the graphic Kernel density plot, lead to judgement of the normality being

either 'unknown', 'OK', 'suspect' or 'not OK'. After removal of outliers, this check was repeated. Not all data sets proved to have a normal distribution, in which cases the statistical evaluation of the test results should be used with due care.

According to ISO 5725 the original test results per determination were submitted to Dixon's, Grubbs' and/or Rosner's outlier tests. Outliers are marked by D(0.01) for the Dixon's test, by G(0.01) or DG(0.01) for the Grubbs' test and by R(0.01) for the Rosner's test. Stragglers are marked by D(0.05) for the Dixon's test, by G(0.05) or DG(0.05) for the Grubbs' test and by R(0.05) for the Rosner's test. Both outliers and stragglers were not included in the calculations of averages and standard deviations.

For each assigned value the uncertainty was determined in accordance with ISO13528. Subsequently the calculated uncertainty was evaluated against the respective requirement based on the target reproducibility in accordance with ISO13528. 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 them 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 test results are plotted. The corresponding laboratory numbers are on the X-axis. The straight horizontal line presents the consensus value (a trimmed mean). The four striped lines, parallel to the consensus value line, are the +3s, +2s, -2s and -3s target reproducibility limits of the selected reference test method. Outliers and other data, which were excluded from the calculations, are represented as a cross. Accepted data are represented as a triangle.

Furthermore, Kernel Density Graphs were made. This is a method for producing a smooth density approximation to a set of data that avoids some problems associated with histograms. Also a normal Gauss curve was projected over the Kernel Density Graph for reference.

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, EN or ISO reproducibilities, the z-scores were calculated using a target standard deviation. This results in an evaluation independent of the variation 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 whether the reported test result is fit-for-use.

The z-scores were calculated according to:

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

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

Absolute values for $z < 2$ are very common and absolute values for $z > 3$ are very rare.

The usual interpretation of z-scores is as follows:

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

4 EVALUATION

In this proficiency test, problems were encountered with the despatch of the samples.

Participants in Brazil, Egypt, Philippines, Saudi Arabia and Sudan received the samples late or not at all.

For the main round, four participants reported the test results after the final reporting date and eleven other participants did not report any test results at all.

For the RON/MON round none of the reporting participants reported the test results after the final reporting date, but ten participants did not report any test results at all.

For the DVPE round one participant reported the test results after the final reporting date and eleven other participants did not report any test results at all.

In total, 146 participants (combination of the main, RON/MON and the DVPE rounds) reported in total 2570 numerical test results. Observed were 54 outlying test results, which is 2.1%. In proficiency studies, outlier percentages of 3% - 7.5% are quite normal.

4.1 EVALUATION PER TEST AND PER SAMPLE

In this section, the results are discussed per test and per sample.

In the iis PT reports, test methods are referred to with a number (e.g. D1298) and an added designation for the year that the test method was adopted or revised (e.g. D1298:09). If applicable, a designation in parentheses is added to designate the year of reapproval (e.g. DXXXX:YY(2013)). In the tables of Appendix 1 only the test method number and year of adoption or revision will be used.

The reference test methods for the analyses of Gasoline were selected according to the scope of the latest version of EN228:2012. In case no precision data was mentioned, the calculated reproducibility was compared against the estimated requirements based on the Horwitz equation.

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

Sample #16210 (Main round)

API Gravity: 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 D1298:12b.

Appearance: No problems have been observed with this determination. Eighty-nine participants agreed on the appearance as Pass or Clear and Bright.

Aromatics by FIA: This determination was problematic. No statistical outliers were observed. However, the calculated reproducibility is not in agreement with the requirements of EN15553:07.

Aromatics by GC: The determination in %V/V was not problematic. Five statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of ISO22854-A:16.

One statistical outlier was observed in the test results reported in %M/M. Regretfully for the determination in %M/M no precision data is available. Therefore, no significant conclusions were drawn.

Benzene: Initially test method ISO22854-A:16 was selected as reference test method in the scope of this proficiency test, but the precision data in test method ISO22854-A:16 appeared to be too strict during the statistical evaluation (see also appendix 1; table of Benzene). Therefore test method EN12177:00 was selected as reference test method (this method is also mentioned in the Gasoline specification EN228:2012). This determination was not problematic. Five statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of EN12177:00. When a laboratory did use a test method with a reproducibility that is significant different from the reproducibility of EN12177:00 it is advised to recalculate the z-score while using the reproducibility of the actual test method used (see also §3.3).

Copper strip: No problems have been observed in this determination, all participants agreed on a test result of 1 (or 1A or 1B).

Density at 15°C: This determination was problematic for a number of participants. Five statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of ISO12185:96. The test results are not normal distributed and small shoulder at the higher densities of the Kernel Density graph is visible. A possible cause may be that in these cases volatiles did evaporate before the density was determined.

- Distillation:** The distillation was problematic for three of the eight reported distillation parameters and for a number of the participants. In total thirteen statistical outliers were observed over the eight parameters. Four test results of one participant were excluded from the statistical evaluation because of the outlying test results in the other distillation parameters of this participant. The calculated reproducibilities after rejection of the suspect data are in agreement with the requirements of ISO3405-A:11 (A=automatic), except for 50% evaporated and %V/V evaporated at 100°C and 150°C. In general the reproducibility at 50% evaporated should be the smallest based on the theoretical distillation behaviour. This is also expressed by the requirements of ISO3405-A:11. The Kernel Density graph of T/°C at 50% evaporated show clearly a shoulder at the right side of the curve. The cause may be that a number of participants did report $T_{\text{recovered}}$ instead of $T_{\text{evaporated}}$. This problem in reporting was observed in a previous PT on Gasoline (iis14B01ASTM) in 2014 when an extensive study has been done on the distillation parameters after the PT. Another explanation could be that the presence of Ethanol may interfere with Temperature of 50% evaporated as this parameter is close to the boiling point of Ethanol (78.37°C).
- Doctor Test:** No problems have been observed, all participants, except one, agreed on the absence of Mercaptans.
- Existent Gum:** 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 ISO6246:95.
- Lead:** About 77% of the reporting participants reported a value “less than” and other reported test values were below or near the application range. Therefore no significant conclusions were drawn.
- Manganese** About 88% of the reporting participants reported a value “less than” and other reported test values were below or near the application range. Therefore no significant conclusions were drawn.
- Olefins by FIA:** This determination was not problematic. No statistical outliers were observed. The calculated reproducibility is in full agreement with the requirements of EN15553:07.
- Olefins by GC:** The determination in %V/V was not problematic. One statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier is in agreement with the requirements of ISO22854-A:16.
- Also one statistical outlier (same laboratory) was observed in the test results reported in %M/M. Regrettably for the determination in %M/M no precision data is available. Therefore, no significant conclusions were drawn.

Oxidation stability: Most participants agreed on an Oxidation Stability >900 minutes. Therefore no significant conclusions were drawn.

General remark wrt evaluation of the Oxygenates and Oxygen content determinations: Initially test method EN1601:14 was selected as reference test method for the evaluation of the Oxygenates. It appeared that only 5 (!) participants reported to use test method EN1601 while 27 laboratories reported to use test method ISO22854. Test method ISO2254 is also mentioned in Gasoline specification EN228:2012 for the Oxygenates and Oxygen content determinations. Therefore, it was decided to use test method ISO22854:16 as reference test method for the evaluation of the Oxygenates and Oxygen content determinations.

Ethanol: This determination was not problematic. Three statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in agreement of ISO22854:16.

Ethers (C5 and more): 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 ISO22854:16.

MTBE: 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 ISO22854:16.

Other Oxygenates: The concentrations of other oxygenates were all near or below the detection limit of the test method used. Most of the participants reported a "less than" test result. Therefore, no significant conclusions were drawn.

Oxygen content: 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 ISO22854:16.

Sulphur: This determination was not problematic. Three statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is agreement with the requirements of ISO20846:11.

Sample #16211

RON: The determination was not problematic. Three statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in full agreement with the requirements of ISO5164:14.

MON: The determination was not problematic. One statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier is in full agreement with the requirements of ISO5163:14.

Sample #16212

ASVP: This determination was not problematic. Two statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in full agreement with the requirements of EN13016-1:07.

DVPE: The Air Saturated Vapour Pressure (ASVP) can be converted to Dry Vapour Pressure Equivalent (DVPE) according to EN13016-1. This conversion was not problematic. One statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier is in agreement with the requirements of EN13016-1:07.

4.2 PERFORMANCE EVALUATION FOR THE GROUP OF LABORATORIES

A comparison has been made between the reproducibility as declared by the reference test method and the reproducibility as found for the group of participating laboratories. The target reproducibilities derived from reference test methods and the calculated reproducibilities of samples #16210, #16211, #16212 are compared in the next tables.

Parameter	unit	n	mean	2.8 * sd	R (lit)	
API Gravity		52	61.4	0.3	0.3	
Appearance		89	Pass	n.a.	n.a.	
Aromatics by FIA	%V/V	56	28.9	4.3	3.7	
Aromatics by GC	%V/V	54	27.9	1.0	1.4	
Aromatics by GC	%M/M	40	33.2	2.0	n.a.	
Benzene	%V/V	89	0.90	0.06	0.10	
Copper Strip 3 hrs at 50°C		107	1	n.a.	n.a.	
Density at 15°C	kg/m ³	133	733.4	1.1	1.5	
Distillation	IBP	°C	129	27.9	5.0	4.7
	10%-evap.	°C	130	40.8	3.1	3.2
	50%-evap.	°C	128	79.8	4.8	1.9
	90%-evap.	°C	130	143.3	4.1	3.9
	FBP	°C	129	175.9	6.4	6.8
	%vol at 70°C	%V/V	120	44.8	2.9	2.7
	%vol at 100°C	%V/V	122	61.2	2.6	2.2
	%vol at 150°C	%V/V	124	93.4	2.2	1.3
Doctor Test		56	Negative	n.a.	n.a.	
Existent gum (washed)	mg/100mL	53	0.52	0.94	1.35	
Lead as Pb	mg/L	56	<2.5	n.a.	n.a.	
Manganese as Mn	mg/L	41	<2	n.a.	n.a.	
Olefins by FIA	%V/V	55	9.6	3.3	3.2	
Olefins by GC	%V/V	53	9.8	1.2	1.7	
Olefins by GC	%M/M	34	9.0	1.0	n.a.	
Oxidation Stability	min	54	>900	n.a.	n.a.	
Ethanol	%V/V	79	4.7	0.5	0.5	
Ethers C5 or more C atoms	%V/V	53	2.6	0.4	0.4	
MTBE	%V/V	79	2.6	0.4	0.4	
Oxygen content	%M/M	77	2.3	0.2	0.3	
Sulphur	mg/kg	115	5.8	1.9	2.0	

Table 5: performance evaluation sample #16210

Parameter	unit	n	mean	2.8 * sd	R (lit)
RON		71	95.6	0.7	0.7
MON		61	85.3	0.8	0.9

Table 6: performance evaluation sample #16211

Parameter	Unit	n	mean	2.8 * sd	R (lit)
ASVP	kPa	80	99.4	2.5	2.6
DVPE acc. to EN13016-1	kPa	110	92.1	2.2	2.6

Table 7: performance evaluation sample #16212

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

4.3 COMPARISON OF THE PROFICIENCY TEST OF OCTOBER 2016 WITH PREVIOUS PTS

	<i>October 2016</i>	<i>October 2015</i>	<i>October 2014</i>	<i>October 2013</i>	<i>October 2012</i>
Number of rep. participants	146	146	128	126	95
Number of results reported	2570	2836	2945	2425	1709
Statistical outliers	54	105	92	74	55
Percentage outliers	2.1%	3.9%	3.1%	3.1%	3.2%

Table 8: 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 reference test methods. The conclusions are given the following table:

Determination	October 2016	October 2015	October 2014	October 2013	October 2012
API Gravity	+/-	+/-	+	+/-	+
Aromatics by FIA	-	-	-	-	+
Aromatics by GC	+	-	+/-	-	+
Benzene	+/-	--	--	--	--
Density at 15°C	+	+	-	--	--
Distillation	+/-	+/-	+/-	+	-
Existent gum (washed)	+	+	+	+/-	(+)
Lead as Pb	n.e.	n.e.	--	(+)	(++)
Manganese as Mn	n.e.	n.e.	+	--	(+/-)
Olefins by FIA	+/-	-	-	-	(-)
Olefins by GC	+	+	+/-	++	(++)
Ethanol	+/-	-	-	-	-
Ethers C5 or more C atoms	+/-	+/-	-	-	n.e.
MTBE	+/-	+/-	+/-	--	-
Oxygen content	+	+/-	+/-	+	+
Sulphur	+/-	-	-	+/-	-
RON	+/-	+/-	+	+/-	+/-
MON	+/-	-	-	-	+
ASVP	+/-	+	+	-	+/-
DVPE acc. to EN13016-1	+/-	+	+	-	+/-

Table 9: comparison determinations against the reference test methods

* Results between brackets do not meet the application range of the test method.

The following performance categories in above table were used:

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

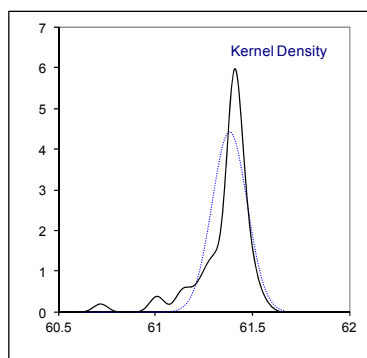
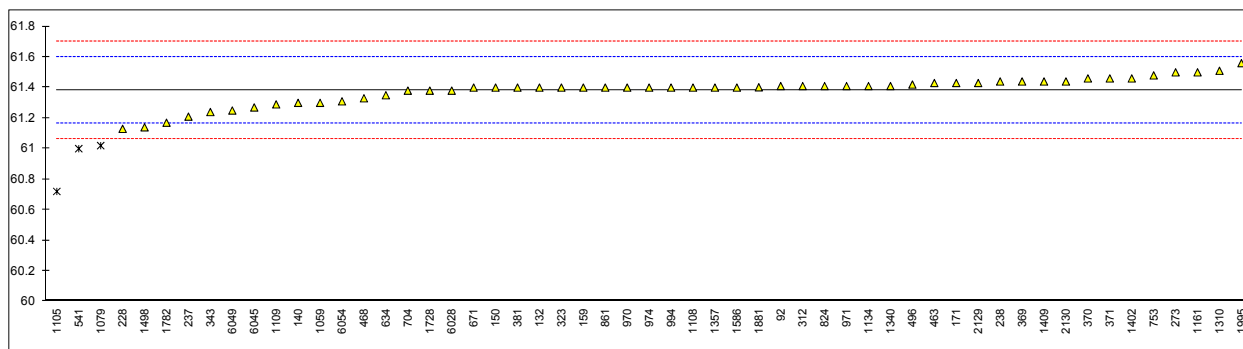
APPENDIX 1;

Determination of API Gravity on sample #16210;

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
92	D4052	61.41		0.26	1131		----		----
132	D4052	61.4		0.16	1134	D1250	61.41		0.26
140	D4052	61.3		-0.77	1141		----		----
150	D4052	61.4		0.16	1143		----		----
158		----		----	1155		----		----
159	D4052	61.4		0.16	1161	D4052	61.5		1.10
171	D4052	61.43		0.44	1162		----		----
194		----		----	1167		----		----
221		----		----	1171		----		----
228	D4052	61.13		-2.36	1186		----		----
237	D4052	61.21		-1.61	1191		----		----
238	D1298	61.44		0.54	1194		----		----
273	D4052	61.5		1.10	1199		----		----
311		----		----	1229		----		----
312	D4052	61.41		0.26	1264		----		----
323	D4052	61.4		0.16	1266		----		----
333		----		----	1272		----		----
334		----		----	1291		----		----
335		----		----	1299		----		----
336		----		----	1310		61.51		1.19
337		----		----	1340	D1298	61.41		0.26
338		----		----	1357	D4052	61.4		0.16
340		----		----	1389		----		----
343	D1298	61.24		-1.33	1397		----		----
344		----		----	1402	D4052	61.46		0.72
353		----		----	1404		----		----
369	D4052	61.44		0.54	1409	D4052	61.44		0.54
370	D4052	61.46		0.72	1428		----		----
371	D1298	61.46		0.72	1443		----		----
381	D1298	61.4		0.16	1459		----		----
391		----		----	1491		----		----
399		----		----	1498	D4052	61.14		-2.26
402		----		----	1528		----		----
403		----		----	1538		----		----
420		----		----	1546		----		----
431		----		----	1549		----		----
433		----		----	1550		----		----
440		----		----	1556		----		----
444		----		----	1569		----		----
445		----		----	1586	D1298	61.4		0.16
447		----		----	1634		----		----
453		----		----	1636		----		----
463	D4052	61.43		0.44	1667		----		----
468	D1298	61.33		-0.49	1720		----		----
485		----		----	1724		----		----
494		----		----	1728	D4052	61.38		-0.02
496	D1298	61.42		0.35	1740		----		----
541	D4052	61.0	R(0.05)	-3.57	1742		----		----
631		----		----	1776		----		----
634	D1298	61.35		-0.30	1782	D4052	61.17		-1.98
671	D4052	61.4		0.16	1807		----		----
704	D1298	61.38		-0.02	1811		----		----
753	D4052	61.48		0.91	1833		----		----
754		----		----	1849		----		----
782		----		----	1881	D4052	61.402		0.18
785		----		----	1884		----		----
824	D4052	61.41		0.26	1936		----		----
861	D4052	61.40		0.16	1937		----		----
875		----		----	1938		----		----
902		----		----	1941		----		----
962		----		----	1948		----		----
970	D4052	61.40		0.16	1953		----		----
971	D4052	61.41		0.26	1995	D1298	61.56		1.66
974	Calc.	61.40		0.16	2129	D4052Conv.	61.43		0.44
994	D1250	61.4		0.16	2130	D4052	61.44		0.54
1006		----		----	2146		----		----
1011		----		----	6005		----		----
1033		----		----	6016		----		----
1059	D4052	61.30		-0.77	6028	D1298	61.38		-0.02
1067		----		----	6045	D4052	61.27		-1.05
1079	D4052	61.02	R(0.05)	-3.38	6046		----		----
1082		----		----	6047		----		----
1105	D4052	60.72	C,R(0.01)	-6.18	6049	Calc.	61.25		-1.24
1108	D4052	61.4		0.16	6054	D4052	61.31		-0.68
1109	D4052	61.29		-0.86	6075		----		----
1126		----		----	6090		----		----

normality	suspect
n	52
outliers	3
mean (n)	61.383
st.dev. (n)	0.0899
R(calc.)	0.252
R(D1298:12b)	0.300

Lab 1105 first reported: 74.72



Determination of Appearance on sample #16210;

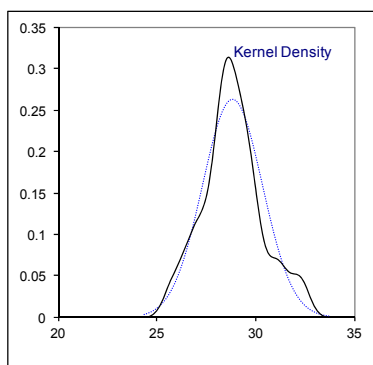
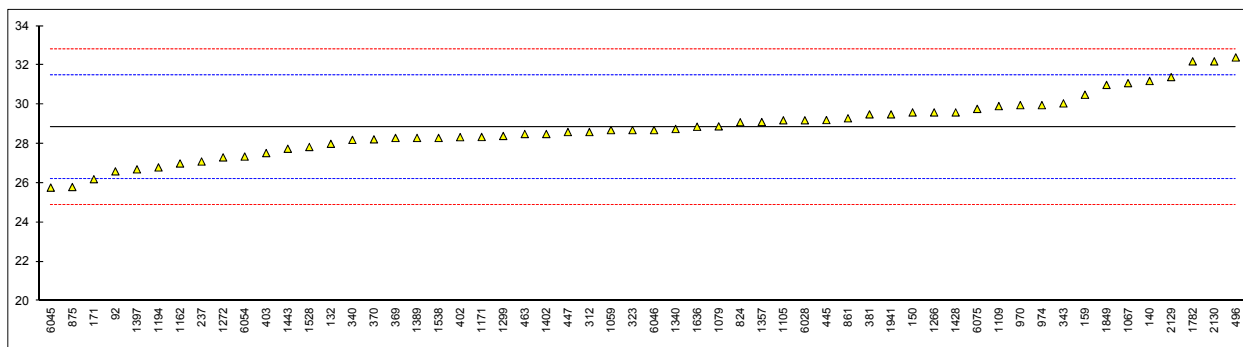
lab	method	value	lab	method	value
92	D4176	Pass	1131		----
132	D4176	Clear & Bright	1134	D4176	Clear and bright
140	D4176	Pass	1141	Visual	clear and bright
150	E2680	Pass	1143	Visual	clear and bright
158		----	1155		----
159	D4176	clear	1161	Visual	Clear and Bright
171	D4176	Pass	1162		----
194		----	1167	Visual	Clear and Bright
221		----	1171		----
228	Visual	Clear & bright	1186		----
237	D4176	Clear and Bright	1191		----
238	Visual	C & B	1194		----
273	Visual	Clear & Bright	1199		----
311		----	1229		----
312	Visual	Br&Cl	1264		----
323	D4176	cl. & br., no water, no particles at room temp.	1266	D4176	clear and bright
333		----	1272	Visual	clear, bright
334		----	1291		----
335	Visual	clear and bright	1299	D4176	CUMPLE
336	Visual	clear and bright	1310		----
337	Visual	Clear and bright	1340	Visual	a clear, bright
338	Visual	Clear and Bright	1357	Visual	Clear & Bright
340	Visual	Clair Limpide	1389	Visual	Clear & Bright
343	In house	C&B	1397		----
344		----	1402	D4176	C & B
353		----	1404	Visual	CLEAR AND BRIGHT
369	Visual	C & B	1409	Visual	CBL
370	D4176	clear & bright	1428	Visual	Clear&Bright
371	Visual	Pass	1443		----
381	Visual	clear	1459		----
391	E2680	pass	1491		----
399		----	1498		----
402		----	1528	Visual	C&B
403		----	1538		----
420		----	1546		----
431		----	1549		----
433		----	1550		----
440	Visual	C+B	1556	Visual	C&B
444	E2680	Pass	1569	D4176	PASS
445	Visual	C & B	1586	Visual	CLEAR & BRIGHT
447		----	1634	Visual	Clear
453	D4176	Clear & Bright	1636	Visual	Clear and bright
463	D4176	Pass	1667		----
468	D4176	Pass	1720		----
485		----	1724		----
494	Visual	Clear and bright	1728	Visual	Clear
496	Visual	clear and bright	1740		----
541	D4176	Pass	1742		----
631		----	1776		----
634		----	1782	D4176	Clear & Bright
671	Visual	C/B	1807	D4176	C&B
704	Visual	Clear&Bright	1811		----
753	D4176	clear and bright	1833		----
754	D4176	Clear and Bright	1849		----
782	D4176	clear & bright	1881	D4176	pass
785		----	1884	Visual	clear and bright
824	Visual	Clear & Bright	1936	D4176	C&B
861	Visual	Clear & Bright	1937		----
875		----	1938		Clear and Bright
902	D4176	CLEAR AND BRIGHT	1941	Visual	clear and bright
962		----	1948	Visual	Clear, brilliant, bright
970	Visual	Clear & Bright	1953	D4176	Clear & Bright
971	Visual	Clear & Bright	1995	Visual	Clear & Bright
974	Visual	C & B	2129	D4176	Clear & Bright
994	D4176	C@B	2130	Visual	Clear and bright
1006		----	2146		----
1011	Visual	Bright & Clear	6005	Visual	Clear & Bright
1033	Visual	clear and bright yellow liquid	6016		----
1059	Visual	clear&bright	6028		----
1067		----	6045	Visual	Clear & Bright
1079	D4176	pass	6046		----
1082		----	6047		----
1105	Visual	c&b	6049	Visual	Clear & Bright
1108	Visual	Clear and bright	6054	Visual	Clear & Bright
1109	D4176	Pass	6075		----
1126		----	6090		----

normality	n.a.
n	89
outliers	0
mean (n)	Pass OR Clear&Bright
st.dev. (n)	n.a.
R(calc.)	n.a.
R(lit.)	n.a.

Determination of Aromatics by FIA without oxygenates correction on sample #16210; results in %V/V

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
92	D1319	26.6		-1.70	1131		----		----
132	D1319	28.0		-0.64	1134		----		----
140	D1319	31.2		1.78	1141		----		----
150	D1319	29.6		0.57	1143		----		----
158		----		----	1155		----		----
159	D1319	30.5		1.25	1161		----		----
171	D1319	26.20		-2.01	1162	D1319	27.0		-1.40
194		----		----	1167		----		----
221		----		----	1171	D1319Mod.	28.35		-0.38
228		----		----	1186		----		----
237	D1319	27.1		-1.32	1191		----		----
238		----		----	1194	D1319Mod.	26.8		-1.55
273		----		----	1199		----		----
311		----		----	1229		----		----
312	EN15553	28.6		-0.19	1264		----		----
323	D1319	28.7		-0.11	1266		29.6		0.57
333		----		----	1272	INH-46	27.31		-1.17
334		----		----	1291		----		----
335		----		----	1299	D1319	28.4		-0.34
336		----		----	1310		----		----
337		----		----	1340	D1319	28.755		-0.07
338		----		----	1357	D1319	29.11		0.20
340	EN15553	28.2		-0.49	1389	D1319	28.3		-0.42
343	D1319	30.06		0.92	1397	D1319	26.7		-1.63
344		----		----	1402	D1319	28.5		-0.26
353		----		----	1404		----		----
369	EN15553	28.3		-0.42	1409		----		----
370	EN15553	28.23		-0.47	1428	EN15553	29.6		0.57
371		----		----	1443	EN15553	27.75		-0.83
381	EN15553	29.5		0.49	1459		----		----
391		----		----	1491		----		----
399		----		----	1498		----		----
402	D1319	28.34		-0.39	1528	D1319	27.84		-0.76
403	EN15553	27.53		-1.00	1538	EN15553	28.3		-0.42
420		----		----	1546		----		----
431		----		----	1549		----		----
433		----		----	1550		----		----
440		----		----	1556		----		----
444		----		----	1569		----		----
445	D1319	29.21		0.27	1586		----		----
447	EN15553	28.6		-0.19	1634		----		----
453		----		----	1636	EN15553	28.87		0.02
463	D1319	28.5		-0.26	1667		----		----
468		----		----	1720		----		----
485		----		----	1724		----		----
494		----		----	1728		----		----
496	D1319	32.40		2.69	1740		----		----
541		----		----	1742		----		----
631		----		----	1776		----		----
634		----		----	1782	D1319	32.2		2.54
671		----		----	1807		----		----
704		----		----	1811		----		----
753		----		----	1833		----		----
754		----		----	1849	EN15553	31		1.63
782		----		----	1881		----		----
785		----		----	1884		----		----
824	D1319	29.1		0.19	1936		----		----
861	D1319	29.3		0.34	1937		----		----
875	D1319	25.8		-2.31	1938		----		----
902		----		----	1941	EN15553	29.50		0.49
962		----		----	1948		----		----
970	D1319	29.97		0.85	1953		----		----
971		----		----	1995		----		----
974	D1319	29.97		0.85	2129	EN15553	31.4		1.93
994		----		----	2130	D1319	32.2		2.54
1006		----		----	2146		----		----
1011		----		----	6005		----		----
1033		----		----	6016		----		----
1059	EN15553	28.7		-0.11	6028	D1319	29.2		0.26
1067	D1319	31.09		1.70	6045	D1319	25.77		-2.33
1079	D1319	28.89		0.03	6046	D1319	28.7		-0.11
1082		----		----	6047		----		----
1105	D1319	29.2		0.26	6049		----		----
1108		----		----	6054	D1319	27.3519		-1.13
1109	D1319	29.92		0.81	6075	EN15553	29.78		0.70
1126		----		----	6090		----		----

normality OK
 n 56
 outliers 0
 mean (n) 28.85
 st.dev. (n) 1.520
 R(calc.) 4.26
 R(EN15553:07) 3.70



Determination of Aromatics by GC on sample #16210; results in %V/V

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
92	see below	27.81		-0.14	1131	ISO22854	27.02		-1.72
132	D5769	27.67	C	-0.42	1134	ISO22854	23.07	R(0.01)	-9.66
140		----		----	1141		----		----
150	D5769	27.0	C	-1.76	1143		----		----
158		----		----	1155	ISO22854	28.27		0.79
159	D5769	26.5	R(0.05)	-2.77	1161	ISO22854	27.71		-0.34
171	D5580	27.79		-0.18	1162	D6839	28.33		0.91
194		----		----	1167	ISO22854	27.82		-0.12
221		----		----	1171		----		----
228		----		----	1186		----		----
237		----		----	1191	ISO22854	27.67		-0.42
238		----		----	1194		----		----
273		----		----	1199		----		----
311	ISO22854	27.5		-0.76	1229	ISO22854	27.8		-0.16
312	ISO22854	28.3		0.85	1264		----		----
323	ISO22854	28.2		0.65	1266		----		----
333	ISO22854	28.7		1.65	1272		----		----
334	ISO22854	27.6		-0.56	1291		----		----
335		----		----	1299	ISO22854	27.6		-0.56
336		----		----	1310		----		----
337		----		----	1340	ISO22854	27.57		-0.62
338		----		----	1357	D6839	28.07		0.39
340		----		----	1389		----		----
343		----		----	1397		----		----
344		----		----	1402		----		----
353		----		----	1404	ISO22854	29.42	R(0.05)	3.10
369		----		----	1409		----		----
370		----		----	1428		----		----
371		----		----	1443		----		----
381		----		----	1459		----		----
391		----		----	1491		----		----
399		----		----	1498		----		----
402	ISO22854	27.83		-0.10	1528	ISO22854	27.98		0.21
403	ISO22854	27.87		-0.02	1538	ISO22854	27.52		-0.72
420	ISO22854	28.05		0.35	1546		----		----
431		----		----	1549		----		----
433		----		----	1550		----		----
440		----		----	1556	ISO22854	27.54		-0.68
444		----		----	1569	ISO22854	27.67		-0.42
445	ISO22854	27.49		-0.78	1586	ISO22854	28.9		2.05
447		----		----	1634		----		----
453	ISO22854	28.17		0.59	1636		----		----
463		----		----	1667		----		----
468		----		----	1720		----		----
485		----		----	1724		----		----
494	ISO22854	27.41		-0.94	1728		----		----
496	ISO22854	27.83		-0.10	1740		----		----
541		----		----	1742		----		----
631		----		----	1776	ISO22854	28.40		1.05
634		----		----	1782	D5580	26.17	R(0.05)	-3.43
671		----		----	1807	ISO22854	28.1		0.45
704	D5580	27.947		0.14	1811	ISO22854	27.92		0.08
753		----		----	1833	ISO22854	27.9		0.04
754	D6729	27.773		-0.21	1849		----		----
782		----		----	1881		----		----
785		----		----	1884		----		----
824	D5580	27.7		-0.36	1936		----		----
861	D5580	27.6		-0.56	1937		----		----
875		----		----	1938		----		----
902		----		----	1941		----		----
962		----		----	1948	ISO22854	28.59		1.43
970		----		----	1953		----		----
971		----		----	1995		----		----
974		----		----	2129	D6730	27.657		-0.44
994		----		----	2130	D6730	27.9		0.04
1006	D5580	27.44		-0.88	2146	ISO22854	27.9		0.04
1011	ISO22854	28.0		0.25	6005		----		----
1033		----		----	6016		----		----
1059	ISO22854	27.7	C	-0.36	6028	ISO22854	26.55	R(0.05)	-2.67
1067		----		----	6045	D6839	28.20		0.65
1079	ISO22854	28.06		0.37	6046	ISO22854	28.11		0.47
1082		----		----	6047		----		----
1105	D6839	28.54		1.33	6049	ISO22854	27.76		-0.24
1108	ISO22854	27.80		-0.16	6054		----		----
1109	D6839	28.21		0.67	6075		----		----
1126	EN14517	27.51		-0.74	6090		----		----

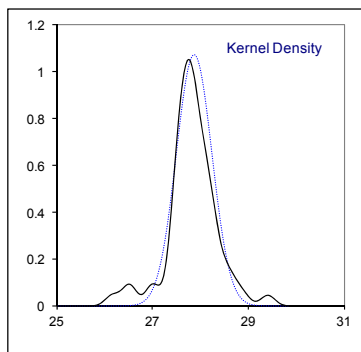
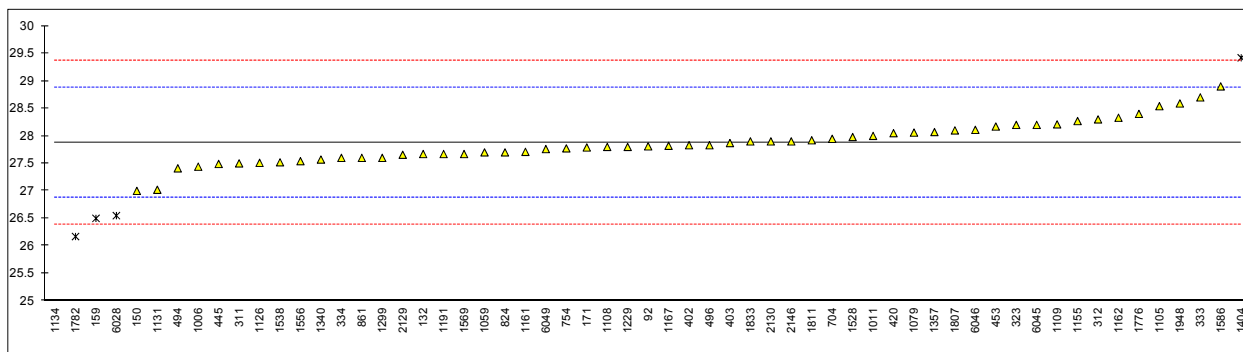
normality OK
 n 54
 outliers 5
 mean (n) 27.878
 st.dev. (n) 0.3726
 R(calc.) 1.043
 R(ISO22854-A:16) 1.393

Lab 92 used test method: CAN/CGSB-3.0/14.3-99

Lab 132 first reported: 34.91

Lab 150 first reported: 26.0

Lab 1059 first reported: 31.2



Determination of Aromatics by GC on sample #16210; results in %M/M

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
92	see below	33.25		----	1131	ISO22854	32.36		----
132	D5769	32.95	C	----	1134	ISO22854	27.77	R(0.01), f-?	----
140				----	1141				----
150	D5769	31.1		----	1143				----
158				----	1155				----
159	D5769	31.6		----	1161	ISO22854	33.06		----
171	D5580	33.11		----	1162	D6839	33.89		----
194				----	1167				----
221				----	1171				----
228				----	1186				----
237				----	1191				----
238				----	1194				----
273				----	1199				----
311	ISO22854	33.0		----	1229				----
312	ISO22854	33.7		----	1264				----
323	ISO22854	33.4		----	1266				----
333				----	1272				----
334	ISO22854	33.0		----	1291				----
335				----	1299				----
336				----	1310				----
337				----	1340	ISO22854	32.92		----
338				----	1357	D6839	33.46		----
340				----	1389				----
343				----	1397				----
344				----	1402				----
353				----	1404	ISO22854	34.88		----
369				----	1409				----
370				----	1428				----
371				----	1443				----
381				----	1459				----
391				----	1491				----
399				----	1498				----
402	ISO22854	33.22		----	1528	ISO22854	33.37		----
403	ISO22854	33.19		----	1538				----
420	ISO22854	33.48		----	1546				----
431				----	1549				----
433				----	1550				----
440				----	1556				----
444				----	1569	ISO22854	33.16		----
445	ISO22854	32.86		----	1586	ISO22854	34.3		----
447				----	1634				----
453				----	1636				----
463				----	1667				----
468				----	1720				----
485				----	1724				----
494	ISO22854	32.80		----	1728				----
496	ISO22854	33.25		----	1740				----
541				----	1742				----
631				----	1776				----
634				----	1782				----
671				----	1807				----
704	D5580	33.285		----	1811				----
753				----	1833				----
754	D6729	33.296		----	1849				----
782				----	1881				----
785				----	1884				----
824	D5580	33.0		----	1936				----
861	D5580	32.8		----	1937				----
875				----	1938				----
902				----	1941				----
962				----	1948	ISO22854	34.07		----
970				----	1953				----
971				----	1995				----
974				----	2129	D6730	33.192		----
994	D6729	34.42		----	2130	D6730	33.5		----
1006				----	2146				----
1011				----	6005				----
1033				----	6016				----
1059				----	6028	ISO22854	31.96		----
1067				----	6045	D5580	32.60	C	----
1079	ISO22854	33.58		----	6046				----
1082				----	6047				----
1105	D6839	34.42		----	6049	ISO22854	33.09		----
1108	ISO22854	33.27		----	6054				----
1109	D6839	33.62		----	6075				----
1126	EN14517	32.85		----	6090				----

normality suspect
 n 40
 outliers 1
 mean (n) 33.207
 st.dev. (n) 0.7085
 R(calc.) 1.984
 R(lit.) unknown

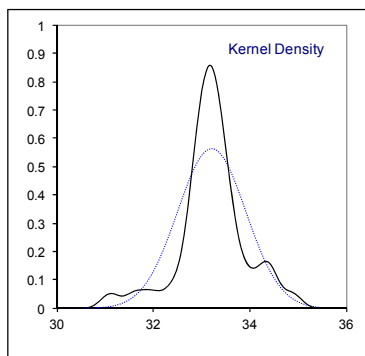
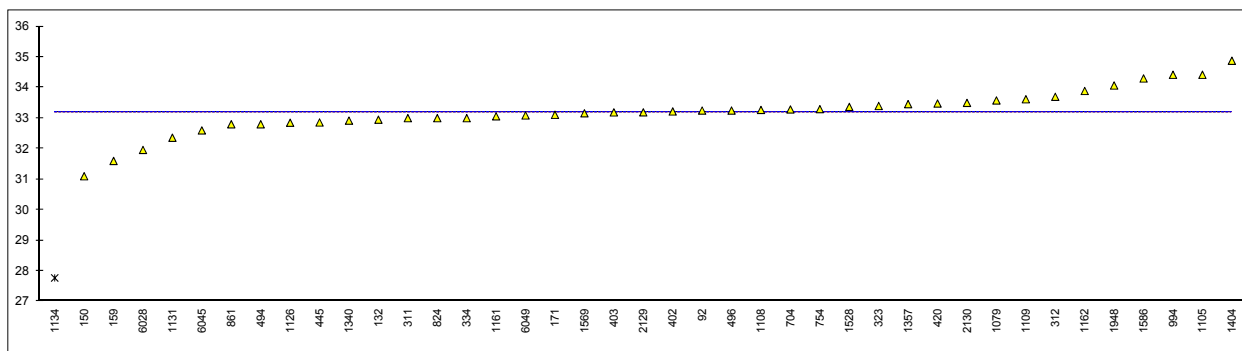
Compare R(iis15B05EN)=2.464

Lab 92 used test method: CAN/CGSB-3.0/14.3-99

Lab 132 first reported: 29.24

Lab 1134 possibly a false negative test result?

Lab 6045 first reported: 25.09



Determination of Benzene on sample #16210; results in %V/V

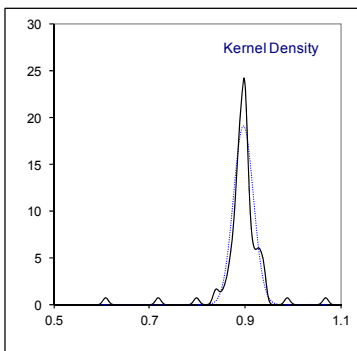
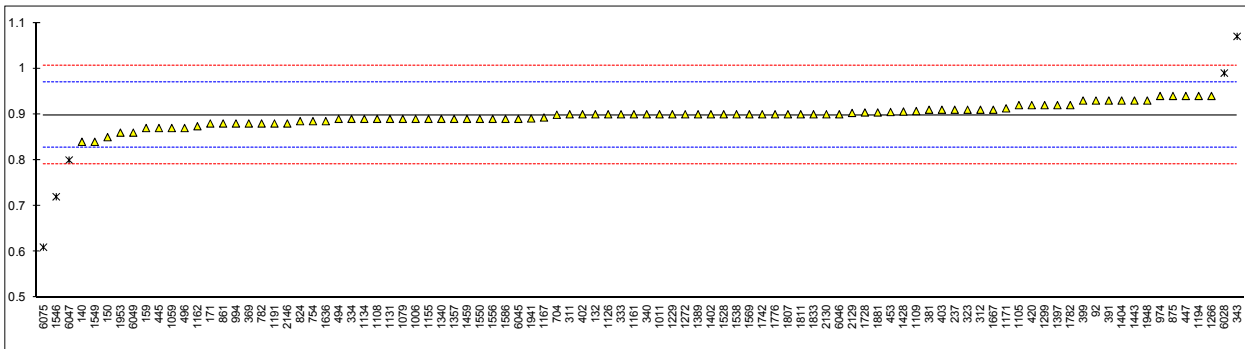
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
92	see below	0.93		0.89	1131	ISO22854	0.89		-0.23
132	D3606	0.90		0.05	1134	ISO22854	0.89		-0.23
140	D3606	0.84		-1.63	1141		----		----
150	D3606	0.85		-1.35	1143		----		----
158		----		----	1155	ISO22854	0.890		-0.23
159	D3606	0.87		-0.79	1161	ISO22854	0.90		0.05
171	D3606	0.88		-0.51	1162	D3606	0.874		-0.68
194		----		----	1167	ISO22854	0.893		-0.14
221		----		----	1171	D6277	0.913		0.42
228		----		----	1186		----		----
237	D5580	0.91		0.33	1191	ISO22854	0.88		-0.51
238		----		----	1194	D3606	0.94		1.17
273		----		----	1199		----		----
311	ISO22854	0.90		0.05	1229	ISO22854	0.90		0.05
312	ISO22854	0.91		0.33	1264		----		----
323	ISO22854	0.91		0.33	1266	EN238	0.94		1.17
333	ISO22854	0.9		0.05	1272	EN238	0.90		0.05
334	ISO22854	0.89		-0.23	1291		----		----
335		----		----	1299	ISO22854	0.92		0.61
336		----		----	1310		----		----
337		----		----	1340	ISO22854	0.89		-0.23
338		----		----	1357	D6839	0.89		-0.23
340	EN238	0.9		0.05	1389	EN12177	0.90	C	0.05
343	EN238	1.07	R(0.01)	4.81	1397	EN238	0.92		0.61
344		----		----	1402	EN238	0.9		0.05
353		----		----	1404	ISO22854	0.93		0.89
369	EN238	0.88		-0.51	1409		----		----
370		----		----	1428	EN12177	0.906		0.22
371		----		----	1443	EN12177	0.93		0.89
381	EN238	0.91		0.33	1459	In house	0.89		-0.23
391	EN12177	0.93		0.89	1491		----		----
399	ISO22854	0.93		0.89	1498		----		----
402	ISO22854	0.9		0.05	1528	ISO22854	0.90		0.05
403	ISO22854	0.91		0.33	1538	ISO22854	0.90		0.05
420	ISO22854	0.92		0.61	1546	EN238	0.72	R(0.01)	-4.99
431		----		----	1549	D6277	0.84		-1.63
433		----		----	1550	D6277	0.89	C	-0.23
440		----		----	1556	ISO22854	0.89		-0.23
444		----		----	1569	ISO22854	0.90		0.05
445	ISO22854	0.87		-0.79	1586	ISO22854	0.89	C	-0.23
447	IP429	0.94		1.17	1634		----		----
453	ISO22854	0.905		0.19	1636	EN238	0.885		-0.37
463		----		----	1667	EN12177	0.91	C	0.33
468		----		----	1720		----		----
485		----		----	1724		----		----
494	ISO22854	0.89		-0.23	1728	EN238	0.904		0.16
496	ISO22854	0.870		-0.79	1740		----		----
541		----		----	1742	EN238	0.9		0.05
631		----		----	1776	ISO22854	0.90		0.05
634		----		----	1782	D3606	0.92		0.61
671		----		----	1807	ISO22854	0.90		0.05
704	D5580	0.899		0.02	1811	ISO22854	0.90		0.05
753		----		----	1833	ISO22854	0.90		0.05
754	D6729	0.885		-0.37	1849		----		----
782	D6277	0.88		-0.51	1881	IP429	0.904	C	0.16
785		----		----	1884		----		----
824	D5580	0.885		-0.37	1936		----		----
861	D5580	0.88		-0.51	1937		----		----
875	EN12177	0.94		1.17	1938		----		----
902		----		----	1941	EN238	0.891		-0.20
962		----		----	1948	EN12177	0.93	C	0.89
970		----		----	1953	In house	0.86		-1.07
971		----		----	1995		----		----
974	D5580	0.94		1.17	2129	D6730	0.903		0.14
994	INH-52714	0.88		-0.51	2130	D6730	0.90		0.05
1006	D5580	0.89		-0.23	2146	ISO22854	0.88		-0.51
1011	ISO22854	0.90		0.05	6005		----		----
1033		----		----	6016		----		----
1059	ISO22854	0.87	C	-0.79	6028	EN238	0.99	C,R(0.01)	2.57
1067		----		----	6045	D3606	0.89		-0.23
1079	ISO22854	0.89		-0.23	6046	D6277	0.90		0.05
1082		----		----	6047	EN12177	0.80	C,R(0.01)	-2.75
1105	D6839	0.92	C	0.61	6049	ISO22854	0.86		-1.07
1108	ISO22854	0.89		-0.23	6054		----		----
1109	D3606	0.907		0.25	6075	EN238	0.61	R(0.01)	-8.07
1126	EN14517	0.90		0.05	6090		----		----

normality OK
 n 89
 outliers 5
 mean (n) 0.8981
 st.dev. (n) 0.02086
 R(calc.) 0.0584
 R(EN12177:00) 0.1000

Compare R(ISO22854-A:16)=0.0448
 Compare R(D3606:10e1)=0.1668
 Compare R(EN238:96+A1:03)=0.1700

<u>Results of:</u>	<u>ISO22854 only</u>	<u>D3606 only</u>	<u>EN238/IP429 only</u>	<u>EN12177/IP425 only</u>
normality	OK	OK	OK	OK
n	38	10	13	7
outliers	0	0	4	1
mean (n)	0.8963	0.8871	0.9057	0.9209
st.dev. (n)	0.01520	0.03084	0.01830	0.01523
R(calc.)	0.0425	0.0864	0.0512	0.0426
R(lit.)	0.0446	0.1653	0.1700	0.1000

Lab 92 used test method: CAN/CGSB-3.0/14.3-99
 Lab 1059 first reported: 0.96
 Lab 1105 first reported: 0.98
 Lab 1389 first reported: 0.80
 Lab 1550 first reported: 0.799
 Lab 1586 first reported: 0.83
 Lab 1667 first reported: 0.757
 Lab 1881 first reported: 0.825
 Lab 1948 first reported: 93%V/V
 Lab 6028 first reported: 0.828
 Lab 6047 first reported: 0.73



Determination of Copper strip 3hrs/50°C on sample #16210;

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
92	D130	1a		----	1131	ISO2160	1a		----
132	D130	1a		----	1134	D130	1a		----
140	D130	1a		----	1141	ISO2160	class 1		----
150	D130	1a		----	1143	ISO2160	class 1		----
158		----		----	1155	ISO2160	1a		----
159	D130	1a		----	1161	ISO2160	1A		----
171	D130	1a		----	1162	D130	1a		----
194		----		----	1167	ISO2160	1A		----
221	D130	1		----	1171	ISO2160	1A		----
228	D130	1A		----	1186	D130	1A		----
237	D130	1A		----	1191		----		----
238	D130	1A		----	1194		----		----
273		----		----	1199		----		----
311	ISO2160	1a		----	1229		----		----
312	D130	1a		----	1264		----		----
323	ISO2160	1A		----	1266	ISO2160	1A		----
333		----		----	1272	ISO2160	1a		----
334	ISO2160	1		----	1291	D130	1A		----
335	ISO2160	1		----	1299	D130	1A		----
336	ISO2160	1		----	1310		----		----
337	ISO2160	1b		----	1340	ISO2160	klasa 1		----
338		----		----	1357	D130	1a		----
340		----		----	1389	D130	1A		----
343	D130	1a		----	1397		----		----
344		----		----	1402	IP154	1A		----
353	IP154	1a		----	1404	ISO2160	1a		----
369	ISO2160	1A		----	1409	D130	1a		----
370	ISO2160	1A		----	1428	ISO2160	1A		----
371	ISO2160	1a		----	1443	ISO2160	1a		----
381	D130	1		----	1459		----		----
391		----		----	1491	ISO2160	1a		----
399		----		----	1498		----		----
402		----		----	1528	ISO2160	1a		----
403	ISO2160	class 1A		----	1538	ISO2160	1A		----
420	ISO2160	Class 1a		----	1546	ISO2160	1a		----
431		----		----	1549		----		----
433		----		----	1550		----		----
440	IP154	1a		----	1556	ISO2160	Class 1		----
444		----		----	1569	ISO2160	1a		----
445	IP154	1a		----	1586	D130	1A		----
447	IP154	1a		----	1634	D130	1a		----
453	IP154	1A		----	1636	D130	1a		----
463	ISO2160	1A		----	1667		----		----
468	D130	1A		----	1720		----		----
485		----		----	1724		----		----
494	ISO2160	1a		----	1728	D130	1a		----
496	ISO2160	1a		----	1740	D130	1A		----
541	D130	1A		----	1742		----		----
631		----		----	1776		----		----
634	D130	1a		----	1782	D130	1A		----
671	D130	1A		----	1807	D130	1A		----
704	D130	1A		----	1811		----		----
753	D130	1a		----	1833		----		----
754	D130	1a		----	1849	ISO2160	1A		----
782	D130	1a		----	1881	D130	1a		----
785		----		----	1884	D130	class 1		----
824	D130	1a		----	1936		----		----
861	D130	1a		----	1937		----		----
875	D130	1a		----	1938		----		----
902	ISO2160	1a		----	1941	ISO2160	class 1		----
962		----		----	1948	ISO2160	1A		----
970	D130	1a		----	1953	ISO2160	Class 1A		----
971	D130	1a		----	1995	D130	1A		----
974	D130	1a		----	2129	D130	1a		----
994	D130	1a		----	2130	IP154	1a		----
1006	D130	1a		----	2146		----		----
1011	D130	1a		----	6005	ISO2160	1a		----
1033	IP154	1b		----	6016		----		----
1059	ISO2160	1a		----	6028	ISO2160	1a		----
1067		----		----	6045	D130	1a		----
1079	D130	1a		----	6046	ISO2160	1a		----
1082		----		----	6047		----		----
1105	D130	1a		----	6049	ISO2160	1a		----
1108	ISO2160	1		----	6054	D130	1a		----
1109	D130	1a		----	6075	ISO2160	1A		----
1126		----		----	6090		----		----

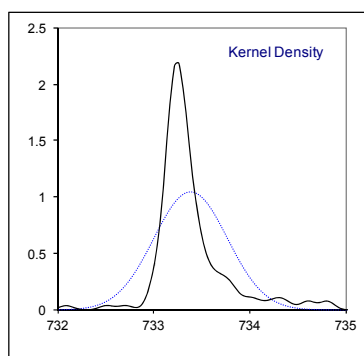
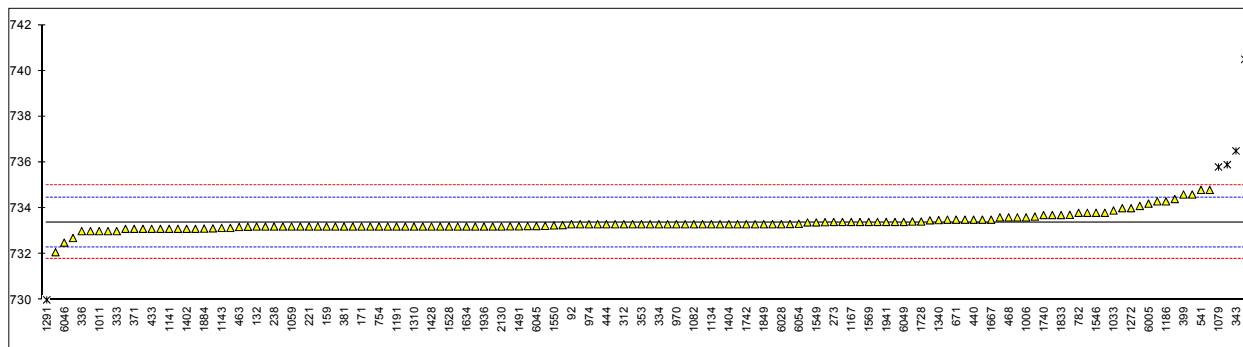
normality	n.a.
n	107
outliers	0
mean (n)	1 / 1A / 1B
st.dev. (n)	n.a.
R(calc.)	n.a.
R(lit.)	n.a.

Determination of Density at 15°C on sample #16210; results in kg/m³

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
92	D4052	733.3		-0.14	1131	ISO12185	733.26		-0.22
132	D4052	733.2		-0.33	1134	IP365	733.3		-0.14
140	D4052	733.6		0.42	1141	ISO12185	733.1		-0.52
150	D4052	733.5		0.23	1143	ISO12185	733.14		-0.44
158		----		----	1155	ISO3675	734.3		1.72
159	D4052	733.2		-0.33	1161	ISO12185	733.12		-0.48
171	D4052	733.2		-0.33	1162		----		----
194		----		----	1167	ISO12185	733.4		0.04
221	D4052	733.2		-0.33	1171	D4052	732.08		-2.42
228	D4052	733.8		0.79	1186	D1298	734.3	C	1.72
237	D4052	733.5		0.23	1191	ISO12185	733.2		-0.33
238	D4052	733.2		-0.33	1194		----		----
273	D4052	733.4		0.04	1199		----		----
311	ISO12185	733.2		-0.33	1229	ISO12185	733.3		-0.14
312	ISO12185	733.3		-0.14	1264		----		----
323	ISO12185	733.3		-0.14	1266	ISO3675	740.5	C,R(0.01)	13.30
333	ISO12185	733.0		-0.70	1272	ISO3675	734.00		1.16
334	ISO12185	733.3		-0.14	1291	D4052	730.0	R(0.01)	-6.30
335	ISO12185	734.0		1.16	1299	D4052	733.2		-0.33
336	ISO12185	733.0		-0.70	1310	ISO12185	733.2		-0.33
337	ISO12185	733.6		0.42	1340	ISO12185	733.48		0.19
338	ISO12185	733.1		-0.52	1357	D4052	733.1		-0.52
340	ISO12185	733.22		-0.29	1389	D4052	733.2		-0.33
343	ISO12185	736.5	R(0.01)	5.83	1397	ISO12185	734.1		1.35
344		----		----	1402	IP365	733.1		-0.52
353	IP365	733.3		-0.14	1404	ISO12185	733.3		-0.14
369	ISO12185	733.2		-0.33	1409	ISO12185	733.4		0.04
370	ISO12185	733.1		-0.52	1428	ISO12185	733.2		-0.33
371	ISO12185	733.1		-0.52	1443	ISO12185	733.42		0.08
381	ISO12185	733.2		-0.33	1459	ISO12185	733.2		-0.33
391	ISO12185	733.2		-0.33	1491	ISO12185	733.21		-0.31
399	ISO12185	734.6		2.28	1498	D4052	734.4		1.91
402	ISO12185	733.23		-0.27	1528	D4052	733.20		-0.33
403	ISO12185	733.4		0.04	1538	ISO12185	733.3		-0.14
420	ISO12185	734.8		2.66	1546	ISO12185	733.8		0.79
431	ISO12185	733.19		-0.35	1549	ISO12185	733.38		0.01
433		733.1		-0.52	1550	ISO12185	733.25		-0.24
440	D4052	733.5		0.23	1556	ISO12185	733.39		0.02
444	D4052	733.3		-0.14	1569	ISO12185	733.4		0.04
445	ISO12185	733.2		-0.33	1586	ISO12185	733.2		-0.33
447	IP365	733.3		-0.14	1634	ISO12185	733.2		-0.33
453	IP365	733.3		-0.14	1636	ISO12185	733.2		-0.33
463	ISO12185	733.18		-0.37	1667	ISO3675	733.5		0.23
468	D4052	733.6		0.42	1720		----		----
485	ISO12185	733.1		-0.52	1724		----		----
494	ISO12185	733.2		-0.33	1728	ISO12185	733.42		0.08
496	ISO12185	733.21		-0.31	1740	ISO12185	733.7		0.60
541	ISO12185	734.8		2.66	1742	ISO12185	733.3		-0.14
631		----		----	1776	ISO12185	733.3		-0.14
634	D4052	733.5		0.23	1782	D4052	733.7		0.60
671	D4052	733.5		0.23	1807	ISO12185	734.6		2.28
704	ISO12185	733.38		0.01	1811	ISO12185	733.4		0.04
753	D4052	733.0		-0.70	1833	ISO12185	733.7		0.60
754	D4052	733.2		-0.33	1849	ISO12185	733.30		-0.14
782	D4052	733.8		0.79	1881	ISO12185	733.31		-0.13
785	D4052	733.0		-0.70	1884	D4052	733.11	C	-0.50
824	ISO12185	733.3		-0.14	1936	ISO12185	733.2		-0.33
861	D4052	733.30		-0.14	1937	ISO12185	733.2		-0.33
875	D4052	733.2		-0.33	1938	ISO12185	733.3		-0.14
902	D4052	733.2		-0.33	1941	ISO12185	733.40		0.04
962		----		----	1948	ISO12185	733.4		0.04
970	D4052	733.3		-0.14	1953		----		----
971	D4052	733.3		-0.14	1995	D4052	732.7		-1.26
974	D1298	733.3		-0.14	2129	D4052	733.1		-0.52
994	ISO12185	733.3		-0.14	2130	D4052	733.2		-0.33
1006	D4052	733.6		0.42	2146	ISO12185	733.635		0.48
1011	D4052	733.0		-0.70	6005	ISO12185	734.2		1.54
1033	IP365	733.9		0.98	6016		----		----
1059	ISO12185	733.2		-0.33	6028	ISO12185	733.3		-0.14
1067	ISO12185	733.2		-0.33	6045	D4052	733.22		-0.29
1079	D4052	735.8	R(0.01)	4.52	6046	ISO12185	732.5		-1.64
1082	ISO12185	733.3		-0.14	6047	ISO3675	733.8		0.79
1105	D4052	735.9	R(0.01)	4.71	6049	ISO12185	733.4		0.04
1108	ISO12185	733.47		0.17	6054	D4052	733.32		-0.11
1109	D4052	733.3		-0.14	6075	ISO12185	733.14		-0.44
1126	ISO12185	733.71		0.62	6090		----		----

normality not OK
 n 133
 outliers 5
 mean (n) 733.377
 st.dev. (n) 0.3836
 R(calc.) 1.074
 R(ISO12185:96) 1.500

Lab 1186 first reported: 736.6
 Lab 1266 first reported: 735.3
 Lab 1884 first reported: 735.26



Determination of Distillation at 760 mmHg on sample #16210; results in °C

lab	method	mode	IBP	mark	10% eva	mark	50% eva	mark	90% eva	mark	FBP	mark
92	D86	Automated	27.8		40.9		80.6		142.6		175.3	
132	D86	Automated	26.5		40.0		78.9		142.8		176.0	
140	D86	Automated	26.0		40.1	C	78.9	C	142.6	C	175.0	
150	D86	Automated	29.3		41.1		79.2		141.8		174.4	
158			----		----		----		----		----	
159	D86	Automated	27.6		39.9		78.7		143.1		176.6	
171	D86	Automated	27.5		40.9		79.2		143.0		174.5	
194			----		----		----		----		----	
221	D86	Manual	31.0		42.0		85	C	146.0		179.0	
228	D86	Manual	29.0		40.8		78.4		140.4		178.0	
237	D86	Manual	31.0		42.6		81.2		144.2		178.0	
238	D86	Manual	30.0		42.5		80.5		142.5		179.0	
273	D86	Automated	28.1		42.1		82.3		143.7		175.0	
311	D86	Automated	26.3		41.7		79.7		142.7		176.0	
312	D86	Automated	26.3		39.9		79.1		142.2		174.5	
323	ISO3405	Automated	28.1		40.3		78.4		142.2		173.2	
333	D86	Automated	24.6		41.1		82.4		145.6		175.6	
334	ISO3405	Automated	24.7		39.7		77.7		142.2		172.4	
335	ISO3405	Automated	27.3		40.5		79.7		141.7		175.0	
336	ISO3405	Automated	27.1		40.2		79.6		142.3		176.5	
337			----		----		----		----		----	
338	ISO3405	Automated	26.6		40.3		79.5		142.7		176.4	
340	ISO3405	Automated	26.3		40.7		79.3		142.8		174.3	
343			30.5		40.7		79.2		144.4		173.3	
344			----		----		----		----		----	
353	D86	Automated	27.0		38.9		77.7		142.2		176.5	
369	ISO3405	Automated	26.0		39.9		78.4		143.5		175.7	
370	ISO3405	Automated	27.0		40.2		77.9		143.1		176.0	
371	ISO3405	Automated	26.8		39.5		79.4		144.6		176.0	
381	ISO3405	Automated	28.4		41.7		80.7		144.0		179.1	
391			----		----		----		----		----	
399			----		----		----		----		----	
402	ISO3405	Automated	30.2		41.1		79.2		142.6		179.1	
403			----		----		----		----		----	
420	ISO3405	Automated	24.6		39.2		78.5		141.7		175.3	
431	ISO3405	Automated	29.9		41.3		79.6		141.5		177.6	
433			----		----		----		----		----	
440			29.9		40.1		78.6		142.9		177.8	
444	D86	Automated	23.6		40.0		79.1		142.5		176.7	
445	ISO3405	Automated	29.4		41.0		78.6		142.6		174.7	
447	IP123	Automated	24.7		39.6		77.8		142.0		176.8	
453	IP123	Automated	25.7		40.0		77.9		142.3		172.9	
463	D86	Automated	28.5		40.8		79.8		143.1		177.0	
468			----		----		----		----		----	
485	ISO3405	Automated	28.95		40.35		79.55		143.05		174.40	
494			28.25		40.7		78.4		142.5		173.55	
496	D86	Automated	28		41.8		82.7		146.4		173.3	
541	ISO3405	Automated	26.2		40.2		79.2		142.6		177.6	
631			----		----		----		----		----	
634	D86	Manual	32.5		42.0		81.0		145.5		171.5	
671			----		----		----		----		----	
704	D86	Manual	27.6		40.8		80.6		143.5		178.5	
753	D86	Manual	30.0		41.5		79.5		144.0		176.5	
754	D86	Manual	29.5		41.5		82.5		145.0		177.0	
782	D86	Manual	30.0		41.1		79.9		143.2		175.5	
785	D86	Manual	30.0		42.0		82.5	C	145.5		175.5	
824	D86	Automated	26.7		40.6		79.9		142.9		174.5	
861	D86	Automated	28.4		40.4		79.2		143.1		178.0	
875	D86	Automated	28.2		42.0		81.5		146.7		178.1	
902	ISO3405	Automated	25.9		42.0		82.8		147.2		177.6	
962			----		----		----		----		----	
970	D86	Automated	27.5		41.3		79.3		142.4		176.8	
971	D86	Manual	27.0		41.0		79.0		142.0		177.0	
974	D86	Automated	28.0		41.6		79.6		142.8		176.5	
994	D86	Manual	30.0		39.5		----		145.3		179.0	
1006	D86	Automated	29.9		41.9		81.0		143.0		----	
1011	ISO3405	Manual	24.7		41.0		80.1		142.8		177.0	
1033	IP123	Automated	25.2		41.4		82.7		146.1		175.5	
1059	ISO3405	Automated	27.4		39.2		78.5		142.4		176.4	
1067	D86	Automated	29.7		39.3		78.2		142.7		180.9	
1079	D86	Automated	27.5		39.1		78.4		142.8		178.0	
1082	ISO3405	Automated	24.8		40.0		78.8		142.6		174.0	
1105	D86	Automated	28.2		39.8		77.7		142.5		169.0	
1108	ISO3405	Automated	27.1		40.9		79.7		142.4		176.8	
1109	D86	Automated	25.5		40.1		78.8		142.5		176.2	
1126	ISO3405	Automated	21.8	R(5)	37.2		79.9		144.7		186.8	R(0.01)
1131	ISO3405	Automated	26.6		40.0		78.6		142.8		171.4	

lab	method	mode	IBP	mark	10% eva	mark	50% eva	mark	90% eva	mark	FBP	mark
1134	IP123	Automated	31.3		41.1		80.1		143.3		178.8	
1141	ISO3405	Automated	31.2		41.8		81.5		143.1		175.0	
1143	ISO3405	Automated	30.9		40.5		78.5		141.4		180.6	
1155	ISO3405	Automated	26.6		40.7		80.0		143.6		180.7	
1161	D86	Automated	28.1		40.7		79.9		144.4		179.4	
1162	ISO3405	Manual	34.0	C,R(5)	42.0		81.0		145.0		176.0	
1167			----		----		----		----		----	
1171	ISO3405	Manual	29.58		43.45		80.90		143.90		181.00	
1186	D86	Manual	33	ex,C	44	ex	88	C,R(1)	150	C,R(1)	180	ex
1191	ISO3405	Automated	26.9		40.5		79.1		142.8		175.9	
1194	D86Mod.	Automated	31.5		39	C	74.3	C	144.1	C	178.3	C
1199			----		----		----		----		----	
1229	ISO3405	Automated	26.4		40.0		78.7		142.5		175.4	
1264			----		----		----		----		----	
1266	ISO3405	Automated	29.8		40.7		80.0		143.2		169.3	
1272	ISO3405	Automated	28.70		43.1	C	83.1	C	146.40		176.00	
1291	D86		28.9		41.8		82.9		147.6		174.7	
1299	D86	Automated	26.4		----		----		----		176.5	
1310	ISO3405	Automated	30		38.5		77.3	C	140.8		170.7	
1340	ISO3405	Automated	28.1		40.8	C	62.0	C,R(1)	139.6	C	171.0	
1357	D86	Automated	27.7		41.1		80.0		143.5		178.7	
1389	D86	Automated	24.6	C	41.5	C	81.7	C	146.0	C	177.1	C
1397			30.0	C	40.5	C	79.0	C	142.9	C	181.3	C
1402	ISO3405	Automated	26.2		39.7		79.3		142.7		177.3	
1404	ISO3405	Automated	26.4		39.0		77.4		141.8		174.6	
1409	ISO3405	Automated	26.6		42.2		82.6		144.8		176.4	
1428	ISO3405	Automated	29.4		41.3		80.1		143.1		177.2	
1443	ISO3405	Automated	29.3		40.8		79.0		142.8		175.8	
1459	ISO3405	Automated	26.3		40.3		79.1		142.8		175.6	
1491	ISO3405	Automated	26.7		40.4		78.5		142.7		175.3	
1498	D86	Automated	28.3		40.0		77.9		143.1		176.1	
1528	D86	Automated	27.1		41.7		81.7		143.5		173.8	
1538	ISO3405	Automated	30.1	C	42.1	C	81.6	C	145.1	C	174.1	C
1546	ISO3405	Automated	30.15		39.80		78.00		142.65		176.05	
1549	ISO3405	Automated	29.5		40.9		79.2		143.0		175.9	
1550	D86	Automated	28.82		39.25		78.94	C	142.54		174.28	
1556	ISO3405	Automated	25.7		40.3		79.3		142.6		176.3	
1569	D86	Automated	26.5		40.6		79.3		143.0		176.6	
1586	ISO3405	Automated	26.5		43.2		81.8	C	144.4	C	178.5	
1634	ISO3405	Automated	27.3		40.5		78.7		143.5		178.4	
1636	ISO3405	Automated	25.55		41.30		80.35		142.80		174.6	
1667	ISO3405	Manual	28.5		39.5		79.0		143.0		176.0	
1720			----		----		----		----		----	
1724			----		----		----		----		----	
1728	ISO3405	Manual	27.0		40.65		79.83		144.55		176.45	
1740	ISO3405	Automated	27.8		42.0		80.4		141.3		171.2	
1742	ISO3405	Automated	27.33		38.86		77.81		142.95		177.4	
1776	ISO3405	Automated	27.8		40.1		77.3		142.5		174.2	
1782	D86	Automated	27.4		41.7		83.2		147.0		176.0	
1807	ISO3405	Automated	27.2		41.2		81.0		144.1		175.8	
1811	D86	Automated	27.1		41.5		80.4		142.3		173.8	
1833			----		----		----		----		----	
1849			30.0		41.3		78.8		142.6		175.3	
1881	ISO3405	Manual	27.0		40.0		78.5		142.0		174.0	
1884	ISO3405	Automated	32.4		42.8		81.8	C	145.9		175.7	
1936	ISO3405	Automated	25.9		38.1		79.0		142.8		176.5	
1937	ISO3405	Automated	29.1		41.3		79.3		143.0		176.1	
1938	ISO3405	Automated	27.5		41.7		79.3		141.9		176.0	
1941	ISO3405	Automated	28.3		41.5		80.1		144.2		178.4	
1948	ISO3405	Automated	26.7		38.0		75.5	C	140.3		174.3	
1953	ISO3405	Automated	27.2		39.4		77.8		142.6		175.9	
1995	D86		29		43		79		143		177	
2129	ISO3405	Automated	26.4		40.5		79.3		142.4		177.0	
2130	IP123	Automated	27.5		40.4		78.9		143.2		177.0	
2146			29.5		42.7		83.3		144.2		178.6	
6005	ISO3405	Automated	26.0		42.3		82.8		145.7		175.8	
6016			----		----		----		----		----	
6028	ISO3405	Automated	27.9		40.8		80.9		144.5		173.8	
6045	D86	Automated	28.90		41.45		82.10		145.45		172.30	
6046	ISO3405	Manual	28.0		42.0		84.0	C	140.0		170.0	
6047	ISO3405	Automated	29.2		40.6		79.2		142.9		175.7	
6049	ISO3405	Automated	28.3		42.0		81.0		144.1		178.7	
6054	D86	Automated	27.2		41.6		83.1		146.0		173.0	
6075	ISO3405	Automated	25.6		40.2		79.7		142.8		173.7	
6090			----		----		----		----		----	

	IBP	10% eva	50% eva	90% eva	FBP
normality	OK	OK	OK	OK	OK
n	129	130	128	130	129
outliers	2+1ex	0+1ex	2	1	1+1ex
mean (n)	27.86	40.77	79.79	143.30	175.92
st.dev. (n)	1.792	1.108	1.702	1.460	2.301
R(calc.)	5.02	3.10	4.76	4.09	6.44
R(ISO3405:11)	4.70	3.20	1.88	3.86	6.78

Lab 140 first reported for 10%eva.; 50%eva.; 90%eva. respectively: 41.8; 83.5; 147.0

Lab 221 first reported for 50%eva.: 84

Lab 785 first reported for 50%eva.: 83.5

Lab 1162 first reported for IBP: 33.5

Lab 1186 first reported for IBP; 50%eva.; 90%eva. respectively: 34; 86; 148

Lab 1186: test results of IBP, 10%eva. and FBP are excluded as other test results are outlying results

Lab 1194 first reported for 10%eva.; 50%eva.; 90%eva.; FBP respectively: 45.6; 83.5; 148.1; 286.7

Lab 1272 first reported for 10%eva.; 50%eva. respectively: 45.00; 85.30

Lab 1310 first reported for 50%eva.: 74.3

Lab 1340 first reported for 10%eva.; 50%eva.; 90%eva. respectively: 42.9; 67.4; 146

Lab 1389 first reported for IBP.; 10%eva.; 50%eva.; 90%eva.; FBP respectively: 29.0; 46.0; 84.0; 149.0; 176.0

Lab 1397 first reported for IBP.; 10%eva.; 50%eva.; 90%eva.; FBP respectively: 29.9; 41.9; 84.5; 147.9; 182.0

Lab 1538 first reported for IBP.; 10%eva.; 50%eva.; 90%eva.; FBP respectively: 29.6; 40.9; 79.5; 143.7; 172.4

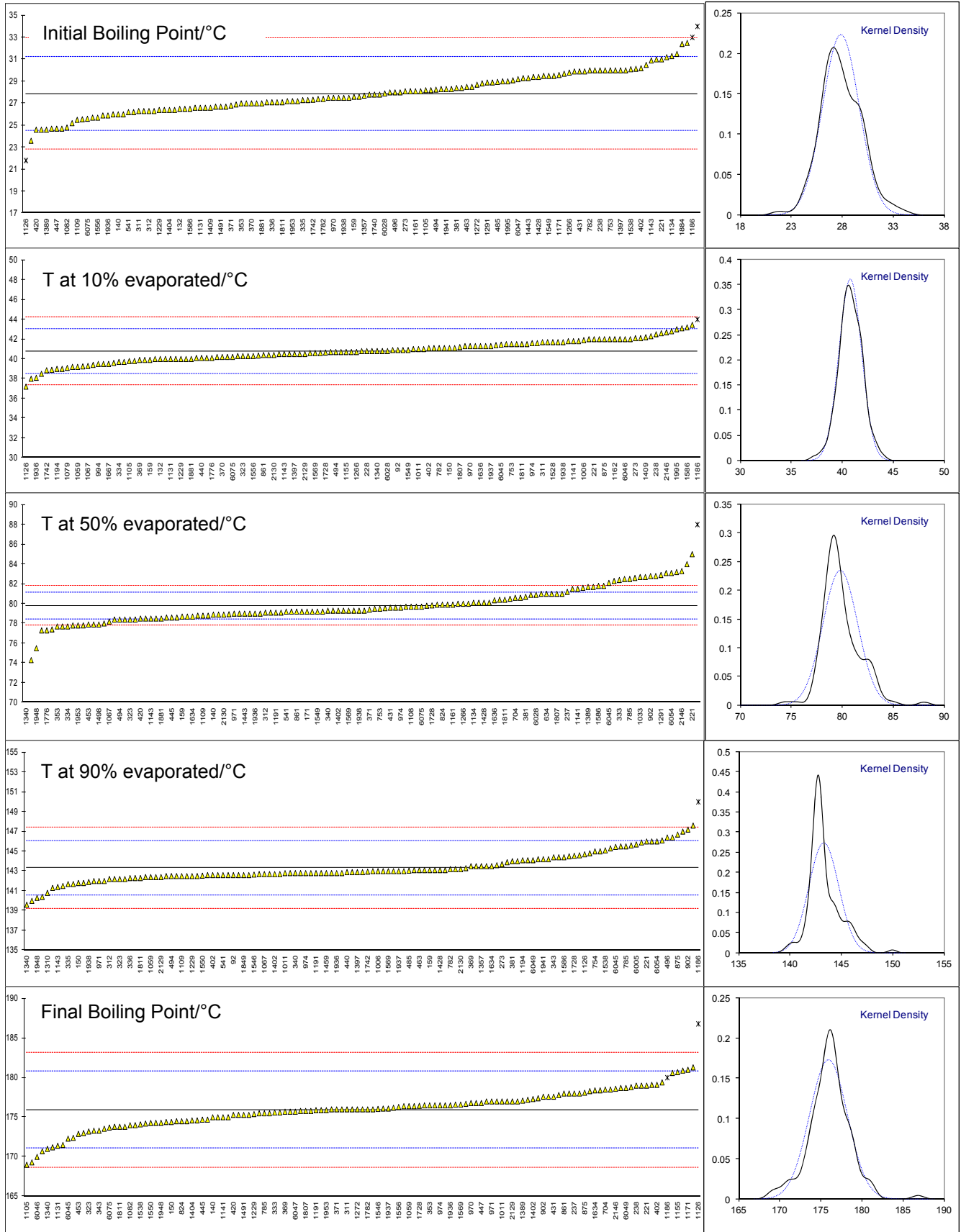
Lab 1550 first reported for 50%eva.: 75.12

Lab 1586 first reported for 50%eva.; 90%eva. respectively: 89.5; 149.1

Lab 1884 first reported for 50%eva.: 85.1

Lab 1948 first reported for 50%eva.: 74.6

Lab 6046 first reported for 50%eva.: 62.0



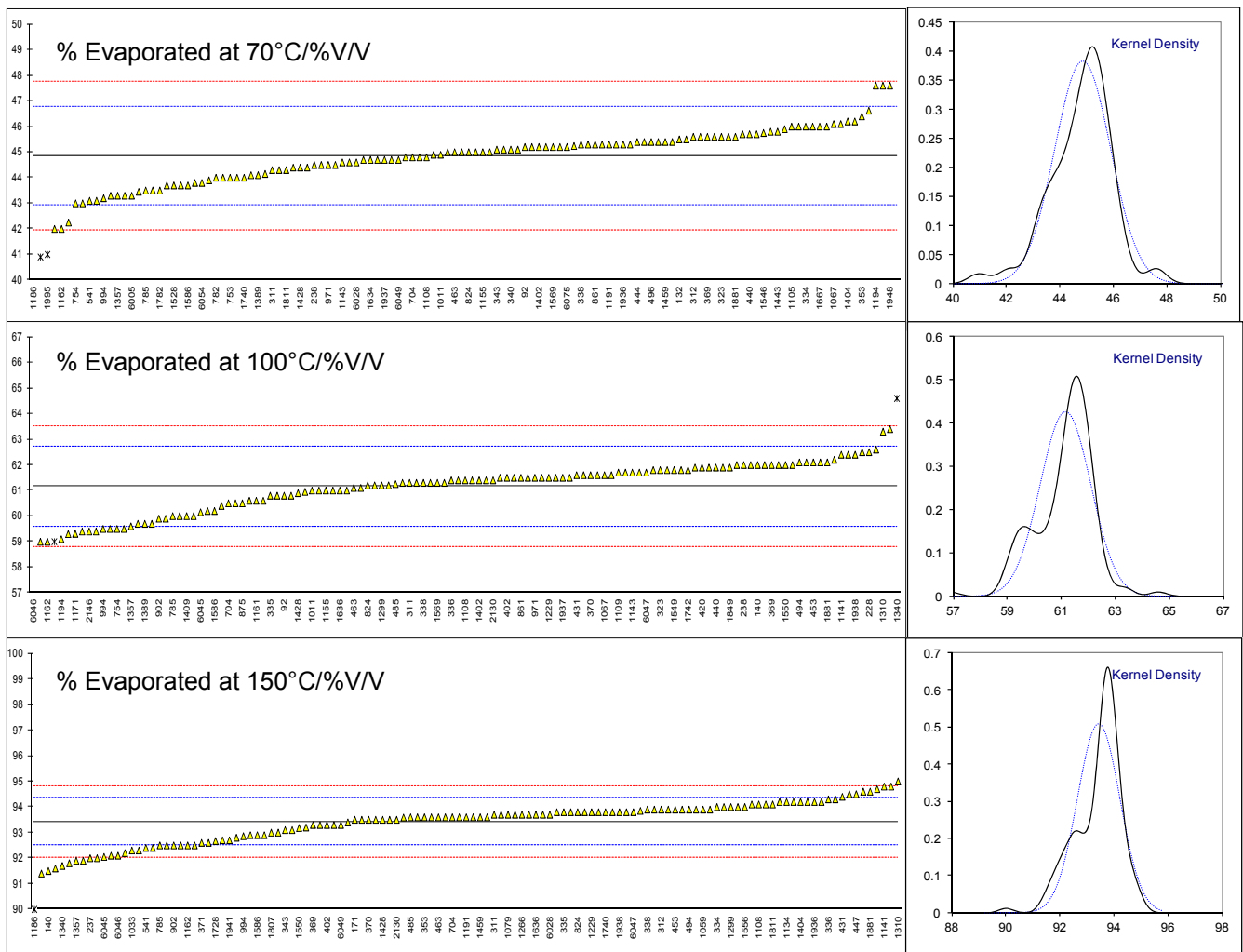
Determination of Distillation at 760 mmHG on sample #16210; results in %V/V ---continued---

lab	method	mode	%E70°C	mark	%E100°C	mark	%E150°C	mark	%residue	mark	% loss	mark
92	D86	Automated	45.2		60.8		93.9		1.2		2.1	
132	D86	Automated	45.5		61.5		93.6		1.0		2.3	
140	D86	Automated	44.8		62.0		91.5		1.0		2.4	
150	D86	Automated	45.0		61.9		94.1		0.8		1.9	
158			----		----		----		----		----	
159	D86	Automated	----		----		----		1.1		2.2	
171	D86	Automated	----		61.3		93.5		1.1		1.2	
194			----		----		----		----		----	
221	D86	Manual	42.0		59.0		92	C	1.0		2.0	
228	D86	Manual	45.0		62.5		94.5		0.6		0.4	
237	D86	Manual	43.0		60.0		92.0		1.0		0.5	
238	D86	Manual	44.5		62.0		92.5		0.5		0.5	
273	D86	Automated	----		----		----		----		----	
311	D86	Automated	44.3		61.3		93.7		1.0		1.2	
312	D86	Automated	45.6		61.4		93.9		0.8		2.0	
323	ISO3405	Automated	45.6		61.8		93.8		1.2		2.5	
333	D86	Automated	45.3		61.2		94.2		----		----	
334	ISO3405	Automated	46.0		62.0		94.0		1.2		1.1	
335	ISO3405	Automated	45.1		60.8		93.8		0.9		1.4	
336	ISO3405	Automated	45.2		61.4		94.3		0.7		1.6	
337			----		----		----		----		----	
338	ISO3405	Automated	45.3		61.3		93.9		1.0		1.4	
340	ISO3405	Automated	45.1		61.4		93.4		1.0		1.3	
343			45.1		62.5		93.1		1.0		5.1	
344			----		----		----		----		----	
353	D86	Automated	46.4		62.0		93.6		1.0		4.1	
369	ISO3405	Automated	45.6		62.0		93.3		1.0		1.0	
370	ISO3405	Automated	44.9		61.6		93.5		1.0		1.5	
371	ISO3405	Automated	44.5		60.5		92.6		1.1		0.9	
381	ISO3405	Automated	44.50		60.80		93.10		1.2		0.9	
391			----		----		----		----		----	
399			----		----		----		----		----	
402	ISO3405	Automated	44.8		61.5		93.3		1.0		2.6	
403			----		----		----		----		----	
420	ISO3405	Automated	45.6	C	61.9		94.6		1.0		1.7	
431	ISO3405	Automated	44.7		61.6		94.4		0		0.9	
433			----		----		----		----		----	
440			45.7		61.9		94.3		1		1	
444	D86	Automated	45.4		61.3		93.6		1.0		1.5	
445	ISO3405	Automated	45.1		62.6		93.8		1.2		3.2	
447	IP123	Automated	46.0		61.9		94.5		1.0		2.1	
453	IP123	Automated	45.8		62.1		93.9		1.1		2.2	
463	D86	Automated	45.0		61.1		93.6		1.0		1.9	
468			----		----		----		----		----	
485	ISO3405	Automated	45.0		61.25		93.60		1.0		2.45	
494			45.4		62.1		93.9		0.95		1.8	
496	D86	Automated	45.4		61.9		93.9		0.9		2.2	
541	ISO3405	Automated	43.1		59.4		92.4	C	1.0		2.0	
631			----		----		----		----		----	
634	D86	Manual	----		----		----		1.0		1.0	
671			----		----		----		----		----	
704	D86	Manual	44.8		60.5		93.6		1.0		2.0	
753	D86	Manual	44.0		61.0		92.5		1.0		1.0	
754	D86	Manual	43.0		59.5		93.5	C	1.5		1.5	
782	D86	Manual	44.0		62.1		93.2		1.0		2.0	
785	D86	Manual	43.5		60.0		92.5	C	1.2		0.8	
824	D86	Automated	45.0		61.2		93.8		1.0		1.4	
861	D86	Automated	45.3		61.5		93.5		1.0		2.3	
875	D86	Automated	43.3		60.5		92.2		1.1		1.8	
902	ISO3405	Automated	43.5		59.9		92.5	C	1		1.8	
962			----		----		----		----		----	
970	D86	Automated	44.3		61.7		93.3		1.0		1.4	
971	D86	Manual	44.5		61.5		94.0		1.0		0.2	
974	D86	Automated	44.1		61.8		92.6		1.0		1.5	
994	D86	Manual	43.2		59.5		92.86		1.0		1.8	
1006	D86	Automated	----		----		----		1.0		0.9	
1011	ISO3405	Manual	44.9		61.0		93.7		1.0		0.4	
1033	IP123	Automated	43.7		59.5		92.3		1.0		1.9	
1059	ISO3405	Automated	45.6		61.3		93.9		1.0		2.7	
1067	D86	Automated	46.1		61.6		93.6		1.2		1.4	
1079	D86	Automated	45.7		61.5		93.7		1.0		4.2	
1082	ISO3405	Automated	45.4		61.5		93.8		0.8		2.3	
1105	D86	Automated	46.0		62.0		93.9		1.0		2.4	
1108	ISO3405	Automated	44.8		61.4		94.1		0.6		1.4	
1109	D86	Automated	45.6		61.7		93.9		0.9		2.4	
1126	ISO3405	Automated	43.8		60.6		92.9		----		----	
1131	ISO3405	Automated	45.5		61.6		93.6		1.0		1.4	

lab	method	mode	%E70°C	mark	%E100°C	mark	%E150°C	mark	%residue	mark	% loss	mark
1134	IP123	Automated	44.0		61.6		94.2		1.1		4.4	
1141	ISO3405	Automated	45.3		62.4		94.8		1.2		1.5	
1143	ISO3405	Automated	44.6		61.7		94.2		0.9		1.5	
1155	ISO3405	Automated	45.0		61.0		93.7		0.9		1.7	
1161	D86	Automated	44.4		60.6		92.3		0.9		----	
1162	ISO3405	Manual	42		59		92.5	C	1.3		1.7	
1167			----		----		----		----		----	
1171	ISO3405	Manual	42.25	C	59.31		93.59		1.00		1.47	
1186	D86	Manual	38	C,R(1)	59	ex	90	C,R(1)	2.0		----	
1191	ISO3405	Automated	45.3		61.5		93.6		1.0		2.2	
1194	D86Mod.	Automated	47.6	C	59.1		92.8	C	1.1		----	
1199			----		----		----		----		----	
1229	ISO3405	Automated	46.1		61.5		93.8		1.0		2.0	
1264			----		----		----		----		----	
1266	ISO3405	Automated	45.24		61.0		93.7		1.0		1.7	
1272	ISO3405	Automated	44.0	C	59.7	C	94.10		2.00		1.10	
1291	D86		----		----		----		1.0		----	
1299	D86	Automated	45.0		61.2		94.0		1.0		0.9	
1310	ISO3405	Automated	47.6		63.3	C	95		0.9		3.5	
1340	ISO3405	Automated	51.1	R(1)	64.6	R(5)	91.7		1.0		2.7	
1357	D86	Automated	43.3		59.6		91.9		1.0		1.3	
1389	D86	Automated	44.1	C	59.7	C	91.9	C	1.0	C	0.9	C
1397			----		----		----		0.9		----	
1402	ISO3405	Automated	45.2		61.4		94.7		1.0		2.5	
1404	ISO3405	Automated	46.2		62.2		94.2		0.8		2.6	
1409	ISO3405	Automated	43.3		60.0		92.4		1.0		1.3	
1428	ISO3405	Automated	44.4		60.9		93.5		1.1		0.7	
1443	ISO3405	Automated	45.8		61.4		93.6		1.0		2.7	
1459	ISO3405	Automated	45.4		61.2		93.6		1.0		2.2	
1491	ISO3405	Automated	45.4		61.8		93.7		1.0		2.0	
1498	D86	Automated	46		62		94		1.0		1.8	
1528	D86	Automated	43.7		60.4		93.3		1		2.5	
1538	ISO3405	Automated	43.7	C	60.2	C	92.5	C	1.0		1.3	
1546	ISO3405	Automated	45.75		61.70		93.85		1.0		2.1	
1549	ISO3405	Automated	45.9		61.8		93.8		1.1		2.6	
1550	D86	Automated	46.62		62.0		93.18		1.1		2.6	
1556	ISO3405	Automated	45.2		61.5		94.0		1.0		2.5	
1569	D86	Automated	45.2		61.3		93.6		1.0		1.2	
1586	ISO3405	Automated	43.7	C	60.2	C	92.9	C	1.0		1.8	
1634	ISO3405	Automated	44.7		62.1		92.7		1.0		1.7	
1636	ISO3405	Automated	44.7		61.0		93.7		1.0		0.6	
1667	ISO3405	Manual	46.0		62.0		93.5		0.8		2.2	
1720			----		----		----		----		----	
1724			----		----		----		----		----	
1728	ISO3405	Manual	44.15		60.95		92.67		1.25		0.75	
1740	ISO3405	Automated	44.0		61.8		93.8	C	1.1		2.1	
1742	ISO3405	Automated	46.0		61.8		94.2		1		4	
1776	ISO3405	Automated	46.2		62.4		93.9		1.0		2.9	
1782	D86	Automated	43.5		59.3		91.4		0.9		2.3	
1807	ISO3405	Automated	44.4		60.6		93.0		1.6		1.5	
1811	D86	Automated	44.3		61.1		94.1		0.7		0	
1833			----		----		----		----		----	
1849			45.3		61.9		93.8		1		----	
1881	ISO3405	Manual	45.6		62.1		94.6		0.9		1.1	
1884	ISO3405	Automated	43.9	C	59.7		91.8		1.0		2.0	
1936	ISO3405	Automated	45.3		61.6		94.2		1.0		2.2	
1937	ISO3405	Automated	44.7		61.5		93.7		1.0		1.7	
1938	ISO3405	Automated	44.6		62.4		93.8		1.0		1.5	
1941	ISO3405	Automated	44.7		61.0		92.7		1.0		1.7	
1948	ISO3405	Automated	47.6		63.4		94.8		1.0		4.2	
1953	ISO3405	Automated	----		----		----		1.00		2.2	
1995	D86		41	R(5)	60		93		1.5		1.5	
2129	ISO3405	Automated	45.2		61.5		93.8		1.1		2.8	
2130	IP123	Automated	45.3		61.4		93.5		1.0		2.5	
2146			43.1		59.4		92.9		1.5		1.6	
6005	ISO3405	Automated	43.3		59.5		92.1		1.5		1.5	
6016			----		----		----		----		----	
6028	ISO3405	Automated	44.6		59.9		93.7		1		1.1	
6045	D86	Automated	43.45		60.15		92.05		1.2		1.2	
6046	ISO3405	Manual	40.9	C,R(5)	56.9	C,R(1)	92.1		0.9		3.0	
6047	ISO3405	Automated	45.7		61.7		93.8		1.0		3.2	
6049	ISO3405	Automated	44.7		60.8		93.3		1.1		0.5	
6054	D86	Automated	43.8		59.4		91.6		1.1		2.2	
6075	ISO3405	Automated	45.2		61.3		94.2		1.4		1.6	
6090			----		----		----		----		----	

	%E70°C	%E100°C	%E150°C
normality	OK	OK	OK
n	120	122	124
outliers	4	2+1ex	1
mean (n)	44.845	61.163	93.420
st.dev. (n)	1.0458	0.9384	0.7849
R(calc.)	2.928	2.628	2.198
R(ISO3405:11)	2.700	2.200	1.300

- Lab 221 first reported for %E150°C: 91
- Lab 420 first reported for %E70°C: 75.6
- Lab 541 first reported for %E150°C: 91.4
- Lab 754 first reported for %E150°C: 95.5
- Lab 785 first reported for %E150°C: 91.5
- Lab 902 first reported for %E150°C: 91.5
- Lab 1162 first reported for %E150°C: 91
- Lab 1171 first reported for %E70°C: 40.79
- Lab 1186 first reported for %E70°C and %E150°C respectively: 39 and 91
- Lab 1186: test result of %E100°C is excluded as other test results are outlying results
- Lab 1194 first reported for %E70°C and %E150°C respectively: 40.3 and 91.6
- Lab 1272 first reported for %E70°C and %E100°C respectively: 41.20 and 64.10
- Lab 1310 first reported for %E100°C: 63.8
- Lab 1389 first reported for %E70°C; %E100°C; %E150°C; Residue; Loss respectively: 40.0; 58.4; 90.4; 0.7; 0.3
- Lab 1538 first reported for %E70°C; %E100°C; %E150°C respectively: 43.0; 59.4; 91.4
- Lab 1586 first reported for %E70°C; %E100°C; %E150°C respectively: 39.8; 56.1; 90.9
- Lab 1740 first reported for %E150°C: 96.0
- Lab 1884 first reported for %E70°C: 40.1
- Lab 6046 first reported for %E70°C and %E100°C respectively: 53.1 and 67.1



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Determination of Doctor Test on sample #16210;

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
92	D4952	Negative		----	1131		----		----
132	D4952	Negative		----	1134	IP30	Negative		----
140	D4952	Negative		----	1141	ISO5275	negative		----
150	D4952	Neg		----	1143	ISO5275	Negative		----
158		----		----	1155	D4952	negative		----
159	D4952	negative		----	1161		----		----
171	D4952	negative		----	1162	D4952	negative		----
194		----		----	1167		----		----
221		----		----	1171		----		----
228		----		----	1186		----		----
237	D4952	Negative		----	1191		----		----
238	D4952	Negative		----	1194		----		----
273		----		----	1199		----		----
311		----		----	1229		----		----
312	IP30	Negative		----	1264		----		----
323	D4952	negative		----	1266		----		----
333		----		----	1272		----		----
334	D4952	negative		----	1291		----		----
335		----		----	1299		----		----
336	D4952	negative		----	1310		----		----
337		----		----	1340	D4952	negative		----
338		----		----	1357	D4952	Negative		----
340		----		----	1389	IP30	Negative		----
343		----		----	1397		----		----
344		----		----	1402	IP30	Negative		----
353		----		----	1404	IP30	NEGATIF		----
369	IP30	negative		----	1409		----		----
370	D4952	negative		----	1428	D4952	Negative		----
371	D4952	negative		----	1443		----		----
381		----		----	1459		----		----
391	IP30	Negative		----	1491		----		----
399		----		----	1498		----		----
402	D4952	negativ		----	1528		----		----
403		----		----	1538		----		----
420		----		----	1546		----		----
431		----		----	1549		----		----
433		----		----	1550		----		----
440	IP30	Negative		----	1556	D4952	Negative		----
444		----		----	1569		----		----
445	IP30	Negative		----	1586		----		----
447	D4952	Negative		----	1634		----		----
453		----		----	1636	D4952	Negative		----
463	IP30	Neg		----	1667		----		----
468		----		----	1720		----		----
485		----		----	1724		----		----
494		----		----	1728	D4952	Negative		----
496		----		----	1740		----		----
541	IP30	Negative		----	1742		----		----
631		----		----	1776		----		----
634		----		----	1782	D4952	Negative		----
671		----		----	1807	D4952	Negative		----
704	D4952	Negative		----	1811		----		----
753		----		----	1833		----		----
754		----		----	1849	INH-2884	Negative		----
782		----		----	1881		----		----
785		----		----	1884		----		----
824	D4952	Negative		----	1936		----		----
861	D4952	Negative		----	1937		----		----
875	D4952	negative		----	1938		----		----
902		----		----	1941		----		----
962		----		----	1948		----		----
970	D4952	Negative		----	1953		----		----
971	D4952	Negative		----	1995		----		----
974	IP30	Negative		----	2129	IP30	Negative		----
994	D4952	negative		----	2130	IP30	Negative		----
1006		----		----	2146		----		----
1011		----		----	6005		----		----
1033		----		----	6016		----		----
1059	ISO5275	negative		----	6028		----		----
1067	IP30	negative		----	6045	D4952	pass		----
1079	IP30	positive mercaptans f+?		----	6046		----		----
1082		----		----	6047		----		----
1105	D4952	negative		----	6049	IP30	Negative		----
1108		----		----	6054	D4952	Negative		----
1109	IP30	Negative		----	6075		----		----
1126		----		----	6090		----		----

normality	n.a.
n	56
outliers	1
mean (n)	Negative
st.dev. (n)	n.a.
R(calc.)	n.a.
R(lit.)	n.a.

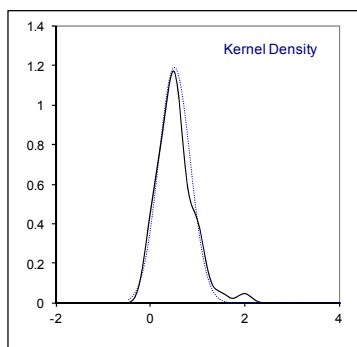
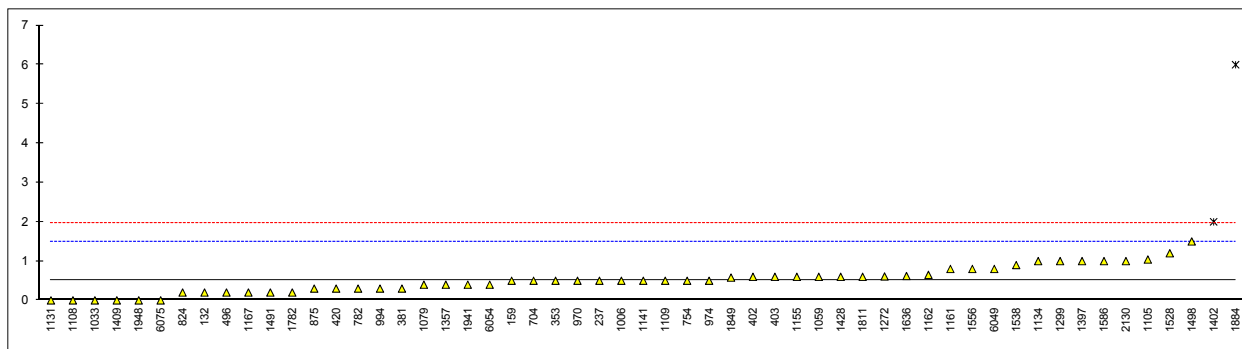
Lab 1079 possibly a false positive test result?

Determination of Existent Gum (solvent washed) on sample #16210; results in mg/100mL

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
92		----		----	1131	ISO6246	0.0		-1.07
132	D381	0.2		-0.66	1134	IP131	1		1.00
140	D381	<0.5		----	1141	D381	0.5		-0.04
150	D381	<0.5		----	1143		----		----
158		----		----	1155	ISO6246	0.6		0.17
159	D381	0.5		-0.04	1161	ISO6246	0.8		0.59
171	D381	<0.5		----	1162	D381	0.65		0.28
194		----		----	1167	ISO6246	0.2		-0.66
221		----		----	1171		----		----
228		----		----	1186		----		----
237	D381	0.5		-0.04	1191		----		----
238		----		----	1194		----		----
273	D381	<0.5		----	1199		----		----
311		----		----	1229		----		----
312	D381	<1		----	1264		----		----
323	ISO6246	<0.5		----	1266		----		----
333		----		----	1272	ISO6246	0.61		0.19
334	ISO6246	<1		----	1291	D381	<0.5		----
335		----		----	1299	D381	1.0		1.00
336		----		----	1310		----		----
337		----		----	1340	ISO6246	<1,0		----
338		----		----	1357	D381	0.4		-0.24
340	ISO6246	<1		----	1389	D381	< 0.5		----
343	D381	<0.5		----	1397	ISO6246	1.0		1.00
344		----		----	1402		2.0	R(0.01)	3.08
353	IP131	0.5		-0.04	1404	ISO6246	<1		----
369	ISO6246	<0.5		----	1409	ISO6246	0		-1.07
370	ISO6246	<1		----	1428	ISO6246	0.6		0.17
371		----		----	1443		----		----
381	ISO6246	0.3		-0.45	1459		----		----
391		----		----	1491	ISO6246	0.2		-0.66
399		----		----	1498	D381	1.5		2.04
402	ISO6246	0.6		0.17	1528	ISO6246	1.2		1.42
403	ISO6246	0.6		0.17	1538	ISO6246	0.9		0.80
420	ISO6246	0.3		-0.45	1546		----		----
431		----		----	1549		----		----
433		----		----	1550		----		----
440		----		----	1556	ISO6246	0.8		0.59
444		----		----	1569	ISO6246	<1		----
445	D381	<0.5		----	1586	ISO6246	1		1.00
447	IP131	<0.5		----	1634		----		----
453	IP131	<0.5		----	1636	ISO6246	0.62		0.21
463	ISO6246	<0,5		----	1667		----		----
468	D381	<1.0		----	1720		----		----
485		----		----	1724		----		----
494	ISO6246	<0,5		----	1728		----		----
496	ISO6246	0.2		-0.66	1740		----		----
541	D381	<0.5		----	1742		----		----
631		----		----	1776		----		----
634		----		----	1782	D381	0.20		-0.66
671	D381	<0.5		----	1807	ISO6246	<1.0		----
704	ISO6246	0.5		-0.04	1811	ISO6246	0.6		0.17
753		----		----	1833		----		----
754	D381	0.5		-0.04	1849	ISO6246	0.58		0.13
782	D381	0.3		-0.45	1881		----		----
785		----		----	1884	ISO6246	6	C,R(0.01)	11.39
824	D381	0.2		-0.66	1936		----		----
861	D381	<0.5		----	1937		----		----
875	D381	0.30		-0.45	1938		----		----
902		----		----	1941	ISO6246	0.4		-0.24
962		----		----	1948	ISO6246	0		-1.07
970	D381	0.5		-0.04	1953		----		----
971		----		----	1995		----		----
974	D381	0.5		-0.04	2129	ISO6246	<1		----
994	D381	0.3		-0.45	2130	IP131	1		1.00
1006	D381	0.5		-0.04	2146		----		----
1011	ISO6246	<1		----	6005		----		----
1033	IP131	0.00		-1.07	6016		----		----
1059	ISO6246	0.6		0.17	6028		----		----
1067	D381	< 0.5		----	6045		----		----
1079	D381	0.4		-0.24	6046		----		----
1082		----		----	6047		----		----
1105	D381	1.04		1.09	6049	ISO6246	0.8		0.59
1108	ISO6246	0		-1.07	6054	ISO6246	0.400		-0.24
1109	D381	0.5		-0.04	6075	ISO6246	0.0		-1.07
1126		----		----	6090		----		----

normality OK
 n 53
 outliers 2
 mean (n) 0.517
 st.dev. (n) 0.3352
 R(calc.) 0.938
 R(ISO6246:95) 1.348

Lab 1884 first reported: 3



Determination of Lead as Pb on sample #16210; results in mg/L

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
92		----		----	1131	EN237	<2,5		----
132	D3237	<2.5		----	1134		----		----
140	D3237	<2.5		----	1141		----		----
150	D3237	<2.5		----	1143	EN237	< 2,5		----
158		----		----	1155		----		----
159		----		----	1161		----		----
171	D3237	<0.1		----	1162	D3237	<2.5		----
194		----		----	1167	EN237	<2.5		----
221		----		----	1171	D5059	0.5		----
228		----		----	1186		----		----
237	IP352	<2.5		----	1191	In house	0		----
238		----		----	1194		----		----
273		----		----	1199		----		----
311		----		----	1229		<0,025	U	----
312	EN237	<2.5		----	1264		----		----
323	EN237	<2.5		----	1266		----		----
333		----		----	1272	EN237	1.1		----
334		----		----	1291		----		----
335		----		----	1299		----		----
336		----		----	1310		----		----
337		----		----	1340	EN237	<2,5		----
338		----		----	1357		----		----
340		----		----	1389	D3237	< 2.5		----
343		----		----	1397		----		----
344		----		----	1402	EN237	0.0		----
353		----		----	1404	EN237	1.7		----
369		----		----	1409	EN237	< 2.5		----
370		----		----	1428	EN237	<2,5		----
371	EN237	<2.5		----	1443	EN237	<2,5		----
381	EN237	<2,5		----	1459	In house	0		----
391		----		----	1491		----		----
399		----		----	1498		----		----
402	EN237	<2,5		----	1528	EN237	<2.5		----
403	EN237	<2.5		----	1538	EN237	<2,5		----
420	EN237	<0,5		----	1546		----		----
431		----		----	1549		----		----
433		----		----	1550		----		----
440		----		----	1556		----		----
444		----		----	1569	In house	0.4	U	----
445	IP428	<2.5		----	1586	D3237	0		----
447	EN237	<2.5		----	1634		----		----
453		----		----	1636	IP352	0.6	C	----
463		----		----	1667		----		----
468		----		----	1720		----		----
485		----		----	1724		----		----
494		----		----	1728	EN237	<2.5		----
496	EN237	<0.1		----	1740		----		----
541	D3237	<2.5		----	1742		----		----
631		----		----	1776		----		----
634		----		----	1782	D3237	<2.5		----
671		----		----	1807		----		----
704	EN237	< 2.5		----	1811		----		----
753		----		----	1833		----		----
754		----		----	1849	EN237	< 2,5		----
782		----		----	1881		----		----
785		----		----	1884		----		----
824		----		----	1936		----		----
861	D3237	<2.5		----	1937		----		----
875	EN237	<2.5		----	1938		----		----
902		----		----	1941	EN237	< 2,5		----
962		----		----	1948	EN237	<0.1		----
970		----		----	1953		----		----
971		----		----	1995		----		----
974		----		----	2129	EN237	<2.5		----
994		----		----	2130	IP352	<2.5		----
1006	D3237	<0.0025	U	----	2146	In house	0.37		----
1011	EN237	<3.0		----	6005		----		----
1033		----		----	6016		----		----
1059	EN13727Mod.	0.670		----	6028		----		----
1067	EN237	< 0.01		----	6045		----		----
1079	EN237 Annex A	<3.0		----	6046	D3237	0.85		----
1082		----		----	6047		----		----
1105	D7111	<0.1		----	6049	EN237	< 2.50		----
1108		----		----	6054	D5059	0.003		----
1109		----		----	6075	EN237	<2.5		----
1126		----		----	6090		----		----

normality	n.a.
n	56
outliers	0
mean (n)	<2.5
st.dev. (n)	n.a.
R(calc.)	n.a.
R(EN237:04)	n.a.

Application range: 2.5 – 10 mg/L

Lab 1636 first reported: 0.0006 mg/L

Labs 1006, 1229 reported probably in a different unit

Lab 1569 reported test result in mg/kg

Determination of Manganese as Mn on sample #16210; results in mg/L

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
92		----		----	1131	EN16135	<2,0		----
132	D3831	<0.25		----	1134		----		----
140	D3831	<0.25		----	1141		----		----
150		----		----	1143	EN16135	< 2,0		----
158		----		----	1155		----		----
159		----		----	1161		----		----
171	D3831	<0.25		----	1162	D3831	<0.3		----
194		----		----	1167	EN16135	<2		----
221		----		----	1171		----		----
228		----		----	1186		----		----
237		----		----	1191		----		----
238		----		----	1194		----		----
273		----		----	1199		----		----
311		----		----	1229		----		----
312	EN16136	<0.5		----	1264		----		----
323	EN16135	<2.0		----	1266		----		----
333		----		----	1272	EN16135	0.47		----
334		----		----	1291		----		----
335		----		----	1299		----		----
336		----		----	1310		----		----
337		----		----	1340	EN16135	<2,0		----
338		----		----	1357		----		----
340	EN16136	<0.5		----	1389	D3831	< 0.25		----
343		----		----	1397		----		----
344		----		----	1402	EN16135	0.1		----
353		----		----	1404	EN16135	<0.8		----
369	EN16136	<1		----	1409		----		----
370		----		----	1428	EN16135	<0,5		----
371	EN16135	<2.0		----	1443	EN16135	<2,0		----
381	EN16135	<2,0		----	1459		----		----
391		----		----	1491		----		----
399		----		----	1498		----		----
402	EN16135	<2		----	1528	EN16135	<1		----
403	EN16136	<0.5		----	1538	EN16135	<2,0		----
420	EN16135	<0,5		----	1546		----		----
431		----		----	1549		----		----
433		----		----	1550		----		----
440		----		----	1556		----		----
444		----		----	1569	In house	<0.1	U	----
445	EN16135	<0.20		----	1586		----		----
447	EN16135	<2.0		----	1634		----		----
453		----		----	1636		----		----
463		----		----	1667		----		----
468		----		----	1720		----		----
485		----		----	1724		----		----
494	EN16136	0		----	1728		----		----
496		----		----	1740		----		----
541	D3831	<0.25		----	1742		----		----
631		----		----	1776		----		----
634		----		----	1782	EN16136	0.90		----
671		----		----	1807		----		----
704	EN16135	< 2		----	1811		----		----
753		----		----	1833		----		----
754		----		----	1849		----		----
782		----		----	1881		----		----
785		----		----	1884		----		----
824		----		----	1936		----		----
861	D3831	<0.25		----	1937		----		----
875		<2		----	1938		----		----
902		----		----	1941	EN16135	< 2,0		----
962		----		----	1948	EN16135	<0.1		----
970		----		----	1953		----		----
971		----		----	1995		----		----
974		----		----	2129	D3831	<0.25		----
994		----		----	2130		----		----
1006		----		----	2146	In house	<0,2		----
1011		----		----	6005		----		----
1033		----		----	6016		----		----
1059		----		----	6028		----		----
1067		----		----	6045		----		----
1079	EN16135	<0.5		----	6046		----		----
1082		----		----	6047		----		----
1105	D7111	0.03		----	6049	EN16136	< 0.50		----
1108		----		----	6054		----		----
1109		----		----	6075		----		----
1126		----		----	6090		----		----

normality	n.a.
n	41
outliers	0
mean (n)	<2
st.dev. (n)	n.a.
R(calc.)	n.a.
R(EN16135:11)	n.a.

Application range EN16135:11: 2 – 8 mg/L
Application range EN16136:15: 0.5 – 7.5 mg/L

Lab 1569 reported test result in mg/kg

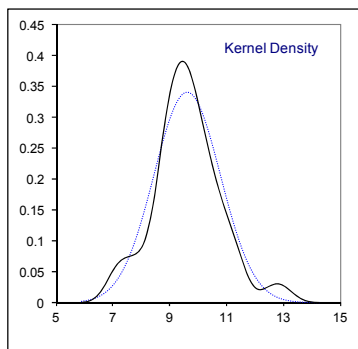
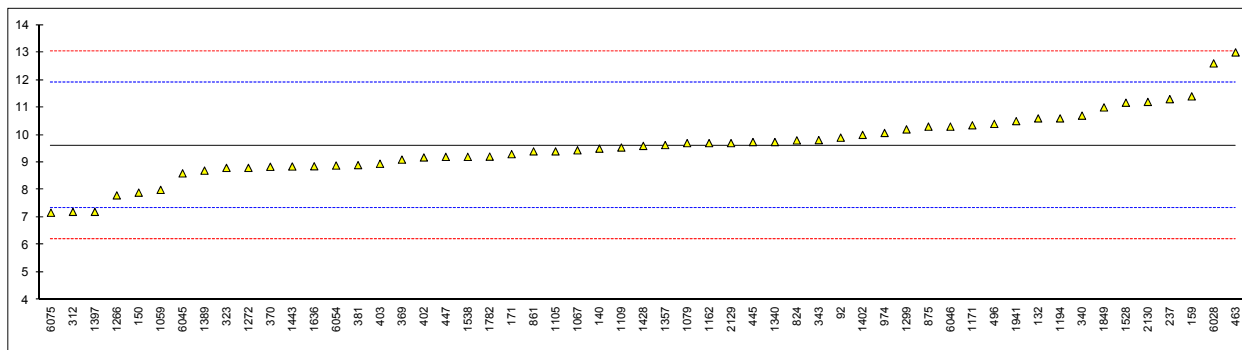
Determination of Olefins by FIA without oxygenates correction on sample #16210; results in %V/V

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
92	D1319	9.9		0.25	1131		----		----
132	D1319	10.6		0.86	1134		----		----
140	D1319	9.5		-0.10	1141		----		----
150	D1319	7.9		-1.51	1143		----		----
158		----		----	1155		----		----
159	D1319	11.4		1.57	1161		----		----
171	D1319	9.3		-0.28	1162	D1319	9.7		0.07
194		----		----	1167		----		----
221		----		----	1171	D1319Mod.	10.35		0.64
228		----		----	1186		----		----
237	D1319	11.3		1.48	1191		----		----
238		----		----	1194	D1319Mod.	10.6		0.86
273		----		----	1199		----		----
311		----		----	1229		----		----
312	EN15553	7.2		-2.13	1264		----		----
323	D1319	8.8		-0.72	1266		7.8		-1.60
333		----		----	1272	INH-46	8.80		-0.72
334		----		----	1291		----		----
335		----		----	1299	D1319	10.2		0.51
336		----		----	1310		----		----
337		----		----	1340	D1319	9.74		0.11
338		----		----	1357	D1319	9.63		0.01
340	EN15553	10.7		0.95	1389	D1319	8.7		-0.81
343	D1319	9.81		0.17	1397	D1319	7.2		-2.13
344		----		----	1402	D1319	10.0		0.34
353		----		----	1404		----		----
369	EN15553	9.1		-0.45	1409		----		----
370	EN15553	8.84		-0.68	1428	EN15553	9.6		-0.01
371		----		----	1443	EN15553	8.85		-0.67
381	EN15553	8.9		-0.63	1459		----		----
391		----		----	1491		----		----
399		----		----	1498		----		----
402	D1319	9.18		-0.38	1528	D1319	11.17		1.37
403	EN15553	8.95		-0.59	1538	EN15553	9.2		-0.37
420		----		----	1546		----		----
431		----		----	1549		----		----
433		----		----	1550		----		----
440		----		----	1556		----		----
444		----		----	1569		----		----
445	D1319	9.74		0.11	1586		----		----
447	EN15553	9.2		-0.37	1634		----		----
453		----		----	1636	EN15553	8.86		-0.67
463	D1319	13.0		2.98	1667		----		----
468		----		----	1720		----		----
485		----		----	1724		----		----
494		----		----	1728		----		----
496	D1319	10.40		0.69	1740		----		----
541		----		----	1742		----		----
631		----		----	1776		----		----
634		----		----	1782	D1319	9.21		-0.36
671		----		----	1807		----		----
704		----		----	1811		----		----
753		----		----	1833		----		----
754		----		----	1849	EN15553	11		1.22
782		----		----	1881		----		----
785		----		----	1884		----		----
824	D1319	9.8		0.16	1936		----		----
861	D1319	9.4		-0.19	1937		----		----
875	D1319	10.3		0.60	1938		----		----
902		----		----	1941	EN15553	10.50		0.78
962		----		----	1948		----		----
970		----		----	1953		----		----
971		----		----	1995		----		----
974	D1319	10.07		0.40	2129	EN15553	9.7	C	0.07
994		----		----	2130	D1319	11.2		1.39
1006		----		----	2146		----		----
1011		----		----	6005		----		----
1033		----		----	6016		----		----
1059	EN15553	8.0		-1.42	6028	D1319	12.6	C	2.62
1067	D1319	9.44		-0.16	6045	D1319	8.6		-0.89
1079	D1319	9.7		0.07	6046	D1319	10.3		0.60
1082		----		----	6047		----		----
1105	D1319	9.4		-0.19	6049		----		----
1108		----		----	6054	D1319	8.8850		-0.64
1109	D1319	9.54		-0.07	6075	EN15553	7.17		-2.15
1126		----		----	6090		----		----

normality	suspect
n	55
outliers	0
mean (n)	9.617
st.dev. (n)	1.1728
R(calc.)	3.284
R(EN15553:07)	3.183

Lab 2129 first reported: 13.9

Lab 6028 first reported: 15

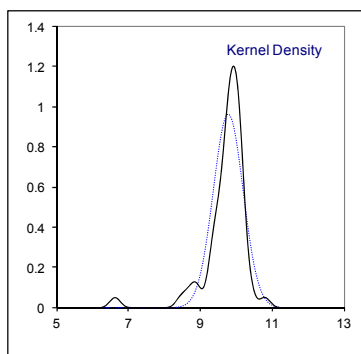
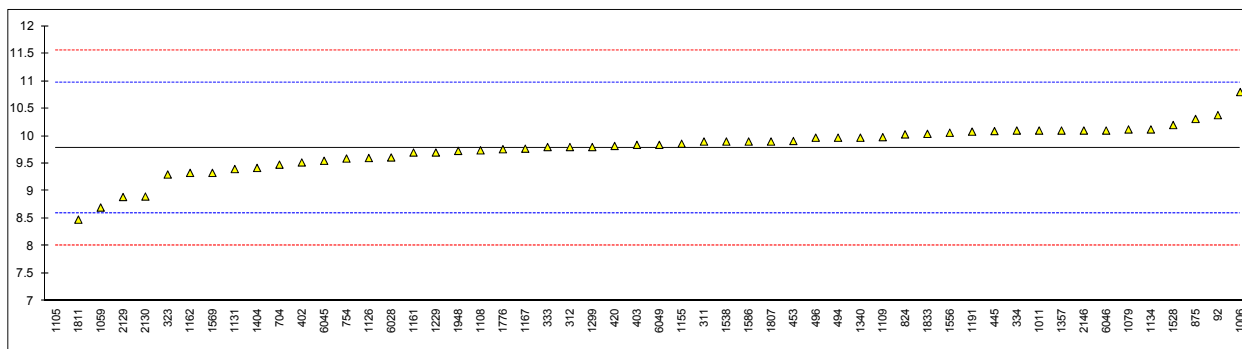


Determination of Olefins by GC on sample #16210; results in %V/V

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
92	see below	10.38		1.01	1131	ISO22854	9.40		-0.64
132		----		----	1134	ISO22854	10.12		0.57
140		----		----	1141		----		----
150		----		----	1143		----		----
158		----		----	1155	ISO22854	9.86		0.13
159		----		----	1161	ISO22854	9.70		-0.14
171		----		----	1162	D6839	9.33		-0.76
194		----		----	1167	ISO22854	9.77		-0.02
221		----		----	1171		----		----
228		----		----	1186		----		----
237		----		----	1191	ISO22854	10.08		0.50
238		----		----	1194		----		----
273		----		----	1199		----		----
311	ISO22854	9.9		0.20	1229	ISO22854	9.7		-0.14
312	ISO22854	9.8		0.03	1264		----		----
323	ISO22854	9.3		-0.81	1266		----		----
333	ISO22854	9.8		0.03	1272		----		----
334	ISO22854	10.1		0.54	1291		----		----
335		----		----	1299	ISO22854	9.8		0.03
336		----		----	1310		----		----
337		----		----	1340	ISO22854	9.97		0.32
338		----		----	1357	D6839	10.10		0.54
340		----		----	1389		----		----
343		----		----	1397		----		----
344		----		----	1402		----		----
353		----		----	1404	ISO22854	9.42		-0.61
369		----		----	1409		----		----
370		----		----	1428		----		----
371		----		----	1443		----		----
381		----		----	1459		----		----
391		----		----	1491		----		----
399		----		----	1498		----		----
402	ISO22854	9.52		-0.44	1528	ISO22854	10.20		0.71
403	ISO22854	9.84		0.10	1538	ISO22854	9.90		0.20
420	ISO22854	9.82		0.07	1546		----		----
431		----		----	1549		----		----
433		----		----	1550		----		----
440		----		----	1556	ISO22854	10.06		0.47
444		----		----	1569	ISO22854	9.33		-0.76
445	ISO22854	10.09		0.52	1586	ISO22854	9.9		0.20
447		----		----	1634		----		----
453	ISO22854	9.91		0.22	1636		----		----
463		----		----	1667		----		----
468		----		----	1720		----		----
485		----		----	1724		----		----
494	ISO22854	9.97		0.32	1728		----		----
496	ISO22854	9.97		0.32	1740		----		----
541		----		----	1742		----		----
631		----		----	1776	ISO22854	9.76		-0.04
634		----		----	1782		----		----
671		----		----	1807	ISO22854	9.9		0.20
704	D6730	9.4798		-0.51	1811	ISO22854	8.48		-2.19
753		----		----	1833	ISO22854	10.04		0.44
754	D6729	9.591		-0.32	1849		----		----
782		----		----	1881		----		----
785		----		----	1884		----		----
824	D6839	10.03		0.42	1936		----		----
861		----		----	1937		----		----
875	D6729	10.311		0.89	1938		----		----
902		----		----	1941		----		----
962		----		----	1948	ISO22854	9.73		-0.09
970		----		----	1953		----		----
971		----		----	1995		----		----
974		----		----	2129	D6730	8.891		-1.50
994		----		----	2130	D6730	8.9		-1.48
1006	D6730	10.8		1.72	2146	ISO22854	10.1		0.54
1011	ISO22854	10.1		0.54	6005		----		----
1033		----		----	6016		----		----
1059	ISO22854	8.7		-1.82	6028	ISO22854	9.61		-0.29
1067		----		----	6045	D6839	9.55		-0.39
1079	ISO22854	10.12		0.57	6046	ISO22854	10.1		0.54
1082		----		----	6047		----		----
1105	D6839	6.64	C,R(0.01)	-5.29	6049	ISO22854	9.84		0.10
1108	ISO22854	9.74		-0.07	6054		----		----
1109	D6839	9.98		0.34	6075		----		----
1126	EN14517	9.60		-0.30	6090		----		----

normality not OK
 n 53
 outliers 1
 mean (n) 9.781
 st.dev. (n) 0.4135
 R(calc.) 1.158
 R(ISO22854-A:16) 1.662

Lab 92 used test method: CAN/CGSB-3.0/14.3-99
 Lab 1105 first reported: 13.00



Determination of Olefins by GC on sample #16210; results in %M/M

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
92	see below	9.52		----	1131	ISO22854	8.71		----
132		----		----	1134	ISO22854	9.34		----
140		----		----	1141		----		----
150		----		----	1143		----		----
158		----		----	1155		----		----
159		----		----	1161	ISO22854	8.90		----
171		----		----	1162	D6839	8.44		----
194		----		----	1167		----		----
221		----		----	1171		----		----
228		----		----	1186		----		----
237		----		----	1191		----		----
238		----		----	1194		----		----
273		----		----	1199		----		----
311	ISO22854	8.9		----	1229		----		----
312	ISO22854	9.0		----	1264		----		----
323	ISO22854	9.0		----	1266		----		----
333		----		----	1272		----		----
334	ISO22854	9.3		----	1291		----		----
335		----		----	1299		----		----
336		----		----	1310		----		----
337		----		----	1340	ISO22854	9.17		----
338		----		----	1357	D6839	9.28		----
340		----		----	1389		----		----
343		----		----	1397		----		----
344		----		----	1402		----		----
353		----		----	1404	ISO22854	8.73		----
369		----		----	1409		----		----
370		----		----	1428		----		----
371		----		----	1443		----		----
381		----		----	1459		----		----
391		----		----	1491		----		----
399		----		----	1498		----		----
402	ISO22854	8.74		----	1528	ISO22854	9.39		----
403	ISO22854	9.09		----	1538		----		----
420	ISO22854	8.96		----	1546		----		----
431		----		----	1549		----		----
433		----		----	1550		----		----
440		----		----	1556		----		----
444		----		----	1569	ISO22854	8.37		----
445	ISO22854	9.27		----	1586	ISO22854	9.1		----
447		----		----	1634		----		----
453		----		----	1636		----		----
463		----		----	1667		----		----
468		----		----	1720		----		----
485		----		----	1724		----		----
494	ISO22854	9.13		----	1728		----		----
496	ISO22854	9.17		----	1740		----		----
541		----		----	1742		----		----
631		----		----	1776		----		----
634		----		----	1782		----		----
671		----		----	1807		----		----
704	D6730	8.6773		----	1811		----		----
753		----		----	1833		----		----
754	D6729	8.776		----	1849		----		----
782		----		----	1881		----		----
785		----		----	1884		----		----
824	D6839	9.19		----	1936		----		----
861		----		----	1937		----		----
875	D6729	9.548		----	1938		----		----
902		----		----	1941		----		----
962		----		----	1948	ISO22854	8.87		----
970		----		----	1953		----		----
971		----		----	1995		----		----
974		----		----	2129	D6730	8.116		----
994		----		----	2130	D6730	8.1		----
1006		----		----	2146		----		----
1011		----		----	6005		----		----
1033		----		----	6016		----		----
1059		----		----	6028	ISO22854	8.75		----
1067		----		----	6045		----		----
1079	ISO22854	9.24		----	6046		----		----
1082		----		----	6047		----		----
1105	D6839	5.97	C,R(0.01), f-?	----	6049	ISO22854	9.03		----
1108	ISO22854	8.86		----	6054		----		----
1109	D6839	9.16		----	6075		----		----
1126	EN14517	8.83		----	6090		----		----

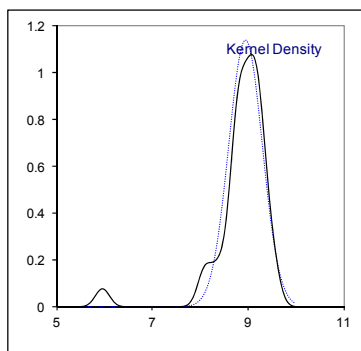
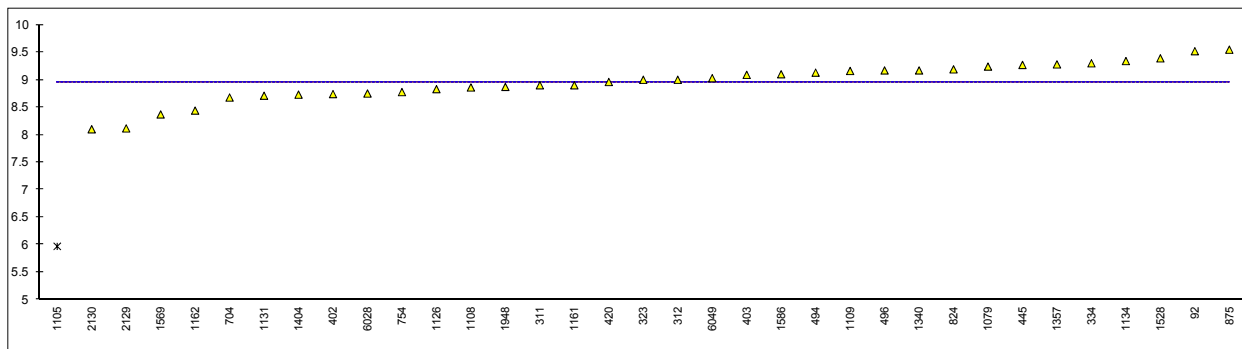
normality OK
 n 34
 outliers 1
 mean (n) 8.961
 st.dev. (n) 0.3512
 R(calc.) 0.983
 R(lit.) unknown

Compare R(iis15B05EN)=1.603

Lab 92 used test method: CAN/CGSB-3.0/14.3-99

Lab 1105 first reported: 11.94

Lab 1105 possibly a false negative test result?



Determination of Oxidation Stability on sample #16210; results in minutes

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
92		----		----	1131	ISO7536	>600		----
132	D525	>1124		----	1134	D525	>900		----
140	D525	>900		----	1141		----		----
150	D525	>900		----	1143		----		----
158		----		----	1155	ISO7536	> 985		----
159		----		----	1161	ISO7536	>900		----
171	D525	>900		----	1162	D525	>900		----
194		----		----	1167	ISO7536	>900		----
221		----		----	1171		----		----
228	D525	>900		----	1186		----		----
237	D525	>900		----	1191		----		----
238		----		----	1194		----		----
273		----		----	1199		----		----
311	D525	>900		----	1229		----		----
312	D525	>900		----	1264		----		----
323	ISO7536	900		----	1266		----		----
333		----		----	1272	ISO7536	>900		----
334	ISO7536	>900		----	1291	D525	>360		----
335		----		----	1299	D525	>900		----
336	ISO7536	>900		----	1310	ISO7536	720		----
337		----		----	1340	ISO7536	>900		----
338		----		----	1357	D525	>360		----
340	ISO7536	>900		----	1389		----		----
343	D525	>360		----	1397		----		----
344		----		----	1402	D525	>900		----
353		----		----	1404	ISO7536	>900		----
369		----		----	1409		----		----
370		----		----	1428	ISO7536	>900		----
371		----		----	1443	ISO7536	>900		----
381		----		----	1459		----		----
391		----		----	1491		----		----
399		----		----	1498		----		----
402	ISO7536	>900		----	1528	ISO7536	>900		----
403	ISO7536	>900		----	1538	ISO7536	>480		----
420	ISO7536	>900		----	1546		----		----
431		----		----	1549		----		----
433		----		----	1550		----		----
440		----		----	1556	ISO7536	>900		----
444		----		----	1569	ISO7536	>500		----
445	IP40	>900		----	1586	D525	>900		----
447	IP40	>900		----	1634		----		----
453	IP40	>900		----	1636	ISO7536	>900		----
463	ISO7536	>900		----	1667		----		----
468		----		----	1720		----		----
485		----		----	1724		----		----
494	ISO7536	>900		----	1728	D525	>900		----
496	ISO7536	>900		----	1740		----		----
541		----		----	1742		----		----
631		----		----	1776		----		----
634		----		----	1782	ISO7536	>900		----
671		----		----	1807		----		----
704		----		----	1811		----		----
753		----		----	1833		----		----
754		----		----	1849		----		----
782		----		----	1881		----		----
785		----		----	1884		----		----
824	D525	>900		----	1936		----		----
861	D525	>900		----	1937		----		----
875		----		----	1938		----		----
902		----		----	1941	ISO7536	> 900		----
962		----		----	1948	ISO7536	>360		----
970		----		----	1953		----		----
971		----		----	1995	D525	>480		----
974	D525	>900		----	2129	ISO7536	>900		----
994		----		----	2130	IP40	>900		----
1006	D525	>900		----	2146		----		----
1011	ISO7536	> 400		----	6005		----		----
1033		----		----	6016		----		----
1059	ISO7536	>900		----	6028		----		----
1067	D525	> 360		----	6045	D525	>900		----
1079	D525	>900		----	6046		----		----
1082		----		----	6047		----		----
1105	D525	>900		----	6049	ISO7536	>900		----
1108	ISO7536	>900		----	6054	D525	>900		----
1109	D525	>900		----	6075	ISO7536	>900		----
1126		----		----	6090		----		----

normality	n.a.
n	54
outliers	0
mean (n)	>900
st.dev. (n)	n.a.
R(calc.)	n.a.
R(ISO7536:94)	n.a.

Determination of Ethanol on sample #16210; results in %V/V

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
92	see below	4.86		1.18	1131	EN22854	4.92		1.54
132	D5599	4.30		-2.16	1134	EN22854	4.61		-0.31
140	D5599	4.62		-0.25	1141		----		----
150	D5599	4.73	C	0.41	1143		----		----
158		----		----	1155	EN22854	4.59		-0.43
159	D5599	4.76		0.59	1161	EN22854	4.7		0.23
171	D5599	<0.10	f-?	<-27.26	1162	D4815	4.942		1.67
194		----		----	1167	EN13132	4.75		0.53
221		----		----	1171	D5845Mod.	5.05		2.32
228		----		----	1186		----		----
237	D4815	4.80		0.83	1191		4.964		1.81
238		----		----	1194	D5845	4.7		0.23
273		----		----	1199		----		----
311	ISO22854	4.7		0.23	1229	ISO22854	4.54		-0.73
312	ISO22854	4.65		-0.07	1264		----		----
323	EN22854	4.82		0.95	1266	D5845	4.7	C	0.23
333	EN22854	4.6		-0.37	1272	EN13132	4.81		0.89
334	EN1601	4.47		-1.15	1291		----		----
335	EN1601	4.35		-1.86	1299	ISO22854	4.92		1.54
336		----		----	1310		----		----
337		----		----	1340	EN22854	4.55		-0.67
338		----		----	1357	D6839	4.49		-1.03
340	EN1601	5.0		2.02	1389	EN13132	4.7		0.23
343	EN13132	4.68		0.11	1397	EN13132	4.7		0.23
344		----		----	1402	IP466	4.5		-0.97
353		----		----	1404	D4815	4.89	C	1.36
369	EN13132	4.50		-0.97	1409	ISO22854	4.6		-0.37
370		----		----	1428	EN13132	4.747		0.51
371		----		----	1443	EN13132	4.59		-0.43
381	EN13132	4.55		-0.67	1459		4.64		-0.13
391		----		----	1491		----		----
399		----		----	1498		----		----
402	ISO22854	4.77		0.65	1528	ISO22854	4.93		1.60
403	ISO22854	4.70		0.23	1538		----		----
420	EN22854	4.91		1.48	1546	EN1601	4.67		0.05
431		----		----	1549	D5845	4.6		-0.37
433		----		----	1550	D5845	4.91		1.48
440		----		----	1556	ISO22854	4.81		0.89
444		----		----	1569	EN22854	4.37		-1.74
445	EN22854	4.68		0.11	1586		----		----
447	EN13132	4.7		0.23	1634		----		----
453		----		----	1636	EN13132	4.297		-2.18
463	EN13132	4.69		0.17	1667		4.57		-0.55
468		----		----	1720		----		----
485		----		----	1724		----		----
494		----		----	1728		----		----
496	EN1601	4.64		-0.13	1740		----		----
541		----		----	1742		----		----
631		----		----	1776	ISO22854	4.75		0.53
634		----		----	1782	D4815	4.55		-0.67
671		----		----	1807	EN22854	4.64		-0.13
704	D4815	4.623		-0.23	1811	ISO22854	4.77		0.65
753		----		----	1833		----		----
754		----		----	1849		----		----
782		----		----	1881	D4815	3.98	C,R(0.05)	-4.07
785		----		----	1884		----		----
824	D4815	4.71		0.29	1936		----		----
861	D4815	4.47		-1.15	1937		----		----
875		----		----	1938		----		----
902		----		----	1941	EN13132	4.78		0.71
962		----		----	1948	EN13132	5.29	C,R(0.05)	3.75
970		----		----	1953	In house	4.92		1.54
971		----		----	1995		----		----
974	D4815	4.48		-1.09	2129	D6730	4.591		-0.42
994		----		----	2130	D6730	4.3		-2.16
1006	D4815	4.42		-1.45	2146	EN22854	4.65		-0.07
1011	ISO22854	----	W	----	6005		----		----
1033		----		----	6016		----		----
1059	EN22854	4.62		-0.25	6028	ISO22854	2.6	C,R(0.01)	-12.32
1067		----		----	6045	D4815	4.68		0.11
1079	EN22854	4.15		-3.06	6046	D5845	4.4		-1.56
1082		----		----	6047	EN13132	4.82		0.95
1105	D7423	4.85		1.12	6049	ISO22854	4.57		-0.55
1108	EN22854	4.67		0.05	6054		----		----
1109	D6839	4.40		-1.56	6075	EN13132	4.56		-0.61
1126	EN14517	4.67		0.05	6090		----		----

normality OK
 n 79
 outliers 3
 mean (n) 4.6618
 st.dev. (n) 0.17901
 R(calc.) 0.5012
 R(ISO22854-A:16) 0.4685

Compare R(EN1601:14)=0.4000
 Compare R(EN13132/IP466:00)=0.4000
 Compare R(D4815:15b)=0.5109

<u>Results of:</u>	<u>EN1601 only</u>	<u>EN/ISO22854 only</u>	<u>EN13132/IP466 only</u>	<u>D4815 only</u>	<u>D5599 only</u>	<u>D5845 only</u>
normality	OK	not OK	suspect	OK	not OK	suspect
n	5	27	16	10	4	5
outliers	0	1	1	1	0	0
mean (n)	4.6260	4.6737	4.6484	4.6565	4.6025	4.6620
st.dev. (n)	0.24623	0.16948	0.13954	0.18085	0.21046	0.18499
R(calc.)	0.6894	0.4746	0.3907	0.5064	0.5893	0.5180
R(lit.)	0.4000	0.4688	0.4000	0.5106	0.8459	0.5450

Lab 92 used test method: CAN/CGSB-3.0/14.3-99

Lab 150 first reported: 5.44

Lab 171 possibly a false negative test result?

Lab 1011 first reported: 3.36

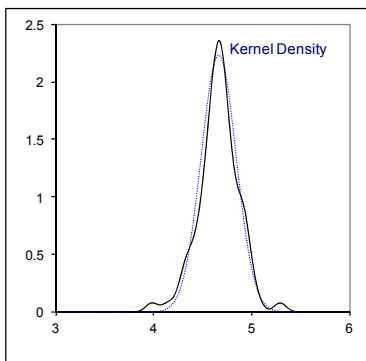
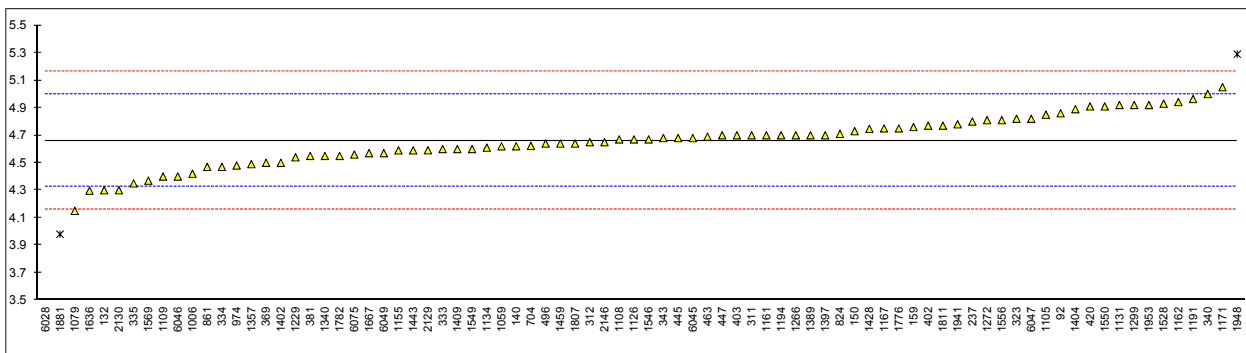
Lab 1266 first reported: 5.4

Lab 1404 first reported: 5.96

Lab 1881 first reported: 3.60

Lab 1948 first reported: 5.56

Lab 6028 first reported: 3.08



Determination of Ethers (C5 or more C atoms) on sample #16210; results in %V/V

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
92	see below	----		----	1131	EN22854	2.73		0.56
132	D5599	2.79	C	0.96	1134	EN22854	2.62		-0.18
140	D5599	2.47	C	-1.18	1141		----		----
150	D5599	----		----	1143		----		----
158		----		----	1155	EN22854	2.85		1.36
159	D5599	<0.01	f-?	<-17.66	1161	EN22854	2.93		1.90
171	D5599	0.42	R(0.01)	-14.92	1162	D4815	2.64	C	-0.04
194		----		----	1167	EN13132	2.62		-0.18
221		----		----	1171	D5845Mod.	----		----
228		----		----	1186		----		----
237	D4815	----		----	1191		----		----
238		----		----	1194	D5845	----		----
273		----		----	1199		----		----
311	ISO22854	2.7		0.36	1229	ISO22854	----		----
312	ISO22854	2.58		-0.45	1264		----		----
323	EN22854	2.73		0.56	1266	D5845	----		----
333	EN22854	----		----	1272	EN13132	2.66		0.09
334	EN1601	2.90		1.70	1291		----		----
335	EN1601	2.8		1.03	1299	ISO22854	2.77		0.83
336		----		----	1310		----		----
337		----		----	1340	EN22854	----		----
338		----		----	1357	D6839	----		----
340	EN1601	2.8		1.03	1389	EN13132	2.4		-1.65
343	EN13132	2.64		-0.04	1397	In house	2.5		-0.98
344		----		----	1402	IP466	----		----
353		----		----	1404	D4815	3.01		2.44
369	EN13132	2.46		-1.25	1409	ISO22854	2.6		-0.31
370		----		----	1428	EN13132	2.626		-0.14
371		----		----	1443	EN13132	2.68		0.22
381	EN13132	2.72		0.49	1459		----		----
391		----		----	1491		----		----
399		----		----	1498		----		----
402	ISO22854	2.67		0.16	1528	ISO22854	2.69		0.29
403	ISO22854	2.66		0.09	1538		----		----
420	EN22854	2.73		0.56	1546	EN1601	2.29		-2.39
431		----		----	1549	D5845	----		----
433		----		----	1550	D5845	2.61		-0.24
440		----		----	1556	ISO22854	2.66		0.09
444		----		----	1569	EN22854	----		----
445	EN22854	2.66		0.09	1586		----		----
447	EN13132	<0.2	f-?	<-16.39	1634		----		----
453		----		----	1636	EN13132	----		----
463	EN13132	2.69		0.29	1667		----		----
468		----		----	1720		----		----
485		----		----	1724		----		----
494		----		----	1728		----		----
496	EN1601	2.92		1.83	1740		----		----
541		----		----	1742		----		----
631		----		----	1776	ISO22854	2.51		-0.91
634		----		----	1782	D4815	----		----
671		----		----	1807	EN22854	2.4		-1.65
704	D4815	2.548		-0.66	1811	ISO22854	----		----
753		----		----	1833		----		----
754		----		----	1849		----		----
782		----		----	1881	D4815	2.23		-2.79
785		----		----	1884		----		----
824	D4815	2.71		0.43	1936		----		----
861	D4815	2.70		0.36	1937		----		----
875		----		----	1938		----		----
902		----		----	1941	EN13132	----		----
962		----		----	1948	EN13132	----		----
970		----		----	1953	In house	----		----
971		----		----	1995		----		----
974	D4815	2.55	C	-0.65	2129	D6730	2.390		-1.72
994		----		----	2130	D6730	2.5		-0.98
1006	D4815	----		----	2146	EN22854	2.65		0.02
1011	ISO22854	2.88		1.56	6005		----		----
1033		----		----	6016		----		----
1059	EN22854	2.62		-0.18	6028	ISO22854	2.69		0.29
1067		----		----	6045	D4815	----		----
1079	EN22854	2.48		-1.12	6046	D5845	----		----
1082		----		----	6047	EN13132	----		----
1105	D7423	<0.001	f-?	<-17.72	6049	ISO22854	2.59	C	-0.38
1108	EN22854	2.64		-0.04	6054		----		----
1109	D6839	2.67		0.16	6075	EN13132	----		----
1126	EN14517	2.70		0.36	6090		----		----

normality OK
 n 53
 outliers 1
 mean (n) 2.6465
 st.dev. (n) 0.15529
 R(calc.) 0.4348
 R(ISO22854-A:16) 0.4179

Compare R(EN1601:14)=0.4123
 Compare R(EN13132/IP466:00)=0.4123
 Compare R(D4815:15b)=unknown

<u>Results of:</u>	<u>EN1601 only</u>	<u>EN/ISO22854 only</u>	<u>EN13132/IP466 only</u>	<u>D4815 only</u>	<u>D5599 only</u>	<u>D5845 only</u>
normality	not OK	OK	OK	suspect	n.a.	n.a.
n	5	24	10	7	2	1
outliers	0	0	0	0	1	0
mean (n)	2.7420	2.6683	2.5996	2.6269	n.a.	n.a.
st.dev. (n)	0.25869	0.11926	0.10790	0.23411	n.a.	n.a.
R(calc.)	0.7243	0.3339	0.3021	0.6555	n.a.	n.a.
R(lit.)	0.4123	0.4185	0.4123	unknown	unknown	unknown

Lab 92 used test method: CAN/CGSB-3.0/14.3-99

Lab 132 first reported: <0.10

Lab 140 first reported: <0.10

Lab 159 possibly a false negative test result?

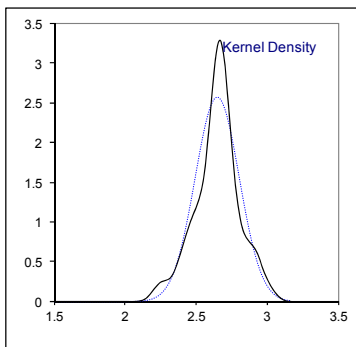
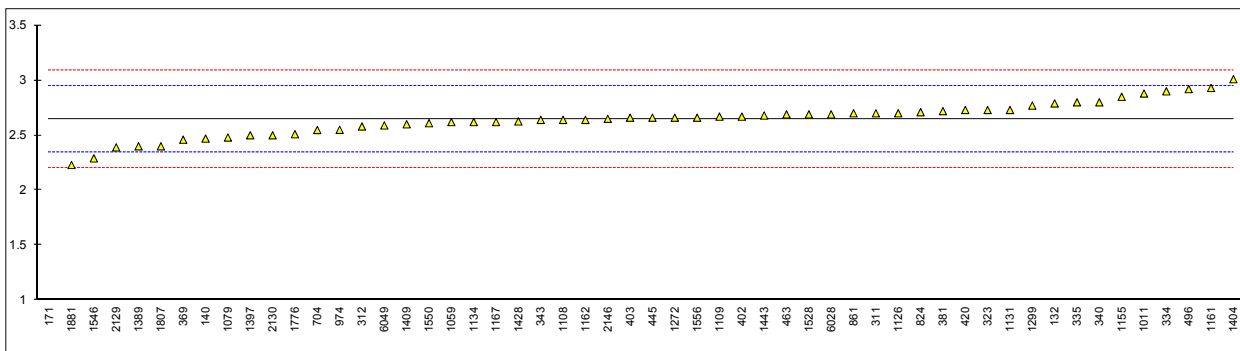
Lab 447 possibly a false negative test result?

Lab 974 first reported: <0.20

Lab 1105 possibly a false negative test result?

Lab 1162 first reported: <0.20

Lab 6049 first reported: <0.01



Determination of MTBE on sample #16210; results in %V/V

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
92	see below	2.84		1.60	1131	EN22854	2.59		-0.07
132	D5599	2.72		0.80	1134	EN22854	2.50		-0.68
140	D5599	2.47		-0.88	1141		----		----
150	D5599	2.62		0.13	1143		----		----
158		----		----	1155	EN22854	2.72		0.80
159	D5599	2.65		0.33	1161	EN22854	2.8		1.34
171	D5599	<0.10	f-?	<-16.80	1162	D4815	2.640		0.26
194		----		----	1167	EN13132	2.57		-0.21
221		----		----	1171	D5845Mod.	2.45		-1.02
228		----		----	1186		----		----
237	D4815	2.8		1.34	1191		2.528		-0.49
238		----		----	1194	D5845	2.9		2.01
273		----		----	1199		----		----
311	ISO22854	2.5		-0.68	1229	ISO22854	2.73		0.87
312	ISO22854	2.58		-0.14	1264		----		----
323	EN22854	2.62		0.13	1266	D5845	3.0		2.68
333	EN22854	<0.01	f-?	<-17.41	1272	EN13132	2.61		0.06
334	EN1601	2.90		2.01	1291		----		----
335	EN1601	2.8		1.34	1299	ISO22854	2.69		0.60
336		----		----	1310		----		----
337		----		----	1340	EN22854	2.61		0.06
338		----		----	1357	D6839	2.50		-0.68
340	EN1601	2.8		1.34	1389	EN13132	2.4		-1.35
343	EN13132	2.60		-0.01	1397	EN13132	2.5		-0.68
344		----		----	1402	IP466	2.5		-0.68
353		----		----	1404	D4815	2.72		0.80
369	EN13132	2.46		-0.95	1409	ISO22854	2.6		-0.01
370		----		----	1428	EN13132	2.626		0.17
371		----		----	1443	EN13132	2.68		0.53
381	EN13132	2.5		-0.68	1459		----		----
391		----		----	1491		----		----
399		----		----	1498		----		----
402	ISO22854	2.55		-0.34	1528	ISO22854	2.56		-0.28
403	ISO22854	2.54		-0.41	1538		----		----
420	EN22854	2.68		0.53	1546	EN1601	2.29		-2.09
431		----		----	1549	D5845	2.5		-0.68
433		----		----	1550	D5845	2.61		0.06
440		----		----	1556	ISO22854	2.54		-0.41
444		----		----	1569	EN22854	2.62	C	0.13
445	EN22854	2.66		0.40	1586		----		----
447	EN13132	2.8		1.34	1634		----		----
453		----		----	1636	EN13132	2.418		-1.23
463	EN13132	2.69		0.60	1667		2.59		-0.07
468		----		----	1720		----		----
485		----		----	1724		----		----
494		----		----	1728		----		----
496	EN1601	2.70		0.66	1740		----		----
541		----		----	1742		----		----
631		----		----	1776	ISO22854	2.51		-0.61
634		----		----	1782	D4815	2.67		0.46
671		----		----	1807	EN22854	<0.80	f-?	<-12.10
704	D4815	2.548		-0.36	1811	ISO22854	2.68		0.53
753		----		----	1833		----		----
754		----		----	1849		----		----
782		----		----	1881	D4815	2.23		-2.49
785		----		----	1884		----		----
824	D4815	2.71		0.73	1936		----		----
861	D4815	2.54		-0.41	1937		----		----
875		----		----	1938		----		----
902		----		----	1941	EN13132	2.57		-0.21
962		----		----	1948	EN13132	2.70	C	0.66
970		----		----	1953	In house	1.81	R(0.01)	-5.31
971		----		----	1995		----		----
974	D4815	2.55		-0.34	2129	D6730	2.390		-1.42
994		----		----	2130	D6730	2.5		-0.68
1006	D4815	2.59		-0.07	2146	EN22854	2.57		-0.21
1011	ISO22854	2.76		1.07	6005		----		----
1033		----		----	6016		----		----
1059	EN22854	2.62		0.13	6028	ISO22854	2.56		-0.28
1067		----		----	6045	D4815	2.56		-0.28
1079	EN22854	2.48		-0.81	6046	D5845	2.5		-0.68
1082		----		----	6047	EN13132	2.47		-0.88
1105	D7423	2.51		-0.61	6049	ISO22854	2.46		-0.95
1108	EN22854	2.51		-0.61	6054		----		----
1109	D6839	2.61		0.06	6075	EN13132	2.56		-0.28
1126	EN14517	2.66		0.40	6090		----		----

normality OK
 n 79
 outliers 1
 mean (n) 2.6011
 st.dev. (n) 0.13289
 R(calc.) 0.3721
 R(ISO22854-A:16) 0.4168

Compare R(EN1601:14)=0.4000
 Compare R(EN13132/IP466:00)=0.4000
 Compare R(D4815:15b)=0.2238

<u>Results of:</u>	<u>EN1601 only</u>	<u>EN/ISO22854 only</u>	<u>EN13132/IP466 only</u>	<u>D4815 only</u>	<u>D5599 only</u>	<u>D5845 only</u>
normality	not OK	OK	OK	not OK	not OK	OK
n	5	27	17	11	4	5
outliers	0	0	0	0	0	0
mean (n)	2.6980	2.6015	2.5679	2.5962	2.6150	2.7020
st.dev. (n)	0.23879	0.08926	0.10919	0.14841	0.10536	0.23350
R(calc.)	0.6686	0.2499	0.3057	0.4155	0.2950	0.6538
R(lit.)	0.4000	0.4168	0.4000	0.2236	0.2450	0.9634

Lab 92 used test method: CAN/CGSB-3.0/14.3-99

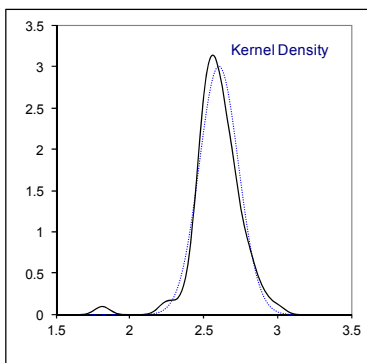
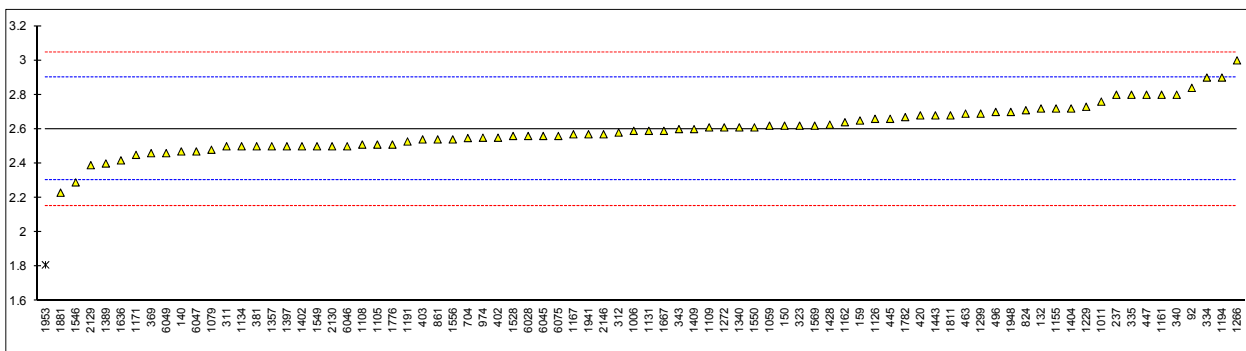
Lab 171 possibly a false negative test result?

Lab 333 possibly a false negative test result?

Lab 1569 first reported: 0.12

Lab 1807 possibly a false negative test result?

Lab 1948 first reported: 5.69



Determination of other oxygenates on sample #16210; results in %V/V

lab	method	MeOH	mark	i-PropOH	mark	i-BuOH	mark	tert-buOH	mark
92	see below	----		----		----		----	
132	D5599	<0.10		<0.10		<0.10		<0.10	
140	D5599	<0.10		<0.10		<0.10		<0.10	
150	D5599	<0.10		<0.10		<0.10		<0.10	
158		----		----		----		----	
159	D5599	<0.01		<0.01		<0.01		<0.01	
171	D5599	<0.10		<0.10		<0.10		0.13	
194		----		----		----		----	
221		----		----		----		----	
228		----		----		----		----	
237	D4815	<0.2		<0.2		<0.2		<0.2	
238		----		----		----		----	
273		----		----		----		----	
311	ISO22854	<0.1		<0.1		<0.1		<0.1	
312	ISO22854	<0.1		<0.1		<0.1		<0.1	
323	EN22854	<0.10		<0.10		<0.10		<0.10	
333	EN22854	<0.8		<0.8		<0.8		<0.8	
334	EN1601	----		----		----		----	
335	EN1601	0		0		0		0	
336		----		----		----		----	
337		----		----		----		----	
338		----		----		----		----	
340	EN1601	<0.17		<0.17		<0.17		<0.17	
343	EN13132	<0.2		<0.2		<0.2		----	
344		----		----		----		----	
353		----		----		----		----	
369	EN13132	<0.17		<0.17		<0.17		<0.17	
370		----		----		----		----	
371		----		----		----		----	
381	EN13132	<0,2		<0,2		<0,2		<0,2	
391		----		----		----		----	
399		----		----		----		----	
402	ISO22854	----		----		0.03		----	
403	ISO22854	----		----		----		----	
420	EN22854	<0,01		<0,01		<0,01		<0,01	
431		----		----		----		----	
433		----		----		----		----	
440		----		----		----		----	
444		----		----		----		----	
445	EN22854	<0.1		<0.1		<0.1		<0.1	
447	EN13132	<0.2		<0.2		<0.2		<0.2	
453		----		----		----		----	
463	EN13132	<0,2		<0,2		<0,2		<0,2	
468		----		----		----		----	
485		----		----		----		----	
494		----		----		----		----	
496	EN1601	<0.10		<0.10		<0.10		<0.10	
541		----		----		----		----	
631		----		----		----		----	
634		----		----		----		----	
671		----		----		----		----	
704	D4815	<0.20		<0.20		<0.20		<0.20	
753		----		----		----		----	
754		----		----		----		----	
782		----		----		----		----	
785		----		----		----		----	
824	D4815	<0.2		<0.2		<0.2		<0.2	
861	D4815	<0.20		<0.20		<0.20		<0.20	
875		----		----		----		----	
902		----		----		----		----	
962		----		----		----		----	
970		----		----		----		----	
971		----		----		----		----	
974	D4815	<0.20		<0.20		<0.20		<0.20	
994		----		----		----		----	
1006	D4815	<0.1		----		----		----	
1011	ISO22854	< 0.80		----		----		----	
1033		----		----		----		----	
1059	EN22854	<0,20		<0,20		<0,20		<0,20	
1067		----		----		----		----	
1079	EN22854	0		0		0		0	
1082		----		----		----		----	
1105	D7423	<0.001		<0.001		<0.001		<0.001	
1108	EN22854	----		----		----		0.02	
1109	D6839	0.00		0.00		0.01		0.00	
1126	EN14517	<0,1		<0,1		<0,1		<0,1	
1131	EN22854	0.0		0.0		0.0		0.0	

lab	method	MeOH	mark	i-PropOH	mark	i-BuOH	mark	tert-buOH	mark
1134	EN22854	<0.01		<0.01		<0.01		<0.01	
1141		----		----		----		----	
1143		----		----		----		----	
1155	EN22854	< 0,01		< 0,01		0.02		< 0,01	
1161	EN22854	<0,17		<0,17		<0,17		<0,17	
1162	D4815	<0.20		<0.20		<0.20		<0.20	
1167	EN13132	0.057		<0.2		<0.2		0.066	
1171	D5845Mod.	0.0		----		----		0.0	
1186		----		----		----		----	
1191		0.008		0		0		0.005	
1194	D5845	0		0		----		0	
1199		----		----		----		----	
1229	ISO22854	0		0		0		0	
1264		----		----		----		----	
1266	D5845	0.0	C	----		----		----	
1272	EN13132	<0,1		<0,1		<0,1		<0,1	
1291		----		----		----		----	
1299	ISO22854	<0.8		<0.8		<0.8		<0.8	
1310		----		----		----		----	
1340	EN22854	----		----		----		----	
1357	D6839	0.05		----		----		----	
1389	EN13132	< 0.2		< 0.2		< 0.2		< 0.2	
1397	EN13132	----		----		----		----	
1402	IP466	<0.2		<0.2		<0.2		<0.2	
1404	D4815	0.17		<0.01		0.05		0.04	
1409	ISO22854	< 0.3		< 0.3		< 0.3		< 0.3	
1428	EN13132	<0,17		<0,17		<0,17		<0,17	
1443	EN13132	<0,17		<0,17		<0,17		<0,17	
1459		----		----		----		----	
1491		----		----		----		----	
1498		----		----		----		----	
1528	ISO22854	----		----		----		----	
1538		----		----		----		----	
1546	EN1601	< 0.5		< 0.5		< 0.5		< 0.5	
1549	D5845	----		----		----		----	
1550	D5845	----		----		----		----	
1556	ISO22854	<0,2		<0,2		<0,2		<0,2	
1569	EN22854	----		----		----		----	
1586		----		----		----		----	
1634		----		----		----		----	
1636	EN13132	<0.17		<0.17		<0.17		<0.17	
1667		----		----		----		----	
1720		----		----		----		----	
1724		----		----		----		----	
1728		----		----		----		----	
1740		----		----		----		----	
1742		----		----		----		----	
1776	ISO22854	<0,20		<0,20		<0,20		<0,20	
1782	D4815	<0.8		----		----		0.09	
1807	EN22854	<0.80		<0.80		<0.80		<0.80	
1811	ISO22854	----		----		----		----	
1833		----		----		----		----	
1849		----		----		----		----	
1881	D4815	<0.2		<0.2		<0.2		<0.2	
1884		----		----		----		----	
1936		----		----		----		----	
1937		----		----		----		----	
1938		----		----		----		----	
1941	EN13132	----		----		----		----	
1948	EN13132	<0.01		<0.01		<0.01		<0.01	
1953	In house	----		----		----		----	
1995		----		----		----		----	
2129	D6730	0.008		0.0		0.0		0.0	
2130	D6730	<0.1		<0.1		<0.1		<0.1	
2146	EN22854	0.02		----		----		----	
6005		----		----		----		----	
6016		----		----		----		----	
6028	ISO22854	0.00		0.00		0.00		0.00	
6045	D4815	----		----		----		----	
6046	D5845	----		----		----		----	
6047	EN13132	< 0.5		----		----		----	
6049	ISO22854	< 0.01		< 0.01		< 0.01		0.05	
6054		----		----		----		----	
6075	EN13132	----		----		----		----	
6090		----		----		----		----	

lab	method	MeOH	mark	i-PropOH	mark	i-BuOH	mark	tert-buOH	mark
normality		n.a.		n.a.		n.a.		n.a.	
n		57		52		52		54	
outliers		0		0		0		0	
mean (n)		<0.2		<0.2		<0.2		<0.2	
st.dev. (n)		n.a.		n.a.		n.a.		n.a.	
R(calc.)		n.a.		n.a.		n.a.		n.a.	
R(ISO22854-A:16)		n.a.		n.a.		n.a.		n.a.	

Lab 92 used test method: CAN/CGSB-3.0/14.3-99

Lab 1266 first reported for MeOH: 0.6

Determination of other oxygenates on sample #16210; results in %V/V

lab	method	DIPE	mark	ETBE	mark	TAME	mark	Others	mark
92	see below	0.14		----		----		----	
132	D5599	<0.10		<0.10		<0.10		<0.10	
140	D5599	<0.10		<0.10		<0.10		<0.10	
150	D5599	<0.10		<0.10		<0.10		<0.10	
158		----		----		----		----	
159	D5599	<0.01		<0.01		<0.01		<0.01	
171	D5599	2.41	+f?	<0.10		<0.10		<0.10	
194		----		----		----		----	
221		----		----		----		----	
228		----		----		----		----	
237	D4815	0.198		<0.2		<0.2		<0.2	
238		----		----		----		----	
273		----		----		----		----	
311	ISO22854	<0.1		<0.1		<0.1		<0.1	
312	ISO22854	<0.1		<0.1		<0.1		<0.1	
323	EN22854	<0.10		0.11		<0.10		<0.10	
333	EN22854	----		2.51	+f?	----		----	
334	EN1601	----		----		----		----	
335	EN1601	0		0		0		0	
336		----		----		----		----	
337		----		----		----		----	
338		----		----		----		----	
340	EN1601	<0.17		<0.17		<0.17		<0.17	
343	EN13132	----		<0.2		<0.2		<0.2	
344		----		----		----		----	
353		----		----		----		----	
369	EN13132	<0.17		<0.17		<0.17		<0.17	
370		----		----		----		----	
371		----		----		----		----	
381	EN13132	<0,2		<0.2	C	<0,2		<0,2	
391		----		----		----		----	
399		----		----		----		----	
402	ISO22854	0.08		0.04		----		----	
403	ISO22854	0.08		0.04		----		----	
420	EN22854	<0,1		0.05		<0,1		0.02	
431		----		----		----		----	
433		----		----		----		----	
440		----		----		----		----	
444		----		----		----		----	
445	EN22854	<0.1		<0.1		<0.1		<0.1	
447	EN13132	<0.2		<0.2		<0.2		<0.2	
453		----		----		----		----	
463	EN13132	<0,2		<0,2		<0,2		<0,2	
468		----		----		----		----	
485		----		----		----		----	
494		----		----		----		----	
496	EN1601	0.07		0.11		<0.10		<0.10	
541		----		----		----		----	
631		----		----		----		----	
634		----		----		----		----	
671		----		----		----		----	
704	D4815	<0.20		<0.20		<0.20		<0.20	
753		----		----		----		----	
754		----		----		----		----	
782		----		----		----		----	
785		----		----		----		----	
824	D4815	<0.2		<0.2		<0.2		<0.2	
861	D4815	<0.20		<0.20		<0.20		<0.20	
875		----		----		----		----	
902		----		----		----		----	
962		----		----		----		----	
970		----		----		----		----	
971		----		----		----		----	
974	D4815	<0.20		<0.20		<0.20		<0.20	
994		----		----		----		----	
1006	D4815	<0.1		<0.1		----		----	
1011	ISO22854	< 0.80		< 0.80		< 0.80		< 0.80	
1033		----		----		----		----	
1059	EN22854	<0,20		<0,20		<0,20		<0,20	
1067		----		----		----		----	
1079	EN22854	0		0		0		0	
1082		----		----		----		----	
1105	D7423	<0.001		<0.001		<0.001		<0.001	
1108	EN22854	0.08		0.05		0.00		0.00	
1109	D6839	0.04		0.02		0.00		0.00	
1126	EN14517	<0,1		<0,1		<0,1		<0,1	
1131	EN22854	0.09		0.05		0.0		0.0	

lab	method	DIPE	mark	ETBE	mark	TAME	mark	Others	mark
1134	EN22854	0.08		0.04		<0.01		<0.01	
1141		----		----		----		----	
1143		----		----		----		----	
1155	EN22854	0.08		0.05		< 0,01		0.03	
1161	EN22854	<0,17		<0,17		<0,17		<0,17	
1162	D4815	<0.20		<0.20		<0.20		<0.20	
1167	EN13132	----		0.041		----		<0.2	
1171	D5845Mod.	0.0		0.0		0.0		----	
1186		----		----		----		----	
1191		----		0.040		0		----	
1194	D5845	0.7		0		0.8		----	
1199		----		----		----		----	
1229	ISO22854	----		0.02		0		----	
1264		----		----		----		----	
1266	D5845	----		----		----		----	
1272	EN13132	<0,1		0.05		<0,1		<0,1	
1291		----		----		----		----	
1299	ISO22854	----		<0.8		----		<0.8	
1310		----		----		----		----	
1340	EN22854	0.05		----		----		0.02	
1357	D6839	0.08		0.06		----		----	
1389	EN13132	< 0.2		< 0.2		< 0.2		< 0.2	
1397	EN13132	----		<0,2		----		----	
1402	IP466	----		<0.2		<0.2		----	
1404	D4815	<0.10	C	0.04		<0.01		<0.01	
1409	ISO22854	< 0.3		< 0.3		----		< 0.3	
1428	EN13132	----		<0,17		----		<0,17	
1443	EN13132	----		<0,17		----		<0,17	
1459		----		0.04		----		----	
1491		----		----		----		----	
1498		----		----		----		----	
1528	ISO22854	0.08		0.05		----		0.03	
1538		----		----		----		----	
1546	EN1601	----		< 0.3		< 0.3		----	
1549	D5845	----		----		----		----	
1550	D5845	----		----		----		----	
1556	ISO22854	0.08		0.04		<0,2		<0,2	
1569	EN22854	----		<0.01	C	0.08		----	
1586		----		----		----		----	
1634		----		----		----		----	
1636	EN13132	<0.17		<0.17		<0.17		<0.17	
1667		----		----		----		----	
1720		----		----		----		----	
1724		----		----		----		----	
1728		----		----		----		----	
1740		----		----		----		----	
1742		----		----		----		----	
1776	ISO22854	----		<0,20		<0,20		<0,20	
1782	D4815	0.14		----		<0.8		0.07	
1807	EN22854	<0.80		2.35	+f?	<0.80		----	
1811	ISO22854	----		0.05		----		----	
1833		----		----		----		----	
1849		----		----		----		----	
1881	D4815	<0.2		<0.2		<0.2		<0.2	
1884		----		----		----		----	
1936		----		----		----		----	
1937		----		----		----		----	
1938		----		----		----		----	
1941	EN13132	----		----		----		----	
1948	EN13132	----		----		----		<0.01	
1953	In house	----		0		0		----	
1995		----		----		----		----	
2129	D6730	0.0		0.0		0.0		0.0	
2130	D6730	<0.1		<0.1		<0.1		<0.1	
2146	EN22854	----		0.05		0.03		----	
6005		----		----		----		----	
6016		----		----		----		----	
6028	ISO22854	0.04		0.00		0.09		----	
6045	D4815	----		----		----		----	
6046	D5845	----		----		----		----	
6047	EN13132	----		< 0.5		----		----	
6049	ISO22854	0.07		0.06		< 0.01		< 0.01	
6054		----		----		----		----	
6075	EN13132	----		0.06		----		----	
6090		----		----		----		----	

lab	method	DIPE	mark	ETBE	mark	TAME	mark	Others	mark
normality		n.a.		n.a.		n.a.		n.a.	
n		51		65		52		45	
outliers		0		0		0		0	
mean (n)		<0.2		<0.2		<0.2		<0.2	
st.dev. (n)		n.a.		n.a.		n.a.		n.a.	
R(calc.)		n.a.		n.a.		n.a.		n.a.	
R(ISO22854-A:16)		n.a.		n.a.		n.a.		n.a.	

Lab 92 used test method: CAN/CGSB-3.0/14.3-99

Lab 171 possibly a false positive test result?

Lab 333 possibly a false positive test result?

Lab 381 first reported for ETBE: <0.23

Lab 1404 first reported for DIPE: 0.25

Lab 1569 first reported for ETBE: 2.31

Lab 1807 possibly a false positive test result?

Determination of Oxygen Content on sample #16210; results in %M/M

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
92	see below	2.373		1.08	1131	ISO22854	2.36		0.96
132	D5599	2.1		-1.39	1134	ISO22854	2.24		-0.12
140	D5599	2.19		-0.57	1141		----		----
150	D5599	2.53		2.50	1143		----		----
158		----		----	1155	ISO22854	2.27		0.15
159	D5599	2.28		0.24	1161	ISO22854	2.33		0.69
171	D5599	2.13		-1.12	1162	D4815	2.392		1.25
194		----		----	1167	EN13132	2.299		0.41
221		----		----	1171	D5845Mod.	2.323		0.63
228		----		----	1186		----		----
237	D4815	2.2		-0.48	1191	EN1601	2.348		0.85
238		----		----	1194	D5845	2.50		2.23
273		----		----	1199		----		----
311	ISO22854	2.27		0.15	1229	ISO22854	2.22		-0.30
312	EN22854	2.23		-0.21	1264		----		----
323	EN1601	2.30		0.42	1266	EN1601	2.4	C	1.32
333	EN22854	2.21		-0.39	1272	EN13132	2.29		0.33
334	EN1601	2.22		-0.30	1291		----		----
335	EN1601	2.14		-1.03	1299	EN22854	2.37		1.05
336		----		----	1310		----		----
337		----		----	1340	EN22854	2.22		-0.30
338		----		----	1357	D6839	2.23		-0.21
340	EN1601	2.41		1.41	1389	EN13132	2.20		-0.48
343	EN13132	2.24		-0.12	1397	EN13132	2.24		-0.12
344		----		----	1402	IP466	2.15		-0.94
353		----		----	1404	D4815	2.24	C	-0.12
369	EN13132	2.15		-0.94	1409	ISO22854	2.29		0.33
370		----		----	1428	EN13132	2.34		0.78
371		----		----	1443	EN13132	2.19		-0.57
381	EN13132	2.21		-0.39	1459		----	W	----
391		----		----	1491		----		----
399		----		----	1498		----		----
402	ISO22854	2.29		0.33	1528	ISO22854	2.36		0.96
403	ISO22854	2.25		-0.03	1538		----		----
420	ISO22854	2.36		0.96	1546		----		----
431		----		----	1549	D5845	2.2		-0.48
433		----		----	1550	D5845	2.09		-1.48
440		----		----	1556	ISO22854	2.31		0.51
444		----		----	1569		----		----
445		2.28		0.24	1586	ISO22854	2.28		0.24
447	EN13132	2.28		0.24	1634		----		----
453		----		----	1636	EN13132	2.106		-1.33
463	EN13132	2.26		0.06	1667		----		----
468		----		----	1720		----		----
485		----		----	1724		----		----
494		----		----	1728		----		----
496	EN1601	2.272		0.17	1740		----		----
541		----		----	1742	D5622	2.23		-0.21
631		----		----	1776	ISO22854	2.26		0.06
634		----		----	1782	D4815	2.23		-0.21
671		----		----	1807	EN22854	2.14		-1.03
704	D4815	2.207		-0.42	1811	ISO22854	2.30		0.42
753		----		----	1833	ISO22854	2.28		0.24
754		----		----	1849		----		----
782		----		----	1881	D4815	1.91	C,R(0.05)	-3.10
785		----		----	1884		----		----
824	D4815	2.27		0.15	1936		----		----
861	D4815	2.19		-0.57	1937		----		----
875		----		----	1938		----		----
902		----		----	1941	EN13132	2.271		0.16
962		----		----	1948	EN13132	2.32	C	0.60
970		----		----	1953		----		----
971		----		----	1995		----		----
974	D4815	2.15		-0.94	2129	D6730	2.184		-0.63
994		----		----	2130	D6730	2.10		-1.39
1006	D4815	2.18		-0.66	2146	EN22854	2.29		0.33
1011		----		----	6005		----		----
1033		----		----	6016		----		----
1059	ISO22854	2.28		0.24	6028	EN22854	1.2	C,R(0.01)	-9.52
1067		----		----	6045	D4815	2.36		0.96
1079	EN22854	2.04		-1.93	6046	D5845	2.2		-0.48
1082		----		----	6047		----		----
1105		----		----	6049	ISO22854	2.20		-0.48
1108	ISO22854	2.25		-0.03	6054		----		----
1109	D6839	2.15		-0.94	6075	EN13132	2.22		-0.30
1126	EN14517	2.26		0.06	6090		----		----

normality OK
 n 77
 outliers 2
 mean (n) 2.2536
 st.dev. (n) 0.08907
 R(calc.) 0.2494
 R(ISO22854-A:16) 0.3100

Compare R(EN1601:14)=0.4100
 Compare R(EN13132/IP466:00)=0.3000
 Compare R(D4815:15b)=0.2526

<u>Results of:</u>	<u>EN1601 only</u>	<u>EN/ISO22854 only</u>	<u>EN13132/IP466 only</u>	<u>D4815 only</u>	<u>D5599 only</u>	<u>D5845 only</u>
normality	OK	not OK	OK	suspect	not OK	not OK
n	7	26	16	10	5	4
outliers	0	1	0	1	0	0
mean (n)	2.2986	2.2654	2.2354	2.2419	2.2460	2.2475
st.dev. (n)	0.09762	0.07157	0.06560	0.07843	0.17300	0.17614
R(calc.)	0.2733	0.2004	0.1837	0.2196	0.4844	0.4932
R(lit.)	0.4100	0.3100	0.3000	0.2509	0.2545	0.3000

Lab 92 used test method: CAN/CGSB-3.0/14.3-99

Lab 1266 first reported: 2.8

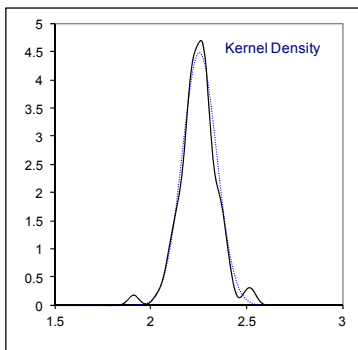
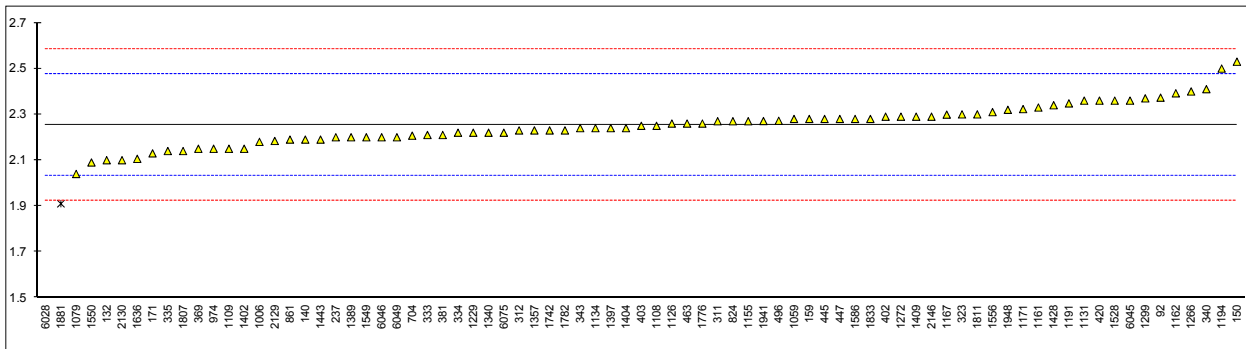
Lab 1404 first reported: 2.93

Lab 1459 first reported: 1.75

Lab 1881 first reported: 1.763

Lab 1948 first reported: 2.96

Lab 6028 first reported: 1.68

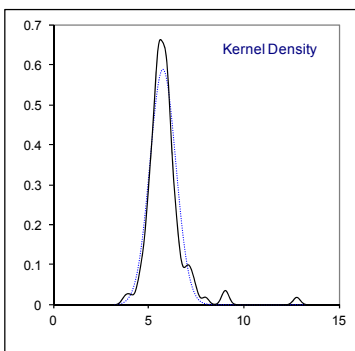
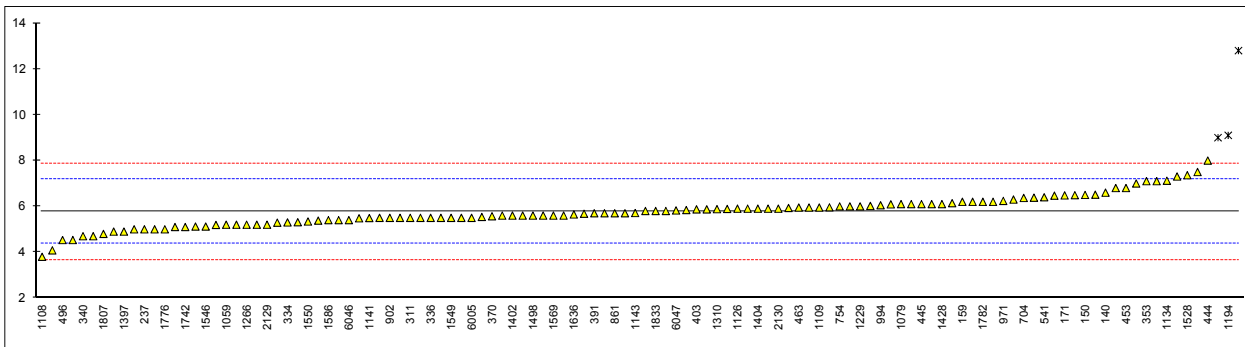


Determination of Sulphur on sample #16210; results in mg/kg

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
92	D5453	5.1		-0.95	1131	ISO20846	6.09		0.45
132	D2622	5.8		0.04	1134	IP490	7.12		1.92
140	D7039	6.6		1.18	1141	ISO20846	5.49		-0.40
150	D2622	6.5		1.04	1143	ISO20846	5.71		-0.09
158		----		----	1155		----		----
159	D5453	6.2		0.61	1161	ISO20846	5.0		-1.10
171	D2622	6.48		1.01	1162	D7039	6.0		0.32
194		----		----	1167	ISO20846	5.89		0.17
221		----		----	1171	ISO20846	5.19		-0.83
228		----		----	1186		----		----
237	D5453	5.0		-1.10	1191	ISO20846	5.7		-0.10
238		----		----	1194	D4294	9.1	R(0.01)	4.73
273	D5453	6.1		0.47	1199		----		----
311	ISO20846	5.5		-0.39	1229	ISO20846	6.0		0.32
312	ISO20846	4.9		-1.24	1264		----		----
323	ISO20846	5.0		-1.10	1266	ISO20846	5.2		-0.81
333	ISO20846	6.8		1.46	1272	ISO20846	7.5		2.46
334	ISO20846	5.3		-0.67	1291	D5453	5.68		-0.13
335	ISO20846	5.12		-0.93	1299	ISO20884	5.2		-0.81
336	ISO20846	5.5		-0.39	1310	ISO20846	5.88		0.15
337		----		----	1340	ISO20846	5.54		-0.33
338	ISO20846	5.7		-0.10	1357	D5453	6.49		1.02
340	ISO20846	4.7		-1.52	1389	ISO20846	< 3.0	f-?	<-3.94
343	ISO20846	5.48		-0.41	1397	ISO20846	4.9		-1.24
344		----		----	1402	ISO20846	5.6		-0.24
353	IP531	7.1		1.89	1404	ISO20846	5.9		0.18
369	ISO20846	6.1		0.47	1409	ISO20846	7.1		1.89
370	ISO20846	5.57		-0.29	1428	ISO20846	6.1		0.47
371	ISO20846	5.96		0.27	1443	ISO20884	5.6		-0.24
381	ISO20846	5.5		-0.39	1459		----	W	----
391	ISO20846	5.7		-0.10	1491	ISO20846	5.31		-0.66
399	ISO20846	5.5		-0.39	1498	D5453	5.6		-0.24
402	D5453	5.95		0.25	1528	ISO20884	7.36		2.26
403	ISO20846	5.87		0.14	1538	ISO20846	5.6		-0.24
420	ISO20884	6.47		0.99	1546	ISO20846	5.12		-0.93
431		----		----	1549	ISO20884	5.5		-0.39
433		----		----	1550	ISO20884	5.34		-0.61
440	D5453	4.081		-2.40	1556	ISO20846	6.3		0.75
444	D2622	8.0		3.17	1569	ISO20846	5.6		-0.24
445	D5453	6.1		0.47	1586	ISO20846	5.4		-0.53
447	IP490	4.531		-1.76	1634	ISO20846	5.6		-0.24
453	ISO20846	6.8		1.46	1636	ISO20846	5.649		-0.17
463	D5453	5.95		0.25	1667		----		----
468	D5453	<1.0	f-?	<-6.78	1720		----		----
485		----		----	1724		----		----
494	ISO20846	7.305		2.18	1728	D5453	5.29		-0.68
496	ISO20846	4.53		-1.77	1740	ISO20846	4.7		-1.52
541	ISO20846	6.4		0.89	1742	ISO20846	5.1		-0.95
631		----		----	1776	ISO20846	5		-1.10
634		----		----	1782	D5453	6.2		0.61
671		----		----	1807	ISO20846	4.8		-1.38
704	ISO20846	6.37		0.85	1811	ISO20846	6.14		0.52
753	D4294	<20		----	1833	ISO20846	5.8		0.04
754	D5453	6.0		0.32	1849	ISO20846	5.84		0.10
782	ISO20884	7.0		1.75	1881	ISO20846	6.02		0.35
785	ISO20884	5.5		-0.39	1884	D5453	5.5	C	-0.39
824	ISO20846	5.6		-0.24	1936	ISO20846	5.9		0.18
861	D5453	5.7		-0.10	1937	ISO20846	5.8		0.04
875	ISO20846	5.2		-0.81	1938	ISO20846	6.2		0.61
902	ISO20846	5.5		-0.39	1941	ISO20846	5.38		-0.56
962		----		----	1948	ISO20846	6.51		1.05
970	D5453	6.2		0.61	1953	ISO13032	9	R(0.01)	4.59
971	D5453	6.24		0.67	1995		----		----
974		----		----	2129	ISO20846	5.2	C	-0.81
994	D5453	6.05		0.40	2130	D5453	5.9		0.18
1006	D5453	5.5		-0.39	2146		----		----
1011	ISO20846	5.9		0.18	6005	ISO20846	5.5		-0.39
1033		----		----	6016		----		----
1059	ISO20846	5.2		-0.81	6028		----		----
1067		----		----	6045	D7039	5.4	C	-0.53
1079	ISO20846	6.1		0.47	6046	ISO20846	5.4		-0.53
1082		----		----	6047	ISO20846	5.823		0.07
1105	D7039	5.93		0.23	6049	ISO20846	6.38		0.86
1108	ISO20846	3.8		-2.80	6054	D4294	12.8	R(0.01)	9.99
1109	D7039	5.95		0.25	6075	ISO20846	5.87		0.14
1126	ISO20846	5.9		0.18	6090		----		----

normality	suspect
n	115
outliers	3
mean (n)	5.772
st.dev. (n)	0.6764
R(calc.)	1.894
R(ISO20846:11)	1.969

Lab 468 possibly a false negative test result?
 Lab 1389 possibly a false negative test result?
 Lab 1459 first reported: 13.1
 Lab 1884 first reported: 8.34
 Lab 2129 first reported: 9.25
 Lab 6045 first reported: 3.3

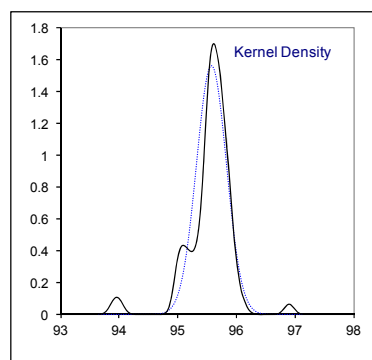
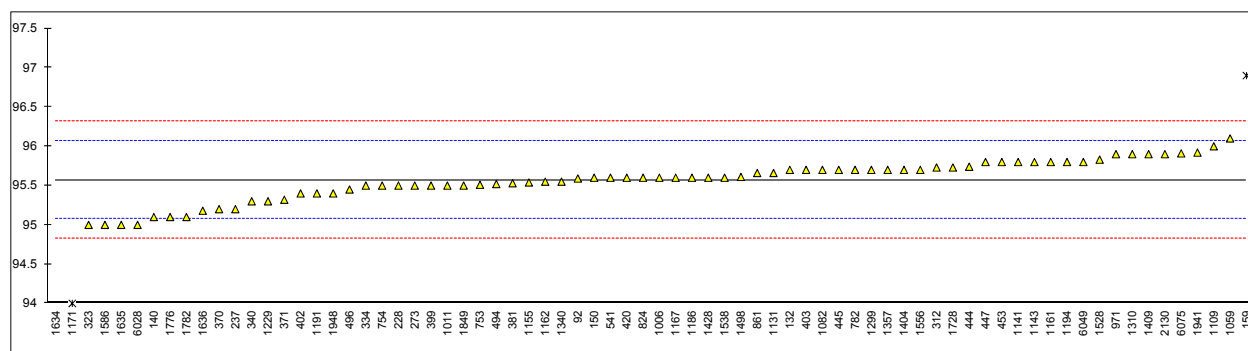


Determination of RON on sample #16211;

lab	method	value	mark	z(targ)	remarks
92	D2699	95.59		0.08	
132	D2699	95.7		0.52	
140	D2699	95.1		-1.88	
150	D2699	95.6		0.12	
159	D2699	96.9	R(0.01)	5.32	
171		-----		-----	
228	D2699	95.5		-0.28	
237	D2699	95.2	C	-1.48	first reported: 96.4
273	D2699	95.5		-0.28	
312	D2699	95.73		0.64	
323	ISO5164	95.0		-2.28	
334	ISO5164	95.5		-0.28	
340	ISO5164	95.3		-1.08	
370	ISO5164	95.2		-1.48	
371	ISO5164	95.32		-1.00	
381	ISO5164	95.53		-0.16	
399	ISO5164	95.5		-0.28	
402	ISO5164	95.4		-0.68	
403	ISO5164	95.70		0.52	
420	ISO5164	95.6		0.12	
444	D2699	95.74		0.68	
445	IP237	95.70		0.52	
447	IP237	95.8		0.92	
453	D2699	95.8		0.92	
494	ISO5164	95.52		-0.20	
496	ISO5164	95.45		-0.48	
541	D2699	95.6		0.12	
631		-----		-----	
753	ISO5164	95.51		-0.24	
754	ISO5164	95.50		-0.28	
782	ISO5164	95.70		0.52	
824	D2699	95.6		0.12	
861	D2699	95.66		0.36	
962		-----		-----	
970		-----		-----	
971	D2699	95.9		1.32	
1006	D2699	95.6		0.12	
1011	ISO5164	95.5		-0.28	
1059	ISO5164	96.1		2.12	
1082	ISO5164	95.7		0.52	
1109	D2699	96.0		1.72	
1131	ISO5164	95.66		0.36	
1134		-----		-----	
1141	In house	95.8		0.92	
1143	In house	95.8		0.92	
1155	ISO5164	95.54		-0.12	
1161	ISO5164	95.8		0.92	
1162	D2699	95.55		-0.08	
1167	ISO5164	95.6		0.12	
1171	D2699Mod.	94.0	C,R(0.01)	-6.28	first reported: 93.86
1186	D2699	95.6		0.12	
1191	ISO5164	95.4		-0.68	
1194	D2699Mod.	95.8		0.92	
1229	ISO5164	95.3		-1.08	
1264		-----		-----	
1299	D2699	95.7		0.52	
1310	ISO5164	95.9		1.32	
1340	ISO5164	95.55		-0.08	
1357	D2699	95.7		0.52	
1372		-----		-----	
1389		-----		-----	
1404	ISO5164	95.7		0.52	
1409	ISO5164	95.9		1.32	
1428	D2699	95.6		0.12	
1498	D2699	95.61		0.16	
1528	D2699	95.83		1.04	
1538	ISO5164	95.6		0.12	
1556	ISO5164	95.7		0.52	
1586	ISO5164	95.0		-2.28	
1634	In house	93.9	R(0.01)	-6.68	
1635	ISO5164	95.0		-2.28	
1636	ISO5164	95.18		-1.56	
1720		-----		-----	
1728	D2699	95.73		0.64	
1776	ISO5164	95.1		-1.88	
1782	D2699	95.1		-1.88	
1849	ISO5164	95.5		-0.28	

lab	method	value	mark	z(targ)	remarks
1941	ISO5164	95.92		1.40	
1948	ISO5164	95.4		-0.68	
2130	IP237	95.9		1.32	
6028	ISO5164	95.0		-2.28	
6049	ISO5164	95.8		0.92	
6075	ISO5164	95.91		1.36	
6090		----		----	

normality OK
 n 71
 outliers 3
 mean (n) 95.57
 st.dev. (n) 0.256
 R(calc.) 0.72
 R(ISO5164:14) 0.70

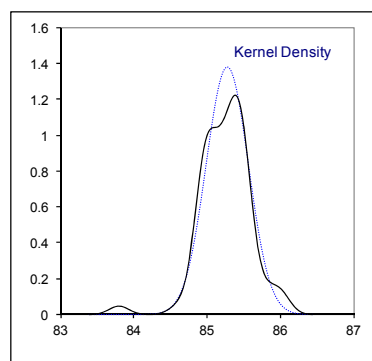
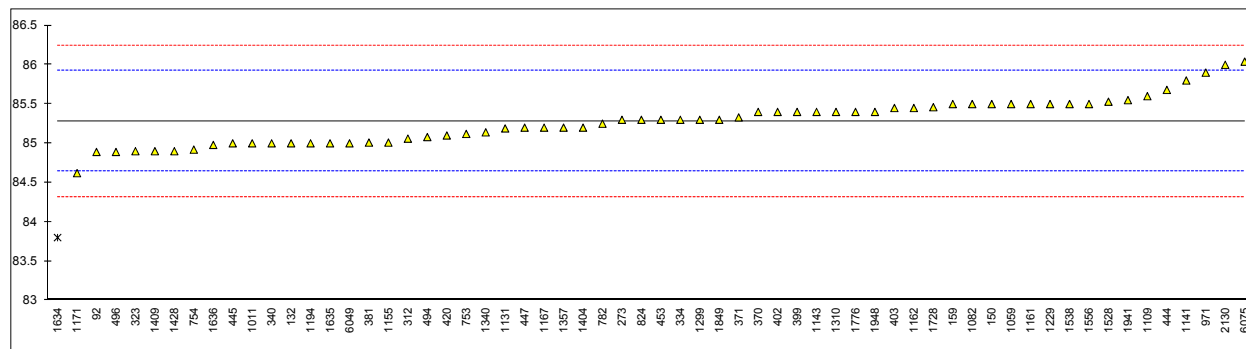


Determination of MON on sample #16211;

lab	method	value	mark	z(targ)	remarks
92	D2700	84.89		-1.22	
132	D2700	85.0		-0.87	
140		----		----	
150	D2700	85.5		0.68	
159	D2700	85.5		0.68	
171		----		----	
228		----		----	
237		----		----	
273	D2700	85.3		0.06	
312	D2700	85.06		-0.69	
323	ISO5163	84.9		-1.19	
334	ISO5163	85.3		0.06	
340	ISO5163	85.0		-0.87	
370	ISO5163	85.4		0.37	
371	ISO5163	85.33		0.15	
381	ISO5163	85.01		-0.84	
399	ISO5163	85.4		0.37	
402	ISO5163	85.4		0.37	
403	ISO5163	85.45		0.53	
420	ISO5163	85.1		-0.56	
444	D2700	85.68		1.24	
445	IP236	85.0		-0.87	
447	IP236	85.2		-0.25	
453	D2700	85.3		0.06	
494	ISO5163	85.08		-0.63	
496	ISO5163	84.89		-1.22	
541		----		----	
631		----		----	
753	ISO5163	85.12		-0.50	
754	ISO5163	84.92		-1.12	
782	ISO5163	85.25		-0.10	
824	D2700	85.3		0.06	
861		----		----	
962		----		----	
970		----		----	
971	D2700	85.9		1.93	
1006		----		----	
1011	ISO5163	85.0		-0.87	
1059	ISO5163	85.5		0.68	
1082	ISO5163	85.5		0.68	
1109	D2700	85.6		0.99	
1131	ISO5163	85.19		-0.28	
1134		----		----	
1141	In house	85.8		1.61	
1143	In house	85.4		0.37	
1155	ISO5163	85.01		-0.84	
1161	ISO5163	85.5		0.68	
1162	D2700	85.45		0.53	
1167	ISO5163	85.2		-0.25	
1171	D2700Mod.	84.62		-2.06	
1186		----		----	
1191		----		----	
1194	D2700Mod.	85.0		-0.87	
1229	ISO5163	85.5		0.68	
1264		----		----	
1299	D2700	85.3		0.06	
1310	ISO5163	85.4		0.37	
1340	ISO5163	85.14		-0.44	
1357	D2700	85.2		-0.25	
1372		----		----	
1389		----		----	
1404	ISO5163	85.2		-0.25	
1409	ISO5163	84.9		-1.19	
1428	D2700	84.9		-1.19	
1498		----		----	
1528	D2700	85.53		0.77	
1538	ISO5163	85.5		0.68	
1556	ISO5163	85.5		0.68	
1586		----		----	
1634	In house	83.8	R(0.01)	-4.61	
1635	ISO5163	85.0		-0.87	
1636	ISO5163	84.98		-0.94	
1720		----		----	
1728	D2700	85.46		0.56	
1776	ISO5163	85.4		0.37	
1782		----		----	
1849	ISO5163	85.3		0.06	

lab	method	value	mark	z(targ)	remarks
1941	ISO5163	85.55		0.84	
1948	ISO5163	85.4		0.37	
2130	IP236	86.0		2.24	
6028		----		----	
6049	ISO5163	85.0		-0.87	
6075	ISO5163	86.04		2.36	
6090		----		----	

normality OK
n 61
outliers 1
mean (n) 85.28
st.dev. (n) 0.289
R(calc.) 0.81
R(ISO5163:14) 0.90

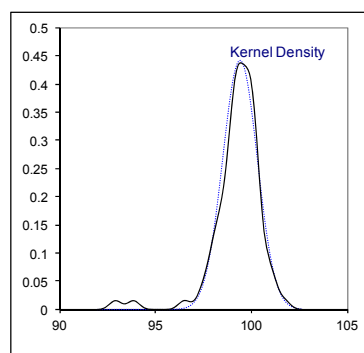
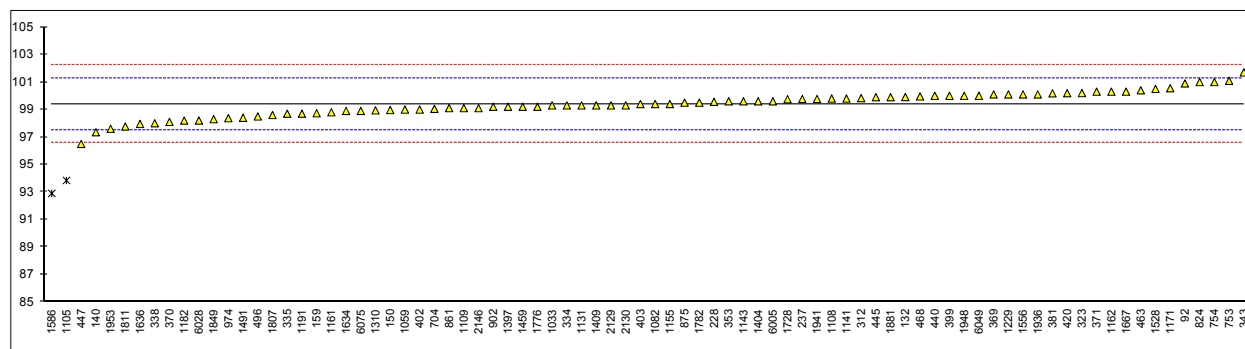


Determination of ASVP on sample #16212; results in kPa

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
92	D5191	100.9		1.60	1105		93.84	C,R(0.01)	-5.92
132	D5191	99.91		0.54	1108	EN13016-1	99.8		0.43
140	D5191	97.35		-2.18	1109	D5191	99.100		-0.32
150	D5191	98.96552		-0.46	1131	EN13016-1	99.30		-0.11
158		----		----	1134		----		----
159	D5191	98.73		-0.71	1141	EN13016-1	99.8		0.43
171		----		----	1143	EN13016-1	99.6		0.21
194		----		----	1155	EN13016-1	99.4		0.00
225		----		----	1161	EN13016-1	98.8		-0.64
228	D5191	99.56		0.17	1162	D5191	100.3		0.96
237	D5191	99.77		0.39	1167		----		----
238		----		----	1171	EN13016-1	100.55		1.22
311		----		----	1182	D5191	98.2		-1.28
312	D5191	99.83		0.46	1191	EN13016-1	98.7		-0.74
323	EN13016-1	100.2		0.85	1194		----		----
333		----		----	1229	EN13016-1	100.1		0.75
334	EN13016-1	99.3		-0.11	1264		----		----
335	EN13016-1	98.7		-0.74	1299		----		----
336		----		----	1310	EN13016-1	98.94		-0.49
337		----		----	1340		----		----
338	EN13016-1	98.0		-1.49	1389		----		----
340		----		----	1397	EN13016-1	99.2		-0.21
343	EN13016-1	101.7		2.45	1402		----		----
344		----		----	1404	EN13016-1	99.6		0.21
353	D5191	99.6		0.21	1409	EN13016-1	99.3		-0.11
369	EN13016-1	100.1		0.75	1428		----		----
370	EN13016-1	98.1		-1.38	1446		----		----
371	EN13016-1	100.3		0.96	1459	EN13016-1	99.2		-0.21
381	EN13016-1	100.18		0.83	1491	EN13016-1	98.4		-1.06
391		----		----	1510		----		----
399	EN13016-1	100.00		0.64	1528	EN13016-1	100.5		1.17
402	EN13016-1	99.0		-0.43	1538		----		----
403	EN13016-1	99.4		0.00	1556	EN13016-1	100.1		0.75
420	EN13016-1	100.19		0.84	1586	EN13016-1	92.9	R(0.01)	-6.92
431		----		----	1634	EN13016-1	98.9		-0.53
433		----		----	1636	EN13016-1	97.95		-1.54
440	D5191	100.0		0.64	1667	EN13016-1	100.3		0.96
445	EN13016-1	99.9		0.53	1720		----		----
447	EN13016-1	96.5		-3.09	1724		----		----
453		----		----	1728	EN13016-1	99.75		0.37
463	EN13016-1	100.40		1.06	1776	EN13016-1	99.2		-0.21
468	EN13016-1	99.95		0.59	1782	EN13016-1	99.5		0.11
485		----		----	1807	EN13016-1	98.6		-0.85
494		----		----	1811	EN13016-1	97.77		-1.73
496	EN13016-1	98.5		-0.96	1833		----		----
631		----		----	1849	EN13016-1	98.3	C	-1.17
704	EN13016-1	99.05		-0.37	1881	D5191	99.9		0.53
753	D5191	101.09		1.80	1936	EN13016-1	100.1		0.75
754	D5191	101.0		1.70	1937		----		----
785		----		----	1938		----		----
824	D5191	101.0		1.70	1941	EN13016-1	99.77		0.39
861	D5191	99.1		-0.32	1948	EN13016-1	100.0		0.64
875	D5191	99.5		0.11	1953	EN13016-1	97.6		-1.92
902	EN13016-1	99.2		-0.21	2129	EN13016-1	99.3		-0.11
970		----		----	2130	D5191	99.3		-0.11
974	D5191	98.371		-1.10	2146	EN13016-1	99.1		-0.32
1006		----		----	6005	EN13016-1	99.6		0.21
1011		----		----	6016		----		----
1033	EN13016-1	99.3		-0.11	6028	EN13016-1	98.2		-1.28
1059	EN13016-1	99.0		-0.43	6049	EN13016-1	100.0		0.64
1067		----		----	6075	EN13016-1	98.9		-0.53
1082	EN13016-1	99.4		0.00	6090		----		----
normality		OK							
n		80							
outliers		2							
mean (n)		99.400							
st.dev. (n)		0.9029							
R(calc.)		2.528							
R(EN13016-1:07)		2.630							

Lab 1105 first reported: 93.02

Lab 1849 first reported: 91.08



Determination of DVPE (acc. to EN13016-1) on sample #16212; results in kPa

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
92	D5191	93.6		1.60	1105	D6378Calc.	92.39		0.27
132	D5191	92.63		0.54	1108	EN13016-1	92.5		0.39
140	D5191	90.12		-2.21	1109	D5191	91.852		-0.32
150		----		----	1131	EN13016-1	92.0		-0.15
158		----		----	1134	IP394	91.4		-0.81
159		----		----	1141	EN13016-1	92.5		0.39
171		----		----	1143	EN13016-1	92.3		0.17
194		----		----	1155	EN13016-1	92.14		0.00
225	D5191	91.49		-0.71	1161	EN13016-1	91.6		-0.59
228	D5191	92.3		0.17	1162	EN13016-1	93.0		0.94
237	D5191	92.50		0.39	1167	EN13016-1	91.25		-0.98
238	D5191	91.5		-0.70	1171	EN13016-1	93.25		1.21
311	D5191	92.2		0.06	1182	D5191	91.0		-1.25
312	D5191	92.53		0.43	1191	EN13016-1	91.5		-0.70
323	EN13016-1	92.9		0.83	1194	EN13016-1	91.1	C	-1.14
333	EN13016-1	91.9		-0.26	1229	EN13016-1	92.8		0.72
334	EN13016-1	92.0		-0.15	1264		----		----
335	EN13016-1	91.5		-0.70	1299	D5191	91.7		-0.48
336	EN13016-1	93.1		1.05	1310	EN13016-1	91.7		-0.48
337		----		----	1340	EN13016-1	91.53		-0.67
338	EN13016-1	90.8		-1.47	1389	EN13016-1	93.8		1.82
340	EN13016-1	93.2		1.16	1397	EN13016-1	91.3	E	-0.92
343	EN13016-1	94.3		2.36	1402	EN13016-1	92.0		-0.15
344		----		----	1404	EN13016-1	92.4		0.28
353	D5191	92.3		0.17	1409	EN13016-1	92.0		-0.15
369	EN13016-1	92.8		0.72	1428	EN13016-1	93.0		0.94
370	EN13016-1	90.9		-1.36	1446	EN13016-1	91.6		-0.59
371	EN13016-1	93.01		0.95	1459	EN13016-1	92.0		-0.15
381	EN13016-1	92.88		0.81	1491	EN13016-1	91.3		-0.92
391	EN13016-1	92.2		0.06	1510	D5191	92.0		-0.15
399	EN13016-1	92.85		0.78	1528	EN13016-1	93.2		1.16
402	EN13016-1	91.7		-0.48	1538	EN13016-1	91.4		-0.81
403	EN13016-1	92.14		0.00	1556	EN13016-1	92.8		0.72
420	EN13016-1	92.9		0.83	1586	EN13016-1	85.9	R(0.01)	-6.84
431	EN13016-1	90.7		-1.58	1634	EN13016-1	91.7		-0.48
433	D5191	92.8		0.72	1636	EN13016-1	90.70		-1.58
440	D5191	92.72		0.63	1667	EN13016-1	93.009		0.95
445	EN13016-1	92.6		0.50	1720		----		----
447	EN13016-1	92.6	E	0.50	1724		----		----
453	IP394	91.9		-0.26	1728	EN13016-1	92.48		0.37
463	EN13016-1	93.11		1.06	1776	EN13016-1	91.9		-0.26
468	EN13016-1	92.8		0.72	1782	EN13016-1	92.2		0.06
485	EN13016-1	92.65		0.56	1807	EN13016-1	91.4		-0.81
494	EN13016-1	92.1		-0.05	1811	EN13016-1	90.57		-1.72
496	EN13016-1	91.3		-0.92	1833	EN13016-1	91.1		-1.14
631		----		----	1849	EN13016-1	91.08	C	-1.16
704	EN13016-1	91.80		-0.37	1881	D5191	92.62		0.52
753	D5191	93.77		1.78	1936	EN13016-1	92.8		0.72
754	D5191	93.7		1.71	1937	EN13016-1	91.7		-0.48
785	D5191	92.1		-0.05	1938	EN13016-1	91.5		-0.70
824	D5191	93.7		1.71	1941	EN13016-1	92.5		0.39
861	D5191	91.8		-0.37	1948	EN13016-1	92.8		0.72
875	D5191	92.2		0.06	1953	EN13016-1	90.4		-1.91
902	EN13016-1	92.0		-0.15	2129	EN13016-1	92.0		-0.15
970	D5191	91.149		-1.09	2130	D5191	92.1		-0.05
974	D5191	91.149		-1.09	2146	EN13016-1	91.8		-0.37
1006	D5191	93.1		1.05	6005	EN13016-1	92.3		0.17
1011	EN13016-1	92.7		0.61	6016		----		----
1033	IP394	92.1		-0.05	6028	EN13016-1	91.0		-1.25
1059	EN13016-1	91.8		-0.37	6049	EN13016-1	92.7		0.61
1067	D5191	92.4		0.28	6075	EN13016-1	91.66		-0.53
1082	EN13016-1	92.2		0.06	6090		----		----
normality		OK							
n		110							
outliers		1							
mean (n)		92.141							
st.dev. (n)		0.7977							
R(calc.)		2.234							
R(EN13016-1:07)		2.557							

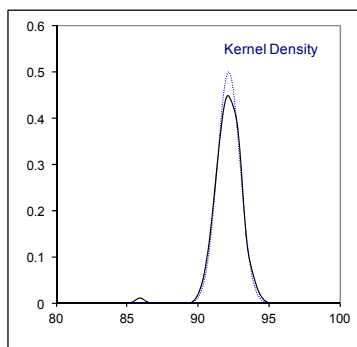
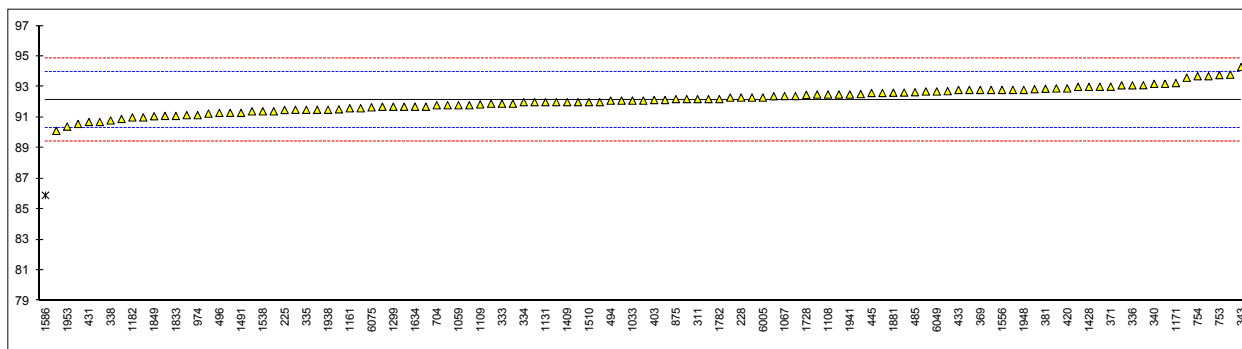
Lab 447: iis calculated for DVPE: 89.3

Lab 1105: did calculation according to ASTM D6378; iis could not reproduce this calculation

Lab 1194 first reported: 9.1

Lab 1397: iis calculated for DVPE: 91.9

Lab 1849 first reported: 98.3



APPENDIX 2: z-scores distillation

lab	method	mode	IBP	10% eva	50% eva	90% eva	FBP	E70%/V/V	E100%/V/V	E150%/V/V
92	D86	Automated	-0.03	0.12	1.20	-0.51	-0.26	0.37	-0.46	1.03
132	D86	Automated	-0.81	-0.67	-1.33	-0.36	0.03	0.68	0.43	0.39
140	D86	Automated	-1.10	-0.58	-1.33	-0.51	-0.38	-0.05	1.07	-4.14
150	D86	Automated	0.86	0.29	-0.88	-1.09	-0.63	0.16	0.94	1.46
158			----	----	----	----	----	----	----	----
159	D86	Automated	-0.15	-0.76	-1.63	-0.15	0.28	----	----	----
171	D86	Automated	-0.21	0.12	-0.88	-0.22	-0.59	----	0.17	0.17
194			----	----	----	----	----	----	----	----
221	D86	Manual	1.87	1.08	7.76	1.96	1.27	-2.95	-2.75	-3.06
228	D86	Manual	0.68	0.03	-2.07	-2.11	0.86	0.16	1.70	2.33
237	D86	Manual	1.87	1.60	2.10	0.65	0.86	-1.91	-1.48	-3.06
238	D86	Manual	1.28	1.52	1.05	-0.58	1.27	-0.36	1.07	-1.98
273	D86	Automated	0.15	1.17	3.74	0.29	-0.38	----	----	----
311	D86	Automated	-0.93	0.82	-0.14	-0.44	0.03	-0.56	0.17	0.60
312	D86	Automated	-0.93	-0.76	-1.03	-0.80	-0.59	0.78	0.30	1.03
323	ISO3405	Automated	0.15	-0.41	-2.07	-0.80	-1.12	0.78	0.81	0.82
333	D86	Automated	-1.94	0.29	3.88	1.67	-0.13	0.47	0.05	1.68
334	ISO3405	Automated	-1.88	-0.93	-3.12	-0.80	-1.46	1.20	1.07	1.25
335	ISO3405	Automated	-0.33	-0.23	-0.14	-1.16	-0.38	0.26	-0.46	0.82
336	ISO3405	Automated	-0.45	-0.50	-0.29	-0.73	0.24	0.37	0.30	1.89
337			----	----	----	----	----	----	----	----
338	ISO3405	Automated	-0.75	-0.41	-0.43	-0.44	0.20	0.47	0.17	1.03
340	ISO3405	Automated	-0.93	-0.06	-0.73	-0.36	-0.67	0.26	0.30	-0.04
343			1.57	-0.06	-0.88	0.80	-1.08	0.26	1.70	-0.69
344			----	----	----	----	----	----	----	----
353	D86	Automated	-0.51	-1.63	-3.12	-0.80	0.24	1.61	1.07	0.39
369	ISO3405	Automated	-1.10	-0.76	-2.07	0.14	-0.09	0.78	1.07	-0.26
370	ISO3405	Automated	-0.51	-0.50	-2.82	-0.15	0.03	0.06	0.56	0.17
371	ISO3405	Automated	-0.63	-1.11	-0.58	0.94	0.03	-0.36	-0.84	-1.77
381	ISO3405	Automated	0.32	0.82	1.35	0.51	1.31	-0.36	-0.46	-0.69
391			----	----	----	----	----	----	----	----
399			----	----	----	----	----	----	----	----
402	ISO3405	Automated	1.40	0.29	-0.88	-0.51	1.31	-0.05	0.43	-0.26
403			----	----	----	----	----	----	----	----
420	ISO3405	Automated	-1.94	-1.37	-1.92	-1.16	-0.26	0.78	0.94	2.54
431	ISO3405	Automated	1.22	0.47	-0.29	-1.31	0.69	-0.15	0.56	2.11
433			----	----	----	----	----	----	----	----
440			1.22	-0.58	-1.78	-0.29	0.77	0.89	0.94	1.89
444	D86	Automated	-2.53	-0.67	-1.03	-0.58	0.32	0.58	0.17	0.39
445	ISO3405	Automated	0.92	0.20	-1.78	-0.51	-0.51	0.26	1.83	0.82
447	IP123	Automated	-1.88	-1.02	-2.97	-0.94	0.36	1.20	0.94	2.33
453	IP123	Automated	-1.28	-0.67	-2.82	-0.73	-1.25	0.99	1.19	1.03
463	D86	Automated	0.38	0.03	0.01	-0.15	0.44	0.16	-0.08	0.39
468			----	----	----	----	----	----	----	----
485	ISO3405	Automated	0.65	-0.37	-0.36	-0.18	-0.63	0.16	0.11	0.39
494			0.23	-0.06	-2.07	-0.58	-0.98	0.58	1.19	1.03
496	D86	Automated	0.09	0.90	4.33	2.25	-1.08	0.58	0.94	1.03
541	ISO3405	Automated	-0.99	-0.50	-0.88	-0.51	0.69	-1.81	-2.24	-2.20
631			----	----	----	----	----	----	----	----
634	D86	Manual	2.76	1.08	1.80	1.59	-1.83	----	----	----
671			----	----	----	----	----	----	----	----
704	D86	Manual	-0.15	0.03	1.20	0.14	1.06	-0.05	-0.84	0.39
753	D86	Manual	1.28	0.64	-0.43	0.51	0.24	-0.88	-0.21	-1.98
754	D86	Manual	0.98	0.64	4.03	1.23	0.44	-1.91	-2.12	0.17
782	D86	Manual	1.28	0.29	0.16	-0.07	-0.17	-0.88	1.19	-0.47
785	D86	Manual	1.28	1.08	4.03	1.59	-0.17	-1.39	-1.48	-1.98
824	D86	Automated	-0.69	-0.15	0.16	-0.29	-0.59	0.16	0.05	0.82
861	D86	Automated	0.32	-0.32	-0.88	-0.15	0.86	0.47	0.43	0.17
875	D86	Automated	0.20	1.08	2.54	2.47	0.90	-1.60	-0.84	-2.63
902	ISO3405	Automated	-1.16	1.08	4.48	2.83	0.69	-1.39	-1.61	-1.98
962			----	----	----	----	----	----	----	----
970	D86	Automated	-0.21	0.47	-0.73	-0.65	0.36	-0.56	0.68	-0.26
971	D86	Manual	-0.51	0.20	-1.18	-0.94	0.44	-0.36	0.43	1.25
974	D86	Automated	0.09	0.73	-0.29	-0.36	0.24	-0.77	0.81	-1.77
994	D86	Manual	1.28	-1.11	----	1.45	1.27	-1.71	-2.12	-1.21
1006	D86	Automated	1.22	0.99	1.80	-0.22	----	----	----	----
1011	ISO3405	Manual	-1.88	0.20	0.46	-0.36	0.44	0.06	-0.21	0.60
1033	IP123	Automated	-1.58	0.55	4.33	2.03	-0.17	-1.19	-2.12	-2.41
1059	ISO3405	Automated	-0.27	-1.37	-1.92	-0.65	0.20	0.78	0.17	1.03
1067	D86	Automated	1.10	-1.28	-2.37	-0.44	2.06	1.30	0.56	0.39
1079	D86	Automated	-0.21	-1.46	-2.07	-0.36	0.86	0.89	0.43	0.60
1082	ISO3405	Automated	-1.82	-0.67	-1.48	-0.51	-0.79	0.58	0.43	0.82
1105	D86	Automated	0.20	-0.85	-3.12	-0.58	-2.86	1.20	1.07	1.03
1108	ISO3405	Automated	-0.45	0.12	-0.14	-0.65	0.36	-0.05	0.30	1.46
1109	D86	Automated	-1.40	-0.58	-1.48	-0.58	0.11	0.78	0.68	1.03
1126	ISO3405	Automated	-3.61	-3.12	0.16	1.01	4.49	-1.08	-0.72	-1.12

lab	method	mode	IBP	10% eva	50% eva	90% eva	FBP	E70%V/V	E100%V/V	E150%V/V
1131	ISO3405	Automated	-0.75	-0.67	-1.78	-0.36	-1.87	0.68	0.56	0.39
1134	IP123	Automated	2.05	0.29	0.46	0.00	1.19	-0.88	0.56	1.68
1141	ISO3405	Automated	1.99	0.90	2.54	-0.15	-0.38	0.47	1.57	2.97
1143	ISO3405	Automated	1.81	-0.23	-1.92	-1.38	1.93	-0.25	0.68	1.68
1155	ISO3405	Automated	-0.75	-0.06	0.31	0.22	1.97	0.16	-0.21	0.60
1161	D86	Automated	0.15	-0.06	0.16	0.80	1.44	-0.46	-0.72	-2.41
1162	ISO3405	Manual	3.66	1.08	1.80	1.23	0.03	-2.95	-2.75	-1.98
1167			----	----	----	----	----	----	----	----
1171	ISO3405	Manual	1.03	2.35	1.65	0.43	2.10	-2.69	-2.36	0.37
1186	D86	Manual	3.06	2.83	12.22	4.86	1.68	-7.10	-2.75	-7.37
1191	ISO3405	Automated	-0.57	-0.23	-1.03	-0.36	-0.01	0.47	0.43	0.39
1194	D86Mod.	Automated	2.17	-1.55	-8.18	0.58	0.98	2.86	-2.63	-1.34
1199			----	----	----	----	----	----	----	----
1229	ISO3405	Automated	-0.87	-0.67	-1.63	-0.58	-0.22	1.30	0.43	0.82
1264			----	----	----	----	----	----	----	----
1266	ISO3405	Automated	1.16	-0.06	0.31	-0.07	-2.74	0.41	-0.21	0.60
1272	ISO3405	Automated	0.50	2.04	4.93	2.25	0.03	-0.88	-1.86	1.46
1291	D86		0.62	0.90	4.63	3.12	-0.51	----	----	----
1299	D86	Automated	-0.87	----	----	----	0.24	0.16	0.05	1.25
1310	ISO3405	Automated	1.28	-1.98	-3.71	-1.82	-2.16	2.86	2.72	3.40
1340	ISO3405	Automated	0.15	0.03	-26.50	-2.69	-2.03	6.49	4.37	-3.71
1357	D86	Automated	-0.09	0.29	0.31	0.14	1.15	-1.60	-1.99	-3.27
1389	D86	Automated	-1.94	0.64	2.84	1.96	0.49	-0.77	-1.86	-3.27
1397			1.28	-0.23	-1.18	-0.29	2.22	----	----	----
1402	ISO3405	Automated	-0.99	-0.93	-0.73	-0.44	0.57	0.37	0.30	2.76
1404	ISO3405	Automated	-0.87	-1.55	-3.56	-1.09	-0.55	1.41	1.32	1.68
1409	ISO3405	Automated	-0.75	1.25	4.18	1.09	0.20	-1.60	-1.48	-2.20
1428	ISO3405	Automated	0.92	0.47	0.46	-0.15	0.53	-0.46	-0.33	0.17
1443	ISO3405	Automated	0.86	0.03	-1.18	-0.36	-0.05	0.99	0.30	0.39
1459	ISO3405	Automated	-0.93	-0.41	-1.03	-0.36	-0.13	0.58	0.05	0.39
1491	ISO3405	Automated	-0.69	-0.32	-1.92	-0.44	-0.26	0.58	0.81	0.60
1498	D86	Automated	0.26	-0.67	-2.82	-0.15	0.07	1.20	1.07	1.25
1528	D86	Automated	-0.45	0.82	2.84	0.14	-0.88	-1.19	-0.97	-0.26
1538	ISO3405	Automated	1.34	1.17	2.69	1.30	-0.75	-1.19	-1.23	-1.98
1546	ISO3405	Automated	1.37	-0.85	-2.67	-0.47	0.05	0.94	0.68	0.93
1549	ISO3405	Automated	0.98	0.12	-0.88	-0.22	-0.01	1.09	0.81	0.82
1550	D86	Automated	0.57	-1.33	-1.27	-0.55	-0.68	1.84	1.07	-0.52
1556	ISO3405	Automated	-1.28	-0.41	-0.73	-0.51	0.16	0.37	0.43	1.25
1569	D86	Automated	-0.81	-0.15	-0.73	-0.22	0.28	0.37	0.17	0.39
1586	ISO3405	Automated	-0.81	2.13	2.99	0.80	1.06	-1.19	-1.23	-1.12
1634	ISO3405	Automated	-0.33	-0.23	-1.63	0.14	1.02	-0.15	1.19	-1.55
1636	ISO3405	Automated	-1.37	0.47	0.83	-0.36	-0.55	-0.15	-0.21	0.60
1667	ISO3405	Manual	0.38	-1.11	-1.18	-0.22	0.03	1.20	1.07	0.17
1720			----	----	----	----	----	----	----	----
1724			----	----	----	----	----	----	----	----
1728	ISO3405	Manual	-0.51	-0.10	0.06	0.91	0.22	-0.72	-0.27	-1.62
1740	ISO3405	Automated	-0.03	1.08	0.91	-1.45	-1.95	-0.88	0.81	0.82
1742	ISO3405	Automated	-0.31	-1.67	-2.95	-0.26	0.61	1.20	0.81	1.68
1776	ISO3405	Automated	-0.03	-0.58	-3.71	-0.58	-0.71	1.41	1.57	1.03
1782	D86	Automated	-0.27	0.82	5.08	2.68	0.03	-1.39	-2.37	-4.35
1807	ISO3405	Automated	-0.39	0.38	1.80	0.58	-0.05	-0.46	-0.72	-0.91
1811	D86	Automated	-0.45	0.64	0.91	-0.73	-0.88	-0.56	-0.08	1.46
1833			----	----	----	----	----	----	----	----
1849			1.28	0.47	-1.48	-0.51	-0.26	0.47	0.94	0.82
1881	ISO3405	Manual	-0.51	-0.67	-1.92	-0.94	-0.79	0.78	1.19	2.54
1884	ISO3405	Automated	2.71	1.78	2.99	1.89	-0.09	-0.98	-1.86	-3.49
1936	ISO3405	Automated	-1.16	-2.33	-1.18	-0.36	0.24	0.47	0.56	1.68
1937	ISO3405	Automated	0.74	0.47	-0.73	-0.22	0.07	-0.15	0.43	0.60
1938	ISO3405	Automated	-0.21	0.82	-0.73	-1.02	0.03	-0.25	1.57	0.82
1941	ISO3405	Automated	0.26	0.64	0.46	0.65	1.02	-0.15	-0.21	-1.55
1948	ISO3405	Automated	-0.69	-2.42	-6.39	-2.18	-0.67	2.86	2.85	2.97
1953	ISO3405	Automated	-0.39	-1.20	-2.97	-0.51	-0.01	----	----	----
1995	D86		0.68	1.95	-1.18	-0.22	0.44	-3.99	-1.48	-0.91
2129	ISO3405	Automated	-0.87	-0.23	-0.73	-0.65	0.44	0.37	0.43	0.82
2130	IP123	Automated	-0.21	-0.32	-1.33	-0.07	0.44	0.47	0.30	0.17
2146			0.98	1.69	5.22	0.65	1.11	-1.81	-2.24	-1.12
6005	ISO3405	Automated	-1.10	1.34	4.48	1.74	-0.05	-1.60	-2.12	-2.84
6016			----	----	----	----	----	----	----	----
6028	ISO3405	Automated	0.03	0.03	1.65	0.87	-0.88	-0.25	-1.61	0.60
6045	D86	Automated	0.62	0.60	3.44	1.56	-1.50	-1.45	-1.29	-2.95
6046	ISO3405	Manual	0.09	1.08	6.27	-2.40	-2.45	-4.09	-5.43	-2.84
6047	ISO3405	Automated	0.80	-0.15	-0.88	-0.29	-0.09	0.89	0.68	0.82
6049	ISO3405	Automated	0.26	1.08	1.80	0.58	1.15	-0.15	-0.46	-0.26
6054	D86	Automated	-0.39	0.73	4.93	1.96	-1.21	-1.08	-2.24	-3.92
6075	ISO3405	Automated	-1.34	-0.50	-0.14	-0.36	-0.92	0.37	0.17	1.68
6090			----	----	----	----	----	----	----	----

APPENDIX 3**Number of participants per country of the main round**

1 lab in ARGENTINA
1 lab in AUSTRALIA
2 labs in AUSTRIA
1 lab in AZERBAIJAN
3 labs in BELGIUM
3 labs in BOSNIA and HERZEGOVINA
1 lab in BRAZIL
6 labs in BULGARIA
1 lab in CANADA
1 lab in CHILE
3 labs in CHINA, People's Republic
1 lab in COTE D'IVOIRE
1 lab in CROATIA
3 labs in CYPRUS
2 labs in CZECH REPUBLIC
1 lab in EGYPT
1 lab in ESTONIA
5 labs in FINLAND
9 labs in FRANCE
1 lab in GEORGIA
2 labs in GERMANY
2 labs in GREECE
1 lab in GUAM
1 lab in HONG KONG
1 lab in IRELAND
1 lab in ISRAEL
2 labs in ITALY
1 lab in KAZAKHSTAN
1 lab in KOSOVO
2 labs in LATVIA
3 labs in LITHUANIA
1 lab in MACEDONIA
1 lab in MALTA
1 lab in MARTINIQUE
4 labs in NETHERLANDS
2 labs in NIGERIA
2 labs in OMAN
2 labs in PHILIPPINES
2 labs in POLAND
4 labs in PORTUGAL
4 labs in ROMANIA
5 labs in RUSSIAN FEDERATION
1 lab in SAUDI ARABIA
1 lab in SENEGAL
6 labs in SERBIA
1 lab in SLOVENIA
1 lab in SOUTH AFRICA
1 lab in SOUTH KOREA
7 labs in SPAIN
1 lab in SUDAN
4 labs in SWEDEN
1 lab in TAIWAN
1 lab in TOGO
1 lab in TUNISIA
11 labs in TURKEY
1 lab in UKRAINE
4 labs in UNITED ARAB EMIRATES
11 labs in UNITED KINGDOM
7 labs in UNITED STATES OF AMERICA

APPENDIX 4**Abbreviations:**

C	= final test result after checking of first reported suspect test result
D(0.01) or D(1)	= outlier in Dixon's outlier test
D(0.05) or D(5)	= straggler in Dixon's outlier test
G(0.01) or G(1)	= outlier in Grubbs' outlier test
G(0.05) or G(5)	= straggler in Grubbs' outlier test
DG(0.01) or DG(1)	= outlier in Double Grubbs' outlier test
DG(0.05) or DG(5)	= straggler in Double Grubbs' outlier test
R(0.01) or R(1)	= outlier in Rosner's outlier test
R(0.05) or R(5)	= straggler in Rosner's outlier test
E	= probably an error in calculations
U	= test result probably reported in a different unit
W	= test result withdrawn on request of participant
ex	= test result excluded from calculations
n.a.	= not applicable
n.e.	= not evaluated
n.d.	= not detected
fr.	= first reported
SDS	= Safety Data Sheet

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