Institute for
Interlaboratory Studies

Results of Proficiency Test
Total Metals in Metal / Metal Alloy
April 2022

Organized by: Institute for Interlaboratory Studies
Spijkenisse, the Netherlands

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1 INTRODUCTION

Heavy metals can be found in everything from jewelry and watch cases to electronic components and toy paints. While Lead, Cadmium, Mercury and other heavy metals serve a purpose they are highly toxic to humans. Nickel is one of the most abundant metallic elements, likely to be found in most metals and metal alloys in trace quantities, including coins. Lead is a heavy metal that has often been used in jewelry, to make the article heavier, brighten colors and to stabilize or soften plastic. But Lead doesn't break down in the environment and accumulates in the human body.
Cadmium is also a heavy metal that has been used for over a century in both fashion and fine jewelry products. Small amounts of cadmium may be added to metal alloys used to make jewelry in order to impart specific technical and functional attributes to the metal. It may be present in jewelry as part of the metal alloy, solder or gold coating for electroforming / electroplating, or as a pigment or stabilizer in non-metal components.
The legislation covering the restrictions on metals is found in Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH). Presence of Lead has been limited in the Consumer Product Safety Improvement Act (CPSIA) of 2008. The limit of Lead is 100 mg/kg. In REACH there are limits mentioned for Cadmium of 100 mg/kg and for Lead 500 mg/kg.

In 2021 the Institute for Interlaboratory Studies (iis) organizes a proficiency scheme for the determination of Metals in Metal / Metal Alloy for the first time. During the annual proficiency testing program 2021/2022 it was decided to continue the proficiency test for the determination of Metals in Metal/Metal Alloy.

In this interlaboratory study 67 laboratories in 28 countries registered for participation. See appendix 7 for the number of participants per country. In this report the results of the Metals in Metal / Metal Alloy 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 1 metal necklace labelled #22580.
The participants were requested to report rounded and unrounded test results. The unrounded test results were preferably used for statistical evaluation.

2.1 QUALITY SYSTEM

The Institute for Interlaboratory Studies in Spijkenisse, the Netherlands, has implemented a quality system based on ISO/IEC17043:2010. 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

A batch of necklaces was purchased from the market. Each necklace was packed separately and labelled #22580.
The homogeneity of the subsamples of #22580 (Little rings+main chain) was checked by determination of the Chromium according to an in house method on 7 stratified randomly selected subsamples.

	Chromium as Cr in mg/kg
sample #22580-1/1	72.5
sample #22580-1/2	70.2
sample #22580-1/3	70.3
sample #22580-1/4	69.0
sample #22580-1/5	69.4
sample #22580-1/6	67.2
sample #22580-1/7	68.1

Table 1: homogeneity test results of subsamples #22580

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

	Chromium as Cr in mg/kg
r (observed)	4.8
reference test method	IEC62321-5:13
0.3 x R (reference test method)	5.8

Table 2: evaluation of the repeatability of subsamples #22580-1

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

To each of the participating laboratories one sample #22580 was sent on March 23, 2022.

2.5 ANALYZES

The participants were requested to determine Antimony as Sb, Arsenic as As, Cadmium as Cd, Chromium as Cr, Cobalt as Co, Copper as Cu, Lead as Pb, Manganese as Mn, Mercury as Hg, Nickel as Ni, Selenium as Se, Strontium as Sr, Tin as Sn, Zinc as Zn and Zirconium as Zr.
It was requested to report if the laboratory was accredited for the determined elements and to report some analytical details.

It was explicitly requested to treat the sample as if it was a routine sample 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 appendices 1 to 5 of this report. The laboratories are presented by their code numbers.

Directly after the deadline, a reminder was sent to those laboratories that had not reported test results at that moment. Shortly after the deadline, the available test results were screened for suspect data. A test result was called suspect in case the Huber Elimination Rule (a robust outlier test) found it to be an outlier. The laboratories that produced these suspect data were asked to check the reported test results (no reanalyzes). Additional or corrected test results are used for data analysis and the original test results are placed under 'Remarks' in the test result tables in appendices 1 to 5. 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 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 dataset 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 requirements 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 to 4). On the Y-axis the reported test results are plotted. The corresponding laboratory numbers are on the X-axis. The straight horizontal line presents the consensus value (a trimmed mean). The four striped lines, parallel to the consensus value line, are the +3s, +2s, -2s and -3s target reproducibility limits of the selected reference test method. Outliers and other data, which were excluded from the calculations, are represented as a cross. Accepted data are represented as a triangle.

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

Graph (smooth line) for reference. The Gauss curve is calculated from the consensus value and the corresponding standard deviation.

3.3 Z-SCORES

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

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

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

The z-scores were calculated according to:

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

The $z_{(target)}$ scores are listed in the test result tables in appendices 1 to 4.

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

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

4 EVALUATION

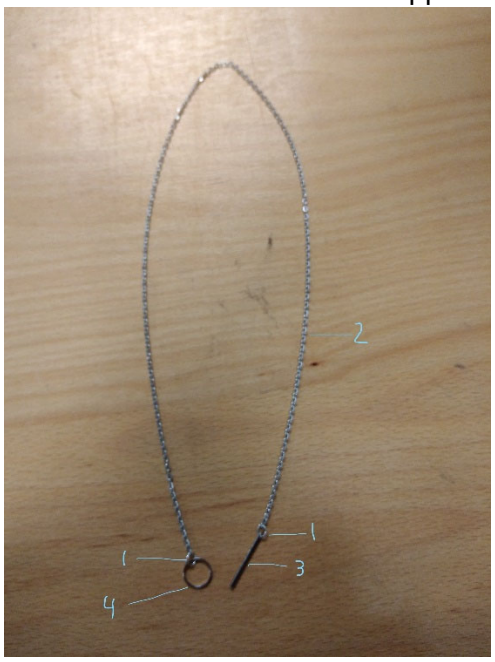
Some problems were encountered with the dispatch of the samples due to COVID-19 pandemic. Therefore, the reporting time on the data entry portal was extended with another week. Seven participants reported test results after the extended reporting date and one other participant did not report any test results. Not all participants were able to report all tests requested.
In total 66 participants reported 627 numerical test results. Observed were 59 outlying test results, which is 9.4%. In proficiency tests outlier percentages of 3% - 7.5% are quite normal.

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

4.1 EVALUATION PER PART OF THE NECKLACE AND PER ELEMENT

In this section the results are discussed per part of the necklace 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 reported test results in appendices 1 to 4. The abbreviations, used in these tables, are explained in appendix 8.

The necklace could be divided into 4 parts.
The test results were listed in appendix 1 to 4 as follows:



#22580-1: Little rings (connection between main chain and closure)
#22580-2: Main chain
#22580-3: Rod (part of the closure)
#22580-4: Larger ring (part of the closure)

Participants used different test methods to determine Metals in Metal/Metal Alloy. Some participants used test method CPSC-CH-E1001.08 (Determination of Total Lead in Metal Products), some used EN 16711-1 (Determination of Metal content in Textile) or IEC62321-5 (Determination of Cadmium and Lead in Metals) and others used an in house method. Regretfully, no precision data is mentioned in CPSC-CH-E1001.08. The precision data mentioned in EN16711-1 involve a low concentration of metals tested in textile, which may be not applicable here. The Horwitz equation can be used, but it is a known fact that when Horwitz is used with higher concentrations, the equation returns a stricter reproducibility than in the lower concentrations. Therefore, a target reproducibility based on the Horwitz equation may not be applicable to the higher concentrations found for some metals in the necklace. However, method IEC62321-5 (published in 2013) does contain precision data based on a metal sample (metal parts found in fabric like buttons). The precision was determined for concentrations up to 1000 mg/kg and the RSD found for this range is 10%. It was decided to use this as the target reproducibility for all metals, calculated according to this formula:
0.1 * mean * 2.8.

Sample #22580-1 Little rings (connection between main chain and closure)

Arsenic as As: This determination was very problematic. No statistical outliers were observed. A large variation in the reported test results is found, therefore no z-scores are calculated.

Chromium as Cr: This determination was problematic. Five statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the requirements of IEC62321-5:13.

Cobalt as Co: This determination was problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the requirements of IEC62321-5:13.

Copper as Cu: This determination was not problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of IEC62321-5:13.

Manganese as Mn: This determination was not problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of IEC62321-5:13.

Nickel as Ni: This determination was problematic. Three statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the requirements of IEC62321-5:13.

Tin as Sn: This determination was not problematic. Four statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of IEC62321-5:13.

Zinc as Zn: This determination was very problematic. Three statistical outliers were observed. A large variation in the reported test results is found, therefore no z-scores are calculated.

The majority of participants agreed on a concentration near or below the limit of detection for the other elements mentioned in paragraph 2.5. Therefore, no z-scores are calculated. The test results are given in appendix 5.

Sample #22580-2 Main chain

Arsenic as As: This determination was problematic. No statistical outliers were observed. The calculated reproducibility is not in agreement with the requirements of IEC62321-5:13.

Chromium as Cr: This determination was problematic. Seven statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the requirements of IEC62321-5:13.

Cobalt as Co: This determination was problematic. One statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier is not in agreement with the requirements of IEC62321-5:13.

Copper as Cu: This determination was very problematic. Three statistical outliers were observed. A large variation in the reported test results is found, therefore no z-scores are calculated.

Manganese as Mn: This determination was not problematic. Four statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of IEC62321-5:13.

Nickel as Ni: This determination was problematic. No statistical outliers were observed. The calculated reproducibility is not in agreement with the requirements of IEC62321-5:13.

Tin as Sn: This determination was very problematic. No statistical outliers were observed. A large variation in the reported test results is found, therefore no z-scores are calculated.

Zinc as Zn: This determination was very problematic. No statistical outliers were observed. A large variation in the reported test results is found, therefore no z-scores are calculated.

The majority of participants agreed on a concentration near or below the limit of detection for the other elements mentioned in paragraph 2.5. Therefore, no z-scores are calculated. The test results are given in appendix 5.

Sample #22580-3 Rod (part of the closure)

Copper as Cu: This determination was not problematic. Three statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of IEC62231-5:13.

Tin as Sn: This determination was problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the requirements of IEC62321-5:13.

Zinc as Zn: This determination was problematic. No statistical outliers were observed. The calculated reproducibility is not in agreement with the requirements of IEC62231-5:13.

The majority of participants agreed on a concentration near or below the limit of detection for the other elements mentioned in paragraph 2.5. Therefore, no z-scores are calculated. The test results are given in appendix 5.

Sample #22580-4 Larger ring (part of the closure)

Arsenic as As: This determination was very problematic. No statistical outliers were observed. A large variation in the reported test results is found, therefore no z-scores are calculated.

Cadmium as Cd: This determination was problematic. Four statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the requirements of IEC62321-5:13.

Copper as Cu: This determination was not problematic. One statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier is in agreement with the requirements of IEC62321-5:13.

Lead as Pb: This determination was very problematic. Two statistical outliers were observed. A large variation in the reported test results is found, therefore no z-scores are calculated.

Nickel as Ni: This determination was problematic. Four statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the requirements of IEC62321-5:13.

Tin as Sn: This determination was problematic. Seven statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the requirements of IEC62321-5:13.

Zinc as Zn: This determination was not problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of IEC62321-5:13.

The majority of participants agreed on a concentration near or below the limit of detection for the other elements mentioned in paragraph 2.5. Therefore, no z-scores are calculated. The test results are given in appendix 5.

4.2 PERFORMANCE EVALUATION FOR THE GROUP OF LABORATORIES

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

Element	unit	n	average	2.8 * sd	R(lit)
Arsenic as As	mg/kg	19	33.6	33.7	(9.4)
Chromium as Cr	mg/kg	28	75.9	26.8	21.3
Cobalt as Co	mg/kg	16	17.2	8.0	4.8
Copper as Cu	mg/kg	18	58865	16156	16482
Manganese as Mn	mg/kg	19	2965	478	830
Nickel as Ni	mg/kg	20	32.8	16.7	9.2
Tin as Sn	mg/kg	18	11673	2282	3269
Zinc as Zn	mg/kg	15	1569	1599	(439)

Table 3: reproducibilities of tests on sample #22580-1 (Little rings (connection between main chain and closure))

For results between brackets no z-scores are calculated

Element	Unit	n	average	2.8 * sd	R(lit)
Arsenic as As	mg/kg	19	31.0	17.4	8.7
Chromium as Cr	mg/kg	29	195	83	55
Cobalt as Co	mg/kg	19	24.7	8.0	6.9
Copper as Cu	mg/kg	20	31358	22093	(8780)
Manganese as Mn	mg/kg	19	2720	589	762
Nickel as Ni	mg/kg	24	68.4	34.5	19.1
Tin as Sn	mg/kg	23	245	213	(68)
Zinc as Zn	mg/kg	16	102	228	(29)

Table 4: reproducibilities of tests on sample #22580-2 (Main chain)

For results between brackets no z-scores are calculated

Element	unit	n	average	2.8 * sd	R(lit)
Copper as Cu	mg/kg	18	584014	70428	163524
Tin as Sn	mg/kg	18	98.1	49.5	27.5
Zinc as Zn	mg/kg	20	381803	125951	106905

Table 5: reproducibilities of tests on sample #22580-3 (Rod (part of the closure))

Element	unit	n	average	2.8 * sd	R(lit)
Arsenic as As	mg/kg	23	320	375	(90)
Cadmium as Cd	mg/kg	43	14.1	6.8	3.9
Copper as Cu	mg/kg	20	713286	143733	199720
Lead as Pb	mg/kg	54	50.7	41.3	(14.2)
Nickel as Ni	mg/kg	17	424	157	119
Tin as Sn	mg/kg	15	9961	3089	2789
Zinc as Zn	mg/kg	18	282544	69735	79112

Table 6: reproducibilities of tests on sample #22580-4 (Larger ring (part of the closure))

For results between brackets no z-scores are calculated

Without further statistical calculations, it can be concluded that there is not a good compliance of the group of participating laboratories with the reference test. See also the discussion in paragraph 4.1 and 5.

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

	April 2022	June 2021
Number of reporting laboratories	66	56
Number of test results	627	350
Number of statistical outliers	59	26
Percentage of statistical outliers	9.4%	7.4%

Table 7: comparison with the previous proficiency test

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 2022	June 2021
Arsenic as As	20 – 42 %	20 %
Cadmium as Cd	17 %	15 – 17 %
Chromium as Cr	13 – 15 %	15 – 26 %
Cobalt as Co	12 – 17 %	20 %
Copper as Cu	4 – 25 %	10 – 42 %
Lead as Pb	29 %	24 – 56 %
Manganese as Mn	6 – 8 %	5 – 9 %
Nickel as Ni	13 – 18 %	7 – 12 %
Tin as Sn	7 – 31 %	n.e.
Zinc as Zn	9 – 80 %	7 – 84 %

Table 8: development of uncertainties over the years

The RSDs observed in this PT are in line with RSDs observed in previous iis PT.

4.4 EVALUATION OF THE ANALYTICAL DETAILS

The participants were asked to provide several analytical details which are listed in appendix 6. Based on the reported answers the following can be summarized:

- About 80 % of the reporting participants mentioned to be ISO/IEC17025 accredited to determine the reported elements for Metals in Metal / Metal Alloys.
- About 70% of the reported participants mentioned to have used Aqua Regia (a mixture of concentrated Nitric acid and concentrated Hydrochloric acid) as digestion acid. About 30% of the participants mentioned to have used only Nitric acid (in different concentrations).
- Almost all reporting participants used 0.5 grams or less as sample intake, most times 0.1 to 0.2 grams.
- The technique to quantify the metals was most often ICP-OES or ICP-MS followed by AAS. One participant reported to have used XRF.

As the majority of the group follow the same analytical procedures no further statistical analysis has been performed.

5 DISCUSSION

In this proficiency test for the determination of Metals in Metal / Metal Alloys a necklace was used, which was bought on the market.
The large variations found in the determinations of metals for each part of the necklace may partly be explained by the small number of reported test results for each element.

6 CONCLUSION

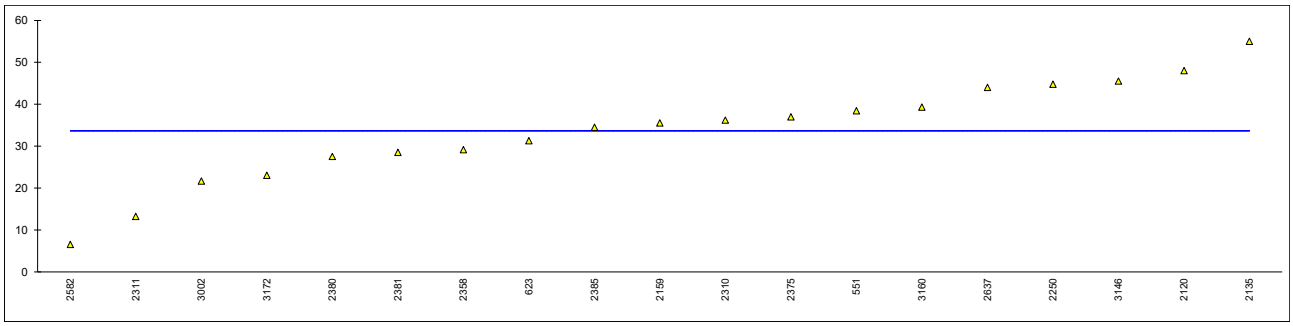
Each participating laboratory will have to evaluate its performance in this study and decide about any corrective actions if necessary. Therefore, participation on a regular basis in this scheme could be helpful to improve the performance and thus increase of the quality of the analytical results.

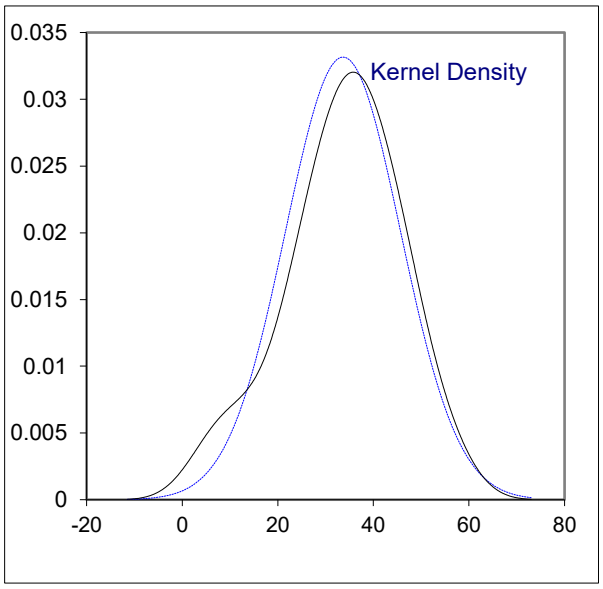
APPENDIX 1 – Little rings (connection between main chain and closure)

Determination of Arsenic as As on sample #22580-1; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
551	CPSC-CH-E1001-08.1	38.427		-----	
623	In house	31.29		-----	
840		-----		-----	
1126		-----		-----	
1910		-----		-----	
2120	EN16711-1	48		-----	
2121		-----		-----	
2135		55		-----	
2146		-----		-----	
2159	In house	35.52		-----	
2165		-----		-----	
2184		-----		-----	
2232		-----		-----	
2250	In house	44.74		-----	
2256		-----		-----	
2258		-----		-----	
2293		-----		-----	
2310	CPSC-CH-E1001-08.3	36.2		-----	
2311	EN16711-1	13.24		-----	
2314		-----		-----	
2330		Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1001-08.3	<10		-----	
2357		not analyzed		-----	
2358	In house	29.164		-----	
2365		-----		-----	
2366		-----		-----	
2370		-----		-----	
2373		not analyzed		-----	
2375	EN16711-1	37		-----	
2378		-----		-----	
2379		Not analyzed		-----	
2380	In house	27.53		-----	
2381	In house	28.51		-----	
2382		-----		-----	
2385	In house	34.5		-----	
2390		-----		-----	
2406		-----		-----	
2475		-----		-----	
2489		-----		-----	
2511		-----		-----	
2538		-----		-----	
2564		-----		-----	
2582	EN16711-1	6.52		-----	
2590	In house	< L.O.Q		-----	
2602		-----		-----	
2624		-----		-----	
2637	In house	44		-----	
2678		-----		-----	
2743	GB/T28021	not detected		-----	
2758		not analyzed		-----	
2829		-----		-----	
2864		-----		-----	
2910		not analyzed		-----	
2930		-----		-----	
2995		-----		-----	
3002	In house	21.65		-----	
3116		-----		-----	
3146	In house	45.50		-----	
3160	CPSC-CH-E1001-08.3	39.31		-----	
3172	EN16711-1	23.025		-----	
3176		-----		-----	
3182		not analyzed		-----	
3199		-----		-----	
3209		-----		-----	
3228		-----		-----	

normality	OK	
n	19	
outliers	0	
mean (n)	33.6382	
st.dev. (n)	12.03730	RSD = 36%
R(calc.)	33.7044	
st.dev.(IEC62321-5:13)	(3.36382)	
R(IEC62321-5:13)	(9.4187)	compare R(Horwitz) = 8.8777

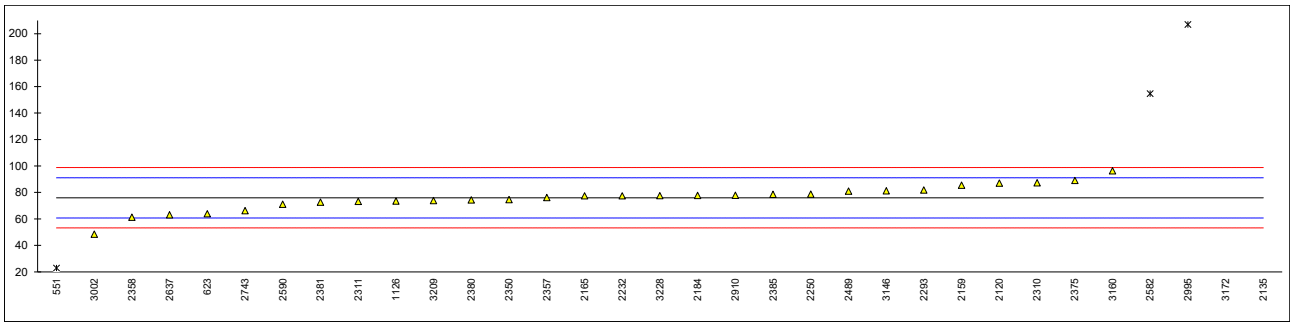


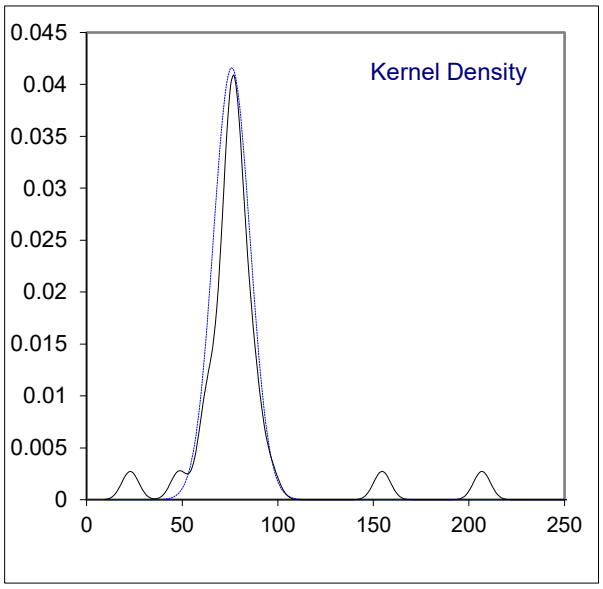


Determination of Chromium as Cr on sample #22580-1; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
551	CPSC-CH-E1001-08.1	22.875	R(0.01)	-6.99	
623	In house	63.82		-1.60	
840		-----		-----	
1126	In house	73.5		-0.32	
1910		-----		-----	
2120	EN16711-1	87		1.46	
2121		-----		-----	
2135		370	R(0.01)	38.73	
2146		-----		-----	
2159	In house	85.43		1.25	
2165	CPSC-CH-E1001-08.3	77.4		0.19	
2184	CPSC-CH-E1001-08.3	77.7		0.23	
2232	IEC62321-5	77.45		0.20	
2250	In house	78.66		0.36	
2256		-----		-----	
2258		-----		-----	
2293	In house	81.79		0.77	
2310	CPSC-CH-E1001-08.3	87.3		1.50	
2311	EN16711-1	73.24		-0.36	
2314		-----		-----	
2330		Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1001-08.3	74.57		-0.18	
2357	In house	76.1		0.02	
2358	In house	61.182		-1.94	
2365		-----		-----	
2366		-----		-----	
2370		-----		-----	
2373		not analyzed		-----	
2375	EN16711-1	89		1.72	
2378		-----		-----	
2379		Not analyzed		-----	
2380	In house	74.33		-0.21	
2381	In house	72.57		-0.44	
2382		-----		-----	
2385	In house	78.6		0.35	
2390		-----		-----	
2406		-----		-----	
2475		-----		-----	
2489	In house	81		0.67	
2511		-----		-----	
2538		-----		-----	
2564		-----		-----	
2582	EN16711-1	154.62	R(0.01)	10.36	
2590	In house	71.10		-0.64	
2602		-----		-----	
2624		-----		-----	
2637	In house	63		-1.70	
2678		-----		-----	
2743	GB/T28021	66.29		-1.27	
2758		not analyzed		-----	
2829		-----		-----	
2864		-----		-----	
2910	IEC62321-5/4	77.85		0.25	
2930	EN62321-5	<50		<-3.42	possible false negative test result?
2995	EN62321-5	206.848878	R(0.01)	17.24	
3002	In house	48.44		-3.62	
3116		-----		-----	
3146	In house	81.16		0.69	
3160	CPSC-CH-E1001-08.3	96.33		2.69	
3172	EN16711-1	332.48	R(0.01)	33.78	
3176		-----		-----	
3182		not analyzed		-----	
3199		-----		-----	
3209	In house	73.9		-0.27	
3228	CPSC-CH-E1001-08.3	77.5		0.21	

normality	suspect	
n	28	
outliers	5	
mean (n)	75.9361	
st.dev. (n)	9.58602	RSD = 13%
R(calc.)	26.8409	
st.dev.(IEC62321-5:13)	7.5936	
R(IEC62321-5:13)	21.2621	R(Horwitz) = 17.7293

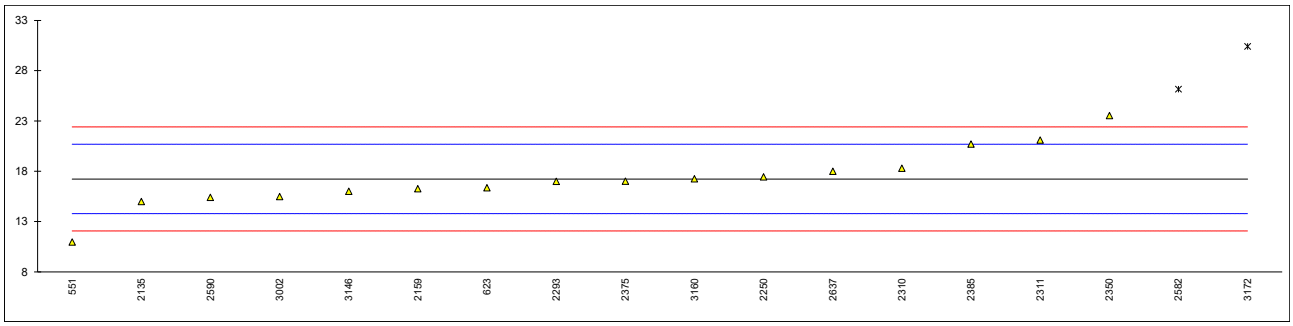


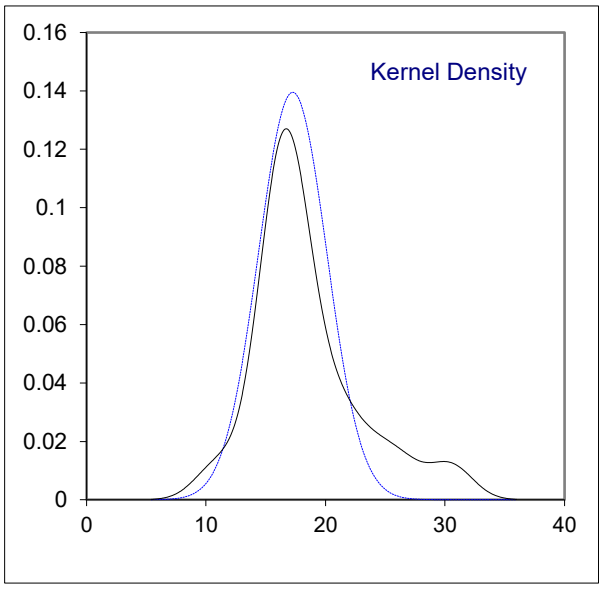


Determination of Cobalt as Co on sample #22580-1; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
551	CPSC-CH-E1001-08.1	10.962		-3.64	
623	In house	16.36	C	-0.51	first reported: not detected
840		-----		-----	
1126		-----		-----	
1910		-----		-----	
2120	EN16711-1	< 25		-----	
2121		-----		-----	
2135		15		-1.30	
2146		-----		-----	
2159	In house	16.27		-0.56	
2165		-----		-----	
2184		-----		-----	
2232		-----		-----	
2250	In house	17.45		0.12	
2256		-----		-----	
2258		-----		-----	
2293	In house	16.99		-0.14	
2310	CPSC-CH-E1001-08.3	18.3		0.62	
2311	EN16711-1	21.10		2.24	
2314		-----		-----	
2330		Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1001-08.3	23.54		3.66	
2357		not analyzed		-----	
2358		not analyzed		-----	
2365		-----		-----	
2366		-----		-----	
2370		-----		-----	
2373		not analyzed		-----	
2375	EN16711-1	17		-0.14	
2378		-----		-----	
2379		Not analyzed		-----	
2380		-----		-----	
2381		-----		-----	
2382		-----		-----	
2385	In house	20.7		2.01	
2390		-----		-----	
2406		-----		-----	
2475		-----		-----	
2489		-----		-----	
2511		-----		-----	
2538		-----		-----	
2564		-----		-----	
2582	EN16711-1	26.16	DG(0.05)	5.18	
2590	In house	15.40		-1.07	
2602		-----		-----	
2624		-----		-----	
2637	In house	18		0.44	
2678		-----		-----	
2743	GB/T28021	not detected		-----	
2758		not analyzed		-----	
2829		-----		-----	
2864		-----		-----	
2910		not analyzed		-----	
2930		-----		-----	
2995		-----		-----	
3002	In house	15.48		-1.02	
3116		-----		-----	
3146	In house	16.01		-0.71	
3160	CPSC-CH-E1001-08.3	17.24		0.00	
3172	EN16711-1	30.415	DG(0.05)	7.64	
3176		-----		-----	
3182		not analyzed		-----	
3199		-----		-----	
3209		-----		-----	
3228		-----		-----	

normality	suspect	
n	16	
outliers	2	
mean (n)	17.2376	
st.dev. (n)	2.85854	RSD = 17%
R(calc.)	8.0039	
st.dev.(IEC62321-5:13)	1.72376	
R(IEC62321-5:13)	4.8265	compare R(Horwitz) = 6.2745

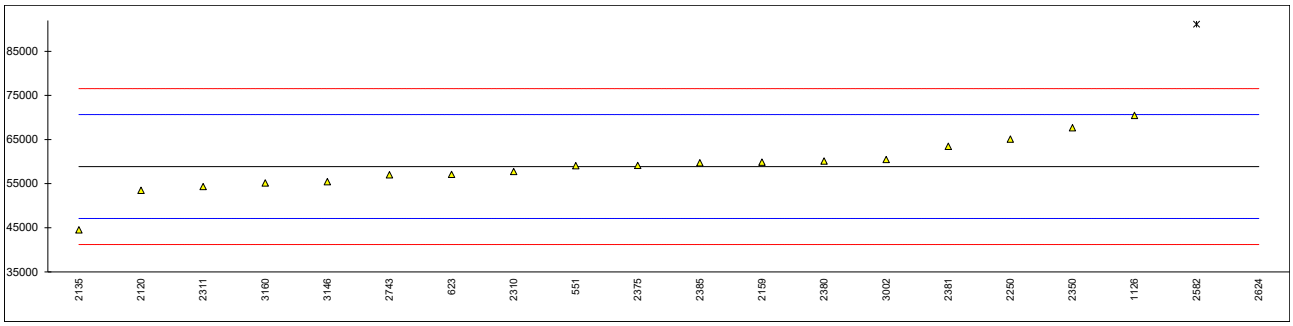


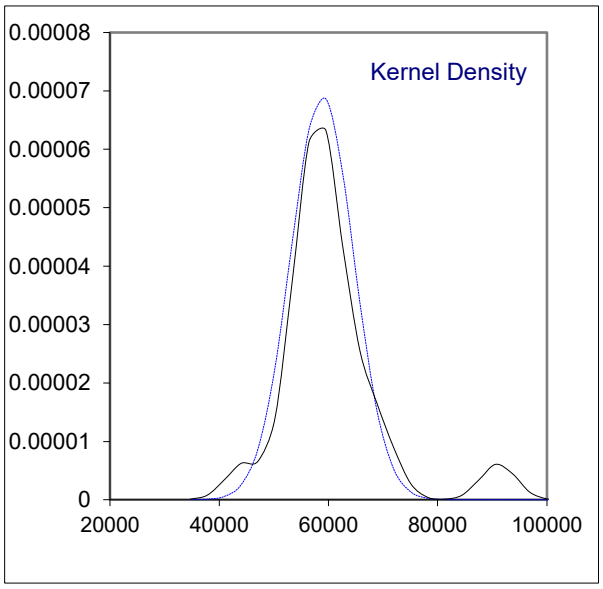


Determination of Copper as Cu on sample #22580-1; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
551	CPSC-CH-E1001-08.1	59060.292		0.03	
623	In house	57075.85		-0.30	
840		-----		-----	
1126	In house	70445		1.97	
1910		-----		-----	
2120	EN16711-1	53479		-0.92	
2121		-----		-----	
2135		44502		-2.44	
2146		-----		-----	
2159	In house	59855		0.17	
2165		-----		-----	
2184		-----		-----	
2232		-----		-----	
2250	In house	65060		1.05	
2256		-----		-----	
2258		-----		-----	
2293		-----		-----	
2310	CPSC-CH-E1001-08.3	57729		-0.19	
2311	EN16711-1	54339.04		-0.77	
2314		-----		-----	
2330		Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1001-08.3	67650		1.49	
2357		not analyzed		-----	
2358		not analyzed		-----	
2365		-----		-----	
2366		-----		-----	
2370		-----		-----	
2373		not analyzed		-----	
2375	EN16711-1	59105		0.04	
2378		-----		-----	
2379		Not analyzed		-----	
2380	In house	60125.09		0.21	
2381	In house	63447.12		0.78	
2382		-----		-----	
2385	In house	59700		0.14	
2390		-----		-----	
2406		-----		-----	
2475		-----		-----	
2489		-----		-----	
2511		-----		-----	
2538		-----		-----	
2564		-----		-----	
2582	EN16711-1	91105.50	G(0.01)	5.48	
2590		not determined		-----	
2602		-----		-----	
2624	In house	817000	G(0.01)	128.79	
2637		-----		-----	
2678		-----		-----	
2743	GB/T28021	56975.01		-0.32	
2758		not analyzed		-----	
2829		-----		-----	
2864		-----		-----	
2910		not analyzed		-----	
2930		-----		-----	
2995		-----		-----	
3002	In house	60456		0.27	
3116		-----		-----	
3146	In house	55420		-0.59	
3160	CPSC-CH-E1001-08.3	55156.37		-0.63	
3172		-----		-----	
3176		-----		-----	
3182		not analyzed		-----	
3199		-----		-----	
3209		-----		-----	
3228		-----		-----	

normality	suspect	
n	18	
outliers	2	
mean (n)	58865.54	
st.dev. (n)	5770.174	RSD = 10%
R(calc.)	16156.49	
st.dev.(IEC62321-5:13)	5886.554	
R(IEC62321-5:13)	16482.35	

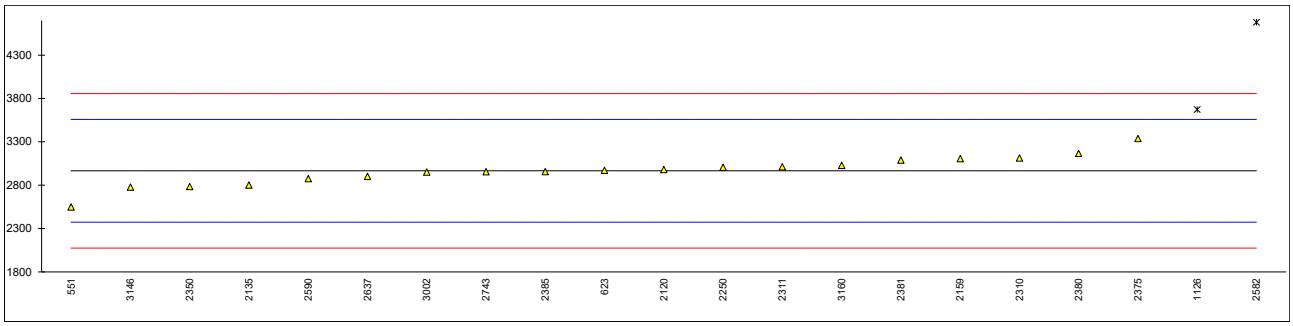


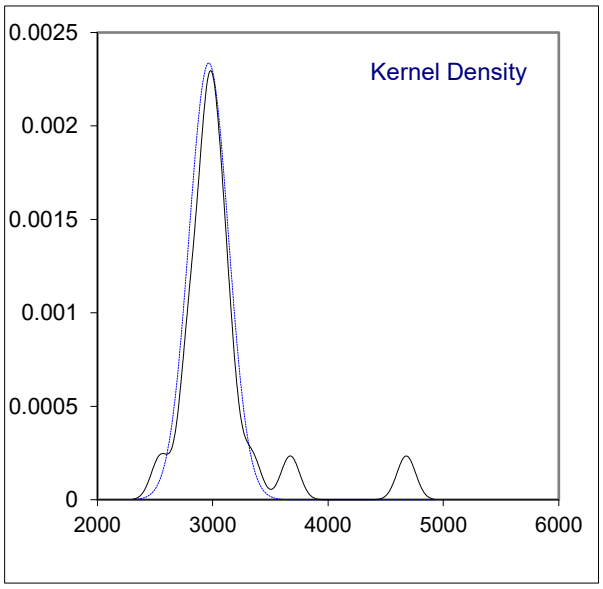


Determination of Manganese as Mn on sample #22580-1; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
551	CPSC-CH-E1001-08.1	2548.86		-1.40	
623	In house	2970.67		0.02	
840		-----		-----	
1126	In house	3672.5	C,R(0.05)	2.38	first reported: 3824
1910		-----		-----	
2120	EN16711-1	2979		0.05	
2121		-----		-----	
2135		2800		-0.56	
2146		-----		-----	
2159	In house	3105		0.47	
2165		-----		-----	
2184		-----		-----	
2232		-----		-----	
2250	In house	3006		0.14	
2256		-----		-----	
2258		-----		-----	
2293		-----		-----	
2310	CPSC-CH-E1001-08.3	3113		0.50	
2311	EN16711-1	3010.55		0.15	
2314		-----		-----	
2330		Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1001-08.3	2784		-0.61	
2357		not analyzed		-----	
2358		not analyzed		-----	
2365		-----		-----	
2366		-----		-----	
2370		-----		-----	
2373		not applicable		-----	
2375	EN16711-1	3337		1.25	
2378		-----		-----	
2379		Not analyzed		-----	
2380	In house	3164.71		0.67	
2381	In house	3088.51		0.41	
2382		-----		-----	
2385	In house	2955		-0.04	
2390		-----		-----	
2406		-----		-----	
2475		-----		-----	
2489		-----		-----	
2511		-----		-----	
2538		-----		-----	
2564		-----		-----	
2582	EN16711-1	4678.82	R(0.01)	5.78	
2590	In house	2873.80		-0.31	
2602		-----		-----	
2624		-----		-----	
2637	In house	2900		-0.22	
2678		-----		-----	
2743	GB/T28021	2952.62		-0.04	
2758		not analyzed		-----	
2829		-----		-----	
2864		-----		-----	
2910		not analyzed		-----	
2930		-----		-----	
2995		-----		-----	
3002	In house	2949		-0.06	
3116		-----		-----	
3146	In house	2777		-0.64	
3160	CPSC-CH-E1001-08.3	3029.15		0.21	
3172		-----		-----	
3176		-----		-----	
3182		not analyzed		-----	
3199		-----		-----	
3209		-----		-----	
3228		-----		-----	

normality	suspect	
n	19	
outliers	2	
mean (n)	2965.467	
st.dev. (n)	170.7298	RSD = 6%
R(calc.)	478.043	
st.dev.(IEC62321-5:13)	296.5467	
R(IEC62321-5:13)	830.331	R(Horwitz) = 398.813

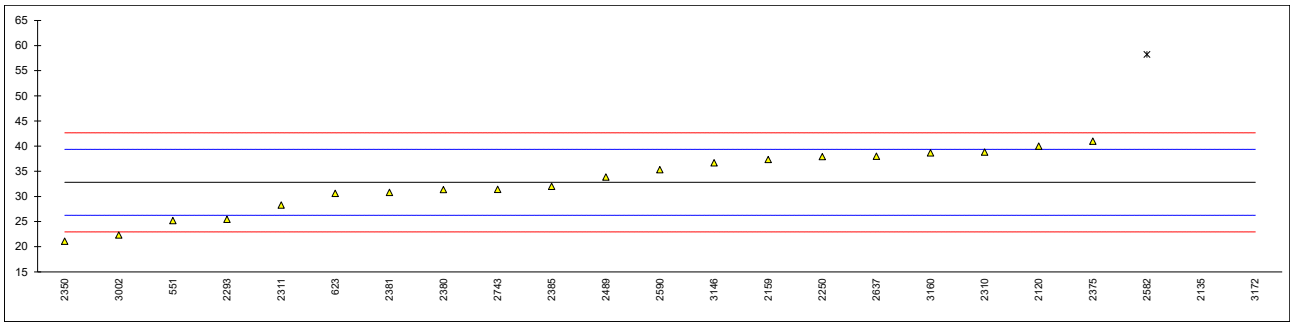


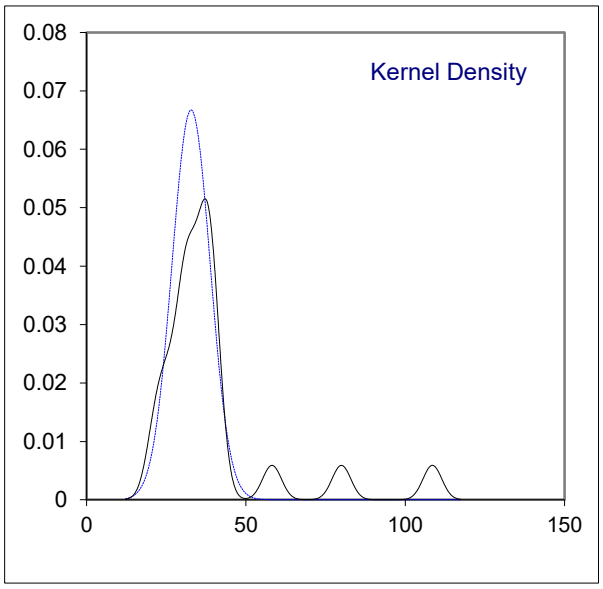


Determination of Nickel as Ni on sample #22580-1; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
551	CPSC-CH-E1001-08.1	25.17		-2.33	
623	In house	30.58	C	-0.68	first reported: not detected
840		-----		-----	
1126		-----		-----	
1910		-----		-----	
2120	EN16711-1	40		2.20	
2121		-----		-----	
2135		80	R(0.01)	14.39	
2146		-----		-----	
2159	In house	37.32		1.38	
2165		-----		-----	
2184		-----		-----	
2232		-----		-----	
2250	In house	37.90		1.56	
2256		-----		-----	
2258		-----		-----	
2293	In house	25.46		-2.24	
2310	CPSC-CH-E1001-08.3	38.8		1.83	
2311	EN16711-1	28.25		-1.39	
2314		-----		-----	
2330		Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1001-08.3	21.08		-3.57	
2357		not analyzed		-----	
2358		not analyzed		-----	
2365		-----		-----	
2366		-----		-----	
2370		-----		-----	
2373		not analyzed		-----	
2375	EN16711-1	41		2.50	
2378		-----		-----	
2379		Not analyzed		-----	
2380	In house	31.36		-0.44	
2381	In house	30.81		-0.61	
2382		-----		-----	
2385	In house	32.0		-0.24	
2390		-----		-----	
2406		-----		-----	
2475		-----		-----	
2489	In house	33.86		0.32	
2511		-----		-----	
2538		-----		-----	
2564		-----		-----	
2582	EN16711-1	58.20	R(0.05)	7.75	
2590	In house	35.30		0.76	
2602		-----		-----	
2624		-----		-----	
2637	In house	38		1.59	
2678		-----		-----	
2743	GB/T28021	31.4	C	-0.43	first reported: not detected
2758		not analyzed		-----	
2829		-----		-----	
2864		-----		-----	
2910		not analyzed		-----	
2930	EN62321-5	<500		-----	
2995		-----		-----	
3002	In house	22.30		-3.20	
3116		-----		-----	
3146	In house	36.68		1.18	
3160	CPSC-CH-E1001-08.3	38.67		1.79	
3172	EN16711-1	108.57	R(0.01)	23.10	
3176		-----		-----	
3182		not analyzed		-----	
3199		-----		-----	
3209		-----		-----	
3228		-----		-----	

normality	OK	
n	20	
outliers	3	
mean (n)	32.7970	
st.dev. (n)	5.97984	RSD = 18%
R(calc.)	16.7435	
st.dev.(IEC62321-5:13)	3.27970	
R(IEC62321-5:13)	9.1832	R(Horwitz) = 8.6887

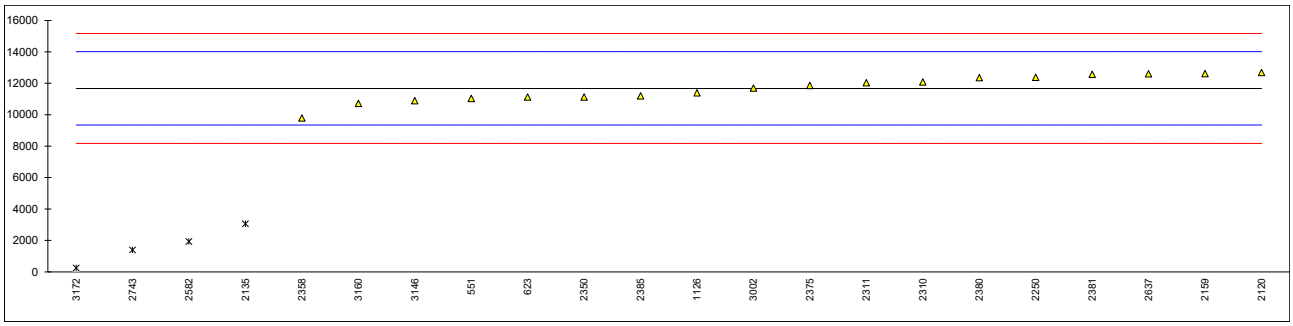


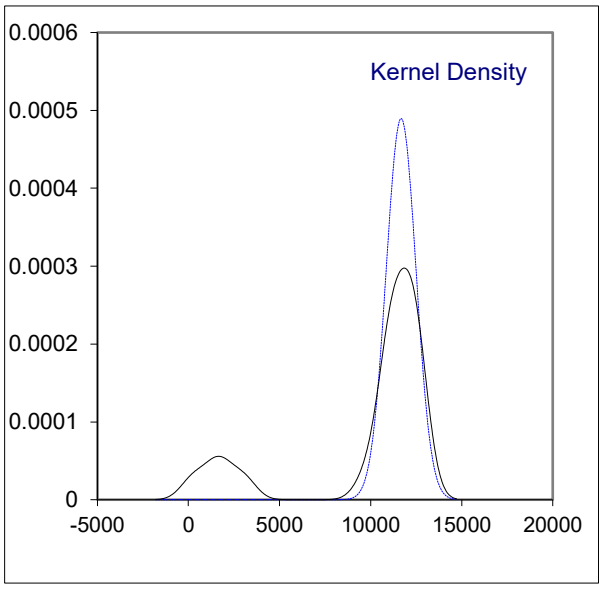


Determination of Tin as Sn on sample #22580-1; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
551	CPSC-CH-E1001-08.1	11035.686		-0.55	
623	In house	11116.17		-0.48	
840		-----		-----	
1126	In house	11395		-0.24	
1910		-----		-----	
2120	EN16711-1	12682		0.86	
2121		-----		-----	
2135		3057.45	R(0.01)	-7.38	
2146		-----		-----	
2159	In house	12614		0.81	
2165		-----		-----	
2184		-----		-----	
2232		-----		-----	
2250	In house	12380		0.61	
2256		-----		-----	
2258		-----		-----	
2293		-----		-----	
2310	CPSC-CH-E1001-08.3	12080		0.35	
2311	EN16711-1	12026.87		0.30	
2314		-----		-----	
2330		Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1001-08.3	11120		-0.47	
2357		not analyzed		-----	
2358	In house	9784.5		-1.62	
2365		-----		-----	
2366		-----		-----	
2370		-----		-----	
2373		not applicable		-----	
2375	EN16711-1	11859		0.16	
2378		-----		-----	
2379		Not analyzed		-----	
2380	In house	12358.6		0.59	
2381	In house	12574.11		0.77	
2382		-----		-----	
2385	In house	11200		-0.41	
2390		-----		-----	
2406		-----		-----	
2475		-----		-----	
2489		-----		-----	
2511		-----		-----	
2538		-----		-----	
2564		-----		-----	
2582	EN16711-1	1923.77	R(0.01)	-8.35	
2590		not determined		-----	
2602		-----		-----	
2624		-----		-----	
2637	In house	12600		0.79	
2678		-----		-----	
2743	GB/T28021	1394.6	C,R(0.01)	-8.81	first reported: not detected
2758		not analyzed		-----	
2829		-----		-----	
2864		-----		-----	
2910		not analyzed		-----	
2930		-----		-----	
2995		-----		-----	
3002	In house	11691		0.02	
3116		-----		-----	
3146	In house	10890		-0.67	
3160	CPSC-CH-E1001-08.3	10714.93		-0.82	
3172	EN16711-1	250.53	R(0.01)	-9.79	
3176		-----		-----	
3182		not analyzed		-----	
3199		-----		-----	
3209		-----		-----	
3228		-----		-----	

normality	OK	
n	18	
outliers	4	
mean (n)	11673.44	
st.dev. (n)	814.972	RSD = 7%
R(calc.)	2281.92	
st.dev.(IEC62321-5:13)	1167.344	
R(IEC62321-5:13)	3268.56	

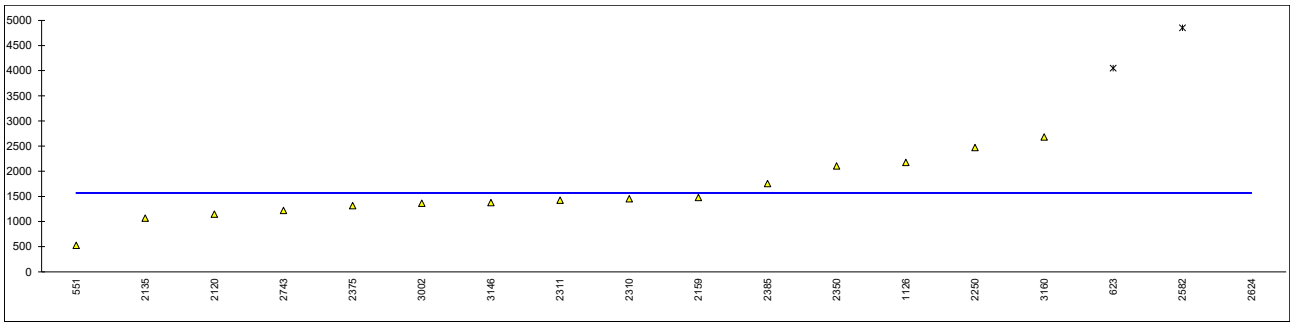


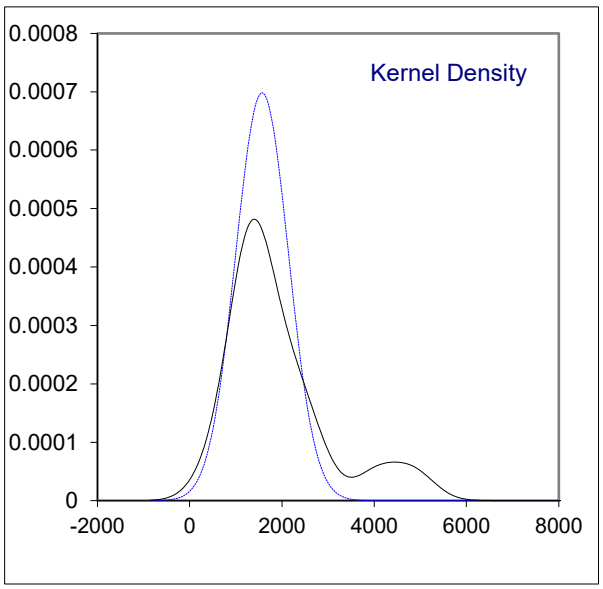


Determination of Zinc as Zn on sample #22580-1; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
551	CPSC-CH-E1001-08.1	524.492		-----	
623	In house	4049.15	C,G(0.05)	-----	first reported: 3672.57
840		-----		-----	
1126	In house	2173		-----	
1910		-----		-----	
2120	EN16711-1	1146		-----	
2121		-----		-----	
2135		1065.3		-----	
2146		-----		-----	
2159	In house	1476		-----	
2165		-----		-----	
2184		-----		-----	
2232		-----		-----	
2250	In house	2470	C	-----	first reported: 3358
2256		-----		-----	
2258		-----		-----	
2293		-----		-----	
2310	CPSC-CH-E1001-08.3	1451		-----	
2311	EN16711-1	1424.58		-----	
2314		-----		-----	
2330		Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1001-08.3	2102		-----	
2357		not analyzed		-----	
2358		not analyzed		-----	
2365		-----		-----	
2366		-----		-----	
2370		-----		-----	
2373		not applicable		-----	
2375	EN16711-1	1314		-----	
2378		-----		-----	
2379		Not analyzed		-----	
2380		-----		-----	
2381		-----		-----	
2382		-----		-----	
2385	In house	1753		-----	
2390		-----		-----	
2406		-----		-----	
2475		-----		-----	
2489		-----		-----	
2511		-----		-----	
2538		-----		-----	
2564		-----		-----	
2582	EN16711-1	4850.01	G(0.05)	-----	
2590		not determined		-----	
2602		-----		-----	
2624	In house	14000	G(0.01)	-----	
2637		-----		-----	
2678		-----		-----	
2743	GB/T28021	1217.02		-----	
2758		not analyzed		-----	
2829		-----		-----	
2864		-----		-----	
2910		not analyzed		-----	
2930		-----		-----	
2995		-----		-----	
3002	In house	1362		-----	
3116		-----		-----	
3146	In house	1374		-----	
3160	CPSC-CH-E1001-08.3	2680.83		-----	
3172		-----		-----	
3176		-----		-----	
3182		not analyzed		-----	
3199		-----		-----	
3209		-----		-----	
3228		-----		-----	

normality	OK	
n	15	
outliers	3	
mean (n)	1568.881	
st.dev. (n)	571.1884	RSD = 36%
R(calc.)	1599.327	
st.dev.(IEC62321-5:13)	(156.8881)	
R(IEC62321-5:13)	(439.287)	



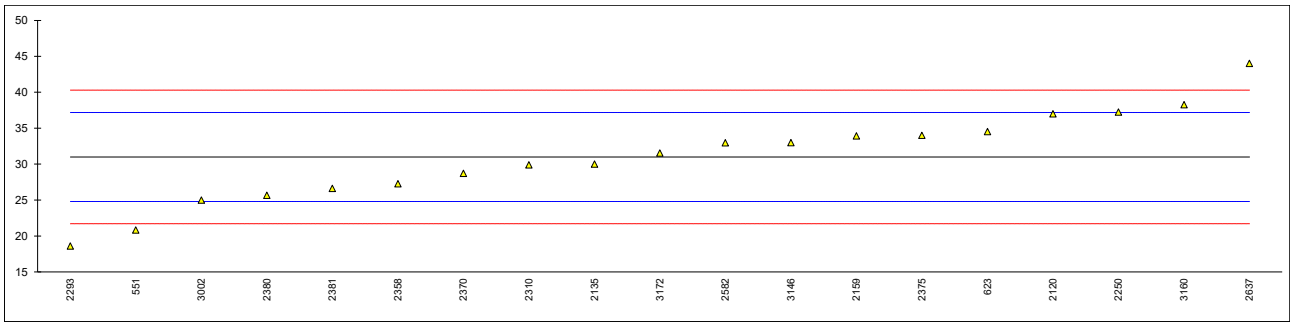


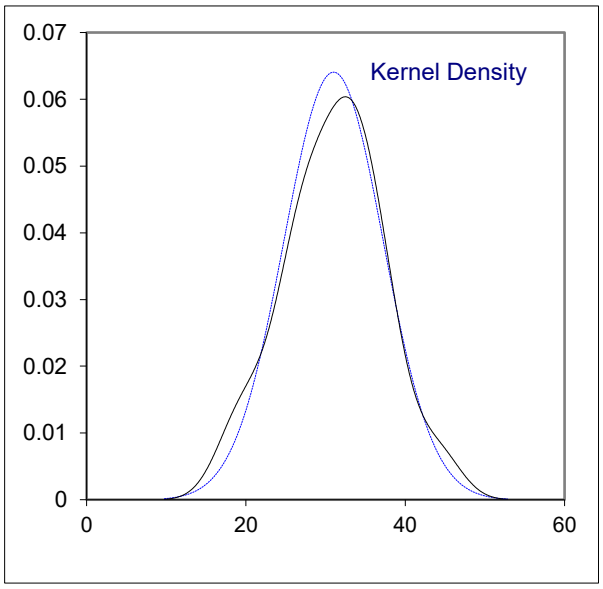
APPENDIX 2 – Main chain

Determination of Arsenic as As on sample #22580-2; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
551	CPSC-CH-E1001-08.1	20.822		-3.28	
623	In house	34.52		1.14	
840	In house	<10		<-6.77	possible false negative test result?
1126		-----		-----	
1910		-----		-----	
2120	EN16711-1	37		1.94	
2121		-----		-----	
2135		30		-0.32	
2146		-----		-----	
2159	In house	33.91		0.94	
2165		-----		-----	
2184		-----		-----	
2232		-----		-----	
2250	In house	37.23		2.01	
2256		-----		-----	
2258	In house	not detected		-----	
2293	In house	18.59		-4.00	
2310	CPSC-CH-E1001-08.3	29.9		-0.35	
2311	EN16711-1	<10		<-6.77	possible false negative test result?
2314		-----		-----	
2330		Not applicable			
2347		-----		-----	
2350	CPSC-CH-E1001-08.3	<10		<-6.77	possible false negative test result?
2357		not analyzed		-----	
2358	In house	27.247		-1.21	
2365		-----		-----	
2366		-----		-----	
2370	EPA3052	28.7		-0.74	
2373		not analyzed		-----	
2375		34		0.97	
2378		-----		-----	
2379		Not analyzed		-----	
2380	In house	25.65		-1.72	
2381	In house	26.61		-1.41	
2382		-----		-----	
2385	In house	<25		-----	
2390		-----		-----	
2406		-----		-----	
2475		-----		-----	
2489		-----		-----	
2511		-----		-----	
2538		-----		-----	
2564		-----		-----	
2582		32.95		0.63	
2590	In house	< L.O.Q		-----	
2602		-----		-----	
2624		-----		-----	
2637	In house	44		4.20	
2678		-----		-----	
2743	GB/T28021	not detected		-----	
2758		not analyzed		-----	
2829		-----		-----	
2864		-----		-----	
2910		not analyzed		-----	
2930		-----		-----	
2995		-----		-----	
3002	In house	24.98		-1.94	
3116		-----		-----	
3146	In house	32.98		0.64	
3160	CPSC-CH-E1001-08.3	38.26		2.34	
3172	EN16711-1	31.535		0.17	
3176		-----		-----	
3182		not analyzed		-----	
3199		-----		-----	
3209		-----		-----	
3228		-----		-----	

normality	OK	
n	19	
outliers	0	
mean (n)	30.9939	
st.dev. (n)	6.22587	RSD = 20%
R(calc.)	17.4324	
st.dev.(IEC62321-5:13)	3.09939	
R(IEC62321-5:13)	8.6783	compare R(Horwitz) = 8.2812

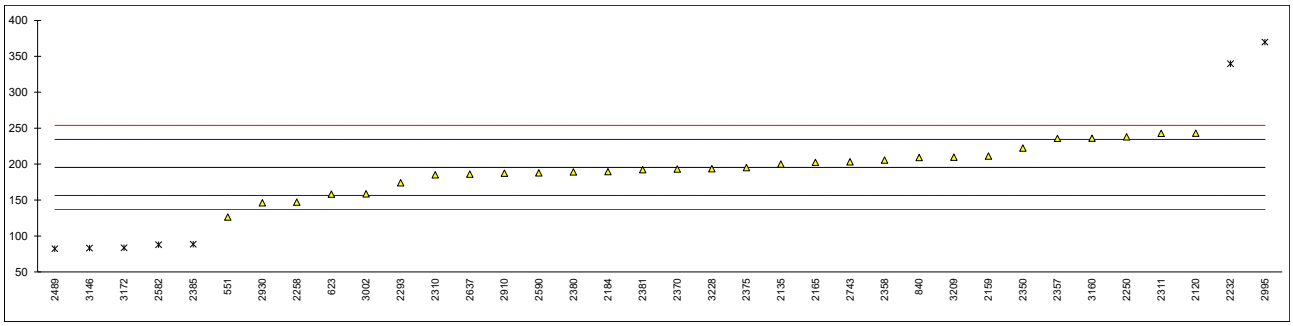


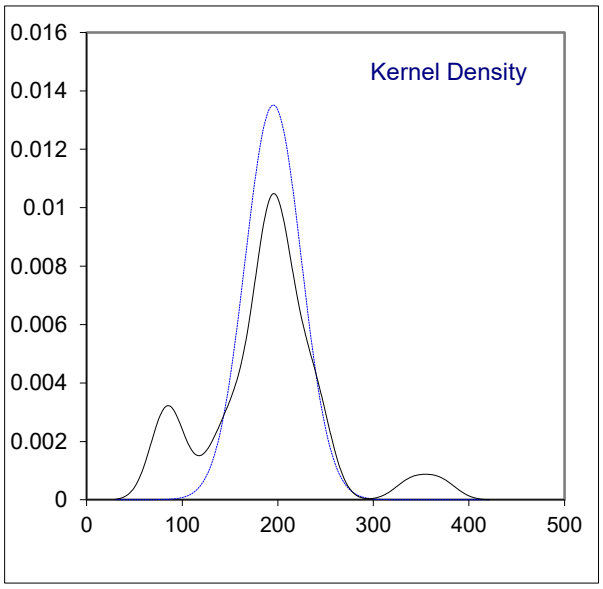


Determination of Chromium as Cr on sample #22580-2; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
551	CPSC-CH-E1001-08.1	126.072		-3.55	
623	In house	158.15		-1.91	
840	In house	209.12		0.70	
1126		-----		-----	
1910		-----		-----	
2120	EN16711-1	243		2.44	
2121		-----		-----	
2135		200		0.24	
2146		-----		-----	
2159	In house	211.2		0.81	
2165	CPSC-CH-E1001-08.3	202.3		0.35	
2184	CPSC-CH-E1001-08.3	189.3		-0.31	
2232	IEC62321-5	339.52	R(0.05)	7.38	
2250	In house	237.9		2.18	
2256		-----		-----	
2258	In house	146.92		-2.48	
2293	In house	174		-1.09	
2310	CPSC-CH-E1001-08.3	185		-0.53	
2311	EN16711-1	242.79		2.43	
2314		-----		-----	
2330		Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1001-08.3	222.2		1.37	
2357	In house	235.71		2.06	
2358	In house	205.47		0.52	
2365		-----		-----	
2366		-----		-----	
2370	EPA3052	193		-0.12	
2373		not analyzed		-----	
2375		195		-0.02	
2378		-----		-----	
2379		Not analyzed		-----	
2380	In house	188.94		-0.33	
2381	In house	192.13		-0.17	
2382		-----		-----	
2385	In house	88.3	R(0.05)	-5.48	
2390		-----		-----	
2406		-----		-----	
2475		-----		-----	
2489	In house	82.2	R(0.05)	-5.79	
2511		-----		-----	
2538		-----		-----	
2564		-----		-----	
2582		87.56	R(0.05)	-5.52	
2590	In house	187.70		-0.39	
2602		-----		-----	
2624		-----		-----	
2637	In house	186		-0.48	
2678		-----		-----	
2743	GB/T28021	203.17		0.40	
2758		not analyzed		-----	
2829		-----		-----	
2864		-----		-----	
2910	IEC62321-5/4	187.30		-0.41	
2930	EN62321-5	146		-2.53	
2995	EN62321-5	369.636043	R(0.05)	8.92	
3002	In house	158.6		-1.88	
3116		-----		-----	
3146	In house	83.04	R(0.05)	-5.75	
3160	CPSC-CH-E1001-08.3	235.95		2.08	
3172	EN16711-1	83.405	R(0.05)	-5.73	
3176		-----		-----	
3182		not analyzed		-----	
3199		-----		-----	
3209	In house	209.4		0.72	
3228	CPSC-CH-E1001-08.3	193.4		-0.10	

normality	OK	
n	29	
outliers	7	
mean (n)	195.370	
st.dev. (n)	29.51237	RSD = 15%
R(calc.)	82.635	
st.dev.(IEC62321-5:13)	19.5370	
R(IEC62321-5:13)	54.704	compare R(Horwitz) = 39.566

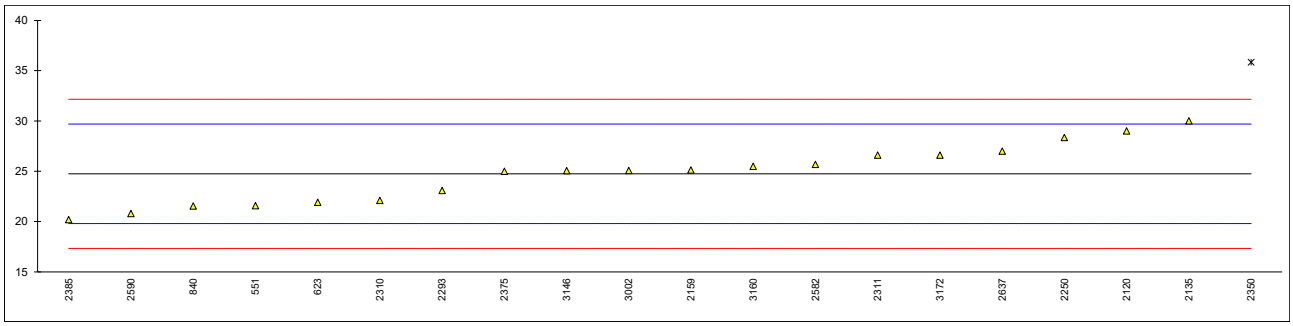


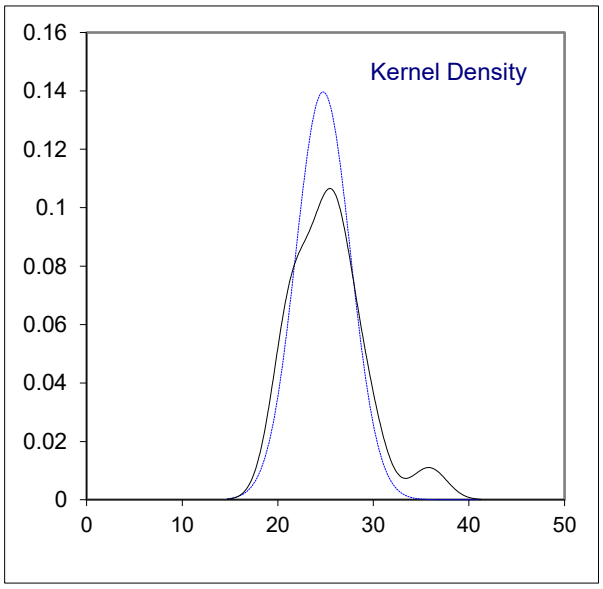


Determination of Cobalt as Co on sample #22580-2; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
551	CPSC-CH-E1001-08.1	21.575		-1.28	
623	In house	21.91	C	-1.15	first reported: not detected
840	In house	21.54		-1.30	
1126		-----		-----	
1910		-----		-----	
2120	EN16711-1	29		1.72	
2121		-----		-----	
2135		30		2.12	
2146		-----		-----	
2159	In house	25.13		0.15	
2165		-----		-----	
2184		-----		-----	
2232		-----		-----	
2250	In house	28.36		1.46	
2256		-----		-----	
2258		not analyzed		-----	
2293	In house	23.09		-0.67	
2310	CPSC-CH-E1001-08.3	22.1		-1.07	
2311	EN16711-1	26.60		0.75	
2314		-----		-----	
2330		Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1001-08.3	35.83	R(0.05)	4.48	
2357		not analyzed		-----	
2358		not analyzed		-----	
2365		-----		-----	
2366		-----		-----	
2370		-----		-----	
2373		not analyzed		-----	
2375		25		0.10	
2378		-----		-----	
2379		Not analyzed		-----	
2380		-----		-----	
2381		-----		-----	
2382		-----		-----	
2385	In house	20.2		-1.84	
2390		-----		-----	
2406		-----		-----	
2475		-----		-----	
2489		-----		-----	
2511		-----		-----	
2538		-----		-----	
2564		-----		-----	
2582		25.68		0.38	
2590	In house	20.80		-1.60	
2602		-----		-----	
2624		-----		-----	
2637	In house	27		0.91	
2678		-----		-----	
2743	GB/T28021	not detected		-----	
2758		not analyzed		-----	
2829		-----		-----	
2864		-----		-----	
2910		not analyzed		-----	
2930		-----		-----	
2995		-----		-----	
3002	In house	25.07		0.13	
3116		-----		-----	
3146	In house	25.06		0.13	
3160	CPSC-CH-E1001-08.3	25.48		0.30	
3172	EN16711-1	26.603		0.75	
3176		-----		-----	
3182		not analyzed		-----	
3199		-----		-----	
3209		-----		-----	
3228		-----		-----	

normality	OK	
n	19	
outliers	1	
mean (n)	24.7473	
st.dev. (n)	2.85688	RSD = 12%
R(calc.)	7.9993	
st.dev.(IEC62321-5:13)	2.47473	
R(IEC62321-5:13)	6.9292	compare R(Horwitz) = 6.8400

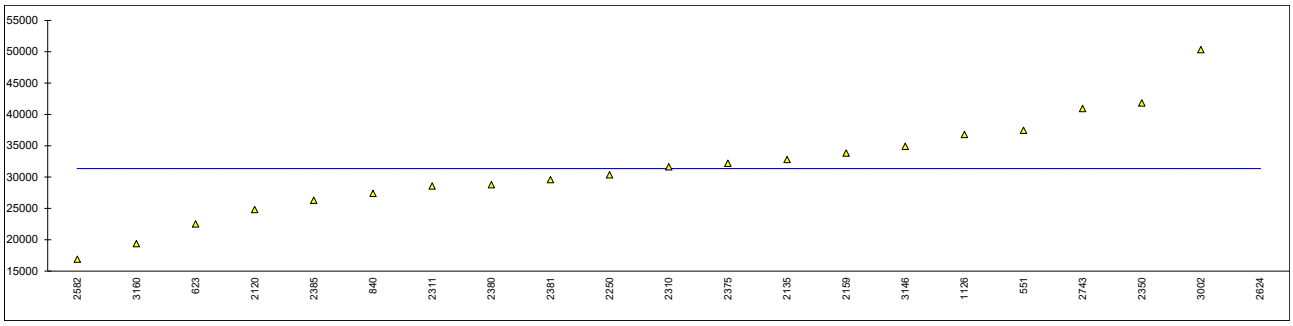


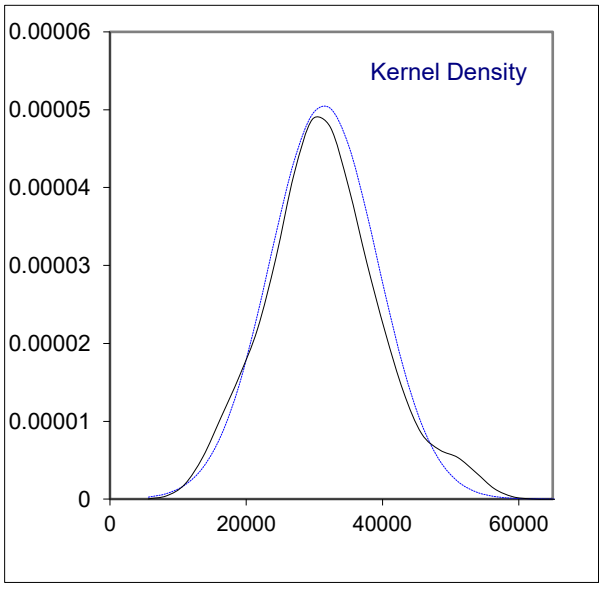


Determination of Copper as Cu on sample #22580-2; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
551	CPSC-CH-E1001-08.1	37464.857		-----	
623	In house	22510.36		-----	
840	In house	27393.90		-----	
1126		36785		-----	
1910		-----		-----	
2120	EN16711-1	24816		-----	
2121		-----		-----	
2135		32800		-----	
2146		-----		-----	
2159	In house	33822		-----	
2165		-----		-----	
2184		-----		-----	
2232		-----		-----	
2250	In house	30348		-----	
2256		-----		-----	
2258		not analyzed		-----	
2293		-----		-----	
2310	CPSC-CH-E1001-08.3	31638		-----	
2311	EN16711-1	28570.13		-----	
2314		-----		-----	
2330		Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1001-08.3	41810		-----	
2357		not analyzed		-----	
2358		not analyzed		-----	
2365		-----		-----	
2366		-----		-----	
2370		-----		-----	
2373		not analyzed		-----	
2375		32176		-----	
2378		-----		-----	
2379		Not analyzed		-----	
2380	In house	28776.03		-----	
2381	In house	29573.52		-----	
2382		-----		-----	
2385	In house	26300		-----	
2390		-----		-----	
2406		-----		-----	
2475		-----		-----	
2489		-----		-----	
2511		-----		-----	
2538		-----		-----	
2564		-----		-----	
2582		16874.65		-----	
2590		not determined		-----	
2602		-----		-----	
2624	In house	676000	R(0.01)	-----	
2637		-----		-----	
2678		-----		-----	
2743	GB/T28021	40905.00		-----	
2758		not analyzed		-----	
2829		-----		-----	
2864		-----		-----	
2910		not analyzed		-----	
2930		-----		-----	
2995		-----		-----	
3002	In house	50332		-----	
3116		-----		-----	
3146	In house	34890		-----	
3160	CPSC-CH-E1001-08.3	19373.31		-----	
3172		-----		-----	
3176		-----		-----	
3182		not analyzed		-----	
3199		-----		-----	
3209		-----		-----	
3228		-----		-----	

normality	OK	
n	20	
outliers	1	
mean (n)	31357.94	
st.dev. (n)	7890.504	RSD = 25%
R(calc.)	22093.41	
st.dev.(IEC62321-5:13)	(3135.794)	
R(IEC62321-5:13)	(8780.22)	

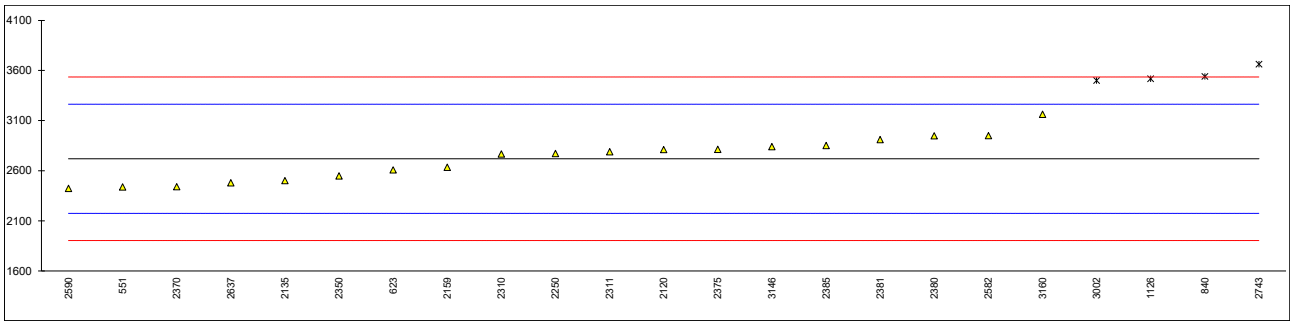


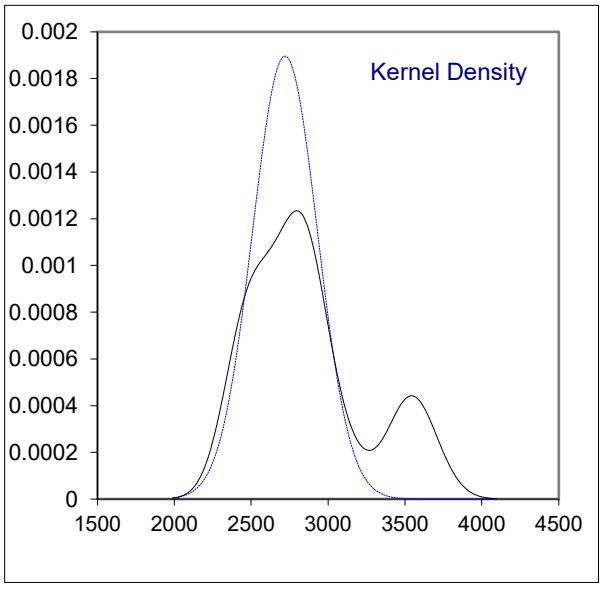


Determination of Manganese as Mn on sample #22580-2; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
551	CPSC-CH-E1001-08.1	2437.457		-1.04	
623	In house	2607.75		-0.41	
840	In house	3540.07	C,R(0.05)	3.01	first reported: 4281.05
1126		3517.5	C,R(0.05)	2.93	first reported: 3730
1910		-----		-----	
2120	EN16711-1	2810		0.33	
2121		-----		-----	
2135		2500		-0.81	
2146		-----		-----	
2159	In house	2634		-0.32	
2165		-----		-----	
2184		-----		-----	
2232		-----		-----	
2250	In house	2771		0.19	
2256		-----		-----	
2258		not analyzed		-----	
2293		-----		-----	
2310	CPSC-CH-E1001-08.3	2767		0.17	
2311	EN16711-1	2788.69		0.25	
2314		-----		-----	
2330		Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1001-08.3	2547		-0.64	
2357		not analyzed		-----	
2358		not analyzed		-----	
2365		-----		-----	
2366		-----		-----	
2370	EPA3052	2440		-1.03	
2373		not applicable		-----	
2375		2813		0.34	
2378		-----		-----	
2379		Not analyzed		-----	
2380	In house	2948.27		0.84	
2381	In house	2910.59		0.70	
2382		-----		-----	
2385	In house	2851		0.48	
2390		-----		-----	
2406		-----		-----	
2475		-----		-----	
2489		-----		-----	
2511		-----		-----	
2538		-----		-----	
2564		-----		-----	
2582		2949.80		0.84	
2590	In house	2423.00		-1.09	
2602		-----		-----	
2624		-----		-----	
2637	In house	2480		-0.88	
2678		-----		-----	
2743	GB/T28021	3661.80	R(0.05)	3.46	
2758		not analyzed		-----	
2829		-----		-----	
2864		-----		-----	
2910		not analyzed		-----	
2930		-----		-----	
2995		-----		-----	
3002	In house	3499	R(0.05)	2.86	
3116		-----		-----	
3146	In house	2841		0.44	
3160	CPSC-CH-E1001-08.3	3162.13		1.63	
3172		-----		-----	
3176		-----		-----	
3182		not analyzed		-----	
3199		-----		-----	
3209		-----		-----	
3228		-----		-----	

normality	OK	
n	19	
outliers	4	
mean (n)	2720.09	
st.dev. (n)	210.444	RSD = 8%
R(calc.)	589.24	
st.dev.(IEC62321-5:13)	272.009	
R(IEC62321-5:13)	761.62	

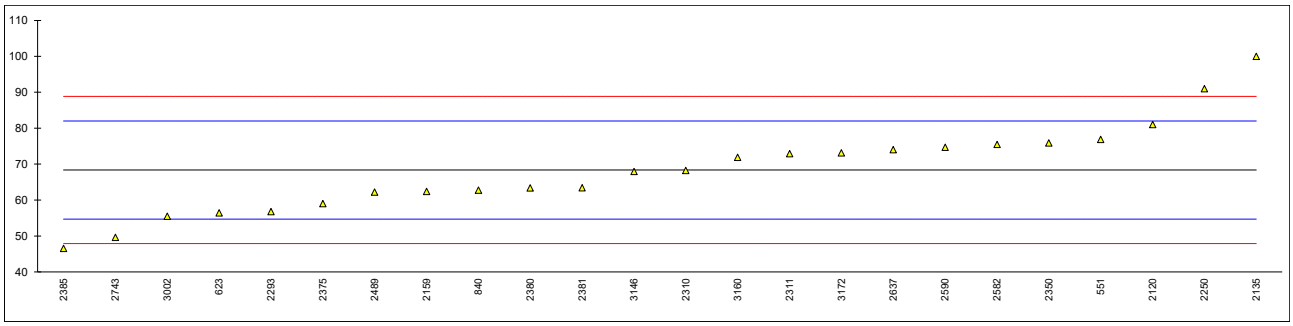


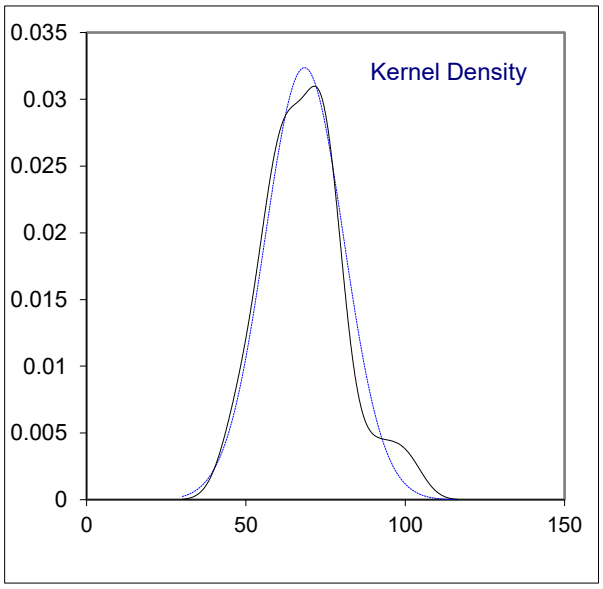


Determination of Nickel as Ni on sample #22580-2; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
551	CPSC-CH-E1001-08.1	76.848		1.24	
623	In house	56.41		-1.75	
840	In house	62.70		-0.83	
1126		-----		-----	
1910		-----		-----	
2120	EN16711-1	81		1.85	
2121		-----		-----	
2135		100		4.63	
2146		-----		-----	
2159	In house	62.37		-0.88	
2165		-----		-----	
2184		-----		-----	
2232		-----		-----	
2250	In house	90.96		3.31	
2256		-----		-----	
2258		not analyzed		-----	
2293	In house	56.74		-1.70	
2310	CPSC-CH-E1001-08.3	68.2		-0.02	
2311	EN16711-1	72.88		0.66	
2314		-----		-----	
2330		Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1001-08.3	75.87		1.10	
2357		not analyzed		-----	
2358		not analyzed		-----	
2365		-----		-----	
2366		-----		-----	
2370		-----		-----	
2373		not analyzed		-----	
2375		59		-1.37	
2378		-----		-----	
2379		Not analyzed		-----	
2380	In house	63.35		-0.73	
2381	In house	63.41		-0.72	
2382		-----		-----	
2385	In house	46.5		-3.20	
2390		-----		-----	
2406		-----		-----	
2475		-----		-----	
2489	In house	62.2		-0.90	
2511		-----		-----	
2538		-----		-----	
2564		-----		-----	
2582		75.45		1.04	
2590	In house	74.70		0.93	
2602		-----		-----	
2624		-----		-----	
2637	In house	74		0.83	
2678		-----		-----	
2743	GB/T28021	49.60		-2.74	
2758		not analyzed		-----	
2829		-----		-----	
2864		-----		-----	
2910		not analyzed		-----	
2930	EN62321-5	<500		-----	
2995		-----		-----	
3002	In house	55.46		-1.89	
3116		-----		-----	
3146	In house	67.92		-0.06	
3160	CPSC-CH-E1001-08.3	71.85		0.51	
3172	EN16711-1	73.105		0.69	
3176		-----		-----	
3182		not analyzed		-----	
3199		-----		-----	
3209		-----		-----	
3228		-----		-----	

normality	OK	
n	24	
outliers	0	
mean (n)	68.3551	
st.dev. (n)	12.32670	RSD = 18%
R(calc.)	34.5147	
st.dev.(IEC62321-5:13)	6.83551	
R(IEC62321-5:13)	19.1394	compare R(Horwitz) = 16.2139

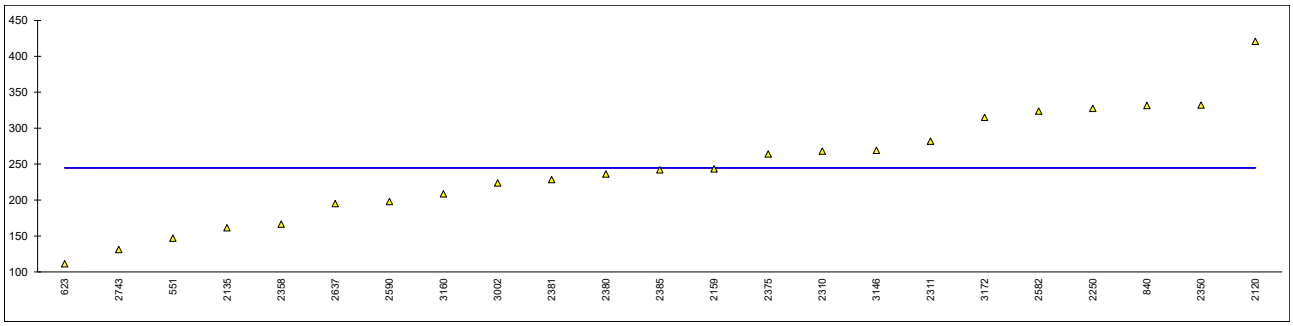


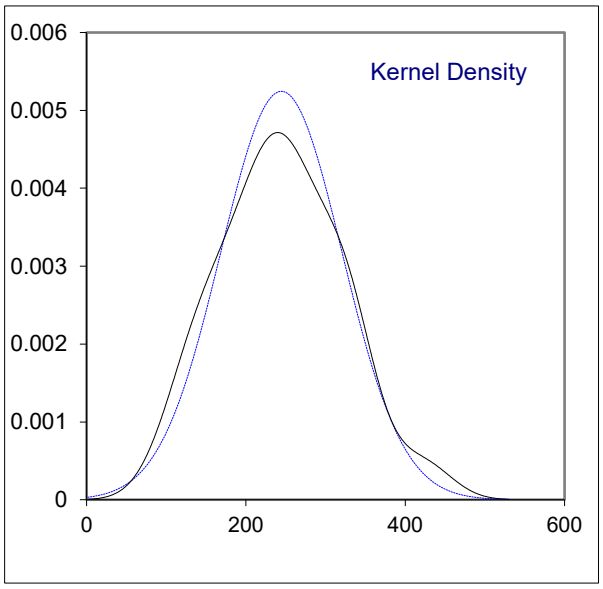


Determination of Tin as Sn on sample #22580-2; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
551	CPSC-CH-E1001-08.1	146.795		-----	
623	In house	111.25		-----	
840	In house	331.38		-----	
1126		-----		-----	
1910		-----		-----	
2120	EN16711-1	421		-----	
2121		-----		-----	
2135		161.25		-----	
2146		-----		-----	
2159	In house	243.2		-----	
2165		-----		-----	
2184		-----		-----	
2232		-----		-----	
2250	In house	327.3		-----	
2256		-----		-----	
2258		not analyzed		-----	
2293		-----		-----	
2310	CPSC-CH-E1001-08.3	268		-----	
2311	EN16711-1	281.90		-----	
2314		-----		-----	
2330		Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1001-08.3	332.0		-----	
2357		not analyzed		-----	
2358	In house	166.32		-----	
2365		-----		-----	
2366		-----		-----	
2370		-----		-----	
2373		not applicable		-----	
2375		264		-----	
2378		-----		-----	
2379		Not analyzed		-----	
2380	In house	236.22		-----	
2381	In house	228.34		-----	
2382		-----		-----	
2385	In house	242		-----	
2390		-----		-----	
2406		-----		-----	
2475		-----		-----	
2489		-----		-----	
2511		-----		-----	
2538		-----		-----	
2564		-----		-----	
2582		323.84		-----	
2590	In house	197.90		-----	
2602		-----		-----	
2624		-----		-----	
2637	In house	195		-----	
2678		-----		-----	
2743	GB/T28021	131.0	C	-----	first reported: not detected
2758		not analyzed		-----	
2829		-----		-----	
2864		-----		-----	
2910		not analyzed		-----	
2930		-----		-----	
2995		-----		-----	
3002	In house	223.8		-----	
3116		-----		-----	
3146	In house	269.3		-----	
3160	CPSC-CH-E1001-08.3	208.59		-----	
3172	EN16711-1	314.92		-----	
3176		-----		-----	
3182		not analyzed		-----	
3199		-----		-----	
3209		-----		-----	
3228		-----		-----	

normality	OK	
n	23	
outliers	0	
mean (n)	244.578	
st.dev. (n)	76.0731	RSD = 31%
R(calc.)	213.005	
st.dev.(IEC62321-5:13)	(24.4578)	
R(IEC62321-5:13)	(68.482)	

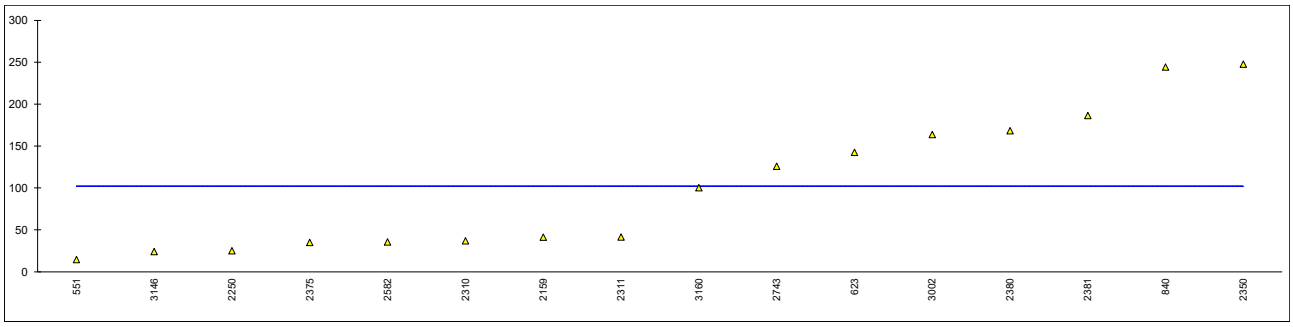


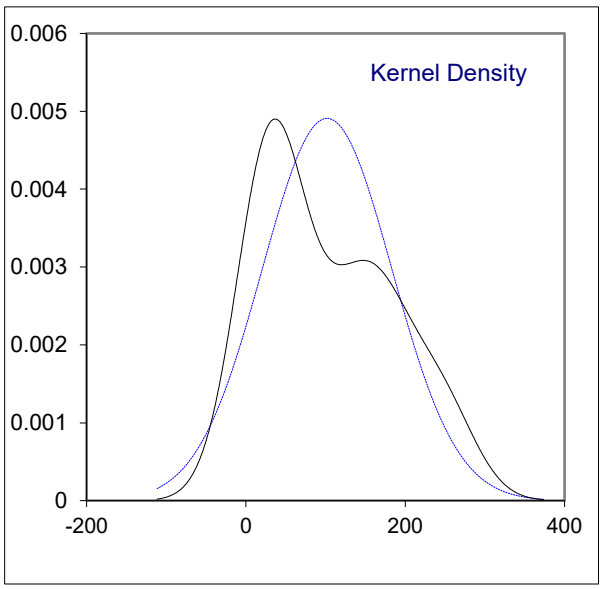


Determination of Zinc as Zn on sample #22580-2; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
551	CPSC-CH-E1001-08.1	14.513		-----	
623	In house	142.52		-----	
840	In house	244.25		-----	
1126		-----		-----	
1910		-----		-----	
2120	EN16711-1	< 80		-----	
2121		-----		-----	
2135		-----		-----	
2146		-----		-----	
2159	In house	41.24		-----	
2165		-----		-----	
2184		-----		-----	
2232		-----		-----	
2250	In house	25.00		-----	
2256		-----		-----	
2258		not analyzed		-----	
2293		-----		-----	
2310	CPSC-CH-E1001-08.3	36.8		-----	
2311	EN16711-1	41.45	C	-----	first reported: not detected
2314		-----		-----	
2330		Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1001-08.3	247.6		-----	
2357		not analyzed		-----	
2358		not analyzed		-----	
2365		-----		-----	
2366		-----		-----	
2370		-----		-----	
2373		not applicable		-----	
2375		35		-----	
2378		-----		-----	
2379		Not analyzed		-----	
2380	In house	168.25		-----	
2381	In house	186.32		-----	
2382		-----		-----	
2385	In house	<100		-----	
2390		-----		-----	
2406		-----		-----	
2475		-----		-----	
2489		-----		-----	
2511		-----		-----	
2538		-----		-----	
2564		-----		-----	
2582		35.46		-----	
2590		not determined		-----	
2602		-----		-----	
2624		-----		-----	
2637		-----		-----	
2678		-----		-----	
2743	GB/T28021	125.82		-----	
2758		not analyzed		-----	
2829		-----		-----	
2864		-----		-----	
2910		not analyzed		-----	
2930		-----		-----	
2995		-----		-----	
3002	In house	163.8		-----	
3116		-----		-----	
3146	In house	24.09		-----	
3160	CPSC-CH-E1001-08.3	100.28		-----	
3172		-----		-----	
3176		-----		-----	
3182		not analyzed		-----	
3199		-----		-----	
3209		-----		-----	
3228		-----		-----	

normality	OK	
n	16	
outliers	0	
mean (n)	102.025	
st.dev. (n)	81.2992	RSD = 80%
R(calc.)	227.638	
st.dev.(IEC62321-5:13)	(10.2025)	
R(IEC62321-5:13)	(28.567)	



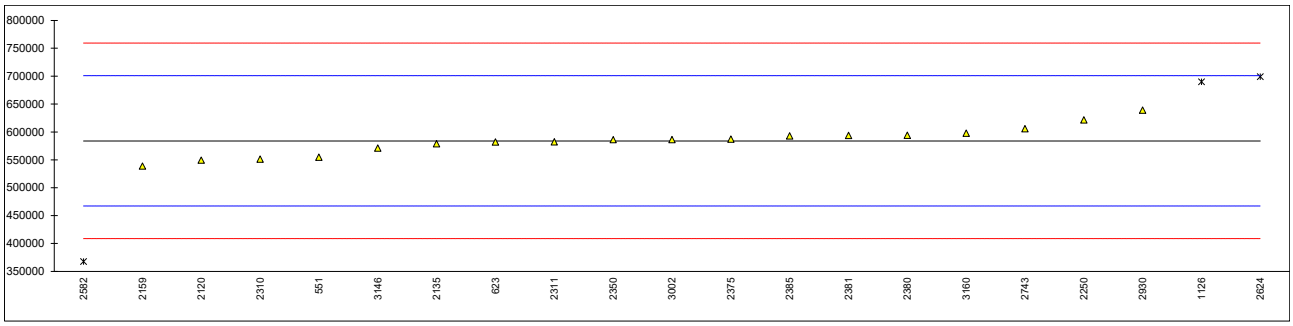


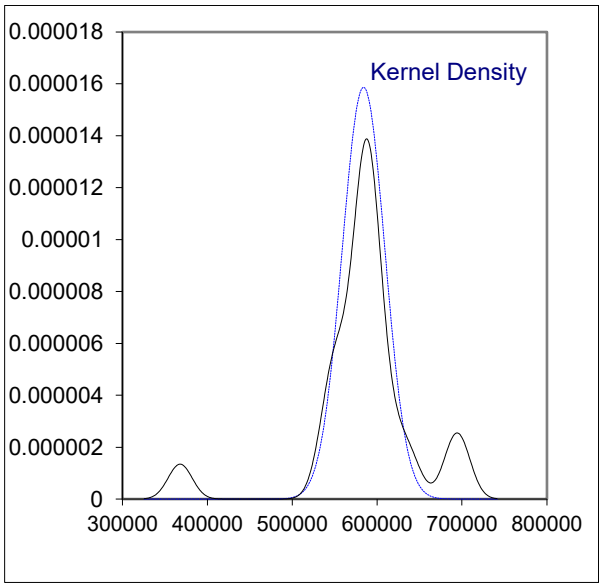
APPENDIX 3 – Rod (part of the closure)

Determination of Copper as Cu on sample #22580-3; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
551	CPSC-CH-E1001-08.1	554858.798		-0.50	
623	In house	581865.38		-0.04	
840		-----		-----	
1126		689650	R(0.05)	1.81	
1910		-----		-----	
2120	EN16711-1	549352		-0.59	
2121		-----		-----	
2135		578663		-0.09	
2146		-----		-----	
2159	In house	538704		-0.78	
2165		-----		-----	
2184		-----		-----	
2232		-----		-----	
2250	In house	621350		0.64	
2256		-----		-----	
2258		-----		-----	
2293		-----		-----	
2310	CPSC-CH-E1001-08.3	551319		-0.56	
2311	EN16711-1	582204.2		-0.03	
2314		-----		-----	
2330		Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1001-08.3	586100		0.04	
2357		not analyzed		-----	
2358		not analyzed		-----	
2365		-----		-----	
2366		-----		-----	
2370		-----		-----	
2373		not analyzed		-----	
2375		587229		0.06	
2378		-----		-----	
2379		Not analyzed		-----	
2380	In house	593931		0.17	
2381	In house	593629.52		0.16	
2382		-----		-----	
2385	In house	593000		0.15	
2390		-----		-----	
2406		-----		-----	
2475		-----		-----	
2489		-----		-----	
2511		-----		-----	
2538		-----		-----	
2564		-----		-----	
2582		367774.72	R(0.01)	-3.70	
2590		not determined		-----	
2602		-----		-----	
2624	In house	699000	R(0.05)	1.97	
2637		-----		-----	
2678		-----		-----	
2743	GB/T28021	605745.28		0.37	
2758		not analyzed		-----	
2829		-----		-----	
2864		-----		-----	
2910		not analyzed		-----	
2930	EN62321-5	639124		0.94	
2995		-----		-----	
3002	In house	586316		0.04	
3116		-----		-----	
3146	In house	571200		-0.22	
3160	CPSC-CH-E1001-08.3	597667.32		0.23	
3172		-----		-----	
3176		-----		-----	
3182		not analyzed		-----	
3199		-----		-----	
3209		-----		-----	
3228		-----		-----	

normality	OK	
n	18	
outliers	3	
mean (n)	584014.3	
st.dev. (n)	25153.00	RSD = 4%
R(calc.)	70428.4	
st.dev.(IEC62321-5:13)	58401.43	
R(IEC62321-5:13)	163524.0	

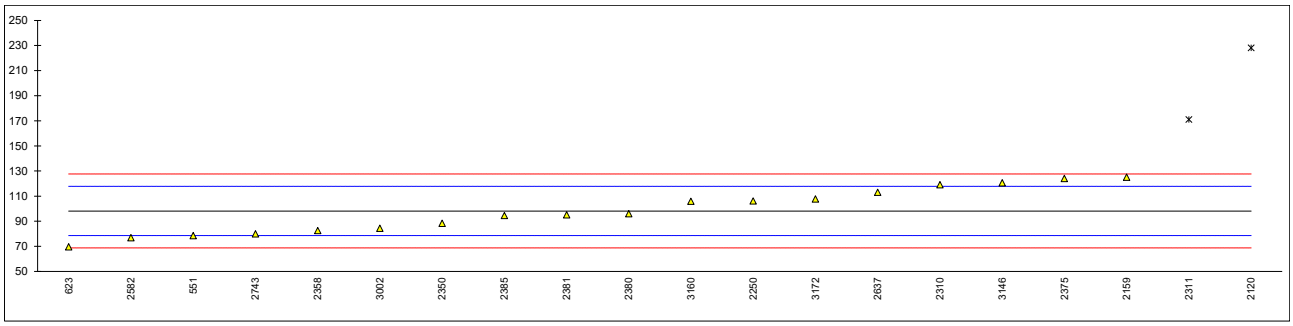


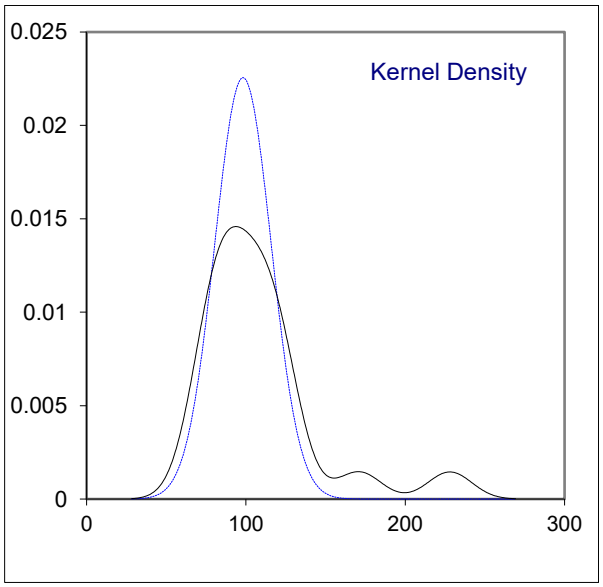


Determination of Tin as Sn on sample #22580-3; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
551	CPSC-CH-E1001-08.1	78.533		-2.00	
623	In house	69.54		-2.91	
840		-----		-----	
1126		-----		-----	
1910		-----		-----	
2120	EN16711-1	228	R(0.01)	13.23	
2121		-----		-----	
2135		-----		-----	
2146		-----		-----	
2159	In house	125		2.74	
2165		-----		-----	
2184		-----		-----	
2232		-----		-----	
2250	In house	106.1		0.81	
2256		-----		-----	
2258		-----		-----	
2293		-----		-----	
2310	CPSC-CH-E1001-08.3	119		2.12	
2311	EN16711-1	170.97	R(0.05)	7.42	
2314		-----		-----	
2330		Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1001-08.3	88.29		-1.00	
2357		not analyzed		-----	
2358	In house	82.483		-1.60	
2365		-----		-----	
2366		-----		-----	
2370		-----		-----	
2373		not applicable		-----	
2375		124		2.63	
2378		-----		-----	
2379		Not analyzed		-----	
2380	In house	95.98		-0.22	
2381	In house	95.11		-0.31	
2382		-----		-----	
2385	In house	94.5		-0.37	
2390		-----		-----	
2406		-----		-----	
2475		-----		-----	
2489		-----		-----	
2511		-----		-----	
2538		-----		-----	
2564		-----		-----	
2582		76.86		-2.17	
2590		not determined		-----	
2602		-----		-----	
2624		-----		-----	
2637	In house	113		1.51	
2678		-----		-----	
2743	GB/T28021	79.83		-1.87	
2758		not analyzed		-----	
2829		-----		-----	
2864		-----		-----	
2910		not analyzed		-----	
2930		-----		-----	
2995		-----		-----	
3002	In house	84.26		-1.41	
3116		-----		-----	
3146	In house	120.6		2.29	
3160	CPSC-CH-E1001-08.3	105.89		0.79	
3172	EN16711-1	107.67		0.97	
3176		-----		-----	
3182		not analyzed		-----	
3199		-----		-----	
3209		-----		-----	
3228		-----		-----	

normality	OK	
n	18	
outliers	2	
mean (n)	98.147	
st.dev. (n)	17.6856	RSD = 18%
R(calc.)	49.520	
st.dev.(IEC62321-5:13)	9.8147	
R(IEC62321-5:13)	27.481	compare R(Horwitz) = 22.047

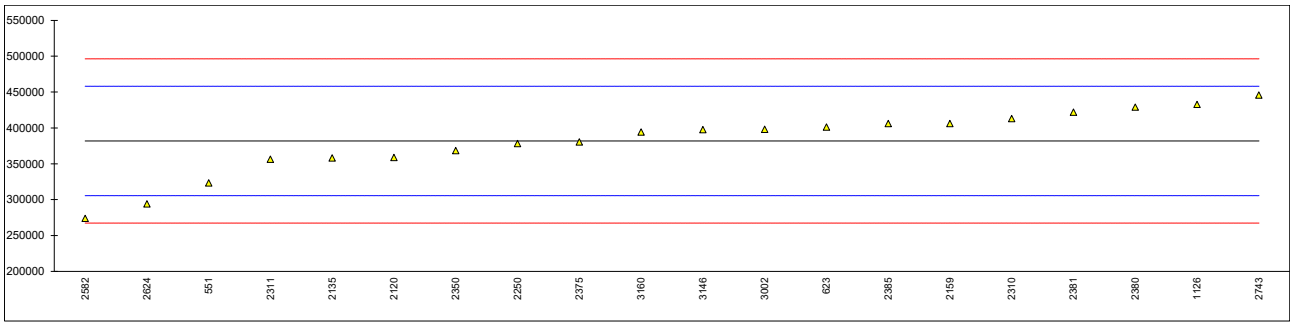


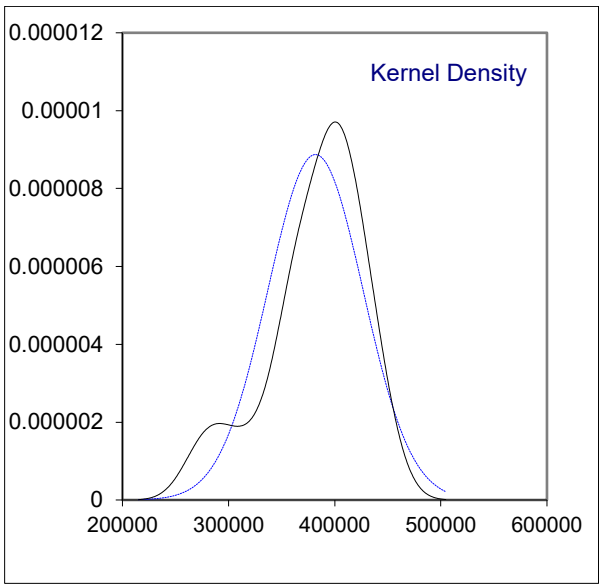


Determination of Zinc as Zn on sample #22580-3; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
551	CPSC-CH-E1001-08.1	323358.244		-1.53	
623	In house	401201.59		0.51	
840		-----		-----	
1126		432600		1.33	
1910		-----		-----	
2120	EN16711-1	358566		-0.61	
2121		-----		-----	
2135		358022		-0.62	
2146		-----		-----	
2159	In house	406121		0.64	
2165		-----		-----	
2184		-----		-----	
2232		-----		-----	
2250	In house	378009		-0.10	
2256		-----		-----	
2258		-----		-----	
2293		-----		-----	
2310	CPSC-CH-E1001-08.3	413099		0.82	
2311	EN16711-1	356363.18		-0.67	
2314		-----		-----	
2330		Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1001-08.3	368300		-0.35	
2357		not analyzed		-----	
2358		not analyzed		-----	
2365		-----		-----	
2366		-----		-----	
2370		-----		-----	
2373		not applicable		-----	
2375		380436		-0.04	
2378		-----		-----	
2379		Not analyzed		-----	
2380	In house	428792		1.23	
2381	In house	421811.22		1.05	
2382		-----		-----	
2385	In house	406000		0.63	
2390		-----		-----	
2406		-----		-----	
2475		-----		-----	
2489		-----		-----	
2511		-----		-----	
2538		-----		-----	
2564		-----		-----	
2582		273743.73		-2.83	
2590		not determined		-----	
2602		-----		-----	
2624	In house	294000		-2.30	
2637		-----		-----	
2678		-----		-----	
2743	GB/T28021	445872.09		1.68	
2758		not analyzed		-----	
2829		-----		-----	
2864		-----		-----	
2910		not analyzed		-----	
2930		-----		-----	
2995		-----		-----	
3002	In house	398080		0.43	
3116		-----		-----	
3146	In house	397600		0.41	
3160	CPSC-CH-E1001-08.3	394079.39		0.32	
3172		-----		-----	
3176		-----		-----	
3182		not analyzed		-----	
3199		-----		-----	
3209		-----		-----	
3228		-----		-----	

normality	OK	
n	20	
outliers	0	
mean (n)	381802.7	
st.dev. (n)	44982.36	RSD = 12%
R(calc.)	125950.6	
st.dev.(IEC62321-5:13)	38180.27	
R(IEC62321-5:13)	106904.8	



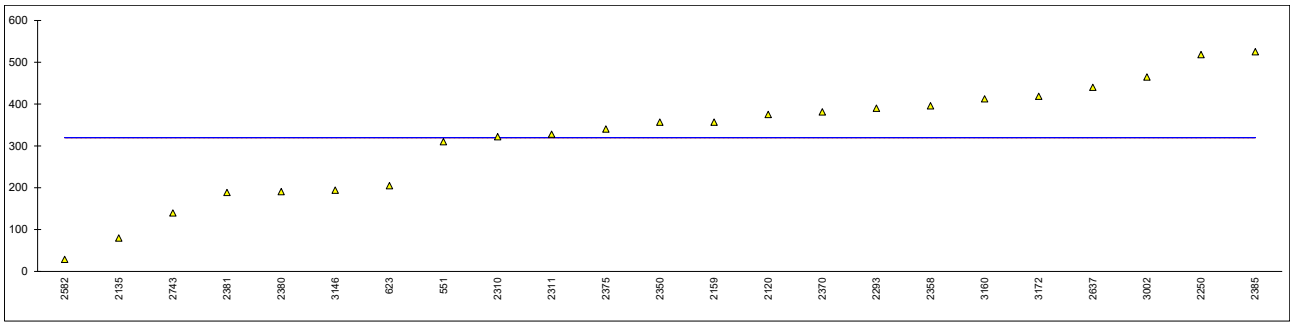


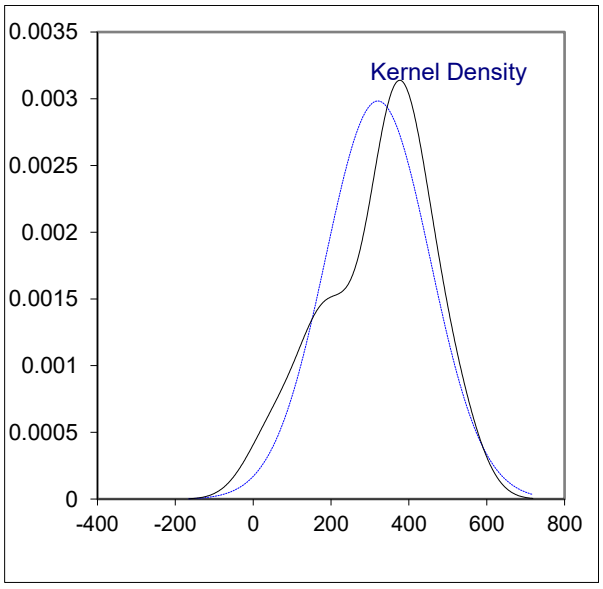
APPENDIX 4 – Larger ring (part of the closure)

Determination of Arsenic as As on sample #22580-4; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
551	CPSC-CH-E1001-08.1	310.219		-----	
623	In house	204.77		-----	
840		-----		-----	
1126		-----		-----	
1910		-----		-----	
2120	EN16711-1	375		-----	
2121		-----		-----	
2135		79.81		-----	
2146		-----		-----	
2159	In house	357		-----	
2165		-----		-----	
2184		-----		-----	
2232		-----		-----	
2250	In house	518.3		-----	
2256		-----		-----	
2258		-----		-----	
2293	In house	389.9		-----	
2310	CPSC-CH-E1001-08.3	322		-----	
2311	EN16711-1	327.93		-----	
2314		-----		-----	
2330		Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1001-08.3	356.7		-----	
2357		not analyzed		-----	
2358	In house	395.58		-----	
2365		-----		-----	
2366		-----		-----	
2370	EPA3052	381		-----	
2373		not analyzed		-----	
2375		340		-----	
2378		-----		-----	
2379		Not analyzed		-----	
2380	In house	190.71		-----	
2381	In house	188.55		-----	
2382		-----		-----	
2385	In house	525		-----	
2390		-----		-----	
2406		-----		-----	
2475		-----		-----	
2489		-----		-----	
2511		-----		-----	
2538		-----		-----	
2564		-----		-----	
2582		28.52		-----	
2590		not determined		-----	
2602		-----		-----	
2624		-----		-----	
2637	In house	440		-----	
2678		-----		-----	
2743		139.50		-----	
2758		not analyzed		-----	
2829		-----		-----	
2864		-----		-----	
2910		not analyzed		-----	
2930		-----		-----	
2995		-----		-----	
3002	In house	464.5		-----	
3116		-----		-----	
3146	In house	194.1		-----	
3160	CPSC-CH-E1001-08.3	412.45		-----	
3172	EN16711-1	418.41		-----	
3176		-----		-----	
3182		not analyzed		-----	
3199		-----		-----	
3209		-----		-----	
3228		-----		-----	

normality	OK	
n	23	
outliers	0	
mean (n)	319.998	
st.dev. (n)	133.7974	RSD = 42%
R(calc.)	374.633	
st.dev.(IEC62321-5:13)	(31.9998)	
R(IEC62321-5:13)	(89.599)	

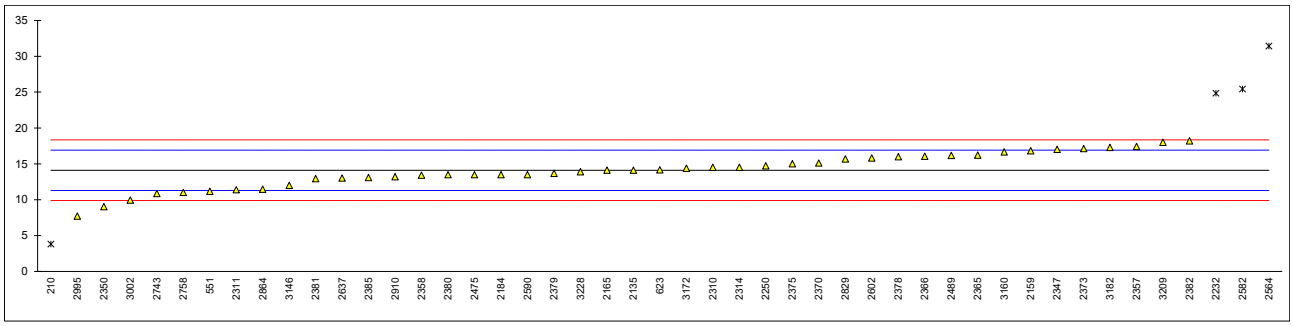


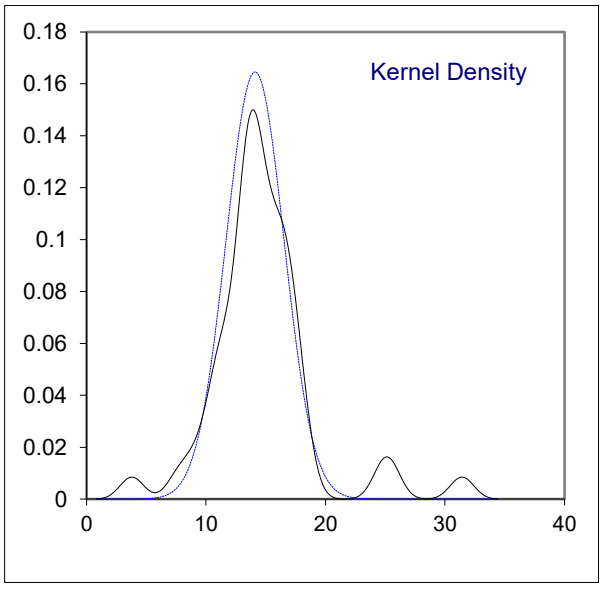


Determination of Cadmium as Cd on sample #22580-4; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210	In house	3.8	R(0.01)	-7.31	
551	CPSC-CH-E1001-08.1	11.159		-2.09	
623	In house	14.15		0.03	
840		-----		-----	
1126		-----		-----	
1910	In house	<LOQ		-----	
2120	EN16711-1	< 25		-----	
2121		-----		-----	
2135		14.10		0.00	
2146	In house	< 25		-----	
2159	In house	16.82		1.92	
2165	CPSC-CH-E1001-08.3	14.1		0.00	
2184	CPSC-CH-E1001-08.3	13.5		-0.43	
2232	IEC62121-5	24.84	R(0.01)	7.61	
2250	In house	14.72		0.44	
2256		-----		-----	
2258		-----		-----	
2293	In house	Not detected	C	-----	first reported: 27.78
2310	CPSC-CH-E1001-08.3	14.5		0.28	
2311	EN16711-1	11.38		-1.93	
2314	CPSC-CH-E1001-08.3	14.52		0.29	
2330		Not applicable		-----	
2347	EPA3050B	17		2.05	
2350	CPSC-CH-E1001-08.3	9.032		-3.60	
2357	CPSC-CH-E1001	17.4		2.34	
2358	In house	13.4	C	-0.50	first reported: not detected
2365	CPSC-CH-E1001-08.3	16.2		1.48	
2366	C02.4	16.05		1.38	
2370	EPA3052	15.1		0.70	
2373	EN16711-1	17.12		2.14	
2375		15		0.63	
2378	CPSC-CH-E1001-08.3	16.0		1.34	
2379	IEC62121-5	13.67		-0.31	
2380	In house	13.47		-0.45	
2381	In house	12.93		-0.83	
2382	CPSC-CH-E1001-08.3	18.2		2.90	
2385	In house	13.1		-0.71	
2390		-----		-----	
2406		-----		-----	
2475	In house	13.47		-0.45	
2489	In house	16.16		1.46	
2511		-----		-----	
2538	ASU B82.02-22/23	< 50		-----	
2564		31.422	C,R(0.01)	12.28	first reported: not detected
2582		25.43	R(0.01)	8.03	
2590	In house	13.50		-0.43	
2602	ASU B82.02-22/24	15.8		1.20	
2624		-----		-----	
2637	In house	13		-0.78	
2678		-----		-----	
2743		10.86		-2.30	
2758	In house	11.0		-2.20	
2829		15.67		1.11	
2864		11.46		-1.88	
2910		13.19		-0.65	
2930	IEC62321-5	<50		-----	
2995	EN62321-5	7.69647824		-4.54	
3002	In house	9.93		-2.96	
3116		-----		-----	
3146	In house	11.99		-1.50	
3160	CPSC-CH-E1001-08.3	16.65		1.80	
3172	EN16711-1	14.377		0.19	
3176		-----		-----	
3182	IEC62321-5	17.289		2.26	
3199		-----		-----	
3209	In house	18.0		2.76	
3228	CPSC-CH-E1001-08.3	13.9		-0.15	

normality	OK	
n	43	
outliers	4	
mean (n)	14.1061	
st.dev. (n)	2.42424	RSD = 17%
R(calc.)	6.7879	
st.dev.(IEC62321-5:13)	1.41061	
R(IEC62321-5:13)	3.9497	compare R(Horwitz) = 4.2431

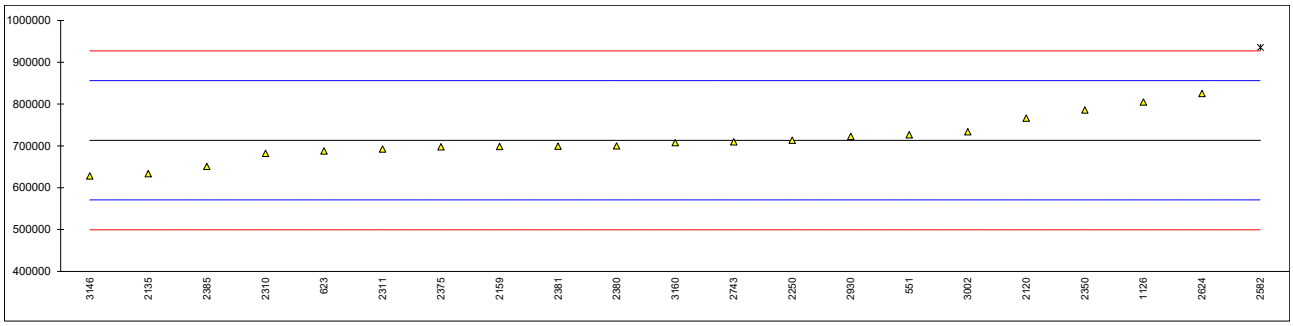


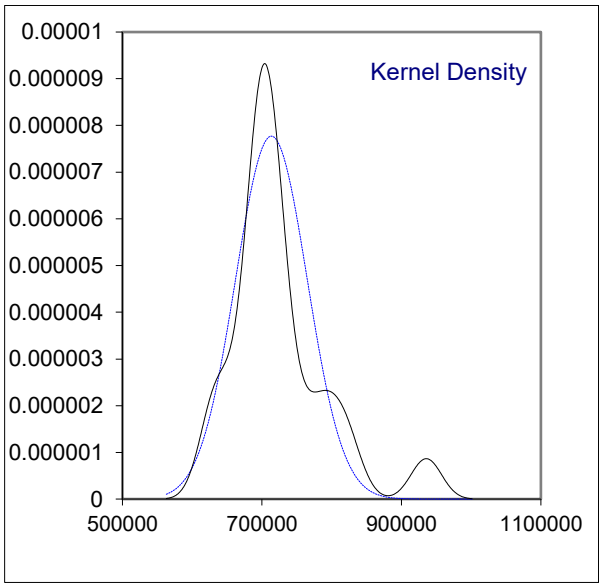


Determination of Copper as Cu on sample #22580-4; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
551	CPSC-CH-E1001-08.1	726401.832		0.18	
623	In house	687859.98		-0.36	
840		-----		-----	
1126		804800		1.28	
1910		-----		-----	
2120	EN16711-1	766424		0.74	
2121		-----		-----	
2135		633524		-1.12	
2146		-----		-----	
2159	In house	698310		-0.21	
2165		-----		-----	
2184		-----		-----	
2232		-----		-----	
2250	In house	713250		0.00	
2256		-----		-----	
2258		-----		-----	
2293		-----		-----	
2310	CPSC-CH-E1001-08.3	682065		-0.44	
2311	EN16711-1	692339.02		-0.29	
2314		-----		-----	
2330		Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1001-08.3	785900		1.02	
2357		not analyzed		-----	
2358		NA	C	-----	first reported: not detected
2365		-----		-----	
2366		-----		-----	
2370		-----		-----	
2373		not analyzed		-----	
2375		697785		-0.22	
2378		-----		-----	
2379		Not analyzed		-----	
2380	In house	699893		-0.19	
2381	In house	698984.51		-0.20	
2382		-----		-----	
2385	In house	651000		-0.87	
2390		-----		-----	
2406		-----		-----	
2475		-----		-----	
2489		-----		-----	
2511		-----		-----	
2538		-----		-----	
2564		-----		-----	
2582		935420.76	R(0.01)	3.11	
2590		not determined		-----	
2602		-----		-----	
2624	In house	825000		1.57	
2637		-----		-----	
2678		-----		-----	
2743		709725.04		-0.05	
2758		not analyzed		-----	
2829		-----		-----	
2864		-----		-----	
2910		not analyzed		-----	
2930	IEC62321-5	722833		0.13	
2995		-----		-----	
3002	In house	733751		0.29	
3116		-----		-----	
3146	In house	628200		-1.19	
3160	CPSC-CH-E1001-08.3	707671.04		-0.08	
3172		-----		-----	
3176		-----		-----	
3182		not analyzed		-----	
3199		-----		-----	
3209		-----		-----	
3228		-----		-----	

normality	OK	
n	20	
outliers	1	
mean (n)	713285.8	
st.dev. (n)	51333.32	RSD = 7%
R(calc.)	143733.3	
st.dev.(IEC62321-5:13)	71328.58	
R(IEC62321-5:13)	199720.0	

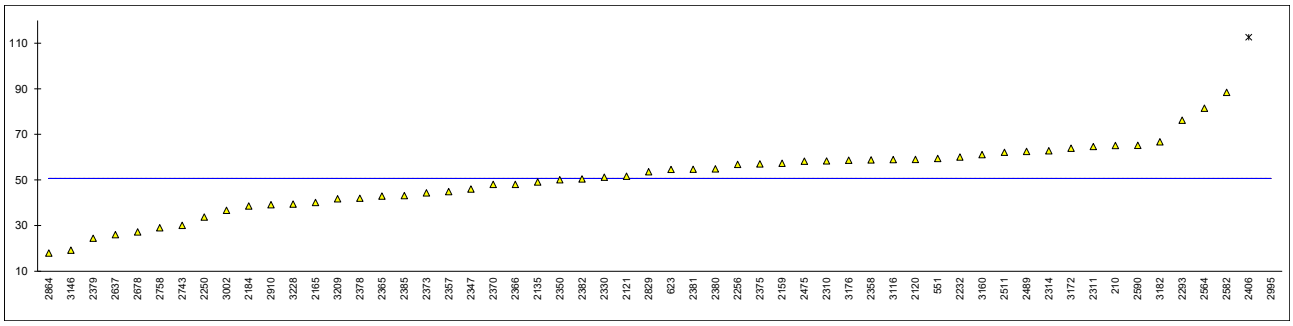


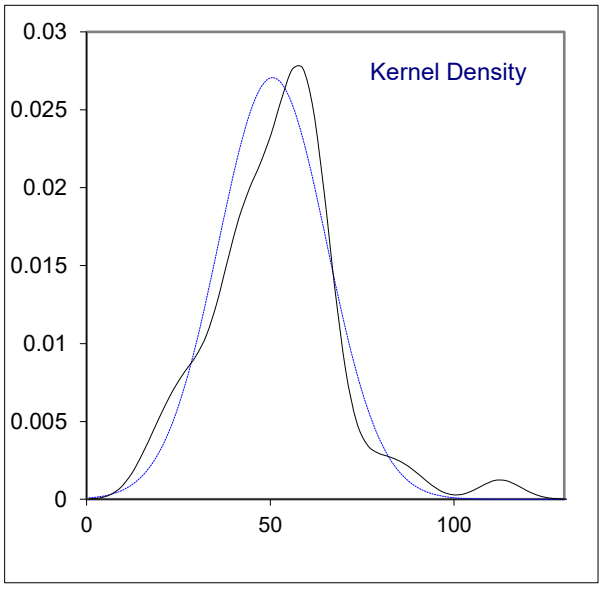


Determination of Lead as Pb on sample #22580-4; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210	In house	65.1		-----	
551	CPSC-CH-E1001-08.1	59.412		-----	
623	In house	54.62		-----	
840		-----		-----	
1126		-----		-----	
1910	In house	not detected		-----	
2120	CPSC-CH-E1001-08.3	59		-----	
2121	CPSC-CH-E1001-08.3	51.625	C	-----	first reported: 103.879
2135		49.06		-----	
2146	In house	< 100		-----	
2159	In house	57.34		-----	
2165	CPSC-CH-E1001-08.3	40.1		-----	
2184	CPSC-CH-E1001-08.3	38.6		-----	
2232	IEC62121-5	60.08		-----	
2250	In house	33.71		-----	
2256	CPSC-CH-E1001-08.3	56.8		-----	
2258		-----		-----	
2293	In house	76.24		-----	
2310	CPSC-CH-E1001-08.3	58.3		-----	
2311	EN16711-1	64.65		-----	
2314	CPSC-CH-E1001-08.3	62.81		-----	
2330	CPSC-CH-E1001-08.3	51.22		-----	
2347	EPA3050B	46		-----	
2350	CPSC-CH-E1001-08.3	50.08		-----	
2357	CPSC-CH-E1001	44.9		-----	
2358	In house	58.763		-----	
2365	CPSC-CH-E1001-08.3	42.9		-----	
2366	C02.4	48.04		-----	
2370	IEC62321-5	48		-----	
2373	EN16711-1	44.32		-----	
2375		57		-----	
2378	CPSC-CH-E1001-08.3	42.0		-----	
2379	IEC62121-5	24.40		-----	
2380	In house	54.89		-----	
2381	In house	54.67		-----	
2382	CPSC-CH-E1001-08.3	50.4		-----	
2385	In house	43.1		-----	
2390		-----		-----	
2406	ASTM F963	112.57	R(0.01)	-----	
2475	In house	58.18		-----	
2489	In house	62.5		-----	
2511		62.1		-----	
2538	ASU B82.02-22/23	< 250		-----	
2564		81.481		-----	
2582		88.41		-----	
2590	In house	65.20		-----	
2602	ASU B82.02-22/24	< LOQ		-----	
2624		-----		-----	
2637	In house	26		-----	
2678	CPSC-CH-E1001-08.3	27.2200		-----	
2743		30.1	C	-----	first reported: not detected
2758	In house	29.0		-----	
2829		53.6		-----	
2864		17.90		-----	
2910	CPSC-CH-E1001-08.3	39.11		-----	
2930	IEC62321-5	<50		-----	
2995	EN62321-5	725.449059	R(0.01)	-----	
3002	In house	36.67		-----	
3116	C02.4	58.93	C	-----	first reported: 118.006
3146	In house	19.14		-----	
3160	CPSC-CH-E1001-08.3	61.14		-----	
3172	EN16711-1	63.897		-----	
3176	CPSC-CH-E1001-08.3	58.69		-----	
3182	IEC62321-5	66.710		-----	
3199		-----		-----	
3209	In house	41.7		-----	
3228	CPSC-CH-E1001-08.3	39.4		-----	

normality	OK	
n	54	
outliers	2	
mean (n)	50.6520	
st.dev. (n)	14.74773	RSD = 29%
R(calc.)	41.2936	
st.dev.(IEC62321-5:13)	(5.06520)	
R(IEC62321-5:13)	(14.1826)	

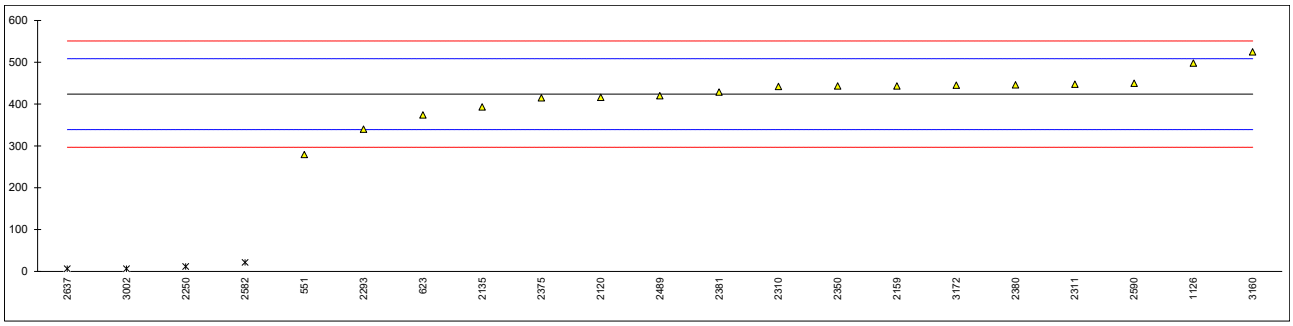


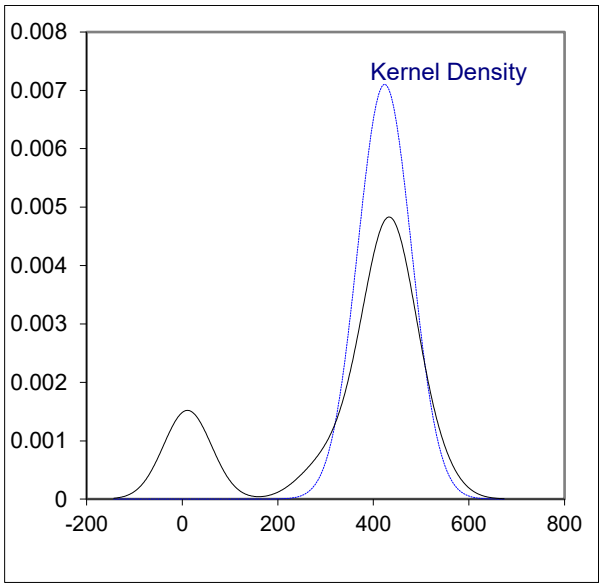


Determination of Nickel as Ni on sample #22580-4; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
551	CPSC-CH-E1001-08.1	279.263		-3.41	
623	In house	373.88		-1.18	
840		-----		-----	
1126		498		1.75	
1910		-----		-----	
2120	EN16711-1	416		-0.18	
2121		-----		-----	
2135		393.03		-0.73	
2146		-----		-----	
2159	In house	443.2		0.46	
2165		-----		-----	
2184		-----		-----	
2232		-----		-----	
2250	In house	11.59	C,R(0.01)	-9.73	first reported: <10
2256		-----		-----	
2258		-----		-----	
2293	In house	339.6		-1.99	
2310	CPSC-CH-E1001-08.3	442		0.43	
2311	EN16711-1	447.32		0.56	
2314		-----		-----	
2330		Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1001-08.3	443.0		0.45	
2357		not analyzed		-----	
2358		not analyzed		-----	
2365		-----		-----	
2366		-----		-----	
2370		-----		-----	
2373		not analyzed		-----	
2375		415		-0.21	
2378		-----		-----	
2379		Not analyzed		-----	
2380	In house	445.75		0.52	
2381	In house	428.63		0.11	
2382		-----		-----	
2385	In house	<10		<-9.76	possible false negative test result?
2390		-----		-----	
2406		-----		-----	
2475		-----		-----	
2489	In house	420.1		-0.09	
2511		-----		-----	
2538		-----		-----	
2564		-----		-----	
2582		21.19	R(0.01)	-9.50	
2590	In house	449.70		0.61	
2602		-----		-----	
2624		-----		-----	
2637	In house	6	R(0.01)	-9.86	
2678		-----		-----	
2743		not detected		-----	
2758		not analyzed		-----	
2829		-----		-----	
2864		-----		-----	
2910		not analyzed		-----	
2930	IEC62321-5	<500		-----	
2995		-----		-----	
3002	In house	6.20	R(0.01)	-9.85	
3116		-----		-----	
3146	In house	< 10		<-9.76	possible false negative test result?
3160	CPSC-CH-E1001-08.3	524.75		2.38	
3172	EN16711-1	445.03		0.50	
3176		-----		-----	
3182		not analyzed		-----	
3199		-----		-----	
3209		-----		-----	
3228		-----		-----	

normality	not OK	
n	17	
outliers	4	
mean (n)	423.780	
st.dev. (n)	56.1938	RSD = 13%
R(calc.)	157.343	
st.dev.(IEC62321-5:13)	42.3780	
R(IEC62321-5:13)	118.658	compare R(Horwitz) = 76.383

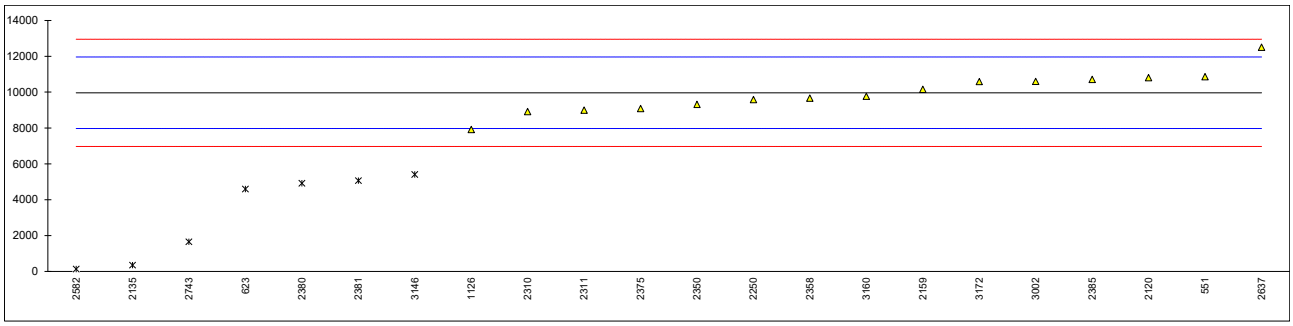


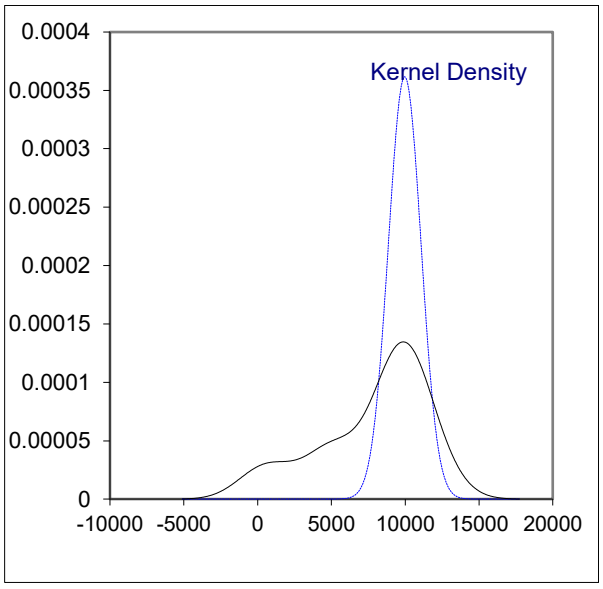


Determination of Tin as Sn on sample #22580-4; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
551	CPSC-CH-E1001-08.1	10853.32		0.90	
623	In house	4595.73	R(0.01)	-5.39	
840		-----		-----	
1126		7914		-2.05	
1910		-----		-----	
2120	EN16711-1	10803		0.85	
2121		-----		-----	
2135		345.75	R(0.01)	-9.65	
2146		-----		-----	
2159	In house	10157		0.20	
2165		-----		-----	
2184		-----		-----	
2232		-----		-----	
2250	In house	9582		-0.38	
2256		-----		-----	
2258		-----		-----	
2293		-----		-----	
2310	CPSC-CH-E1001-08.3	8912		-1.05	
2311	EN16711-1	8990.37		-0.97	
2314		-----		-----	
2330		Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1001-08.3	9316		-0.65	
2357		not analyzed		-----	
2358	In house	9659.6		-0.30	
2365		-----		-----	
2366		-----		-----	
2370		-----		-----	
2373		not applicable		-----	
2375		9075		-0.89	
2378		-----		-----	
2379		Not analyzed		-----	
2380	In house	4917.70	R(0.01)	-5.06	
2381	In house	5062.89	R(0.01)	-4.92	
2382		-----		-----	
2385	In house	10700		0.74	
2390		-----		-----	
2406		-----		-----	
2475		-----		-----	
2489		-----		-----	
2511		-----		-----	
2538		-----		-----	
2564		-----		-----	
2582		124.80	R(0.01)	-9.87	
2590		not determined		-----	
2602		-----		-----	
2624		-----		-----	
2637	In house	12500		2.55	
2678		-----		-----	
2743		1645.3	C,R(0.01)	-8.35	first reported: 649.50
2758		not analyzed		-----	
2829		-----		-----	
2864		-----		-----	
2910		not analyzed		-----	
2930		-----		-----	
2995		-----		-----	
3002	In house	10597		0.64	
3116		-----		-----	
3146	In house	5410	R(0.01)	-4.57	
3160	CPSC-CH-E1001-08.3	9764.38		-0.20	
3172	EN16711-1	10584		0.63	
3176		-----		-----	
3182		not analyzed		-----	
3199		-----		-----	
3209		-----		-----	
3228		-----		-----	

normality	OK	
n	15	
outliers	7	
mean (n)	9960.512	
st.dev. (n)	1103.1051	RSD = 11%
R(calc.)	3088.694	
st.dev.(IEC62321-5:13)	996.0512	
R(IEC62321-5:13)	2788.943	compare R(Horwitz) = 1116.242

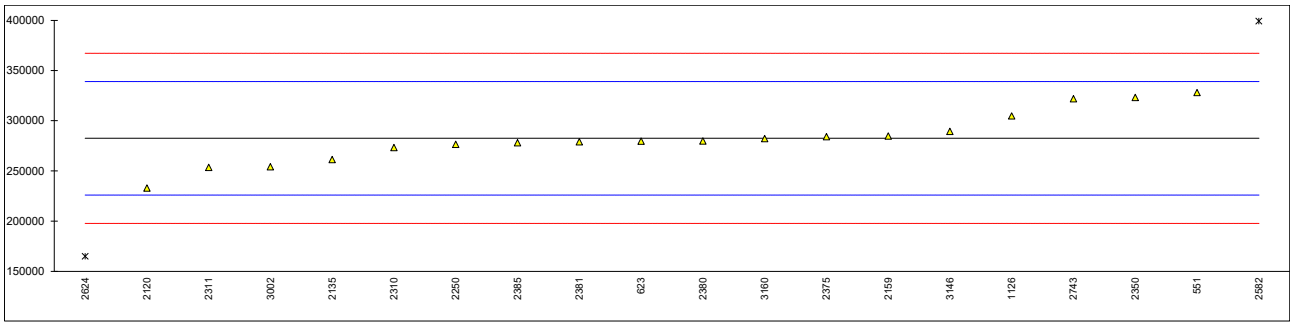


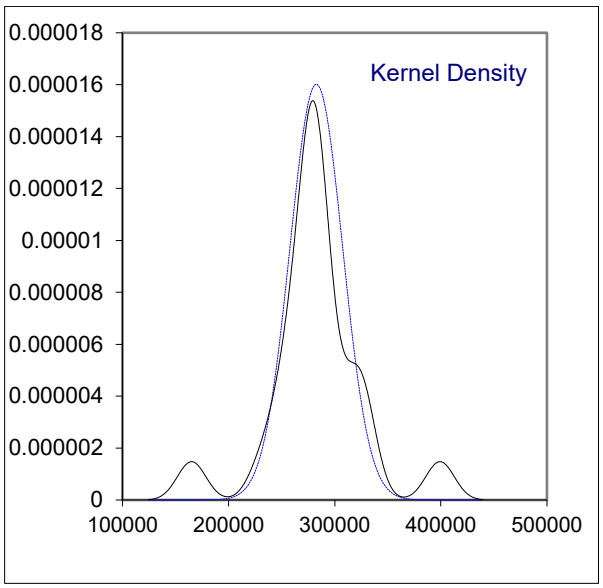


Determination of Zinc as Zn on sample #22580-4; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
551	CPSC-CH-E1001-08.1	328048.889		1.61	
623	In house	279617.68		-0.10	
840		-----		-----	
1126		304750		0.79	
1910		-----		-----	
2120	EN16711-1	232870	C	-1.76	first reported: 22387
2121		-----		-----	
2135		261315		-0.75	
2146		-----		-----	
2159	In house	284729		0.08	
2165		-----		-----	
2184		-----		-----	
2232		-----		-----	
2250	In house	276430		-0.22	
2256		-----		-----	
2258		-----		-----	
2293		-----		-----	
2310	CPSC-CH-E1001-08.3	273221		-0.33	
2311	EN16711-1	253430.84		-1.03	
2314		-----		-----	
2330		Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1001-08.3	323100		1.44	
2357		not analyzed		-----	
2358		not analyzed		-----	
2365		-----		-----	
2366		-----		-----	
2370		-----		-----	
2373		not applicable		-----	
2375		284063		0.05	
2378		-----		-----	
2379		Not analyzed		-----	
2380	In house	279839		-0.10	
2381	In house	278980.57		-0.13	
2382		-----		-----	
2385	In house	278000		-0.16	
2390		-----		-----	
2406		-----		-----	
2475		-----		-----	
2489		-----		-----	
2511		-----		-----	
2538		-----		-----	
2564		-----		-----	
2582		399156.72	R(0.01)	4.13	
2590		not determined		-----	
2602		-----		-----	
2624	In house	165000	R(0.01)	-4.16	
2637		-----		-----	
2678		-----		-----	
2743		321769.91		1.39	
2758		not analyzed		-----	
2829		-----		-----	
2864		-----		-----	
2910		not analyzed		-----	
2930		-----		-----	
2995		-----		-----	
3002	In house	254167		-1.00	
3116		-----		-----	
3146	In house	289300		0.24	
3160	CPSC-CH-E1001-08.3	282160.25		-0.01	
3172		-----		-----	
3176		-----		-----	
3182		not analyzed		-----	
3199		-----		-----	
3209		-----		-----	
3228		-----		-----	

normality	OK	
n	18	
outliers	2	
mean (n)	282544.0	
st.dev. (n)	24905.31	RSD = 9%
R(calc.)	69734.9	
st.dev.(IEC62321-5:13)	28254.40	
R(IEC62321-5:13)	79112.3	





APPENDIX 5
Other reported Metals in sample #22580-1; results in mg/kg

lab	Sb	Cd	Pb	Hg	Se	Sr	Zr
210	-----	-----	4.2	-----	-----	-----	-----
551	2.55	0.225	2.015	0.508	-----	0.806	-----
623	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
840	-----	-----	-----	-----	-----	-----	-----
1126	-----	-----	-----	-----	-----	-----	-----
1910	-----	-----	-----	-----	-----	-----	-----
2120	-----	< 25	< 25	< 0,625	< 80	< 80	-----
2121	-----	-----	3.811	-----	-----	-----	-----
2135	-----	-----	20	-----	-----	-----	-----
2146	-----	< 25	< 100	-----	-----	-----	-----
2159	<10	<10	<10	<10	<10	<10	<10
2165	-----	not detected	not detected	not detected	-----	-----	-----
2184	-----	<10	<10	<10	-----	-----	-----
2232	-----	<5.0	<5.0	<5.0	-----	-----	-----
2250	<10	<10	<10	<1	<50	<10	<20
2256	-----	-----	44.2	-----	-----	-----	-----
2258	-----	-----	-----	-----	-----	-----	-----
2293	35.56	-----	Not detected C	Not Detected C	-----	-----	-----
2310	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2311	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2314	-----	Not detected	Not detected	-----	-----	-----	-----
2330	Not applicable	Not applicable	Not detected	Not applicable	Not applicable	Not applicable	Not applicable
2347	-----	<10	<10	<10	-----	-----	-----
2350	<10	<5	<50	<2	<10	not analyzed	not analyzed
2357	not analyzed	<5	<20	<2	not analyzed	not analyzed	not analyzed
2358	not analyzed	not detected	not detected	not detected	not analyzed	not analyzed	not analyzed
2365	-----	<5	<10	-----	-----	-----	-----
2366	-----	<10	<10	-----	-----	-----	-----
2370	-----	-----	-----	-----	-----	-----	-----
2373	not analyzed	not detected	not detected	not detected	not applicable	not applicable	not applicable
2375	<10	<10	<10	<10	<10	<10	<10
2378	-----	＜10	＜10	-----	-----	-----	-----
2379	Not analyzed	Not detected	Not detected	Not detected	Not analyzed	Not analyzed	Not analyzed
2380	-----	-----	-----	-----	-----	-----	-----
2381	-----	-----	-----	-----	-----	-----	-----
2382	-----	<10	<10	-----	-----	-----	-----
2385	<100	<10	<10	<1	<25	<50	<50
2390	-----	-----	-----	-----	-----	-----	-----
2406	-----	-----	73.14	-----	-----	-----	-----
2475	-----	<5	<25	-----	-----	-----	-----
2489	-----	Not Detected	Not Detected	-----	-----	-----	-----
2511	-----	-----	<10	-----	-----	-----	-----
2538	-----	< 50	781	-----	-----	-----	-----
2564	-----	not detected	not detected	-----	-----	-----	-----
2582	<3.00	<3.00	9.03	Not Detected	<3.00	<3.00	Not Detected
2590	not determined	< L.O.Q	not determined	< L.O.Q	< L.O.Q	< L.O.Q	not determined
2602	-----	< LOQ	< LOQ	-----	-----	-----	-----
2624	-----	-----	-----	-----	-----	-----	-----
2637	4	<0.2	3	<0.1	<2	<5	<5
2678	-----	-----	69.8200	-----	-----	-----	-----
2743	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2758	not analyzed	not detected	not detected	not analyzed	not analyzed	not analyzed	not analyzed
2829	-----	-----	-----	-----	-----	-----	-----
2864	-----	not detected	-----	not detected	-----	-----	-----
2910	not analyzed	not detected	not detected	not detected	not analyzed	not analyzed	not analyzed
2930	-----	<50	<50	-----	-----	-----	-----
2995	-----	127.0871	902.903329	-----	-----	-----	-----
3002	< 5	21.21	< 5	< 5	< 5	< 5	32.78
3116	-----	-----	<50 C	-----	-----	-----	-----
3146	< 10	< 5	< 5	< 1	< 10	< 10	< 10
3160	<10	<10	<25	not determined	<10	<10	not determined
3172	< 10	< 5	< 5	< 10	-----	-----	-----
3176	-----	-----	10.74	-----	-----	-----	-----
3182	not analyzed	<5	<13	not analyzed	not analyzed	not analyzed	not analyzed
3199	-----	less than 2.00	4.33	-----	-----	-----	-----
3209	-----	<5	<10	<5	-----	-----	-----
3228	-----	<10	<10	<10	-----	-----	-----

Lab 2293 first reported for Pb: 65.88 and for Hg: 335.2
Lab 3116 first reported for Pb: 78.965

Other reported Metals in sample #22580-2; results in mg/kg

lab	Sb	Cd	Pb	Hg	Se	Sr	Zr
210	-----	-----	2.8	-----	-----	-----	-----
551	3.249	0.025	0.552	0.23	-----	0.689	-----
623	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
840	<10	<5	<10	<5	<10	<10	30.21
1126	-----	-----	-----	-----	-----	-----	-----
1910	-----	not detected	not detected	-----	-----	-----	-----
2120	-----	< 25	< 25	< 0,625	< 80	< 80	-----
2121	-----	-----	2.919	-----	-----	-----	-----
2135	-----	-----	-----	-----	-----	-----	-----
2146	-----	< 25	< 100	-----	-----	-----	-----
2159	<10	<10	<10	<10	<10	<10	<10
2165	-----	not detected	not detected	not detected	-----	-----	-----
2184	-----	<10	<10	<10	-----	-----	-----
2232	-----	<5	<5	<5	-----	-----	-----
2250	<10	<10	<10	<1	<50	<10	<20
2256	-----	-----	43.5	-----	-----	-----	-----
2258	not detected	125.20	1951.2	not detected	not detected	not analyzed	not analyzed
2293	Not detected C	-----	66.22	Not detected C	-----	-----	-----
2310	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2311	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2314	-----	Not detected	Not detected	-----	-----	-----	-----
2330	Not applicable	Not applicable	Not detected	Not applicable	Not applicable	Not applicable	Not applicable
2347	-----	<10	<10	<10	-----	-----	-----
2350	<10	<5	<50	<2	<10	not analyzed	not analyzed
2357	not analyzed	<5	<20	<2	not analyzed	not analyzed	not analyzed
2358	not analyzed	not detected	not detected	not detected	not analyzed	not analyzed	not analyzed
2365	-----	<5	<10	-----	-----	-----	-----
2366	-----	<10	<10	-----	-----	-----	-----
2370	-----	<2	<2	<2	<2	<2	<2
2373	not analyzed	not detected	not detected	not detected	not applicable	not applicable	not applicable
2375	<10	<10	<10	<10	<10	<10	<10
2378	-----	＜10	＜10	-----	-----	-----	-----
2379	Not analyzed	Not detected	Not detected	Not detected	Not analyzed	Not analyzed	Not analyzed
2380	-----	-----	18.19	-----	-----	-----	-----
2381	-----	-----	19.82	-----	-----	-----	-----
2382	-----	<10	<10	-----	-----	-----	-----
2385	<100	<5	<25	<1	<25	<50	<50
2390	-----	-----	-----	-----	-----	-----	-----
2406	-----	-----	not detected	-----	-----	-----	-----
2475	-----	<5	<25	-----	-----	-----	-----
2489	-----	Not Detected	Not Detected	-----	-----	-----	-----
2511	-----	-----	<10	-----	-----	-----	-----
2538	-----	< 50	< 250	-----	-----	-----	-----
2564	-----	not detected	not detected	-----	-----	-----	-----
2582	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
2590	< L.O.Q	< L.O.Q	< L.O.Q	< L.O.Q	< L.O.Q	< L.O.Q	< L.O.Q
2602	-----	< LOQ	< LOQ	-----	-----	-----	-----
2624	-----	-----	-----	-----	-----	-----	-----
2637	3	<0.,2	<0.5	<0.1	<2	<5	<5
2678	-----	-----	68.4000	-----	-----	-----	-----
2743	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2758	not analyzed	not detected	not detected	not analyzed	not analyzed	not analyzed	not analyzed
2829	-----	-----	-----	-----	-----	-----	-----
2864	-----	not detected	-----	not detected	-----	-----	-----
2910	not analyzed	not detected	not detected	not detected	not analyzed	not analyzed	not analyzed
2930	-----	<50	<50	-----	-----	-----	-----
2995	-----	152.437506	963.444888	-----	-----	-----	-----
3002	< 5	26.18	< 5	< 5	< 5	< 5	38.77
3116	-----	-----	<50	-----	-----	-----	-----
3146	< 10	< 5	< 5	< 1	< 10	< 10	< 10
3160	<10	<10	<25	not determined	<10	<10	not determined
3172	< 10	< 5	< 5	< 10	-----	-----	-----
3176	-----	-----	3.83	-----	-----	-----	-----
3182	not analyzed	<5	<13	not analyzed	not analyzed	not analyzed	not analyzed
3199	-----	less than 2.00	less than 2.00	-----	-----	-----	-----
3209	-----	<5	<10	<5	-----	-----	-----
3228	-----	<10	<10	<10	-----	-----	-----

Lab 2293 first reported for Sb: 40.45 and for Hg: 200.8

Other reported Metals in sample #22580-3; results in mg/kg

lab	Sb	As	Cd	Cr	Co	Pb
210	-----	-----	6.17	-----	-----	9.9
551	0.553	14.22	6.015	6.906	0.072	10.05
623	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
840	-----	-----	-----	-----	-----	-----
1126	-----	-----	-----	-----	-----	-----
1910	-----	-----	<LOQ	-----	-----	not detected
2120	-----	< 25	< 25	< 25	< 25	< 25
2121	-----	-----	-----	-----	-----	4.713
2135	-----	-----	5.98	-----	-----	6.21
2146	-----	-----	< 25	-----	-----	< 100
2159	<10	<10	<10	<10	<10	<10
2165	-----	-----	not detected	not detected	-----	not detected
2184	-----	-----	<10	<10	-----	<10
2232	-----	-----	6.64	<5	-----	<5
2250	<10	<10	<10	<10	<10	<10
2256	-----	-----	-----	-----	-----	10.2
2258	-----	-----	-----	-----	-----	-----
2293	-----	-----	Not detected C	-----	-----	Not detected C
2310	not detected	not detected	not detected	not detected	not detected	not detected
2311	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2314	-----	-----	Not detected	-----	-----	Not detected
2330	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	7.35
2347	-----	-----	<10	-----	-----	<10
2350	<10	<10	<5	<5	<5	<50
2357	not analyzed	not analyzed	<10	not analyzed	not analyzed	<20
2358	not analyzed	not detected	not detected	not detected	not analyzed	not detected
2365	-----	-----	8.5	-----	-----	<10
2366	-----	-----	<10	-----	-----	<10
2370	-----	-----	-----	-----	-----	-----
2373	not analyzed	not analyzed	7.36	not analyzed	not analyzed	10.92
2375	<10	<10	<10	<10	<10	<10
2378	-----	-----	＜10	-----	-----	＜10
2379	Not analyzed	Not analyzed	7.02	Not analyzed	Not analyzed	8.12
2380	-----	-----	6.96	-----	-----	-----
2381	-----	-----	-----	-----	-----	-----
2382	-----	-----	<10	-----	-----	<10
2385	<100	<25	6.6	<10	<10	<20
2390	-----	-----	-----	-----	-----	-----
2406	-----	-----	-----	-----	-----	27.42
2475	-----	-----	7.40	-----	-----	<25
2489	-----	-----	Not Detected	Not Detected	-----	Not Detected
2511	-----	-----	-----	-----	-----	<10
2538	-----	-----	< 50	-----	-----	< 250
2564	-----	-----	not detected	-----	-----	not detected C
2582	<3.00	<3.00	5.60	<3.00	Not Detected	7.36
2590	< L.O.Q	< L.O.Q	6.40	< L.O.Q	< L.O.Q	5.40
2602	-----	-----	<LOQ	-----	-----	< LOQ
2624	-----	-----	-----	-----	-----	-----
2637	0.5	<0,2	7.5	<5	<1	8.3
2678	-----	-----	-----	-----	-----	14.0800
2743	not detected	not detected	4.98	not detected	not detected	not detected
2758	not analyzed	not analyzed	7.0	not analyzed	not analyzed	<4.0
2829	-----	-----	8.38	-----	-----	10.50
2864	-----	-----	5.26	-----	-----	<10
2910	not analyzed	not analyzed	not detected	not detected	not analyzed	not detected
2930	-----	-----	<50	<50	-----	<50
2995	-----	-----	not detected	not detected	-----	637.726836
3002	< 5	< 5	< 5	< 5	< 5	< 5
3116	-----	-----	-----	-----	-----	<50
3146	< 10	< 10	6.714	< 10	< 10	7.460
3160	<10	<10	<10	<10	<10	<25
3172	< 10	< 10	6.07	< 10	< 10	7.42
3176	-----	-----	-----	-----	-----	15.70
3182	not analyzed	not analyzed	7.726	not analyzed	not analyzed	<13
3199	-----	-----	6.79	-----	-----	6.82
3209	-----	-----	<5	<10	-----	<10
3228	-----	-----	<10	<10	-----	<10

Lab 2293 first reported for Cd: 10.83 and for Pb: 27.96
Lab 2564 first reported for Pb: 21.116

Other reported Metals in sample #22580-3; results in mg/kg ---continued---

lab	Mn	Hg	Ni	Se	Sr	Zr
210	-----	-----	-----	-----	-----	-----
551	1.438	0.118	1.851	-----	-----	-----
623	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
840	-----	-----	-----	-----	-----	-----
1126	-----	-----	-----	-----	-----	-----
1910	-----	-----	-----	-----	-----	-----
2120	< 80	< 0,625	< 25	< 80	< 80	-----
2121	-----	-----	-----	-----	-----	-----
2135	-----	-----	-----	-----	-----	-----
2146	-----	-----	-----	-----	-----	-----
2159	<10	<10	<10	<10	<10	<10
2165	-----	not detected	-----	-----	-----	-----
2184	-----	<10	-----	-----	-----	-----
2232	-----	<5	-----	-----	-----	-----
2250	<10	<1	<10	<50	<10	<20
2256	-----	-----	-----	-----	-----	-----
2258	-----	-----	-----	-----	-----	-----
2293	-----	-----	-----	-----	-----	-----
2310	not detected	not detected	not detected	not detected	not detected	not detected
2311	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2314	-----	-----	-----	-----	-----	-----
2330	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
2347	-----	<10	-----	-----	-----	-----
2350	<5	<2	<5	<10	not analyzed	not analyzed
2357	not analyzed	not analyzed	not analyzed	not analyzed	not analyzed	not analyzed
2358	not analyzed	not detected	not analyzed	not analyzed	not analyzed	not analyzed
2365	-----	-----	-----	-----	-----	-----
2366	-----	-----	-----	-----	-----	-----
2370	-----	-----	-----	-----	-----	-----
2373	not applicable	not detected	not analyzed	not applicable	not applicable	not applicable
2375	<10	<10	<10	<10	<10	<10
2378	-----	-----	-----	-----	-----	-----
2379	Not analyzed	Not detected	Not analyzed	Not analyzed	Not analyzed	Not analyzed
2380	-----	-----	-----	-----	-----	-----
2381	-----	-----	-----	-----	-----	-----
2382	-----	-----	-----	-----	-----	-----
2385	<10	<1	<10	<25	<50	<50
2390	-----	-----	-----	-----	-----	-----
2406	-----	-----	-----	-----	-----	-----
2475	-----	-----	-----	-----	-----	-----
2489	-----	-----	Not Detected	-----	-----	-----
2511	-----	-----	-----	-----	-----	-----
2538	-----	-----	-----	-----	-----	-----
2564	-----	-----	-----	-----	-----	-----
2582	<3.00	<3.00	4.01	<3.00	<3.00	Not Detected
2590	2.20	< L.O.Q	< L.O.Q	< L.O.Q	< L.O.Q	< L.O.Q
2602	-----	-----	-----	-----	-----	-----
2624	-----	-----	-----	-----	-----	-----
2637	<5	<0.1	3	<2	<5	<5
2678	-----	-----	-----	-----	-----	-----
2743	not detected	not detected	not detected	not detected	not detected	not detected
2758	not analyzed	not analyzed	not analyzed	not analyzed	not analyzed	not analyzed
2829	-----	-----	-----	-----	-----	-----
2864	-----	not detected	-----	-----	-----	-----
2910	not analyzed	not detected	not analyzed	not analyzed	not analyzed	not analyzed
2930	-----	-----	<500	-----	-----	-----
2995	-----	-----	-----	-----	-----	-----
3002	< 5	< 5	< 5	< 5	< 5	< 5
3116	-----	-----	-----	-----	-----	-----
3146	< 10	< 1	< 10	< 10	< 10	< 10
3160	<10	not determined	<10	<10	<10	not determined
3172	-----	< 10	< 10	-----	-----	-----
3176	-----	-----	-----	-----	-----	-----
3182	not analyzed	not analyzed	not analyzed	not analyzed	not analyzed	not analyzed
3199	-----	-----	-----	-----	-----	-----
3209	-----	<5	-----	-----	-----	-----
3228	-----	<10	-----	-----	-----	-----

Other reported Metals in sample #22580-4; results in mg/kg

lab	Sb	Cr	Co	Mn	Hg	Se	Sr	Zr
210	-----	-----	-----	-----	-----	-----	-----	-----
551	2.511	-----	0.522	1.791	279.263	-----	-----	-----
623	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
840	-----	-----	-----	-----	-----	-----	-----	-----
1126	-----	-----	-----	-----	-----	-----	-----	-----
1910	-----	-----	-----	-----	-----	-----	-----	-----
2120	-----	< 25	< 25	< 80	< 0,625	< 80	< 80	-----
2121	-----	-----	-----	-----	-----	-----	-----	-----
2135	-----	-----	-----	-----	-----	-----	-----	-----
2146	-----	-----	-----	-----	-----	-----	-----	-----
2159	<10	<10	<10	<10	<10	<10	<10	<10
2165	-----	not detected	-----	-----	not detected	-----	-----	-----
2184	-----	<10	-----	-----	<10	-----	-----	-----
2232	-----	<5	-----	-----	<5	-----	-----	-----
2250	<10	<10	<10	<10	<1	<50	<10	<20
2256	-----	-----	-----	-----	-----	-----	-----	-----
2258	-----	-----	-----	-----	-----	-----	-----	-----
2293	-----	-----	-----	-----	-----	-----	-----	-----
2310	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2311	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2314	-----	-----	-----	-----	-----	-----	-----	-----
2330	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
2347	-----	-----	-----	-----	<10	-----	-----	-----
2350	<10	<5	<5	<5	<2	<10	not analyzed	not analyzed
2357	not analyzed	not analyzed	not analyzed	not analyzed	not analyzed	not analyzed	not analyzed	not analyzed
2358	not analyzed	not detected	NA C	not analyzed	not detected	not analyzed	not analyzed	not analyzed
2365	-----	-----	-----	-----	-----	-----	-----	-----
2366	-----	-----	-----	-----	-----	-----	-----	-----
2370	-----	<2	<2	-----	<2	<2	<2	<2
2373	not analyzed	not analyzed	not analyzed	not applicable	not detected	not applicable	not applicable	not applicable
2375	<10	<10	<10	<10	<10	<10	<10	<10
2378	-----	-----	-----	-----	-----	-----	-----	-----
2379	Not analyzed	Not analyzed	Not analyzed	Not analyzed	Not detected	Not analyzed	Not analyzed	Not analyzed
2380	-----	-----	-----	-----	-----	-----	-----	-----
2381	-----	-----	-----	-----	-----	-----	-----	-----
2382	-----	-----	-----	-----	-----	-----	-----	-----
2385	<100	<10	<10	<10	<1	<25	<50	<50
2390	-----	-----	-----	-----	-----	-----	-----	-----
2406	-----	-----	-----	-----	-----	-----	-----	-----
2475	-----	-----	-----	-----	-----	-----	-----	-----
2489	-----	Not Detected	-----	-----	-----	-----	-----	-----
2511	-----	-----	-----	-----	-----	-----	-----	-----
2538	-----	-----	-----	-----	-----	-----	-----	-----
2564	-----	-----	-----	-----	-----	-----	-----	-----
2582	Not detected	< 3.00	< 3.00	6.09	< 3.00	< 3.00	< 3.00	Not Detected
2590	< L.O.Q	< L.O.Q	< L.O.Q	2.70	< L.O.Q	< L.O.Q	< L.O.Q	< L.O.Q
2602	-----	-----	-----	-----	-----	-----	-----	-----
2624	-----	-----	-----	-----	-----	-----	-----	-----
2637	4	<5	<1	3	<0.1	<2	<5	<5
2678	-----	-----	-----	-----	-----	-----	-----	-----
2743	not detected	not detected	not detected	3.03	not detected	not detected	not detected	not detected
2758	not analyzed	not analyzed	not analyzed	not analyzed	not analyzed	not analyzed	not analyzed	not analyzed
2829	-----	-----	-----	-----	-----	-----	-----	-----
2864	-----	-----	-----	-----	not detected	-----	-----	-----
2910	not analyzed	not analyzed	not analyzed	not analyzed	not analyzed	not analyzed	not analyzed	not analyzed
2930	-----	<50	-----	-----	-----	-----	-----	-----
2995	-----	not detected	-----	-----	-----	-----	-----	-----
3002	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
3116	-----	-----	-----	-----	-----	-----	-----	-----
3146	< 10	< 10	< 10	< 10	< 1	< 10	< 10	< 10
3160	<10	<10	<10	<10	not determined	<10	<10	not determined
3172	< 10	< 10	< 10	-----	< 10	-----	-----	-----
3176	-----	-----	-----	-----	-----	-----	-----	-----
3182	not analyzed	not analyzed	not analyzed	not analyzed	not analyzed	not analyzed	not analyzed	not analyzed
3199	-----	-----	-----	-----	-----	-----	-----	-----
3209	-----	<10	-----	-----	<5	-----	-----	-----
3228	-----	<10	-----	-----	<10	-----	-----	-----

Lab 2358 first reported: not detected

APPENDIX 6 Analytical details

lab	Accredited ISO17025	Intake in grams	Digestion acid used	Concentration Acid	Quantify technique used
210	Yes	-----	-----	-----	ICP-MS
551	No	0.1	HNO3 and HCl	28% HNO3 and 12% HCl	ICP-MS
623	Yes	0.09-0.21 gram	HNO3 concentrate & HCL concentrate	32%	ICP-OES
840	Yes	0.4g	HNO3, HCl, H2O2	10%	ICP-OES
1126	No	0,1 gram	10 ml HNO3 + 3 ml HCl	65%	ICP-OES
1910	Yes	0,15	2 HNO3 + H2O2 3 and 4 HNO3	65% HNO3	AAS
2120	No	Little ring 0,05 g; Main chain, larger ring and Rod 0,1 g	HCl and HNO3	HCL 37% HNO3 65%	ICP-MS
2121	Yes	Around 0.05 g	HCl and HNO3	HCl : 37% HNO3 : 70%	ICP-MS
2135	Yes	0,2	HNO3 and HCl	-----	ICP-OES
2146	No	200 mg. #22580-1 100 mg.	HNO3	67 % (m/m)	ICP-OES
2159	Yes	0.2	3:1 (HNO3:HCl)	%40 (V/V) Aqua Regia	ICP-MS
2165	Yes	0.04g-0.25g nearest to 1mg	Aqua regia	8% (v/v) Aqua regia	Pb/Cd AAS Cr/Hg ICP-OES
2184	Yes	0.1g	HNO3 and HCl	24%	ICP-AES
2232	Yes	0.2g	Nitric acid and Hydrochloric acid	Nitric acid :65% Hydrochloric acid :37%	ICP-OES
2250	Yes	0,05 - 0,1	nitric acid and hydrochloric acid	nitric acid: 65 and hydrochloric acid 37	ICP-MS
2256	-----	#22580-1: 0.1139 g; #22580-2: 0.1069 g; #22580-3: 0.1184 g; #22580-4: 0.1139 g	HNO3 and HCl	69% - 70& HNO3 / 36.5% - 38% HCl	ICP-OES
2258	No	0.2032	Nitric Acid	65 %	ICP-OES
2293	Yes	Little Rings: 0.0957 Main Chain: 0.3171 Big Ring: 0.2090 Rod: 0.1087	Nitric Acid	65	ICP-OES
2310	Yes	0.1g	HNO3	65% HNO3	ICP-MS
2311	Yes	0.1	Nitric Acid	69%	ICP-MS
2314	Yes	0.5 gms	Nitric acid	71%	AAS
2330	Yes	22580-1 : 0.094 g 22580-2 : 3.66 g 22580-3 : 0.41 g 22580-4 : 0.20 g	Nitric acid concentration	65 %	ICP-OES
2347	No	-----	-----	-----	ICP-OES
2350	Yes	approximately 0.1g	Nitric acid and hydrochloric acid	Nitric acid 70% , hydrochloric acid 36%	ICP-OES
2357	-----	-----	-----	-----	-----
2358	Yes	0.05 grams	Aqua Regia	N/A	ICP-MS
2365	Yes	0.1g	HCL,HNO3	HCL:36%~38%, HNO3:68%~70%	ICP-OES
2366	Yes	-----	-----	-----	-----
2370	Yes	0.2g	Nitric acid:4mL、hydrochloric acid:12mL	Nitric acid(69%)、hydrochloric acid(37%)	ICP-OES
2373	Yes	0.1g	9mlHNO3+3mlHCL	36%-38%	ICP-OES
2375	-----	22580-1 0,02 g-10 ml 22580-2 0,10 g-25 ml 22580-3 0,05 g-25 ml 22580-4 0,05g-25 ml	HNO3+HCl	-----	-----
2378	Yes	0.1g	HNO3	65%	ICP-OES
2379	Yes	0.1 g	HNO3, HCl	40% HNO3 + 10% HCl	ICP-MS
2380	Yes	0.25 g	HNO3 & HCl	HNO3 65 % & HCl 37 %	ICP-OES
2381	Yes	For Little Rings 0.05 g For Main Chain 0.25 g For Rod 0.20 g Larger Rings 0.10 g	Nitric acid	65%	ICP-OES
2382	Yes	0.0991	HCl HNO3	36.0 % - 38.0% hydrochloric acid (HCl) 69.0% - 71.0& nitric acid (HNO3)	ICP-OES
2385	Yes	0.0942 g 3.501 g 0.4062 g 0.2056 g	aqua regia		ICP-OES
2390	-----	-----	-----	-----	-----
2406	Yes	0.1 g	Nitric acid	3%	ICP-OES
2475	No	0.1	2.5 ml HNO3 and 7.5 ml HCl	-----	ICP-MS

lab	Accredited ISO17025	Intake in grams	Digestion acid used	Concentration Acid	Quantify technique used
2489	Yes	0.025g 0.054g 0.054g 0.0535g	HNO3/HCl	Nitric acid: 67-69% Hydrochloric acid 34-37%	ICP-MS
2511	---	-----	-----	-----	ICP-MS
2538	No	0,03 g	Nitric acid	33%	AAS
2564	Yes		Nitric Acid	65 % Nitric Acid	AAS
2582	No	1-0.0461 g 2-0.1048 g 3-0.1027 g 4-0.0522 g	Nitric Acid	69%	ICP-MS
2590	Yes	0.1	nitric acid and hydrochloric acid	8%	ICP-MS
2602	Yes	#22580-1: 0,0906g #22580-2: 0,3447g (A); 0,3445g (B) #22580-3: 0,4062g #22580-4: 0,1948g	nitric acid	33%	ICP-OES
2624	No	-----	-----	-----	XRF
2637	-----	-----	-----	-----	-----
2678	Yes	100 mg	Aqua regia (HCl and HNO3)	Nitric acid (65%) and Hydrochloric acid (37%)	ICP-OES
2743	Yes	22580-1: 0,05g 22580-2: 0,3g 22580-3: 0,1g 22580-4: 0,1g;	HNO3	65%	ICP-OES
2758	No	Little ring : 0.09564g Chain1 : 1.12106g chain2: 1.13767g chain3: 1.20603g rod : 0.40640g Larger ring : 0.20885g	nitric acid and chlorydric acid	nitric acid/chlorydric acid 65/32	ICP-OES
2829	No	0.100	NITRIC ACID AND HYDROCHLORIC ACID		ICP-OES
2864	Yes	0.1 g	Nitric acid	65%	ICP-OES
2910	Yes	0.1g	aqua regia	20%	ICP-OES
2930	Yes	22580-1: 0,093 g 22580-2: 0,408 g 22580-3: 0,407 g 22580-4: 0,209	aqua regia	5% HCl	ICP-AES
2995	No	2g	Acid mixture: HCl and HNO3	HCl 37% and HNO3 65&	ICP-OES
3002	Yes	1 - 0.093g 2 - 0.510g 3 - 0.252g 4 - 0.208g	HCl + HNO3	HCl 2% HNO3 4%	ICP-OES
3116	Yes	0.1g	Nitric acid and Hydrochloric acid	Nitric acid 6% and Hydrochloric acid 4%	AAS
3146	Yes	#22580-1: 0.0908 g #22580-2: 0.2839 g #22580-3: 0.1955 g #22580-4: 0.2050 g	HCl/HNO3 (3:1)	HCl (25 %) HNO3 (65 %)	ICP-MS
3160	Yes	0.1 g	HNO3 + HCl	6.5 %	ICP-MS
3172	Yes	-----	-----	-----	-----
3176	Yes	nearly 0,05			ICP-MS
3182	Yes	0.2 g	HNO3 and HCl	35% HNO3 and 37% HCl	ICP-OES
3199	Yes	#22580-1: 0.0462g #22580-2: 0.2068g #22580-3: 0.2015g	nitric and hydrochloric	Full concentration	ICP-OES
3209	Yes	#22580-1:0.0403g #22580-2:0.1075g #22580-3:0.1091g #22580-4:0.1026g	aqua regia (hydrochloric acid : Nitric acid = 3:1 V/V)	20%	ICP-OES
3228	-----	0.1g	HNO3 and HCl	2.5 ml 40% HNO34 + 2.5 ml 37% HCL	ICP-OES

APPENDIX 7

Number of participants per country

2 labs in BANGLADESH
1 lab in BRAZIL
1 lab in CAMBODIA
1 lab in FINLAND
2 labs in FRANCE
8 labs in GERMANY
2 labs in GUATEMALA
5 labs in HONG KONG
4 labs in INDIA
1 lab in INDONESIA
6 labs in ITALY
1 lab in KOREA, Republic of
1 lab in MOROCCO
12 labs in P.R. of CHINA
1 lab in PAKISTAN
1 lab in POLAND
1 lab in PORTUGAL
1 lab in SINGAPORE
1 lab in SPAIN
1 lab in SRI LANKA
1 lab in SWITZERLAND
2 labs in TAIWAN
2 labs in THAILAND
1 lab in THE NETHERLANDS
3 labs in TUNISIA
3 labs in TURKEY
1 lab in U.S.A.
1 lab in VIETNAM

APPENDIX 8

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
W	= test result withdrawn on request of participant
ex	= test result excluded from statistical evaluation
n.a.	= not applicable
n.e.	= not evaluated
n.d.	= not detected
fr.	= first reported

Literature

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