Results of Proficiency Test
Methanol
September 2011

Organised by: Institute for Interlaboratory Studies
Spijkenisse, the Netherlands

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1 INTRODUCTION

Since 1996, a proficiency test for Methanol was organised every year by The Institute for Interlaboratory Studies. During the annual proficiency testing program 2011/2012, it was decided to continue the round robin for the analysis of Methanol in accordance with the latest applicable version of the IMPCA specification (latest version can be found and downloaded on www.impca.be). In this interlaboratory study, 80 laboratories in 31 different countries have participated. See appendix 2 for the number of participants per country. In this report, the results of the proficiency test are presented and discussed.

2 SET UP

The Institute for Interlaboratory studies in Spijkenisse, The Netherlands, was the organiser of this proficiency test. Sample analyses for fit-for-use and homogeneity testing were subcontracted. In this proficiency test, the participants received, depending on the registration, one or two samples of Methanol: 1*1L Methanol (labelled #11060) and/or 1*100 mL Methanol (labelled #11061) for UV only.
Sample #11060 was spiked with Acetone (16.4 mg/kg), Ethanol (27.3 mg/kg), Benzene (15.6 mg/kg), Sodium Chloride (0.51 mg Cl/kg), Iron (0.033 mg/kg) and Trimethylamine (65.2 µg/kg). All materials used for spiking were >99% pure. The participants were requested to report rounded and unrounded results. The unrounded results were preferably used for the statistical evaluations.

2.1 ACCREDITATION

The Institute for Interlaboratory Studies in Spijkenisse, the Netherlands, is accredited in accordance with ISO guide 43 and ILAC-G13:2007, (R007), since January 2000, by the Dutch Accreditation Council (Raad voor Accreditatie). This ensures 100% confidentially of participant's data. Feedback from the participants on the reported data is encouraged and customer's satisfaction is measured on regular basis by sending out questionnaires.

2.2 PROTOCOL

The protocol followed in the organisation 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 January 2010 (iis-protocol, version 3.2).

2.3 CONFIDENTIALITY STATEMENT

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

2.4 SAMPLES

The necessary 125 litre bulk material was provided by a Methanol producer. The bulk material was divided in two parts. The first batch of approx. 100 litre was spiked with the components listed in table 1:

Component	*Amount*
Acetone	1261 mg
Ethanol	2106 mg
Benzene	1205 mg
Sodium Chloride	64.3 mg
Iron(III) Chloride.6H_2O	12.3 mg
Trimethylamine	5.02 mg/ml

Table 1: components that were added to bulk material for sample #11060

After homogenisation in a pre-cleaned metal drum, this batch was divided over 93 brown glass bottles of 1L and labelled #11060.

The homogeneity of the subsamples #11060 was checked by determination of Density in accordance with ASTM D4052:02e1, Water content in accordance with ASTM E203:08 and Chloride in accordance with IMPCA 002:98 on 8 stratified randomly selected samples.

	Density at 20ºC in kg/L	*Water in mg/kg*	*Chloride in mg/kg*
sample #11060-1	0.79134	190	0.7
sample #11060-2	0.79134	180	0.7
sample #11060-3	0.79134	180	0.7
sample #11060-4	0.79134	170	0.7
sample #11060-5	0.79134	170	0.7
sample #11060-6	0.79134	170	0.7
sample #11060-7	0.79135	200	0.7
sample #11060-8	0.79136	220	0.7

Table 2: homogeneity test results of subsamples #11060

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

	Density at 15ºC in kg/L	*Water in mg/kg*	*Chloride in mg/kg*
r (sample #11060)	0.00002	50	0.0
reference test	ASTM D4052:02e1	ASTM E203:08	IMPCA002
0.3*R (reference test)	0.00015	81	0.1

Table 3: evaluation of repeatabilities of the subsamples #11060

The second batch of approx. 25 litre of methanol was divided over 93 brown glass bottles of 100mL and labelled #11061.
The homogeneity of the subsamples #11061 was checked by determination of UV absorbance at 220, 250 and 268.5nm (using 5cm cells) according IMPCA004:06 on 7 stratified randomly selected samples.

	UV absorbance at 220 nm	*UV absorbance at 250 nm*	*UV absorbance at 268.5 nm*
sample #11061-1	1.381	0.139	0.059
sample #11061-2	1.363	0.139	0.059
sample #11061-3	1.387	0.140	0.059
sample #11061-4	1.369	0.139	0.059
sample #11061-5	1.341	0.136	0.057
sample #11061-6	1.370	0.137	0.057
sample #11061-7	1.384	0.139	0.058

Table 4: homogeneity tests of subsamples #11061

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

	UV at 220nm	*UV at 250nm*	*UV at 268.5nm*
r (sample #11061)	0.044	0.004	0.003
reference test	IMPCA004:06	IMPCA004:06	IMPCA004:06
0.3*R (reference test)	0.118	0.004	0.005

Table 5: repeatabilities of the subsamples #11061

Each calculated repeatability was equal or less than 0.3 times the corresponding reproducibility of the reference method. Therefore, homogeneity of the subsamples #11060 and #11061 was assumed.

To the participants, depending on the registration, 1*1L bottle labelled #11060 and/or 1*100 mL bottle, labelled #11061 were sent on August 24, 2011.

2.5 STABILITY OF THE SAMPLES

The stability of Methanol, 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: Acidity, Anorganic Chloride, Appearance, Colour, Carbonisable Substances Pt/Co, Colour Pt/Co, Density @ 20°C, Distillation (IBP, 50% & DP), Acetone, Benzene, Ethanol, Water Miscibility, Nonvolatile Matter, Purity (“as is” and “on dry basis”), Permanganate Time Test, Specific Gravity 20/20 ºC/ºC, Apparent Specific Gravity 20/20

ºC/ºC, Total Iron, Trimethylamine and Water (coulometric and titrimetric) on sample #11060. On sample #11061 was requested to determine the UV absorbance at 300, 268.5, 250, 240, 230 and 220 nm.

To get comparable results, a detailed report form on which the units and the preferred test methods were printed, was sent together with each set of samples. In addition, a letter of instructions, and a SDS were added to the package.

3 RESULTS

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

Directly after the deadline, a reminder fax was sent to the laboratories that had not reported results at that moment. Shortly after the deadline, the available results were screened for suspect data. A result was called suspect in case the Huber Elimination Rule (a robust outlier test) found it to be an outlier. The laboratories that produced these suspect data were asked to check the results. Additional or corrected results are used for data analysis and original results are placed under 'Remarks' in the result tables in appendix 1.

3.1 STATISTICS

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

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

First, the normality of the distribution of the various data sets per determination was checked by means of the Lilliefors-test. After removal of outliers, this check was repeated. In case a data set does not have a normal distribution, the (results of the) statistical evaluation should be used with due care.
In accordance to ISO 5725 (1986 and 1994) the original results per determination were submitted subsequently to Dixon and Grubbs outlier tests. Outliers are marked by D(0.01) for the Dixon test and by G(0.01) or DG(0.01) for the Grubbs test. Stragglers are marked by D(0.05) for the Dixon test and by G(0.05) or DG(0.05) for the Grubbs test. Both outliers and stragglers were not included in the calculations of the averages and the standard deviations.

Finally, the reproducibilities were calculated from the standard deviations by multiplying these with a factor of 2.8. 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 significant consequences for the evaluation of the test results.

3.2 GRAPHICS

In order to visualise the data against the reproducibilities from literature, Gauss plots were made, using the sorted data for one determination (see appendix 1). On the Y-axis the reported analysis results are plotted. The corresponding laboratory numbers are under the X-axis.
The straight horizontal line presents the consensus value (a trimmed mean). The four striped lines, parallel to the consensus value line, are the +3s, +2s, -2s and -3s target reproducibility limits of the selected standard. Outliers and other data, which were excluded from the calculations, are represented as a cross. Accepted data are represented as a triangle. Furthermore, Kernel Density Graphs were made. This is a method for producing a smooth density approximation to a set of data that avoids some problems associated with histograms (see appendix 4; no.15 and 16).

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, the z-scores were calculated using a target standard deviation. This results in an evaluation independent of the spread of this interlaboratory study.

The target standard deviation was calculated from the target reproducibility (preferably taken from a standardized test method) by division with 2.8.
The z-scores were calculated in accordance with:

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

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

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

To evaluate the performance of the participating laboratories the z-scores were calculated. Absolute values for z<2 are very common and absolute values for z>3 are very rare. Therefore, the usual interpretation of z-scores is as follows:

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

4 EVALUATION

In this proficiency test, some major problems were encountered with despatch of the samples to the laboratories in Azerbaijan, Brazil, India, Mexico, Saudi Arabia, Venezuela and Vietnam. Fourteen participants received the samples near, or after the final reporting date. In total, 12 participants reported after the deadline and 9 participants did not report any result at all. Not all participants were able to report all requested parameters. Finally, 70 participants did report 1205 numerical results. Observed were 48 outlying results, which is 4.0% of the total of numerical results. In proficiency studies, outlier percentages of 3% - 7.5% are quite normal.

4.1 EVALUATION PER TEST

In this section, the results are discussed per test. Not normal distributions were found for the following test: Anorganic Chloride, Carbonisable Substances, Colour, Density @ 20°C, Distillation (automatic and manual), NVM, Purity “as received”, Purity “on dry basis”, Acetone, Benzene, Ethanol, Specific Gravity, Apparent Specific Gravity, Sulphur and UV absorbance at 300nm (50mm cuvette). In these cases the statistical evaluation should be used with due care. From the Kernel Density graphs, one can see that this conclusion is not always justified.

Acidity: No analytical problems were observed. Only one statistical outlier was observed and the observed reproducibility is in good agreement with the requirements of ASTM D1613:06.

Anorg. Chloride: This determination was problematic. The calculated reproducibility, after exclusion of three statistical outliers and one false negative test result, is not in agreement with the requirements of IMPCA002:98. The average recovery of the chloride content may be good (0.78 mg/kg found and 0.57 mg/kg added). The actual blank chloride content is unknown.

Appearance: No analytical problems were observed. All labs agreed about the appearance of the sample #11060, which was bright, clear and free of suspended matter.

Carbonisable Substances: This determination was problematic. No statistical outliers were observed. However, the calculated reproducibility is not in agreement with the requirements of ASTM E346:08. The rounding of results may be the cause that the spread is relatively large.

Colour: This determination was not problematic. Only one statistical outlier was observed and the calculated reproducibility after rejection of the statistical outlier is in good agreement with the requirements of ASTM D1209:05e1.

Density @ 20°C: This determination was problematic for two laboratories. Only two statistical outliers were observed. The calculated reproducibility after rejection of the outliers is in good agreement with the requirements of ASTM D4052:02e1. Note that ASTM D4052:09 does not mention chemicals like methanol.

Distillation: No analytical problems were observed for the automated and the manual mode. For the automated and manual mode in total, only four statistical outliers were observed. All calculated reproducibilities (IBP, MBP and DP for automated and manual mode) are, after rejection of the observed statistical outliers, in good agreement with the requirements for automated and manual modes of ASTM D1078:05. It was noticed that not all participants (8?) did correct properly for barometric pressure. Although the theoretical mid boiling point is 64.5 ºC (see table 3 of ASTM D1078), test results from 64.2 – 64.7 ºC were also reported.

Water Miscibility: No analytical problems were observed. All laboratories, except one, reported the test as “pass” or “passes”. One laboratory reported a numerical result.

NVM: Some analytical problems were observed. Four statistical outliers were observed. However, the calculated reproducibility, after rejection of the statistical outliers, is in good agreement with the requirements of ASTM D1353:09.

Purity: For the purity “as received” and “on dry basis”, in total three statistical outliers were observed. The calculated reproducibilities after rejection of the statistical outliers, are in agreement with the calculated reproducibilities of the 2010 PT iis10C06 (for “as received” 0.018 vs 0.013 and for “dry basis” 0.019 vs 0.008). Three sets of test results were excluded from calculations, as the reported result for “as received” is larger than the reported result for “on dry basis”, which is impossible.

Acetone: This determination was problematic for a number of laboratories. Five statistical outliers and two false negatives were observed. The calculated reproducibility after rejection of the statistical outliers is almost in agreement with the strict reproducibility limits, estimated using the Horwitz equation. The average recovery of Acetone (theoretical increment of 16.4 mg Acetone/kg) may be good: “less then 95%” (the actual blank Acetone content is unknown).

Benzene: This determination may be problematic for a number of laboratories. One statistical outlier and four false negatives were observed. The calculated reproducibility after rejection of the statistical outlier is in good agreement with the strict reproducibility limits, estimated using the Horwitz equation. Also, the average recovery of Benzene (theoretical increment of 15.6 mg Benzene/kg) may be good: “less then 106%” (the actual blank Benzene content is unknown).

Ethanol: This determination may be problematic. Two statistical outliers and one false negative were observed. Also, the calculated reproducibility after rejection of the statistical outliers, is not in agreement with the strict reproducibility limits, estimated using the Horwitz equation. However, the average recovery of

Ethanol (theoretical increment of 27.3 mg Ethanol/kg) may be good: “less then 112%” (the actual blank Ethanol content is unknown).

Toluene: It is hard to draw conclusions, because the toluene content is below or near the detection limit and only three participants reported numerical results.

PTT: This determination was problematic. No statistical outliers were observed. However, the calculated reproducibility is not in agreement with the requirements of ASTM D1363:11.

SG 20/20 ^{o}C: This determination was not problematic. Only two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers, is in good agreement with the requirements of ASTM D4052:02e1.
The Specific Gravity is defined as: “*the ratio of the weight in Vacuum of a unit volume of a material at stated temperature to the weight in Vacuum of an equal volume of gas-free distilled water at a stated temperature”.*

SG 20/20 ^{o}C = (density material at 20 ^{o}C) / (density water at 20 ^{o}C).

ASG 20/20 ^{o}C: This determination was not problematic. Only one statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier, is in agreement with the requirements of ASTM D4052:02e1.
The Apparent Specific Gravity is defined as: “*the ratio of the weight in air of a unit volume of a material at stated temperature to the weight in air of equal density of an equal volume of gas-free distilled water at a stated temperature”.*

SG Apparent 20/20 ^{o}C = (density material at 20 ^{o}C – 0.00120) / (density water at 20 ^{o}C - 0.00120).

SG General: When the Specific Gravities and Apparent Specific Gravities were calculated from the reported Densities, it was noticed that the reported results for the Specific Gravity 20/20 ^{o}C and Apparent Specific Gravity 20/20 ^{o}C are in line with the calculated results. Users of method ASTM D891 should be aware that this method results in Apparent Specific Gravity. To arrive at Specific Gravity or Density an additional conversion is necessary. The method provides the calculation formula.

Sulphur: It is hard to draw conclusions, because the sulphur content is below or near the detection limit. Therefore, no z-scores were calculated.

Total Iron: This determination was problematic. Two statistical outliers and three false negatives were observed. The calculated reproducibility after rejection of the statistical outliers is not at all in agreement with the requirements of ASTM E394:09. The average recovery of Iron (theoretical increment of 0.033 mg Iron/kg) is unsatisfactory: “less then 65%” (the actual blank Iron content is unknown).

TMA: This determination may be problematic. Only one statistical outlier was observed. However, the calculated reproducibility, after rejection of the statistical outlier, is not at all in agreement with the strict requirements of ASTM E346:03e1. The average recovery of the TMA (theoretical increment of 65.2 µg TMA/kg) may be questionable, less then 61% (the actual blank TMA content is unknown).

Water (coul.): This determination was very problematic. Five statistical outliers were observed and the calculated reproducibility even after rejection of the statistical outliers is not at all in agreement with the strict requirements of ASTM E1064:08.

Water (titr.): This determination was not problematic. No statistical outliers were observed and the calculated reproducibility is in good agreement with the requirements of ASTM E203:08.

UV-Absorbance: Sample #11061 was especially prepared for UV-absorbance testing. A split was made between the participants that used a 10mm and a 50mm cuvette. The determination was problematic for a number of laboratories. In total only 9 statistical outliers were observed. The observed reproducibilities for UV at 268.5nm and 250nm (10mm cuvette) were not in agreement with the requirements of IMPCA004:08. For UV at 240nm and 230nm no precision data are available. The other observed reproducibilities were all in agreement with IMPCA004:08.
Two participants would reject the sample as they reported “fail” for the UV curve.

4.2 PERFORMANCE EVALUATION FOR THE GROUP OF LABORATORIES

A comparison has been made between the reproducibility as declared by the relevant standard and the reproducibility as found for the group of participating laboratories. The average results per sample, calculated reproducibilities and reproducibilities derived from literature standards (in casu ASTM standards) are compared in the next tables.

Parameter	*unit*	*n*	*average*	*2.8 * sd*	*R (lit)*
Acidity as acetic acid	mg/kg	62	11.1	7.4	14.0
Anorganic Chloride as Cl	mg/kg	35	0.8	0.4	0.3
Carbonisable Substances	Pt/Co	47	6.6	7.5	5.0
Colour	Pt/Co	45	2.6	3.6	7.0
Density @ 20 °C	kg/L	57	0.7913	0.0002	0.0005
Initial Boiling Point (automatic)	°C	37	64.4	0.3	1.0
Mid Boiling Point (automatic)	°C	35	64.5	0.3	1.0
Dry Point (automatic)	°C	34	64.7	0.3	0.7
Initial Boiling Point (manual)	°C	25	64.4	0.2	0.7
Mid Boiling Point (manual)	°C	22	64.5	0.2	0.7
Dry Point (manual)	°C	23	64.8	0.2	0.8
Nonvolatile Matter	mg/100 mL	35	0.40	0.97	2.40
Purity as received	%M/M	37	99.972	0.013	unknown
Purity on dry basis	%M/M	48	99.992	0.008	unknown
Acetone	mg/kg	47	15.51	5.04	4.60
Benzene	mg/kg	35	16.51	3.87	4.85
Ethanol	mg/kg	53	30.52	11.71	8.17
Toluene	mg/kg	3	unknown	unknown	unknown
Permanganate Time Test	minutes	57	103	40	26
Specific Gravity 20/20 °C		54	0.7927	0.0002	0.0005
Apparent Specific Gravity 20/20 °C		31	0.7925	0.0004	0.0005
Sulphur	mg/kg	14	0.12	0.14	(0.12)
Total Iron as Fe	mg/kg	40	0.021	0.022	0.012
Trimethylamine	mg/kg	9	39.86	23.99	11.34
Water (coulometric)	mg/kg	57	187.1	51.9	32.0
Water (titrimetric)	mg/kg	29	197.0	91.6	270.0

table 6: Reproducibilities for sample #11060

results between brackets are near of below the detection limit

Parameter	*unit*	*n*	*average*	*2.8 * sd*	*R (lit)*
UV absorbance at 300 nm (10 mm cell)		17	0.004	0.004	0.006
UV absorbance at 268.5 nm (10 mm cell)		17	0.013	0.005	0.003
UV absorbance at 250 nm (10 mm cell)		17	0.027	0.009	0.003
UV absorbance at 240 nm (10 mm cell)		16	0.055	0.010	unknown
UV absorbance at 230 nm (10 mm cell)		17	0.121	0.020	unknown
UV absorbance at 220 nm (10 mm cell)		17	0.249	0.044	0.071
UV absorbance at 300 nm (50 mm cell)		13	0.022	0.011	0.033
UV absorbance at 268.5 nm (50 mm cell)		13	0.063	0.014	0.017
UV absorbance at 250 nm (50 mm cell)		13	0.137	0.015	0.014
UV absorbance at 240 nm (50 mm cell)		11	0.272	0.034	unknown
UV absorbance at 230 nm (50 mm cell)		11	0.615	0.096	unknown
UV absorbance at 220 nm (50 mm cell)		13	1.276	0.268	0.366

table 7: Reproducibilities for sample #11061

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

4.3 COMPARISON OF THE PROFICIENCY TEST OF SEPTEMBER 2011 WITH PREVIOUS PTS

	September 2011	*September 2010*	*September 2009*	*September 2008*
Number of reporting labs	70	73	59	60
Number of results reported	1205	1353	782	748
Statistical outliers	48	75	41	24
Percentage outliers	4.0%	5.5%	5.2%	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 standards. The conclusions are given the following table:

	September 2011		*September 2010*		*September 2009*		*September 2008*	
Acidity as acetic acid	++		++		++		++	
Chloride as Cl	-		--		++		++	++
Carbonisable Substances	--		--		--		--	
Colour	++		++		++		++	
Density @ 20 °C	++		++		++		++	
Distillation (automatic)	++		++		++		++	
Distillation (manual)	++		++		++		++	
Nonvolatile Matter	++		++		++		++	
Specific Gravity 20/20 °C	++		++		++		++	
Total Iron	--		--		-		--	
Water (coulometric)	--		--		--		--	
Water (titrimetric)	++		++		++		++	
Benzene	++		++		--		--	
Toluene	n.e.		++		++		n.d.	
Acetone	+/-		--		--		n.e.	--
Ethanol	--		--		+		--	+
Trimethylamine	--		--		n.e.		n.e.	
UV absorbance 300nm *)	++	++	++	--	+	--	n.e.	
UV absorbance 268.5 nm *)	-	--	+/-	--	--	--	n.e.	
UV absorbance 250 nm *)	-	--	--	+/-	--	--	n.e.	
UV absorbance 220 nm *)	++	++	++	++	++	++	n.e.	

table 9: comparison determinations against the standard requirements

*) split-up into 50 mm and 10 mm cell results

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

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

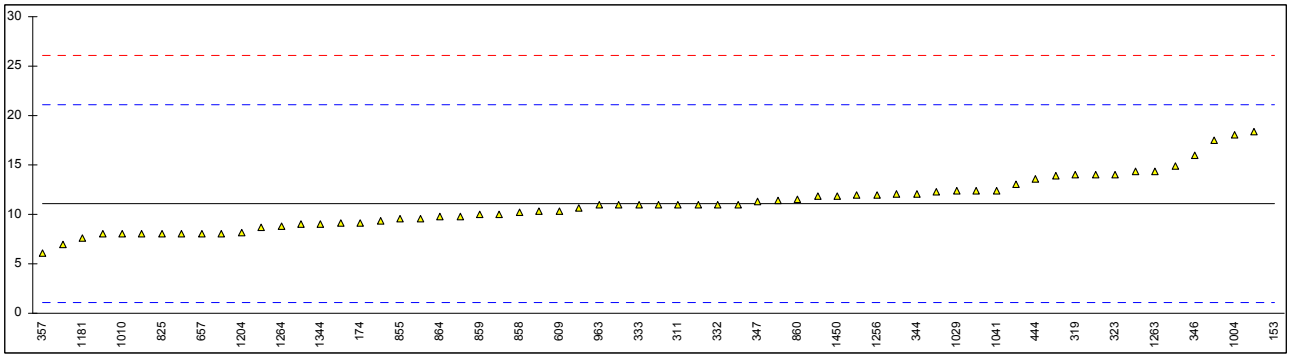
APPENDIX 1

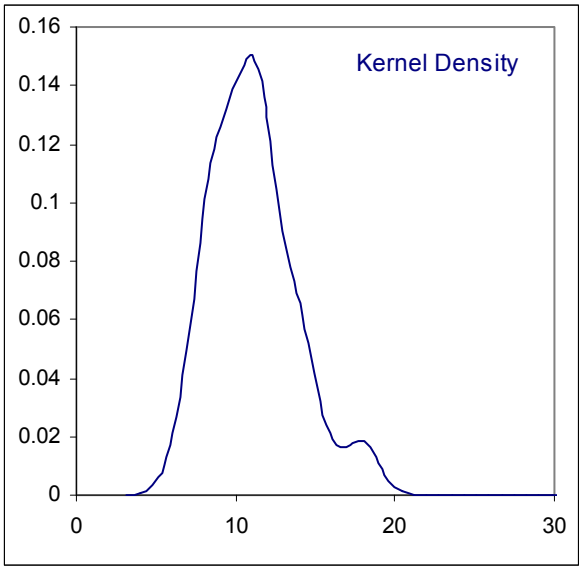
Determination of Acidity as Acetic Acid on sample #11060; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	D1613	11		-0.02	
150	D1613	9		-0.42	
153	D1613	200.000	G(0.01)	37.78	
171	D1613	9.1		-0.40	
174	D1613	9.1		-0.40	
311	D1613	11		-0.02	
316		-----		-----	
319	D1613	14		0.58	
323	D1613	14		0.58	
332	D1613	11		-0.02	
333	D1613	11		-0.02	
334		-----		-----	
342	D1613	14.9		0.76	
343		-----		-----	
344	D1613	12.109		0.20	
345	D1613	8		-0.62	
346	D1613	16.0		0.98	
347	D1613	11.3		0.04	
357	D1613	6.1		-1.00	
395	D1613	12		0.18	
444	D1613	13.6		0.50	
446	D1613	13		0.38	
497	D1613	18.40		1.46	
528		-----		-----	
529	D1613	10.615		-0.10	
551		-----		-----	
554		-----		-----	
608	D1613	12.1		0.20	
609	D1613	10.34		-0.15	
646	D1613	14.4		0.66	
657	D1613	8		-0.62	
663	D1613	12.30		0.24	
823	D1613	8		-0.62	
824	D1613	8		-0.62	
825	D1613	8		-0.62	
840	D1613	14.0		0.58	
855	D1613	9.6		-0.30	
856	D1613	9.4		-0.34	
857	D1613	8.7		-0.48	
858	D1613	10.2		-0.18	
859	D1613	10.0		-0.22	
860	D1613	11.5		0.08	
862	D1613	11.0		-0.02	
863	D1613	10.3		-0.16	
864	D1613	9.8		-0.26	
866	D1613	11.4		0.06	
870	D1613	9.6		-0.30	
902	D1613	11.8		0.14	
912		-----		-----	
913		-----		-----	
963	D1613	11		-0.02	
974	D1613	17.47		1.28	
1004	D1613	18		1.38	
1009	D1613	9.8		-0.26	
1010	D1613	8		-0.62	
1029	D1613	12.35		0.25	
1041	D1613	12.43		0.27	
1067	D1613	13.9		0.56	
1108		-----		-----	
1120		-----		-----	
1149	D1613	11		-0.02	
1181	D1613	7.58		-0.70	
1204	D1613	8.1891		-0.58	
1221		-----		-----	
1246		-----		-----	
1256	D1613	12		0.18	
1263	D1613	14.4		0.66	
1264	D1613	8.8		-0.46	
1341	D1613	10		-0.22	
1342	D1613	11		-0.02	
1343		-----		-----	
1344	D1613	9		-0.42	

1412		-----		-----	
1438		-----		-----	
1450	D1613	11.8		0.14	
1464	D1613	8		-0.62	
1465	D1613	12.4		0.26	
1615	D1613	7.0	U	-0.82	reported 0.00070
1728		-----		-----	
1866		-----		-----	

normality	OK
n	62
outliers	1
mean (n)	11.09
st.dev. (n)	2.653
R(calc.)	7.43
R(D1613:06)	14.00



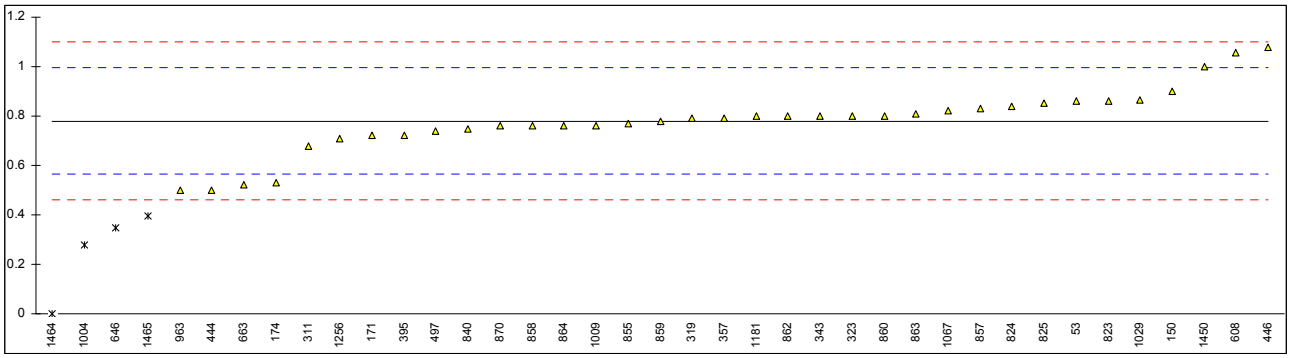


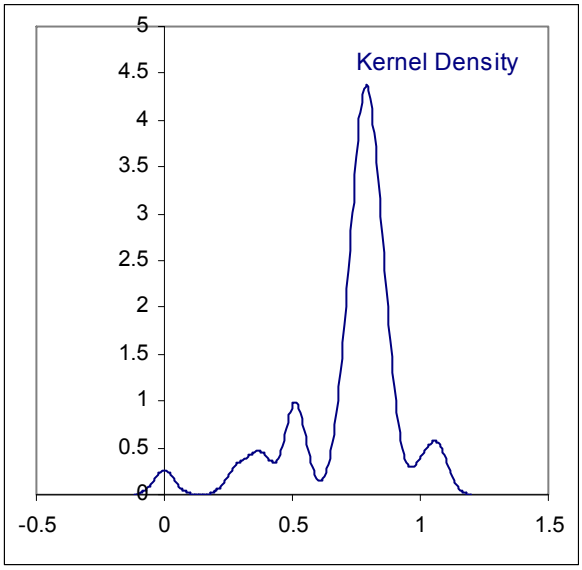
Determination of Anorganic Chloride as Cl on sample #11060; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	IMPCA002	0.86		0.74	
150	IMPCA002	0.9		1.12	
153		-----		-----	
171	IMPCA002	0.72		-0.56	
174	E2469	0.53		-2.34	
311	IMPCA002	0.68		-0.94	
316		-----		-----	
319	IMPCA002	0.79		0.09	
323	IMPCA002	0.8		0.18	
332		-----		-----	
333		-----		-----	
334		-----		-----	
342		-----		-----	
343	IMPCA002	0.80		0.18	
344		-----		-----	
345		-----		-----	
346		-----		-----	
347		-----		-----	
357	IMPCA002	0.79		0.09	
395	IMPCA002	0.72		-0.56	
444	IMPCA002	0.5	C	-2.62	first reported 1.34
446	IMPCA002	1.08		2.80	
497	IMPCA002	0.74		-0.38	
528		-----		-----	
529		-----		-----	
551		-----		-----	
554		-----		-----	
608	IMPCA002	1.058		2.59	
609		-----		-----	
646	IMPCA002	0.35	DG(0.05)	-4.02	
657		-----		-----	
663	IMPCA002	0.52		-2.43	
823	IMPCA002	0.86		0.74	
824	IMPCA002	0.84		0.56	
825	IMPCA002	0.85		0.65	
840	IMPCA002	0.75		-0.28	
855	IMPCA002	0.77		-0.10	
856		-----		-----	
857	IMPCA002	0.83		0.46	
858	IMPCA002	0.76		-0.19	
859	IMPCA002	0.78		0.00	
860	IMPCA002	0.80		0.18	
862	IMPCA002	0.80		0.18	
863	IMPCA002	0.81		0.28	
864	IMPCA002	0.76		-0.19	
866		-----		-----	
870	IMPCA002	0.76		-0.19	
902		-----		-----	
912		-----		-----	
913		-----		-----	
963	IMPCA002	0.5		-2.62	
974		-----		-----	
1004	IMPCA002	0.28	C,G(0.05)	-4.67	first reported 0.36
1009	IMPCA002	0.761		-0.18	
1010	In house	<0.25		<-4.95	false negative?
1029	IMPCA002	0.8638		0.78	
1041		-----		-----	
1067	IMPCA002	0.82		0.37	
1108		-----		-----	
1120		-----		-----	
1149		-----		-----	
1181	IMPCA002	0.7984		0.17	
1204		-----		-----	
1221		-----		-----	
1246		-----		-----	
1256	IMPCA002	0.7079		-0.68	
1263	EN14077	<3	C	-----	first reported 0.243 (below LOQ)
1264		-----		-----	
1341	IMPCA002	<0.5		<-2.62	
1342		-----	W	-----	result withdrawn; first reported 0.3
1343		-----		-----	
1344	IMPCA002	<0.5		<-2.62	
1412		-----		-----	

1438		-----		-----	
1450	IMPCA002	1.0		2.05	
1464	IMPCA002	0	ex	-7.28	Result excluded, zero is not a real result
1465	IC	0.3945	C,DG(0.05)	-3.60	first reported 0.1135
1615		-----		-----	
1728		-----		-----	
1866		-----		-----	

normality	not OK	
n	35	
outliers	3	Spike:
mean (n)	0.78	0.57
st.dev. (n)	0.130	
R(calc.)	0.37	
R(IMPCA002:98)	0.30	





Determination of Appearance on sample #11060;

lab	method	value	mark	z(targ)	remarks
53	E2680	pass		-----	
150	E2680	pass		-----	
153	E2680	pass		-----	
171	E2680	C&F		-----	
174	E2680	pass		-----	
311	E2680	C&F		-----	
316		-----		-----	
319	IMPCA003	CFSM		-----	
323	E2680	CFFSM		-----	
332	E2680	pass		-----	
333	E2680	C&B		-----	
334		-----		-----	
342	E2680	pass		-----	
343		-----		-----	
344	E2680	pass		-----	
345	E2680	pass		-----	
346		-----		-----	
347	E2680	pass		-----	
357	E2680	pass		-----	
395	E2680	CFSM		-----	
444	E2680	pass		-----	
446	IMPCA003	CFFSM		-----	
497	visual	C&B		-----	
528		-----		-----	
529	E2680	pass		-----	
551		-----		-----	
554		-----		-----	
608	E2680	pass		-----	
609	E2680	pass		-----	
646	E2680	CFSM		-----	
657	E2680	BCFSM		-----	
663	E2680	pass		-----	
823	E2680	pass		-----	
824	E2680	CFSM		-----	
825	E2680	CFSM		-----	
840	E2680	pass		-----	
855	E2680	CFSM		-----	
856	E2680	CFSM		-----	
857	E2680	pass		-----	
858	E2680	pass		-----	
859	E2680	pass		-----	
860	E2680	pass		-----	
862	E2680	pass		-----	
863	IMPCA003	CFSM		-----	
864	IMPCA003	CFSM		-----	
866	E2680	pass		-----	
870	E2680	CFSM		-----	
902	E2680	pass		-----	
912		-----		-----	
913		-----		-----	
963	E2680	pass		-----	
974	E2680	pass		-----	
1004	IMPCA003	CFSM		-----	
1009	E2680	CFSM		-----	
1010	IMPCA003	CFSM		-----	
1029	IMPCA003	clear		-----	
1041	E2680	CFSM		-----	
1067	E2680	pass		-----	
1108		-----		-----	
1120		-----		-----	
1149	E2680	C&B		-----	
1181	IMPCA003	pass		-----	
1204	IMPCA003	clear		-----	
1221		-----		-----	
1246		-----		-----	
1256	E2680	pass		-----	
1263		-----		-----	
1264	E2680	CFSM		-----	
1341	E2680	pass		-----	
1342	E2680	pass		-----	
1343	E2680	pass		-----	
1344	E2680	pass		-----	
1412		-----		-----	

1438		-----	-----
1450	E2680	pass	-----
1464		-----	-----
1465	IMPCA003	C&F	-----
1615	IMPCA003	CFSM	-----
1728		-----	-----
1866		-----	-----

normality	n.a.
n	61
outliers	n.a.
mean (n)	Pass / clear
st.dev. (n)	n.a.
R(calc.)	n.a.
R(IMPCA003:98)	n.a.

Abbreviations:

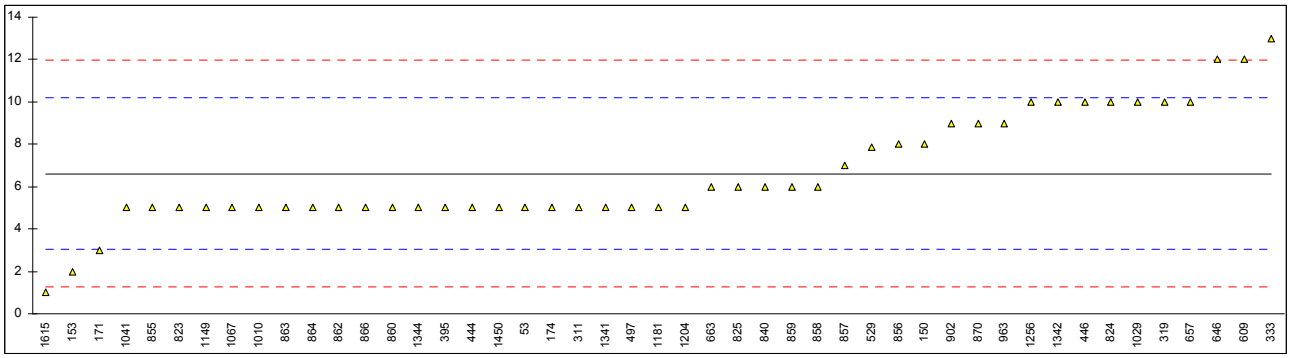
C&B:	bright and clear
CFSM:	clear and free from suspended matter
C&F:	clear and free

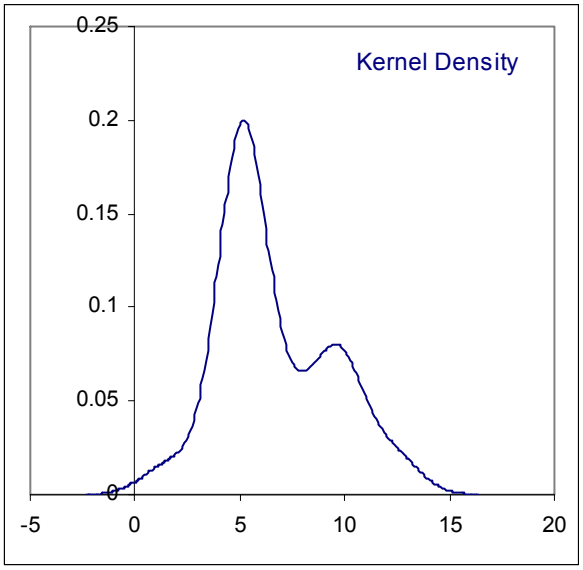
Determination of Carbonisable Substances Pt/Co on sample #11060;

lab	method	value	mark	z(targ)	remarks
53	E346	5		-0.90	
150	E346	8		0.78	
153	E346	2		-2.58	
171	E346	3		-2.02	
174	E346	5		-0.90	
311	E346	5		-0.90	
316		-----		-----	
319	E346	10		1.90	
323		-----		-----	
332		-----		-----	
333	E346	13	C	3.58	first reported 15
334		-----		-----	
342		-----		-----	
343		-----		-----	
344	E346	<30		-----	
345		-----		-----	
346		-----		-----	
347		-----		-----	
357	E346	<5		-----	
395	E346	5		-0.90	
444	E346	5		-0.90	
446	E346	10		1.90	
497	E346	5	C	-0.90	first reported 22
528		-----		-----	
529	E346	7.85		0.69	
551		-----		-----	
554		-----		-----	
608	E346	<10		-----	
609	E346	12		3.02	
646	E346	12		3.02	
657	E346	10		1.90	
663	E346	6		-0.34	
823	E346	5		-0.90	
824	E346	10		1.90	
825	E346	6		-0.34	
840	E346	6		-0.34	
855	E346	5		-0.90	
856	E346	8		0.78	
857	E346	7		0.22	
858	E346	6		-0.34	
859	E346	6		-0.34	
860	E346	5		-0.90	
862	E346	5		-0.90	
863	E346	5		-0.90	
864	E346	5		-0.90	
866	E346	5		-0.90	
870	E346	9		1.34	
902	E346	9		1.34	
912		-----		-----	
913		-----		-----	
963	E346	9		1.34	
974		-----		-----	
1004	E346	<30		-----	
1009	E346	<30		-----	
1010	E346	5		-0.90	
1029	E346	10		1.90	
1041	E346	5		-0.90	
1067	E346	5		-0.90	
1108		-----		-----	
1120		-----		-----	
1149	E346	5		-0.90	
1181	E346	5		-0.90	
1204	E346	5	C	-0.90	first reported 15
1221		-----		-----	
1246		-----		-----	
1256	E346	10		1.90	
1263		-----		-----	
1264		-----		-----	
1341	E346	5		-0.90	
1342	E346	10		1.90	
1343		-----		-----	
1344	E346	5		-0.90	
1412		-----		-----	

1438		-----	-----
1450	E346	5	-0.90
1464	E346	<15	-----
1465	E346	<5	-----
1615	E346	1	-3.14
1728		-----	-----
1866		-----	-----

normality	not OK
n	47
outliers	0
mean (n)	6.6
st.dev. (n)	2.67
R(calc.)	7.5
R(E346:08)	5.0



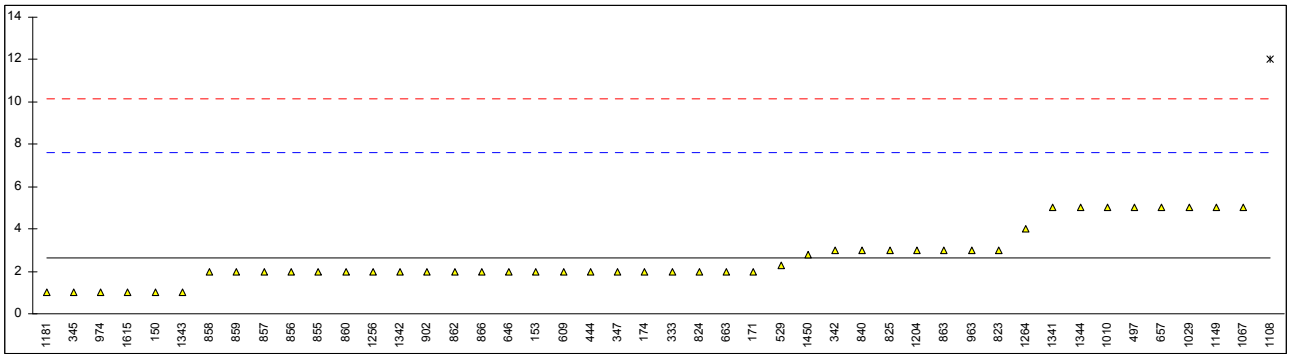


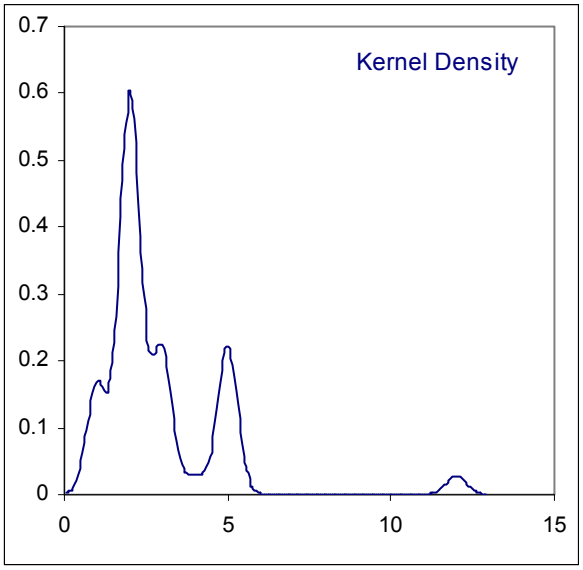
Determination of Colour as Pt/Co on sample #11060;

lab	method	Value	mark	z(targ)	remarks
53	D1209	<5		-----	
150	D1209	1		-0.65	
153	D1209	2		-0.25	
171	D1209	2		-0.25	
174	D1209	2		-0.25	
311	D1209	<5		-----	
316		-----		-----	
319	D1209	<5		-----	
323	D1209	<5		-----	
332		-----		-----	
333	D1209	2		-0.25	
334		-----		-----	
342	D5386	3		0.15	
343		-----		-----	
344	D1209	<5		-----	
345	D1209	1		-0.65	
346		-----		-----	
347	D1209	2		-0.25	
357	D1209	<5		-----	
395	D1209	<5		-----	
444	D5386	2		-0.25	
446	D1209	<5		-----	
497	D1209	5		0.95	
528		-----		-----	
529	D1209	2.3		-0.13	
551		-----		-----	
554		-----		-----	
608	D1209	<5		-----	
609	D1209	2		-0.25	
646	D1209	2		-0.25	
657	D1209	5		0.95	
663	D1209	2		-0.25	
823	D1209	3		0.15	
824	D1209	2		-0.25	
825	D1209	3		0.15	
840	D1209	3		0.15	
855	D1209	2		-0.25	
856	D1209	2		-0.25	
857	D1209	2		-0.25	
858	D1209	2		-0.25	
859	D1209	2		-0.25	
860	D1209	2		-0.25	
862	D1209	2		-0.25	
863	D1209	3		0.15	
864	D1209	<5		-----	
866	D1209	2		-0.25	
870	D1209	<5		-----	
902	D5386	2		-0.25	
912		-----		-----	
913		-----		-----	
963	D1209	3		0.15	
974	D1209	1		-0.65	
1004	D1209	<5		-----	
1009	D1209	<5		-----	
1010	D1209	5		0.95	
1029	D1209	5		0.95	
1041	D1209	<5		-----	
1067	D1209	5		0.95	
1108	D1209	12	G(0.01)	3.75	
1120		-----		-----	
1149	D1209	5		0.95	
1181	D1209	1		-0.65	
1204	D1209	3		0.15	
1221		-----		-----	
1246		-----		-----	
1256	D1209	2		-0.25	
1263		-----		-----	
1264	D1209	4		0.55	
1341	D1209	5		0.95	
1342	D1209	2		-0.25	
1343	D1209	1		-0.65	
1344	D1209	5		0.95	
1412		-----		-----	

1438		-----	-----
1450	D1209	2.8	0.07
1464	D1209	<5	-----
1465	D1209	<5	-----
1615	D1209	1	-0.65
1728		-----	-----
1866		-----	-----

normality	not OK
n	45
outliers	1
mean (n)	2.6
st.dev. (n)	1.28
R(calc.)	3.6
R(D1209:05e1)	7.0



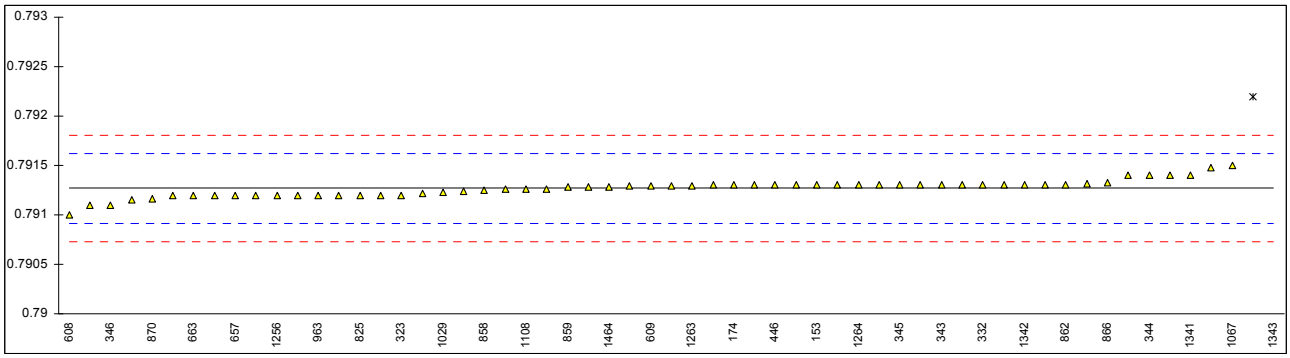


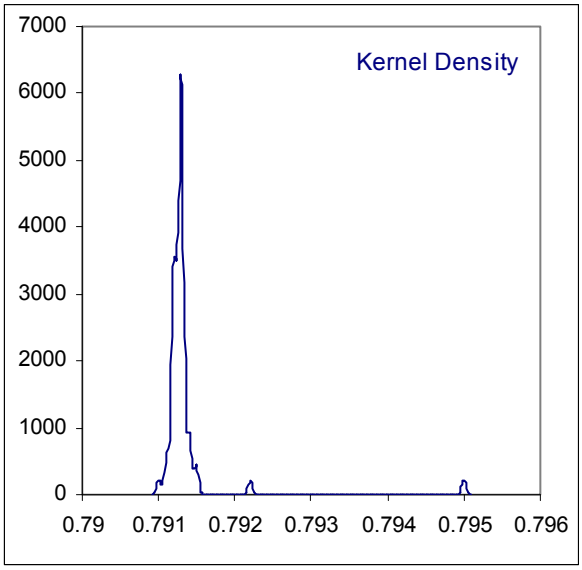
Determination of Density at 20°C on sample #11060; results in kg/L

lab	method	value	mark	z(targ)	remarks
53	D4052	0.79126		-0.04	
150	D4052	0.7922	G(0.01)	5.22	
153	D4052	0.7913		0.18	
171	D4052	0.7913		0.18	
174	D4052	0.7913		0.18	
311	D4052	0.79130	C	0.18	first reported 0.79594
316		-----		-----	
319		-----		-----	
323	D4052	0.7912		-0.38	
332	D4052	0.7913		0.18	
333	D4052	0.7913		0.18	
334	D4052	0.7914		0.74	
342	D4052	0.7911		-0.94	
343	D4052	0.79130		0.18	
344	D4052	0.7914		0.74	
345	D4052	0.7913		0.18	
346	D1298	0.7911		-0.94	
347	D4052	0.79129		0.12	
357	D4052	0.79124		-0.16	
395	D4052	0.7913		0.18	
444		-----		-----	
446	D4052	0.7913		0.18	
497	D4052	0.7912		-0.38	
528		-----		-----	
529	D4052	0.7913		0.18	
551		-----		-----	
554		-----		-----	
608	D4052	0.7910		-1.50	
609	D4052	0.79129		0.12	
646		-----	C	-----	first reported 0.7927 (see Specific Gravity 20/20)
657	D4052	0.7912		-0.38	
663	D4052	0.79120		-0.38	
823	D4052	0.7912		-0.38	
824	D4052	0.7912		-0.38	
825	D4052	0.7912		-0.38	
840	D4052	0.79122		-0.27	
855	D4052	0.79120		-0.38	
856		-----		-----	
857	D4052	0.79128		0.07	
858	D4052	0.79125		-0.10	
859	D4052	0.79128		0.07	
860	D4052	0.79130		0.18	
862	D4052	0.79130		0.18	
863	D4052	0.79131		0.24	
864	D4052	0.79126		-0.04	
866	D4052	0.79133		0.35	
870	D4052	0.79116		-0.60	
902	D4052	0.79129		0.12	
912		-----		-----	
913		-----		-----	
963	D4052	0.7912		-0.38	
974	D4052	0.7912		-0.38	
1004		-----		-----	
1009		-----		-----	
1010	D4052	0.7913		0.18	
1029	D4052	0.791226		-0.23	
1041		-----		-----	
1067	D4052	0.7915		1.30	
1108	D4052	0.79126		-0.04	
1120		-----		-----	
1149		-----		-----	
1181	D4052	0.7913		0.18	
1204	D4052	0.7913		0.18	
1221		-----		-----	
1246		-----		-----	
1256	D4052	0.7912		-0.38	
1263	ISO12185	0.79129		0.12	
1264	D4052	0.7913		0.18	
1341	D4052	0.7914		0.74	
1342	D4052	0.7913	U	0.18	reported 791.3
1343	D4052	0.7950	U, G(0.01)	20.90	reported 795.0
1344	D4052	0.7914		0.74	
1412	D4052	0.7912		-0.38	

1438		-----	-----
1450	D4052	0.79148	1.19
1464	D4052	0.79128	0.07
1465		-----	-----
1615	D4052	0.79115	-0.66
1728		-----	-----
1866		-----	-----

normality	not OK
n	57
outliers	2
mean (n)	0.79127
st.dev. (n)	0.000086
R(calc.)	0.00024
R(D4052:02e1)	0.00050



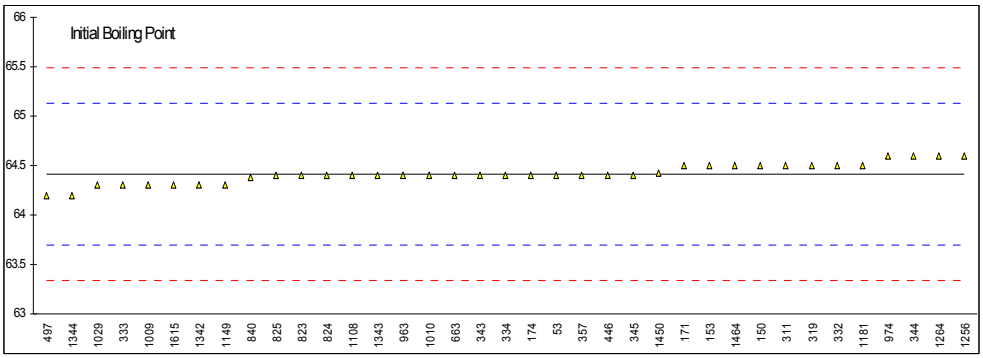


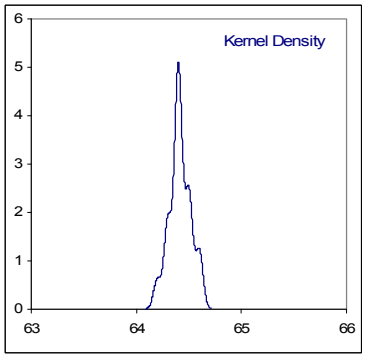
Determination of IBP, MBP and DP (automated) @ 760 mmHg on sample #11060; results in °C

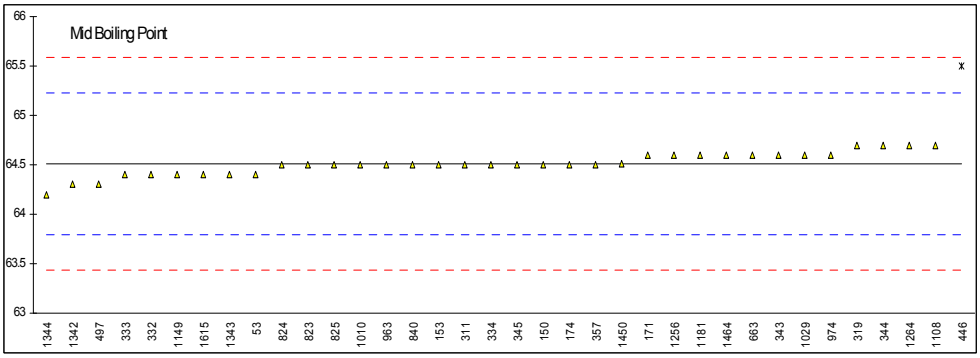
lab	method	IBP	mark	z(targ)	MBP	mark	z(targ)	DP	mark	z(targ)	remarks
53	D1078-A	64.4		-0.05	64.4		-0.30	64.7		-0.12	
150	D1078-A	64.5		0.23	64.5		-0.02	64.8		0.29	
153	D1078-A	64.5		0.23	64.5		-0.02	64.6		-0.52	
171	D1078-A	64.5		0.23	64.6		0.25	64.7		-0.12	
174	D1078-A	64.4		-0.05	64.5		-0.02	64.6		-0.52	
311	D1078-A	64.5		0.23	64.5		-0.02	64.7		-0.12	
316		-----		-----	-----		-----	-----		-----	
319	D1078-A	64.5		0.23	64.7		0.53	64.9		0.69	
323		-----		-----	-----		-----	-----		-----	
332	D1078-A	64.5		0.23	64.4		-0.30	64.6		-0.52	
333	D1078-A	64.3		-0.32	64.4		-0.30	64..7		-----	
334	D1078-A	64.4		-0.05	64.5		-0.02	64.6		-0.52	
342		-----		-----	-----		-----	-----		-----	
343	D1078-A	64.4	Fr 63.8	-0.05	64.6		0.25	64.7		-0.12	
344	D1078-A	64.6		0.51	64.7		0.53	64.8		0.29	
345	D1078-A	64.4		-0.05	64.5		-0.02	64.7		-0.12	
346		-----		-----	-----		-----	-----		-----	
347		-----		-----	-----		-----	-----		-----	
357	D1078-A	64.4		-0.05	64.5		-0.02	64.7		-0.12	
395		-----		-----	-----		-----	-----		-----	
444		-----		-----	-----		-----	-----		-----	
446	D1078-A	64.4		-0.05	65.5	G(0.01)	2.76	65.7	G(0.01)	3.93	
497	D1078-A	64.2		-0.60	64.3		-0.58	64.5		-0.93	
528		-----		-----	-----		-----	-----		-----	
529		-----		-----	-----		-----	-----		-----	
551		-----		-----	-----		-----	-----		-----	
554		-----		-----	-----		-----	-----		-----	
608		-----		-----	-----		-----	-----		-----	
609		-----		-----	-----		-----	-----		-----	
646		-----		-----	-----		-----	-----		-----	
657		-----		-----	-----		-----	-----		-----	
663	D1078-A	64.4		-0.05	64.6		0.25	64.7		-0.12	
823	D1078-A	64.4		-0.05	64.5		-0.02	64.8		0.29	
824	D1078-A	64.4		-0.05	64.5		-0.02	64.8		0.29	
825	D1078-A	64.4		-0.05	64.5		-0.02	64.8		0.29	
840	D1078-A	64.38		-0.10	64.50		-0.02	64.77		0.17	
855		-----		-----	-----		-----	-----		-----	
856		-----		-----	-----		-----	-----		-----	
857		-----		-----	-----		-----	-----		-----	
858		-----		-----	-----		-----	-----		-----	
859		-----		-----	-----		-----	-----		-----	
860		-----		-----	-----		-----	-----		-----	
862		-----		-----	-----		-----	-----		-----	
863		-----		-----	-----		-----	-----		-----	
864		-----		-----	-----		-----	-----		-----	
866		-----		-----	-----		-----	-----		-----	
870		-----		-----	-----		-----	-----		-----	
902		-----		-----	-----		-----	-----		-----	
912		-----		-----	-----		-----	-----		-----	
913		-----		-----	-----		-----	-----		-----	
963	D1078-A	64.4		-0.05	64.5		-0.02	64.7		-0.12	
974	D1078-A	64.6		0.51	64.6		0.25	-----		-----	
1004		-----		-----	-----		-----	-----		-----	
1009	D1078-A	64.3		-0.32	-----		-----	64.6		-0.52	
1010	D1078-A	64.4		-0.05	64.5		-0.02	64.7		-0.12	
1029	D1078-A	64.3		-0.32	64.6		0.25	64.7		-0.12	
1041		-----		-----	-----		-----	-----		-----	
1067		-----		-----	-----		-----	-----		-----	
1108	D1078-A	64.4		-0.05	64.7		0.53	65.0		1.10	
1120		-----		-----	-----		-----	-----		-----	
1149	D1078-A	64.3		-0.32	64.4		-0.30	64.6		-0.52	
1181	D1078-A	64.5		0.23	64.6		0.25	64.7		-0.12	
1204		-----		-----	-----		-----	-----		-----	
1221		-----		-----	-----		-----	-----		-----	
1246		-----		-----	-----		-----	-----		-----	
1256	D1078-A	64.6		0.51	64.6		0.25	65.0		1.10	
1263		-----		-----	-----		-----	-----		-----	
1264	D1078-A	64.6		0.51	64.7		0.53	64.8		0.29	
1341		-----		-----	-----		-----	-----		-----	
1342	D1078-A	64.3		-0.32	64.3		-0.58	64.9		0.69	
1343	D1078-A	64.4		-0.05	64.4		-0.30	64.6		-0.52	
1344	D1078	64.2		-0.60	64.2		-0.86	64.7		-0.12	
1412		-----		-----	-----		-----	-----		-----	

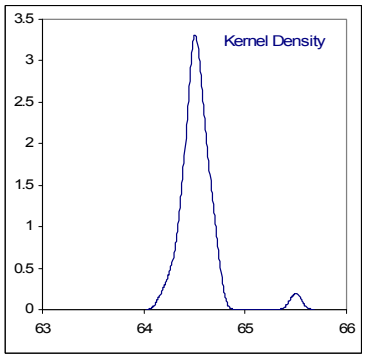
1438		-----	-----	-----	-----	-----	-----
1450	D1078-A	64.42	0.01	64.51	0.00	64.82	0.37
1464	D1078-A	64.5	0.23	64.6	0.25	64.8	0.29
1465		-----	-----	-----	-----	-----	-----
1615	D1078-A	64.3	-0.32	64.4	-0.30	64.7	-0.12
1728		-----	-----	-----	-----	-----	-----
1866		-----	-----	-----	-----	-----	-----

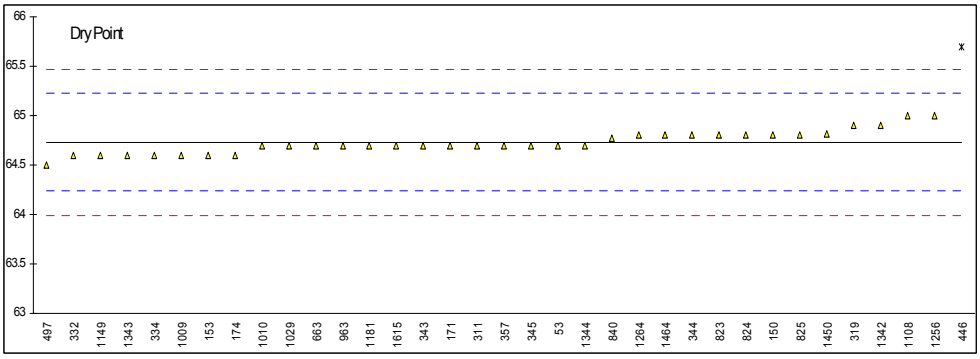
normality	not OK	not OK	not OK
n	37	35	34
outliers	0	1	1
mean (n)	64.42	64.51	64.73
st.dev. (n)	0.102	0.117	0.114
R(calc.)	0.28	0.33	0.32
R(D1078:05-A)	1.00	1.01	0.69

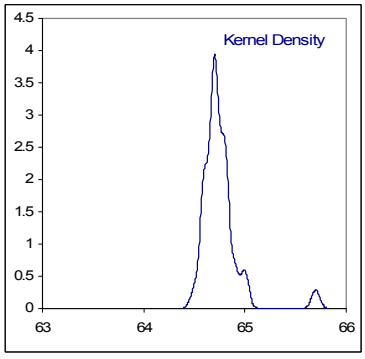










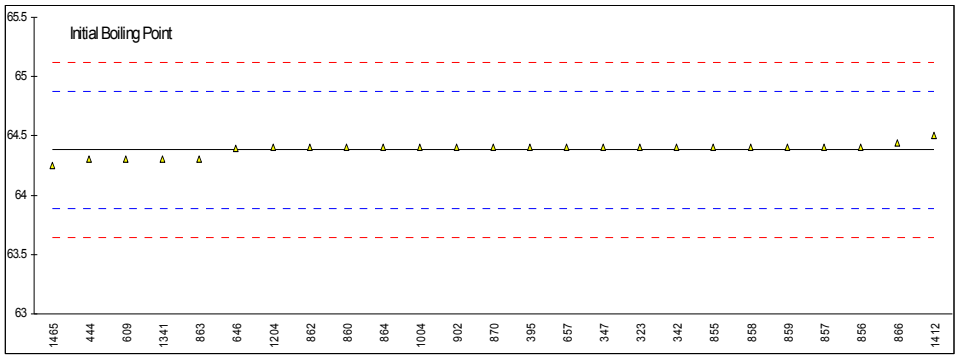


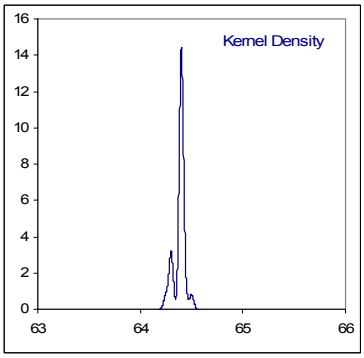
Determination of IBP, MBP and DP (manual) @ 760 mmHg on sample #11060; results in °C

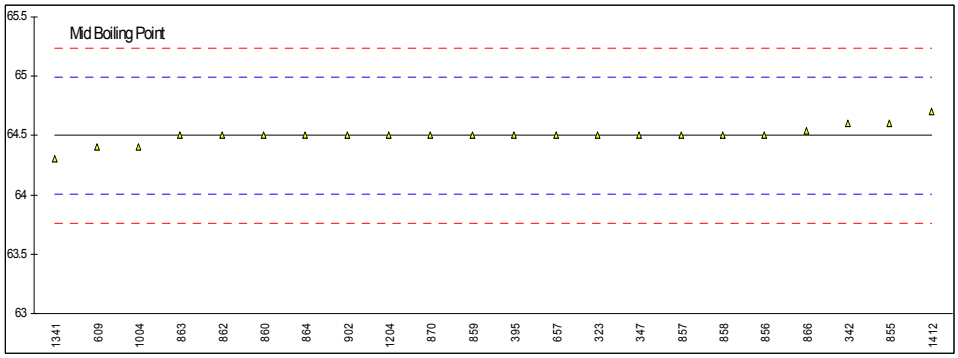
Lab	method	IBP	mark	z(targ)	MBP	mark	z(targ)	DP	mark	z(targ)	Remarks
53		-----		-----	-----		-----	-----		-----	
150		-----		-----	-----		-----	-----		-----	
153		-----		-----	-----		-----	-----		-----	
171		-----		-----	-----		-----	-----		-----	
174		-----		-----	-----		-----	-----		-----	
311		-----		-----	-----		-----	-----		-----	
316		-----		-----	-----		-----	-----		-----	
319		-----		-----	-----		-----	-----		-----	
323	D1078-M	64.4		0.07	64.5		-0.01	64.8		0.06	
332		-----		-----	-----		-----	-----		-----	
333		-----		-----	-----		-----	-----		-----	
334		-----		-----	-----		-----	-----		-----	
342	D1078-M	64.4		0.07	64.6		0.40	64.8		0.06	
343		-----		-----	-----		-----	-----		-----	
344		-----		-----	-----		-----	-----		-----	
345		-----		-----	-----		-----	-----		-----	
346		-----		-----	-----		-----	-----		-----	
347	D1078-M	64.4		0.07	64.5		-0.01	64.8		0.06	
357		-----		-----	-----		-----	-----		-----	
395	D1078-M	64.4		0.07	64.5		-0.01	64.8		0.06	
444	D1078-M	64.3		-0.34	-----		-----	64.8		0.06	
446		-----		-----	-----		-----	-----		-----	
497		-----		-----	-----		-----	-----		-----	
528		-----		-----	-----		-----	-----		-----	
529		-----		-----	-----		-----	-----		-----	
551		-----		-----	-----		-----	-----		-----	
554		-----		-----	-----		-----	-----		-----	
608		-----		-----	-----		-----	-----		-----	
609	D1078-M	64.3		-0.34	64.4		-0.41	64.8		0.06	
646	D1078-M	64.395		0.05	-----		-----	64.595		-0.62	
657	D1078-M	64.4		0.07	64.5		-0.01	64.9		0.39	
663		-----		-----	-----		-----	-----		-----	
823		-----		-----	-----		-----	-----		-----	
824		-----		-----	-----		-----	-----		-----	
825		-----		-----	-----		-----	-----		-----	
840		-----		-----	-----		-----	-----		-----	
855	D1078-M	64.4		0.07	64.6		0.40	64.8		0.06	
856	D1078-M	64.4		0.07	64.5		-0.01	64.8		0.06	
857	D1078-M	64.4		0.07	64.5		-0.01	64.8		0.06	
858	D1078-M	64.4		0.07	64.5		-0.01	64.8		0.06	
859	D1078-M	64.4		0.07	64.5		-0.01	64.8		0.06	
860	D1078-M	64.4		0.07	64.5		-0.01	64.8		0.06	
862	D1078-M	64.4		0.07	64.5		-0.01	64.8		0.06	
863	D1078-M	64.3		-0.34	64.5		-0.01	64.7		-0.27	
864	D1078-M	64.4		0.07	64.5		-0.01	64.8		0.06	
866	D1078-M	64.44		0.23	64.54		0.15	64.84		0.19	
870	D1078-M	64.4		0.07	64.5		-0.01	64.8		0.06	
902	D1078-M	64.4		0.07	64.5		-0.01	64.8		0.06	
912		-----		-----	-----		-----	-----		-----	
913		-----		-----	-----		-----	-----		-----	
963		-----		-----	-----		-----	-----		-----	
974		-----		-----	-----		-----	-----		-----	
1004	D1078-M	64.4		0.07	64.4		-0.41	65.3	G(0.01)	1.72	
1009		-----		-----	-----		-----	-----		-----	
1010		-----		-----	-----		-----	-----		-----	
1029		-----		-----	-----		-----	-----		-----	
1041		-----		-----	-----		-----	-----		-----	
1067		-----		-----	-----		-----	-----		-----	
1108		-----		-----	-----		-----	-----		-----	
1120		-----		-----	-----		-----	-----		-----	
1149		-----		-----	-----		-----	-----		-----	
1181		-----		-----	-----		-----	-----		-----	
1204	D1078-M	64.4		0.07	64.5		-0.01	64.7		-0.27	
1221		-----		-----	-----		-----	-----		-----	
1246		-----		-----	-----		-----	-----		-----	
1256		-----		-----	-----		-----	-----		-----	
1263		-----		-----	-----		-----	-----		-----	
1264		-----		-----	-----		-----	-----		-----	
1341	D1078-M	64.3		-0.34	64.3		-0.82	64.8		0.06	
1342		-----		-----	-----		-----	-----		-----	
1343		-----		-----	-----		-----	-----		-----	
1344		-----		-----	-----		-----	-----		-----	
1412	D1078-M	64.5		0.47	64.7		0.80	65.2	G(0.01)	1.39	

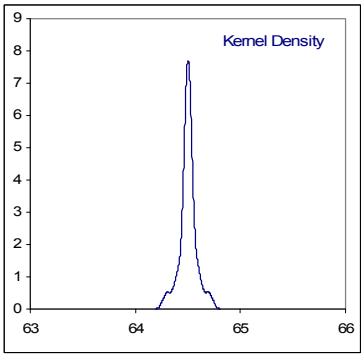
1438		-----	-----	-----	-----	-----	-----
1450		-----	-----	-----	-----	-----	-----
1464		-----	-----	-----	-----	-----	-----
1465	D1078-M	64.25	-0.54	-----	-----	64.65	-0.44
1615		-----	-----	-----	-----	-----	-----
1728		-----	-----	-----	-----	-----	-----
1866		-----	-----	-----	-----	-----	-----

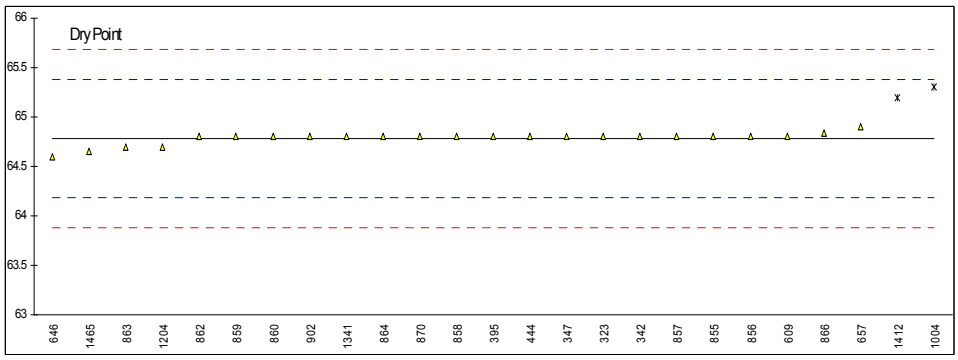
normality	not OK	not OK	not OK
n	25	22	23
outliers	0	0	2
mean (n)	64.38	64.50	64.78
st.dev. (n)	0.0529	0.076	0.063
R(calc.)	0.15	0.21	0.18
R(D1078:05-M)	0.69	0.69	0.84

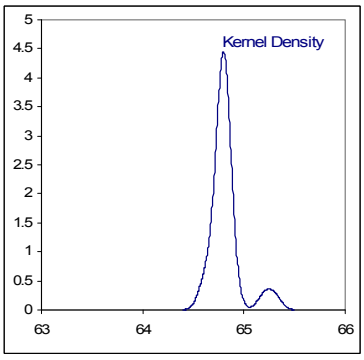












Determination of Water Miscibility on sample #11060;

lab	method	value	mark	z(targ)	remarks
53	D1722	pass		-----	
150	D1722	pass		-----	
153	D1722	pass		-----	
171	D1722	pass		-----	
174	D1722	pass		-----	
311	D1722	pass		-----	
316		-----		-----	
319	D1722	pass		-----	
323	D1722	pass		-----	
332	D1722	pass		-----	
333	D1722	pass		-----	
334		-----		-----	
342	D1722	pass		-----	
343		-----		-----	
344	D1722	pass		-----	
345	D1722	pass		-----	
346	D1722	pass		-----	
347	D1722	pass		-----	
357	D1722	pass		-----	
395	D1722	pass		-----	
444	D1722	pass		-----	
446	D1722	pass		-----	
497	D1722	pass		-----	
528		-----		-----	
529	D1722	pass		-----	
551		-----		-----	
554		-----		-----	
608	D1722	pass		-----	
609	D1722	pass		-----	
646	D1722	pass		-----	
657	D1722	pass		-----	
663	D1722	pass		-----	
823	D1722	pass		-----	
824	D1722	pass		-----	
825	D1722	pass		-----	
840	D1722	pass		-----	
855	D1722	pass		-----	
856	D1722	pass		-----	
857	D1722	pass		-----	
858	D1722	pass		-----	
859	D1722	pass		-----	
860	D1722	pass		-----	
862	D1722	pass		-----	
863	D1722	pass		-----	
864	D1722	pass		-----	
866	D1722	pass		-----	
870	D1722	pass		-----	
902	D1722	pass		-----	
912		-----		-----	
913		-----		-----	
963	D1722	pass		-----	
974	D1722	pass		-----	
1004	D1722	0.022		-----	
1009	D1722	pass		-----	
1010	D1722	pass		-----	
1029	D1722	pass		-----	
1041	D1722	pass		-----	
1067	D1722	pass		-----	
1108		-----		-----	
1120		-----		-----	
1149	D1722	pass		-----	
1181	D1722	pass		-----	
1204	D1722	pass		-----	
1221		-----		-----	
1246		-----		-----	
1256	D1722	pass		-----	
1263		-----		-----	
1264	D1722	pass		-----	
1341	D1722	pass		-----	
1342	D1722	pass		-----	
1343	D1722	pass		-----	
1344	D1722	pass		-----	
1412	D1722	pass		-----	

1438		-----	-----
1450	D1722	pass	-----
1464	D1722	pass	-----
1465	D1722	pass	-----
1615	D1722	pass	-----
1728		-----	-----
1866		-----	-----

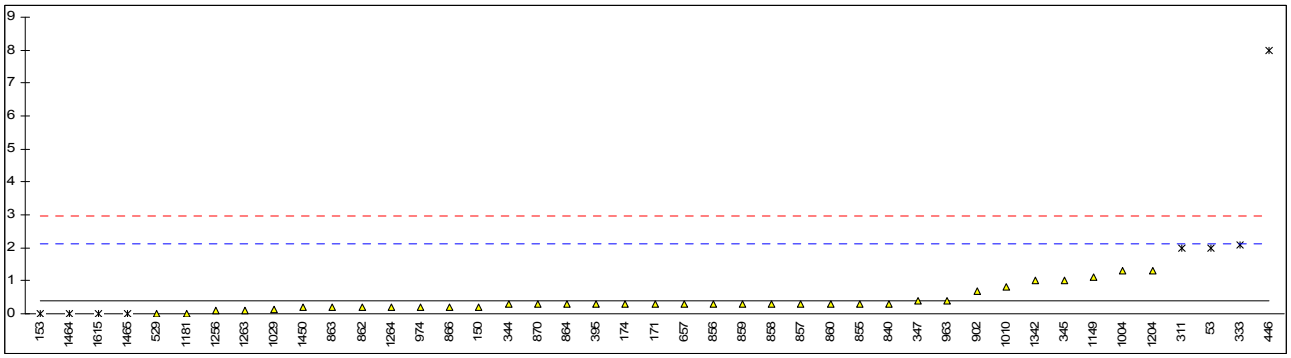
normality	n.a.
n	64
outliers	n.a.
mean (n)	Pass
st.dev. (n)	n.a.
R(calc.)	n.a.
R(D1722:09)	n.a.

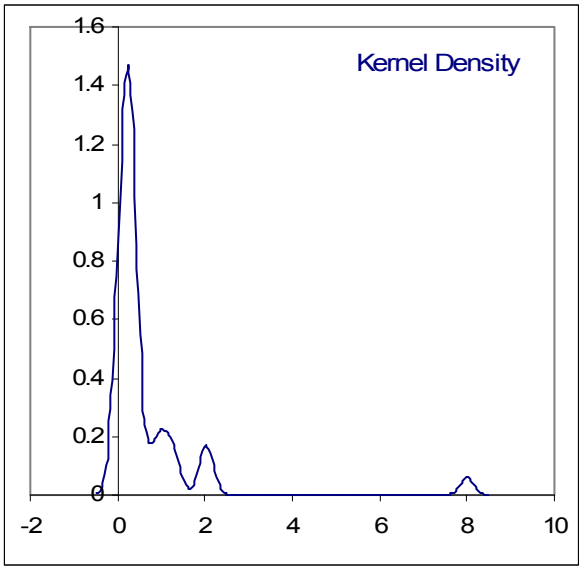
Determination of Nonvolatile Matter on sample #11060; results in mg/100 mL

lab	method	value	mark	z(targ)	remarks
53	D1353	2.0	DG(0.05)	1.87	
150	D1353	0.2		-0.23	
153	D1353	0.0000	ex	-0.46	Result excluded, zero not a real result
171	D1353	0.3		-0.11	
174	D1353	0.3		-0.11	
311	D1353	2	G(0.01)	1.87	
316		-----		-----	
319	D1353	<8		-----	
323		-----		-----	
332		-----		-----	
333	D1353	2.1	DG(0.05)	1.99	
334		-----		-----	
342		-----		-----	
343		-----		-----	
344	D1353	0.285		-0.13	
345	D1353	1		0.70	
346		-----		-----	
347	D1353	0.4		0.00	
357	D1353	<1		-----	
395	D1353	0.30		-0.11	
444	D1353	<1		-----	
446	D1353	8	G(0.01)	8.87	
497	D1353	<1		-----	
528		-----		-----	
529	D1353	0.00041	U	-0.46	Reported probably in a deviating unit?
551		-----		-----	
554		-----		-----	
608		-----		-----	
609		-----		-----	
646		-----		-----	
657	D1353	0.3		-0.11	
663		-----		-----	
823		-----		-----	
824		-----		-----	
825		-----		-----	
840	D1353	0.3		-0.11	
855	D1353	0.3		-0.11	
856	D1353	0.3		-0.11	
857	D1353	0.3		-0.11	
858	D1353	0.3		-0.11	
859	D1353	0.3		-0.11	
860	D1353	0.3		-0.11	
862	D1353	0.2		-0.23	
863	D1353	0.2		-0.23	
864	D1353	0.3		-0.11	
866	D1353	0.2		-0.23	
870	D1353	0.3		-0.11	
902	D1353	0.7		0.35	
912		-----		-----	
913		-----		-----	
963	D1353	0.4		0.00	
974	D1353	0.2		-0.23	
1004	D1353	1.3		1.05	
1009	D1353	<0.001	U	-----	Reported probably in a deviating unit?
1010	D1353	0.8		0.47	
1029	D1353	0.14		-0.30	
1041	D1353	<1		-----	
1067		-----		-----	
1108		-----		-----	
1120		-----		-----	
1149	D1353	1.1		0.82	
1181	D1353	0.003	U	-0.46	Reported probably in a deviating unit?
1204	D1353	1.3		1.05	
1221		-----		-----	
1246		-----		-----	
1256	D1353	0.1		-0.35	
1263	D1353	0.1		-0.35	
1264	D1353	0.2		-0.23	
1341	D1353	<1		-----	
1342	D1353	1		0.70	
1343	D1353	<0.001	U	-----	Reported probably in a deviating unit?
1344	D1353	<1		-----	
1412		-----		-----	

1438		-----		-----	
1450	D1353	0.2		-0.23	
1464	D1353	0	ex	-0.46	Result excluded, zero not a real result
1465	D1353	0	ex	-0.46	Result excluded, zero not a real result
1615	D1353	0	ex	-0.46	Result excluded, zero not a real result
1728		-----		-----	
1866		-----		-----	

normality	not OK
n	35
outliers	4
mean (n)	0.40
st.dev. (n)	0.346
R(calc.)	0.97
R(D1353:09)	2.40



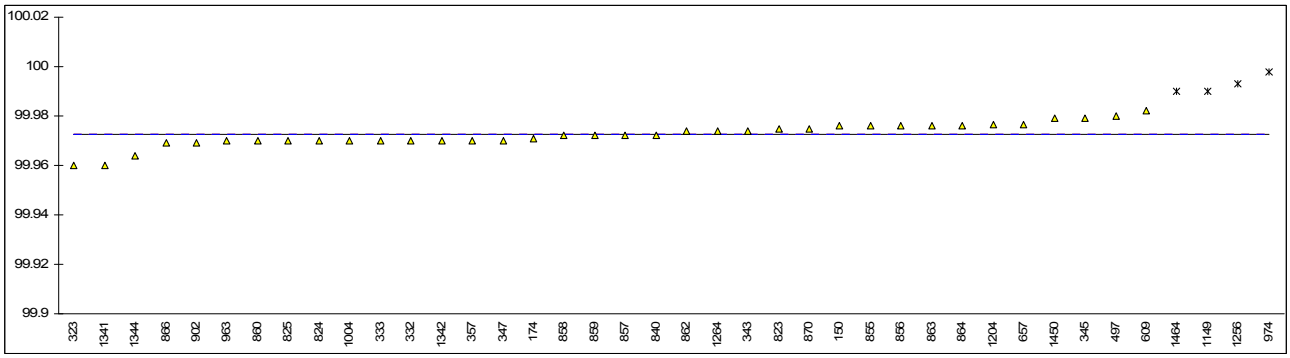


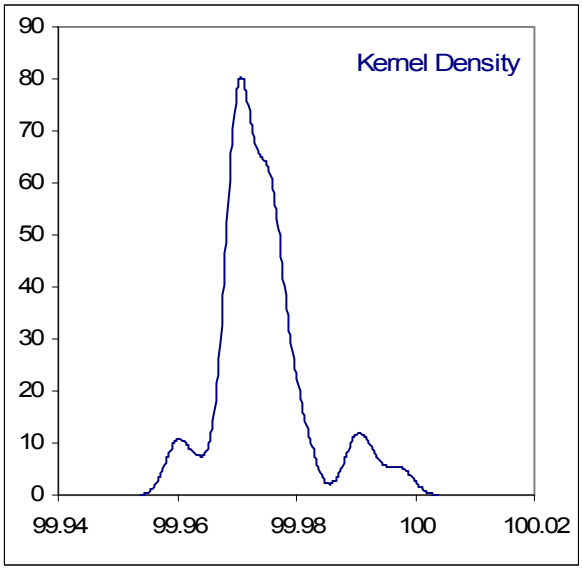
Determination of Purity “as received” on sample #11060; results in %M/M

lab	method	value	mark	z(targ)	remarks
53		-----		-----	
150		99.976		-----	
153		-----		-----	
171		-----		-----	
174	IMPCA001	99.971		-----	
311		-----		-----	
316		-----		-----	
319		-----		-----	
323	INH-064	99.96		-----	
332		99.97		-----	
333		99.97		-----	
334		-----		-----	
342		-----		-----	
343	calc.	99.974		-----	
344		-----		-----	
345		99.9792		-----	
346		-----		-----	
347	IMPCA001	99.970		-----	
357		99.97		-----	
395		-----		-----	
444		-----		-----	
446		-----		-----	
497		99.98	C	-----	First reported 99.999
528		-----		-----	
529		-----		-----	
551		-----		-----	
554		-----		-----	
608		-----		-----	
609	calc.	99.982		-----	
646		-----		-----	
657	calc.	99.9764		-----	
663		-----		-----	
823	IMPCA001	99.975		-----	
824	IMPCA001	99.97		-----	
825	IMPCA001	99.97		-----	
840	IMPCA001	99.972		-----	
855	IMPCA001	99.976		-----	
856	IMPCA001	99.976		-----	
857	IMPCA001	99.972		-----	
858	IMPCA001Mod.	99.972		-----	
859	IMPCA001	99.972		-----	
860	IMPCA001	99.970		-----	
862	IMPCA001	99.974		-----	
863	IMPCA001	99.976		-----	
864	IMPCA001	99.976		-----	
866	IMPCA001	99.969		-----	
870	IMPCA001	99.975		-----	
902	IMPCA001	99.969	C	-----	First reported 99.93
912		-----		-----	
913		-----		-----	
963	IMPCA001Mod.	99.97		-----	
974	IMPCA001	99.9977	ex	-----	Result excluded as purity ”as received” > purity on dry basis
1004		99.97		-----	
1009		-----		-----	
1010		-----		-----	
1029		-----		-----	
1041		-----		-----	
1067		-----		-----	
1108		-----		-----	
1120		-----		-----	
1149	IMPCA001	99.99	G(0.05)	-----	
1181		99.9708		-----	
1204	calc.	99.9764	C	-----	First reported 99.9954
1221		-----		-----	
1246		-----		-----	
1256		99.993	ex	-----	Result excluded as purity ”as received” > purity on dry basis
1263		-----		-----	
1264		99.974	C	-----	First reported result 99.994
1341		99.96		-----	
1342		99.97		-----	
1343		-----		-----	
1344		99.964		-----	
1412		-----		-----	

1438		-----		-----	
1450	IMPCA001	99.979		-----	
1464		99.99	ex	-----	Result excluded as purity "as received" > purity on dry basis
1465		-----		-----	
1615		-----		-----	
1728		-----		-----	
1866		-----		-----	

	normality	not OK	
	n	37	
	outliers	1	(+3 excluded)
	mean (n)	99.9724	
	st.dev. (n)	0.00478	
	R(calc.)	0.0134	Compare R(iis10C06) = 0.018
	R(lit.)	unknown	



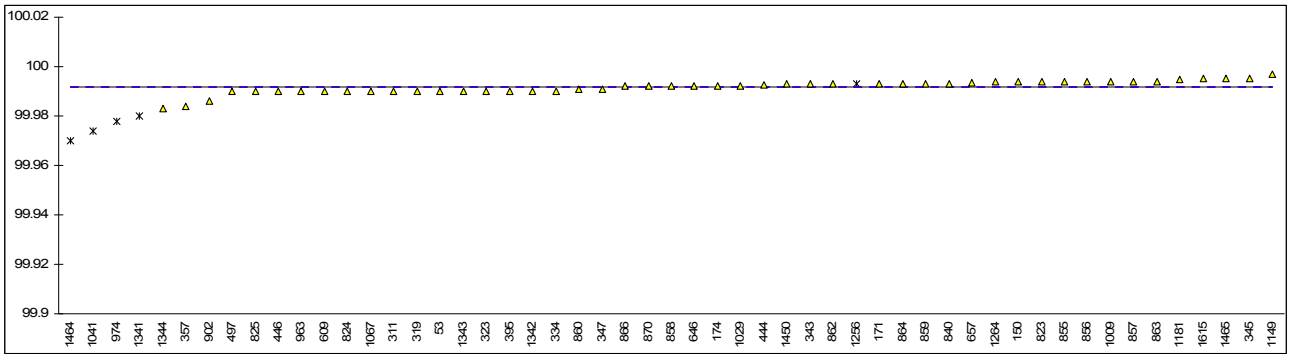


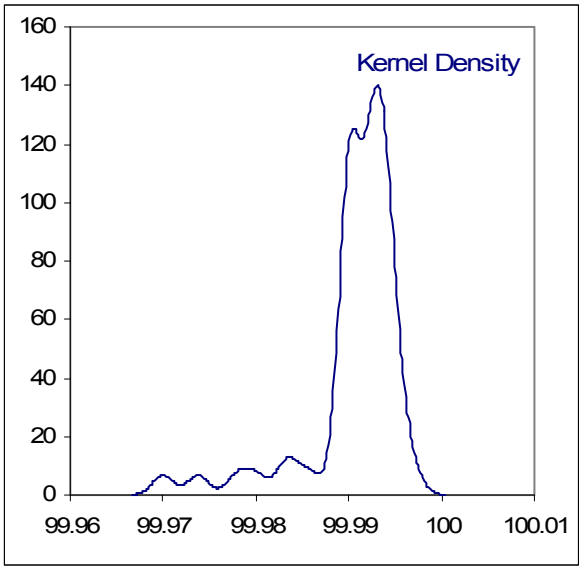
Determination of Purity on dry basis on sample #11060; results in %M/M

lab	method	value	mark	z(targ)	remarks
53	IMPCA001	99.99		-----	
150	IMPCA001	99.994		-----	
153		-----		-----	
171	IMPCA001	99.993		-----	
174	IMPCA001	99.992		-----	
311	IMPCA001	99.99		-----	
316		-----		-----	
319	IMPCA001	99.99		-----	
323	IMPCA001	99.99		-----	
332		-----		-----	
333		-----		-----	
334	IMPCA001	99.99		-----	
342		-----		-----	
343	IMPCA001	99.993		-----	
344		-----		-----	
345	IMPCA001	99.9954		-----	
346		-----		-----	
347	IMPCA001	99.991		-----	
357	IMPCA001	99.984		-----	
395	IMPCA001	99.99		-----	
444	IMPCA001	99.9924		-----	
446	IMPCA001	99.99		-----	
497	IMPCA001	99.99	C	-----	First reported 99.98
528		-----		-----	
529		-----		-----	
551		-----		-----	
554		-----		-----	
608		-----		-----	
609	IMPCA001	99.99		-----	
646	IMPCA001	99.992		-----	
657	IMPCA001	99.9934		-----	
663		-----		-----	
823	IMPCA001	99.994		-----	
824	IMPCA001	99.99		-----	
825	IMPCA001	99.99		-----	
840	IMPCA001	99.993		-----	
855	IMPCA001	99.994		-----	
856	IMPCA001	99.994		-----	
857	IMPCA001	99.994		-----	
858	IMPCA001	99.992		-----	
859	IMPCA001	99.993		-----	
860	IMPCA001	99.991		-----	
862	IMPCA001	99.993		-----	
863	IMPCA001	99.994		-----	
864	IMPCA001	99.993		-----	
866	IMPCA001	99.992		-----	
870	IMPCA001	99.992		-----	
902	IMPCA001	99.986	C	-----	First reported 99.96
912		-----		-----	
913		-----		-----	
963	IMPCA001	99.99		-----	
974	IMPCA001	99.9780	ex	-----	Result excluded as purity ”as received” > purity on dry basis
1004		-----		-----	
1009	IMPCA001	99.994		-----	
1010	IMPCA001	>99.99		-----	
1029	IMPCA001	99.99233		-----	
1041	IMPCA001	99.9738	C,G(0.01)	-----	First reported 99.9723
1067	IMPCA001	99.99		-----	
1108		-----		-----	
1120		-----		-----	
1149	IMPCA001	99.997		-----	
1181	IMPCA001	99.9948	C	-----	First reported 99.9708
1204		-----		-----	
1221		-----		-----	
1246		-----		-----	
1256	IMPCA001	99.993	ex	-----	Result excluded as purity ”as received” > purity on dry basis
1263		-----		-----	
1264	IMPCA001	99.994	C	-----	First reported 99.974
1341	IMPCA001	99.98	G(0.01)	-----	
1342	IMPCA001	99.99	C	-----	First reported 99.97
1343	IMPCA001	99.99		-----	
1344	IMPCA001	99.983		-----	
1412		-----		-----	

1438		-----		-----	
1450	IMPCA001	99.993		-----	
1464	IMPCA001	99.97	ex	-----	Result excluded as purity ”as received” > purity on dry basis
1465	IMPCA001	99.99538	C	-----	First reported 99.9788
1615	In house	99.995		-----	
1728		-----		-----	
1866		-----		-----	

	normality	not OK	
	n	48	
	outliers	2	+3 excluded
	mean (n)	99.992	
	st.dev. (n)	0.0027	
	R(calc.)	0.008	Compare R(iis10C06) = 0.019
	R(lit.)	Unknown	



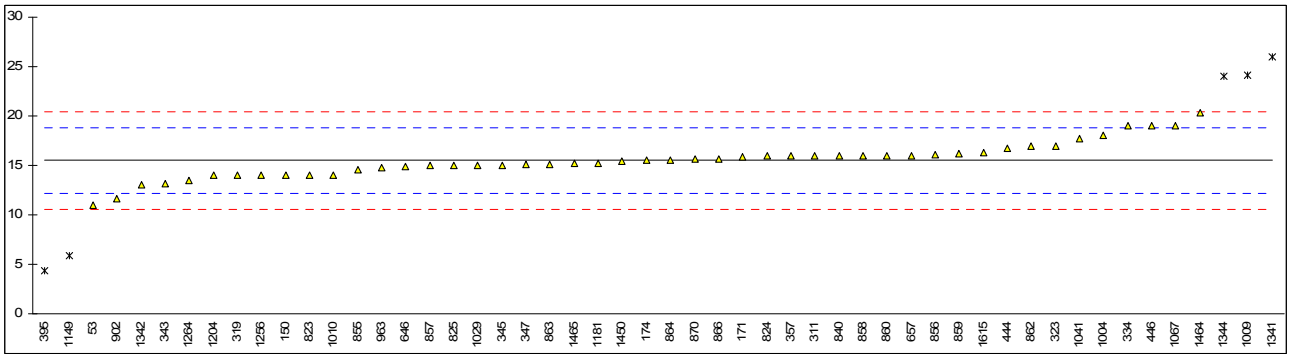


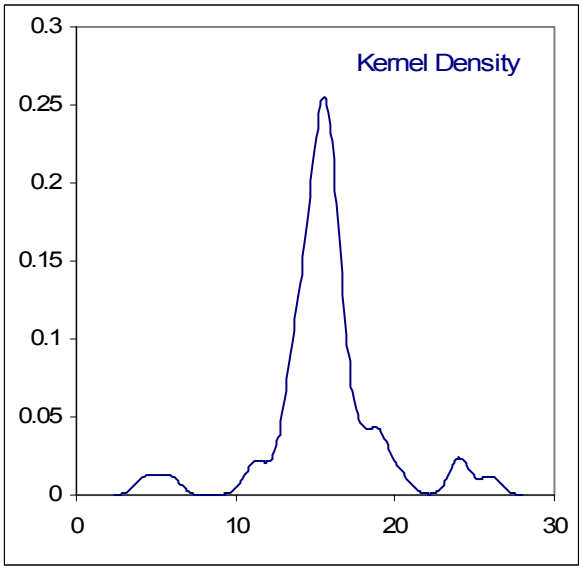
Determination of Acetone content on sample #11060; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	IMPCA001	11		-2.75	
150	IMPCA001	14		-0.92	
153		-----		-----	
171	IMPCA001	15.9		0.24	
174	IMPCA001	15.5		-0.01	
311	IMPCA001	16		0.30	
316		-----		-----	
319	IMPCA001	14		-0.92	
323	IMPCA001	17		0.91	
332		-----		-----	
333		-----		-----	
334	IMPCA001	19		2.12	
342		-----		-----	
343	IMPCA001	13.1		-1.47	
344		-----		-----	
345	IMPCA001	15.05		-0.28	
346		-----		-----	
347	IMPCA001	15.1		-0.25	
357	IMPCA001	16		0.30	
395	IMPCA001	4.38	G(0.05)	-6.78	
444	IMPCA001	16.7		0.72	
446	IMPCA001	19		2.12	
497	IMPCA001	<10		<-3.36	False negative result?
528		-----		-----	
529		-----		-----	
551		-----		-----	
554		-----		-----	
608		-----		-----	
609	E346	<30		-----	
646	IMPCA001	14.9		-0.37	
657	IMPCA001	16.02		0.31	
663		-----		-----	
823	IMPCA001	14		-0.92	
824	IMPCA001	16		0.30	
825	IMPCA001	15		-0.31	
840	IMPCA001	16.0		0.30	
855	IMPCA001	14.6		-0.56	
856	IMPCA001	16.1		0.36	
857	IMPCA001	15.0		-0.31	
858	IMPCA001	16		0.30	
859	IMPCA001	16.2		0.42	
860	IMPCA001	16		0.30	
862	IMPCA001	17		0.91	
863	IMPCA001	15.1		-0.25	
864	IMPCA001	15.5		-0.01	
866	IMPCA001	15.7		0.11	
870	IMPCA001	15.6		0.05	
902	IMPCA001	11.6		-2.38	
912		-----		-----	
913		-----		-----	
963	IMPCA001	14.78		-0.45	
974		-----		-----	
1004	IMPCA001	18		1.51	
1009	IMPCA001	24.1	G(0.05)	5.23	
1010	IMPCA001	14	C	-0.92	First reported 4
1029	D1612	15.0		-0.31	
1041	IMPCA001	17.69		1.33	
1067	IMPCA001	19		2.12	
1108		-----		-----	
1120		-----		-----	
1149	IMPCA001	5.87	G(0.05)	-5.87	
1181	IMPCA001	15.26867		-0.15	
1204	IMPCA001	14		-0.92	
1221		-----		-----	
1246		-----		-----	
1256	IMPCA001	14		-0.92	
1263		-----		-----	
1264	IMPCA001	13.44		-1.26	
1341	IMPCA001	26	G(0.05)	6.38	
1342	IMPCA001	13		-1.53	
1343	IMPCA001	<10		<-3.36	False negative result?
1344	IMPCA001	24	G(0.01)	5.17	
1412		-----		-----	

1438		-----	-----
1450	IMPCA001	15.4	-0.07
1464	IMPCA001	20.35	2.94
1465	IMPCA001	15.23	-0.17
1615	In house	16.28918	0.47
1728		-----	-----
1866		-----	-----

normality	not OK	
n	47	
outliers	5	Spike:
mean (n)	15.513	16.4
st.dev. (n)	1.7998	
R(calc.)	5.040	
R(Horwitz)	4.600	



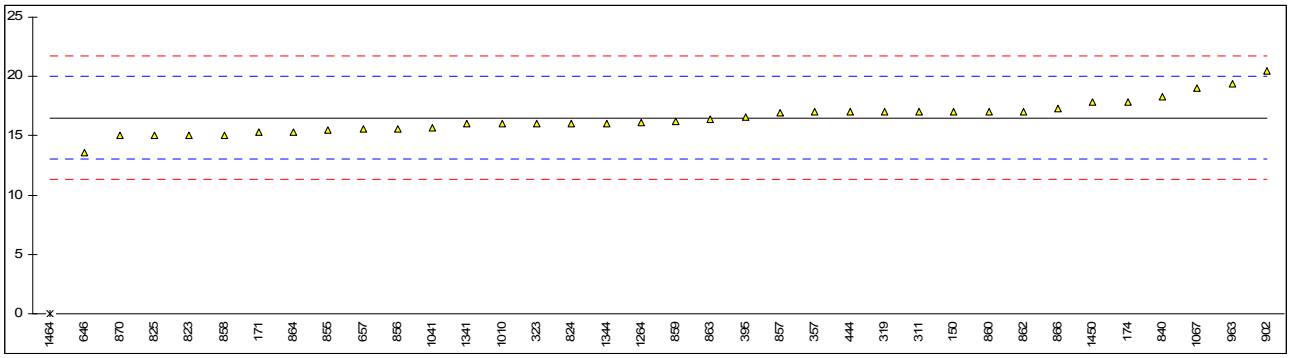


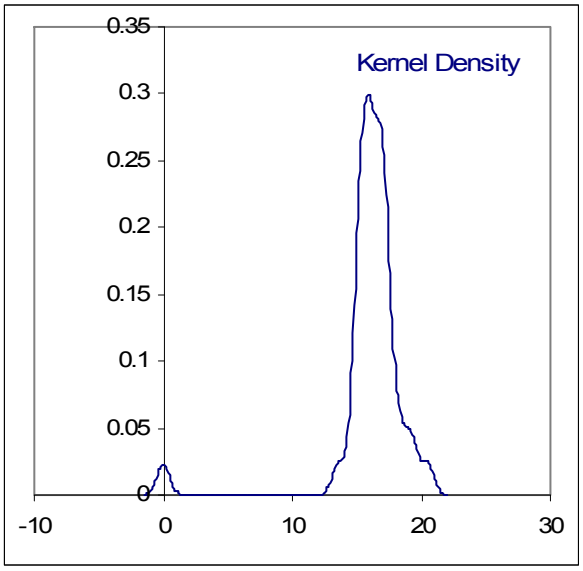
Determination of Benzene content on sample #11060; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53		-----		-----	
150	IMPCA001	17		0.28	
153		-----		-----	
171	IMPCA001	15.3		-0.70	
174	IMPCA001	17.8		0.74	
311	IMPCA001	17		0.28	
316		-----		-----	
319	IMPCA001	17		0.28	
323	INH-064	16		-0.29	
332		-----		-----	
333		-----		-----	
334		-----		-----	
342		-----		-----	
343		-----		-----	
344		-----		-----	
345		-----		-----	
346		-----		-----	
347		-----		-----	
357	IMPCA001	17		0.28	
395	IMPCA001	16.62		0.06	
444	IMPCA001	17.0		0.28	
446		-----		-----	
497	IMPCA001	<10		<-3.76	False negative result?
528		-----		-----	
529		-----		-----	
551		-----		-----	
554		-----		-----	
608		-----		-----	
609		-----		-----	
646	IMPCA001	13.6		-1.68	
657	IMPCA001	15.56		-0.55	
663		-----		-----	
823	IMPCA001	15		-0.87	
824	IMPCA001	16		-0.29	
825	IMPCA001	15		-0.87	
840	IMPCA001	18.3		1.03	
855	IMPCA001	15.5		-0.58	
856	IMPCA001	15.6		-0.53	
857	IMPCA001	16.9		0.23	
858	IMPCA001	15		-0.87	
859	IMPCA001	16.2		-0.18	
860	IMPCA001	17		0.28	
862	IMPCA001	17		0.28	
863	INH-043	16.4		-0.06	
864	IMPCA001	15.3		-0.70	
866	INH-043	17.3		0.46	
870	IMPCA001	15.0		-0.87	
902	IMPCA001	20.5		2.30	
912		-----		-----	
913		-----		-----	
963	IMPCA001	19.38		1.66	
974		-----		-----	
1004		-----		-----	
1009		-----		-----	
1010	IMPCA001	16	C	-0.29	First reported 4
1029		-----		-----	
1041	In house	15.68		-0.48	
1067	IMPCA001	19		1.44	
1108		-----		-----	
1120		-----		-----	
1149		-----		-----	
1181		-----		-----	
1204		-----		-----	
1221		-----		-----	
1246		-----		-----	
1256		-----		-----	
1263		-----		-----	
1264	IMPCA001	16.10		-0.24	
1341	IMPCA001	16		-0.29	
1342	IMPCA001	<10		<-3.76	False negative result?
1343	IMPCA001	<10		<-3.76	False negative result?
1344	IMPCA001	16		-0.29	
1412		-----		-----	

1438		-----		-----	
1450	IMPCA001	17.8		0.74	
1464	IMPCA001	0	ex	-9.53	Result excluded, zero is not a real result and is a false negative result
1465		-----		-----	
1615		-----		-----	
1728		-----		-----	
1866		-----		-----	

normality	not OK		
n	35		
outliers	0	Spike:	+1 excluded
mean (n)	16.510	15.6	
st.dev. (n)	1.3815		
R(calc.)	3.868		
R(Horwitz)	4.850		



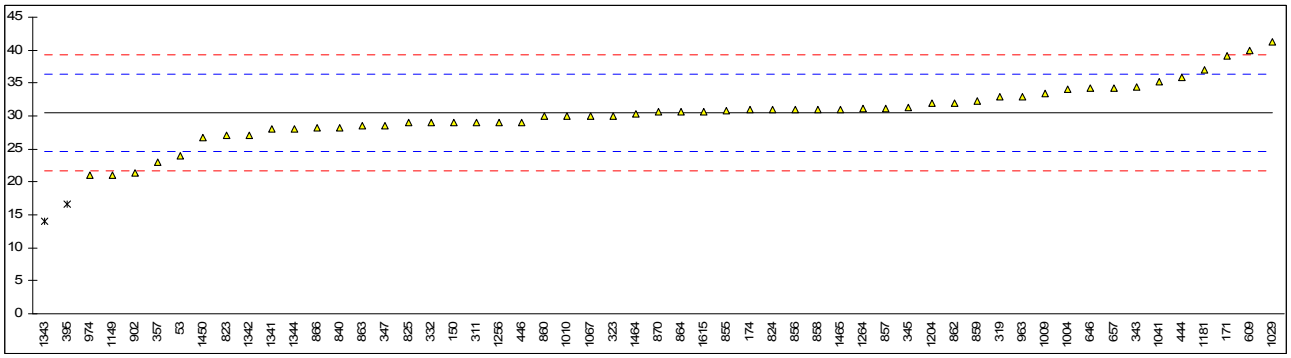


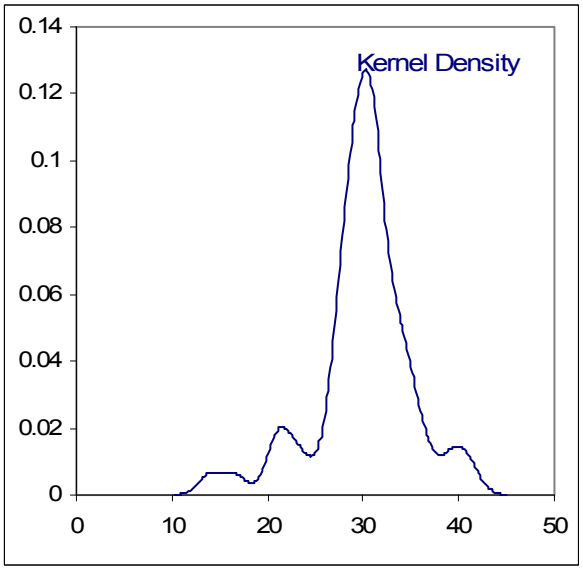
Determination of Ethanol content on sample #11060; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	IMPCA001	24		-2.23	
150	IMPCA001	29		-0.52	
153		-----		-----	
171	IMPCA001	39.2		2.97	
174	IMPCA001	30.9		0.13	
311	IMPCA001	29		-0.52	
316		-----		-----	
319	IMPCA001	33		0.85	
323	IMPCA001	30		-0.18	
332	IMPCA001	29		-0.52	
333		-----		-----	
334		-----		-----	
342		-----		-----	
343	IMPCA001	34.4		1.33	
344		-----		-----	
345	IMPCA001	31.3		0.27	
346		-----		-----	
347	IMPCA001	28.6		-0.66	
357	IMPCA001	23		-2.58	
395	IMPCA001	16.57	G(0.05)	-4.78	
444	IMPCA001	35.9		1.84	
446	IMPCA001	29		-0.52	
497	IMPCA001	<5		<-8.74	False negative result?
528		-----		-----	
529		-----		-----	
551		-----		-----	
554		-----		-----	
608		-----		-----	
609	E346	40	C	3.25	First reported 21
646	IMPCA001	34.2		1.26	
657	IMPCA001	34.30		1.29	
663		-----		-----	
823	IMPCA001	27		-1.21	
824	IMPCA001	31		0.16	
825	IMPCA001	29		-0.52	
840	IMPCA001	28.2		-0.79	
855	IMPCA001	30.8		0.10	
856	IMPCA001	31.0		0.16	
857	IMPCA001	31.2		0.23	
858	IMPCA001	31		0.16	
859	IMPCA001	32.3		0.61	
860	IMPCA001	30		-0.18	
862	IMPCA001	32		0.51	
863	IMPCA001	28.5		-0.69	
864	IMPCA001	30.6		0.03	
866	INH-043	28.2		-0.79	
870	IMPCA001	30.6		0.03	
902	IMPCA001	21.3		-3.16	
912		-----		-----	
913		-----		-----	
963	IMPCA001	33		0.85	
974	IMPCA001	21		-3.26	
1004	E346	34		1.19	
1009	IMPCA001	33.5		1.02	
1010	IMPCA001	30	C	-0.18	First reported 10
1029	IMPCA001	41.2288		3.67	
1041	IMPCA001	35.29		1.63	
1067	IMPCA001	30		-0.18	
1108		-----		-----	
1120		-----		-----	
1149	IMPCA001	21.11		-3.22	
1181	IMPCA001	37.08622		2.25	
1204	IMPCA001	32		0.51	
1221		-----		-----	
1246		-----		-----	
1256	IMPCA001	29		-0.52	
1263		-----		-----	
1264	IMPCA001	31.10		0.20	
1341	IMPCA001	28		-0.86	
1342	IMPCA001	27		-1.21	
1343	IMPCA001	14	G(0.05)	-5.66	
1344	IMPCA001	28		-0.86	
1412		-----		-----	

1438		-----	-----
1450	IMPCA001	26.8	-1.27
1464	IMPCA001	30.28	-0.08
1465	IMPCA001	31.02	0.17
1615	In house	30.66292	0.05
1728		-----	-----
1866		-----	-----

normality	not OK	
n	53	
outliers	2	Spike:
mean (n)	30.520	27.3
st.dev. (n)	4.1813	
R(calc.)	11.708	
R(Horwitz)	8.174	





Determination of Toluene content on sample #11060; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53		-----		-----	
150	IMPCA001	<10		-----	
153		-----		-----	
171	IMPCA001	<5		-----	
174	IMPCA001	<10	C	-----	First reported 13.8
311	INH-166	<2		-----	
316		-----		-----	
319	IMPCA001	<10		-----	
323	INH-064	<5		-----	
332		-----		-----	
333		-----		-----	
334		-----		-----	
342		-----		-----	
343		-----		-----	
344		-----		-----	
345		-----		-----	
346		-----		-----	
347		-----		-----	
357	IMPCA001	<10		-----	
395		-----		-----	
444	IMPCA001	<1		-----	
446		-----		-----	
497	IMPCA001	<10		-----	
528		-----		-----	
529		-----		-----	
551		-----		-----	
554		-----		-----	
608		-----		-----	
609		-----		-----	
646	IMPCA001	<10		-----	
657	IMPCA001	<10		-----	
663		-----		-----	
823	IMPCA001	<10		-----	
824	IMPCA001	<10		-----	
825		-----		-----	
840	IMPCA001	<1		-----	
855	IMPCA001	<10		-----	
856	IMPCA001	<10		-----	
857	IMPCA001	<10		-----	
858	IMPCA001	<10		-----	
859	IMPCA001	<10		-----	
860	IMPCA001	<10		-----	
862	IMPCA001	<10		-----	
863	INH-043	<10		-----	
864	IMPCA001	<10		-----	
866	INH-043	<10		-----	
870	IMPCA001	<1		-----	
902		-----		-----	
912		-----		-----	
913		-----		-----	
963	IMPCA001	<10		-----	
974		-----		-----	
1004		-----		-----	
1009		-----		-----	
1010	IMPCA001	7		-----	
1029		-----		-----	
1041	In house	0.74		-----	
1067	IMPCA001	<5		-----	
1108		-----		-----	
1120		-----		-----	
1149		-----		-----	
1181		-----		-----	
1204		-----		-----	
1221		-----		-----	
1246		-----		-----	
1256		-----		-----	
1263		-----		-----	
1264	IMPCA001	<5		-----	
1341	IMPCA001	<5		-----	
1342	IMPCA001	<10		-----	
1343	IMPCA001	<10		-----	
1344	IMPCA001	<5		-----	
1412		-----		-----	

1438		-----	-----
1450	IMPCA001	<10	-----
1464	IMPCA001	0	-----
1465		-----	-----
1615		-----	-----
1728		-----	-----
1866		-----	-----

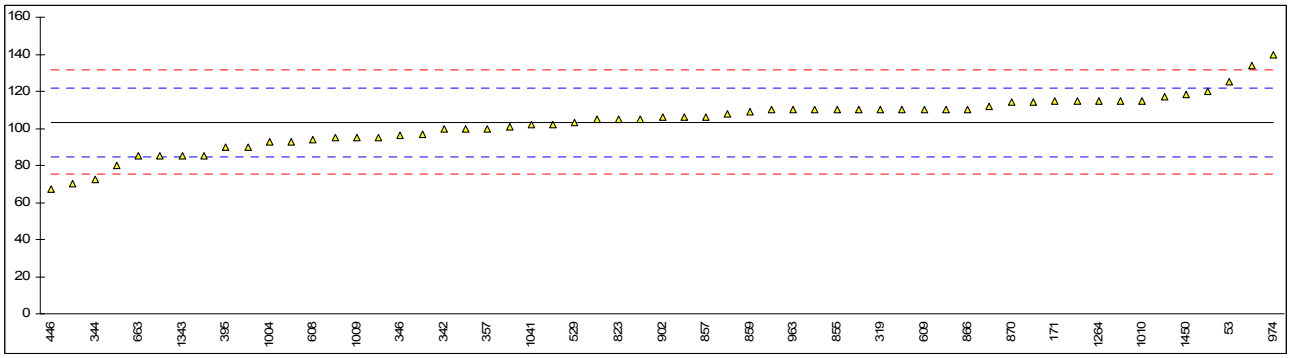
normality	n.a.
n	3
outliers	0
mean (n)	n.a.
st.dev. (n)	n.a.
R(calc.)	n.a.
R(Horwitz)	n.a.

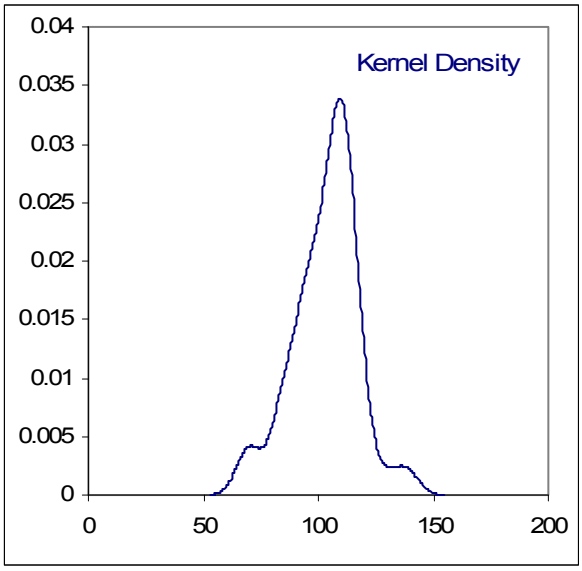
Determination of Permanganate Time Test @ 15°C on sample #11060; results in minutes

lab	method	value	mark	z(targ)	remarks
53	D1363	125		2.32	
150		-----		-----	
153		-----		-----	
171	D1363	115		1.25	
174	D1363	106		0.28	
311	D1363	115		1.25	
316		-----		-----	
319	D1363	110		0.71	
323	D1363	110		0.71	
332		-----		-----	
333		-----		-----	
334		-----		-----	
342	D1363	100		-0.37	
343		-----		-----	
344	D1362	72.42		-3.33	
345	D1363	134		3.29	
346	D1363	96		-0.80	
347	D1363	93		-1.12	
357	D1363	100		-0.37	
395	D1363	90		-1.44	
444	D1363	>60		-----	
446	D1363	67		-3.91	
497	D1363	70		-3.59	
528		-----		-----	
529	D1363	103		-0.04	
551		-----		-----	
554		-----		-----	
608	D1363	94		-1.01	
609	D1363	110		0.71	
646	D1363	105		0.17	
657	D1363	110	C	0.71	First reported 178
663	D1363	85		-1.98	
823	D1363	105		0.17	
824	D1363	101		-0.26	
825	D1363	102		-0.15	
840	D1363	100		-0.37	
855	D1363	110		0.71	
856	D1363	112		0.92	
857	D1363	106		0.28	
858	D1363	110		0.71	
859	D1363	109		0.60	
860	D1363	115		1.25	
862	D1363	108		0.49	
863	D1363	114		1.14	
864	D1363	110		0.71	
866	D1363	110		0.71	
870	D1363	114		1.14	
902	D1363	106		0.28	
912		-----		-----	
913		-----		-----	
963	D1363	110		0.71	
974	D1363	140		3.93	
1004	D1363	93		-1.12	
1009	D1363	95		-0.90	
1010	D1363	115		1.25	
1029	D1363	90		-1.44	
1041	D1363	102		-0.15	
1067	D1363	110		0.71	
1108		-----		-----	
1120		-----		-----	
1149	D1363	97		-0.69	
1181	D1363	95		-0.90	
1204	D1363	117		1.46	
1221		-----		-----	
1246		-----		-----	
1256	D1363	>30		-----	
1263		-----		-----	
1264	D1363	115		1.25	
1341	D1363	85		-1.98	
1342	D1363	85		-1.98	
1343	D1363	85		-1.98	
1344	D1363	80		-2.52	
1412		-----		-----	

1438		-----	-----
1450	D1363	118	1.57
1464	D1363	120	1.78
1465	D1363	105	0.17
1615	D1363	95	-0.90
1728		-----	-----
1866		-----	-----

normality	OK
n	57
outliers	0
mean (n)	103.4
st.dev. (n)	14.16
R(calc.)	39.6
R(D1363:11)	26.1



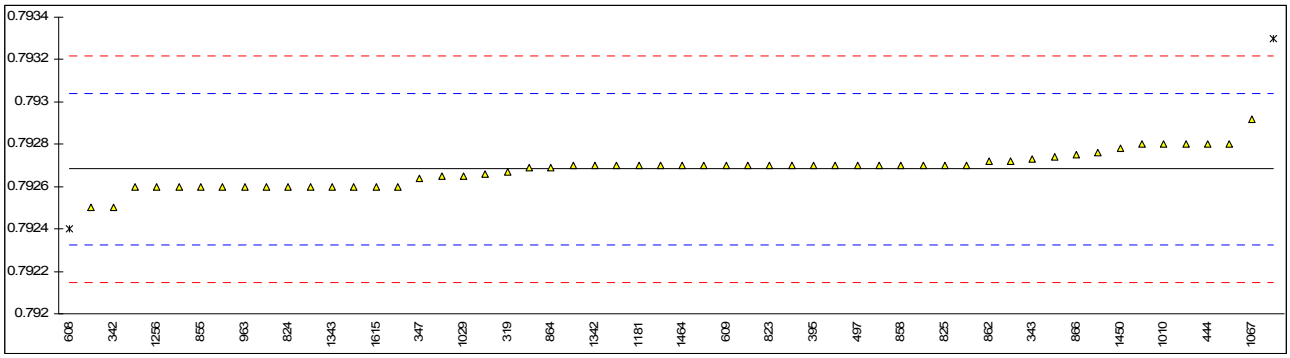


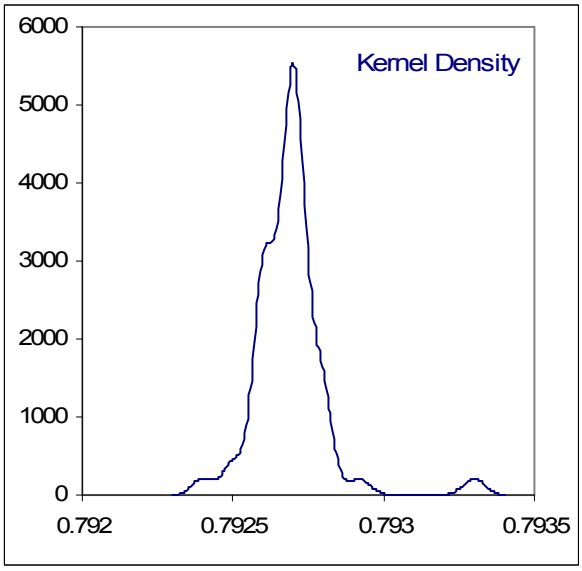
Determination of Specific Gravity 20/20 °C/°C on sample #11060;

lab	method	value	mark	z(targ)	remarks
53		0.79269		0.04	
150	D4052	0.7933	G(0.01)	3.46	
153		-----		-----	
171	D4052	0.7928		0.66	
174	D4052	0.7925		-1.02	
311		0.7927		0.10	
316		-----		-----	
319	D4052	0.79267		-0.07	
323	D891A	0.7926		-0.46	
332		-----		-----	
333		-----		-----	
334		-----		-----	
342	D4052	0.7925		-1.02	
343	Calc.	0.79273		0.26	
344	D4052	0.79276		0.43	
345		-----		-----	
346		-----		-----	
347	D4052	0.79264		-0.24	
357	D4052	0.79266		-0.13	
395	D4052	0.7927		0.10	
444	D4052	0.7928		0.66	
446		0.7927		0.10	
497		0.7927		0.10	
528		-----		-----	
529	D4052	0.7927		0.10	
551		-----		-----	
554		-----		-----	
608	D4052	0.7924	G(0.05)	-1.58	
609	D4052	0.7927		0.10	
646	D4052	0.7927	C	0.10	First reported as Density
657	D4052	0.7926		-0.46	
663	D4052	0.7926		-0.46	
823		0.7927		0.10	
824		0.7926		-0.46	
825	D4052	0.7927		0.10	
840	D4052	0.79265		-0.18	
855	D4052	0.79260		-0.46	
856		-----		-----	
857	D4052	0.7927		0.10	
858	D4052	0.7927		0.10	
859	D4052	0.7927		0.10	
860	D4052	0.79272		0.21	
862	D4052	0.79272		0.21	
863	D4052 calc	0.79274		0.32	
864	D4052 calc	0.79269		0.04	
866	D4052	0.79275		0.38	
870	D4052 calc	0.7926		-0.46	
902	D4052	0.7927		0.10	
912		-----		-----	
913		-----		-----	
963	D4052	0.7926		-0.46	
974	D4052	0.7927		0.10	
1004		-----		-----	
1009		0.7926		-0.46	
1010		0.7928		0.66	
1029	D4052	0.792651		-0.18	
1041		-----		-----	
1067		0.79292		1.33	
1108		-----		-----	
1120		-----		-----	
1149		-----		-----	
1181	D4052	0.7927		0.10	
1204	D4052	0.7927		0.10	
1221		-----		-----	
1246		-----		-----	
1256		0.7926		-0.46	
1263		-----		-----	
1264		0.7927		0.10	
1341	D4052	0.7928		0.66	
1342		0.7927		0.10	
1343		0.7926		-0.46	
1344	D4052	0.7928		0.66	
1412		0.7926		-0.46	

1438		-----	-----
1450	INH-4472	0.79278	0.54
1464	D4052	0.7927	0.10
1465	D4052	0.79260	-0.46
1615	D4052	0.7926	-0.46
1728		-----	-----
1866		-----	-----

normality	not OK
n	54
outliers	2
mean (n)	0.79268
st.dev. (n)	0.000776
R(calc.)	0.00022
R(D4052:02e1)	0.00050



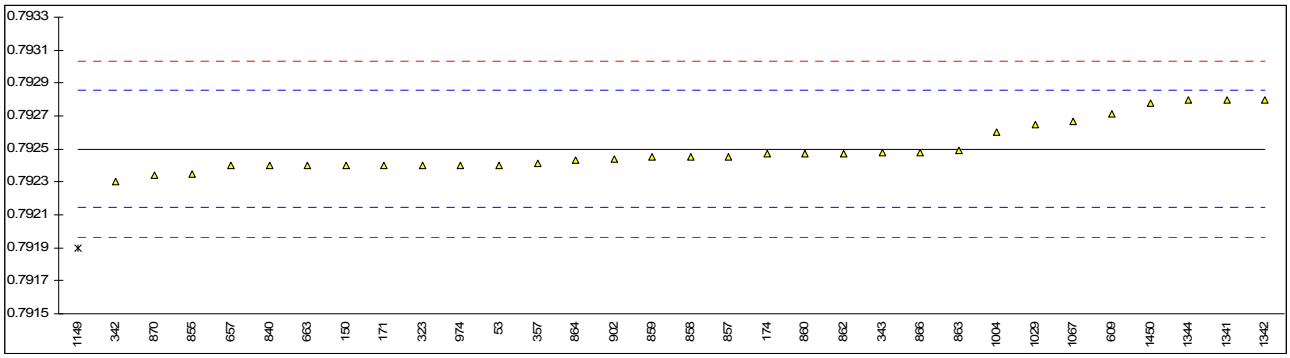


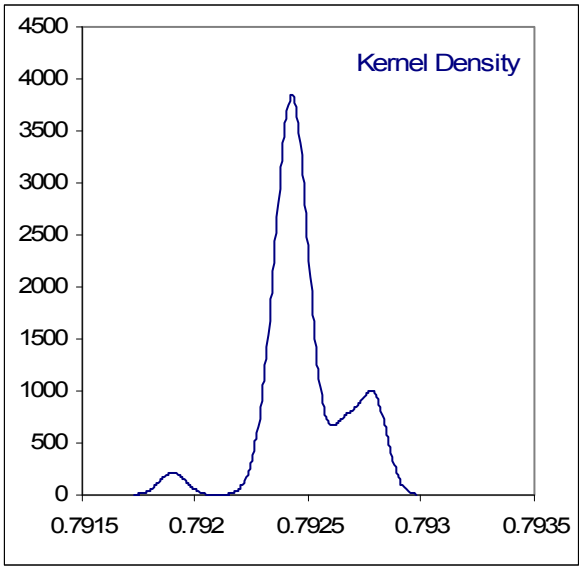
Determination of Specific Gravity, Apparent 20/20 °C/°C on sample #11060;

lab	method	value	mark	z(targ)	remarks
53		0.7924		-0.56	
150	D4052	0.7924		-0.56	
153		-----		-----	
171	D4052	0.7924		-0.56	
174	D4052	0.79247		-0.17	
311		-----		-----	
316		-----		-----	
319		-----		-----	
323	D891A	0.7924		-0.56	
332		-----		-----	
333		-----		-----	
334		-----		-----	
342	D4052	0.7923		-1.12	
343	Calc.	0.79248		-0.11	
344		-----		-----	
345		-----		-----	
346		-----		-----	
347		-----		-----	
357	D4052 calc	0.79241		-0.50	
395		-----		-----	
444		-----		-----	
446		-----		-----	
497		-----		-----	
528		-----		-----	
529		-----		-----	
551		-----		-----	
554		-----		-----	
608		-----		-----	
609	D4052	0.792716		1.21	
646		-----		-----	
657	D4052	0.7924		-0.56	
663	D4052	0.7924		-0.56	
823		-----		-----	
824		-----		-----	
825		-----		-----	
840	D4052	0.79240		-0.56	
855	D891	0.79235		-0.84	
856		-----		-----	
857	D891	0.79245		-0.28	
858	D891	0.79245		-0.28	
859	D891	0.79245		-0.28	
860	D891	0.79247		-0.17	
862	D891	0.79247		-0.17	
863	D4052 calc	0.79249		-0.06	
864	D4052 calc	0.79243		-0.39	
866	D4052	0.79248		-0.11	
870	D4052 calc	0.79234		-0.90	
902		0.79244		-0.34	
912		-----		-----	
913		-----		-----	
963		-----		-----	
974	D4052	0.7924		-0.56	
1004	D891	0.7926		0.56	
1009		-----		-----	
1010		-----		-----	
1029		0.792651		0.85	
1041		-----		-----	
1067		0.79267		0.95	
1108		-----		-----	
1120		-----		-----	
1149		0.7919	G(0.05)	-3.36	
1181		-----		-----	
1204		-----		-----	
1221		-----		-----	
1246		-----		-----	
1256		-----		-----	
1263		-----		-----	
1264		-----		-----	
1341		0.7928		1.68	
1342		0.7928		1.68	
1343		-----		-----	
1344		0.7928		1.68	
1412		-----		-----	

1438		-----	-----
1450	INH-4472	0.79278	1.57
1464		-----	-----
1465		-----	-----
1615		-----	-----
1728		-----	-----
1866		-----	-----

normality	not OK
n	31
outliers	1
mean (n)	0.79250
st.dev. (n)	0.000147
R(calc.)	0.00041
R(D4052:02e1)	0.00050



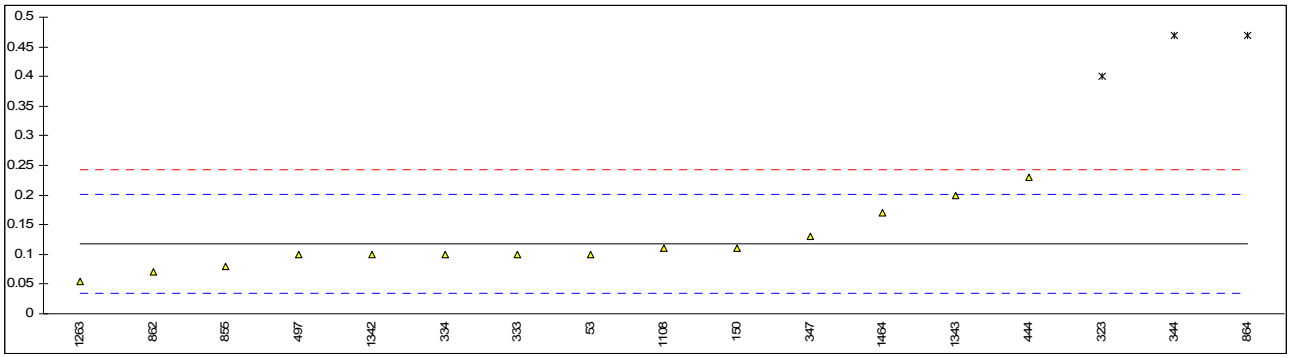


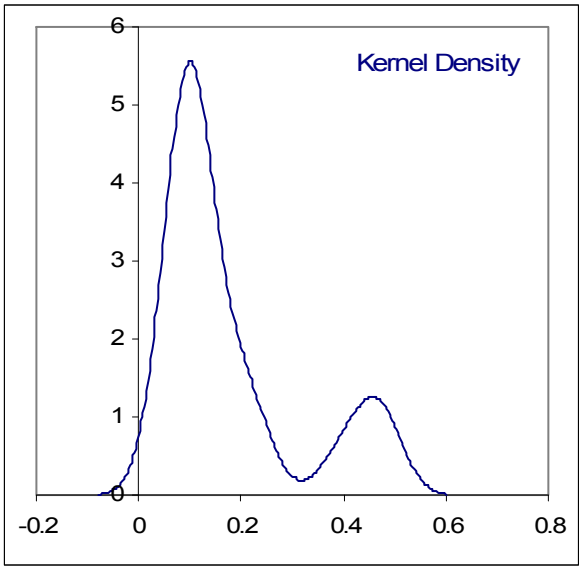
Determination of Sulphur on sample #11060; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	D7183	0.10		-----	
150	D5453	0.11		-----	
153		-----		-----	
171		-----		-----	
174	D5453	<1		-----	
311	D5453	<1.0		-----	
316		-----		-----	
319	D5453	<0.5		-----	
323	D5453	0.4	G(0.01)	-----	
332		-----		-----	
333	INH-7059	0.1		-----	
334	D5453	0.1		-----	
342		-----		-----	
343		-----		-----	
344	D5453	0.47	DG(0.05)	-----	
345		-----		-----	
346		-----		-----	
347	D5453	0.13		-----	
357	D5453	<0.5		-----	
395		-----		-----	
444	D5453	0.23		-----	
446		-----		-----	
497	D5453	0.1		-----	
528		-----		-----	
529		-----		-----	
551		-----		-----	
554		-----		-----	
608		-----		-----	
609		-----		-----	
646	D5453	<0.2		-----	
657	D5453	<1		-----	
663		-----		-----	
823	D5453	<1		-----	
824	D5453	<0.5		-----	
825		-----		-----	
840		-----		-----	
855	D5453	0.08		-----	
856		-----		-----	
857	D3961	<0.5		-----	
858		-----		-----	
859		-----		-----	
860		-----		-----	
862	D5453	0.07		-----	
863	D5453	<0.5		-----	
864	D5453	0.47	DG(0.05)	-----	
866		-----		-----	
870		-----		-----	
902		-----		-----	
912		-----		-----	
913		-----		-----	
963	D4045	<0.02		-----	
974		-----		-----	
1004		-----		-----	
1009		-----		-----	
1010	In house	<0.5		-----	
1029		-----		-----	
1041	D5453	<0.2		-----	
1067	D5453	<0.25		-----	
1108	D5453	0.11		-----	
1120		-----		-----	
1149		-----		-----	
1181	D5453	<0.1		-----	
1204		-----		-----	
1221		-----		-----	
1246		-----		-----	
1256		-----		-----	
1263	ISO20846	0.054		-----	
1264		-----		-----	
1341	D5453	<0.5		-----	
1342	D5453	0.1		-----	
1343	D5453	0.2		-----	
1344	D5453	<1		-----	
1412		-----		-----	

1438		-----	-----
1450	D5453	<0.5	-----
1464	D5453	0.17	-----
1465		-----	-----
1615		-----	-----
1728		-----	-----
1866		-----	-----

normality	not OK
n	14
outliers	3
mean (n)	0.12
st.dev. (n)	0.049
R(calc.)	0.14
R(D5453:09)	(0.12)



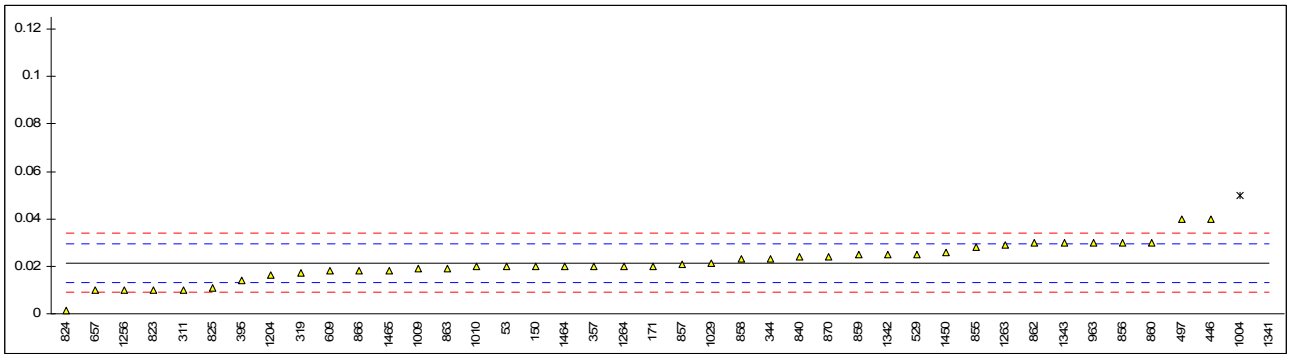


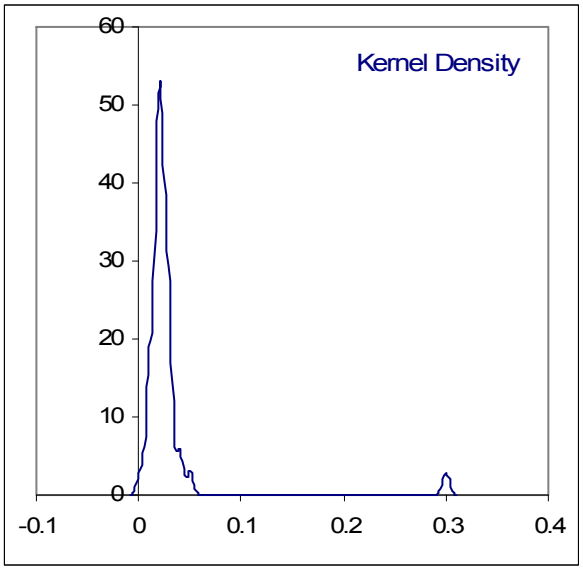
Determination of Total Iron as Fe on sample #11060; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	E394	0.02		-0.34	
150	E394	0.02		-0.34	
153		-----		-----	
171	E394	0.02	C	-0.34	First reported 0.2
174		-----		-----	
311	E394	0.01		-2.76	
316		-----		-----	
319	E394	0.017		-1.07	
323		-----		-----	
332		-----		-----	
333		-----		-----	
334		-----		-----	
342		-----		-----	
343	E394	<0.1		-----	
344	E394	0.023		0.39	
345		-----		-----	
346		-----		-----	
347		-----		-----	
357	E394	0.020		-0.34	
395	E394	0.014		-1.79	
444	E394	<0.01		<-2.76	False negative result?
446	E394	0.04		4.51	
497	E394	0.04		4.51	
528		-----		-----	
529	E394	0.0251		0.90	
551		-----		-----	
554		-----		-----	
608		-----		-----	
609	E394	0.018		-0.82	
646	E394	<0.01		<-2.76	False negative result?
657	E394	0.01		-2.76	
663		-----		-----	
823	E394	0.01		-2.76	
824	E394	0.0013		-4.87	
825	E394	0.011		-2.52	
840	E394	0.024		0.63	
855	E394	0.028		1.60	
856	E394	0.030		2.09	
857	E394	0.021		-0.10	
858	E394	0.023		0.39	
859	E394	0.025		0.87	
860	E394	0.03		2.09	
862	E394	0.030		2.09	
863	E394	0.019		-0.58	
864	E394	<0.1		-----	
866	E394	0.018		-0.82	
870	E394	0.024		0.63	
902		-----		-----	
912		-----		-----	
913		-----		-----	
963	E394	0.03		2.09	
974		-----		-----	
1004	E394	0.05	G(0.05)	6.94	
1009	E394	0.0189		-0.60	
1010	E394	0.02		-0.34	
1029	E394	0.02135		-0.01	
1041		-----		-----	
1067		-----		-----	
1108		-----		-----	
1120		-----		-----	
1149		-----		-----	
1181	E394	<0.001		<-4.97	False negative result?
1204	E394	0.0161		-1.28	
1221		-----		-----	
1246		-----		-----	
1256	E394	0.01		-2.76	
1263	INH-102	0.02897		1.84	
1264	E394	0.02		-0.34	
1341	E394	0.3	G(0.01)	67.58	
1342	E394	0.025		0.87	
1343	E394	0.03		2.09	
1344	E394	<0.1		-----	
1412		-----		-----	

1438		-----	-----
1450	E394	0.026	1.12
1464	E394	0.02	-0.34
1465	E394	0.018	-0.82
1615		-----	-----
1728		-----	-----
1866		-----	-----

normality	OK	
n	40	
outliers	2	Spike:
mean (n)	0.0214	0.033
st.dev. (n)	0.00791	
R(calc.)	0.0221	
R(E394:09)	0.0115	



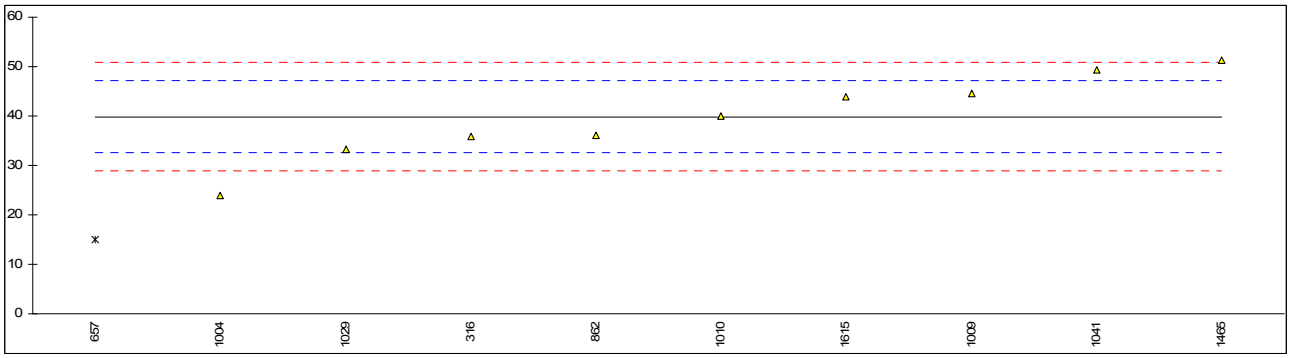


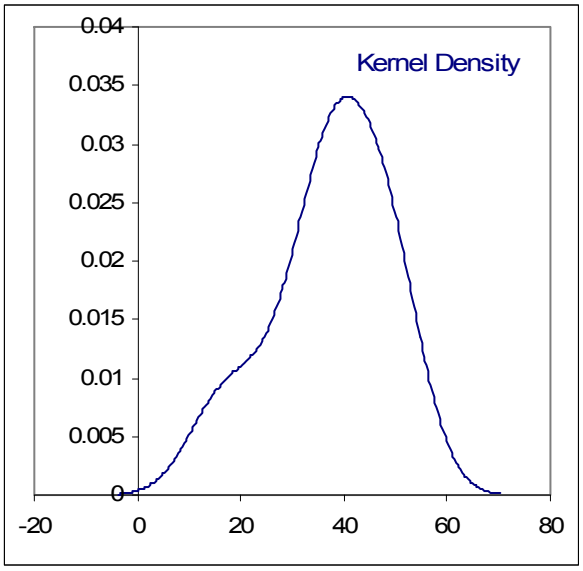
Determination of Trimethylamine on sample #11060; results in µg/kg

lab	method	value	mark	z(targ)	remarks
53		-----		-----	
150		-----		-----	
153		-----		-----	
171		-----		-----	
174		-----		-----	
311		-----		-----	
316	INH-601	35.97		-0.96	
319		-----		-----	
323		-----		-----	
332		-----		-----	
333		-----		-----	
334		-----		-----	
342		-----		-----	
343		-----		-----	
344		-----		-----	
345		-----		-----	
346		-----		-----	
347		-----		-----	
357		-----		-----	
395		-----		-----	
444		-----		-----	
446		-----		-----	
497		-----		-----	
528		-----		-----	
529		-----		-----	
551		-----		-----	
554		-----		-----	
608		-----		-----	
609		-----		-----	
646		-----		-----	
657	E346	15	G(0.05)	-6.14	
663		-----		-----	
823		-----		-----	
824		-----		-----	
825		-----		-----	
840		-----		-----	
855		-----		-----	
856		-----		-----	
857		-----		-----	
858		-----		-----	
859		-----		-----	
860		-----		-----	
862	E346	36		-0.95	
863		-----		-----	
864		-----		-----	
866		-----		-----	
870		-----		-----	
902		-----		-----	
912		-----		-----	
913		-----		-----	
963		-----		-----	
974		-----		-----	
1004	E346	24	C	-3.92	First reported 133
1009	E346	44.6		1.17	
1010	In house	40		0.03	
1029	E346	33.369	U	-1.60	Reported 0.033369, probably deviating unit?
1041	DIN51405	49.4		2.36	
1067		-----		-----	
1108		-----		-----	
1120		-----		-----	
1149		-----		-----	
1181		-----		-----	
1204		-----		-----	
1221		-----		-----	
1246		-----		-----	
1256		-----		-----	
1263		-----		-----	
1264		-----		-----	
1341		-----		-----	
1342		-----		-----	
1343		-----		-----	
1344		-----		-----	
1412		-----		-----	

1438		-----		-----	
1450		-----		-----	
1464		-----		-----	
1465	E346	51.38		2.84	
1615	In house	44.02	U	1.03	Reported 0.0442, probably deviating unit?
1728		-----		-----	
1866		-----		-----	

normality	OK	
n	9	
outliers	1	Spike:
mean (n)	39.860	65.18
st.dev. (n)	8.5675	
R(calc.)	23.989	
R(E346:03e1)	11.340	Compare R(Horwitz) = 10.254



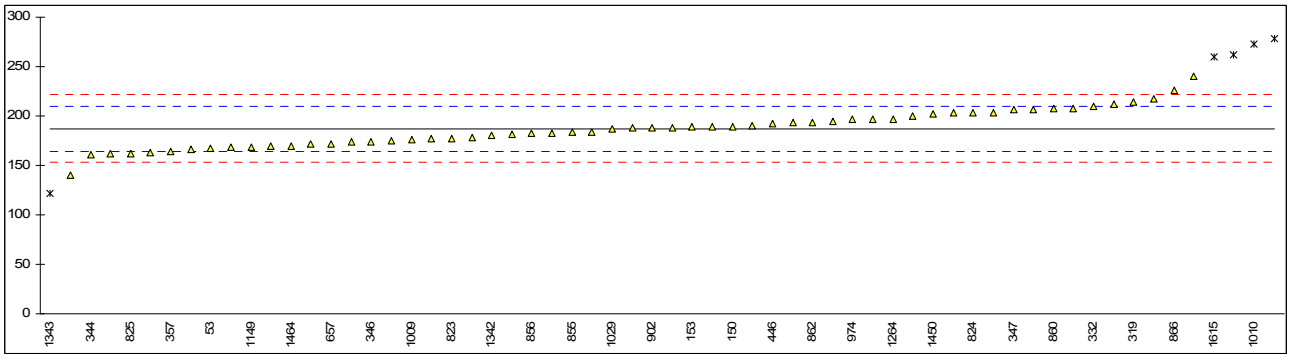


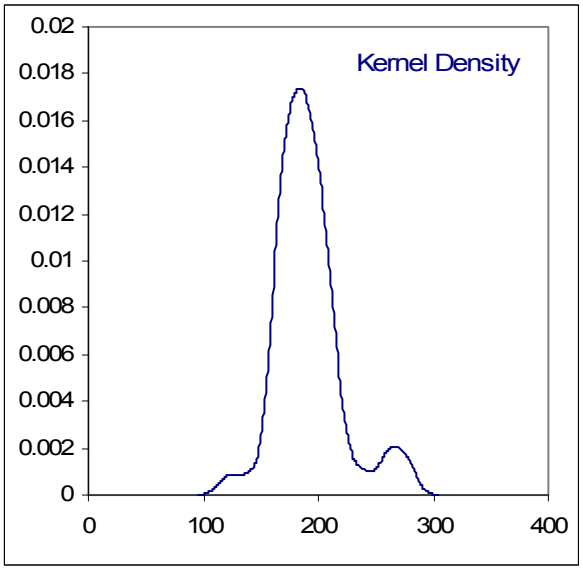
Determination of Water content (coulometric) on sample #11060; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	E1064	166.9		-1.77	
150	E1064	189		0.17	
153	E1064	189		0.17	
171		-----		-----	
174	E1064	212		2.18	
311	E1064	170		-1.50	
316		-----		-----	
319	E1064	214.65	C	2.41	First reported 0.022
323	E1064	262	DG(0.01)	6.55	
332	E1064	210		2.00	
333		-----		-----	
334	E1064	168.2		-1.65	
342	E1064	181		-0.53	
343	E1064	194.7		0.66	
344	E1064	160.7		-2.31	
345	E1064	162		-2.20	
346	E1064	174		-1.15	
347	E1064	206		1.65	
357	E1064	164		-2.02	
395	E1064	278	DG(0.05)	7.95	
444		-----		-----	
446	E1064	192		0.43	
497	E1064	184		-0.27	
528		-----		-----	
529		-----		-----	
551		-----		-----	
554		-----		-----	
608	E1064	175		-1.06	
609	E1064	163.30		-2.08	
646	E1064	140		-4.12	
657	E1064	172.1	C	-1.31	First reported 0.017
663	E1064	177		-0.88	
823	E1064	177		-0.88	
824	E1064	203		1.39	
825	E1064	162		-2.20	
840	E1064	203		1.39	
855	E1064	184		-0.27	
856	E1064	183		-0.36	
857	E1064	208		1.83	
858	E1064	203		1.39	
859	E1064	207		1.74	
860	E1064	208		1.83	
862	E1064	194		0.60	
863	E1064	178		-0.80	
864	E1064	183		-0.36	
866	E1064	226		3.40	
870	E1064	174		-1.15	
902	E1064	188		0.08	
912		-----		-----	
913		-----		-----	
963	E1064	188		0.08	
974	E1064	197		0.87	
1004	E1064	193		0.52	
1009	E1064	176		-0.97	
1010	E1064	273	C,DG(0.05)	7.52	First reported 0.042
1029	E1064	187.0		-0.01	
1041	ISO12937	197		0.87	
1067		-----		-----	
1108	E1064	217		2.62	
1120		-----		-----	
1149	E1064	169.00		-1.58	
1181	E1064	240		4.63	
1204	E1064	190.0		0.25	
1221		-----		-----	
1246		-----		-----	
1256		-----		-----	
1263	ISO12937	200.3		1.15	
1264	E1064	197		0.87	
1341	E1064	188		0.08	
1342	E1064	180	C	-0.62	First reported 381
1343	E1064	121.53	G(0.05)	-5.74	
1344	E1064	189		0.17	
1412		-----		-----	

1438	D6304	172		-1.32	
1450	E1064	202		1.30	
1464	E1064	170		-1.50	
1465	E1064	166	U	-1.85	Reported 0.0166 %M/M
1615	E1064	259.2916	DG(0.01)	6.32	
1728		-----		-----	
1866		-----		-----	

normality	OK
n	57
outliers	5
mean (n)	187.10
st.dev. (n)	18.546
R(calc.)	51.93
R(E1064:05)	31.99



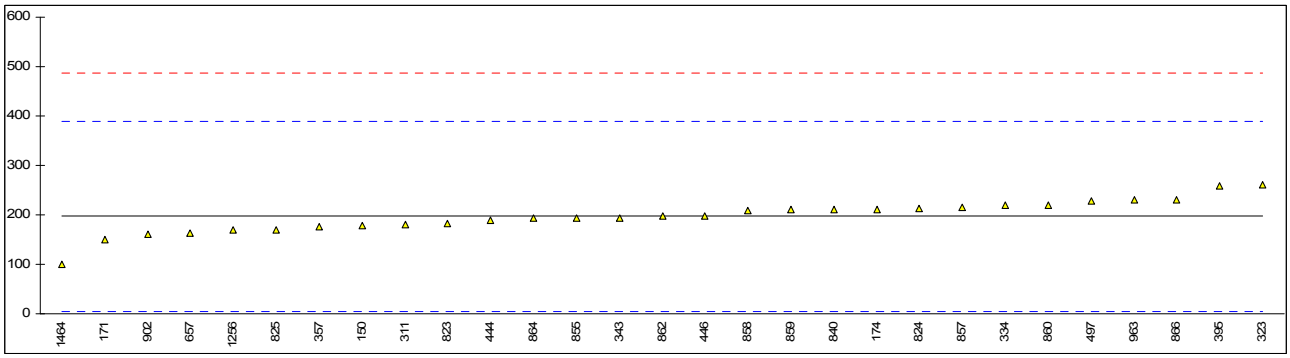


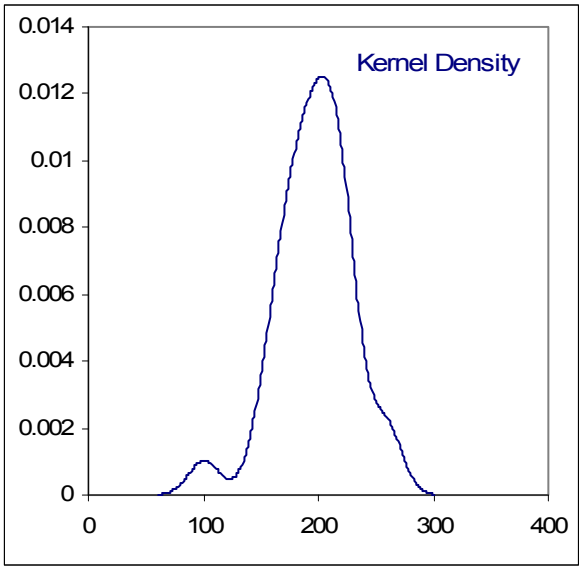
Determination of Water content (titrimetric) on sample #11060; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53		-----		-----	
150	E203	179		-0.19	
153		-----		-----	
171	E203	149		-0.50	
174	E203	210		0.13	
311	E203	180		-0.18	
316		-----		-----	
319		-----		-----	
323	E203	260		0.65	
332		-----		-----	
333		-----		-----	
334	E203	219		0.23	
342		-----		-----	
343	E203	194.5		-0.03	
344		-----		-----	
345		-----		-----	
346		-----		-----	
347		-----		-----	
357	E203	177		-0.21	
395	E203	259		0.64	
444	E203	190	C	-0.07	First reported 0.019
446	E203	198		0.01	
497	E203	228		0.32	
528		-----		-----	
529		-----		-----	
551		-----		-----	
554		-----		-----	
608		-----		-----	
609		-----		-----	
646		-----		-----	
657	E203	163.4	C	-0.35	First reported 0.016
663		-----		-----	
823	E203	183		-0.15	
824	E203	213		0.17	
825	E203	170		-0.28	
840	E203	210		0.13	
855	E203	194		-0.03	
856		-----		-----	
857	E203	216		0.20	
858	E203	208		0.11	
859	E203	210		0.13	
860	E203	220		0.24	
862	E203	197		0.00	
863		-----		-----	
864	D1364	194		-0.03	
866	E203	230		0.34	
870		-----		-----	
902	E203	160		-0.38	
912		-----		-----	
913		-----		-----	
963	E203	230		0.34	
974		-----		-----	
1004		-----		-----	
1009		-----		-----	
1010		-----		-----	
1029		-----		-----	
1041		-----		-----	
1067		-----		-----	
1108		-----		-----	
1120		-----		-----	
1149		-----		-----	
1181		-----		-----	
1204		-----		-----	
1221		-----		-----	
1246		-----		-----	
1256	E203	170		-0.28	
1263		-----		-----	
1264		-----		-----	
1341		-----		-----	
1342		-----		-----	
1343		-----		-----	
1344		-----		-----	
1412		-----		-----	

1438		-----	-----
1450		-----	-----
1464	E203	101	-1.00
1465		-----	-----
1615		-----	-----
1728		-----	-----
1866		-----	-----

normality	OK
n	29
outliers	0
mean (n)	197.00
st.dev. (n)	32.716
R(calc.)	91.60
R(E203:08)	270.00

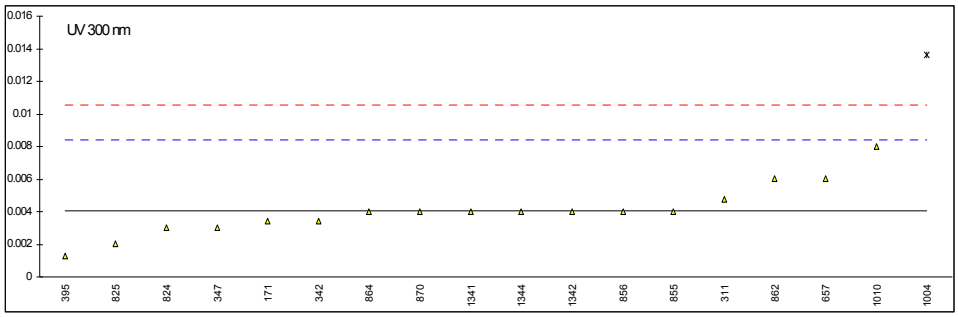


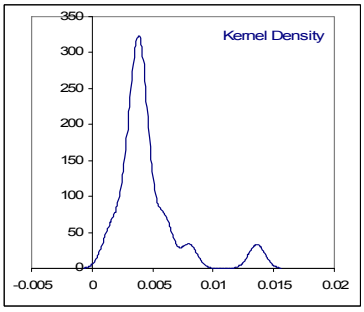


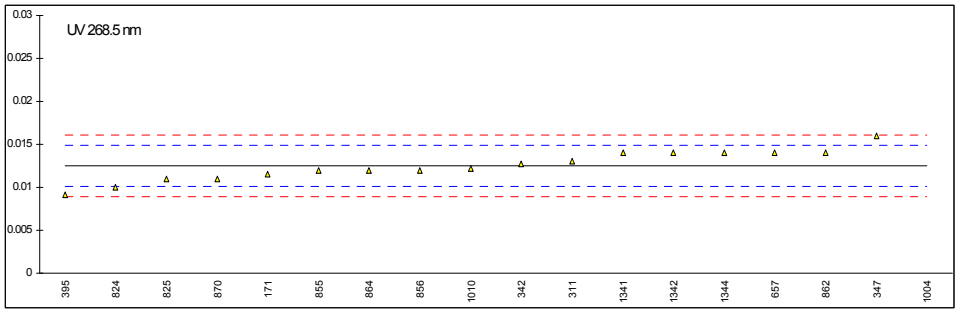
Determination of UV Absorbance (10 mm Cuvette) on sample #11061

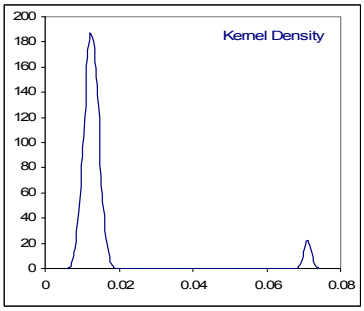
lab	method	300nm	mark	268.5nm	mark	250nm	mark	240nm	mark	230nm	mark	220nm	mark
150		-----		-----		-----		-----		-----		-----	
171	IMPCA004	0.0034		0.0115		0.0269		0.0558		0.1278		0.2677	
311	IMPCA004	0.00476		0.01300		0.02928		0.05916		0.13528		0.27800	
319		-----		-----		-----		-----		-----		-----	
323		-----		-----		-----		-----		-----		-----	
334		-----		-----		-----		-----		-----		-----	
342	INH-901	0.0034		0.0127		0.0266		0.0536		0.1220		0.2562	
347	IMPCA004	0.003		0.016		0.031		0.054		0.112		0.223	
357		-----		-----		-----		-----		-----		-----	
395	IMPCA004	0.0013		0.0091		0.0251		0.0569		0.1332		0.2786	
444		-----		-----		-----		-----		-----		-----	
609		-----		-----		-----		-----		-----		-----	
657	IMPCA004	0.006		0.014		0.028		0.056		0.121		0.235	
823		-----		-----		-----		-----		-----		-----	
824	IMPCA004	0.003		0.010		0.023		0.050		0.119		0.251	
825	IMPCA004	0.002		0.011		0.024		0.051		0.121		0.260	
855	IMPCA004	0.004		0.012		0.026		0.051		0.117		0.247	
856	IMPCA004	0.004		0.012		0.024		0.049		0.112		0.243	
857		-----		-----		-----		-----		-----		-----	
858		-----		-----		-----		-----		-----		-----	
859		-----		-----		-----		-----		-----		-----	
860		-----		-----		-----		-----		-----		-----	
862	IMPCA004	0.006		0.014		0.027		0.054		0.118		0.242	
863		-----		-----		-----		-----		-----		-----	
864	IMPCA004	0.004		0.012		0.026		0.053		0.122		0.255	
866		-----		-----		-----		-----		-----		-----	
870	IMPCA004	0.004		0.011		0.024		0.052		0.119		0.252	
963		-----		-----		-----		-----		-----		-----	
974		-----		-----		-----		-----		-----		-----	
1004	IMPCA004	0.0136	CG(1)	0.0711	G(1)	0.0499	CG(1)	0.0814	CG(1)	0.1559	CG(1)	0.3576	G(1)
1010	IMPCA004	0.0080		0.0122		0.0123	G(1)	0.0380	G(1)	0.1074		0.2348	
1041		-----		-----		-----		-----		-----		-----	
1067		-----		-----		-----		-----		-----		-----	
1246		-----		-----		-----		-----		-----		-----	
1341	IMPCA004	0.004		0.014		0.033		0.058		0.125		0.233	
1342	IMPCA004	0.004		0.014		0.028		0.060		0.127		0.241	
1343		-----		-----		-----		-----		-----		-----	
1344	IMPCA004	0.004		0.014		0.033		0.058		0.125		0.233	
1438		-----		-----		0.03		-----		0.15	G(1)	-----	
1866		-----		-----		-----		-----		-----		-----	
	normality	not OK		OK		OK		OK		OK		OK	
	n	17		17		17		16		17		17	
	outliers	1		1		2		2		2		1	
	mean (n)	0.0041		0.0125		0.0273		0.0545		0.1214		0.2488	
	st.dev. (n)	0.00155		0.00173		0.00307		0.00338		0.00727		0.01586	
	R(calc.)	0.0043		0.0048		0.0086		0.0095		0.0204		0.0444	
	R(IMPCA004:06)	0.0061		0.0034		0.0028		unknown		unknown		0.0714	

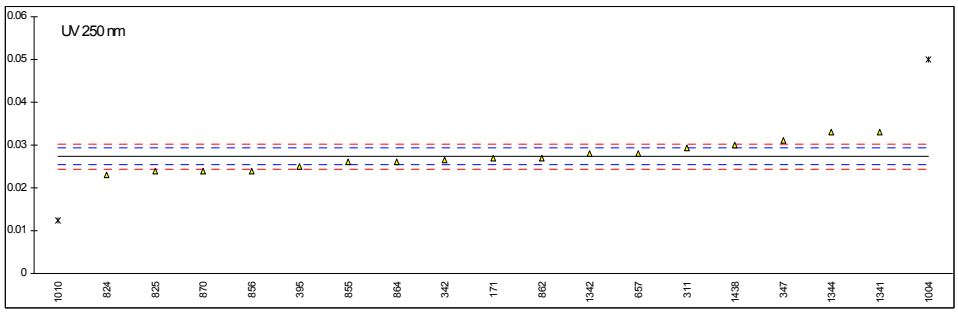
First reported
Lab 1004: resp. 0.0538, 0.0905, 0.1251, 0.2095,

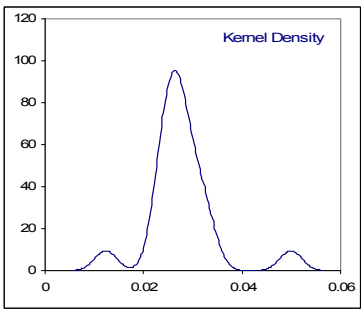

UV 300 nm
395 825 824 347 171 342 864 870 1341 1344 1342 856 855 311 862 657 1010 1004

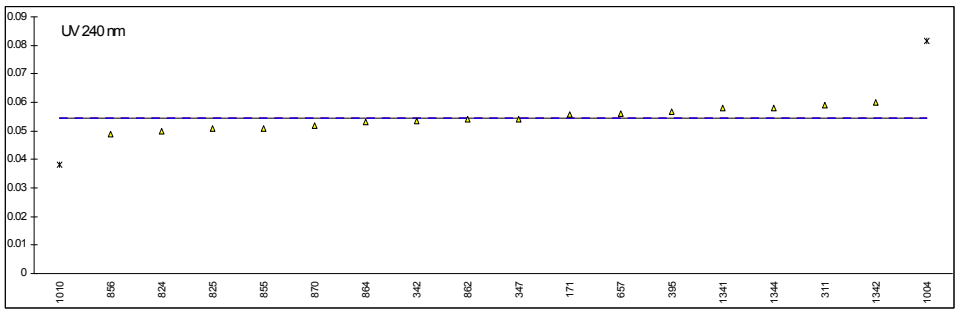

Kernel Density

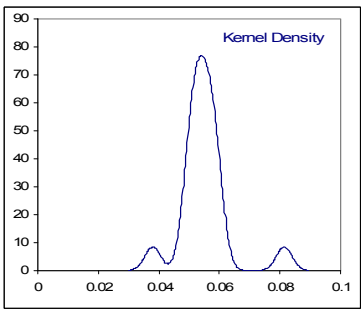

UV 268.5 nm
395 824 825 870 171 855 864 856 1010 342 311 1341 1342 1344 657 862 347 1004

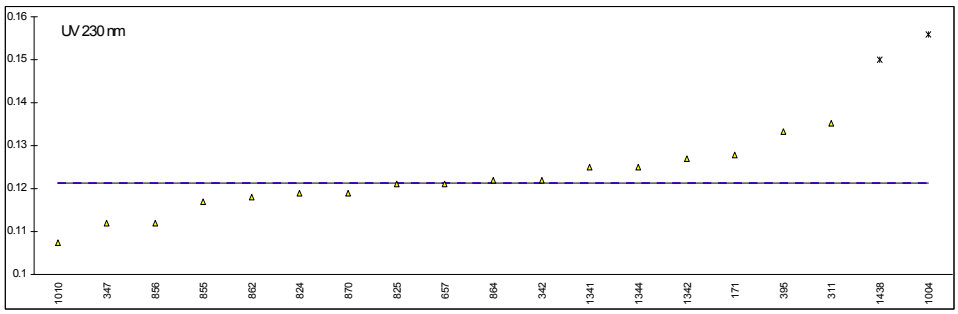

Kernel Density

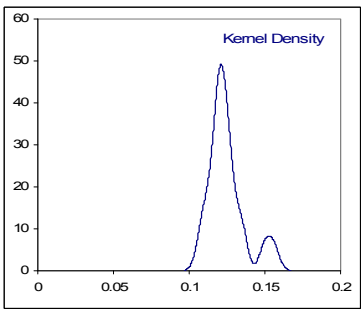

UV 250 nm
1010 824 825 870 856 395 855 864 342 171 862 1342 657 311 1438 347 1344 1341 1004

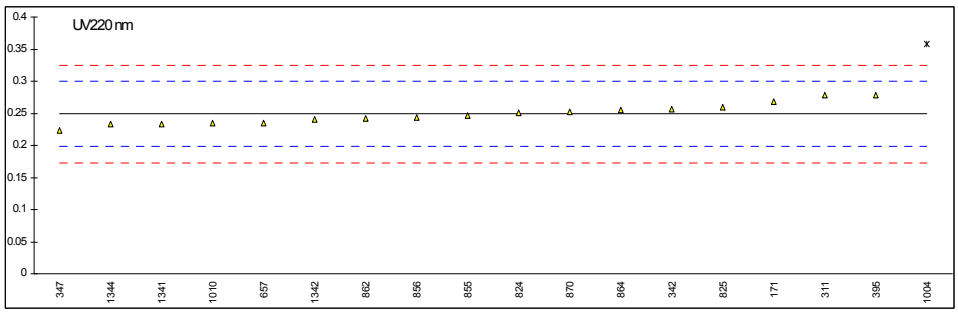

Kernel Density

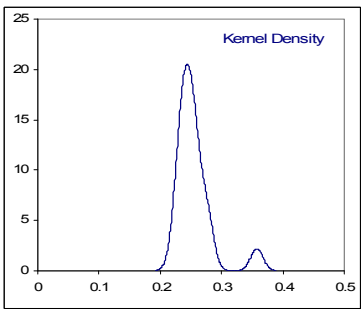

UV 240 nm
1010 856 824 825 855 870 864 342 862 347 171 657 395 1341 1344 311 1342 1004


Kernel Density


UV 230 nm
1010 347 856 855 862 824 870 825 657 864 342 1341 1344 1342 171 395 311 1438 1004


Kernel Density

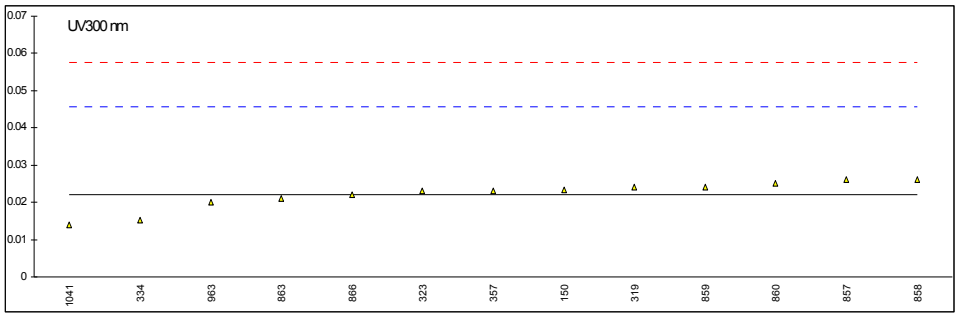

UV220 nm
347 1344 1341 1010 657 1342 862 856 855 824 870 864 342 825 171 311 395 1004

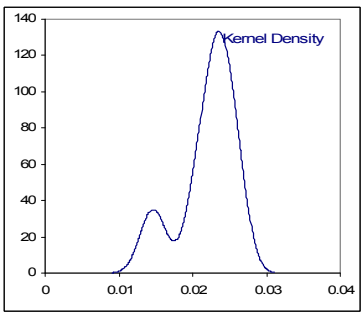

Kernel Density

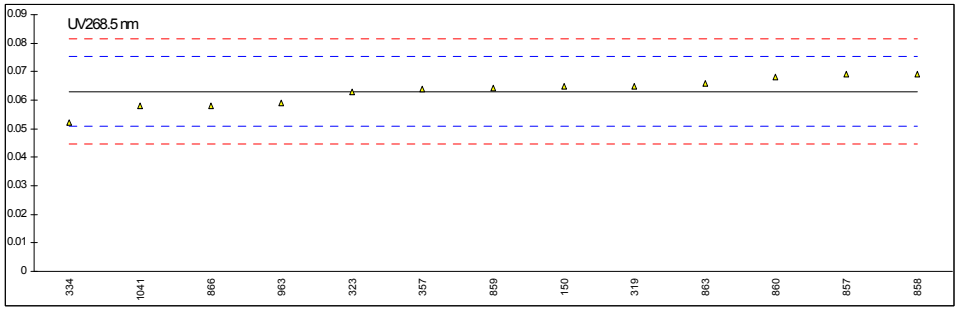
Determination of UV Absorbance (50 mm Cuvette) on sample #11061

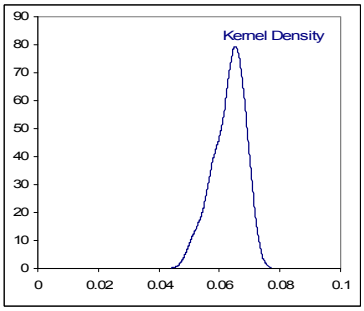
lab	method	300nm	mark	268.5nm	mark	250nm	mark	240nm	mark	230nm	mark	220nm	mark
150	IMPCA004	0.0233		0.0648		0.1445		-----		-----		1.3570	
171		-----		-----		-----		-----		-----		-----	
311		-----		-----		-----		-----		-----		-----	
319	IMPCA004	0.024		0.065		0.138		0.287		0.646		1.315	
323	IMPCA004	0.023		0.063		0.143		-----		-----		1.370	
334	IMPCA004	0.0153		0.0522		0.1297		0.2687		0.6545		1.3811	
342		-----		-----		-----		-----		-----		-----	
347		-----		-----		-----		-----		-----		-----	
357	IMPCA004	0.023		0.064		0.140		0.283		0.644		1.338	
395		-----		-----		-----		-----		-----		-----	
444		-----		-----		-----		-----		-----		-----	
609		-----		-----		-----		-----		-----		-----	
657		-----		-----		-----		-----		-----		-----	
823		-----		-----		-----		-----		-----		-----	
824		-----		-----		-----		-----		-----		-----	
825		-----		-----		-----		-----		-----		-----	
855		-----		-----		-----		-----		-----		-----	
856		-----		-----		-----		-----		-----		-----	
857	IMPCA004	0.026		0.069		0.142		0.284		0.624		1.218	
858	IMPCA004	0.0262		0.0690		0.1368		0.2688		0.6036		1.2157	
859	IMPCA004	0.0241		0.0642		0.1345		0.2722		0.6118		1.2244	
860	IMPCA004	0.025		0.068		0.140		0.274		0.615		1.229	
862		-----		-----		-----		-----		-----		-----	
863	IMPCA004	0.021		0.066		0.129		0.251		0.540		1.049	
864		-----		-----		-----		-----		-----		-----	
866	IMPCA004	0.022		0.058		0.128		0.251		0.572		1.201	
870		-----		-----		-----		-----		-----		-----	
963	IMPCA004	0.020		0.059		0.137		0.280		0.642		1.339	
974		-----		-----		-----		-----		-----		-----	
1004		-----		-----		-----		-----		-----		-----	
1010		-----		-----		-----		-----		-----		-----	
1041	IMPCA004	0.014	C	0.058		0.135		0.268		0.615		1.350	
1067		-----		-----		-----		-----		-----		-----	
1246		-----		-----		-----		-----		-----		-----	
1341		-----		-----		-----		-----		-----		-----	
1342		-----		-----		-----		-----		-----		-----	
1343		-----		-----		-----		-----		-----		-----	
1344		-----		-----		-----		-----		-----		-----	
1438		-----		-----		-----		-----		-----		-----	
1866		-----		-----		-----		-----		-----		-----	
	normality	OK		OK		OK		OK		OK		OK	
	n	13		13		13		11		11		13	
	outliers	0		0		0		0		0		0	
	mean (n)	0.0221		0.0631		0.1367		0.2716		0.6153		1.2759	
	st.dev. (n)	0.00375		0.00499		0.00535		0.01215		0.03433		0.09586	
	R(calc.)	0.0105		0.0140		0.0150		0.0340		0.0961		0.2684	
	R(IMPCA004:06)	0.0331		0.0173		0.0138		unknown		unknown		0.3662	

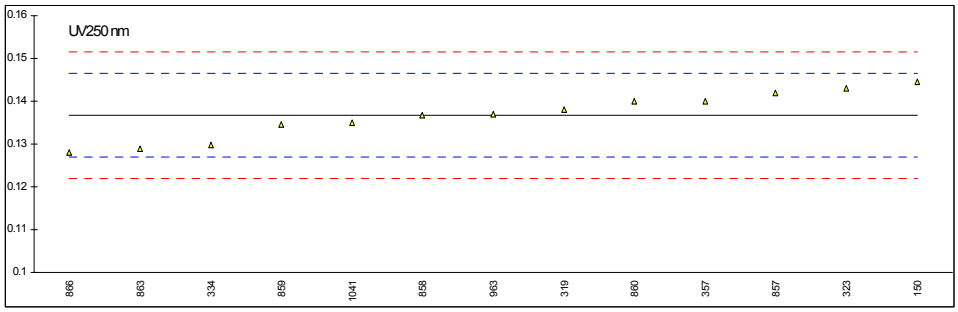
First reported
Lab 1041: 0.016

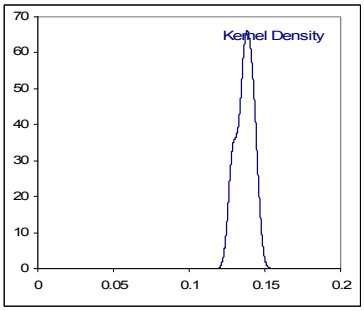

UV300 nm
1041 334 963 863 866 323 357 150 319 859 860 857 858

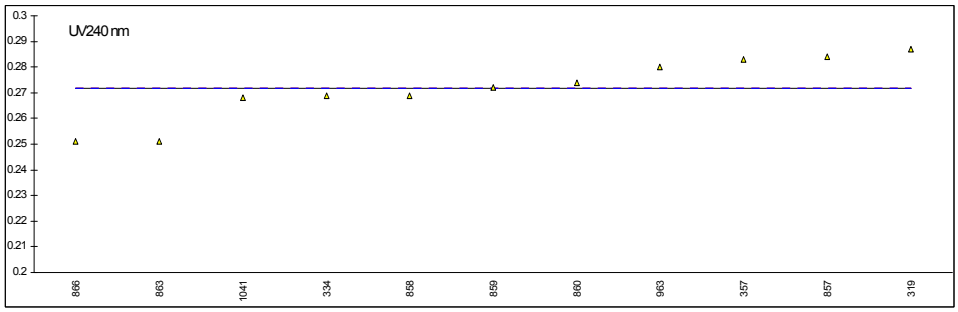

Kernel Density

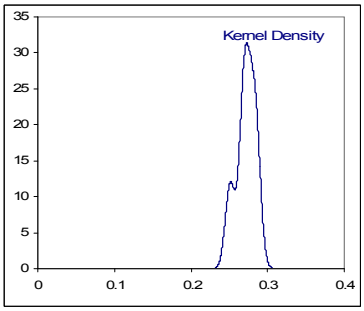

UV268.5 nm
334 1041 866 963 323 357 859 150 319 863 860 857 858

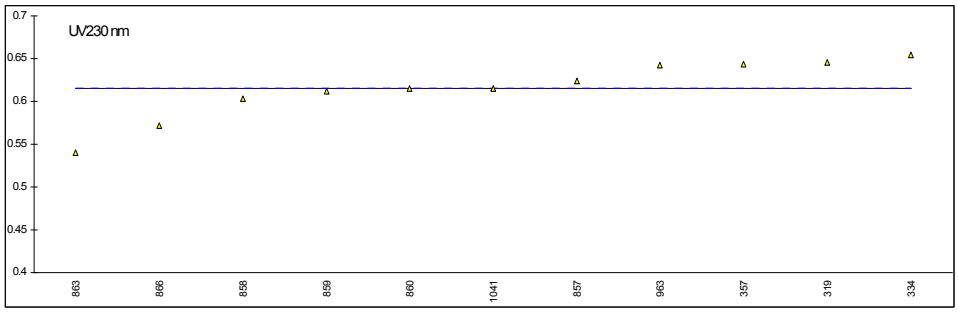

Kernel Density

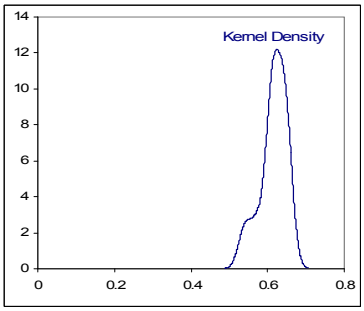

UV250 nm
866 863 334 859 1041 858 963 319 860 357 857 323 150

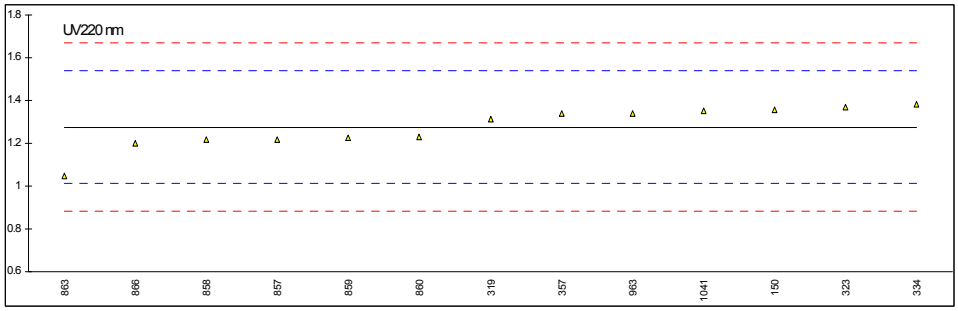

Kernel Density

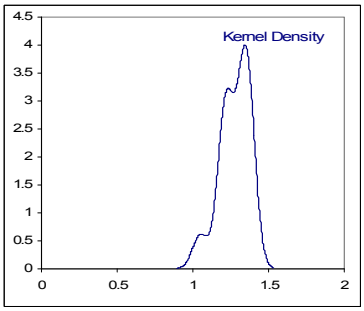

UV240 nm
866 863 1041 334 858 859 860 963 357 857 319


Kernel Density


UV230 nm
863 866 858 859 860 1041 857 963 357 319 334


Kernel Density


UV220 nm
863 866 858 857 859 860 319 357 963 1041 150 323 334


Kernel Density

Other UV details

lab	UV Curve	Sample pass	Component detected	remarks
150	smooth	pass		
171	smooth	pass		
311	smooth	fail		False positive?
319	-----	pass		
323	pass	pass		
334	-----	pass		
342	-----	-----		
347	-----	-----		
357	smooth	pass		
395	smooth	pass		
444	-----	-----		
609	-----	-----		
657	smooth	pass		
823	-----	-----		
824	smooth	pass		
825	-----	-----		
855	smooth	pass		
856	smooth	pass		
857	smooth	pass		
858	smooth	pass		
859	smooth	pass		
860	smooth	pass		
862	smooth	pass		
863	smooth	pass		
864	smooth	pass		
866	smooth	pass		
870	smooth	pass		
963	smooth	pass		
974	-----	-----		
1004	smooth	fail		False positive?
1010	smooth	pass		
1041	-----	-----		
1067	-----	-----		
1246	-----	-----		
1341	-----	-----		
1342	smooth	pass		
1343	-----	-----		
1344	-----	-----		
1438	smooth	pass		
1866	-----	-----		

z-scores UV absorbance

	10mm Cuvette						50mm Cuvette					
lab	300nm	268.5nm	250nm	240nm	230nm	220nm	300nm	268.5nm	250nm	240nm	230nm	220nm
150	-----	-----	-----	-----	-----	-----	0.10	0.28	1.58	-----	-----	0.62
171	-0.30	-0.83	-0.45	-----	-----	0.74	-----	-----	-----	-----	-----	-----
311	0.33	0.41	1.96	-----	-----	1.14	-----	-----	-----	-----	-----	-----
319	-----	-----	-----	-----	-----	-----	0.16	0.31	0.26	-----	-----	0.30
323	-----	-----	-----	-----	-----	-----	0.08	-0.02	1.27	-----	-----	0.72
334	-----	-----	-----	-----	-----	-----	-0.57	-1.78	-1.43	-----	-----	0.80
342	-0.30	0.17	-0.76	-----	-----	0.29	-----	-----	-----	-----	-----	-----
347	-0.48	2.89	3.70	-----	-----	-1.01	-----	-----	-----	-----	-----	-----
357	-----	-----	-----	-----	-----	-----	0.08	0.15	0.66	-----	-----	0.47
395	-1.27	-2.81	-2.28	-----	-----	1.17	-----	-----	-----	-----	-----	-----
444	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
609	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
657	0.90	1.24	0.66	-----	-----	-0.54	-----	-----	-----	-----	-----	-----
823	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
824	-0.48	-2.07	-4.41	-----	-----	0.08	-----	-----	-----	-----	-----	-----
825	-0.94	-1.24	-3.39	-----	-----	0.44	-----	-----	-----	-----	-----	-----
855	-0.02	-0.41	-1.36	-----	-----	-0.07	-----	-----	-----	-----	-----	-----
856	-0.02	-0.41	-3.39	-----	-----	-0.23	-----	-----	-----	-----	-----	-----
857	-----	-----	-----	-----	-----	-----	0.33	0.97	1.07	-----	-----	-0.44
858	-----	-----	-----	-----	-----	-----	0.35	0.97	0.01	-----	-----	-0.46
859	-----	-----	-----	-----	-----	-----	0.17	0.18	-0.45	-----	-----	-0.39
860	-----	-----	-----	-----	-----	-----	0.25	0.80	0.66	-----	-----	-0.36
862	0.90	1.24	-0.35	-----	-----	-0.27	-----	-----	-----	-----	-----	-----
863	-----	-----	-----	-----	-----	-----	-0.09	0.48	-1.57	-----	-----	-1.74
864	-0.02	-0.41	-1.36	-----	-----	0.24	-----	-----	-----	-----	-----	-----
866	-----	-----	-----	-----	-----	-----	-0.01	-0.83	-1.77	-----	-----	-0.57
870	-0.02	-1.24	-3.39	-----	-----	0.12	-----	-----	-----	-----	-----	-----
963	-----	-----	-----	-----	-----	-----	-0.18	-0.67	0.05	-----	-----	0.48
974	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1004	4.40	48.44	22.86	-----	-----	4.26	-----	-----	-----	-----	-----	-----
1010	1.82	-0.25	-15.25	-----	-----	-0.55	-----	-----	-----	-----	-----	-----
1041	-----	-----	-----	-----	-----	-----	-0.68	-0.83	-0.35	-----	-----	0.57
1067	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1246	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1341	-0.02	1.24	5.73	-----	-----	-0.62	-----	-----	-----	-----	-----	-----
1342	-0.02	1.24	0.66	-----	-----	-0.31	-----	-----	-----	-----	-----	-----
1343	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1344	-0.02	1.24	5.73	-----	-----	-0.62	-----	-----	-----	-----	-----	-----
1438	-----	-----	2.69	-----	-----	-----	-----	-----	-----	-----	-----	-----
1866	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

APPENDIX 2

Number of participants per country

1 lab in	AUSTRIA
1 lab in	AZERBAIJAN
1 lab in	BELGIUM
2 labs in	BRAZIL
3 labs in	CANADA
1 lab in	FINLAND
3 labs in	FRANCE
2 labs in	GERMANY
1 lab in	GREECE
2 labs in	INDIA
1 lab in	ISRAEL
1 lab in	ITALY
3 labs in	KOREA
4 labs in	MALAYSIA
2 labs in	MEXICO
2 labs in	NEW ZEALAND
1 lab in	NORWAY
12 labs in	P.R. of CHINA
1 lab in	ROMANIA
4 labs in	SAUDI ARABIA
2 labs in	SINGAPORE
6 labs in	SPAIN
1 lab in	THAILAND
4 labs in	THE NETHERLANDS
1 lab in	TRINIDAD and TOBAGO
1 lab in	TURKEY
2 labs in	U.A.E.
10 labs in	U.S.A.
1 lab in	UNITED KINGDOM
2 labs in	VENEZUELA
1 lab in	VIETNAM

APPENDIX 3

Abbreviations:

C	= final result after checking of first reported suspect result
D(0.01)	= outlier in Dixon's outlier test
D(0.05)	= straggler in Dixon's outlier test
G(0.01)	= outlier in Grubbs' outlier test
G(0.05)	= straggler in Grubbs' outlier test
DG(0.01)	= outlier in Double Grubbs' outlier test
DG(0.05)	= straggler in Double Grubbs' outlier test
E	= error in calculations
U	= reported in different unit
ex	= excluded from calculations
n.a.	= not applicable
W	= result withdrawn on request of participant

Literature:

1 iis Interlaboratory Studies, Protocol for the Organisation, Statistics & Evaluation, January 2010
2 ASTM E178-02
3 ASTM E1301-03
4 ISO 5725-86
5 ISO 5725, parts 1-6, 1994
6 ISO 13528-05,
7 M. Thompson and R. Wood, J. AOAC Int, 76, 926, (1993)
8 W.J. Youden and E.H. Steiner, Statistical Manual of the AOAC, (1975)
9 IP 367/96
10 DIN 38402 T41/42
11 P.L. Davies, Fr. Z. Anal. Chem, 331, 513, (1988)
12 J.N. Miller, Analyst, 118, 455, (1993)
13 IMPCA Methanol Reference Specifications, IMPCA, Brussels, January 2008.
14 ASTM E346-03e1
15 Analytical Methods Committee Technical brief, No4 January 2001.
16 The Royal Society of Chemistry 2002, Analyst 2002, 127 page 1359-1364, P.J. Lowthian and M. Thompson (see http://www.rsc.org/suppdata/an/b2/b205600n/).