Results of Proficiency Test
Total Metals in dried paint
April 2021

Organized by: Institute for Interlaboratory Studies
Spijkenisse, the Netherlands

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1 INTRODUCTION

Since 2008 the USA Consumer Product Safety Improvement Act (CPSIA) (sec. 101) bans Lead in toys. This USA legislation reduces the amount of total Lead content in the substrates of children's products to 600 ppm by 2009, to 100 ppm by 2011 and the total Lead content in surface coatings or paint to 90 mg/kg by 2009.
Since 2008 the Institute for Interlaboratory Studies (iis) organizes every year a proficiency test on total Lead in dried paint. In 2015 it was decided to extend the scope with other metals on request of a number of participants. During the annual proficiency testing program 2020/2021 it was decided to continue the proficiency test for the analysis of Metals in dried paint.

In this interlaboratory study 111 laboratories in 30 different countries registered for participation. See appendix 4 for the number of participants per country. In this report the results of the Total Metals in dried paint proficiency test are presented and discussed. This report is also electronically available through the iis website www.iisnl.com.

2 SET UP

The Institute for Interlaboratory Studies (iis) in Spijkenisse, the Netherlands, was the organizer of this proficiency test (PT). Sample analyzes for fit-for-use and homogeneity testing were subcontracted to an ISO/IEC17025 accredited laboratory.
It was decided to send two different dried paint samples both positive on a number of metals. The first sample is a dried off-white paint of approximately 0.5 gram labelled #21560 and the second sample is a dried grey paint of approximately 0.5 gram labelled #21561.
The participants were requested to report the rounded and unrounded test results. The unrounded test results were preferably used for statistical evaluation.

2.1 ACCREDITATION

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

2.2 PROTOCOL

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

2.3 CONFIDENTIALITY STATEMENT

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

2.4 SAMPLES

For the first sample a batch of off-white dried paint was selected which was artificially fortified with Arsenic and Chromium. The batch was used in previous proficiency tests on Metals in dried paint as sample #17550 in iis17V01 (2017) and sample #19530 in iis19V01 (2019). The milled paint batch was divided over 160 plastic bags of 0.5 gram each and labelled #21560. In iis17V01 the homogeneity of the batch was demonstrated by the determination of total Arsenic and total Chromium by an in-house test method on 8 randomly selected subsamples. Therefore, homogeneity of the subsamples was assumed.

For the second sample a batch of grey dried paint was selected which was artificially fortified with Cobalt and Lead. The paint was applied to plastic sheets and after drying scraped off and milled. Finally, the milled paint batch was divided over 160 plastic bags of 0.5 gram each and labelled #21561.
The homogeneity of the subsamples was checked by the determination of Cobalt and Lead by an in-house test method on eight stratified randomly selected subsamples.

	Cobalt as Co in mg/kg	Lead as Pb in mg/kg
sample #21561-1	144.1	87.5
sample #21561-2	143.4	88.2
sample #21561-3	152.2	93.9
sample #21561-4	149.6	91.9
sample #21561-5	150.1	93.5
sample #21561-6	151.8	93.2
sample #21561-7	151.0	92.8
sample #21561-8	150.9	91.6

Table 1: homogeneity test results of subsamples #21561

From the above test results the repeatabilities were calculated and compared with 0.3 times the estimated reproducibility calculated with the Horwitz equation in agreement with the procedure of ISO13528, Annex B2 in the next table.

	Cobalt as Co in mg/kg	Lead as Pb in mg/kg
r (observed)	9.6	6.8
reference method	Horwitz	Horwitz
0.3 x R (reference method)	9.4	6.2

Table 2: evaluation of the repeatabilities of subsamples #21561

The calculated repeatabilities are in agreement with 0.3 times the estimated reproducibility calculated with the Horwitz equation. Therefore, homogeneity of the subsamples was assumed.

To each of the participating laboratories one sample labelled #21560 and one sample labelled #21561 was sent on March 24, 2021.

2.5 ANALYZES

The participants were asked to determine on both samples #21560 and #21561 the concentration of total Aluminum as Al, total Antimony as Sb, total Arsenic as As, total Cadmium as Cd, total Chromium as Cr, total Cobalt as Co, total Copper as Cu, total Lead as Pb, total Manganese as Mn, total Mercury as Hg, total Nickel as Ni, total Selenium as Se, total Strontium as Sr and total Zinc as Zn. It was also requested to report if the laboratory was accredited to determine the reported elements and to report some analytical details.

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

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

3 RESULTS

During five weeks after sample dispatch, the test results of the individual laboratories were gathered via the data entry portal www.kpmd.co.uk/sgs-iis-cts/. The reported test results are tabulated per determination in appendix 1 and 2 of this report. The laboratories are presented by their code numbers.

Directly after the deadline, a reminder was sent to those laboratories that had not reported test results at that moment. Shortly after the deadline, the available test results were screened for suspect data. A test result was called suspect in case the Huber Elimination

Rule (a robust outlier test) found it to be an outlier. The laboratories that produced these suspect data were asked to check the reported test results (no reanalysis). Additional or corrected test results are used for data analysis and original test results are placed under 'Remarks' in the test result tables in appendix 1. Test results that came in after the deadline were not taken into account in this screening for suspect data and thus these participants were not requested for checks.

3.1 STATISTICS

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

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

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

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

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

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

3.2 GRAPHICS

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

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

3.3 Z-SCORES

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

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

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

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

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

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

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

4 EVALUATION

In this proficiency test some problems were encountered with the dispatch of the samples due to COVID-19 pandemic. Therefore, the reporting time on the data entry portal was extended with another week. Fifteen participants reported test results after the extended reporting date and two other participants did not report any test results. Not all participants were able to report all elements requested.
In total 109 participants reported 658 numerical test results. Observed were 26 outlying test results, which is 4.0%. In proficiency tests outlier percentages of 3% - 7.5% are quite normal.

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

4.1 EVALUATION PER SAMPLE AND PER ELEMENT

In this section the reported test results are discussed per sample and per element. The test methods which were used by the various laboratories were taken into account for explaining the observed differences when possible and applicable. These test methods are also in the tables together with the original data. The abbreviations, used in these tables, are explained in appendix 5.

Unfortunately, a suitable reference test method providing the precision data is not available for the determination of Metals in dried paint. Therefore, the calculated reproducibility was compared against the estimated reproducibility calculated with the Horwitz equation.

Sample #21560

Total Aluminum as Al: This determination may be very problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not at all in agreement with the estimated reproducibility calculated with the Horwitz equation. A large variation in the reported test results is found, therefore no z-scores are calculated.

Total Arsenic as As: This determination is not problematic. Five statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in full agreement with the estimated reproducibility calculated with the Horwitz equation.

Total Chromium as Cr: This determination may be problematic. Four statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the estimated reproducibility calculated with the Horwitz equation.

Total Manganese as Mn: This determination may be problematic. Three statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the estimated reproducibility calculated with the Horwitz equation.

Total Strontium as Sr: This determination may be problematic. Three statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the estimated reproducibility calculated with the Horwitz equation.

The concentrations reported for all other Elements were near or below the detection limit. Therefore, no z-scores were calculated. See appendix 2 for the reported test results.

Sample #21561

Total Aluminum as Al: This determination may be very problematic. No statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not at all in agreement with the estimated reproducibility calculated with the Horwitz equation. A large variation in the reported test results is found, therefore no z-scores are calculated.

Total Cobalt as Co: This determination may be problematic. No statistical outliers were observed. The calculated reproducibility is not in agreement with the estimated reproducibility calculated with the Horwitz equation.

Total Copper as Cu: This determination may be problematic. Three statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the estimated reproducibility calculated with the Horwitz equation.

Total Lead as Pb: This determination may be problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the estimated reproducibility calculated with the Horwitz equation.

Total Manganese as Mn: This determination may be problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the estimated reproducibility calculated with the Horwitz equation.

Total Strontium as Sr: This determination may be problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the estimated reproducibility calculated with the Horwitz equation.

The concentrations reported for all other Elements were near or below the detection limit. Therefore, no z-scores were calculated. See appendix 2 for the reported test results.

4.2 PERFORMANCE EVALUATION FOR THE GROUP OF LABORATORIES

A comparison has been made between the reproducibility as declared by the estimated target reproducibility calculated with the Horwitz equation and the reproducibility as found for the group of participating laboratories. The number of significant test results, the average, the calculated reproducibility (2.8 * standard deviation) and the estimated target reproducibility are presented in the next tables.

Element	unit	n	average	2.8 * sd	R(target)
Total Aluminum as Al	mg/kg	38	1083	561	(170)
Total Arsenic as As	mg/kg	70	173.6	35.3	35.8
Total Chromium as Cr	mg/kg	76	173.2	51.5	35.7
Total Manganese as Mn	mg/kg	50	32.9	9.6	8.7
Total Strontium as Sr	mg/kg	40	732	183	122

Table 3: reproducibilities of tests on sample #21560

Values between brackets should be evaluated with due care.

Element	unit	n	average	2.8 * sd	R(target)
Total Aluminum as Al	mg/kg	41	2820	2601	(382)
Total Cobalt as Co	mg/kg	65	167.3	56.3	34.7
Total Copper as Cu	mg/kg	53	50.5	22.1	12.5
Total Lead as Pb	mg/kg	106	107.9	29.2	23.9
Total Manganese as Mn	mg/kg	51	35.6	12.0	9.3
Total Strontium as Sr	mg/kg	42	510	163	89

Table 4: reproducibilities of tests on sample #21561

Values between brackets should be evaluated with due care.

Without further statistical calculations it can be concluded that for the determined elements, except Total Arsenic, there is not a good compliance of the group of participating laboratories with the strict target results calculated with the Horwitz equation. The group of participating laboratories show to have difficulties with this determination. The problematic tests have been discussed in paragraph 4.1.

4.3 COMPARISON OF THE PROFICIENCY TEST OF APRIL 2021 WITH PREVIOUS PTS

	April 2021	April 2020	April 2019	April 2018	April 2017
Number of reporting laboratories	109	110	113	133	132
Number of test results	658	770	417	638	975
Number of statistical outliers	26	27	22	25	24
Percentage of statistical outliers	4.0%	3.5%	5.3%	3.9%	2.5%

Table 5: 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, expressed as relative standard deviation (RSD) of the PTs, see next table.

Element	April 2021	April 2020	April 2019	April 2018	2009-2017	Target
Total Aluminum	19-33%	12-18%	n.e.	n.e.	n.e.	5 - 10%
Total Antimony	n.e.	n.e.	n.e.	n.e.	15%	5 - 10%
Total Arsenic	7%	n.e.	9%	n.e.	9%	5 - 10%
Total Cadmium	n.e.	n.e.	n.e.	7%	7-8%	5 - 10%
Total Chromium	11%	10%	10%	9%	9-12%	5 - 10%
Total Cobalt	12%	11%	7%	29%	7-30%.	5 - 10%
Total Copper	16%	10%	n.e.	n.e.	n.e.	5 - 10%
Total Lead	10%	10%	8%	9%	6-10%	5 - 10%
Total Manganese	10-12%	10-11%	8%	n.e.	n.e.	5 - 10%
Total Mercury	n.e.	n.e.	n.e.	11%	14-18%.	5 - 10%
Total Nickel	n.e.	n.e.	n.e.	5%	5-13%.	5 - 10%
Total Selenium	n.e.	10%	n.e.	n.e.	n.e.	5 - 10%
Total Strontium	9-11%	9-10%	n.e.	n.e.	n.e.	5 - 10%

Table 6: development of the relative standard deviations (RSD) over the years.

The RSD of the determined elements did not deviate from previous years.

4.4 EVALUATION OF THE ANALYTICAL DETAILS

Many different test methods were mentioned. The American CPSC-CH-E1003-09 method “For determining Lead (Pb) in Paint and Other Similar Surface Coatings” was used by about 50% of the participants. Also, other methods were reported and sometimes the method used was depending on the metal to be determined. Surprisingly, some of these test methods are not designed to determine metals in dried paint. For example, EN16711-1 is for metals in textile and IEC62321-5 for metals in electro technical products.
For this PT also some analytical details were requested, see appendix 3 for the reported details. Based on the answers given by the participants the following can be summarized:
About 90% of the reporting participants mentioned that they are accredited for the determination of Metals in dried paint.
About 28% of the reporting participants used less than 100mg as sample intake, about 44% used 100mg, about 27% used more than 100mg as sample intake.
Nearly all laboratories used a strong acid like Nitric Acid (or Nitric Acid in combination with Hydrochloric Acid and/or Hydrofluoric Acid) to digest the dried paint. About 75% of the participants used a Nitric Acid with a concentration ≥ 65%.

When the analytical details where investigated separately, it appeared that the effect on the determination of Metals in dried paint is negligible.

5 DISCUSSION

Sample #21560 was used in a previous proficiency test on Metals in dried Paint iis19V01 as sample #19530. A comparison is made between the two proficiency tests. It is observed that the PT findings of the subsamples #21560 and #19530 are good comparable.

Element	unit	#21560			#19530		
		n	average	R(calc)	n	average	R(calc)
Total Arsenic	mg/kg	70	173.6	35.3	75	175.4	43.0
Total Chromium	mg/kg	76	173.2	51.5	86	170.4	47.7
Total Manganese	mg/kg	50	32.9	9.6	55	33.2	7.7

Table 7: comparison of sample #21560 with #19530

The participants were able to detect the spiked elements in both samples correctly in this proficiency test.
More difficulties are found with the elements Aluminum and Strontium which were present in the paint itself. Maybe the high concentration of both elements may partly explain the large variation found.

When the concentration limit recommended in UN Environment's "Model Law and Guidance for Regulating Lead Paint" 90 mg/kg total Lead is taken into account all reporting laboratories would accept sample #21560 based on the total Lead content and 95% of the respondents would reject sample #21561 based on the total Lead content.

6 CONCLUSION

Each participating laboratory will have to evaluate its performance in this study and decide about any corrective actions if necessary. Therefore, participation on a regular basis in this scheme could be helpful to improve the performance and thus increase of the quality of the analytical results.

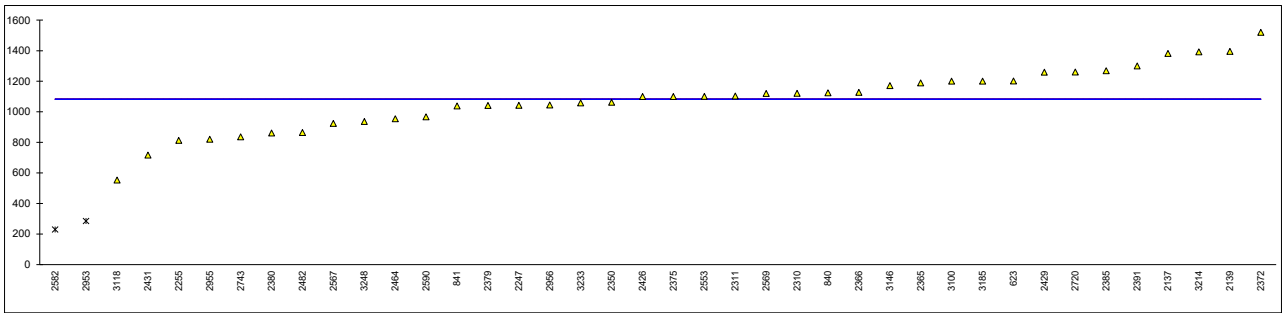
APPENDIX 1

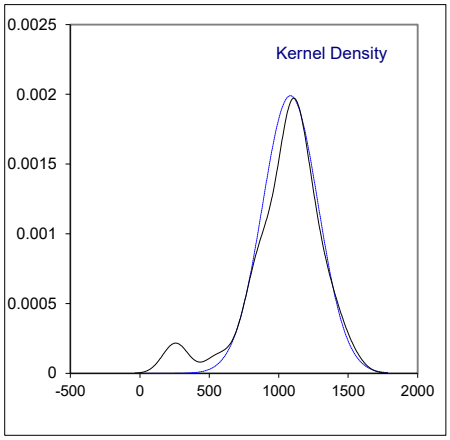
Determination of Total Aluminum as Al on sample #21560; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
339		-----		-----	
348		-----		-----	
551		Not tested		-----	
623	EPA3052	1201.15		-----	
840	In house	1124.12		-----	
841	ISO8124-5	1038.0		-----	
1051		-----		-----	
2115		-----		-----	
2121		-----		-----	
2129		-----		-----	
2137	IEC62321-5	1382		-----	
2138		-----		-----	
2139	ASTM E1645	1395		-----	
2170		-----		-----	
2184		-----		-----	
2216		-----		-----	
2232		-----		-----	
2247	CPSC-CH-E1002-08	1042.00		-----	
2255	CPSC-CH-E1003-09	812.0		-----	
2256		-----		-----	
2258		not analyzed		-----	
2286		-----		-----	
2290		-----		-----	
2293		not analyzed		-----	
2294		-----		-----	
2296		-----		-----	
2301		-----		-----	
2310	EN16711-1	1121		-----	
2311	CPSC-CH-E1003-09	1102.96		-----	
2314		-----		-----	
2330		Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1003-09	1063		-----	
2352		-----		-----	
2355		-----		-----	
2357		-----		-----	
2358		N/A		-----	
2365	EPA3052	1189.0		-----	
2366	ASTM F963	1127		-----	
2372	EPA3052	1520		-----	
2374		-----		-----	
2375	EN16711-1	1100		-----	
2378	EPA3052	out of capability		-----	
2379	EPA3052	1041.60		-----	
2380	CPSC-CH-E1003-09	861.09		-----	
2381	CPSC-CH-E1003-09	Out Cap		-----	
2382		not analyzed		-----	
2384		-----		-----	
2385	EPA3052	1269		-----	
2390		-----		-----	
2391	CPSC-CH-E1003-09	1300.0		-----	
2406		-----		-----	
2410		-----		-----	
2426	EN16711-1	1099.71		-----	
2429	CPSC-CH-E1003-09	1259.3		-----	
2431	CPSC-CH-E1002-08	716.14		-----	
2453		-----		-----	
2459		-----		-----	
2460		-----		-----	
2464	CPSC-CH-E1003-09	954.35		-----	
2476		-----		-----	
2480		-----		-----	
2482	CPSC-CH-E1003-09	864		-----	
2492		-----		-----	
2500		-----		-----	
2511		-----		-----	
2514		-----		-----	
2515		-----		-----	
2529		-----		-----	
2553	In house	1102		-----	
2561		-----		-----	
2564		-----		-----	
2567	CPSC-CH-E1003-09	923.9		-----	

lab	method	value	mark	z(targ)	remarks
2569		1120		-----	
2572		-----		-----	
2574		-----		-----	
2582	CPSC-CH-E1003-09	228.80	R(0.05)	-----	
2590	CPSC-CH-E1003-09	966.54		-----	
2674		-----		-----	
2678		-----		-----	
2689		Not analyzed		-----	
2720	CPSC-CH-E1003-09	1260		-----	
2736		-----		-----	
2737		-----		-----	
2743	CPSC-CH-E1002-08.3	835.38191		-----	
2788		Not Analyzed		-----	
2810		-----	W	-----	Test result withdrawn, reported 6318
2853		-----		-----	
2864		-----		-----	
2952		-----		-----	
2953	CPSC-CH-E1003-09	284.95	C,R(0.05)	-----	First reported 391.015
2955	CPSC-CH-E1003-09	820.1		-----	
2956		1044		-----	
2959		-----		-----	
3100	ASTM F963	1200.05		-----	
3110		-----		-----	
3116		-----		-----	
3118	CPSC-CH-E1003-09	553	C	-----	First reported 195.15
3146	In house	1171		-----	
3160		not determined		-----	
3172		-----		-----	
3176		-----		-----	
3182		Not analyzed		-----	
3185	CPSC-CH-E1003-09	1200.2		-----	
3210		-----		-----	
3214	EPA3052	1392.76		-----	
3225		-----		-----	
3233	In house	1058.27		-----	
3248	CPSC-CH-E1003-09	935.9		-----	
8005		-----		-----	

normality	OK	
n	38	
outliers	2	
mean (n)	1083.303	
st.dev. (n)	200.5049	RSD = 18.5%
R(calc.)	561.414	
st.dev.(Horwitz)	(60.5473)	
R(Horwitz)	(169.532)	



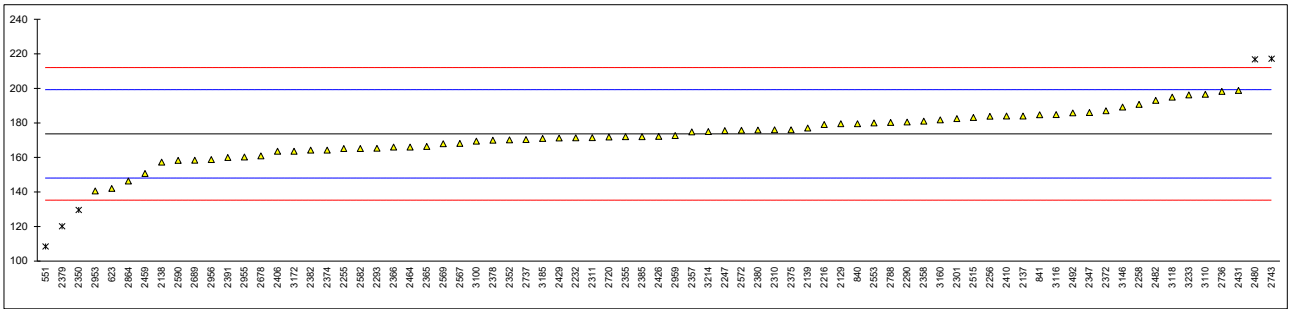


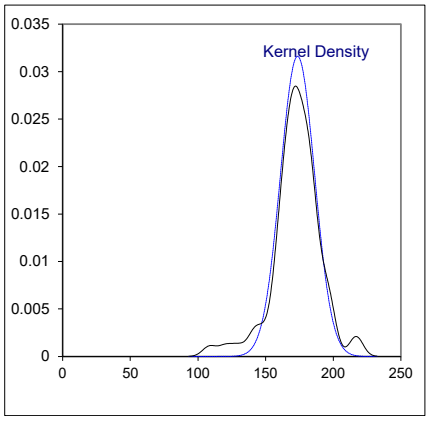
Determination of Total Arsenic as As on sample #21560; results in mg/kg

lab	method	value	mark	z(targ)	Remarks
210		-----		-----	
339		-----		-----	
348		-----		-----	
551	In house	108.49	R(0.05)	-5.10	
623	EPA3052	142.06		-2.47	
840	In house	179.54	C	0.46	First reported 223.47
841	ISO8124-5	184.7		0.87	
1051		-----		-----	
2115		-----		-----	
2121		-----		-----	
2129	CPSC-CH-E1003-09	179.5		0.46	
2137	IEC62321-5	184		0.81	
2138	CPSC-CH-E1002-08	157.2		-1.29	
2139	ASTM E1645	177		0.26	
2170		-----		-----	
2184		-----		-----	
2216	ASTM F963	179		0.42	
2232	CPSC-CH-E1003-09	171.37		-0.18	
2247	CPSC-CH-E1002-08	175.52		0.15	
2255	CPSC-CH-E1003-09	165.1		-0.67	
2256	CPSC-CH-E1003-09	183.84		0.80	
2258	CPSC-CH-E1003-09	190.73	C	1.34	First reported 129.52
2286		-----		-----	
2290	ISO8124-5	180.46		0.53	
2293	CPSC-CH-E1003-09	165.29		-0.65	
2294		-----		-----	
2296		-----		-----	
2301	CPSC-CH-E1003-09	182.41		0.69	
2310	EN16711-1	176		0.18	
2311	CPSC-CH-E1003-09	171.47		-0.17	
2314		-----		-----	
2330		Not applicable		-----	
2347	EPA5052	186		0.97	
2350	CPSC-CH-E1003-09	129.6	DG(0.05)	-3.44	
2352	In house	170.12		-0.28	
2355	EPA3052	172		-0.13	
2357	ISO8124-5	174.8		0.09	
2358	CPSC-CH-E1003-09	181.0		0.58	
2365	EPA3052	166.3		-0.57	
2366	ASTM F963	166		-0.60	
2372	EPA3052	187		1.05	
2374	EPA3051	164.2		-0.74	
2375	EN16711-1	176		0.18	
2378	EPA3052	170.0		-0.28	
2379	EPA3052	120.06	C,DG(0.05)	-4.19	First reported 115.68
2380	CPSC-CH-E1003-09	175.87		0.17	
2381	CPSC-CH-E1003-09	Out Cap		-----	
2382	ASTM F963	164.2		-0.74	
2384		-----		-----	
2385	EPA3052	172		-0.13	
2390		-----		-----	
2391	CPSC-CH-E1003-09	160.0		-1.07	
2406	ASTM F963	163.6		-0.79	
2410	ISO8124-5	184		0.81	
2426	EN16711-1	172.17		-0.11	
2429	CPSC-CH-E1003-09	171.2		-0.19	
2431	CPSC-CH-E1002-08	198.80		1.97	
2453		-----		-----	
2459	CPSC-CH-E1003-09.1	150.73		-1.79	
2460		-----		-----	
2464	CPSC-CH-E1003-09	166.03		-0.60	
2476		-----		-----	
2480	In house	216.72	DG(0.05)	3.37	
2482	CPSC-CH-E1003-09	193		1.51	
2492	In house	185.73		0.95	
2500		-----		-----	
2511		-----		-----	
2514		-----		-----	
2515	EPA3051	183.07		0.74	
2529		-----		-----	
2553	In house	180		0.50	
2561		-----		-----	
2564		-----		-----	
2567	CPSC-CH-E1003-09	168.1		-0.43	

lab	method	value	mark	z(targ)	Remarks
2569		168		-0.44	
2572	ISO8124-5	175.69		0.16	
2574		-----		-----	
2582	CPSC-CH-E1003-09	165.15		-0.66	
2590	CPSC-CH-E1003-09	158.25		-1.20	
2674		-----		-----	
2678	CPSC-CH-E1003-09	160.85		-1.00	
2689	EPA3051	158.4		-1.19	
2720	CPSC-CH-E1003-09	171.8		-0.14	
2736	In-house	198.163		1.92	
2737	CPSC-CH-E1003-09.1	170.3015		-0.26	
2743	CPSC-CH-E1002-08.3	217.11009	DG(0.05)	3.40	
2788	In house	180.2009		0.51	
2810		-----		-----	
2853		-----		-----	
2864	EPA3052	146.32		-2.14	
2952		-----		-----	
2953	CPSC-CH-E1003-09	140.58	C	-2.59	First reported 82.57
2955	CPSC-CH-E1003-09	160.2		-1.05	
2956		158.8		-1.16	
2959	CPSC-CH-E1003-09.1	172.64		-0.08	
3100	ASTM F963	169.44		-0.33	
3110		196.6		1.80	
3116	ASTM F963	184.82		0.87	
3118	CPSC-CH-E1003-09	194.89		1.66	
3146	In house	189.2		1.22	
3160	CPSC-CH-E1003-09	181.68		0.63	
3172	ISO8124-5	163.6	C	-0.79	First reported 216.7
3176		-----		-----	
3182		Not analyzed		-----	
3185	CPSC-CH-E1003-09	171.0		-0.21	
3210		-----		-----	
3214	EPA3052	174.94		0.10	
3225		-----		-----	
3233	In house	196.16		1.76	
3248		-----	W	-----	Test result withdrawn, reported 111.8
8005		-----		-----	

normality	OK	
n	70	
outliers	5	
mean (n)	173.640	
st.dev. (n)	12.6211	RSD = 7.3%
R(calc.)	35.339	
st.dev.(Horwitz)	12.7840	
R(Horwitz)	35.795	





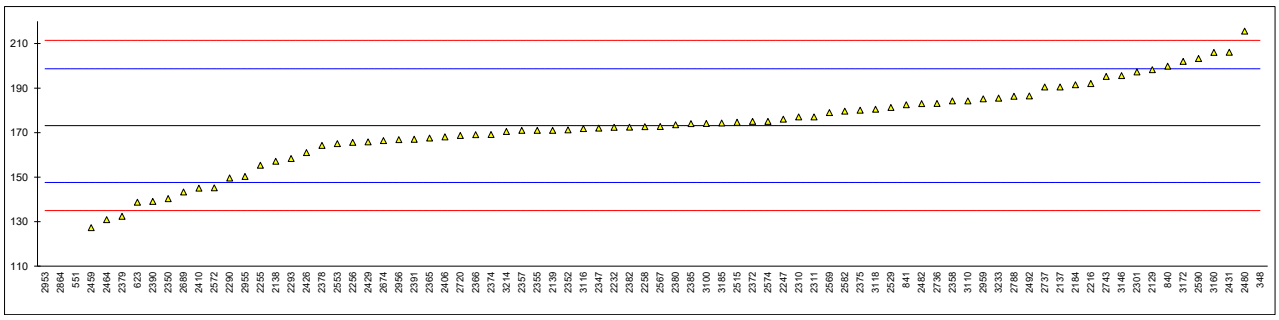
Determination of Total Chromium as Cr on sample #21560; results in mg/kg

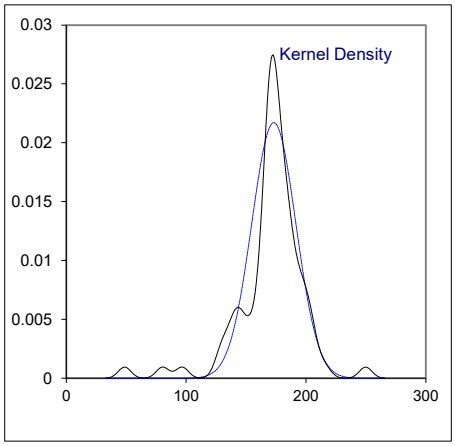
lab	method	value	mark	z(targ)	remarks
210		-----		-----	
339		-----		-----	
348	CPSC-CH-E1003-09	249.8	R(0.01)	6.01	
551	In house	96.624	R(0.01)	-6.00	
623	EPA3052	138.77		-2.70	
840	In house	199.81	C	2.09	First reported 235.34
841	ISO8124-5	182.5		0.73	
1051		-----		-----	
2115		-----		-----	
2121		-----		-----	
2129	CPSC-CH-E1003-09	198.25		1.97	
2137	IEC62321-5	190.5		1.36	
2138	CPSC-CH-E1002-08	157.1		-1.26	
2139	ASTM E1645	171		-0.17	
2170		-----		-----	
2184	CPSC-CH-E1003-09	191.5		1.44	
2216	ASTM F963	192		1.48	
2232	CPSC-CH-E1003-09	172.31		-0.07	
2247	CPSC-CH-E1002-08	176.01		0.22	
2255	CPSC-CH-E1003-09	155.3		-1.40	
2256	CPSC-CH-E1003-09	165.63		-0.59	
2258	CPSC-CH-E1003-09	172.68		-0.04	
2286		-----		-----	
2290	ISO8124-5	149.62		-1.85	
2293	CPSC-CH-E1003-09	158.39		-1.16	
2294		-----		-----	
2296		-----		-----	
2301	CPSC-CH-E1003-09	197.24		1.89	
2310	EN16711-1	177		0.30	
2311	CPSC-CH-E1003-09	177.04		0.30	
2314		-----		-----	
2330		Not applicable		-----	
2347	EPA5052	172		-0.09	
2350	CPSC-CH-E1003-09	140.3		-2.58	
2352	IEC62321	171.21		-0.15	
2355	EPA3052	171		-0.17	
2357	ISO8124-5	171		-0.17	
2358	CPSC-CH-E1003-09	184.2		0.87	
2365	EPA3052	167.6		-0.44	
2366	ASTM F963	169		-0.33	
2372	EPA3052	175		0.14	
2374	EPA3051	169.1		-0.32	
2375	EN16711-1	180		0.54	
2378	EPA3052	164.2		-0.70	
2379	EPA3052	132.36		-3.20	
2380	CPSC-CH-E1003-09	173.45		0.02	
2381		Out Cap		-----	
2382	ASTM F963	172.4		-0.06	
2384		-----		-----	
2385	EPA3052	174		0.07	
2390	CPSC-CH-E1003-09	139.06		-2.67	
2391	CPSC-CH-E1003-09	167.0		-0.48	
2406	ASTM F963	168.1		-0.40	
2410	ISO8124-5	145		-2.21	
2426	EN16711-1	160.94		-0.96	
2429	CPSC-CH-E1003-09	165.8		-0.58	
2431	CPSC-CH-E1002-08	206.06		2.58	
2453		-----		-----	
2459		127.31		-3.60	
2460		-----		-----	
2464	CPSC-CH-E1003-09	130.87		-3.32	
2476		-----		-----	
2480	In house	215.60		3.33	
2482	CPSC-CH-E1003-09	183		0.77	
2492	In house	186.43		1.04	
2500		-----		-----	
2511		-----		-----	
2514		-----		-----	
2515	EPA3051	174.65		0.12	
2529	CPSC-CH-E1003-09.1	181.27		0.64	
2553	In house	165		-0.64	
2561		-----		-----	
2564		-----		-----	
2567	CPSC-CH-E1003-09	172.7	C	-0.04	First reported <20

lab	method	value	mark	z(targ)	remarks
2569		179		0.46	
2572	ISO8124-5	145.17		-2.19	
2574	In house	175.02		0.15	
2582	CPSC-CH-E1003-09	179.63		0.51	
2590	CPSC-CH-E1003-09	203.27		2.36	
2674	IEC62321-5	166.37		-0.53	
2678		-----		-----	
2689	EPA3051	143.3		-2.34	
2720	CPSC-CH-E1003-09	168.7		-0.35	
2736		183.071		0.78	
2737	CPSC-CH-E1003-09.1	190.4681		1.36	
2743	CPSC-CH-E1002-08.3	195.20699		1.73	
2788	In house	186.2731		1.03	
2810		-----	W	-----	Test result withdrawn, reported 97
2853		-----		-----	
2864	EPA3052	80.43	C,R(0.01)	-7.27	First reported 118.91
2952		-----		-----	
2953	CPSC-CH-E1003-09	48.7	C,R(0.01)	-9.76	First reported 82.13
2955	CPSC-CH-E1003-09	150.3		-1.79	
2956		166.8		-0.50	
2959	CPSC-CH-E1003-09.1	185.15		0.94	
3100	ASTM F963	174.13		0.08	
3110		184.2		0.87	
3116	ASTM F963	171.73		-0.11	
3118	CPSC-CH-E1003-09	180.48		0.57	
3146	In house	195.6		1.76	
3160	CPSC-CH-E1003-09	206.00		2.57	
3172	ISO8124-5	202.0		2.26	
3176		-----		-----	
3182	CPSC-CH-E1003-09	Not analyzed		-----	
3185	CPSC-CH-E1003-09	174.3		0.09	
3210		-----		-----	
3214	EPA3052	170.52		-0.21	
3225		-----		-----	
3233	In house	185.49		0.97	
3248		-----	W	-----	Test result withdrawn, reported 125.7
8005		-----		-----	

normality	OK
n	76
outliers	4
mean (n)	173.164
st.dev. (n)	18.3867
R(calc.)	51.483
st.dev.(Horwitz)	12.7543
R(Horwitz)	35.712

RSD = 10.6%





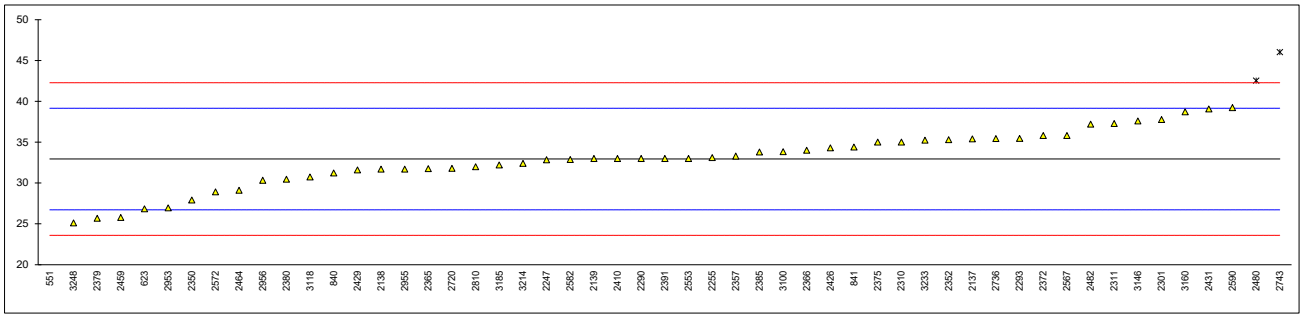
Determination of Total Manganese as Mn on sample #21560; results in mg/kg

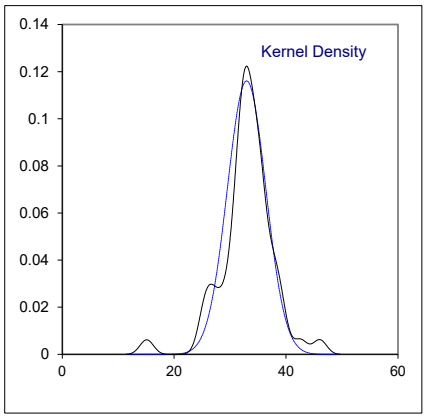
lab	method	value	mark	z(targ)	Remarks
210		-----		-----	
339		-----		-----	
348		-----		-----	
551	In house	15.091	R(0.01)	-5.73	
623	EPA3052	26.83		-1.96	
840	In house	31.24		-0.55	
841	ISO8124-5	34.4		0.47	
1051		-----		-----	
2115		-----		-----	
2121		-----		-----	
2129		not analyzed		-----	
2137	IEC62321-5	35.4		0.79	
2138	CPSC-CH-E1002-08	31.7		-0.40	
2139	ASTM E1645	33		0.02	
2170		-----		-----	
2184		-----		-----	
2216		-----		-----	
2232		-----		-----	
2247	CPSC-CH-E1002-08	32.85		-0.03	
2255	CPSC-CH-E1003-09	33.1		0.05	
2256		-----		-----	
2258		not analyzed		-----	
2286		-----		-----	
2290	ISO8124-5	33.0		0.02	
2293	CPSC-CH-E1003-09	35.45		0.81	
2294		-----		-----	
2296		-----		-----	
2301	CPSC-CH-E1003-09	37.780	C	1.55	First reported 47.78
2310	EN16711-1	35		0.66	
2311	CPSC-CH-E1003-09	37.28		1.39	
2314		-----		-----	
2330		Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1003-09	27.91		-1.61	
2352	In house	35.31		0.76	
2355		-----		-----	
2357	ISO8124-5	33.3		0.12	
2358		N/A		-----	
2365	EPA3052	31.75		-0.38	
2366	ASTM F963	34		0.34	
2372	EPA3052	35.8		0.92	
2374		-----		-----	
2375	EN16711-1	35		0.66	
2378		out of capability		-----	
2379	EPA3052	25.68		-2.33	
2380	CPSC-CH-E1003-09	30.46		-0.80	
2381		Out Cap		-----	
2382		not analyzed		-----	
2384		-----		-----	
2385	EPA3052	33.8		0.28	
2390	CPSC-CH-E1003-09	-----		-----	
2391	CPSC-CH-E1003-09	33.0		0.02	
2406		-----		-----	
2410	ISO8124-5	33		0.02	
2426	EN16711-1	34.305		0.44	
2429	CPSC-CH-E1003-09	31.6		-0.43	
2431	CPSC-CH-E1002-08	39.06		1.97	
2453		-----		-----	
2459	CPSC-CH-E1003-09.1	25.77		-2.30	
2460		-----		-----	
2464	CPSC-CH-E1003-09	29.10		-1.23	
2476		-----		-----	
2480	In house	42.54	DG(0.05)	3.08	
2482	CPSC-CH-E1003-09	37.2		1.37	
2492		-----		-----	
2500		-----		-----	
2511		-----		-----	
2514		-----		-----	
2515		-----		-----	
2529		-----		-----	
2553	In house	33		0.02	
2561		-----		-----	
2564		-----		-----	
2567	CPSC-CH-E1003-09	35.8		0.92	

lab	method	value	mark	z(targ)	Remarks
2569		NOT DETERMINED		-----	
2572	ISO8124-5	28.92		-1.29	
2574		-----		-----	
2582	CPSC-CH-E1003-09	32.88		-0.02	
2590	CPSC-CH-E1003-09	39.23		2.02	
2674		-----		-----	
2678		-----		-----	
2689		Not analyzed		-----	
2720	CPSC-CH-E1003-09	31.79		-0.37	
2736	In-house	35.433		0.80	
2737		-----		-----	
2743	CPSC-CH-E1002-08.3	46.01482	DG(0.05)	4.20	
2788		Not Analyzed		-----	
2810	CPSC-CH-E1003-09	32		-0.30	
2853		-----		-----	
2864		-----		-----	
2952		-----		-----	
2953	CPSC-CH-E1003-09	26.96	C	-1.92	First reported 11.11
2955	CPSC-CH-E1003-09	31.7		-0.40	
2956		30.34		-0.83	
2959		-----		-----	
3100	ASTM F963	33.83		0.29	
3110		-----		-----	
3116		-----		-----	
3118	CPSC-CH-E1003-09	30.73		-0.71	
3146	In house	37.61		1.50	
3160	CPSC-CH-E1003-09	38.72		1.86	
3172		-----		-----	
3176		-----		-----	
3182		Not analyzed		-----	
3185	CPSC-CH-E1003-09	32.2		-0.24	
3210		-----		-----	
3214	EPA3052	32.41		-0.17	
3225		-----		-----	
3233	In house	35.25		0.74	
3248	CPSC-CH-E1003-09	25.1		-2.52	
8005		-----		-----	

normality	OK
n	50
outliers	3
mean (n)	32.940
st.dev. (n)	3.4367
R(calc.)	9.623
st.dev.(Horwitz)	3.1146
R(Horwitz)	8.721

RSD = 10.4%





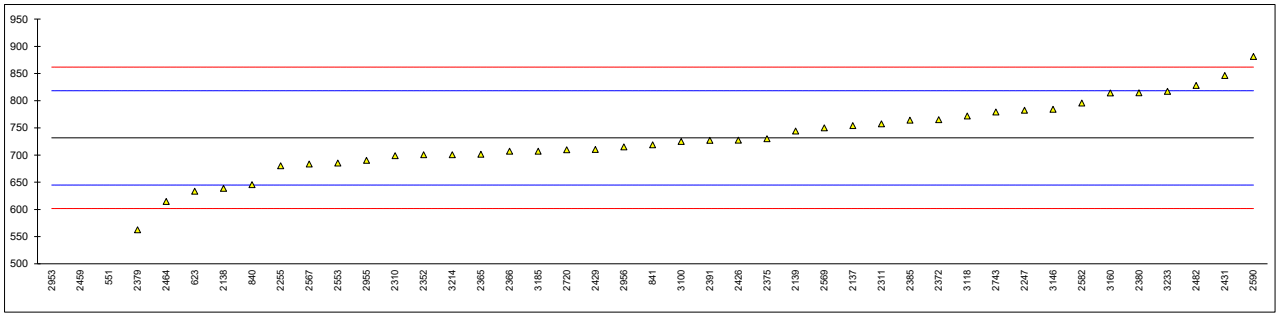
Determination of Total Strontium as Sr on sample #21560; results in mg/kg

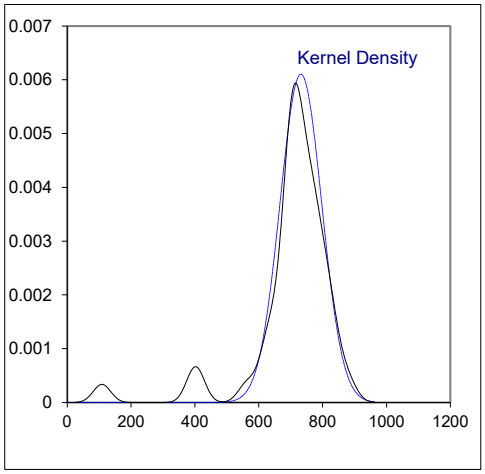
lab	method	value	mark	z(targ)	Remarks
210		-----		-----	
339		-----		-----	
348		-----		-----	
551	In house	406.51	R(0.01)	-7.49	
623	EPA3052	633.40	C	-2.26	First reported 536.91
840	In house	645.26		-1.99	
841	ISO8124-5	718.8		-0.29	
1051		-----		-----	
2115		-----		-----	
2121		-----		-----	
2129		not analyzed		-----	
2137	IEC62321-5	754.1		0.52	
2138	CPSC-CH-E1002-08	638.5		-2.14	
2139	ASTM E1645	744		0.29	
2170		-----		-----	
2184		-----		-----	
2216		-----		-----	
2232		-----		-----	
2247	CPSC-CH-E1002-08	782.51		1.18	
2255	CPSC-CH-E1003-09	680.2		-1.18	
2256		-----		-----	
2258		not analyzed		-----	
2286		-----		-----	
2290		-----		-----	
2293		not analyzed		-----	
2294		-----		-----	
2296		-----		-----	
2301		-----		-----	
2310	EN16711-1	699		-0.75	
2311	CPSC-CH-E1003-09	757.21		0.59	
2314		-----		-----	
2330		Not applicable		-----	
2347		-----		-----	
2350		-----		-----	
2352	In house	700.41		-0.72	
2355		-----		-----	
2357		-----		-----	
2358		N/A		-----	
2365	EPA3052	701.5		-0.69	
2366	ASTM F963	707		-0.57	
2372	EPA3052	765		0.77	
2374		-----		-----	
2375	EN16711-1	730		-0.04	
2378		out of capability		-----	
2379	EPA3052	562.41		-3.90	
2380	CPSC-CH-E1003-09	814.41		1.91	
2381		Out Cap		-----	
2382		not analyzed		-----	
2384		-----		-----	
2385	EPA3052	764		0.75	
2390		-----		-----	
2391	CPSC-CH-E1003-09	727.0		-0.10	
2406		-----		-----	
2410		-----		-----	
2426	EN16711-1	727.340		-0.10	
2429	CPSC-CH-E1003-09	710.4		-0.49	
2431	CPSC-CH-E1002-08	846.35		2.65	
2453		-----		-----	
2459	CPSC-CH-E1003-09.1	397.28	R(0.01)	-7.71	
2460		-----		-----	
2464	CPSC-CH-E1003-09	614.45		-2.70	
2476		-----		-----	
2480		-----		-----	
2482	CPSC-CH-E1003-09	828		2.22	
2492		-----		-----	
2500		-----		-----	
2511		-----		-----	
2514		-----		-----	
2515		-----		-----	
2529		-----		-----	
2553	In house	685		-1.07	
2561		-----		-----	
2564		-----		-----	
2567	CPSC-CH-E1003-09	683.6		-1.10	

lab	method	value	mark	z(targ)	Remarks
2569		750		0.43	
2572		-----		-----	
2574		-----		-----	
2582	CPSC-CH-E1003-09	795.72		1.48	
2590	CPSC-CH-E1003-09	881.34		3.45	
2674		-----		-----	
2678		-----		-----	
2689		Not analyzed		-----	
2720	CPSC-CH-E1003-09	709.8		-0.50	
2736		-----		-----	
2737		-----		-----	
2743	CPSC-CH-E1002-08.3	779.03286		1.10	
2788		Not Analyzed		-----	
2810		-----		-----	
2853		-----		-----	
2864		-----		-----	
2952		-----		-----	
2953	CPSC-CH-E1003-09	108.79	C,R(0.01)	-14.36	First reported 120.04
2955	CPSC-CH-E1003-09	690.2		-0.95	
2956		715		-0.38	
2959		-----		-----	
3100	ASTM F963	725.22		-0.15	
3110		-----		-----	
3116		-----		-----	
3118	CPSC-CH-E1003-09	771.89		0.93	
3146	In house	784.0		1.21	
3160	CPSC-CH-E1003-09	814.19		1.91	
3172		-----		-----	
3176		-----		-----	
3182		Not analyzed		-----	
3185	CPSC-CH-E1003-09	707.0		-0.57	
3210		-----		-----	
3214	EPA3052	700.46		-0.72	
3225		-----		-----	
3233	In house	817.20		1.98	
3248		-----	W	-----	Test result withdrawn, reported 526.3
8005		-----		-----	

normality	OK
n	40
outliers	3
mean (n)	731.523
st.dev. (n)	65.3481
R(calc.)	182.975
st.dev.(Horwitz)	43.3749
R(Horwitz)	121.450

RSD = 8.9%

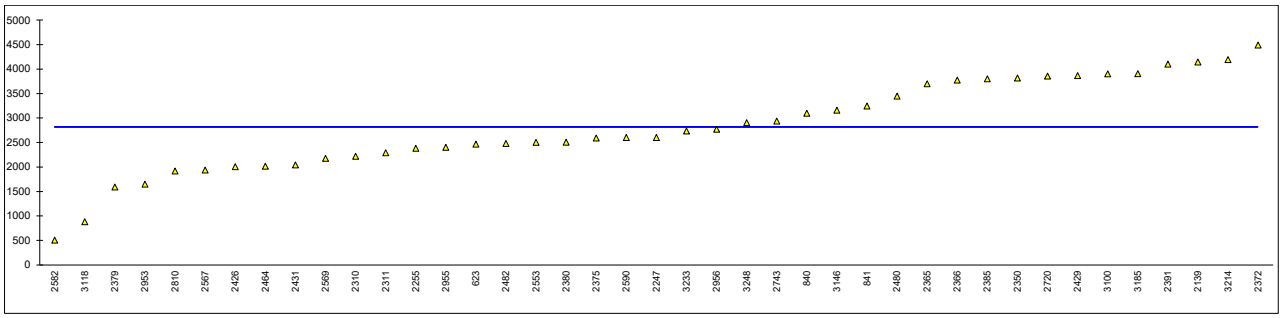


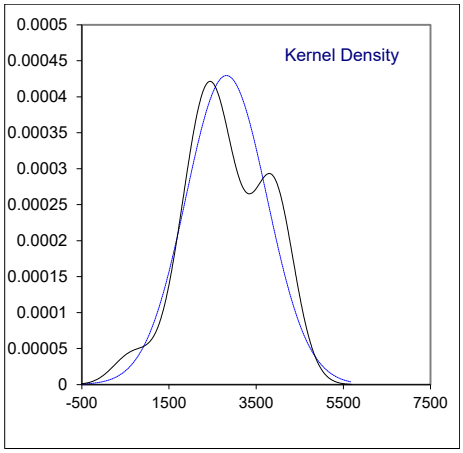


Determination of Total Aluminum as Al on sample #21561; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
339		-----		-----	
348		-----		-----	
551		Not tested		-----	
623	EPA3052	2465.79		-----	
840	In house	3099.75		-----	
841	ISO8124-5	3244.0		-----	
1051		-----		-----	
2115		-----		-----	
2121		-----		-----	
2129		-----		-----	
2137		-----		-----	
2138		-----		-----	
2139	ASTM E1645	4144		-----	
2170		-----		-----	
2184		-----		-----	
2216		-----		-----	
2232		-----		-----	
2247	CPSC-CH-E1002-08	2602.98		-----	
2255	CPSC-CH-E1003-09	2382.1		-----	
2256		-----		-----	
2258		not analyzed		-----	
2286		-----		-----	
2290		-----		-----	
2293		not analyzed		-----	
2294		-----		-----	
2296		-----		-----	
2301		-----		-----	
2310	EN16711-1	2219		-----	
2311	CPSC-CH-E1003-09	2292.04		-----	
2314		-----		-----	
2330		Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1003-09	3818		-----	
2352	In house	-----		-----	
2355	EPA3052	-----		-----	
2357	ASTM F963	-----		-----	
2358		N/A		-----	
2365	EPA3052	3698		-----	
2366	ASTM F963	3774		-----	
2372	EPA3052	4490		-----	
2374	EPA3052	-----		-----	
2375	EN16711-1	2590		-----	
2378	EN16711-1	out of capability		-----	
2379	EPA3052	1591.06		-----	
2380	CPSC-CH-E1003-09	2507.58		-----	
2381	CPSC-CH-E1003-09	Out Cap		-----	
2382		not analyzed		-----	
2384	CPSC-CH-E1003-09	-----		-----	
2385	EPA3052	3801		-----	
2390	CPSC-CH-E1003-09	-----		-----	
2391	CPSC-CH-E1003-09	4100.0		-----	
2406	ASTM F963	-----		-----	
2410	CPSC-CH-E1003-09	-----		-----	
2426	EN16711-1	2003.50		-----	
2429		3867.3		-----	
2431	CPSC-CH-E1002-08	2041.00		-----	
2453	CPSC-CH-E1003-09	-----		-----	
2459	CPSC-CH-E1003-09.1	-----		-----	
2460	CPSC-CH-E1003-09	-----		-----	
2464	CPSC-CH-E1003-09	2016.47		-----	
2476		-----		-----	
2480	In house	3449.48		-----	
2482	CPSC-CH-E1003-09	2480		-----	
2492	In house	-----		-----	
2500	CPSC-CH-E1003-09.1	-----		-----	
2511	CPSC-CH-E1003-09	-----		-----	
2514	CPSC-CH-E1003-09	-----		-----	
2515	EPA3051	-----		-----	
2529	CPSC-CH-E1003-09.1	-----		-----	
2553	In house	2500		-----	
2561		-----		-----	
2564		-----		-----	
2567	CPSC-CH-E1003-09	1938.9		-----	

lab	method	value	mark	z(targ)	remarks
2569		2175		-----	
2572		-----		-----	
2574		-----		-----	
2582	CPSC-CH-E1003-09	507.61		-----	
2590	CPSC-CH-E1003-09	2602.04		-----	
2674		-----		-----	
2678		-----		-----	
2689		Not analyzed		-----	
2720	CPSC-CH-E1003-09	3854		-----	
2736	In-house	-----		-----	
2737	CPSC-CH-E1003-09.1	-----		-----	
2743	CPSC-CH-E1003-08.3	2936.10782		-----	
2788		Not Analyzed		-----	
2810	CPSC-CH-E1003-09	1919		-----	
2853		-----		-----	
2864		-----		-----	
2952		-----		-----	
2953	CPSC-CH-E1003-09	1649.93		-----	
2955	CPSC-CH-E1003-09	2400.1		-----	
2956		2771		-----	
2959		-----		-----	
3100	ASTM F963	3900.22		-----	
3110		-----		-----	
3116		-----		-----	
3118	CPSC-CH-E1003-09	881	C	-----	First reported 310.8
3146	In house	3159		-----	
3160		not determined		-----	
3172		-----		-----	
3176		-----		-----	
3182		Not analyzed		-----	
3185	CPSC-CH-E1003-09	3903.2		-----	
3210		-----		-----	
3214	EPA3052	4191.92		-----	
3225		-----		-----	
3233	In house	2736.27		-----	
3248	CPSC-CH-E1003-09	2906.7		-----	
8005		-----		-----	
	normality	OK			
	n	41			
	outliers	0			
	mean (n)	2819.733			
	st.dev. (n)	928.8940	RSD = 32.9%		
	R(calc.)	2600.903			
	st.dev.(Horwitz)	(136.4646)			
	R(Horwitz)	(382.101)			





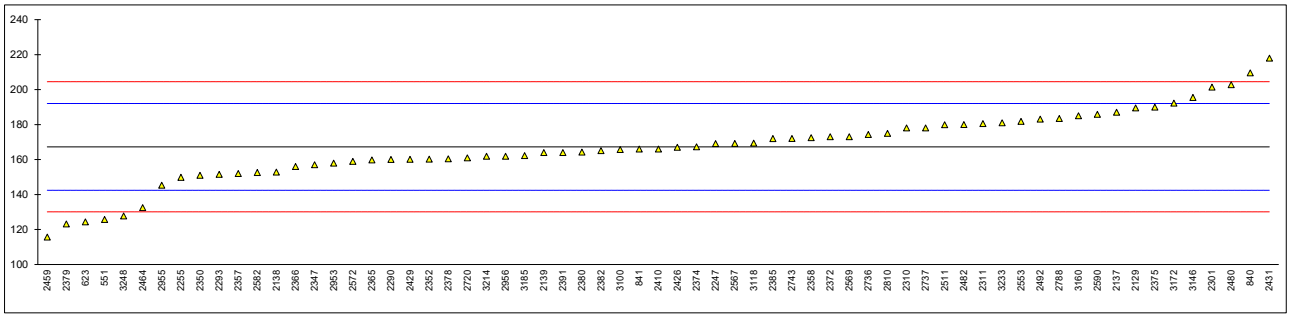
Determination of Total Cobalt as Co on sample #21561; results in mg/kg

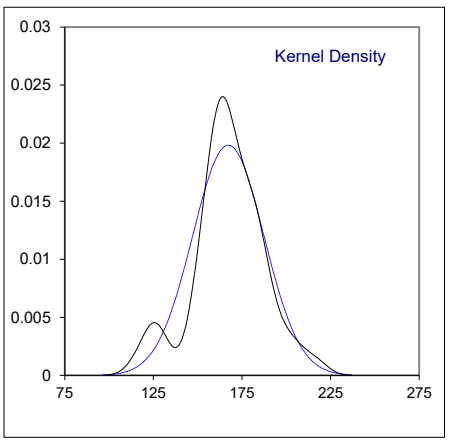
lab	method	value	mark	z(targ)	remarks
210		-----		-----	
339		-----		-----	
348		-----		-----	
551	In house	125.75		-3.35	
623	EPA3052	124.37		-3.46	
840	In house	209.54		3.41	
841	ISO8124-5	166.0		-0.10	
1051		-----		-----	
2115		-----		-----	
2121		-----		-----	
2129	CPSC-CH-E1003-09	189.5		1.79	
2137	IEC62321-5	187		1.59	
2138	CPSC-CH-E1002-08	152.8		-1.17	
2139	ASTM E1645	164		-0.26	
2170		-----		-----	
2184		-----		-----	
2216		-----		-----	
2232		-----		-----	
2247	CPSC-CH-E1002-08	169.03		0.14	
2255	CPSC-CH-E1003-09	149.8		-1.41	
2256		-----		-----	
2258		not analyzed		-----	
2286		-----		-----	
2290	ISO8124-5	160.0		-0.59	
2293	CPSC-CH-E1003-09	151.53		-1.27	
2294		-----		-----	
2296		-----		-----	
2301	CPSC-CH-E1003-09	201.38		2.75	
2310	EN16711-1	178		0.87	
2311	CPSC-CH-E1003-09	180.53		1.07	
2314		-----		-----	
2330		Not applicable		-----	
2347	EPA3052	157		-0.83	
2350	CPSC-CH-E1003-09	151		-1.31	
2352	In house	160.24		-0.57	
2355		-----		-----	
2357	ASTM F963	152	C	-1.23	First reported <10
2358	CPSC-CH-E1003-09	172.5		0.42	
2365	EPA3052	159.8		-0.60	
2366	ASTM F963	156		-0.91	
2372	EPA3052	173		0.46	
2374	EPA3052	167.3		0.00	
2375	EN16711-1	190		1.83	
2378	EN16711-1	160.4		-0.56	
2379	EPA3052	123.15		-3.56	
2380	CPSC-CH-E1003-09	164.19		-0.25	
2381	CPSC-CH-E1003-09	Out Cap		-----	
2382	CPSC-CH-E1003-09	165.1		-0.18	
2384		-----		-----	
2385	EPA3052	172		0.38	
2390		-----		-----	
2391	CPSC-CH-E1003-09	164.0		-0.26	
2406		-----		-----	
2410	CPSC-CH-E1003-09	166		-0.10	
2426	EN16711-1	166.98		-0.02	
2429		160.1		-0.58	
2431	CPSC-CH-E1002-08	217.94		4.09	
2453		-----		-----	
2459	CPSC-CH-E1003-09.1	115.61		-4.17	
2460		-----		-----	
2464	CPSC-CH-E1003-09	132.52		-2.81	
2476		-----		-----	
2480	In house	202.79		2.87	
2482	CPSC-CH-E1003-09	180		1.03	
2492	In house	183.16		1.28	
2500		-----		-----	
2511	CPSC-CH-E1003-09	179.9		1.02	
2514		-----		-----	
2515		-----		-----	
2529		-----		-----	
2553	In house	181.82		1.17	
2561		-----		-----	
2564		-----		-----	
2567	CPSC-CH-E1003-09	169.2		0.16	

lab	method	value	mark	z(targ)	remarks
2569		173		0.46	
2572	ISO8124-5	158.94		-0.67	
2574		-----		-----	
2582	CPSC-CH-E1003-09	152.57		-1.19	
2590	CPSC-CH-E1003-09	185.87	C	1.50	First reported <LOQ
2674		-----		-----	
2678		-----		-----	
2689		Not analyzed		-----	
2720	CPSC-CH-E1003-09	161.0		-0.51	
2736	In-house	174.327		0.57	
2737	CPSC-CH-E1003-09.1	178.0478		0.87	
2743	CPSC-CH-E1003-08.3	172.0678		0.39	
2788	In house	183.4679		1.31	
2810	CPSC-CH-E1003-09	175		0.62	
2853		-----		-----	
2864		-----		-----	
2952		-----		-----	
2953	CPSC-CH-E1003-09	157.95	C	-0.75	First reported 94.92
2955	CPSC-CH-E1003-09	145.3		-1.77	
2956		161.9		-0.43	
2959		-----		-----	
3100	ASTM F963	165.64		-0.13	
3110		-----		-----	
3116		-----		-----	
3118	CPSC-CH-E1003-09	169.38		0.17	
3146	In house	195.5		2.28	
3160	CPSC-CH-E1003-09	185.01		1.43	
3172	ISO8124-5	192.3		2.02	
3176		-----		-----	
3182		Not analyzed		-----	
3185	CPSC-CH-E1003-09	162.2		-0.41	
3210		-----		-----	
3214	EPA3052	161.86		-0.44	
3225		-----		-----	
3233	In house	181.00		1.11	
3248	CPSC-CH-E1003-09	127.8		-3.19	
8005		-----		-----	

normality	OK
n	65
outliers	0
mean (n)	167.278
st.dev. (n)	20.1094
R(calc.)	56.306
st.dev.(Horwitz)	12.3850
R(Horwitz)	34.678

RSD = 12.0%





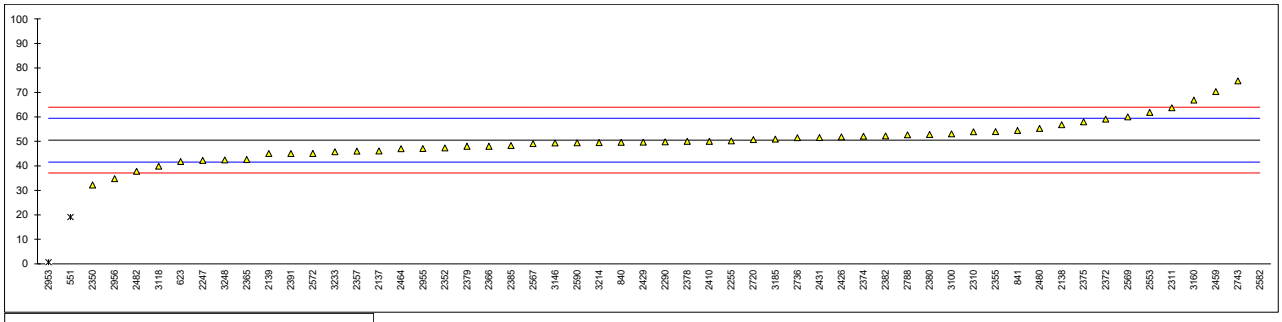
Determination of Total Copper as Cu on sample #21561; results in mg/kg

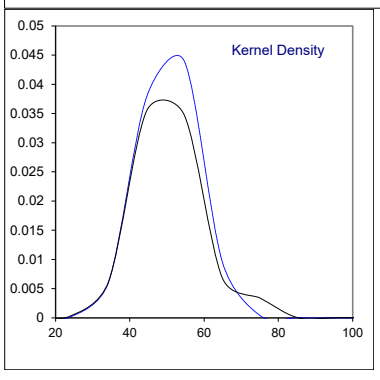
lab	method	value	mark	z(targ)	remarks
210		-----		-----	
339		-----		-----	
348		-----		-----	
551	In house	19.093	R(0.05)	-7.02	
623	EPA3052	41.80		-1.95	
840	In house	49.64		-0.20	
841	ISO8124-5	54.4		0.87	
1051		-----		-----	
2115		-----		-----	
2121		-----		-----	
2129		-----		-----	
2137	IEC62321-5	46.1		-0.99	
2138	CPSC-CH-E1002-08	56.8		1.40	
2139	ASTM E1645	45		-1.23	
2170		-----		-----	
2184		-----		-----	
2216		-----		-----	
2232		-----		-----	
2247	CPSC-CH-E1002-08	42.26		-1.84	
2255	CPSC-CH-E1003-09	50.2		-0.07	
2256		-----		-----	
2258		not analyzed		-----	
2286		-----		-----	
2290	ISO8124-5	49.8		-0.16	
2293		not analyzed		-----	
2294		-----		-----	
2296		-----		-----	
2301		-----		-----	
2310	EN16711-1	53.9		0.76	
2311	CPSC-CH-E1003-09	63.70		2.94	
2314		-----		-----	
2330		Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1003-09	32.2		-4.09	
2352	In house	47.31		-0.72	
2355	EPA3052	54		0.78	
2357	ASTM F963	46		-1.01	
2358		N/A		-----	
2365	EPA3052	42.59		-1.77	
2366	ASTM F963	48		-0.56	
2372	EPA3052	59.1		1.92	
2374	EPA3052	52.1		0.35	
2375	EN16711-1	58		1.67	
2378	EN16711-1	50.0		-0.11	
2379	EPA3052	47.98		-0.57	
2380	CPSC-CH-E1003-09	52.79		0.51	
2381	CPSC-CH-E1003-09	Out Cap		-----	
2382	CPSC-CH-E1003-09	52.2		0.38	
2384		-----		-----	
2385	EPA3052	48.3		-0.49	
2390		-----		-----	
2391	CPSC-CH-E1003-09	45.0		-1.23	
2406		-----		-----	
2410	CPSC-CH-E1003-09	50		-0.11	
2426	EN16711-1	51.83		0.29	
2429		49.7		-0.18	
2431	CPSC-CH-E1002-08	51.56		0.23	
2453		-----		-----	
2459	CPSC-CH-E1003-09.1	70.32		4.42	
2460	CPSC-CH-E1003-09	-----		-----	
2464	CPSC-CH-E1003-09	46.95		-0.80	
2476		-----		-----	
2480	In house	55.29		1.07	
2482	CPSC-CH-E1003-09	37.8		-2.84	
2492		-----		-----	
2500		-----		-----	
2511		-----		-----	
2514		-----		-----	
2515		-----		-----	
2529		-----		-----	
2553	In house	61.82		2.52	
2561		-----		-----	
2564		-----		-----	
2567	CPSC-CH-E1003-09	49.1		-0.32	

lab	method	value	mark	z(targ)	remarks
2569		60		2.12	
2572	ISO8124-5	45.08		-1.21	
2574		-----		-----	
2582	CPSC-CH-E1003-09	2584.59	R(0.01)	565.82	
2590	CPSC-CH-E1003-09	49.42		-0.24	
2674		-----		-----	
2678		-----		-----	
2689		Not analyzed		-----	
2720	CPSC-CH-E1003-09	50.71		0.04	
2736	In-house	51.543		0.23	
2737		-----		-----	
2743	CPSC-CH-E1003-08.3	74.69461		5.40	
2788	In house	52.68494		0.48	
2810		-----	W	-----	Test result withdrawn, reported 168
2853		-----		-----	
2864		-----		-----	
2952		-----		-----	
2953	CPSC-CH-E1003-09	0.65	C,R(0.01)	-11.13	First reported 22.68
2955	CPSC-CH-E1003-09	47.1		-0.76	
2956		34.81		-3.51	
2959		-----		-----	
3100	ASTM F963	53.07		0.57	
3110		-----		-----	
3116		-----		-----	
3118	CPSC-CH-E1003-09	39.86		-2.38	
3146	In house	49.32		-0.27	
3160	CPSC-CH-E1003-09	66.88		3.65	
3172		-----		-----	
3176		-----		-----	
3182		Not analyzed		-----	
3185	CPSC-CH-E1003-09	50.9		0.09	
3210		-----		-----	
3214	EPA3052	49.49		-0.23	
3225		-----		-----	
3233	In house	45.75		-1.06	
3248	CPSC-CH-E1003-09	42.4		-1.81	
8005		-----		-----	

	normality	suspect
	n	53
	outliers	3
	mean (n)	50.514
	st.dev. (n)	7.8892
	R(calc.)	22.090
	st.dev.(Horwitz)	4.4786
	R(Horwitz)	12.540

RSD = 15.6%



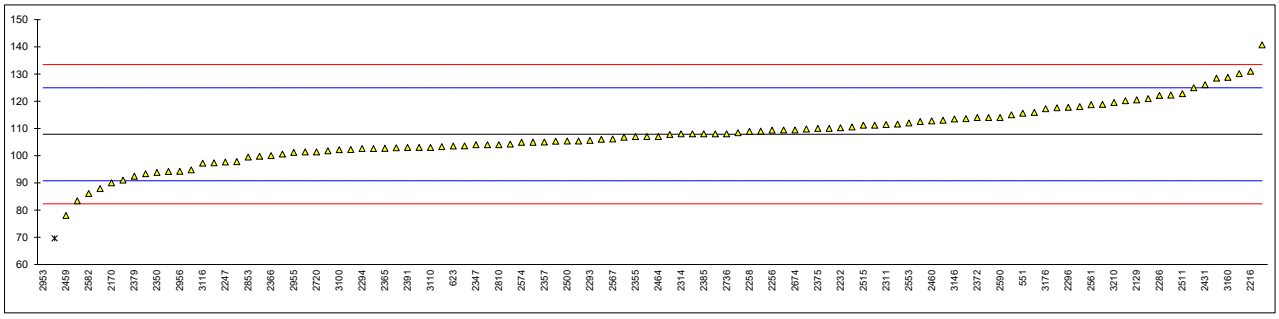


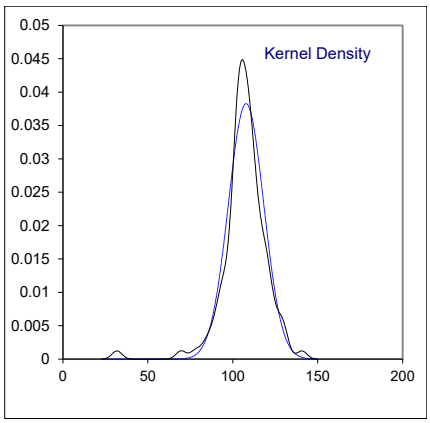
Determination of Total Lead as Pb on sample #21561; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210	CPSC-CH_E1003-09.1	140.7		3.85	
339		-----		-----	
348	CPSC-CH-E1003-09	115.9		0.94	
551	In house	115.556		0.90	
623	EPA3052	103.52		-0.51	
840	In house	112.58		0.55	
841	ISO8124-5	97.4		-1.23	
1051	CPSC-CH-E1003-09	103		-0.57	
2115	CPSC-CH-E1003-09	120.93		1.53	
2121		117.6		1.14	
2129	CPSC-CH-E1003-09	120.5		1.48	
2137	IEC62321-5	101.4		-0.76	
2138	CPSC-CH-E1002-08	94.8		-1.53	
2139	ASTM E1645	107		-0.10	
2170	CPSC-CH-E1003-09	90.01		-2.09	
2184	CPSC-CH-E1003-09	107.8		-0.01	
2216	ASTM F963	131		2.71	
2232	CPSC-CH-E1003-09	110.2		0.27	
2247	CPSC-CH-E1002-08	97.66		-1.20	
2255	CPSC-CH-E1003-09	106		-0.22	
2256	CPSC-CH_E1003-09	109.32		0.17	
2258	CPSC-CH-E1003-09	108.91		0.12	
2286	CPSC-CH-E1003-09	122.1		1.67	
2290	ISO8124-5	109.0		0.13	
2293	CPSC-CH-E1003-09	105.62		-0.26	
2294	CPSC-CH-E1003-09	102.56		-0.62	
2296		117.7522		1.16	
2301	CPSC-CH-E1003-09	111.205		0.39	
2310	EN16711-1	108		0.02	
2311	CPSC-CH-E1003-09	111.39		0.41	
2314	CPSC-CH-E1003-09	108.00		0.02	
2330	CPSC-CH-E1003-09.1	69.60	R(0.05)	-4.48	
2347	CPSC-CH-E1003-09.1	104		-0.45	
2350	CPSC-CH-E1003-09	93.84		-1.64	
2352	CPSC-CH-E1003-09.1	104.22		-0.43	
2355	CPSC-Ch-E1003-9	107		-0.10	
2357	ASTM F963	105		-0.33	
2358	CPSC-CH-E1003-09	113.6		0.67	
2365	EPA3052	102.7		-0.60	
2366	ASTM F963	100		-0.92	
2372	EPA3052	114		0.72	
2374	EPA3052	105.3		-0.30	
2375	EN16711-1	110		0.25	
2378	EN16711-1	110.0		0.25	
2379	CPSC-CH-E1003-09.1	92.44		-1.81	
2380	CPSC-CH-E1003-09	104.93		-0.34	
2381	CPSC-CH-E1003-09	99.80		-0.94	
2382	CPSC-CH-E1003-09	108.4		0.06	
2384	CPSC-CH-E1003-09	94.16		-1.61	
2385	EPA3052	108		0.02	
2390	CPSC-CH-E1003-09	102.22		-0.66	
2391	CPSC-CH-E1003-09	103.0		-0.57	
2406	ASTM F963	91.0		-1.98	
2410	CPSC-CH-E1003-09	108		0.02	
2426	EN16711-1	103.63		-0.50	
2429		103.3		-0.53	
2431	CPSC-CH-E1002-08	126.07		2.13	
2453	CPSC-CH-E1003-09	122.3		1.69	
2459		78.0		-3.50	
2460	CPSC-CH-E1003-09	112.76		0.57	
2464	CPSC-CH-E1003-09	107	C	-0.10	First reported 145.04
2476		-----		-----	
2480	In house	130.13		2.61	
2482	CPSC-CH-E1003-09	113		0.60	
2492	In house	114.98		0.83	
2500	CPSC-CH-E1003-09.1	105.328		-0.30	
2511	CPSC-CH-E1003-09	122.8		1.75	
2514	CPSC-CH-E1003-09	109.42		0.18	
2515	EPA3051	111.20		0.39	
2529	CPSC-CH-E1003-09.1	111.64		0.44	
2553	In house	112		0.49	
2561		118.747		1.28	
2564	CPSC-CH-E1003-09	120.202	C	1.45	First reported 172.585
2567	CPSC-CH-E1003-09	106.1		-0.21	

lab	method	value	mark	z(targ)	remarks
2569		104		-0.45	
2572	ISO8124-5	105.35		-0.29	
2574	In house	104.925		-0.34	
2582	CPSC-CH-E1003-09	86.05		-2.56	
2590	CPSC-CH-E1003-09	114.02		0.72	
2674	IEC62321-5	109.45		0.19	
2678	CPSC-CH-E1003-09	100.63		-0.85	
2689	EPA3051	102.9		-0.58	
2720	CPSC-CH-E1003-09	101.4		-0.76	
2736		108.011		0.02	
2737	CPSC-CH-E1003-09.1	118.8689		1.29	
2743	CPSC-CH-E1003-08.3	101.73577		-0.72	
2788	In house	124.9437		2.00	
2810	CPSC-CH-E1003-09	104		-0.45	
2853		99.49		-0.98	
2864	EPA3052	83.4		-2.87	
2952		128.44		2.41	
2953	CPSC-CH-E1003-09	31.86	C,R(0.01)	-8.91	First reported 61.58
2955	CPSC-CH-E1003-09	101.2		-0.78	
2956		94.2		-1.60	
2959	CPSC-CH-E1003-09.1	110.55		0.32	
3100	ASTM F963	102.17		-0.67	
3110		103.0		-0.57	
3116	CPSC-CH-E1003-09	97.24		-1.24	
3118	CPSC-CH-E1003-09	97.78		-1.18	
3146	In house	113.5		0.66	
3160	CPSC-CH-E1003-09	128.76		2.45	
3172	ISO8124-5	118.0		1.19	
3176	CPSC-CH-E1002-08	117.25		1.10	
3182	CPSC-CH-E1003-09	87.900		-2.34	
3185	CPSC-CH-E1003-09	102.6		-0.62	
3210	CPSC-CH-E1003-09	119.514		1.37	
3214	EPA3052	106.77		-0.13	
3225	CPSC-CH-E1003-09	93.38		-1.70	
3233	In house	114	C	0.72	First reported <1
3248	CPSC-CH-E1003-09	109.8		0.23	
8005		-----		-----	

normality	OK	
n	106	
outliers	2	
mean (n)	107.857	
st.dev. (n)	10.4255	RSD = 9.7%
R(calc.)	29.191	
st.dev.(Horwitz)	8.5309	
R(Horwitz)	23.887	





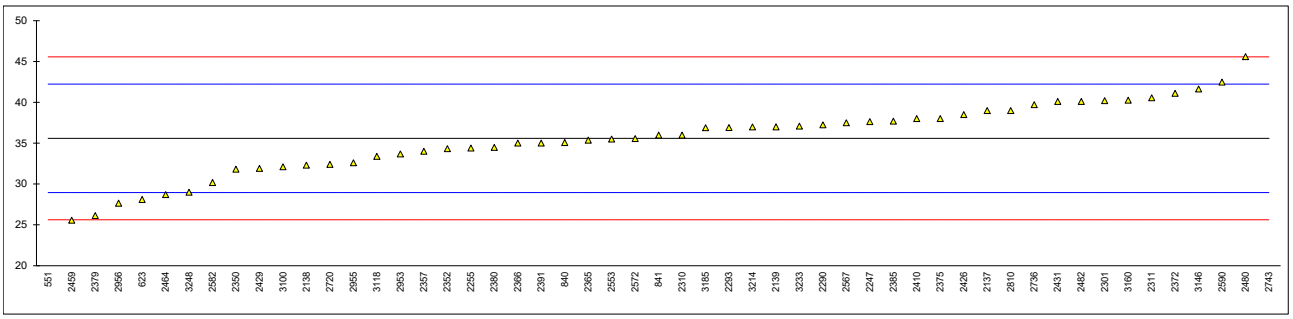
Determination of Total Manganese as Mn on sample #21561; results in mg/kg

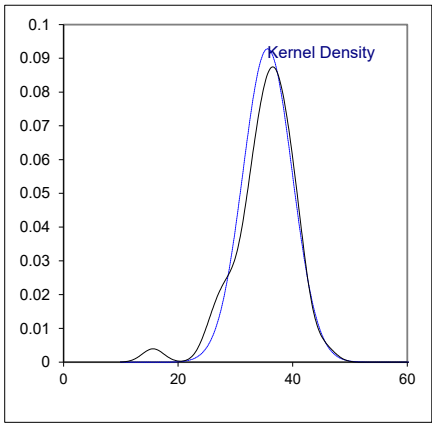
lab	method	value	mark	z(targ)	remarks
210		-----		-----	
339		-----		-----	
348		-----		-----	
551	In house	15.606	R(0.01)	-6.01	
623	EPA3052	28.10		-2.25	
840	In house	35.07		-0.16	
841	ISO8124-5	36.0		0.12	
1051		-----		-----	
2115		-----		-----	
2121		-----		-----	
2129		not analyzed		-----	
2137	IEC62321-5	39		1.02	
2138	CPSC-CH-E1002-08	32.3		-0.99	
2139	ASTM E1645	37		0.42	
2170		-----		-----	
2184		-----		-----	
2216		-----		-----	
2232		-----		-----	
2247	CPSC-CH-E1002-08	37.64		0.61	
2255	CPSC-CH-E1003-09	34.4		-0.36	
2256		-----		-----	
2258		not analyzed		-----	
2286		-----		-----	
2290	ISO8124-5	37.25		0.50	
2293	CPSC-CH-E1003-09	36.92		0.40	
2294		-----		-----	
2296		-----		-----	
2301	CPSC-CH-E1003-09	40.210	C	1.39	First reported 50.21
2310	EN16711-1	36		0.12	
2311	CPSC-CH-E1003-09	40.55		1.49	
2314		-----		-----	
2330		Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1003-09	31.82		-1.14	
2352	In house	34.31		-0.39	
2355		-----		-----	
2357	ASTM F963	34		-0.48	
2358	CPSC-CH-E1003-09	N/A		-----	
2365	EPA3052	35.37		-0.07	
2366	ASTM F963	35		-0.18	
2372	EPA3052	41.1		1.65	
2374		-----		-----	
2375	EN16711-1	38		0.72	
2378	EN16711-1	out of capability		-----	
2379	EPA3052	26.13		-2.85	
2380	CPSC-CH-E1003-09	34.47		-0.34	
2381	CPSC-CH-E1003-09	Out Cap		-----	
2382		not analyzed		-----	
2384		-----		-----	
2385	EPA3052	37.7		0.63	
2390		-----		-----	
2391	CPSC-CH-E1003-09	35.0		-0.18	
2406		-----		-----	
2410	CPSC-CH-E1003-09	38		0.72	
2426	EN16711-1	38.51		0.88	
2429		31.9		-1.11	
2431	CPSC-CH-E1002-08	40.10		1.35	
2453		-----		-----	
2459	CPSC-CH-E1003-09.1	25.56		-3.02	
2460		-----		-----	
2464	CPSC-CH-E1003-09	28.71		-2.07	
2476		-----		-----	
2480	In house	45.59		3.00	
2482	CPSC-CH-E1003-09	40.1		1.35	
2492		-----		-----	
2500		-----		-----	
2511		-----		-----	
2514		-----		-----	
2515		-----		-----	
2529		-----		-----	
2553	In house	35.5		-0.03	
2561		-----		-----	
2564		-----		-----	
2567	CPSC-CH-E1003-09	37.5		0.57	

lab	method	value	mark	z(targ)	remarks
2569		NOT DETERMINED		-----	
2572	ISO8124-5	35.57		-0.01	
2574		-----		-----	
2582	CPSC-CH-E1003-09	30.17		-1.63	
2590	CPSC-CH-E1003-09	42.47		2.07	
2674		-----		-----	
2678		-----		-----	
2689		Not analyzed		-----	
2720	CPSC-CH-E1003-09	32.40		-0.96	
2736	In-house	39.724		1.24	
2737		-----		-----	
2743	CPSC-CH-E1003-08.3	79.89925	R(0.01)	13.32	
2788		Not Analyzed		-----	
2810	CPSC-CH-E1003-09	39		1.02	
2853		-----		-----	
2864		-----		-----	
2952		-----		-----	
2953	CPSC-CH-E1003-09	33.67	C	-0.58	First reported 12.11
2955	CPSC-CH-E1003-09	32.6		-0.90	
2956		27.65		-2.39	
2959		-----		-----	
3100	ASTM F963	32.11		-1.05	
3110		-----		-----	
3116		-----		-----	
3118	CPSC-CH-E1003-09	33.38		-0.67	
3146	In house	41.64		1.82	
3160	CPSC-CH-E1003-09	40.27		1.40	
3172		-----		-----	
3176		-----		-----	
3182		Not analyzed		-----	
3185	CPSC-CH-E1003-09	36.9		0.39	
3210		-----		-----	
3214	EPA3052	36.98		0.42	
3225		-----		-----	
3233	In house	37.08		0.45	
3248	CPSC-CH-E1003-09	29.0		-1.98	
8005		-----		-----	

normality	OK
n	51
outliers	2
mean (n)	35.597
st.dev. (n)	4.2989
R(calc.)	12.037
st.dev.(Horwitz)	3.3267
R(Horwitz)	9.314

RSD = 12.1%





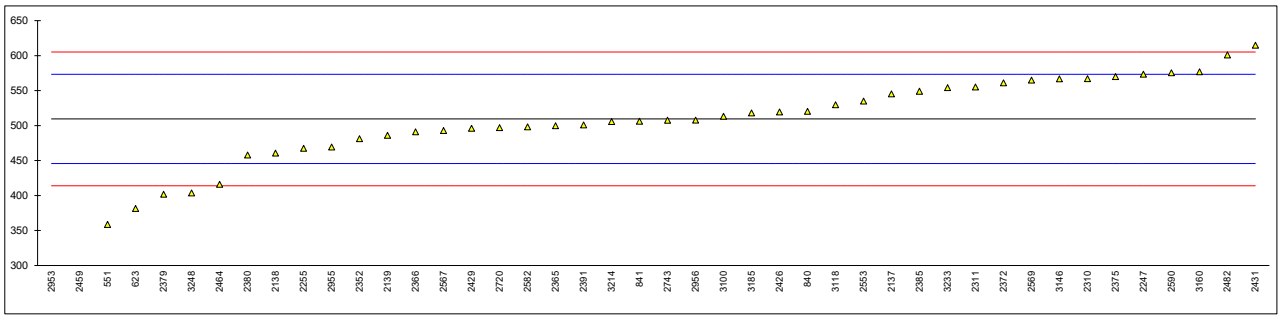
Determination of Total Strontium as Sr on sample #21561; results in mg/kg

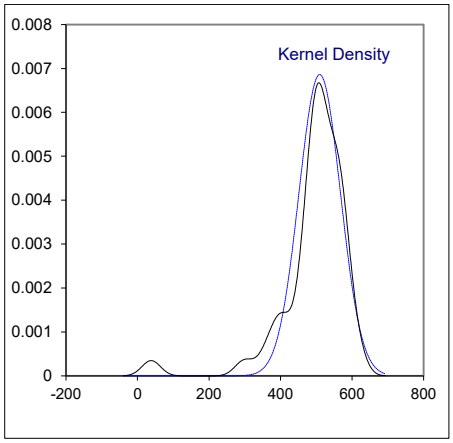
lab	method	value	mark	z(targ)	Remarks
210		-----		-----	
339		-----		-----	
348		-----		-----	
551	In house	358.61		-4.73	
623	EPA3052	381.46		-4.01	
840	In house	520.39		0.34	
841	ISO8124-5	506.2		-0.10	
1051		-----		-----	
2115		-----		-----	
2121		-----		-----	
2129		not analyzed		-----	
2137	IEC62321-5	545.3		1.12	
2138	CPSC-CH-E1002-08	460.5		-1.54	
2139	ASTM E1645	486		-0.74	
2170		-----		-----	
2184		-----		-----	
2216		-----		-----	
2232		-----		-----	
2247	CPSC-CH-E1002-08	573.51		2.01	
2255	CPSC-CH-E1003-09	467.4		-1.32	
2256		-----		-----	
2258		not analyzed		-----	
2286		-----		-----	
2290		-----		-----	
2293		not analyzed		-----	
2294		-----		-----	
2296		-----		-----	
2301		-----		-----	
2310	EN16711-1	567		1.80	
2311	CPSC-CH-E1003-09	555.15		1.43	
2314		-----		-----	
2330		Not applicable	-----		
2347		-----		-----	
2350		-----		-----	
2352	In house	481.22		-0.89	
2355		-----		-----	
2357		-----		-----	
2358		N/A		-----	
2365	EPA3052	499.8		-0.30	
2366	ASTM F963	491		-0.58	
2372	EPA3052	561		1.62	
2374		-----		-----	
2375	EN16711-1	570		1.90	
2378	EN16711-1	out of capability	-----		
2379	EPA3052	401.75		-3.38	
2380	CPSC-CH-E1003-09	457.86		-1.62	
2381	CPSC-CH-E1003-09	Out Cap		-----	
2382		not analyzed		-----	
2384		-----		-----	
2385	EPA3052	549		1.24	
2390		-----		-----	
2391	CPSC-CH-E1003-09	501.0		-0.27	
2406		-----		-----	
2410		-----		-----	
2426	EN16711-1	519.26		0.31	
2429		496.2		-0.42	
2431	CPSC-CH-E1002-08	614.80		3.30	
2453		-----		-----	
2459	CPSC-CH-E1003-09.1	298.71	R(0.05)	-6.61	
2460		-----		-----	
2464	CPSC-CH-E1003-09	416.09		-2.93	
2476		-----		-----	
2480		-----		-----	
2482	CPSC-CH-E1003-09	601		2.87	
2492		-----		-----	
2500		-----		-----	
2511		-----		-----	
2514		-----		-----	
2515		-----		-----	
2529		-----		-----	
2553	In house	535		0.80	
2561		-----		-----	
2564		-----		-----	
2567	CPSC-CH-E1003-09	492.9		-0.52	

lab	method	value	mark	z(targ)	Remarks
2569		565		1.74	
2572		-----		-----	
2574		-----		-----	
2582	CPSC-CH-E1003-09	498.20		-0.35	
2590	CPSC-CH-E1003-09	575.49		2.07	
2674		-----		-----	
2678		-----		-----	
2689		Not analyzed		-----	
2720	CPSC-CH-E1003-09	497.0		-0.39	
2736		-----		-----	
2737		-----		-----	
2743	CPSC-CH-E1003-08.3	507.66155		-0.06	
2788		Not Analyzed		-----	
2810		-----		-----	
2853		-----		-----	
2864		-----		-----	
2952		-----		-----	
2953	CPSC-CH-E1003-09	38.21	C,R(0.01)	-14.77	First reported 51.61
2955	CPSC-CH-E1003-09	469.2		-1.26	
2956		507.8		-0.05	
2959		-----		-----	
3100	ASTM F963	513.20		0.12	
3110		-----		-----	
3116		-----		-----	
3118	CPSC-CH-E1003-09	529.70		0.63	
3146	In house	566.8		1.80	
3160	CPSC-CH-E1003-09	576.97		2.12	
3172		-----		-----	
3176		-----		-----	
3182		Not analyzed		-----	
3185	CPSC-CH-E1003-09	518.2		0.27	
3210		-----		-----	
3214	EPA3052	505.69		-0.12	
3225		-----		-----	
3233	In house	554.03		1.40	
3248	CPSC-CH-E1003-09	403.5		-3.32	
8005		-----		-----	

normality	OK
n	42
outliers	2
mean (n)	509.472
st.dev. (n)	58.1301
R(calc.)	162.764
st.dev.(Horwitz)	31.8991
R(Horwitz)	89.317

RSD = 11.4%





APPENDIX 2 Other reported metals

Abbreviations of Metals:
Al = total Aluminium
Sb = total Antimony
As = total Arsenic
Cd = total Cadmium
Cr = total Chromium
Co = total Cobalt
Cu = total Copper
Pb = total Lead
Mn = total Manganese
Hg = total Mercury
Ni = total Nickel
Se = total Selenium
Sr = total Strontium
Zn = total Zinc

Summary of Other Metals in sample #21560; results in mg/kg

lab	Sb	Cd	Co	Cu	Pb
210	-----	0.139	-----	-----	2.585
339	-----	-----	-----	-----	-----
348	-----	<5	-----	-----	<5
551	0.3149	Not detected	0.096	2.515	1.689
623	not detected	not detected	not detected	not detected	not detected
840	not detected	not detected	not detected	not detected	not detected
841	<10	<10	<10	<10	<10
1051	-----	-----	-----	-----	<10
2115	-----	-----	-----	-----	1.34
2121	-----	-----	-----	-----	1.43
2129	-----	-----	-----	-----	-----
2137	-----	-----	-----	-----	-----
2138	-----	-----	-----	-----	-----
2139	<10	<10	<10	<10	<10
2170	-----	-----	-----	-----	Less 10
2184	-----	<10	-----	-----	<10
2216	Not Detected	Not Detected	-----	-----	Not Detected
2232	<10	<10	-----	-----	<10
2247	NOT DETECTED	NOT DETECTED	NOT DETECTED	NOT DETECTED	NOT DETECTED
2255	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2256	ND	ND	-----	-----	ND
2258	not detected	not detected	not analyzed	not analyzed	not detected
2286	-----	-----	-----	-----	＜10
2290	<20	<20	<20	<20	<20
2293	not detected	not detected	not detected	not analyzed	not detected
2294	-----	-----	-----	-----	In Full
2296	-----	Not detected	-----	-----	4.4345
2301	<2	<2	4.01	-----	13.19
2310	NOT DETECTED	NOT DETECTED	NOT DETECTED	NOT DETECTED	NOT DETECTED
2311	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2314	-----	NOT DETECTED	-----	-----	NOT DETECTED
2330	Not applicable	Not detected	Not applicable	Not applicable	Not detected
2347	-----	<2	-----	-----	<20
2350	< 10	< 0.5	< 5	< 5	< 5
2352	-----	-----	-----	-----	-----
2355	＜10	＜2	-----	＜5	＜20
2357	<10	<5	<10	<10	<5
2358	n.d.	n.d.	n.d.	N/A	n.d.
2365	＜10	＜2	＜5	＜5	＜2
2366	<10	<5	<10	<10	<10
2372	<2	<2	<2	<2	<2
2374	-----	-----	-----	-----	-----
2375	<10	<10	<10	<10	<10
2378	＜10	＜5	＜5	＜5	＜2
2379	Not detected	Not detected	Not detected	Not detected	Not detected
2380	-----	-----	-----	-----	-----
2381	Out Cap	Not Detected	Out Cap	Out Cap	Not detected
2382	＜10.0	＜5.0	＜5.0	＜5.0	＜20.0
2384	-----	not detected	-----	-----	not detected
2385	<2	<0.2	<1	<1	<1
2390	-----	n.d	-----	-----	n.d

lab	Sb	Cd	Co	Cu	Pb
2391	Not detected	Not detected	Not detected	Not detected	Not detected
2406	not detected	not detected	-----	-----	not detected
2410	< 20	< 20	< 20	< 20	< 20
2426	Not detected	Not detected	Not detected	Not detected	Not detected
2429	ND	ND	ND	ND	ND
2431	-----	-----	-----	-----	-----
2453	-----	-----	-----	-----	< LQ [23 mg/kg]
2459	ND	ND	ND	ND	ND
2460	-----	-----	-----	-----	0.0
2464	-----	-----	-----	-----	-----
2476	-----	-----	-----	-----	-----
2480	-----	-----	-----	-----	-----
2482	< 5	< 5	< 5	< 10	< 5
2492	-----	-----	-----	-----	-----
2500	-----	-----	-----	-----	ND
2511	<10	<10	<10	-----	<10
2514	-----	Not Detected	-----	-----	Not Detected
2515	not detected	not detected	-----	-----	not detected
2529	-----	-----	-----	-----	-----
2553	-----	-----	-----	-----	-----
2561	-----	<0.1	-----	-----	1.044
2564	-----	not detected	-----	-----	***<20***
2567	<20	<20	<20	<20	<20
2569	NOT DETECTED	NOT DETECTED	NOT DETECTED	NOT DETECTED	NOT DETECTED
2572	<20	<20	<20	<20	<20
2574	-----	-----	-----	-----	-----
2582	0.1	0.13	0.42	229.88	1.21
2590	< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
2674	-----	Not detected	-----	-----	Not detected
2678	-----	Not detected	-----	-----	Not detected
2689	Not analyzed	Not analyzed	Not analyzed	Not analyzed	Not analyzed
2720	<10	<10	<10	<10	<10
2736	4.921	<3.281	<3.281	<3.281	<3.281
2737	-----	-----	-----	-----	-----
2743	-----	-----	-----	-----	-----
2788	Not Detected	Not Detected	Not Detected	Not Detected	1.360242
2810	not detected	not detected	not detected	38	not detected
2853	-----	-----	-----	-----	Not detected
2864	not detected	not detected	-----	-----	not detected
2952	-----	-----	-----	-----	7.50
2953	-----	-----	-----	-----	-----
2955	nd	nd	nd	nd	nd
2956	not detected	not detected	not detected	not detected	not detected
2959	<5	<5	-----	-----	<5
3100	＜10	＜5	＜10	＜10	＜10
3110	-----	-----	-----	-----	-----
3116	LT10	LT10	-----	-----	LT10
3118	<10	<10	<10	<10	<10
3146	not detected	not detected	not detected	not detected	not detected
3160	not detected	not detected	not detected	not determined	not detected
3172	< 10	< 10	< 10	-----	< 10
3176	-----	-----	-----	-----	2.14
3182	Not analyzed	<13	Not analyzed	Not analyzed	<13
3185	<10	<10	<10	<10	<10
3210	-----	-----	-----	-----	<90
3214	<20	<20	<20	<20	<20
3225	-----	-----	-----	-----	<15
3233	2.81	< 1	< 1	1.30	1.43
3248	<10	<10	<10	<10	<10
8005	-----	-----	-----	-----	-----

Summary of Other Metals in sample #21560; results in mg/kg - continued

lab	Hg	Ni	Se	Zn
210	-----	-----	-----	-----
339	-----	-----	-----	-----
348	-----	-----	-----	-----
551	Not tested	0.7937	Not detected	6.980
623	not detected	not detected	not detected	7.32
840	not detected	not detected	not detected	not detected
841	<10	<10	<10	<10
1051	-----	-----	-----	-----
2115	-----	-----	-----	-----
2121	-----	-----	-----	-----
2129	-----	-----	not analyzed	-----
2137	-----	-----	-----	-----
2138	-----	-----	-----	-----
2139	<10	<10	<10	25
2170	-----	-----	-----	-----
2184	<10	-----	-----	-----
2216	Not Detected	-----	Not Detected	-----
2232	<10	-----	<10	-----
2247	NOT DETECTED	NOT DETECTED	NOT DETECTED	NOT DETECTED
2255	Not Detected	Not Detected	Not Detected	Not Detected
2256	ND	-----	ND	-----
2258	not detected	not analyzed	not detected	not analyzed
2286	-----	-----	-----	-----
2290	<20	<20	<20	<20
2293	not detected	not detected	not detected	not detected
2294	-----	-----	-----	-----
2296	-----	-----	-----	-----
2301	<2	-----	<2	-----
2310	NOT DETECTED	NOT DETECTED	NOT DETECTED	<10
2311	Not Detected	Not Detected	Not Detected	Not Detected
2314	-----	-----	-----	-----
2330	Not applicable	Not applicable	Not applicable	Not applicable
2347	-----	-----	-----	-----
2350	< 2	< 5	< 10	7.215
2352	-----	-----	-----	-----
2355	＜2	＜5	＜10	-----
2357	<2	<10	<10	<10
2358	n.d.	n.d.	N/A	N/A
2365	＜2	＜5	＜10	＜10
2366	<5	<10	<10	<10
2372	<2	<2	<2	8.9
2374	-----	-----	-----	-----
2375	<10	<10	<10	11
2378	＜2	＜5	＜10	out of capability
2379	Not detected	Not detected	Not detected	Not detected
2380	-----	-----	-----	-----
2381	Out Cap	Out Cap	Out Cap	Out Cap
2382	＜5.0	＜5.0	not analyzed	not analyzed
2384	-----	-----	-----	-----
2385	<0.1	<1	<2	10.2
2390	n.d	-----	-----	-----
2391	Not detected	1.0	Not detected	13.0
2406	not detected	-----	not detected	-----
2410	< 20	< 20	< 20	-----
2426	Not detected	Not detected	Not detected	Not detected
2429	ND	ND	ND	ND
2431	-----	-----	-----	-----
2453	-----	-----	-----	-----
2459	ND	ND	ND	68.28
2460	-----	-----	-----	-----
2464	-----	-----	-----	11.57
2476	-----	-----	-----	-----
2480	-----	-----	-----	-----
2482	< 1	< 5	< 10	< 5
2492	-----	-----	-----	-----
2500	-----	-----	-----	-----
2511	<10	<10	-----	-----
2514	-----	-----	-----	-----
2515	not detected	not detected	not detected	-----
2529	-----	-----	-----	-----
2553	-----	-----	-----	-----
2561	-----	-----	-----	-----
2564	-----	-----	-----	-----
2567	<20	<20	<20	<20

lab	Hg	Ni	Se	Zn
2569	NOT DETECTED	NOT DETECTED	NOT DETEDTED	NOT DETERMINED
2572	<20	<20	<20	<20
2574	-----	-----	-----	-----
2582	not detected	2.03	0.06	341.74
2590	< LOQ	< LOQ	< LOQ	21.84
2674	Not detected	-----	-----	-----
2678	Not detected	-----	-----	-----
2689	Not analyzed	Not analyzed	Not analyzed	Not analyzed
2720	<10	<10	<10	<10
2736	<3.281	<3.281	<3.281	-----
2737	-----	-----	-----	-----
2743	-----	-----	-----	-----
2788	Not Detected	Not Detected	Not Detected	Not Analyzed
2810	not detected	9	not detected	***----***
2853	-----	-----	-----	-----
2864	not detected	not detected	not detected	-----
2952	-----	-----	-----	-----
2953	-----	-----	-----	4.31
2955	nd	nd	nd	nd
2956	not detected	not detected	not analyzed	not detected
2959	<5	<5	<5	-----
3100	＜10	＜10	＜10	＜20
3110	-----	-----	-----	-----
3116	LT5	-----	LT10	-----
3118	<10	<10	<10	<10
3146	not detected	not detected	not detected	not detected
3160	not determined	not detected	not detected	not determined
3172	< 10	-----	-----	-----
3176	-----	-----	-----	-----
3182	<13	Not analyzed	Not analyzed	Not analyzed
3185	<10	<10	<10	<10
3210	-----	-----	-----	-----
3214	<20	<20	<20	<20
3225	-----	-----	-----	-----
3233	< 1	< 1	25.43	14.15
3248	<10	<10	<10	<10
8005	LT2.5	-----	-----	-----

Summary of Other Metals in sample #21561; results in mg/kg

lab	Sb	As	Cd	Cr	Mn
210	-----	-----	-----	-----	-----
339	-----	-----	-----	-----	-----
348	-----	-----	<5	<5	-----
551	0.6227	5.7267	Not detected	2.2981	15.606
623	not detected	not detected	not detected	not detected	28.10
840	not detected	not detected	not detected	not detected	35.07
841	<10	<10	<10	<10	36.0
1051	-----	-----	-----	-----	-----
2115	-----	-----	-----	-----	-----
2121	-----	-----	-----	-----	-----
2129	-----	-----	-----	-----	not analyzed
2137	-----	-----	-----	-----	39
2138	-----	-----	-----	-----	32.3
2139	<10	<10	<10	<10	37
2170	-----	-----	-----	-----	-----
2184	-----	-----	<10	<10	-----
2216	Not Detected	-----	Not Detected	Not Detected	-----
2232	<10	<10	<10	<10	-----
2247	NOT DETECTED	NOT DETECTED	NOT DETECTED	NOT DETECTED	37.64
2255	Not Detected	Not Detected	Not Detected	Not Detected	34.4
2256	ND	ND	ND	ND	-----
2258	not detected	not detected	not detected	not detected	not analyzed
2286	-----	-----	-----	-----	-----
2290	<20	<20	<20	<20	37.25
2293	not detected	not detected	not detected	not detected	36.92
2294	-----	-----	-----	-----	-----
2296	-----	-----	Not detected	-----	-----
2301	<2	<2	<2	9.71	***40.210***
2310	NOT DETECTED	NOT DETECTED	NOT DETECTED	NOT DETECTED	36
2311	Not Detected	Not Detected	Not Detected	Not Detected	40.55
2314	-----	-----	NOT DETECTED	-----	-----
2330	Not applicable	Not applicable	Not detected	Not applicable	Not applicable
2347	-----	-----	<2	-----	-----
2350	< 10	< 10	< 0.5	< 5	31.82

lab	Sb	As	Cd	Cr	Mn
2352	-----	-----	-----	-----	34.31
2355	＜10	＜10	＜2	＜2	-----
2357	<10	<10	<5	<5	34
2358	n.d.	n.d.	n.d.	n.d.	N/A
2365	＜10	＜10	＜2	＜2	35.37
2366	<10	<10	<5	<5	35
2372	<2	<2	<2	<2	41.1
2374	-----	-----	-----	-----	-----
2375	<10	<10	<10	<10	38
2378	＜10	＜10	＜10	＜10	out of capability
2379	Not detected	Not detected	Not detected	Not detected	26.13
2380	-----	-----	-----	-----	34.47
2381	Out Cap	Out Cap	Not detected	Out Cap	Out Cap
2382	＜10.0	＜10.0	＜5.0	＜5.0	not analyzed
2384	-----	-----	not detected	-----	-----
2385	<2	<1	<0.2	1.43	37.7
2390	-----	-----	n.d	n.d	-----
2391	Not detected	Not detected	Not detected	2.0	35.0
2406	not detected	not detected	not detected	not detected	-----
2410	< 20	< 20	< 20	< 20	38
2426	Not detected	Not detected	Not detected	Not detected	38.51
2429	ND	ND	ND	ND	31.9
2431	-----	-----	-----	-----	40.10
2453	-----	-----	-----	-----	-----
2459	ND	ND	ND	ND	25.56
2460	-----	-----	-----	-----	-----
2464	-----	-----	-----	5.10	28.71
2476	-----	-----	-----	-----	-----
2480	-----	-----	-----	-----	45.59
2482	< 5	< 5	< 5	< 5	40.1
2492	-----	-----	-----	-----	-----
2500	-----	-----	-----	-----	-----
2511	<10	-----	<10	-----	-----
2514	-----	-----	Not Detected	-----	-----
2515	not detected	not detected	not detected	not detected	-----
2529	-----	-----	-----	-----	-----
2553	-----	-----	-----	-----	35.5
2561	-----	-----	<0.1	-----	-----
2564	-----	-----	not detected	-----	-----
2567	<20	<20	<20	<20	37.5
2569	NOT DETECTED	NOT DETECTED	NOT DETECTED	NOT DETECTED	NOT DETERMINED
2572	<20	<20	<20	<20	35.57
2574	-----	-----	-----	-----	-----
2582	0.07	0.50	0.22	1.47	30.17
2590	< LOQ	< LOQ	< LOQ	2.11	42.47
2674	-----	-----	Not detected	Not detected	-----
2678	-----	Not detected	Not detected	-----	-----
2689	Not analyzed	Not analyzed	Not analyzed	Not analyzed	Not analyzed
2720	<10	<10	<10	<10	32.40
2736	<3.281	<3.281	<3.281	<3.281	39.724
2737	-----	-----	-----	-----	-----
2743	-----	-----	-----	1.46778	79.89925
2788	Not Detected	Not Detected	Not Detected	31.95644	Not Analyzed
2810	not detected	-----	not detected	-----	39
2853	-----	-----	-----	-----	-----
2864	not detected	not detected	not detected	not detected	-----
2952	-----	-----	-----	-----	-----
2953	-----	-----	-----	-----	***33.67***
2955	nd	nd	nd	nd	32.6
2956	not detected	not detected	not detected	not detected	27.65
2959	<5	<5	<5	<5	-----
3100	＜10	＜5	＜5	＜10	32.11
3110	-----	-----	-----	-----	-----
3116	-----	-----	-----	-----	-----
3118	<10	13.7	<10	<10	33.38
3146	not detected	not detected	not detected	not detected	41.64
3160	not detected	not detected	not detected	not detected	40.27
3172	< 10	< 10	< 10	< 10	-----
3176	-----	-----	-----	-----	-----
3182	Not analyzed	Not analyzed	<13	Not analyzed	Not analyzed
3185	<10	<10	<10	<10	36.9
3210	-----	-----	-----	-----	-----
3214	<20	<20	<20	<20	36.98
3225	-----	-----	-----	-----	-----
3233	< 1	1.11	< 1	1.65	37.08
3248	<10	<10	<10	<10	29.0
8005	-----	-----	LT10	-----	-----

Summary of Other Metals in sample #21561; results in mg/kg - continued

lab	Hg	Ni	Se	Zn
210	-----	-----	-----	-----
339	-----	-----	-----	-----
348	-----	-----	-----	-----
551	Not tested	1.606	Not detected	6.1855
623	not detected	not detected	not detected	6.94
840	not detected	not detected	not detected	not detected
841	<10	<10	<10	<10
1051	-----	-----	-----	-----
2115	-----	-----	-----	-----
2121	-----	-----	-----	-----
2129	-----	-----	not analyzed	-----
2137	-----	-----	-----	-----
2138	-----	-----	-----	-----
2139	<10	<10	<10	34
2170	-----	-----	-----	-----
2184	<10	-----	-----	-----
2216	Not Detected	-----	Not Detected	-----
2232	<10	-----	<10	-----
2247	NOT DETECTED	NOT DETECTED	NOT DETECTED	NOT DETECTED
2255	Not Detected	Not Detected	Not Detected	Not Detected
2256	ND	-----	ND	-----
2258	not detected	not detected	not detected	not analyzed
2286	-----	-----	-----	-----
2290	<20	<20	<20	<20
2293	not detected	not detected	not detected	not detected
2294	-----	-----	-----	-----
2296	-----	-----	-----	-----
2301	<2	-----	<2	-----
2310	NOT DETECTED	NOT DETECTED	NOT DETECTED	<10
2311	Not Detected	Not Detected	Not Detected	Not Detected
2314	-----	-----	-----	-----
2330	Not applicable	Not applicable	Not applicable	Not applicable
2347	-----	-----	-----	-----
2350	< 2	< 5	< 10	8.758
2352	-----	-----	-----	-----
2355	＜2	＜5	＜10	-----
2357	<2	<10	<10	<10
2358	n.d.	n.d.	N/A	N/A
2365	＜2	＜5	＜10	＜10
2366	<5	<10	<10	<10
2372	<2	<2	<2	5.76
2374	-----	-----	-----	-----
2375	<10	<10	<10	<10
2378	＜10	＜10	＜10	out of capability
2379	Not detected	Not detected	Not detected	Not detected
2380	-----	-----	-----	-----
2381	Out Cap	Out Cap	Out Cap	Out Cap
2382	＜5.0	＜5.0	not analyzed	not analyzed
2384	-----	-----	-----	-----
2385	<0.1	<1	<2	6.95
2390	n.d	-----	-----	-----
2391	Not detected	1.0	Not detected	12.0
2406	not detected	-----	not detected	-----
2410	< 20	< 20	< 20	-----
2426	Not detected	Not detected	Not detected	Not detected
2429	ND	ND	ND	ND
2431	-----	-----	-----	-----
2453	-----	-----	-----	-----
2459	ND	ND	ND	94.07
2460	-----	-----	-----	-----
2464	-----	-----	-----	7.41
2476	-----	-----	-----	-----
2480	-----	-----	-----	-----
2482	< 1	< 5	< 10	< 5
2492	-----	-----	-----	-----
2500	-----	-----	-----	-----
2511	<10	<10	-----	-----
2514	-----	-----	-----	-----
2515	not detected	not detected	not detected	-----
2529	-----	-----	-----	-----
2553	-----	-----	-----	-----
2561	-----	-----	-----	-----
2564	-----	-----	-----	-----
2567	<20	<20	<20	<20

lab	Hg	Ni	Se	Zn
2569	NOT DETECTED	NOT DETECTED	NOT DETECTED	NOT DETERMINED
2572	<20	<20	<20	<20
2574	-----	-----	-----	-----
2582	not detected	1.47	not detected	16.53
2590	< LOQ	< LOQ	< LOQ	16.27
2674	Not detected	-----	-----	-----
2678	Not detected	-----	-----	-----
2689	Not analyzed	Not analyzed	Not analyzed	Not analyzed
2720	<10	<10	<10	<10
2736	<3.281	<3.281	<3.281	-----
2737	-----	-----	-----	-----
2743	-----	-----	-----	-----
2788	Not Detected	15.61209	Not Detected	Not Analyzed
2810	not detected	18	not detected	-----
2853	-----	-----	-----	-----
2864	not detected	not detected	not detected	-----
2952	-----	-----	-----	-----
2953	-----	-----	-----	3.29
2955	nd	nd	nd	nd
2956	not detected	not detected	not analyzed	not detected
2959	<5	<5	<5	-----
3100	＜10	＜10	＜10	＜20
3110	-----	-----	-----	-----
3116	-----	-----	-----	-----
3118	<10	<10	<10	<10
3146	not detected	not detected	not detected	not detected
3160	not determined	not detected	not detected	not determined
3172	< 10	-----	-----	-----
3176	-----	-----	-----	-----
3182	<13	Not analyzed	Not analyzed	Not analyzed
3185	<10	<10	<10	<10
3210	-----	-----	-----	-----
3214	<20	<20	<20	<20
3225	-----	-----	-----	-----
3233	< 1	< 1	< 1	8.22
3248	<10	<10	<10	<10
8005	-----	-----	-----	-----

APPENDIX 3 Analytical details

lab	ISO17025 accr.	Sample intake (mg)	Acid used for the digestion	Concentration of the acid (%)
210	Yes			
339	---			
348	Yes	0.1	HNO3 67%, H2O2 30%, HCl 32%	HNO3 67%, H2O2 30%, HCl 32%
551	Yes	0.1g	HNO3, H2O2 and HF	65%
623	Yes	0.2 gram	Nitric acid	65
840	Yes	0.05	HNO3 HCl HBF4	
			nitric acid Hydrochloric acid	nitric acid: 68% Hydrochloric acid: 37%
841	Yes	0.1 grams	Hydrogen peroxide Fluoroboric acid	Hydrogen peroxide: 30% Fluoroboric acid: 50%
1051	Yes	0.1 g	HNO3	67%
2115	Yes	0.055 g	HNO3	65% m/m
2121	Yes	0.1grams	nitric acid	
2129	Yes	aprox. 100 mg	Nitric Acid	65
2137	Yes	0.05	HNO3 + H2O2	70
2138	Yes	around 0.1g	Nitric acid	40 %
2139	Yes	about 0.05 gram	Nitric acid, hydrochloric acid	Nitric acid : about 70% hydrochloric acid : about 36~38%
2170	Yes	0.1	Nitric Acid	65%
2184	Yes			
2216	Yes	0.1854 g	Nitric acid	25%
2232	Yes		nitric acid	
2247	Yes	0.0704	4.5ml HNO3+1.5ml HCl	20.0
2255	Yes	0.0526 & 0.0414	HNO3+HCl+H2O2	25%
2256	Yes	21560: 112.9mg 21561: 112.8mg	HNO3	69
2258	---			
2286	No	0.05g	Nitric acid	60%
2290	Yes			
2293	Yes	100 mg	Nitric acid	70
2294	Yes	21560: 0,0857 21561: 0,0798	Nitric Acid	69,5 %
2296	Yes	100mg	10ml of 66% HNO3	10ml of 66% HNO3
2301	Yes	0.01 grams	Nitric acid	69-70%
2310	Yes	0.2	Conc.nitric acid	69-70%
2311	Yes	0.06	Nitric Acid	69
2314	Yes	200 mg	HNO3	69
2330	Yes	0.10 g	Nitric Acid	65%
2347	Yes	0.1g	HNO3,HCl,H2O2	HNO3:68%
2350	Yes	0.1 ~ 0.14 g	nitric acid	the concentration of the acid solution is 69 ~ 71%
2352	Yes	0.1g	HNO3,HCL,HF	65
2355	Yes	0.2g	8mLHNO3	32%
2357	---			
2358	Yes	0.25 g	Nitric acid	60 %
2365	Yes	0.05g	HNO3 HCl	30%
2366	Yes	0.1g	HNO3 HCL	30%
2372	No	0.2g	HNO3、HCl、HF	60%
2374	Yes	0.1g	5ml:HNO3 3ml:HCL	HNO3:65%-68% HCL:36%-38%
2375	Yes	0.1g	HNO3 + H2O2	-
2378	Yes	0.1015g	nitric acid;H2O2;HF	nitric acid:65%;H2O2:30%;HF:40%
2379	No	0.25 g	H2O2 + HNO3	40%
2380	Yes	0.05 g	Nitric acid and Hydrogen peroxide	65% Nitric acid & 30% Hydrogen Peroxide
2381	Yes	0.05 gm	Nitric Acid	65%
2382	Yes	0.1g	HCL、HNO3、HF、H2O2	#21560:69%HNO3+30%H2O2 #21561:36%HCL+48.8%HF
2384	Yes	0.1	Nitric Acid	
2385	Yes	0.10 - 0.15	Nitric acid/ hydrogen peroxide	67% for digestion; after digestion diluted to 13%
2390	Yes	0.1280g	HNO3	26%
2391	Yes	0.10g	Nitric Acid conc. (HNO3)	65%
2406	Yes	0.04 g	Nitric acid	3 %
2410	Yes	0.1 g	HNO3, HCl	5 %
2426	Yes	21560=0.1074g / 21561=0.1126g	Nitric Acid	20%
2429	Yes	0.05g	3ml HNO3	10%
2431	Yes	0.1	HNO3 + HCl	67%
2453	---			
2459	---	0.10 gm	HNO3	68%
2460	Yes	0.2 g	nitric acid	Digestion with 6 mL of nitric acid,
2464	Yes			
2476	---			
2480	---	0.2 g	HCl/HNO3	
2482	Yes	0,1	HNO3 / H202	8 ml HNO3 (69%) / 2 ml H2O2 (30%)
2492	Yes	0.1g	Nitric Acid	65% for digestion 2.6% for ICP in-take
2500	Yes	0.1005 g	HNO3	67%
2511	Yes			

lab	ISO17025 accr.	Sample intake (mg)	Acid used for the digestion	Concentration of the acid (%)
		21560=0.0508		
2514	Yes	21561=0.0605	Nitric Acid	65%
2515	No	0.05g +/- 0.01g	Nitric acid 65%	Nitric acid 40%
2529	No	0.0300 to 0.0400 g	Nitric acid	68 - 70% (v/v)
2553	Yes	0.1076g	65% concentrated nitric acid	5%
2561	Yes	0.05	Nitric acid and hydrochloric acid	
2564	Yes	0.125g	Nitric Acid	65% Nitric Acid
2567	Yes	0.1 gm	Nitric acid	65
2569	Yes			
2572	Yes			
2574	Yes	0.2110 g	HNO3	65 %
2582	Yes	0.1000 g	Conc.HNO3 Acid	69%
2590	Yes	0.1g	HNO3	2.5 %
2674	Yes	0.1g	HNO3	40%(V/V)
2678	No	10 mg / 20 mg	Nitric acid / H2O2	
2689	Yes	0.12g	HNO3	26%
2720	Yes	100mg	HNO3,HCL	65-68,36-38
2736	Yes	0.15	HNO3 and HCl	5 mL of concentrated HNO3 and 0.5 ml concentrated HCl
2737	Yes	100mg	Nitric acid	65% - 68%
2743	Yes	0.1g	HNO3	50%
2788	Yes	0.05	HNO3, HCl	3% HNO3, 0.5% HCl
2810	No	0,10 - 0,09	nitric acid + hydrofluoric acid	40%
2853	Yes	0.05	Nitric acid	3%
2864	Yes	0.1g	HNO3,HCL,HF	50%
2952	Yes	#21560=0.058, #21561=1.063	Nitric acid	2%
2953	No	0.1	nitric acid	67%
2955	Yes	0.04	HNO3+HCl+H2O2	HNO3-65%, HCl-35%,H2O2-30%
2956	No	0.14~0.19g	HNO3:HCl:H2O=7:2:1	HNO3:65% HCl:37%
2959	No	0.1g	Nitric acid	68%
3100	Yes	#21560:0.1116g #21561:0.1009g	HNO3	65%(m/m)HNO3
3110	---			
3116	Yes	0.25g	Nitric acid	~68%
3118	Yes	0.1	HNO3	65
3146	Yes	0.25 gram	HNO3 + H2O2	HNO3: 65% H2O2: 30%
3160	Yes	0,09 grams	HNO3, HCl, H2O2	6,5%
3172	---			
3176	Yes	0,03	HF + NH03	HF (%40) NHO3 (%65)
3182	Yes	0.1 g	Nitric acid	65%
3185	Yes	0.1g	Nitric acid and Hydrochloric acid	Nitric acid:69% Hydrochloric acid:37%
3210	Yes	26 and 78mg	HNO3	67-69%
3214	Yes	0.05 g	9mL HNO3+ 3mL HCl+ 1mL HF	25%
3225	Yes	0.5	Nitric acid	67%
3233	No	21560 : 0.1123 21561 : 0.1107	nitric acid	40
3248	Yes	0.15	HNO3	69
8005	Yes	0.1g	Nitric acid	68%

APPENDIX 4

Number of participants per country

5 labs in	BANGLADESH
1 lab in	BRAZIL
2 labs in	CAMBODIA
1 lab in	CANADA
1 lab in	EGYPT
5 labs in	FRANCE
4 labs in	GERMANY
2 labs in	GUATEMALA
13 labs in	HONG KONG
5 labs in	INDIA
3 labs in	INDONESIA
6 labs in	ITALY
1 lab in	JAPAN
2 labs in	MALAYSIA
3 labs in	MEXICO
1 lab in	MOROCCO
19 labs in	P.R. of CHINA
3 labs in	PAKISTAN
1 lab in	PORTUGAL
2 labs in	SINGAPORE
5 labs in	SOUTH KOREA
2 labs in	SPAIN
2 labs in	SRI LANKA
5 labs in	TAIWAN
2 labs in	THAILAND
2 labs in	TUNISIA
2 labs in	TURKEY
4 labs in	U.S.A.
2 labs in	UNITED KINGDOM
5 labs in	VIETNAM

APPENDIX 5

Abbreviations

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

Literature

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