# IFA-Proficiency Testing Scheme for Water Analysis

Round M156
Metals

Sample Dispatch: 8 March 2021

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| | | |
|---|---|---|
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| Round: | Date / Signature: | 20 April 2021 |


1st edition, created on 14 April 2021 by Ing. Uta Kachelmeier. 97 pages

This report summarises the results of round M156 (trace metals) within the IFA-Proficiency Testing Scheme for Water Analysis. The samples M156A and M156B were distributed to 26 participants on Monday, 8 March 2021. Each participant received two samples of 250 mL filled into LDPE bottles.

Closing date for reporting results to the IFA-Tulln was Friday, 9 April 2021. 25 participants submitted results. To make the participants anonymous, each laboratory obtained a letter code by random.

## Samples

The samples consisted of artificial ground water spiked with pure standards. For sample preparation, ultrapure water was spiked with concentrated solutions of salts in order to simulate the ionic composition of natural Austrian ground water. Ultrapure $HNO_3$ (0.5 % v/v) was added to stabilise the sample at a pH below 2, which meets the standard sampling procedure in the Austrian monitoring program. The following ultrapure salts were used: $CaCO_3$, $Mg(NO_3)_2$, NaCl, KCl, besides ultrapure $H_2SO_4$ and HCl. By this, the matrix of the samples consisted of about 45.9 mg/L Ca, 19.5 mg/L Mg, 11.3 mg/L Na, 1.11 mg/L K, 21.7 mg/L $SO_4^{2-}$ and 18.7 mg/L $Cl^-$ in sample M156A and 46.1 mg/L Ca, 19.6 mg/L Mg, 11.3 mg/L Na, 1.11 mg/L K, 21.8 mg/L $SO_4^{2-}$ and 19.6 mg/L $Cl^-$ in sample M156B.

Traces of Al, As, Cd, Cr, Cu, Fe, Pb, Mn, Hg, Ni, Se, U and Zn were added, using certified spectroscopy standards. For most of the compounds added to the samples, the target concentrations were higher than the minimum quantifiable values of the Austrian ground and river water monitoring program. The calculation of the target concentrations of the compounds was based on the mass of standard added to the samples.

## Homogeneity, accuracy and stability tests at the IFA-Tulln

Some samples of the round M156A and M156B were analysed for all investigated parameters prior to shipment to the participants. The results are listed in the results tables and the parameter oriented part of the report ("IFA result").

Stability tests will be carried out together with the accuracy tests of the following round (M157).

According to our experience, the concentrations of Al, As, Cd, Cr, Cu, Fe, Pb, Mn, Ni, Se, U and Zn in the samples remain stable up to 18 months when stored at 4-6 °C in the dark. For the parameter Hg a concentration decrease of 2 % to 4 % per month can be expected.

## Results

Data evaluation was based on target concentrations that were calculated from the weights of the standards used to produce the samples. Their uncertainty intervals correspond to the expanded uncertainty (coverage factor k = 2) as described in the EURACHEM/CITAC Guide "Quantifying Uncertainty in Analytical Measurement, 3rd Edition (2012)".

Recoveries for individual laboratory results and overall mean values are related to the assigned concentrations. The results were tested for outliers by application of the Hampel outlier test (level of significance 99 %).

The recoveries of the target concentrations, calculated from outlier-corrected data mean values ranged between 93.2 % (Pb in sample M156A) and 104.3 % (As in sample M156B).

The between laboratory CVs covered the ranged between 3.9 % (Hg in sample M156A and Ni in sample M156B) and 10.8 % (Se in sample M156A).

All confidence intervals of the outlier-corrected laboratory mean values except that for Hg in sample M156A (96.1 % ± 2.7 %) and Pb in sample M156B (95.8 % ± 3.2 %) encompass the corresponding target values with their uncertainties. For all other parameters, no difference could be detected between target concentrations and outlier corrected laboratory mean values statistically.

**z-scores**

The most common approach to calculate a z-score is given by

$$z = \frac{x_i - X}{\sigma_{pt}}$$

| | |
|---|---|
| $z$ | z-score |
| $x_i$ | result of laboratory |
| $X$ | target value or mean value („consensus value“) |
| $\sigma_{pt}$ | standard deviation for proficiency assessment |

Thus, the z-score is the ratio of the estimated bias (difference between result and target value) and a standard deviation. The z-score criteria were determined from relative standard deviations from all interlaboratory comparisons that have been organised by the IFA-Tulln from 2010 to 2020. They represent average performance data of all former participating laboratories.

This approach was chosen, because standard deviations of the outlier-corrected measurements substantially vary between individual proficiency test rounds. Averaging standard deviations from proficiency testing rounds of several years can provide standard deviations for proficiency assessment on a broad data basis. It is therefore more suitable than a standard deviation taken directly from the interlaboratory comparison (EN ISO/IEC 17043:2010, B.3.1.3). Another advantage of previously determined standard deviations is that the participants can foresee which z-scores can be expected by their routine analysis methods before participation.

<u>Calculation example:</u>

A laboratory found 73.7 µg/L for the parameter Aluminium (recovery of 102 %). The target value for Aluminium was 72.3 µg/L (100 %). The relative standard deviation for proficiency assessment is given in the table below (as well as in the annual program www.ifatest.eu) by 7.9 %, which is 5.7 µg/L Al, when based on the target value.

$$z = \frac{x_i - X}{\sigma_{pt}} = \frac{73.7\ \mu g/L - 72.3\ \mu g/L}{5.7\ \mu g/L} \approx 0.25 \quad \textbf{or} \quad \frac{102\% - 100\%}{7.9\%} \approx 0.25$$

| | | |
|---|---|---|
| $z$ | z-score | |
| $x_i$ | 73.7 µg/L | equivalent to 102 % (result of the laboratory) |
| $X$ | 72.3 µg/L | equivalent to 100 % (target value) |
| $\sigma_{pt}$ | 5.7 µg/L | equivalent to 7.9 % (standard deviation for proficiency assessment,see table below) |

In the case of recalculation, deviations in the last digits may occur due to the fact that rounded values are given in the report for clarity.

The following table lists the standard deviations for proficiency assessment and their limits of applicability. Z-scores were only calculated, if the target values were higher than these limits.

| Parameter | standard deviation for proficiency assessment | Lower limit |
|---|---|---|
| Aluminium | 7.9 % | 8 µg/L |
| Arsenic | 7.9 % | 0.5 µg/L |
| Cadmium | 5.6 % | 0.1 µg/L |
| Chromium | 6.6 % | 0.5 µg/L |
| Copper | 8.5 % | 1.0 µg/L |
| Iron | 6.8 % | 10 µg/L |
| Lead | 7.3 % | 0.3 µg/L |
| Manganese | 5.4 % | 2.0 µg/L |
| Mercury | 11 % | 0.2 µg/L |
| Nickel | 8.0 % | 1.0 µg/L |
| Selenium | 11 % | 0.3 µg/L |
| Uranium | 5.8 % | 0.35 µg/L |
| Zinc | 7.8 % | 3 µg/L |

Normally, a classification based on z-scores is made this way:

| \|z-Score\| | Classification |
|---|---|
| ≤2 | satisfactory |
| 2<\|z\|<3 | questionable |
| ≥3 | unsatisfactory |

The z-scores are listed in the parameter-oriented evaluation in the tables next to the recoveries. Additionally, each laboratory receives a sheet on which the obtained z-scores are summarized and graphically presented. The standard deviations for proficiency assessment are given in concentration units there.

**Illustration of results**

An explanation to the illustration of the results is given on the following page.

The **laboratory oriented part** contains the measurement results and reported uncertainties of each individual laboratory for all parameters together with the achieved recoveries in graphical and tabular form. This part of the report also lists tables with the results originally reported by the laboratories.

In the **parameter oriented part** the reported results and corresponding uncertainties are illustrated together with recoveries of the target values and the z-scores for each parameter and all laboratories. This information is presented in graphical and tabular form. Results, which were identified as outliers by the Hampel test are marked with an asterisk (*) in the column “out”. These values were not considered for the calculation of statistical parameters (mean values, standard deviations and confidence intervals). Moreover, the parameter oriented part contains the uncertainties of the target values. The uncertainty intervals correspond to the expanded uncertainty (coverage factor k = 2) as described in the EURACHEM / CITAC Guide “Quantifying Uncertainty in Analytical Measurement” 3rd Edition (2012) “. The uncertainty interval of the reference concentration is illustrated in the graphs as a grey band around the 100 % recovery line.

Results, for which no recoveries could be calculated, are illustrated by one of the following symbols: **FN** (false negative), **FP** (false positive) or • - symbol.

- “FN”: a result is considered false negative when the “< result” reported is lower than the corresponding target value
- “FP”: False positive results can only be obtained for compounds that were evaluated on the basis of a “< target value”. A result is termed FP if it does not include (strike) the “< target” with its measurement uncertainty.
- “•”: All other results for which no recoveries can be calculated are illustrated by this symbol

Tulln, 20 April 2021

# EXPLANATION

## Sample M106A

### Parameter Copper

| | | | | |
|---|---|---|---|---|
| Target value ± U (k=2) | 4,79 µg/l | ± | 0,13 µg/l | *Obtained from sample preperation, U=uncertainty* |
| IFA result ± U (k=2) | 4,79 µg/l | ± | 0,38 µg/l | *Determined at IFA prior to shipment of samples* |
| Stability test ± U (k=2) | 4,69 µg/l | ± | 0,38 µg/l | *Determined at IFA 3 weeks after sample dispatch* |

| Lab Code | Result | ± | Unit | Recovery | z-Score |
|---|---|---|---|---|---|
| A | 5,16 | 0,4128 | µg/l | 108% | 0,90 |
| B | 4,22 | 0,42 | µg/l | 88% | -1,38 |
| C | 4,45 | 0,13 | µg/l | 93% | -0,83 |
| D | | | µg/l | | |
| E | | | µg/l | | |
| F | 4,10 | 0,08 | µg/l | 86% | -1,68 |
| G | | | µg/l | | |
| H | | | µg/l | | |
| I | 4,75 | 0,74 | µg/l | 99% | -0,10 |
| J | <5 | | µg/l | • | |
| K | 4,76 | | µg/l | 99% | -0,07 |
| L | <10 | | µg/l | • | |
| M | 4,8 | 0,5 | µg/l | 100% | 0,02 |
| N | 3,7 | 0,4 | µg/l | 77% | -2,65 |
| O | 4,47 | 0,447 | µg/l | 93% | -0,78 |
| P | 6,0 | | µg/l | 125% | 2,94 |
| Q | 4,17 | 0,2 | µg/l | 87% | -1,51 |
| R | 4,6 | 0,8 | µg/l | 96% | -0,46 |
| S | 4,44 | 0,67 | µg/l | 93% | -0,85 |
| T | | | µg/l | | |
| U | 4,675 | 0,935 | µg/l | 98% | -0,28 |
| V | 5,0 | 0,50 | µg/l | 104% | 0,51 |
| W | 3,54 | 0,3 | µg/l | 74% | -3,03 |
| X | 7,108 * | 0,749 | µg/l | 148% | 5,63 |
| Y | <10 | | µg/l | • | |
| Z | | | µg/l | | |
| AA | <3,0 | | µg/l | FN | |
| AB | 3,775 | 0,107 | µg/l | 79% | -2,46 |
| AC | <10,0 | | µg/l | • | |

*Recovery of target value in percent*

*z-Score of the laboratory*

*An asterik indicates a result detected as outlier by Hampel test*

*Interval expected to encompass target value as stated by participant*

| | All results | Outliers excl. | Unit |
|---|---|---|---|
| Mean ± CI(99%) | 4,65 ± 0,57 | 4,51 ± 0,42 | µg/l |
| Recov. ± CI(99%) | 97,1 ± 12,0 | 94,1 ± 8,8 | % |
| SD between labs | 0,84 | 0,59 | µg/l |
| RSD between labs | 18,1 | 13,2 | % |
| n for calculation | 18 | 17 | |

*Between laboratory standard deviation*

*Laboratory mean and recovery of target value with corresponding confidence intervals (p=99%)*

*Number of results used for calculation of statistic parameters*

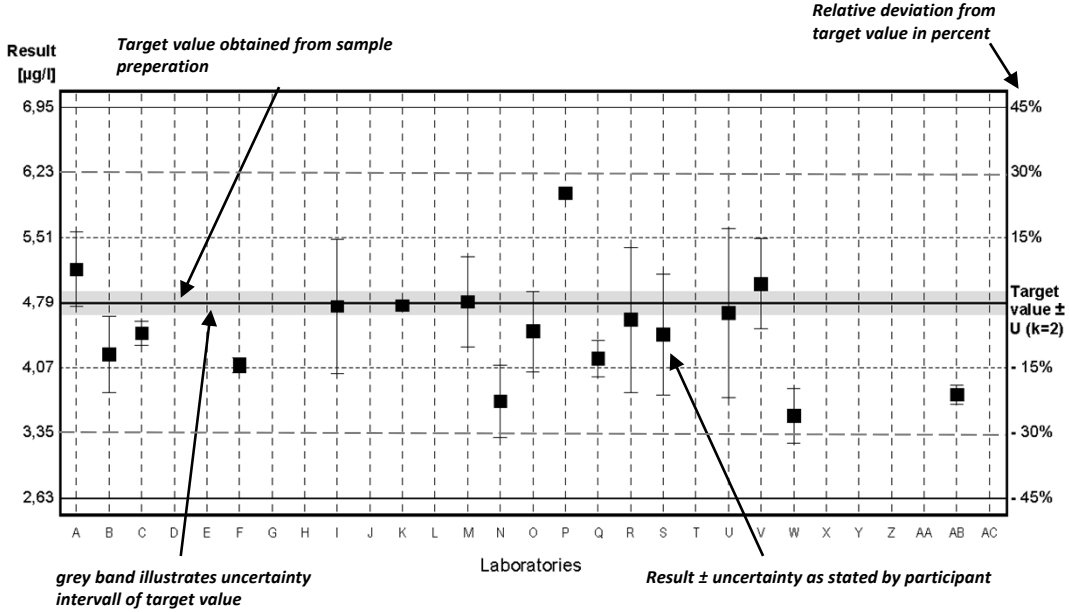



*Diagram 1: Measurement results and their uncertainties*

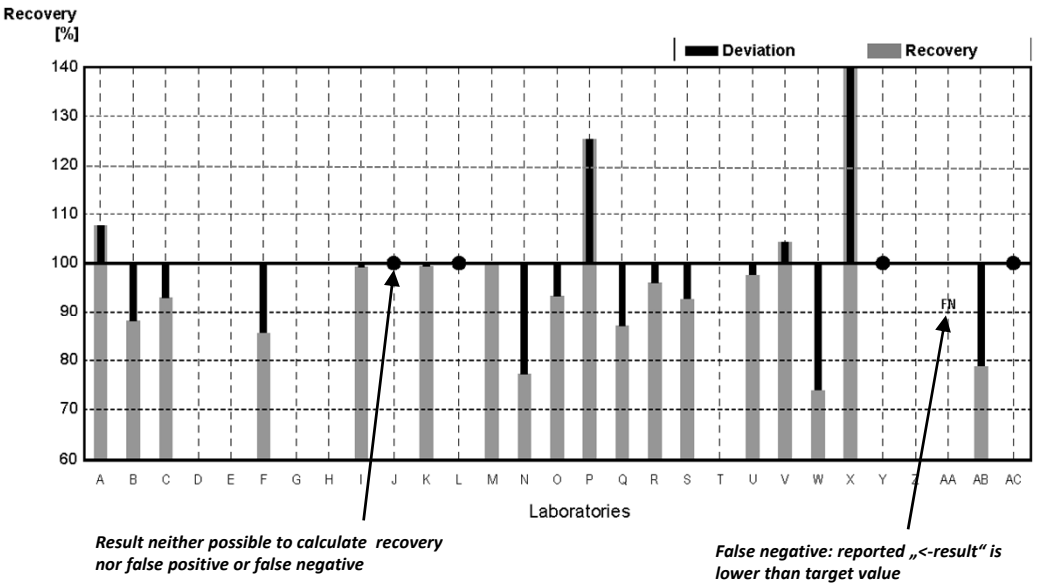



*Diagram 2: Recoveries and deviations from target values*

# Illustration of Results

# Tables and Parameter Oriented Part

Round M156
Metals

Sample Dispatch: 8 March 2021

TULLN

**Results Sample M156A**

| | Aluminium | Arsenic | Lead | Cadmium | Chromium | Iron | Copper |
|---|---|---|---|---|---|---|---|
| Target value | 17.4 | 1.15 | 0.397 | 1.66 | 4.15 | 40.7 | 5.23 |
| IFA result | 17.7 | 1.22 | 0.403 | 1.73 | 4.28 | 40.8 | 5.16 |
| A | 16.4 | 1.14 | <0.5 | 1.67 | 4.10 | 39.9 | 4.84 |
| B | 19.3 | 1.31 | <1 | 1.73 | 4.31 | 43.3 | 5.01 |
| C | 19.1 | 1.21 | 0.360 | 1.62 | 4.19 | 42.0 | 5.02 |
| D | 16.8 | 1.16 | <1.0 | 1.65 | 4.06 | 39.9 | 4.96 |
| E | 15.8 | 1.06 | <0.1 | 1.18 | 2.37 | 34.1 | 3.33 |
| F | | | | | | | |
| G | 16.5 | 1.11 | 0.360 | 1.60 | 3.97 | 38.8 | 4.77 |
| H | 20.3 | <2 | <2 | 1.47 | <5 | 44.4 | <5 |
| I | 18.7 | 1.16 | 0.387 | 1.72 | 4.02 | 39.6 | 5.09 |
| J | 17.6 | 1.10 | 0.394 | 1.60 | 4.04 | 42.9 | 4.94 |
| K | 20.3 | <1.5 | <1 | 1.589 | <5 | 41.0 | 5.29 |
| L | 17.5 | 1.13 | 0.391 | 1.67 | 4.20 | 42.0 | 5.23 |
| M | 18.2 | <2 | <2 | 1.68 | <5 | 43.2 | <10 |
| N | 16.2 | 1.18 | <1.00 | 1.64 | 4.28 | 39.6 | 5.3 |
| O | 18.06 | 1.184 | 0.362 | 1.726 | 4.36 | 41.51 | 5.37 |
| P | 19.0 | 1.29 | 0.363 | 1.72 | 4.52 | 43.6 | 5.15 |
| Q | 16.9 | 1.09 | 0.390 | 1.65 | 3.91 | 40.48 | 5.05 |
| R | 16.9 | 1.17 | <1.0 | 1.65 | 4.40 | 42.1 | 5.41 |
| S | 17.07 | 1.192 | <0.3 | 1.651 | 4.323 | 37.75 | 4.756 |
| T | 18.0 | 1.39 | 0.316 | | 4.18 | 41.4 | 4.26 |
| U | 14.03 | 1.12 | <0.50 | 1.66 | 4.06 | 40.14 | 4.82 |
| V | <20.0 | | <8.0 | | | 39.0 | <10.0 |
| W | 17.2 | | | | | 36.3 | |
| X | 11.254 | 1.116 | 0.374 | 1.549 | 3.998 | 40.040 | 4.598 |
| Y | 21.000 | 1.2000 | <0.5 | 1.79000 | 4.2000 | 44.00 | 5.4000 |
| Z | 13.5 | 1.11 | 0.372 | 1.80 | 4.63 | 41.6 | 4.97 |

**All data in µg/L**

**Measurement Uncertainties Sample M156A**

| | Aluminium ± | Arsenic ± | Lead ± | Cadmium ± | Chromium ± | Iron ± | Copper ± |
|---|---|---|---|---|---|---|---|
| Target value | 0.2 | 0.01 | 0.014 | 0.01 | 0.03 | 0.2 | 0.04 |
| IFA result | 0.9 | 0.13 | 0.012 | 0.10 | 0.13 | 3.3 | 0.26 |
| A | 1.64 | 0.11 | | 0.17 | 0.41 | 4.0 | 0.48 |
| B | 2.90 | 0.20 | | 0.26 | 0.65 | 6.50 | 0.75 |
| C | 1 | 0.05 | 0.03 | 0.03 | 0.1 | 0.8 | 0.1 |
| D | 1.9 | 0.065 | | 0.077 | 0.57 | 4.4 | 0.27 |
| E | 0.72 | 0.05 | | 0.05 | 0.63 | 1.71 | 1 |
| F | | | | | | | |
| G | 0.6 | 0.01 | 0.017 | 0.03 | 0.11 | 0.4 | 0.22 |
| H | 2.03 | | | 0.147 | | 4.44 | |
| I | 0.395 | 0.043 | 0.006 | 0.038 | 0.082 | 0.272 | 0.090 |
| J | 1.8 | 0.11 | 0.04 | 0.16 | 0.4 | 4.3 | 0.5 |
| K | 1.7 | | | 0.03 | | 0.5 | 0.71 |
| L | 4.4 | 0.34 | 0.10 | 0.42 | 1.3 | 13 | 1.6 |
| M | 2.8 | | | 0.12 | | 3.6 | |
| N | 0.77 | 0.21 | | 0.025 | 0.10 | 0.82 | 0.04 |
| O | 4.33 | 0.225 | 0.069 | 0.259 | 0.74 | 8.72 | 0.86 |
| P | 3.42 | 0.219 | 0.054 | 0.224 | 0.633 | 6.54 | 0.927 |
| Q | 2.873 | 0.087 | 0.0195 | 0.099 | 0.3519 | 4.048 | 0.758 |
| R | 3.4 | 0.23 | | 0.33 | 0.88 | 8.4 | 1.08 |
| S | 1.52 | 0.205 | | 0.213 | 0.464 | 3.38 | 0.343 |
| T | | | | | | | |
| U | 0.616 | 0.031 | | 0.024 | 0.116 | 1.492 | 0.068 |
| V | 5.86 | | 0.84 | | | 9.15 | 1.53 |
| W | 4 | | | | | 4 | |
| X | 2.814 | 0.167 | 0.0749 | 0.232 | 0.600 | 4.004 | 0.690 |
| Y | 2.1000 | 0.14400 | | 0.1432 | 0.5040 | 11.4400 | 0.4320 |
| Z | 3.4 | 0.42 | 0.489 | 0.37 | 1.09 | 9.2 | 1.20 |

**All data in µg/L**

**Results Sample M156A**

| | Manganese | Nickel | Mercury | Selenium | Uranium | Zinc |
|---|---|---|---|---|---|---|
| Target value | 62.4 | 4.87 | 3.05 | 1.11 | 1.05 | 7.3 |
| IFA result | 62.4 | 5.05 | 3.22 | 1.14 | 1.04 | 7.7 |
| A | 60.0 | 4.74 | 3.00 | 1.18 | 1.06 | 6.7 |
| B | 66.1 | 4.83 | 3.76 | 1.17 | 1.11 | 7.52 |
| C | 63.1 | 4.76 | 2.71 | 1.10 | 0.96 | 7.11 |
| D | 61.4 | 4.75 | 2.17 | 1.14 | 1.01 | 7.02 |
| E | 67 | 3.92 | | 0.95 | 0.99 | 6.5 |
| F | | | | | | |
| G | 60.1 | 4.59 | 2.90 | 1.08 | 0.99 | 6.53 |
| H | 65.6 | <5 | 3.55 | <2 | 1.02 | <15 |
| I | 61.3 | 5.14 | 2.96 | 1.26 | 1.09 | 7.02 |
| J | 61.1 | 4.58 | 3.07 | 1.11 | 1.00 | 6.80 |
| K | 62.2 | 4.73 | 2.92 | 1.17 | <2 | <10 |
| L | 61.9 | 4.86 | 2.95 | 1.05 | 1.01 | 6.67 |
| M | 62.0 | 4.88 | | <5 | | <10 |
| N | 64.0 | 5.11 | 3.00 | 1.33 | <1.00 | 7.68 |
| O | 61.46 | 5.06 | 3.52 | 1.176 | 1.042 | 7.64 |
| P | 67.1 | 5.03 | 3.04 | 1.95 | 0.979 | 7.90 |
| Q | 61.3 | 4.83 | 2.67 | 1.02 | 1.04 | 6.81 |
| R | 67.7 | 5.30 | 2.99 | 1.09 | 1.10 | 6.98 |
| S | 57.89 | 4.741 | 2.822 | 1.183 | 1.019 | 7.556 |
| T | 61.8 | 4.71 | | 1.50 | 1.02 | 7.37 |
| U | 60.12 | 4.99 | 2.90 | 1.02 | 1.02 | 6.23 |
| V | 61.0 | | | | | <20.0 |
| W | 57 | | | | | |
| X | 59.015 | 4.900 | 2.938 | 1.197 | 1.054 | 7.209 |
| Y | 66.000 | 5.000 | 2.9700 | 1.3000 | 1.1300 | 7.000 |
| Z | 64.8 | 5.41 | 3.05 | 1.09 | | 7.20 |

**All data in µg/L**

## Measurement Uncertainties Sample M156A

| | Manganese ± | Nickel ± | Mercury ± | Selenium ± | Uranium ± | Zinc ± |
|---|---|---|---|---|---|---|
| Target value | 0.4 | 0.03 | 0.03 | 0.06 | 0.01 | 0.7 |
| IFA result | 4.4 | 0.20 | 0.61 | 0.14 | 0.11 | 1.2 |
| A | 6.0 | 0.47 | 0.30 | 0.18 | 0.11 | 0.67 |
| B | 9.92 | 0.72 | 0.56 | 0.18 | 0.17 | 1.13 |
| C | 1 | 0.1 | 0.01 | 0.2 | 0.02 | 0.5 |
| D | 3.4 | 0.36 | 0.34 | 0.14 | 0.11 | 0.44 |
| E | 12 | 0.92 | | 0.05 | 0.05 | 1.48 |
| F | | | | | | |
| G | 1.2 | 0.05 | 0.12 | 0.02 | 0.01 | 0.39 |
| H | 6.56 | | 0.533 | | 0.102 | |
| I | 0.960 | 0.090 | 0.028 | 0.096 | 0.006 | 0.106 |
| J | 6.1 | 0.46 | 0.31 | 0.11 | 0.1 | 0.68 |
| K | 1.1 | 0.1 | 0.07 | 0.07 | | |
| L | 19 | 1.2 | 0.89 | 0.42 | 0.31 | 1.7 |
| M | 5.8 | 0.6 | | | | |
| N | 1.40 | 0.09 | 0.05 | 0.07 | | 0.34 |
| O | 9.22 | 0.81 | 0.53 | 0.365 | 0.177 | 2.06 |
| P | 8.05 | 0.905 | 0.669 | 0.468 | 0.117 | 1.42 |
| Q | 5.517 | 0.869 | 0.294 | 0.0612 | 0.0832 | 0.6129 |
| R | 13.5 | 1.06 | 0.60 | 0.22 | 0.22 | 1.40 |
| S | 3.91 | 0.514 | 0.709 | 0.217 | 0.098 | 1.619 |
| T | | | | | | |
| U | 1.082 | 0.196 | 0.406 | 0.032 | 0.047 | 0.334 |
| V | 8.07 | | | | | 1.06 |
| W | 9 | | | | | |
| X | 5.902 | 0.735 | 0.4406 | 0.180 | 0.158 | 1.081 |
| Y | 6.6000 | 0.5000 | 0.3564 | 0.1950 | 0.057 | 0.7000 |
| Z | 12.3 | 1.42 | 0.47 | 0.41 | | 2.18 |

**All data in µg/L**

**Results Sample M156B**

| | Aluminium | Arsenic | Lead | Cadmium | Chromium | Iron | Copper |
|---|---|---|---|---|---|---|---|
| Target value | 21.8 | 4.38 | 2.74 | 0.891 | 6.24 | 55.9 | 101.9 |
| IFA result | 21.9 | 4.36 | 2.70 | 0.934 | 6.36 | 53.3 | 98.1 |
| A | 21.0 | 4.33 | 2.50 | 0.89 | 6.18 | 55 | 95 |
| B | 24.5 | 4.90 | 2.75 | 0.944 | 6.52 | 60.4 | 102 |
| C | 23.5 | 4.59 | 2.53 | 0.86 | 6.38 | 59.6 | 98.1 |
| D | 22.0 | 4.44 | 2.68 | 0.881 | 6.15 | 55.4 | 98.7 |
| E | 19.3 | 4.78 | 2.03 | 0.291 | 4.91 | 42.8 | 102 |
| F | | | | | | | |
| G | 21.0 | 4.25 | 2.46 | 0.842 | 5.99 | 53.4 | 94.7 |
| H | 25.2 | 4.85 | 2.53 | <1 | 6.91 | 62.5 | 102.2 |
| I | 23.3 | 4.55 | 2.75 | 0.949 | 6.27 | 55.6 | 101 |
| J | 22.5 | 4.22 | 2.68 | 0.86 | 6.07 | 60.1 | 98.0 |
| K | 35.4 | 4.47 | 2.60 | 0.843 | 6.01 | 54.4 | 94.5 |
| L | 21.9 | 4.39 | 2.72 | 0.926 | 6.36 | 57.9 | 103.9 |
| M | 22.7 | 4.75 | 3.14 | <1 | <5 | 55.9 | 98.7 |
| N | 20.5 | 4.56 | 2.66 | 0.886 | 6.14 | 54.8 | 105 |
| O | 22.34 | 4.57 | 2.69 | 0.918 | 6.52 | 58.86 | 107.75 |
| P | 22.4 | 5.14 | 2.40 | 0.953 | 6.72 | 60.1 | 102 |
| Q | 21.4 | 4.29 | 2.69 | 0.87 | 6.00 | 55.9 | 99.96 |
| R | 20.9 | 4.51 | 2.73 | 0.875 | 6.70 | 57.3 | 105 |
| S | 21.56 | 4.524 | 2.383 | 0.8731 | 6.536 | 52.27 | 89.64 |
| T | 22.0 | 4.98 | 2.48 | | 6.32 | 58.2 | 95.0 |
| U | 18.53 | 4.35 | 2.63 | 0.89 | 6.15 | 56.33 | 93.28 |
| V | 24.0 | | <8.0 | | | 53.0 | 100.0 |
| W | 22.0 | | | | | 50 | |
| X | 16.076 | 4.170 | 2.623 | 0.831 | 5.968 | 54.204 | 97.193 |
| Y | 26.000 | 5.1000 | 3.000 | 0.9500 | 6.400 | 60.00 | 105.000 |
| Z | 20.8 | 4.33 | 2.62 | 0.965 | 6.81 | 57.2 | 105 |

**All data in µg/L**

**Measurement Uncertainties Sample M156B**

| | Aluminium ± | Arsenic ± | Lead ± | Cadmium ± | Chromium ± | Iron ± | Copper ± |
|---|---|---|---|---|---|---|---|
| Target value | 0.2 | 0.03 | 0.02 | 0.008 | 0.05 | 0.3 | 0.4 |
| IFA result | 1.1 | 0.48 | 0.08 | 0.056 | 0.19 | 3.7 | 3.9 |
| A | 2.1 | 0.43 | 0.25 | 0.09 | 0.62 | 5.5 | 9.5 |
| B | 3.68 | 0.73 | 0.41 | 0.142 | 0.98 | 9.06 | 15.3 |
| C | 1 | 0.05 | 0.03 | 0.03 | 0.1 | 0.8 | 0.1 |
| D | 2.4 | 0.25 | 0.28 | 0.041 | 0.87 | 6.1 | 5.4 |
| E | 0.29 | 0.12 | 0.05 | 0.05 | 1.18 | 2.14 | 16.46 |
| F | | | | | | | |
| G | 0.5 | 0.10 | 0.08 | 0.022 | 0.19 | 1.1 | 1.8 |
| H | 2.52 | 0.485 | 0.253 | | 0.691 | 6.25 | 10.22 |
| I | 0.410 | 0.037 | 0.057 | 0.019 | 0.022 | 0.211 | 0.605 |
| J | 2.3 | 0.42 | 0.27 | 0.09 | 0.61 | 6.0 | 9.8 |
| K | 1.6 | 0.11 | 0.05 | 0.36 | 0.29 | 0.9 | 2.3 |
| L | 5.5 | 1.3 | 0.68 | 0.24 | 1.9 | 17 | 31 |
| M | 3.5 | 0.71 | 0.54 | | | 4.7 | 25.7 |
| N | 0.75 | 0.18 | 0.09 | 0.01 | 0.10 | 0.80 | 1.15 |
| O | 5.36 | 0.868 | 0.51 | 0.138 | 1.11 | 12.36 | 17.24 |
| P | 4.03 | 0.874 | 0.360 | 0.124 | 0.868 | 9.02 | 18.4 |
| Q | 3.638 | 0.343 | 0.1345 | 0.0522 | 0.540 | 5.59 | 14.994 |
| R | 4.2 | 0.90 | 0.55 | 0.175 | 1.34 | 11.5 | 21 |
| S | 1.92 | 0.778 | 0.183 | 0.1124 | 0.701 | 4.67 | 6.47 |
| T | | | | | | | |
| U | 0.881 | 0.140 | 0.078 | 0.013 | 0.184 | 2.062 | 1.347 |
| V | 7.04 | | 0.84 | | | 12.43 | 15.3 |
| W | 10.0 | | | | | 10 | |
| X | 4.019 | 0.417 | 0.394 | 0.166 | 0.895 | 5.420 | 9.719 |
| Y | 2.6000 | 0.612 | 0.2400 | 0.076 | 0.768 | 15.6000 | 8.4000 |
| Z | 4.3 | 0.98 | 0.89 | 0.246 | 1.34 | 11.3 | 13 |

**All data in µg/L**

**Results Sample M156B**

| | Manganese | Nickel | Mercury | Selenium | Uranium | Zinc |
|---|---|---|---|---|---|---|
| Target value | 16.2 | 10.8 | 0.77 | 3.50 | 6.33 | 18.4 |
| IFA result | 15.7 | 11.2 | 0.81 | 3.35 | 6.05 | 17.8 |
| A | 15.7 | 10.2 | 0.73 | 3.63 | 6.35 | 17.0 |
| B | 17.4 | 10.8 | 0.938 | 3.70 | 6.65 | 20.1 |
| C | 16.5 | 10.8 | 0.72 | 3.80 | 5.72 | 18.1 |
| D | 16.4 | 10.6 | 0.580 | 3.42 | 6.21 | 17.9 |
| E | 16.1 | 10.1 | | 3.52 | 6.6 | 18.89 |
| F | | | | | | |
| G | 15.5 | 10.1 | 0.674 | 3.32 | 5.93 | 17.4 |
| H | 18.0 | 11.4 | 0.85 | 3.92 | 6.48 | 17.5 |
| I | 16.7 | 11.0 | 0.715 | 3.70 | 6.15 | 18.5 |
| J | 15.9 | 10.4 | 0.76 | 3.40 | 6.06 | 18.1 |
| K | 15.8 | 10.3 | 0.71 | 3.32 | 6.07 | 17.7 |
| L | 16.1 | 10.8 | 0.762 | 3.53 | 5.99 | 18.0 |
| M | 16.1 | 11.0 | | <5 | | 19.3 |
| N | 16.1 | 11.0 | 0.718 | 3.75 | 6.24 | 18.4 |
| O | 16.28 | 11.36 | 0.753 | 3.73 | 6.11 | 19.4 |
| P | 17.9 | 11.2 | 0.746 | 4.75 | 5.39 | 20.5 |
| Q | 16.4 | 10.9 | 0.66 | 3.54 | 6.16 | 17.1 |
| R | 17.5 | 11.4 | 0.727 | 3.50 | 6.27 | 18.3 |
| S | 15.07 | 10.66 | 0.6524 | 3.668 | 5.988 | 17.54 |
| T | 16.2 | 10.7 | | 4.37 | 6.05 | 19.7 |
| U | 15.85 | 10.62 | 0.67 | 3.52 | 6.12 | 17.00 |
| V | 16.0 | | | | | <20.0 |
| W | 14.4 | | | | | |
| X | 15.347 | 10.915 | 0.6828 | 3.434 | 6.287 | 18.035 |
| Y | 17.000 | 11.2000 | 0.74000 | 3.800 | 6.76 | 19.000 |
| Z | 16.9 | 11.6 | 0.803 | 3.60 | | 18.6 |

**All data in µg/L**

## Measurement Uncertainties Sample M156B

| | Manganese ± | Nickel ± | Mercury ± | Selenium ± | Uranium ± | Zinc ± |
|---|---|---|---|---|---|---|
| Target value | 0.1 | 0.1 | 0.02 | 0.06 | 0.05 | 0.7 |
| IFA result | 1.1 | 0.3 | 0.15 | 0.40 | 0.67 | 2.3 |
| A | 1.6 | 1.0 | 0.07 | 0.54 | 0.64 | 1.7 |
| B | 2.60 | 1.61 | 0.141 | 0.55 | 1.00 | 3.01 |
| C | 1 | 0.1 | 0.01 | 0.2 | 0.02 | 0.5 |
| D | 0.90 | 0.81 | 0.09 | 0.41 | 0.66 | 1.1 |
| E | 2.83 | 1.94 | | 0.08 | 0.168 | 3.58 |
| F | | | | | | |
| G | 0.5 | 0.2 | 0.023 | 0.06 | 0.04 | 0.5 |
| H | 1.80 | 1.14 | 0.128 | 0.392 | 0.648 | 1.75 |
| I | 0.299 | 0.030 | 0.011 | 0.052 | 0.127 | 0.248 |
| J | 1.6 | 1.0 | 0.08 | 0.34 | 0.61 | 1.8 |
| K | 0.2 | 0.19 | 0.02 | 0.05 | 0.25 | 0.5 |
| L | 4.9 | 2.7 | 0.23 | 1.4 | 1.8 | 4.5 |
| M | 1.5 | 1.4 | | | | 2.7 |
| N | 1.59 | 0.25 | 0.025 | 0.06 | 0.16 | 0.31 |
| O | 2.44 | 1.82 | 0.113 | 1.16 | 1.04 | 5.2 |
| P | 2.15 | 2.02 | 0.164 | 1.14 | 0.647 | 3.69 |
| Q | 1.476 | 1.962 | 0.0726 | 0.2124 | 0.4928 | 1.539 |
| R | 3.5 | 2.3 | 0.145 | 0.70 | 1.25 | 3.7 |
| S | 1.02 | 1.15 | 0.1639 | 0.671 | 0.574 | 3.76 |
| T | | | | | | |
| U | 0.330 | 0.292 | 0.094 | 0.104 | 0.277 | 0.431 |
| V | 2.12 | | | | | 1.06 |
| W | 2 | | | | | |
| X | 1.535 | 1.637 | 0.1366 | 0.343 | 0.943 | 1.803 |
| Y | 1.7000 | 1.12000 | 0.0888 | 0.570 | 0.338 | 1.9000 |
| Z | 3.5 | 2.5 | 0.171 | 0.81 | | 3.8 |

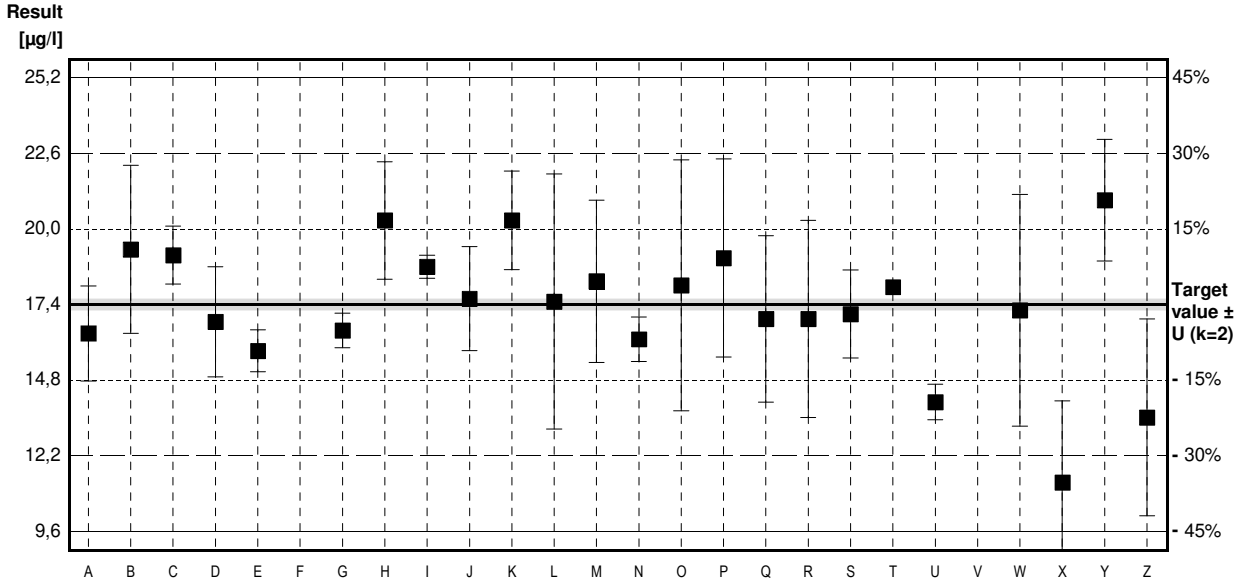
**All data in µg/L**

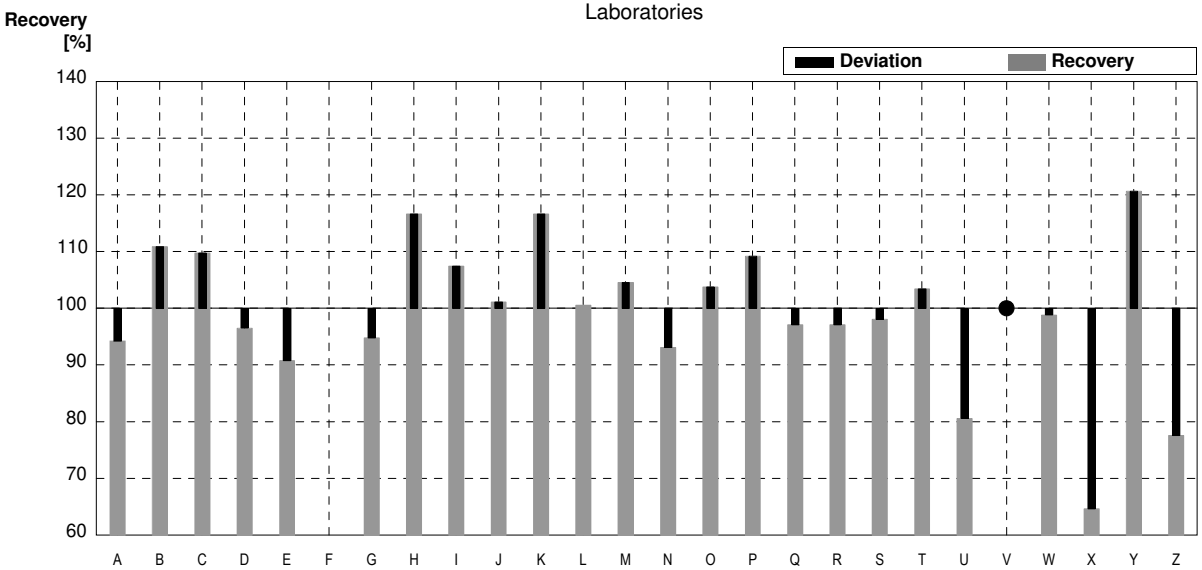
## Sample M156A
## Parameter Aluminium

| | | | | | |
|---|---|---|---|---|---|
| Target value | ± U (k=2) | 17,4 µg/l | ± | 0,2 µg/l | |
| IFA result | ± U (k=2) | 17,7 µg/l | ± | 0,9 µg/l | |
| Stability test | | µg/l | | | |

| Lab Code | Result | ± | Unit | Recovery | z-Score |
|---|---|---|---|---|---|
| A | 16,4 | 1,64 | µg/l | 94% | -0,73 |
| B | 19,3 | 2,90 | µg/l | 111% | 1,38 |
| C | 19,1 | 1 | µg/l | 110% | 1,24 |
| D | 16,8 | 1,9 | µg/l | 97% | -0,44 |
| E | 15,8 | 0,72 | µg/l | 91% | -1,16 |
| F | | | µg/l | | |
| G | 16,5 | 0,6 | µg/l | 95% | -0,65 |
| H | 20,3 | 2,03 | µg/l | 117% | 2,11 |
| I | 18,7 | 0,395 | µg/l | 107% | 0,95 |
| J | 17,6 | 1,8 | µg/l | 101% | 0,15 |
| K | 20,3 | 1,7 | µg/l | 117% | 2,11 |
| L | 17,5 | 4,4 | µg/l | 101% | 0,07 |
| M | 18,2 | 2,8 | µg/l | 105% | 0,58 |
| N | 16,2 | 0,77 | µg/l | 93% | -0,87 |
| O | 18,06 | 4,33 | µg/l | 104% | 0,48 |
| P | 19,0 | 3,42 | µg/l | 109% | 1,16 |
| Q | 16,9 | 2,873 | µg/l | 97% | -0,36 |
| R | 16,9 | 3,4 | µg/l | 97% | -0,36 |
| S | 17,07 | 1,52 | µg/l | 98% | -0,24 |
| T | 18,0 | | µg/l | 103% | 0,44 |
| U | 14,03 | 0,616 | µg/l | 81% | -2,45 |
| V | <20,0 | 5,86 | µg/l | • | |
| W | 17,2 | 4 | µg/l | 99% | -0,15 |
| X | 11,254 * | 2,814 | µg/l | 65% | -4,47 |
| Y | 21,000 | 2,1000 | µg/l | 121% | 2,62 |
| Z | 13,5 | 3,4 | µg/l | 78% | -2,84 |

| | All results | Outliers excl. | Unit |
|---|---|---|---|
| Mean ± CI(99%) | 17,3 ± 1,3 | 17,6 ± 1,1 | µg/l |
| Recov. ± CI(99%) | 99,5 ± 7,3 | 101,0 ± 6,2 | % |
| SD between labs | 2,2 | 1,8 | µg/l |
| RSD between labs | 12,8 | 10,5 | % |
| n for calculation | 24 | 23 | |



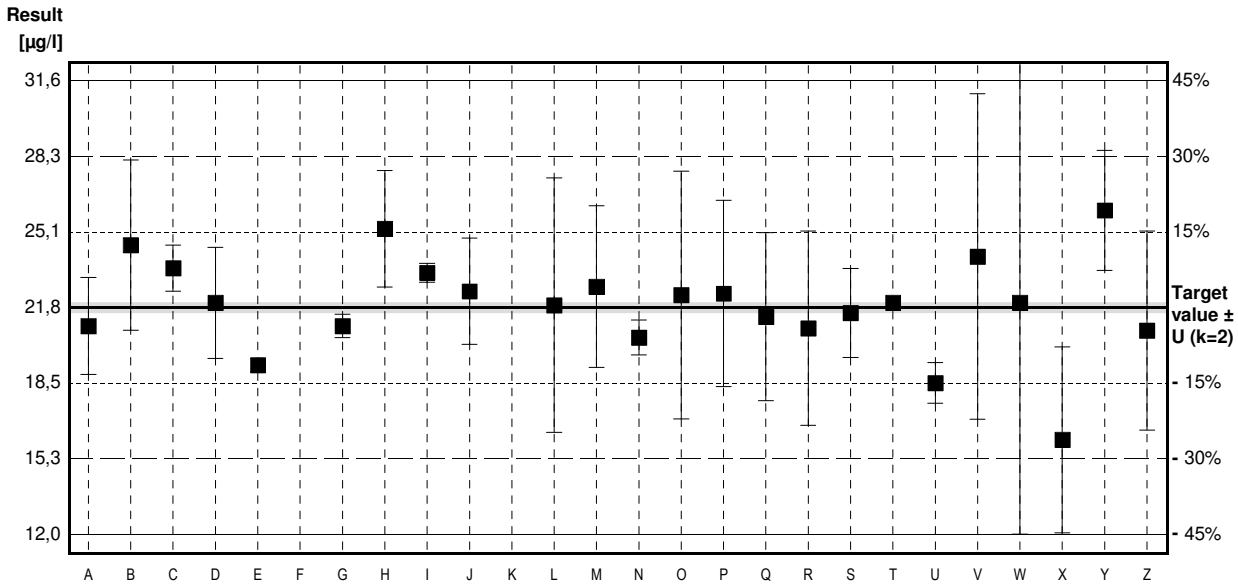



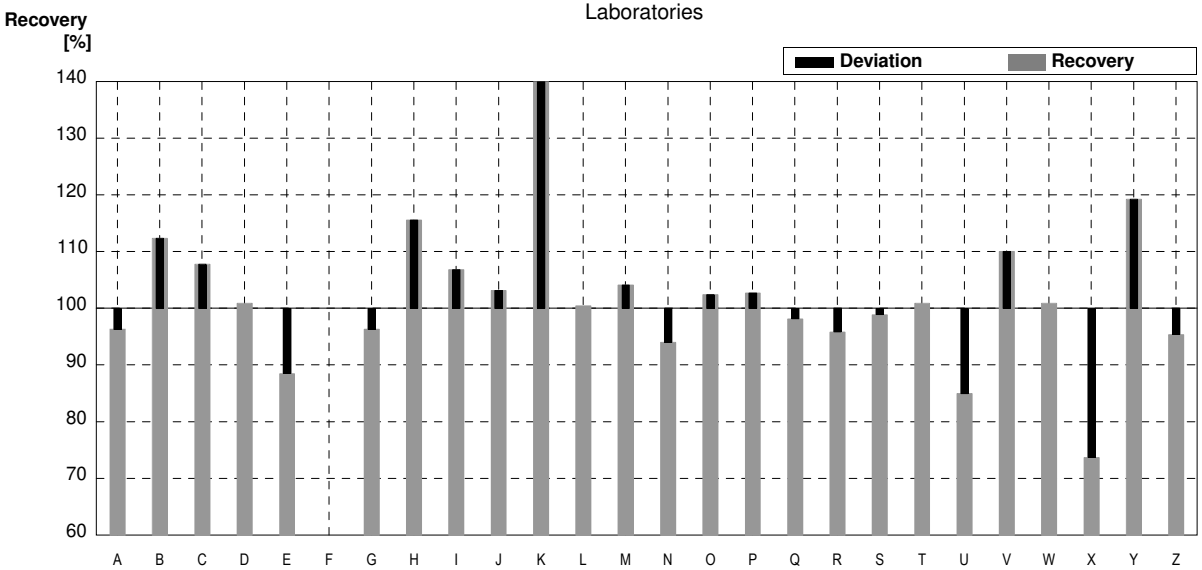
## Sample M156B
## Parameter Aluminium

| | | | | |
|---|---|---|---|---|
| Target value ± U (k=2) | 21,8 µg/l | ± | 0,2 µg/l |
| IFA result ± U (k=2) | 21,9 µg/l | ± | 1,1 µg/l |
| Stability test | µg/l | | |

| Lab Code | Result | ± | Unit | Recovery | z-Score |
|---|---|---|---|---|---|
| A | 21,0 | 2,1 | µg/l | 96% | -0,46 |
| B | 24,5 | 3,68 | µg/l | 112% | 1,57 |
| C | 23,5 | 1 | µg/l | 108% | 0,99 |
| D | 22,0 | 2,4 | µg/l | 101% | 0,12 |
| E | 19,3 | 0,29 | µg/l | 89% | -1,45 |
| F | | | µg/l | | |
| G | 21,0 | 0,5 | µg/l | 96% | -0,46 |
| H | 25,2 | 2,52 | µg/l | 116% | 1,97 |
| I | 23,3 | 0,410 | µg/l | 107% | 0,87 |
| J | 22,5 | 2,3 | µg/l | 103% | 0,41 |
| K | 35,4 * | 1,6 | µg/l | 162% | 7,90 |
| L | 21,9 | 5,5 | µg/l | 100% | 0,06 |
| M | 22,7 | 3,5 | µg/l | 104% | 0,52 |
| N | 20,5 | 0,75 | µg/l | 94% | -0,75 |
| O | 22,34 | 5,36 | µg/l | 102% | 0,31 |
| P | 22,4 | 4,03 | µg/l | 103% | 0,35 |
| Q | 21,4 | 3,638 | µg/l | 98% | -0,23 |
| R | 20,9 | 4,2 | µg/l | 96% | -0,52 |
| S | 21,56 | 1,92 | µg/l | 99% | -0,14 |
| T | 22,0 | | µg/l | 101% | 0,12 |
| U | 18,53 | 0,881 | µg/l | 85% | -1,90 |
| V | 24,0 | 7,04 | µg/l | 110% | 1,28 |
| W | 22,0 | 10,0 | µg/l | 101% | 0,12 |
| X | 16,076 * | 4,019 | µg/l | 74% | -3,32 |
| Y | 26,000 | 2,6000 | µg/l | 119% | 2,44 |
| Z | 20,8 | 4,3 | µg/l | 95% | -0,58 |

| | All results | Outliers excl. | Unit |
|---|---|---|---|
| Mean ± CI(99%) | 22,4 ± 1,9 | 22,1 ± 1,0 | µg/l |
| Recov. ± CI(99%) | 102,9 ± 8,7 | 101,6 ± 4,7 | % |
| SD between labs | 3,4 | 1,8 | µg/l |
| RSD between labs | 15,2 | 7,9 | % |
| n for calculation | 25 | 23 | |

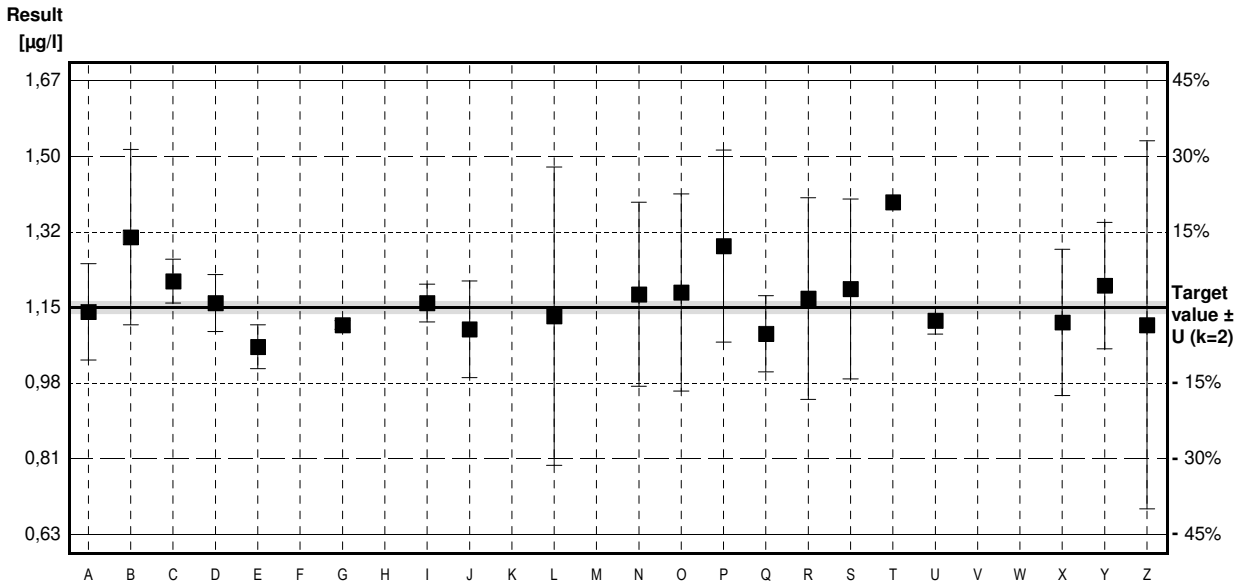


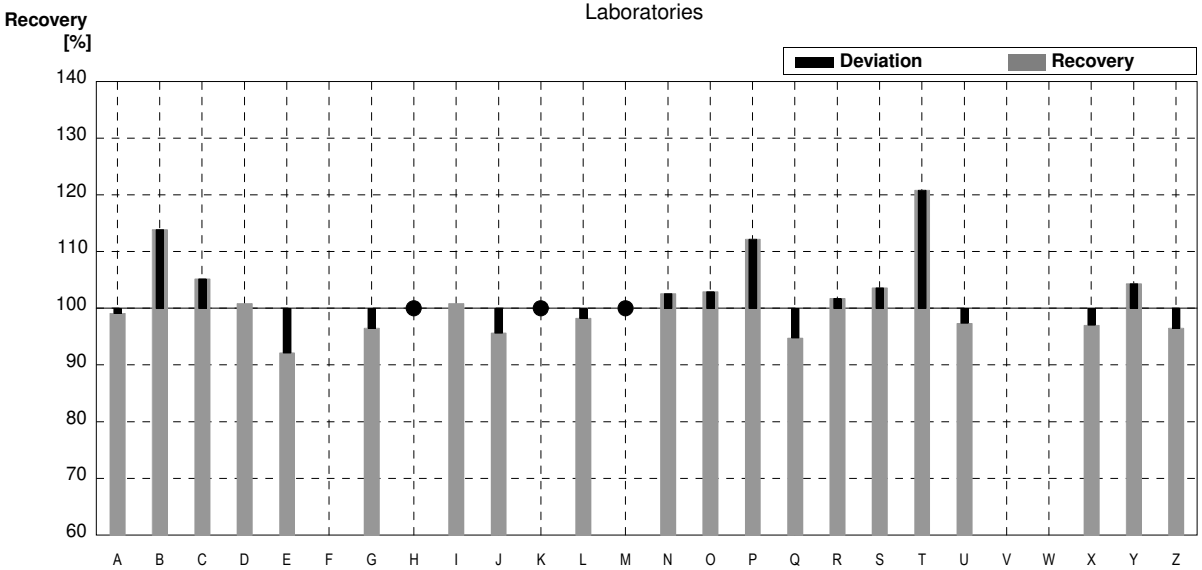



## Sample M156A
## Parameter Arsenic

| | | | | | |
|---|---|---|---|---|---|
| Target value | ± U (k=2) | 1,15 µg/l | ± | 0,01 µg/l | |
| IFA result | ± U (k=2) | 1,22 µg/l | ± | 0,13 µg/l | |
| Stability test | | µg/l | | | |

| Lab Code | Result | ± | Unit | Recovery | z-Score |
|---|---|---|---|---|---|
| A | 1,14 | 0,11 | µg/l | 99% | -0,11 |
| B | 1,31 | 0,20 | µg/l | 114% | 1,76 |
| C | 1,21 | 0,05 | µg/l | 105% | 0,66 |
| D | 1,16 | 0,065 | µg/l | 101% | 0,11 |
| E | 1,06 | 0,05 | µg/l | 92% | -0,99 |
| F | | | µg/l | | |
| G | 1,11 | 0,01 | µg/l | 97% | -0,44 |
| H | <2 | | µg/l | • | |
| I | 1,16 | 0,043 | µg/l | 101% | 0,11 |
| J | 1,10 | 0,11 | µg/l | 96% | -0,55 |
| K | <1,5 | | µg/l | • | |
| L | 1,13 | 0,34 | µg/l | 98% | -0,22 |
| M | <2 | | µg/l | • | |
| N | 1,18 | 0,21 | µg/l | 103% | 0,33 |
| O | 1,184 | 0,225 | µg/l | 103% | 0,37 |
| P | 1,29 | 0,219 | µg/l | 112% | 1,54 |
| Q | 1,09 | 0,087 | µg/l | 95% | -0,66 |
| R | 1,17 | 0,23 | µg/l | 102% | 0,22 |
| S | 1,192 | 0,205 | µg/l | 104% | 0,46 |
| T | 1,39 * | | µg/l | 121% | 2,64 |
| U | 1,12 | 0,031 | µg/l | 97% | -0,33 |
| V | | | µg/l | | |
| W | | | µg/l | | |
| X | 1,116 | 0,167 | µg/l | 97% | -0,37 |
| Y | 1,2000 | 0,14400 | µg/l | 104% | 0,55 |
| Z | 1,11 | 0,42 | µg/l | 97% | -0,44 |



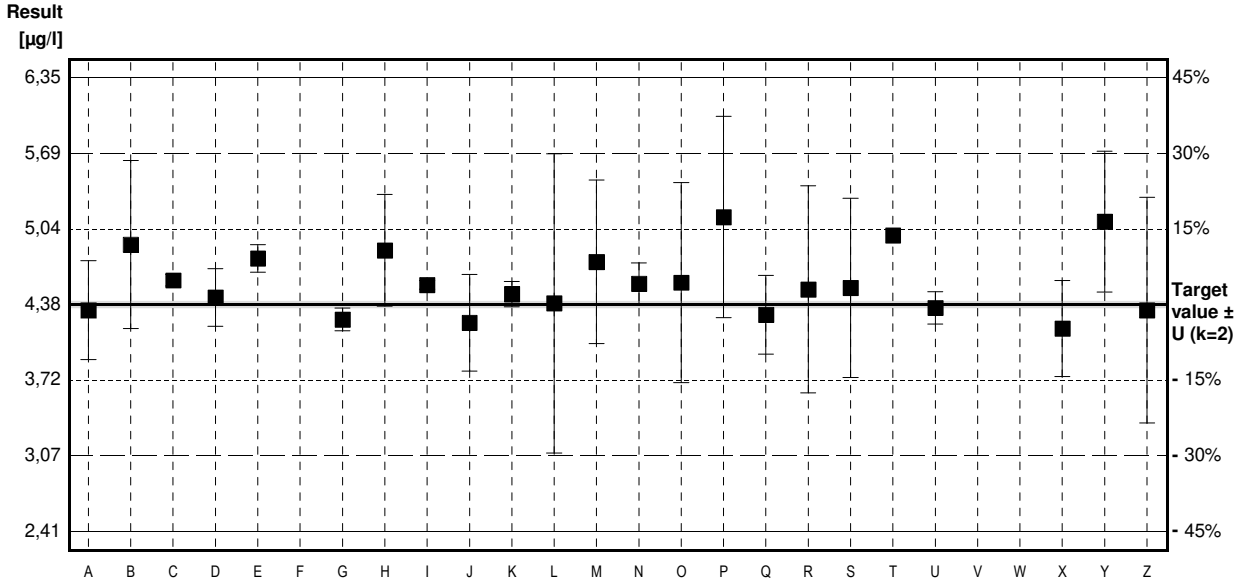



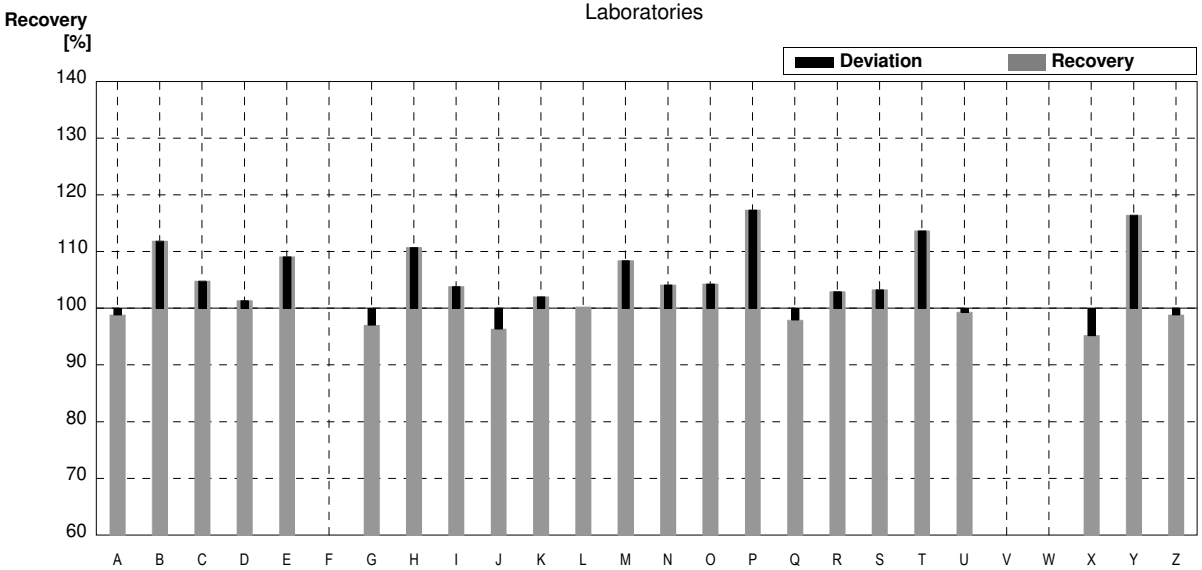

| | All results | Outliers excl. | Unit |
|---|---|---|---|
| Mean ± CI(99%) | 1,17 ± 0,05 | 1,16 ± 0,04 | µg/l |
| Recov. ± CI(99%) | 101,8 ± 4,5 | 100,8 ± 3,7 | % |
| SD between labs | 0,08 | 0,06 | µg/l |
| RSD between labs | 6,9 | 5,5 | % |
| n for calculation | 20 | 19 | |

## Sample M156B
## Parameter Arsenic

| | | | | | |
|---|---|---|---|---|---|
| Target value | ± U (k=2) | 4,38 µg/l | ± | 0,03 µg/l | |
| IFA result | ± U (k=2) | 4,36 µg/l | ± | 0,48 µg/l | |
| Stability test | | µg/l | | | |

| Lab Code | Result | ± | Unit | Recovery | z-Score |
|---|---|---|---|---|---|
| A | 4,33 | 0,43 | µg/l | 99% | -0,14 |
| B | 4,90 | 0,73 | µg/l | 112% | 1,50 |
| C | 4,59 | 0,05 | µg/l | 105% | 0,61 |
| D | 4,44 | 0,25 | µg/l | 101% | 0,17 |
| E | 4,78 | 0,12 | µg/l | 109% | 1,16 |
| F | | | µg/l | | |
| G | 4,25 | 0,10 | µg/l | 97% | -0,38 |
| H | 4,85 | 0,485 | µg/l | 111% | 1,36 |
| I | 4,55 | 0,037 | µg/l | 104% | 0,49 |
| J | 4,22 | 0,42 | µg/l | 96% | -0,46 |
| K | 4,47 | 0,11 | µg/l | 102% | 0,26 |
| L | 4,39 | 1,3 | µg/l | 100% | 0,03 |
| M | 4,75 | 0,71 | µg/l | 108% | 1,07 |
| N | 4,56 | 0,18 | µg/l | 104% | 0,52 |
| O | 4,57 | 0,868 | µg/l | 104% | 0,55 |
| P | 5,14 | 0,874 | µg/l | 117% | 2,20 |
| Q | 4,29 | 0,343 | µg/l | 98% | -0,26 |
| R | 4,51 | 0,90 | µg/l | 103% | 0,38 |
| S | 4,524 | 0,778 | µg/l | 103% | 0,42 |
| T | 4,98 | | µg/l | 114% | 1,73 |
| U | 4,35 | 0,140 | µg/l | 99% | -0,09 |
| V | | | µg/l | | |
| W | | | µg/l | | |
| X | 4,170 | 0,417 | µg/l | 95% | -0,61 |
| Y | 5,1000 | 0,612 | µg/l | 116% | 2,08 |
| Z | 4,33 | 0,98 | µg/l | 99% | -0,14 |



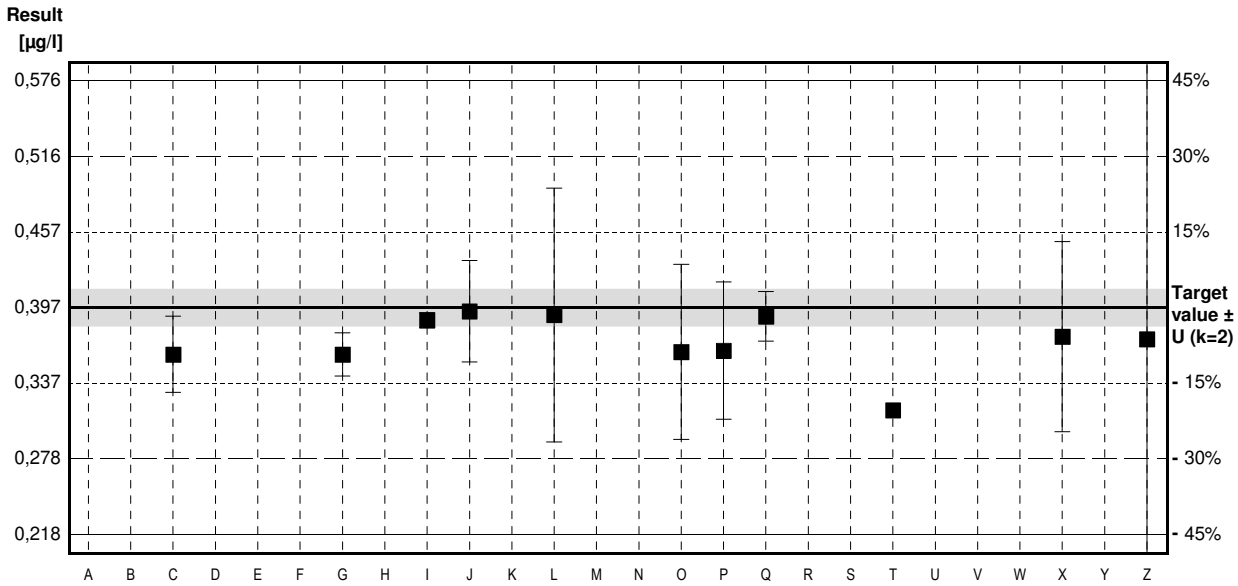



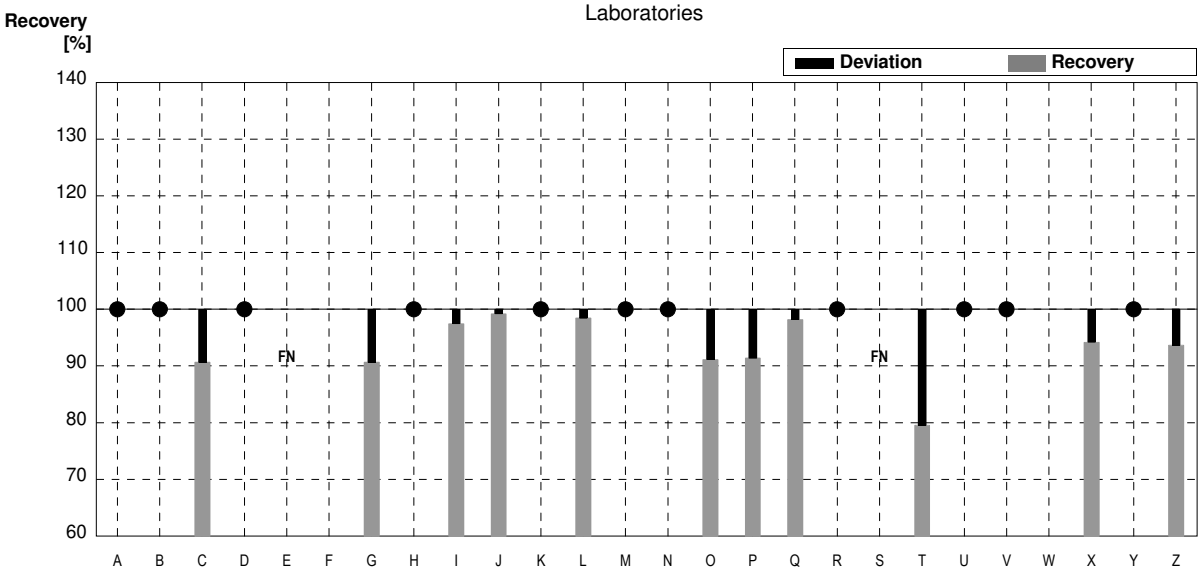

| | All results | Outliers excl. | Unit |
|---|---|---|---|
| Mean ± CI(99%) | 4,57 ± 0,16 | 4,57 ± 0,16 | µg/l |
| Recov. ± CI(99%) | 104,3 ± 3,8 | 104,3 ± 3,8 | % |
| SD between labs | 0,28 | 0,28 | µg/l |
| RSD between labs | 6,1 | 6,1 | % |
| n for calculation | 23 | 23 | |

## Sample M156A
## Parameter Lead

| | | | | | |
|---|---|---|---|---|---|
| Target value ± U (k=2) | 0,397 | µg/l | ± | 0,014 | µg/l |
| IFA result ± U (k=2) | 0,403 | µg/l | ± | 0,012 | µg/l |
| Stability test | | µg/l | | | |

| Lab Code | Result | ± | Unit | Recovery | z-Score |
|---|---|---|---|---|---|
| A | <0,5 | | µg/l | • | |
| B | <1 | | µg/l | • | |
| C | 0,360 | 0,03 | µg/l | 91% | -1,28 |
| D | <1,0 | | µg/l | • | |
| E | <0,1 | | µg/l | FN | |
| F | | | µg/l | | |
| G | 0,360 | 0,017 | µg/l | 91% | -1,28 |
| H | <2 | | µg/l | • | |
| I | 0,387 | 0,006 | µg/l | 97% | -0,35 |
| J | 0,394 | 0,04 | µg/l | 99% | -0,10 |
| K | <1 | | µg/l | • | |
| L | 0,391 | 0,10 | µg/l | 98% | -0,21 |
| M | <2 | | µg/l | • | |
| N | <1,00 | | µg/l | • | |
| O | 0,362 | 0,069 | µg/l | 91% | -1,21 |
| P | 0,363 | 0,054 | µg/l | 91% | -1,17 |
| Q | 0,390 | 0,0195 | µg/l | 98% | -0,24 |
| R | <1,0 | | µg/l | • | |
| S | <0,3 | | µg/l | FN | |
| T | 0,316 | | µg/l | 80% | -2,79 |
| U | <0,50 | | µg/l | • | |
| V | <8,0 | 0,84 | µg/l | • | |
| W | | | µg/l | | |
| X | 0,374 | 0,0749 | µg/l | 94% | -0,79 |
| Y | <0,5 | | µg/l | • | |
| Z | 0,372 | 0,489 | µg/l | 94% | -0,86 |



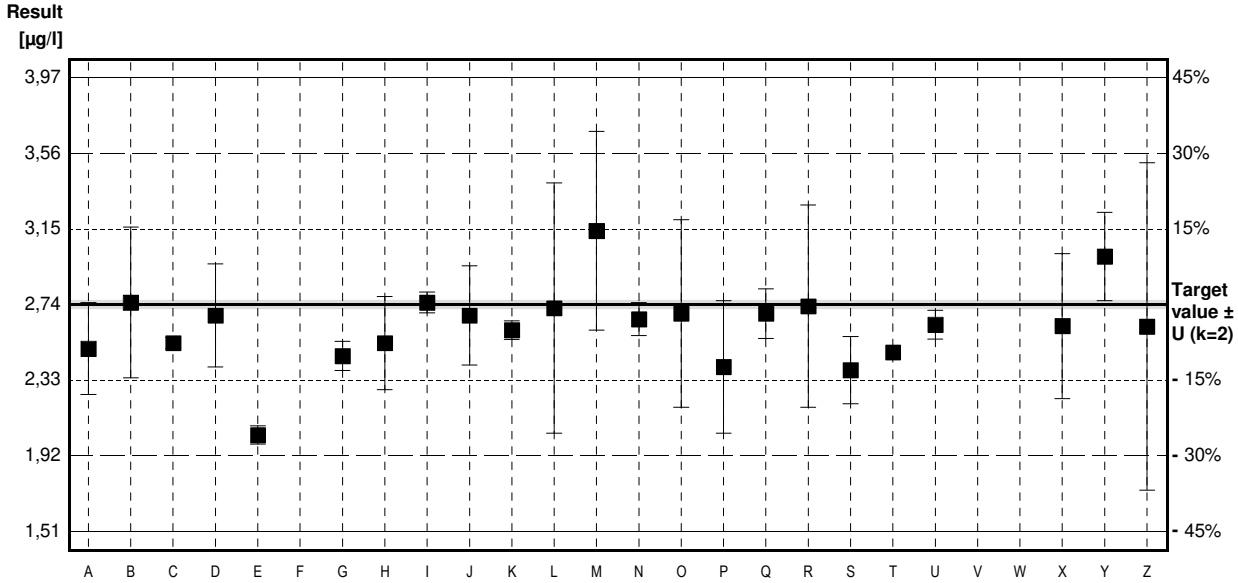

| | All results | Outliers excl. | Unit |
|---|---|---|---|
| Mean ± CI(99%) | 0,370 ± 0,021 | 0,370 ± 0,021 | µg/l |
| Recov. ± CI(99%) | 93,2 ± 5,4 | 93,2 ± 5,4 | % |
| SD between labs | 0,022 | 0,022 | µg/l |
| RSD between labs | 6,0 | 6,0 | % |
| n for calculation | 11 | 11 | |

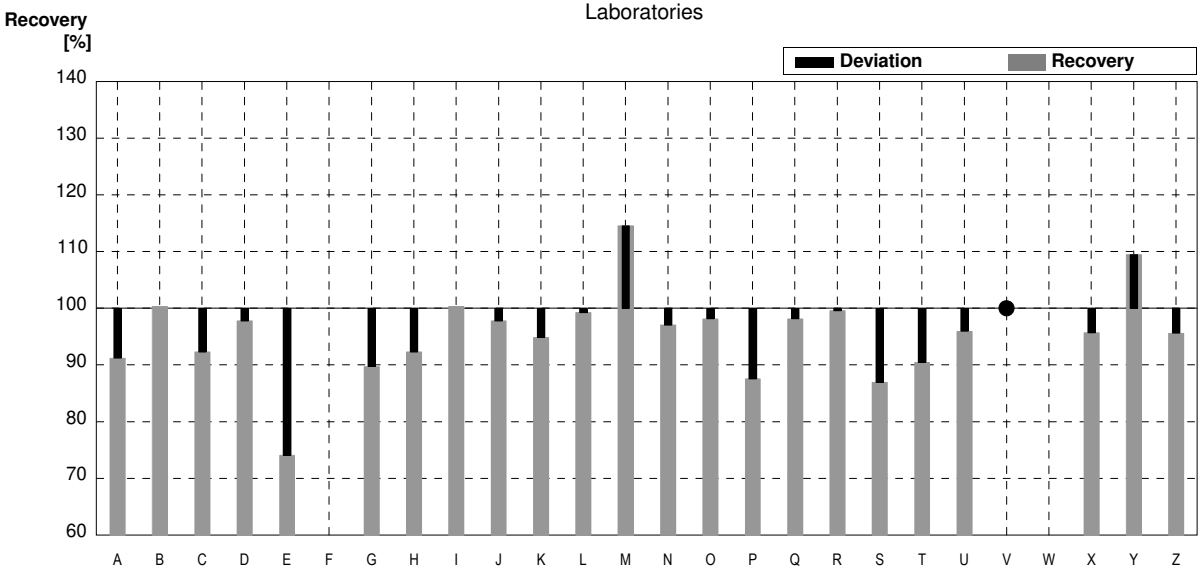
## Sample M156B
## Parameter Lead

| | | | | | |
|---|---|---|---|---|---|
| Target value ± U (k=2) | 2,74 µg/l | ± | 0,02 µg/l |
| IFA result ± U (k=2) | 2,70 µg/l | ± | 0,08 µg/l |
| Stability test | µg/l | | |

| Lab Code | Result | ± | Unit | Recovery | z-Score |
|---|---|---|---|---|---|
| A | 2,50 | 0,25 | µg/l | 91% | -1,20 |
| B | 2,75 | 0,41 | µg/l | 100% | 0,05 |
| C | 2,53 | 0,03 | µg/l | 92% | -1,05 |
| D | 2,68 | 0,28 | µg/l | 98% | -0,30 |
| E | 2,03 * | 0,05 | µg/l | 74% | -3,55 |
| F | | | µg/l | | |
| G | 2,46 | 0,08 | µg/l | 90% | -1,40 |
| H | 2,53 | 0,253 | µg/l | 92% | -1,05 |
| I | 2,75 | 0,057 | µg/l | 100% | 0,05 |
| J | 2,68 | 0,27 | µg/l | 98% | -0,30 |
| K | 2,60 | 0,05 | µg/l | 95% | -0,70 |
| L | 2,72 | 0,68 | µg/l | 99% | -0,10 |
| M | 3,14 * | 0,54 | µg/l | 115% | 2,00 |
| N | 2,66 | 0,09 | µg/l | 97% | -0,40 |
| O | 2,69 | 0,51 | µg/l | 98% | -0,25 |
| P | 2,40 | 0,360 | µg/l | 88% | -1,70 |
| Q | 2,69 | 0,1345 | µg/l | 98% | -0,25 |
| R | 2,73 | 0,55 | µg/l | 100% | -0,05 |
| S | 2,383 | 0,183 | µg/l | 87% | -1,78 |
| T | 2,48 | | µg/l | 91% | -1,30 |
| U | 2,63 | 0,078 | µg/l | 96% | -0,55 |
| V | <8,0 | 0,84 | µg/l | • | |
| W | | | µg/l | | |
| X | 2,623 | 0,394 | µg/l | 96% | -0,58 |
| Y | 3,000 | 0,2400 | µg/l | 109% | 1,30 |
| Z | 2,62 | 0,89 | µg/l | 96% | -0,60 |

| | All results | Outliers excl. | Unit |
|---|---|---|---|
| Mean ± CI(99%) | 2,62 ± 0,13 | 2,62 ± 0,09 | µg/l |
| Recov. ± CI(99%) | 95,6 ± 4,6 | 95,8 ± 3,2 | % |
| SD between labs | 0,22 | 0,14 | µg/l |
| RSD between labs | 8,2 | 5,4 | % |
| n for calculation | 23 | 21 | |



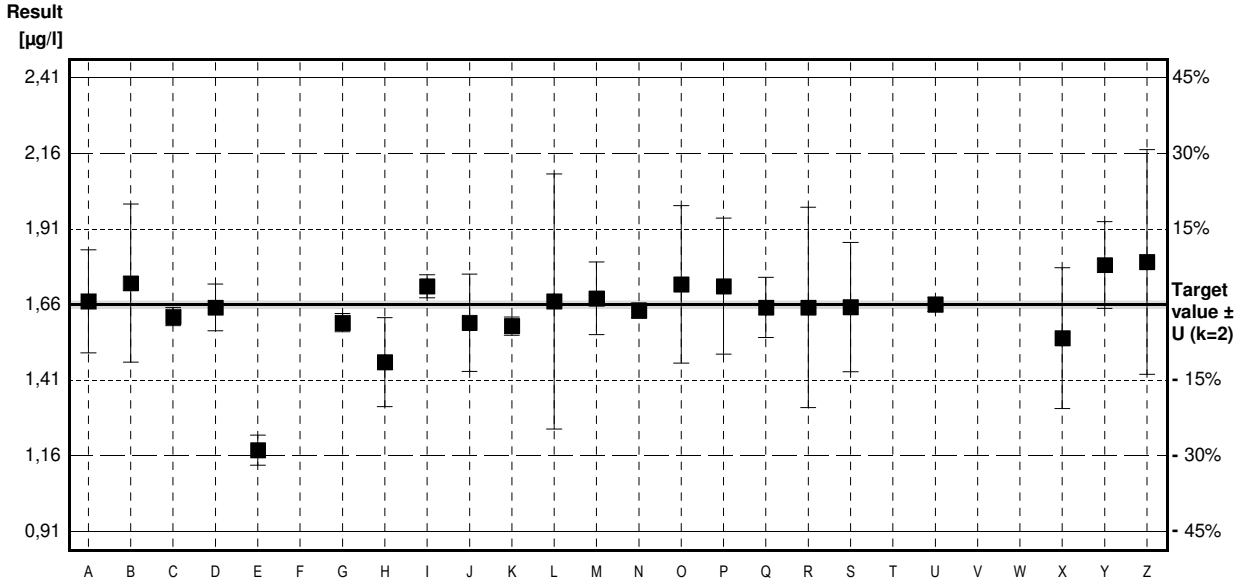



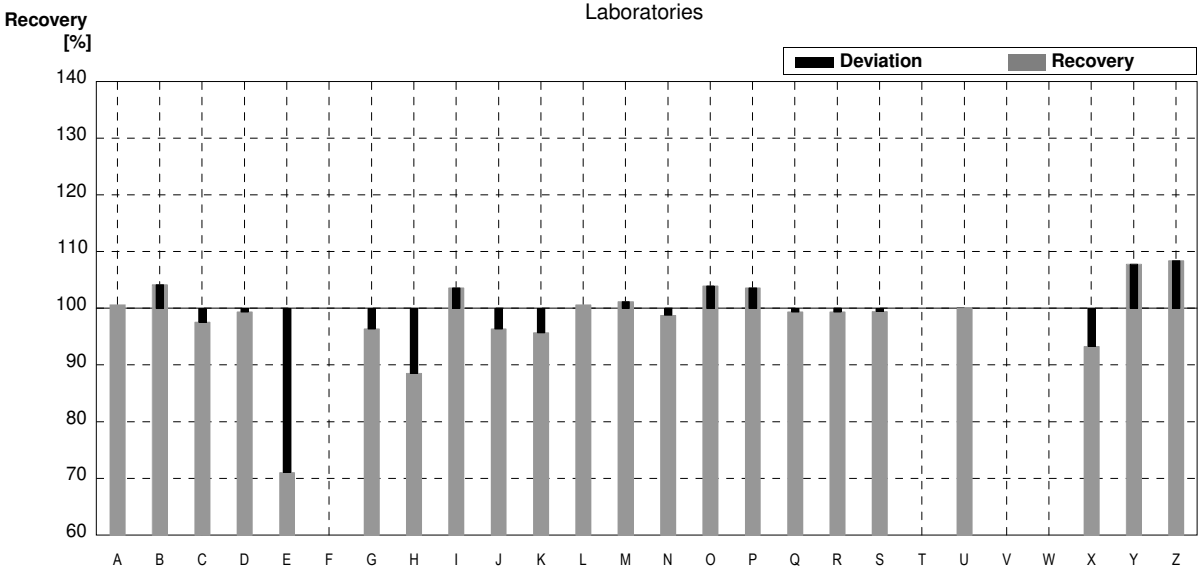
## Sample M156A
## Parameter Cadmium

| | | | | | |
|---|---|---|---|---|---|
| Target value ± U (k=2) | 1,66 | µg/l | ± | 0,01 | µg/l |
| IFA result ± U (k=2) | 1,73 | µg/l | ± | 0,10 | µg/l |
| Stability test | | µg/l | | | |

| Lab Code | Result | ± | Unit | Recovery | z-Score |
|---|---|---|---|---|---|
| A | 1,67 | 0,17 | µg/l | 101% | 0,11 |
| B | 1,73 | 0,26 | µg/l | 104% | 0,75 |
| C | 1,62 | 0,03 | µg/l | 98% | -0,43 |
| D | 1,65 | 0,077 | µg/l | 99% | -0,11 |
| E | 1,18 * | 0,05 | µg/l | 71% | -5,16 |
| F | | | µg/l | | |
| G | 1,60 | 0,03 | µg/l | 96% | -0,65 |
| H | 1,47 | 0,147 | µg/l | 89% | -2,04 |
| I | 1,72 | 0,038 | µg/l | 104% | 0,65 |
| J | 1,60 | 0,16 | µg/l | 96% | -0,65 |
| K | 1,589 | 0,03 | µg/l | 96% | -0,76 |
| L | 1,67 | 0,42 | µg/l | 101% | 0,11 |
| M | 1,68 | 0,12 | µg/l | 101% | 0,22 |
| N | 1,64 | 0,025 | µg/l | 99% | -0,22 |
| O | 1,726 | 0,259 | µg/l | 104% | 0,71 |
| P | 1,72 | 0,224 | µg/l | 104% | 0,65 |
| Q | 1,65 | 0,099 | µg/l | 99% | -0,11 |
| R | 1,65 | 0,33 | µg/l | 99% | -0,11 |
| S | 1,651 | 0,213 | µg/l | 99% | -0,10 |
| T | | | µg/l | | |
| U | 1,66 | 0,024 | µg/l | 100% | 0,00 |
| V | | | µg/l | | |
| W | | | µg/l | | |
| X | 1,549 | 0,232 | µg/l | 93% | -1,19 |
| Y | 1,79000 | 0,1432 | µg/l | 108% | 1,40 |
| Z | 1,80 | 0,37 | µg/l | 108% | 1,51 |

| | All results | Outliers excl. | Unit |
|---|---|---|---|
| Mean ± CI(99%) | 1,64 ± 0,08 | 1,66 ± 0,05 | µg/l |
| Recov. ± CI(99%) | 98,6 ± 4,6 | 99,9 ± 2,9 | % |
| SD between labs | 0,13 | 0,08 | µg/l |
| RSD between labs | 7,7 | 4,6 | % |
| n for calculation | 22 | 21 | |



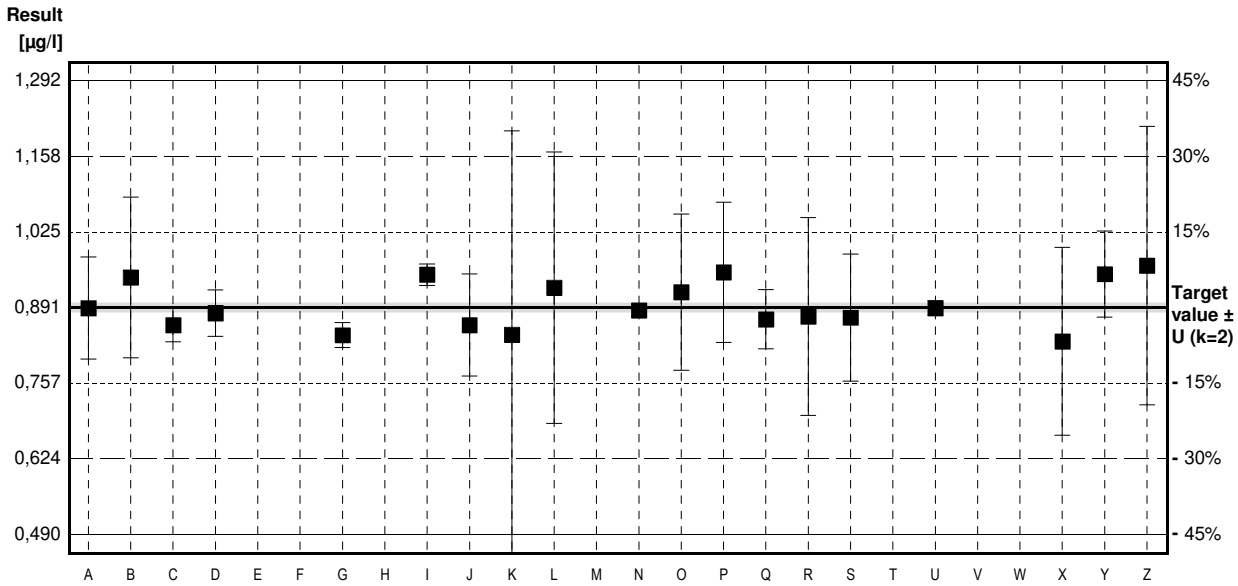



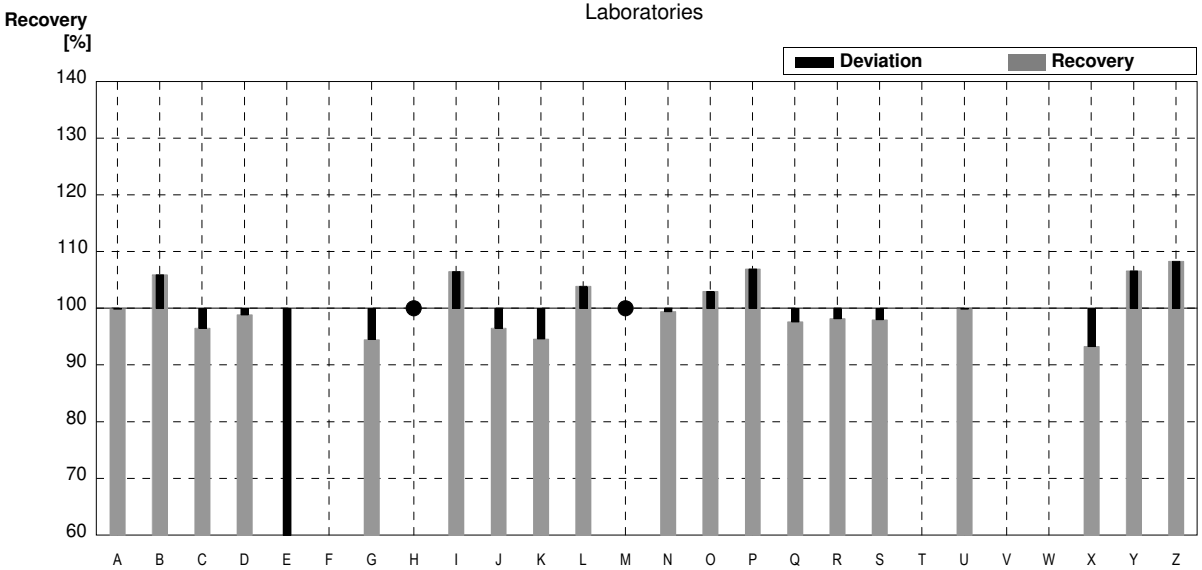
## Sample M156B
## Parameter Cadmium

Target value ± U (k=2) 0,891 µg/l ± 0,008 µg/l
IFA result ± U (k=2) 0,934 µg/l ± 0,056 µg/l
Stability test µg/l

| Lab Code | Result | ± | Unit | Recovery | z-Score |
|---|---|---|---|---|---|
| A | 0,89 | 0,09 | µg/l | 100% | -0,02 |
| B | 0,944 | 0,142 | µg/l | 106% | 1,06 |
| C | 0,86 | 0,03 | µg/l | 97% | -0,62 |
| D | 0,881 | 0,041 | µg/l | 99% | -0,20 |
| E | 0,291 * | 0,05 | µg/l | 33% | -12,03 |
| F | | | µg/l | | |
| G | 0,842 | 0,022 | µg/l | 95% | -0,98 |
| H | <1 | | µg/l | • | |
| I | 0,949 | 0,019 | µg/l | 107% | 1,16 |
| J | 0,86 | 0,09 | µg/l | 97% | -0,62 |
| K | 0,843 | 0,36 | µg/l | 95% | -0,96 |
| L | 0,926 | 0,24 | µg/l | 104% | 0,70 |
| M | <1 | | µg/l | • | |
| N | 0,886 | 0,01 | µg/l | 99% | -0,10 |
| O | 0,918 | 0,138 | µg/l | 103% | 0,54 |
| P | 0,953 | 0,124 | µg/l | 107% | 1,24 |
| Q | 0,87 | 0,0522 | µg/l | 98% | -0,42 |
| R | 0,875 | 0,175 | µg/l | 98% | -0,32 |
| S | 0,8731 | 0,1124 | µg/l | 98% | -0,36 |
| T | | | µg/l | | |
| U | 0,89 | 0,013 | µg/l | 100% | -0,02 |
| V | | | µg/l | | |
| W | | | µg/l | | |
| X | 0,831 | 0,166 | µg/l | 93% | -1,20 |
| Y | 0,9500 | 0,076 | µg/l | 107% | 1,18 |
| Z | 0,965 | 0,246 | µg/l | 108% | 1,48 |

| | All results | Outliers excl. | Unit |
|---|---|---|---|
| Mean ± CI(99%) | 0,865 ± 0,090 | 0,895 ± 0,028 | µg/l |
| Recov. ± CI(99%) | 97,1 ± 10,1 | 100,5 ± 3,1 | % |
| SD between labs | 0,141 | 0,042 | µg/l |
| RSD between labs | 16,3 | 4,7 | % |
| n for calculation | 20 | 19 | |

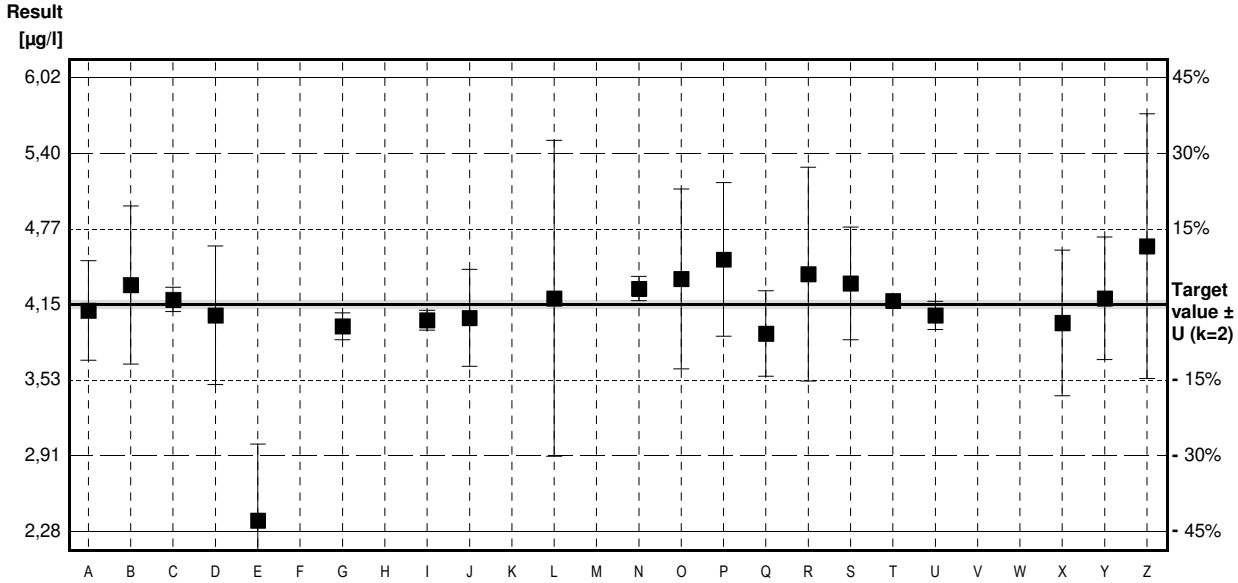


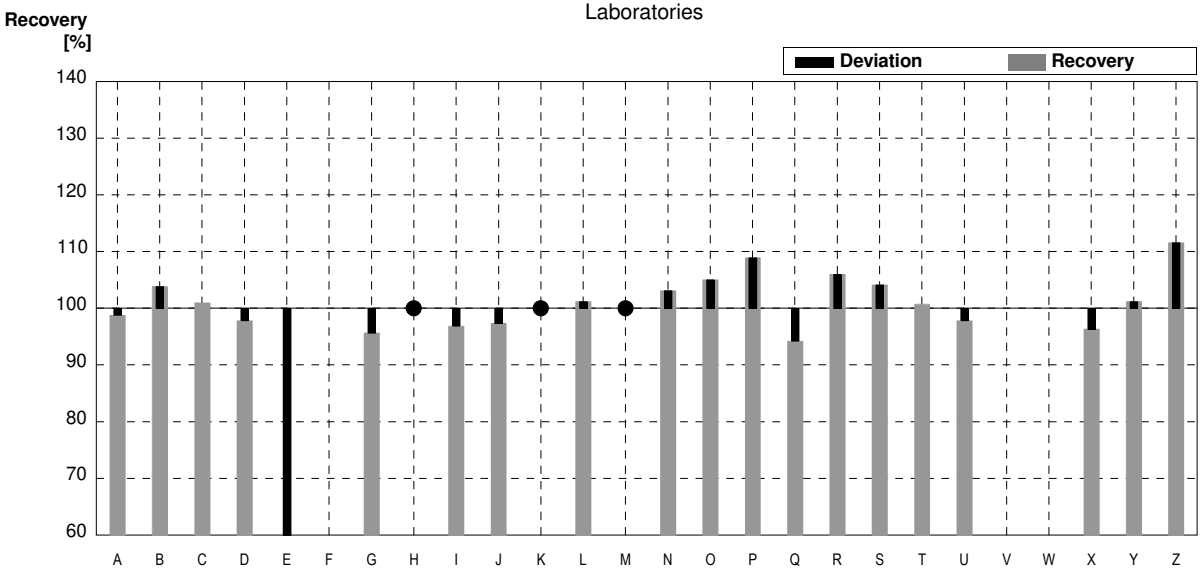



## Sample M156A
## Parameter Chromium

| | | | | | |
|---|---|---|---|---|---|
| Target value ± U (k=2) | 4,15 µg/l | ± | 0,03 µg/l |
| IFA result ± U (k=2) | 4,28 µg/l | ± | 0,13 µg/l |
| Stability test | µg/l | | |

| Lab Code | Result | ± | Unit | Recovery | z-Score |
|---|---|---|---|---|---|
| A | 4,10 | 0,41 | µg/l | 99% | -0,18 |
| B | 4,31 | 0,65 | µg/l | 104% | 0,58 |
| C | 4,19 | 0,1 | µg/l | 101% | 0,15 |
| D | 4,06 | 0,57 | µg/l | 98% | -0,33 |
| E | 2,37 * | 0,63 | µg/l | 57% | -6,50 |
| F | | | µg/l | | |
| G | 3,97 | 0,11 | µg/l | 96% | -0,66 |
| H | <5 | | µg/l | • | |
| I | 4,02 | 0,082 | µg/l | 97% | -0,47 |
| J | 4,04 | 0,4 | µg/l | 97% | -0,40 |
| K | <5 | | µg/l | • | |
| L | 4,20 | 1,3 | µg/l | 101% | 0,18 |
| M | <5 | | µg/l | • | |
| N | 4,28 | 0,10 | µg/l | 103% | 0,47 |
| O | 4,36 | 0,74 | µg/l | 105% | 0,77 |
| P | 4,52 | 0,633 | µg/l | 109% | 1,35 |
| Q | 3,91 | 0,3519 | µg/l | 94% | -0,88 |
| R | 4,40 | 0,88 | µg/l | 106% | 0,91 |
| S | 4,323 | 0,464 | µg/l | 104% | 0,63 |
| T | 4,18 | | µg/l | 101% | 0,11 |
| U | 4,06 | 0,116 | µg/l | 98% | -0,33 |
| V | | | µg/l | | |
| W | | | µg/l | | |
| X | 3,998 | 0,600 | µg/l | 96% | -0,55 |
| Y | 4,2000 | 0,5040 | µg/l | 101% | 0,18 |
| Z | 4,63 | 1,09 | µg/l | 112% | 1,75 |



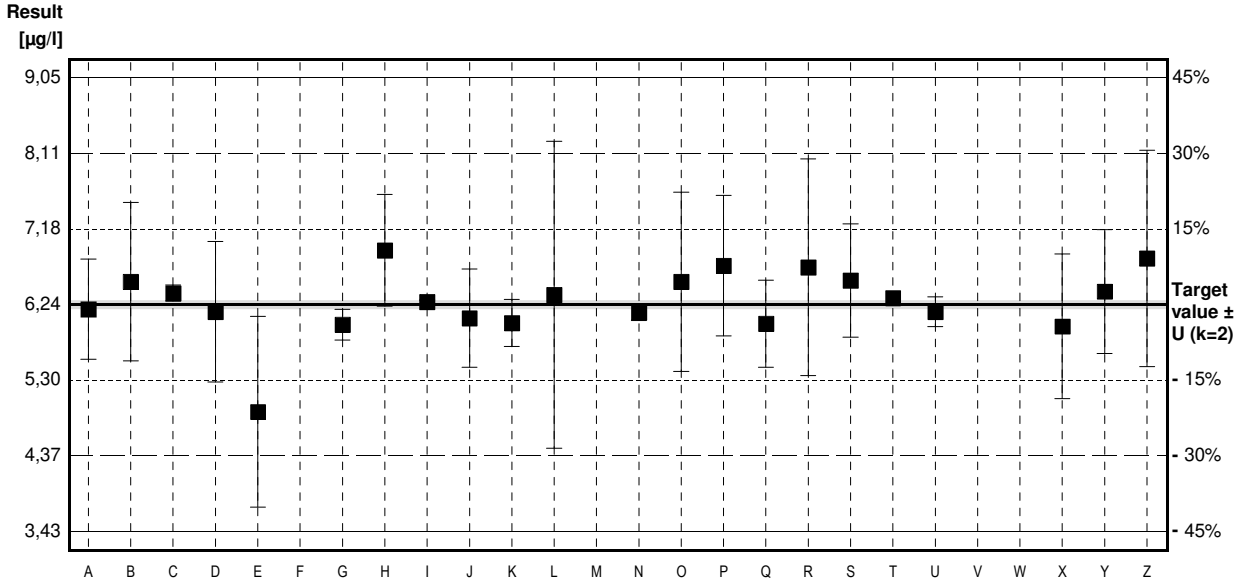



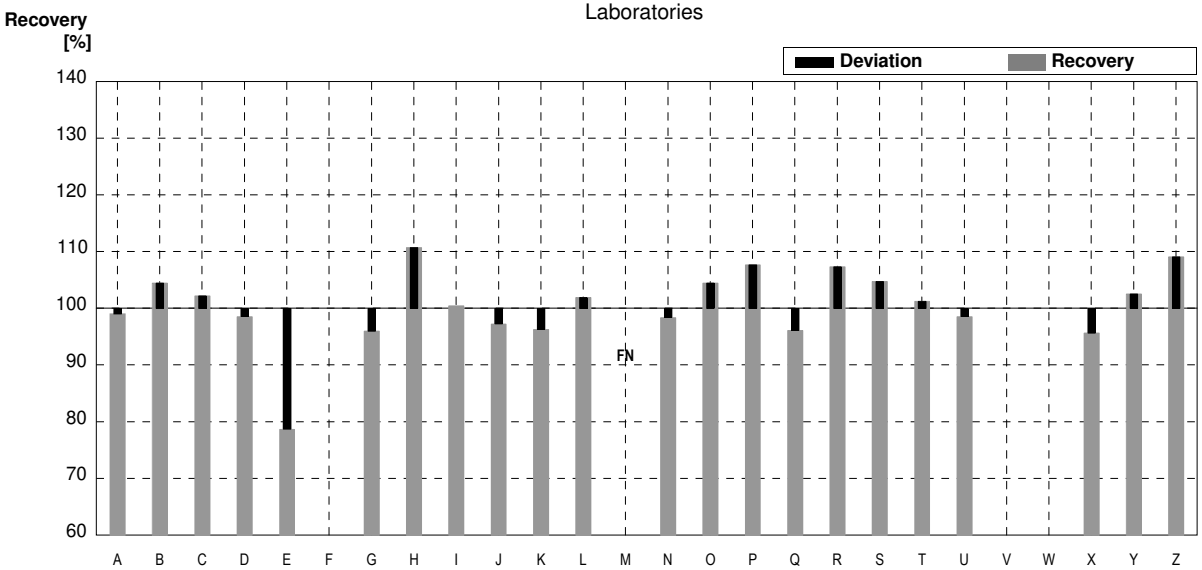

| | All results | Outliers excl. | Unit |
|---|---|---|---|
| Mean ± CI(99%) | 4,11 ± 0,29 | 4,20 ± 0,13 | µg/l |
| Recov. ± CI(99%) | 98,9 ± 6,9 | 101,1 ± 3,1 | % |
| SD between labs | 0,45 | 0,19 | µg/l |
| RSD between labs | 11,0 | 4,6 | % |
| n for calculation | 20 | 19 | |

## Sample M156B
## Parameter Chromium

| | | | | | |
|---|---|---|---|---|---|
| Target value | ± U (k=2) | 6,24 µg/l | ± | 0,05 µg/l | |
| IFA result | ± U (k=2) | 6,36 µg/l | ± | 0,19 µg/l | |
| Stability test | | µg/l | | | |

| Lab Code | Result | ± | Unit | Recovery | z-Score |
|---|---|---|---|---|---|
| A | 6,18 | 0,62 | µg/l | 99% | -0,15 |
| B | 6,52 | 0,98 | µg/l | 104% | 0,68 |
| C | 6,38 | 0,1 | µg/l | 102% | 0,34 |
| D | 6,15 | 0,87 | µg/l | 99% | -0,22 |
| E | 4,91 * | 1,18 | µg/l | 79% | -3,23 |
| F | | | µg/l | | |
| G | 5,99 | 0,19 | µg/l | 96% | -0,61 |
| H | 6,91 | 0,691 | µg/l | 111% | 1,63 |
| I | 6,27 | 0,022 | µg/l | 100% | 0,07 |
| J | 6,07 | 0,61 | µg/l | 97% | -0,41 |
| K | 6,01 | 0,29 | µg/l | 96% | -0,56 |
| L | 6,36 | 1,9 | µg/l | 102% | 0,29 |
| M | <5 | | µg/l | FN | |
| N | 6,14 | 0,10 | µg/l | 98% | -0,24 |
| O | 6,52 | 1,11 | µg/l | 104% | 0,68 |
| P | 6,72 | 0,868 | µg/l | 108% | 1,17 |
| Q | 6,00 | 0,540 | µg/l | 96% | -0,58 |
| R | 6,70 | 1,34 | µg/l | 107% | 1,12 |
| S | 6,536 | 0,701 | µg/l | 105% | 0,72 |
| T | 6,32 | | µg/l | 101% | 0,19 |
| U | 6,15 | 0,184 | µg/l | 99% | -0,22 |
| V | | | µg/l | | |
| W | | | µg/l | | |
| X | 5,968 | 0,895 | µg/l | 96% | -0,66 |
| Y | 6,400 | 0,768 | µg/l | 103% | 0,39 |
| Z | 6,81 | 1,34 | µg/l | 109% | 1,38 |



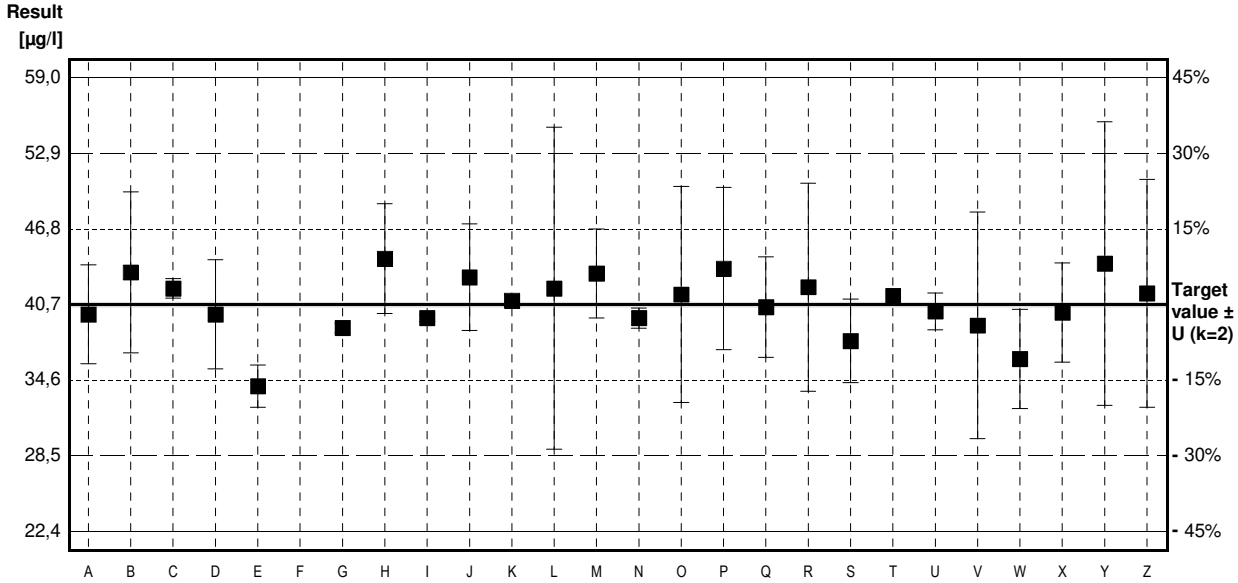



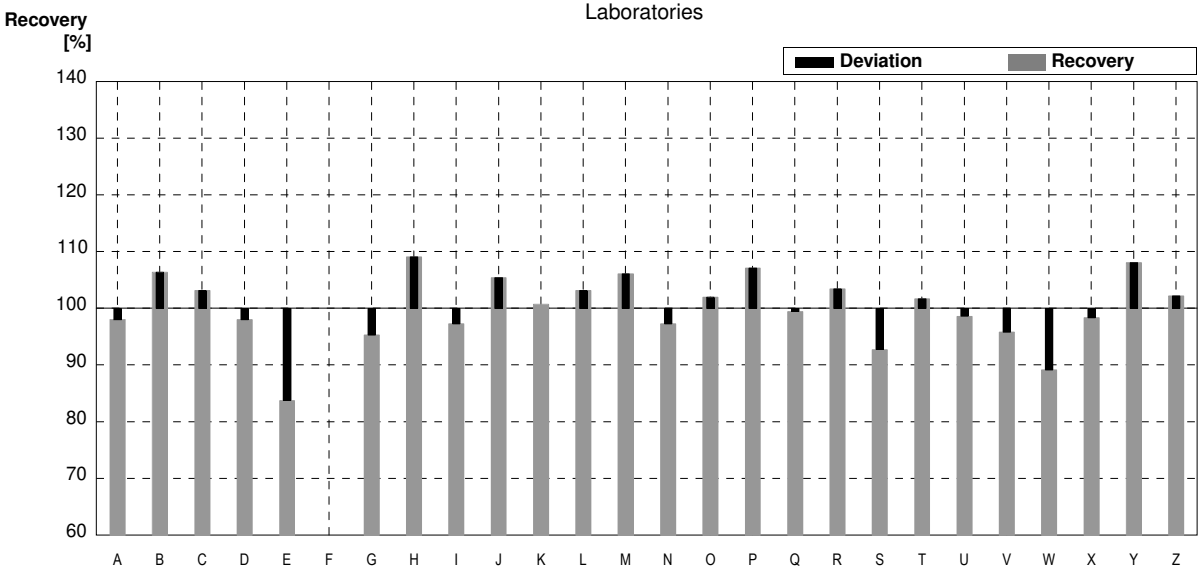

| | All results | Outliers excl. | Unit |
|---|---|---|---|
| Mean ± CI(99%) | 6,27 ± 0,25 | 6,34 ± 0,18 | µg/l |
| Recov. ± CI(99%) | 100,5 ± 4,0 | 101,6 ± 2,8 | % |
| SD between labs | 0,41 | 0,29 | µg/l |
| RSD between labs | 6,6 | 4,5 | % |
| n for calculation | 22 | 21 | |

## Sample M156A
## Parameter Iron

| | | | | |
|---|---|---|---|---|
| Target value ± U (k=2) | 40,7 µg/l | ± | 0,2 µg/l |
| IFA result ± U (k=2) | 40,8 µg/l | ± | 3,3 µg/l |
| Stability test | µg/l | | |

| Lab Code | Result | ± | Unit | Recovery | z-Score |
|---|---|---|---|---|---|
| A | 39,9 | 4,0 | µg/l | 98% | -0,29 |
| B | 43,3 | 6,50 | µg/l | 106% | 0,94 |
| C | 42,0 | 0,8 | µg/l | 103% | 0,47 |
| D | 39,9 | 4,4 | µg/l | 98% | -0,29 |
| E | 34,1 * | 1,71 | µg/l | 84% | -2,38 |
| F | | | µg/l | | |
| G | 38,8 | 0,4 | µg/l | 95% | -0,69 |
| H | 44,4 | 4,44 | µg/l | 109% | 1,34 |
| I | 39,6 | 0,272 | µg/l | 97% | -0,40 |
| J | 42,9 | 4,3 | µg/l | 105% | 0,79 |
| K | 41,0 | 0,5 | µg/l | 101% | 0,11 |
| L | 42,0 | 13 | µg/l | 103% | 0,47 |
| M | 43,2 | 3,6 | µg/l | 106% | 0,90 |
| N | 39,6 | 0,82 | µg/l | 97% | -0,40 |
| O | 41,51 | 8,72 | µg/l | 102% | 0,29 |
| P | 43,6 | 6,54 | µg/l | 107% | 1,05 |
| Q | 40,48 | 4,048 | µg/l | 99% | -0,08 |
| R | 42,1 | 8,4 | µg/l | 103% | 0,51 |
| S | 37,75 | 3,38 | µg/l | 93% | -1,07 |
| T | 41,4 | | µg/l | 102% | 0,25 |
| U | 40,14 | 1,492 | µg/l | 99% | -0,20 |
| V | 39,0 | 9,15 | µg/l | 96% | -0,61 |
| W | 36,3 | 4 | µg/l | 89% | -1,59 |
| X | 40,040 | 4,004 | µg/l | 98% | -0,24 |
| Y | 44,00 | 11,4400 | µg/l | 108% | 1,19 |
| Z | 41,6 | 9,2 | µg/l | 102% | 0,33 |



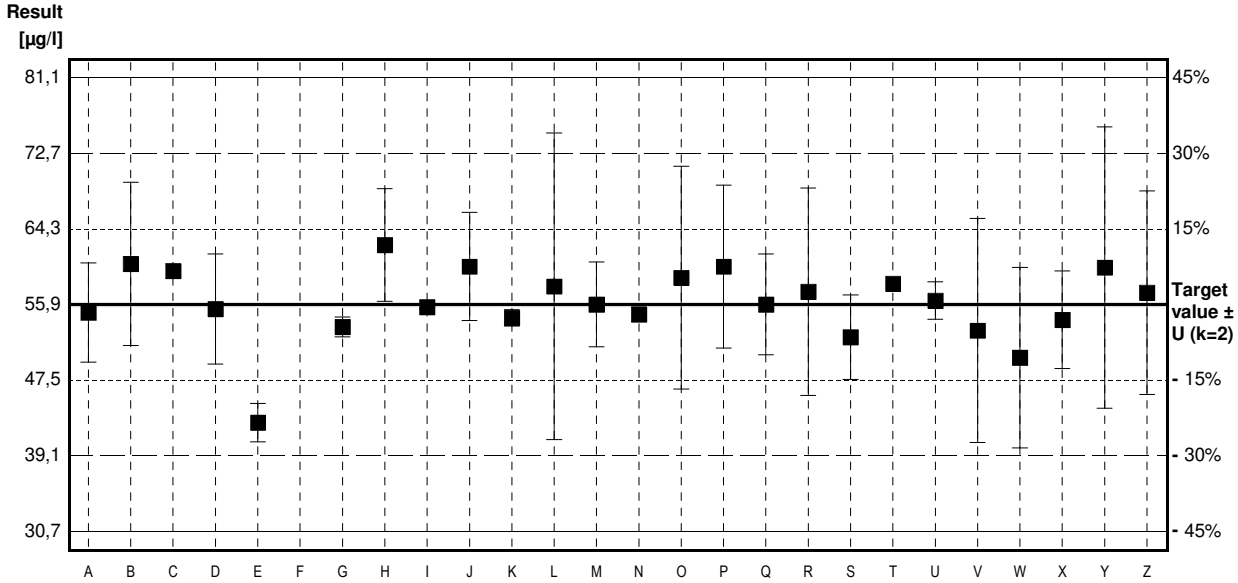



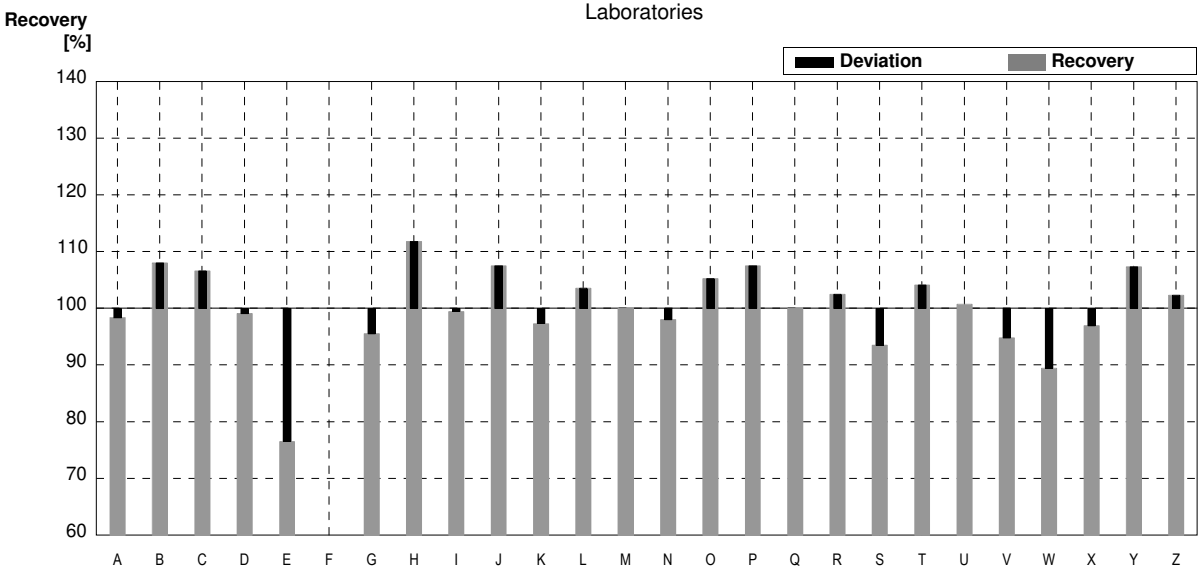

| | All results | Outliers excl. | Unit |
|---|---|---|---|
| Mean ± CI(99%) | 40,7 ± 1,4 | 41,0 ± 1,2 | µg/l |
| Recov. ± CI(99%) | 100,1 ± 3,3 | 100,8 ± 2,9 | % |
| SD between labs | 2,4 | 2,0 | µg/l |
| RSD between labs | 5,9 | 4,9 | % |
| n for calculation | 25 | 24 | |

## Sample M156B
## Parameter Iron

| | | | | |
|---|---|---|---|---|
| Target value ± U (k=2) | 55,9 µg/l | ± | 0,3 µg/l |
| IFA result ± U (k=2) | 53,3 µg/l | ± | 3,7 µg/l |
| Stability test | µg/l | | |

| Lab Code | Result | ± | Unit | Recovery | z-Score |
|---|---|---|---|---|---|
| A | 55 | 5,5 | µg/l | 98% | -0,24 |
| B | 60,4 | 9,06 | µg/l | 108% | 1,18 |
| C | 59,6 | 0,8 | µg/l | 107% | 0,97 |
| D | 55,4 | 6,1 | µg/l | 99% | -0,13 |
| E | 42,8 * | 2,14 | µg/l | 77% | -3,45 |
| F | | | µg/l | | |
| G | 53,4 | 1,1 | µg/l | 96% | -0,66 |
| H | 62,5 | 6,25 | µg/l | 112% | 1,74 |
| I | 55,6 | 0,211 | µg/l | 99% | -0,08 |
| J | 60,1 | 6,0 | µg/l | 108% | 1,10 |
| K | 54,4 | 0,9 | µg/l | 97% | -0,39 |
| L | 57,9 | 17 | µg/l | 104% | 0,53 |
| M | 55,9 | 4,7 | µg/l | 100% | 0,00 |
| N | 54,8 | 0,80 | µg/l | 98% | -0,29 |
| O | 58,86 | 12,36 | µg/l | 105% | 0,78 |
| P | 60,1 | 9,02 | µg/l | 108% | 1,10 |
| Q | 55,9 | 5,59 | µg/l | 100% | 0,00 |
| R | 57,3 | 11,5 | µg/l | 103% | 0,37 |
| S | 52,27 | 4,67 | µg/l | 94% | -0,95 |
| T | 58,2 | | µg/l | 104% | 0,61 |
| U | 56,33 | 2,062 | µg/l | 101% | 0,11 |
| V | 53,0 | 12,43 | µg/l | 95% | -0,76 |
| W | 50 | 10 | µg/l | 89% | -1,55 |
| X | 54,204 | 5,420 | µg/l | 97% | -0,45 |
| Y | 60,00 | 15,6000 | µg/l | 107% | 1,08 |
| Z | 57,2 | 11,3 | µg/l | 102% | 0,34 |



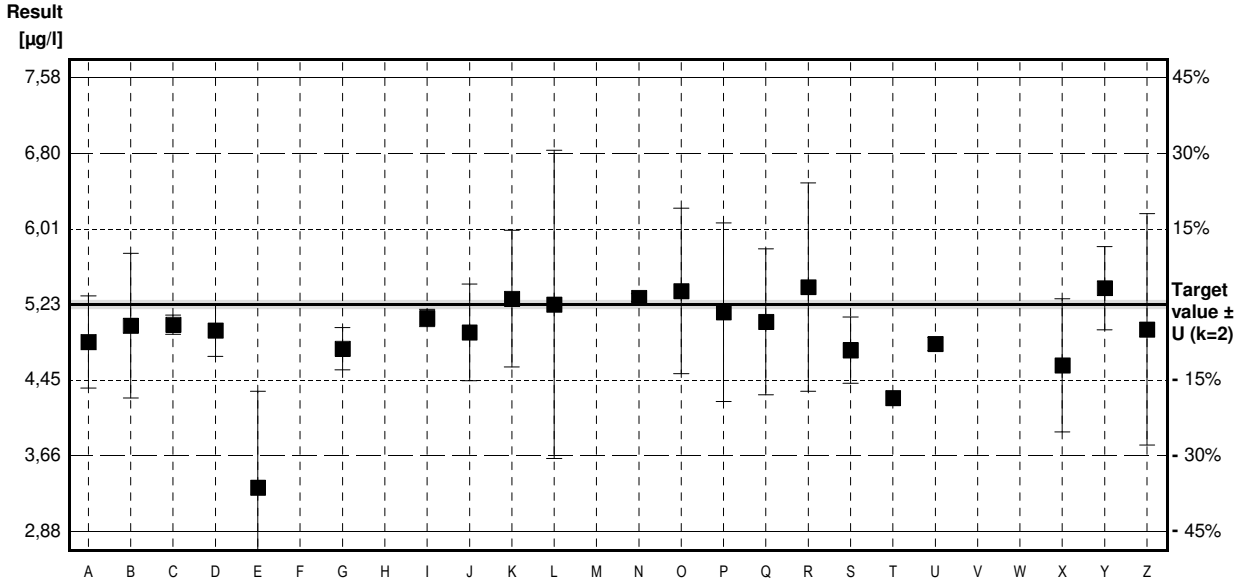



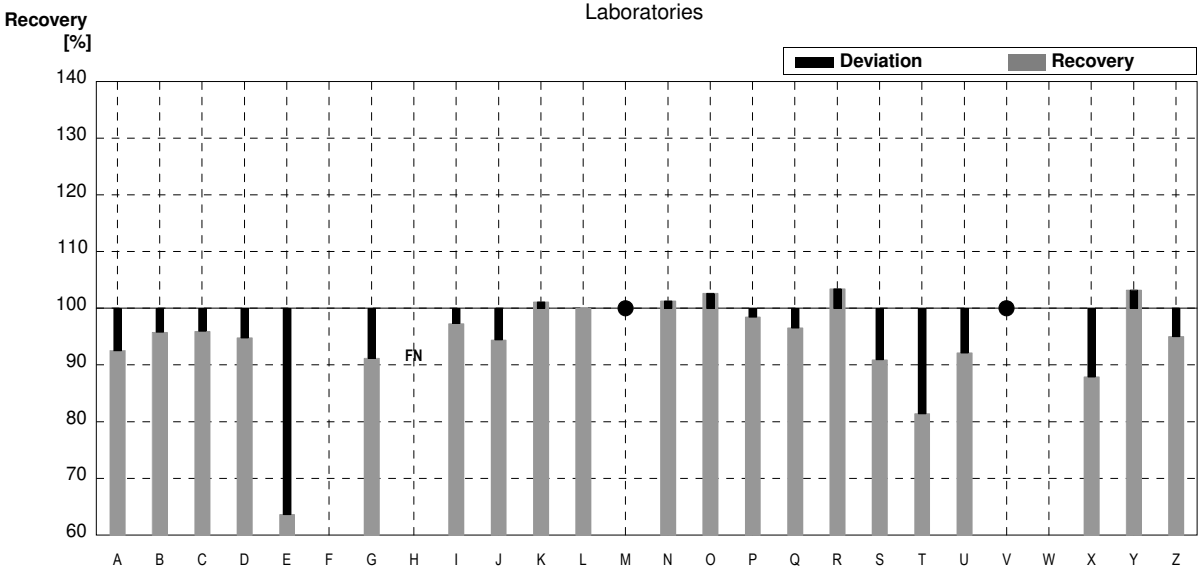

| | All results | Outliers excl. | Unit |
|---|---|---|---|
| Mean ± CI(99%) | 56,0 ± 2,3 | 56,6 ± 1,7 | µg/l |
| Recov. ± CI(99%) | 100,3 ± 4,1 | 101,2 ± 3,1 | % |
| SD between labs | 4,0 | 3,0 | µg/l |
| RSD between labs | 7,2 | 5,3 | % |
| n for calculation | 25 | 24 | |

## Sample M156A
## Parameter Copper

| | | | | | |
|---|---|---|---|---|---|
| Target value | ± U (k=2) | 5,23 µg/l | ± | 0,04 µg/l | |
| IFA result | ± U (k=2) | 5,16 µg/l | ± | 0,26 µg/l | |
| Stability test | | µg/l | | | |

| Lab Code | Result | ± | Unit | Recovery | z-Score |
|---|---|---|---|---|---|
| A | 4,84 | 0,48 | µg/l | 93% | -0,88 |
| B | 5,01 | 0,75 | µg/l | 96% | -0,49 |
| C | 5,02 | 0,1 | µg/l | 96% | -0,47 |
| D | 4,96 | 0,27 | µg/l | 95% | -0,61 |
| E | 3,33 * | 1 | µg/l | 64% | -4,27 |
| F | | | µg/l | | |
| G | 4,77 | 0,22 | µg/l | 91% | -1,03 |
| H | <5 | | µg/l | FN | |
| I | 5,09 | 0,090 | µg/l | 97% | -0,31 |
| J | 4,94 | 0,5 | µg/l | 94% | -0,65 |
| K | 5,29 | 0,71 | µg/l | 101% | 0,13 |
| L | 5,23 | 1,6 | µg/l | 100% | 0,00 |
| M | <10 | | µg/l | • | |
| N | 5,3 | 0,04 | µg/l | 101% | 0,16 |
| O | 5,37 | 0,86 | µg/l | 103% | 0,31 |
| P | 5,15 | 0,927 | µg/l | 98% | -0,18 |
| Q | 5,05 | 0,758 | µg/l | 97% | -0,40 |
| R | 5,41 | 1,08 | µg/l | 103% | 0,40 |
| S | 4,756 | 0,343 | µg/l | 91% | -1,07 |
| T | 4,26 | | µg/l | 81% | -2,18 |
| U | 4,82 | 0,068 | µg/l | 92% | -0,92 |
| V | <10,0 | 1,53 | µg/l | • | |
| W | | | µg/l | | |
| X | 4,598 | 0,690 | µg/l | 88% | -1,42 |
| Y | 5,4000 | 0,4320 | µg/l | 103% | 0,38 |
| Z | 4,97 | 1,20 | µg/l | 95% | -0,58 |



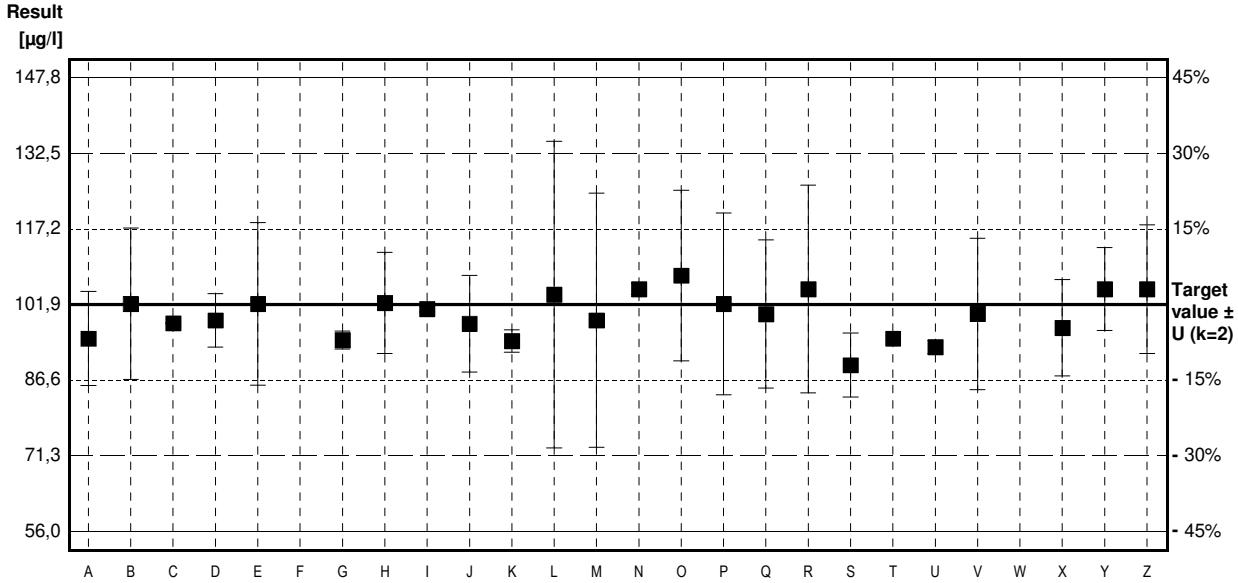



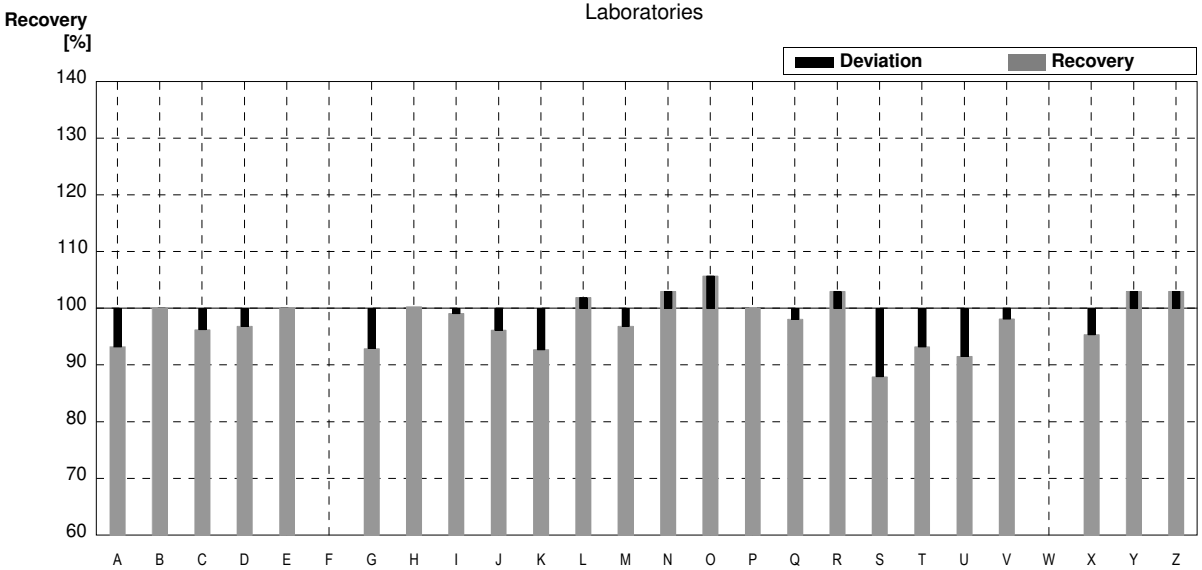

| | All results | Outliers excl. | Unit |
|---|---|---|---|
| Mean ± CI(99%) | 4,93 ± 0,29 | 5,01 ± 0,19 | µg/l |
| Recov. ± CI(99%) | 94,3 ± 5,5 | 95,8 ± 3,6 | % |
| SD between labs | 0,46 | 0,29 | µg/l |
| RSD between labs | 9,4 | 5,8 | % |
| n for calculation | 21 | 20 | |

## Sample M156B
## Parameter Copper

| | | | | | |
|---|---|---|---|---|---|
| Target value ± U (k=2) | 101,9 | µg/l | ± | 0,4 | µg/l |
| IFA result ± U (k=2) | 98,1 | µg/l | ± | 3,9 | µg/l |
| Stability test | | µg/l | | | |

| Lab Code | Result | ± | Unit | Recovery | z-Score |
|---|---|---|---|---|---|
| A | 95 | 9,5 | µg/l | 93% | -0,80 |
| B | 102 | 15,3 | µg/l | 100% | 0,01 |
| C | 98,1 | 0,1 | µg/l | 96% | -0,44 |
| D | 98,7 | 5,4 | µg/l | 97% | -0,37 |
| E | 102 | 16,46 | µg/l | 100% | 0,01 |
| F | | | µg/l | | |
| G | 94,7 | 1,8 | µg/l | 93% | -0,83 |
| H | 102,2 | 10,22 | µg/l | 100% | 0,03 |
| I | 101 | 0,605 | µg/l | 99% | -0,10 |
| J | 98,0 | 9,8 | µg/l | 96% | -0,45 |
| K | 94,5 | 2,3 | µg/l | 93% | -0,85 |
| L | 103,9 | 31 | µg/l | 102% | 0,23 |
| M | 98,7 | 25,7 | µg/l | 97% | -0,37 |
| N | 105 | 1,15 | µg/l | 103% | 0,36 |
| O | 107,75 | 17,24 | µg/l | 106% | 0,68 |
| P | 102 | 18,4 | µg/l | 100% | 0,01 |
| Q | 99,96 | 14,994 | µg/l | 98% | -0,22 |
| R | 105 | 21 | µg/l | 103% | 0,36 |
| S | 89,64 | 6,47 | µg/l | 88% | -1,42 |
| T | 95,0 | | µg/l | 93% | -0,80 |
| U | 93,28 | 1,347 | µg/l | 92% | -1,00 |
| V | 100,0 | 15,3 | µg/l | 98% | -0,22 |
| W | | | µg/l | | |
| X | 97,193 | 9,719 | µg/l | 95% | -0,54 |
| Y | 105,000 | 8,4000 | µg/l | 103% | 0,36 |
| Z | 105 | 13 | µg/l | 103% | 0,36 |



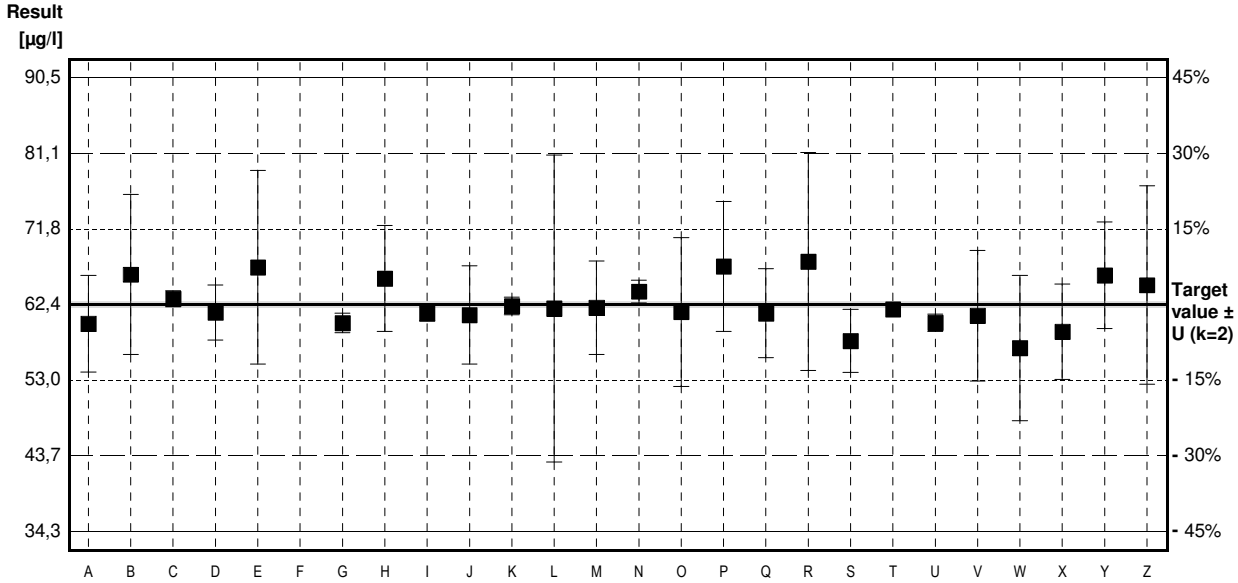



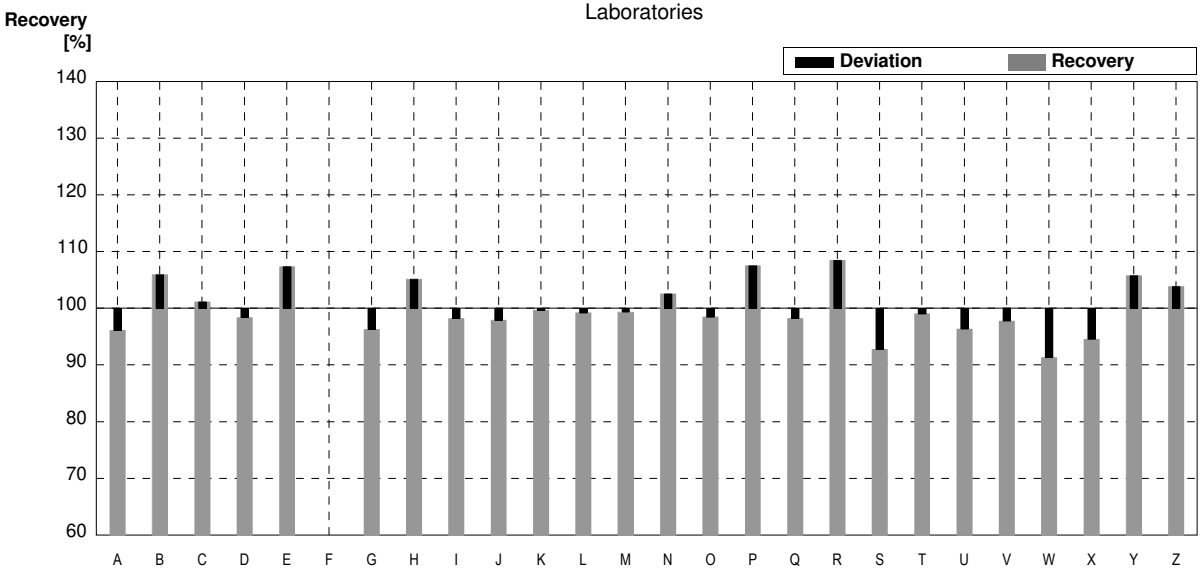

| | All results | Outliers excl. | Unit |
|---|---|---|---|
| Mean ± CI(99%) | 99,7 ± 2,6 | 99,7 ± 2,6 | µg/l |
| Recov. ± CI(99%) | 97,9 ± 2,5 | 97,9 ± 2,5 | % |
| SD between labs | 4,5 | 4,5 | µg/l |
| RSD between labs | 4,5 | 4,5 | % |
| n for calculation | 24 | 24 | |

## Sample M156A
## Parameter Manganese

| | | | | |
|---|---|---|---|---|
| Target value ± U (k=2) | 62,4 µg/l | ± | 0,4 µg/l |
| IFA result ± U (k=2) | 62,4 µg/l | ± | 4,4 µg/l |
| Stability test | µg/l | | |

| Lab Code | Result | ± | Unit | Recovery | z-Score |
|---|---|---|---|---|---|
| A | 60,0 | 6,0 | µg/l | 96% | -0,71 |
| B | 66,1 | 9,92 | µg/l | 106% | 1,10 |
| C | 63,1 | 1 | µg/l | 101% | 0,21 |
| D | 61,4 | 3,4 | µg/l | 98% | -0,30 |
| E | 67 | 12 | µg/l | 107% | 1,37 |
| F | | | µg/l | | |
| G | 60,1 | 1,2 | µg/l | 96% | -0,68 |
| H | 65,6 | 6,56 | µg/l | 105% | 0,95 |
| I | 61,3 | 0,960 | µg/l | 98% | -0,33 |
| J | 61,1 | 6,1 | µg/l | 98% | -0,39 |
| K | 62,2 | 1,1 | µg/l | 100% | -0,06 |
| L | 61,9 | 19 | µg/l | 99% | -0,15 |
| M | 62,0 | 5,8 | µg/l | 99% | -0,12 |
| N | 64,0 | 1,40 | µg/l | 103% | 0,47 |
| O | 61,46 | 9,22 | µg/l | 98% | -0,28 |
| P | 67,1 | 8,05 | µg/l | 108% | 1,39 |
| Q | 61,3 | 5,517 | µg/l | 98% | -0,33 |
| R | 67,7 | 13,5 | µg/l | 108% | 1,57 |
| S | 57,89 | 3,91 | µg/l | 93% | -1,34 |
| T | 61,8 | | µg/l | 99% | -0,18 |
| U | 60,12 | 1,082 | µg/l | 96% | -0,68 |
| V | 61,0 | 8,07 | µg/l | 98% | -0,42 |
| W | 57 | 9 | µg/l | 91% | -1,60 |
| X | 59,015 | 5,902 | µg/l | 95% | -1,00 |
| Y | 66,000 | 6,6000 | µg/l | 106% | 1,07 |
| Z | 64,8 | 12,3 | µg/l | 104% | 0,71 |



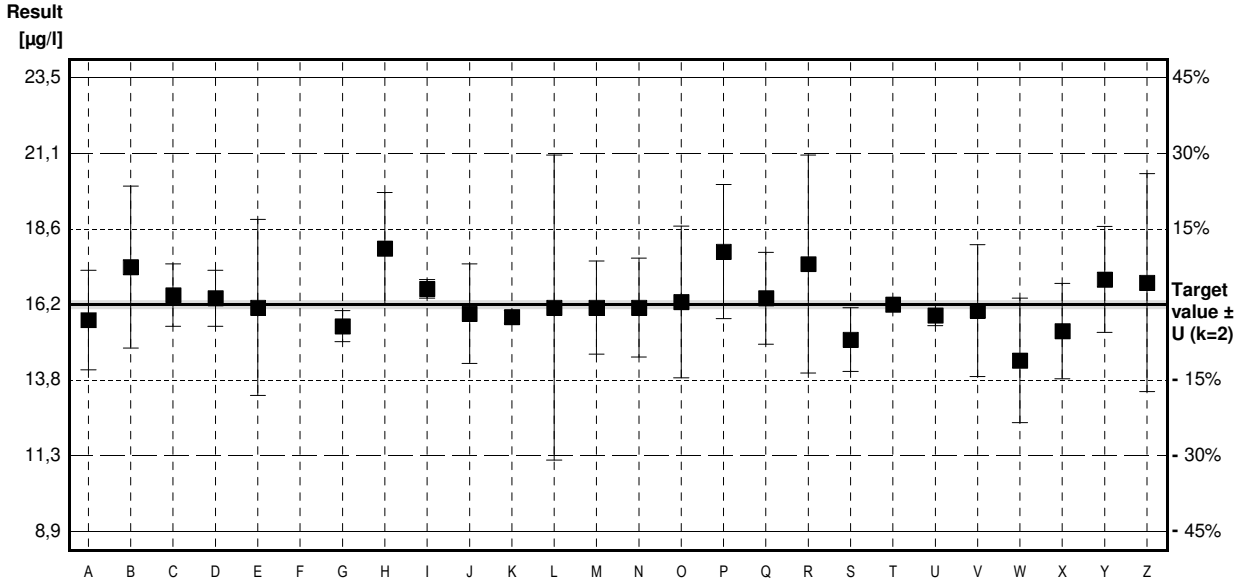

| | All results | Outliers excl. | Unit |
|---|---|---|---|
| Mean ± CI(99%) | 62,4 ± 1,6 | 62,4 ± 1,6 | µg/l |
| Recov. ± CI(99%) | 100,1 ± 2,6 | 100,1 ± 2,6 | % |
| SD between labs | 2,9 | 2,9 | µg/l |
| RSD between labs | 4,7 | 4,7 | % |
| n for calculation | 25 | 25 | |

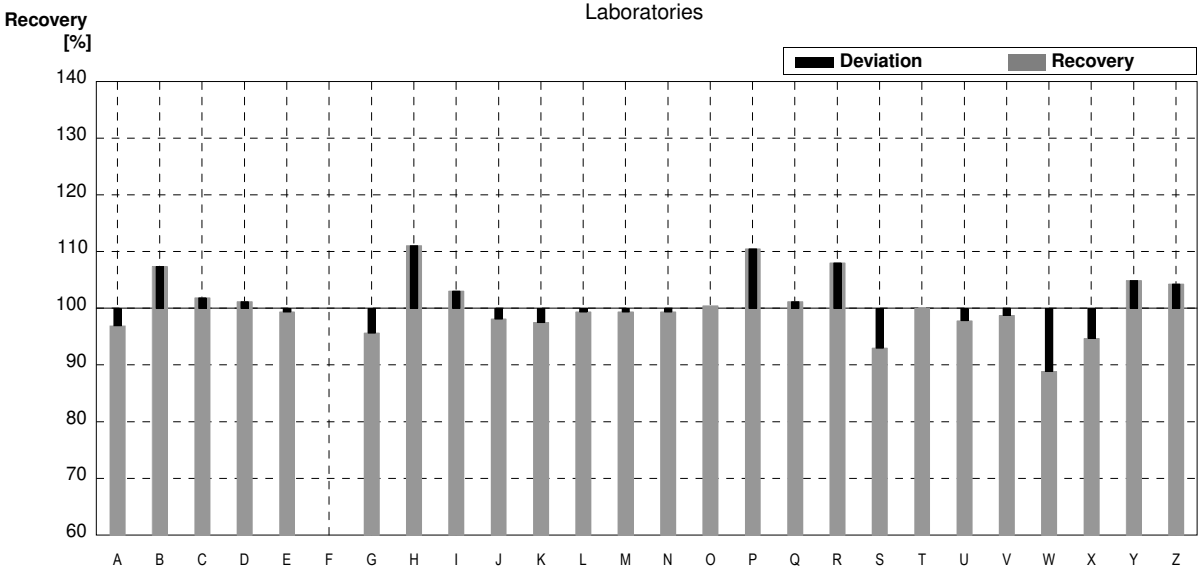
## Sample M156B
## Parameter Manganese

| | | | | | |
|---|---|---|---|---|---|
| Target value ± U (k=2) | 16,2 | µg/l | ± | 0,1 | µg/l |
| IFA result ± U (k=2) | 15,7 | µg/l | ± | 1,1 | µg/l |
| Stability test | | µg/l | | | |

| Lab Code | Result | ± | Unit | Recovery | z-Score |
|---|---|---|---|---|---|
| A | 15,7 | 1,6 | µg/l | 97% | -0,57 |
| B | 17,4 | 2,60 | µg/l | 107% | 1,37 |
| C | 16,5 | 1 | µg/l | 102% | 0,34 |
| D | 16,4 | 0,90 | µg/l | 101% | 0,23 |
| E | 16,1 | 2,83 | µg/l | 99% | -0,11 |
| F | | | µg/l | | |
| G | 15,5 | 0,5 | µg/l | 96% | -0,80 |
| H | 18,0 * | 1,80 | µg/l | 111% | 2,06 |
| I | 16,7 | 0,299 | µg/l | 103% | 0,57 |
| J | 15,9 | 1,6 | µg/l | 98% | -0,34 |
| K | 15,8 | 0,2 | µg/l | 98% | -0,46 |
| L | 16,1 | 4,9 | µg/l | 99% | -0,11 |
| M | 16,1 | 1,5 | µg/l | 99% | -0,11 |
| N | 16,1 | 1,59 | µg/l | 99% | -0,11 |
| O | 16,28 | 2,44 | µg/l | 100% | 0,09 |
| P | 17,9 | 2,15 | µg/l | 110% | 1,94 |
| Q | 16,4 | 1,476 | µg/l | 101% | 0,23 |
| R | 17,5 | 3,5 | µg/l | 108% | 1,49 |
| S | 15,07 | 1,02 | µg/l | 93% | -1,29 |
| T | 16,2 | | µg/l | 100% | 0,00 |
| U | 15,85 | 0,330 | µg/l | 98% | -0,40 |
| V | 16,0 | 2,12 | µg/l | 99% | -0,23 |
| W | 14,4 | 2 | µg/l | 89% | -2,06 |
| X | 15,347 | 1,535 | µg/l | 95% | -0,98 |
| Y | 17,000 | 1,7000 | µg/l | 105% | 0,91 |
| Z | 16,9 | 3,5 | µg/l | 104% | 0,80 |

| | All results | Outliers excl. | Unit |
|---|---|---|---|
| Mean ± CI(99%) | 16,3 ± 0,5 | 16,2 ± 0,4 | µg/l |
| Recov. ± CI(99%) | 100,5 ± 2,9 | 100,1 ± 2,8 | % |
| SD between labs | 0,8 | 0,8 | µg/l |
| RSD between labs | 5,2 | 4,8 | % |
| n for calculation | 25 | 24 | |

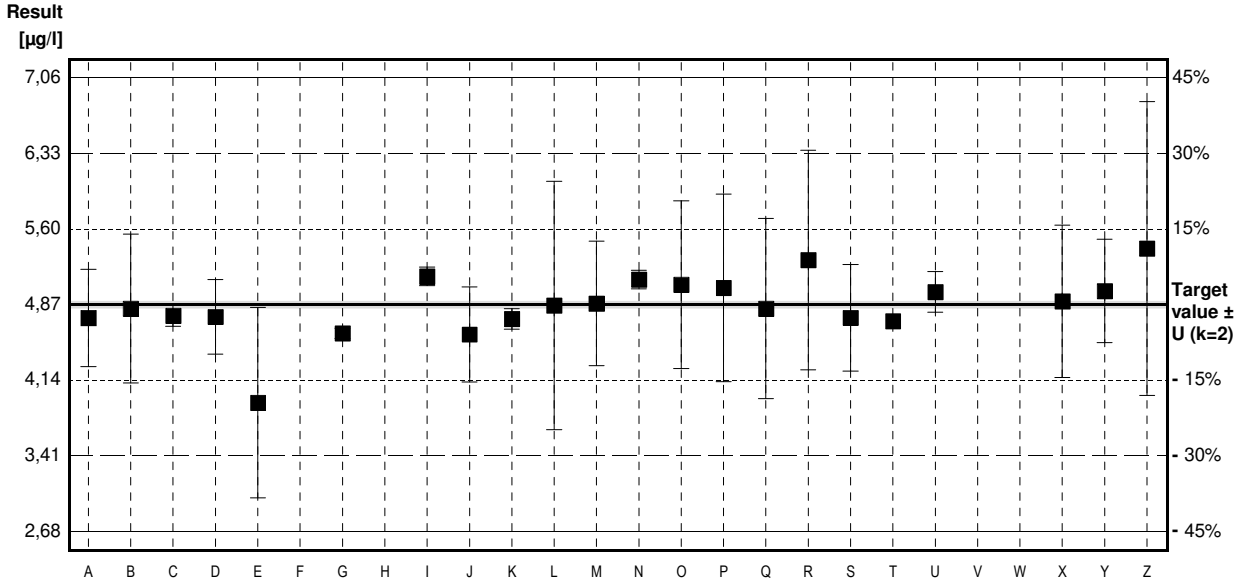


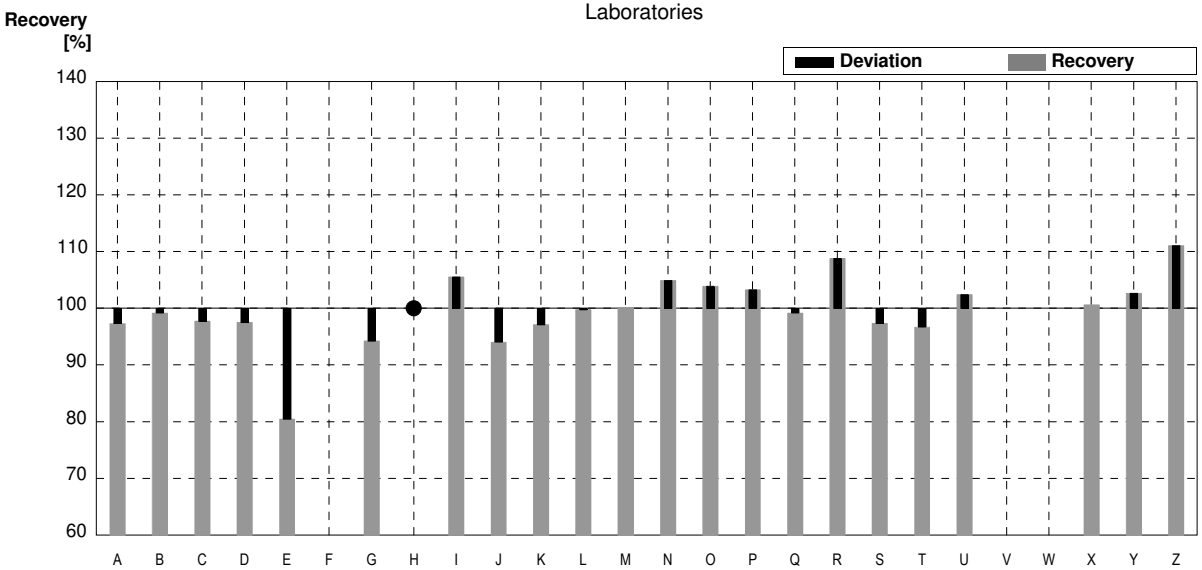



## Sample M156A
## Parameter Nickel

| | | | | | |
|---|---|---|---|---|---|
| Target value ± U (k=2) | 4,87 µg/l | ± | 0,03 µg/l | | |
| IFA result ± U (k=2) | 5,05 µg/l | ± | 0,20 µg/l | | |
| Stability test | µg/l | | | | |

| Lab Code | Result | ± | Unit | Recovery | z-Score |
|---|---|---|---|---|---|
| A | 4,74 | 0,47 | µg/l | 97% | -0,33 |
| B | 4,83 | 0,72 | µg/l | 99% | -0,10 |
| C | 4,76 | 0,1 | µg/l | 98% | -0,28 |
| D | 4,75 | 0,36 | µg/l | 98% | -0,31 |
| E | 3,92 * | 0,92 | µg/l | 80% | -2,44 |
| F | | | µg/l | | |
| G | 4,59 | 0,05 | µg/l | 94% | -0,72 |
| H | <5 | | µg/l | • | |
| I | 5,14 | 0,090 | µg/l | 106% | 0,69 |
| J | 4,58 | 0,46 | µg/l | 94% | -0,74 |
| K | 4,73 | 0,1 | µg/l | 97% | -0,36 |
| L | 4,86 | 1,2 | µg/l | 100% | -0,03 |
| M | 4,88 | 0,6 | µg/l | 100% | 0,03 |
| N | 5,11 | 0,09 | µg/l | 105% | 0,62 |
| O | 5,06 | 0,81 | µg/l | 104% | 0,49 |
| P | 5,03 | 0,905 | µg/l | 103% | 0,41 |
| Q | 4,83 | 0,869 | µg/l | 99% | -0,10 |
| R | 5,30 | 1,06 | µg/l | 109% | 1,10 |
| S | 4,741 | 0,514 | µg/l | 97% | -0,33 |
| T | 4,71 | | µg/l | 97% | -0,41 |
| U | 4,99 | 0,196 | µg/l | 102% | 0,31 |
| V | | | µg/l | | |
| W | | | µg/l | | |
| X | 4,900 | 0,735 | µg/l | 101% | 0,08 |
| Y | 5,000 | 0,5000 | µg/l | 103% | 0,33 |
| Z | 5,41 | 1,42 | µg/l | 111% | 1,39 |



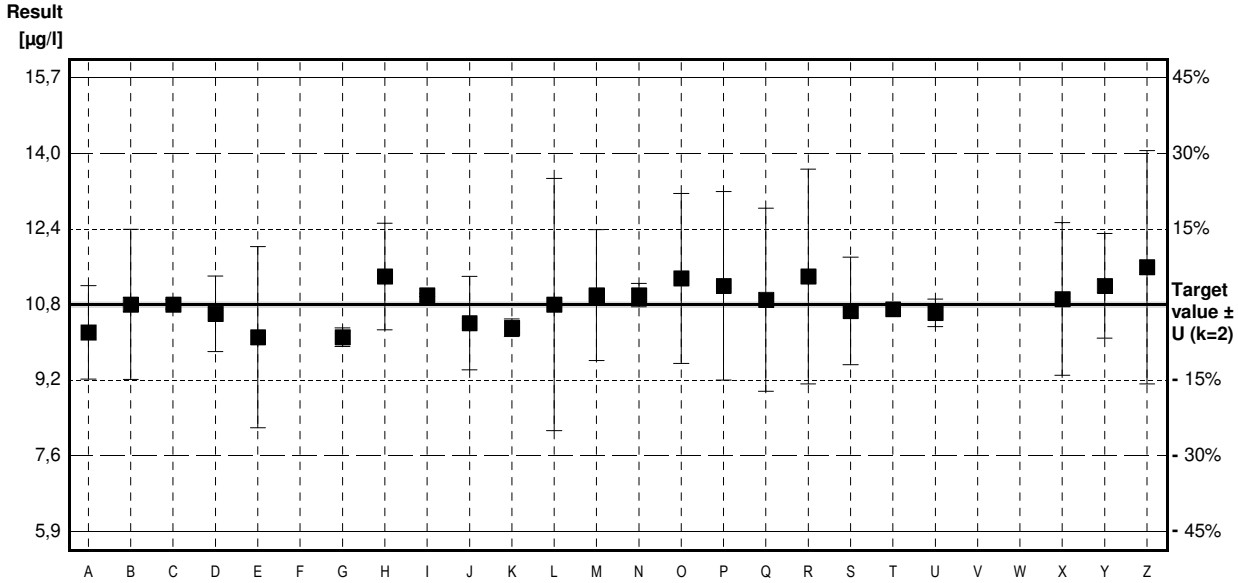



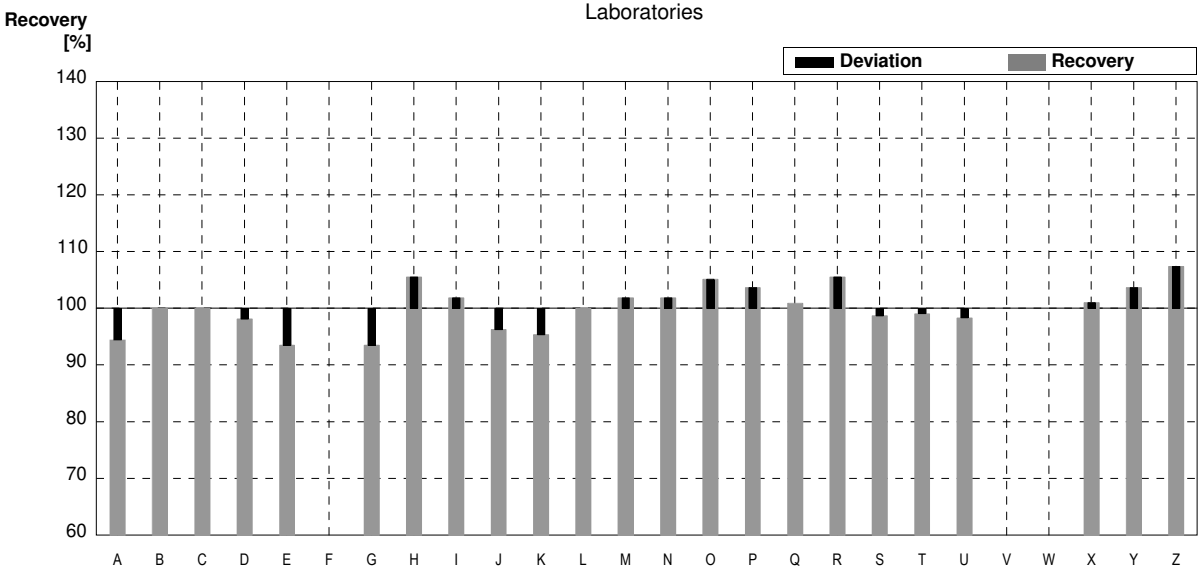

| | All results | Outliers excl. | Unit |
|---|---|---|---|
| Mean ± CI(99%) | 4,86 ± 0,18 | 4,90 ± 0,14 | µg/l |
| Recov. ± CI(99%) | 99,7 ± 3,7 | 100,7 ± 2,8 | % |
| SD between labs | 0,30 | 0,22 | µg/l |
| RSD between labs | 6,1 | 4,4 | % |
| n for calculation | 22 | 21 | |

## Sample M156B
## Parameter Nickel

| | | | | | |
|---|---|---|---|---|---|
| Target value ± U (k=2) | 10,8 | µg/l | ± | 0,1 | µg/l |
| IFA result ± U (k=2) | 11,2 | µg/l | ± | 0,3 | µg/l |
| Stability test | | µg/l | | | |

| Lab Code | Result | ± | Unit | Recovery | z-Score |
|---|---|---|---|---|---|
| A | 10,2 | 1,0 | µg/l | 94% | -0,69 |
| B | 10,8 | 1,61 | µg/l | 100% | 0,00 |
| C | 10,8 | 0,1 | µg/l | 100% | 0,00 |
| D | 10,6 | 0,81 | µg/l | 98% | -0,23 |
| E | 10,1 | 1,94 | µg/l | 94% | -0,81 |
| F | | | µg/l | | |
| G | 10,1 | 0,2 | µg/l | 94% | -0,81 |
| H | 11,4 | 1,14 | µg/l | 106% | 0,69 |
| I | 11,0 | 0,030 | µg/l | 102% | 0,23 |
| J | 10,4 | 1,0 | µg/l | 96% | -0,46 |
| K | 10,3 | 0,19 | µg/l | 95% | -0,58 |
| L | 10,8 | 2,7 | µg/l | 100% | 0,00 |
| M | 11,0 | 1,4 | µg/l | 102% | 0,23 |
| N | 11,0 | 0,25 | µg/l | 102% | 0,23 |
| O | 11,36 | 1,82 | µg/l | 105% | 0,65 |
| P | 11,2 | 2,02 | µg/l | 104% | 0,46 |
| Q | 10,9 | 1,962 | µg/l | 101% | 0,12 |
| R | 11,4 | 2,3 | µg/l | 106% | 0,69 |
| S | 10,66 | 1,15 | µg/l | 99% | -0,16 |
| T | 10,7 | | µg/l | 99% | -0,12 |
| U | 10,62 | 0,292 | µg/l | 98% | -0,21 |
| V | | | µg/l | | |
| W | | | µg/l | | |
| X | 10,915 | 1,637 | µg/l | 101% | 0,13 |
| Y | 11,2000 | 1,12000 | µg/l | 104% | 0,46 |
| Z | 11,6 | 2,5 | µg/l | 107% | 0,93 |



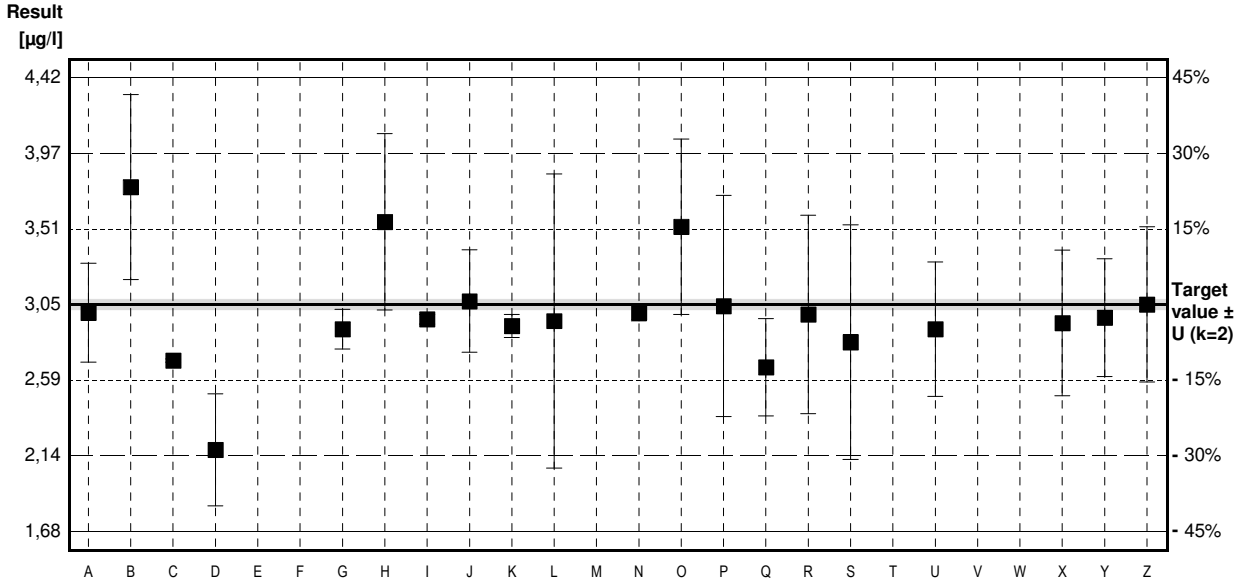



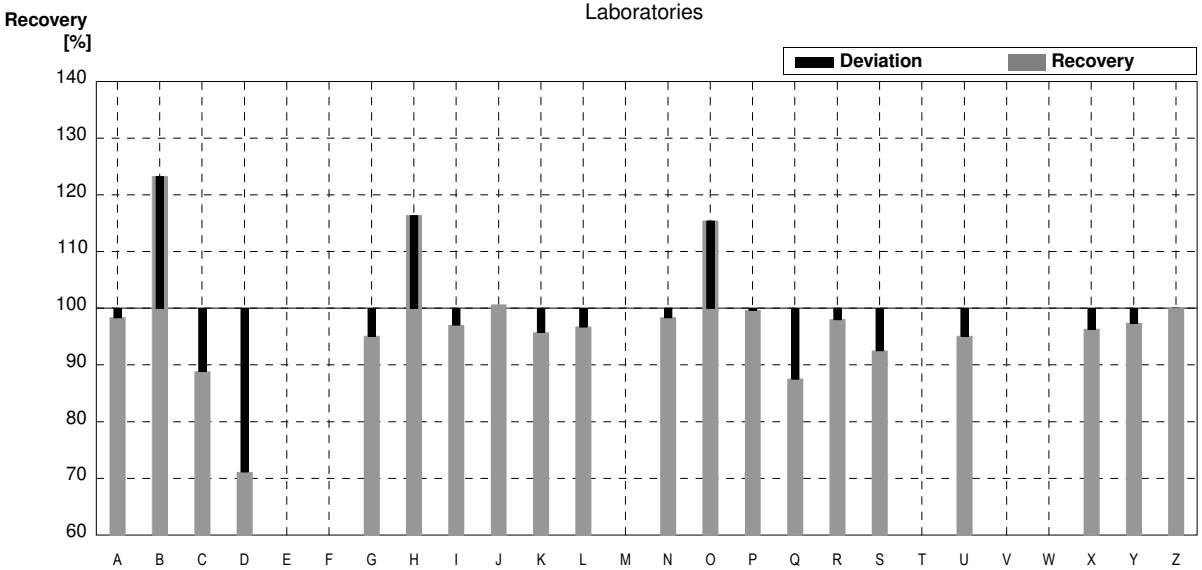

| | All results | Outliers excl. | Unit |
|---|---|---|---|
| Mean ± CI(99%) | 10,8 ± 0,2 | 10,8 ± 0,2 | µg/l |
| Recov. ± CI(99%) | 100,3 ± 2,3 | 100,3 ± 2,3 | % |
| SD between labs | 0,4 | 0,4 | µg/l |
| RSD between labs | 3,9 | 3,9 | % |
| n for calculation | 23 | 23 | |

## Sample M156A
## Parameter Mercury

| | | | | | |
|---|---|---|---|---|---|
| Target value ± U (k=2) | 3,05 | µg/l | ± | 0,03 | µg/l |
| IFA result ± U (k=2) | 3,22 | µg/l | ± | 0,61 | µg/l |
| Stability test | | µg/l | | | |

| Lab Code | Result | | ± | Unit | Recovery | z-Score |
|---|---|---|---|---|---|---|
| A | 3,00 | | 0,30 | µg/l | 98% | -0,15 |
| B | 3,76 | * | 0,56 | µg/l | 123% | 2,12 |
| C | 2,71 | | 0,01 | µg/l | 89% | -1,01 |
| D | 2,17 | * | 0,34 | µg/l | 71% | -2,62 |
| E | | | | µg/l | | |
| F | | | | µg/l | | |
| G | 2,90 | | 0,12 | µg/l | 95% | -0,45 |
| H | 3,55 | * | 0,533 | µg/l | 116% | 1,49 |
| I | 2,96 | | 0,028 | µg/l | 97% | -0,27 |
| J | 3,07 | | 0,31 | µg/l | 101% | 0,06 |
| K | 2,92 | | 0,07 | µg/l | 96% | -0,39 |
| L | 2,95 | | 0,89 | µg/l | 97% | -0,30 |
| M | | | | µg/l | | |
| N | 3,00 | | 0,05 | µg/l | 98% | -0,15 |
| O | 3,52 | * | 0,53 | µg/l | 115% | 1,40 |
| P | 3,04 | | 0,669 | µg/l | 100% | -0,03 |
| Q | 2,67 | | 0,294 | µg/l | 88% | -1,13 |
| R | 2,99 | | 0,60 | µg/l | 98% | -0,18 |
| S | 2,822 | | 0,709 | µg/l | 93% | -0,68 |
| T | | | | µg/l | | |
| U | 2,90 | | 0,406 | µg/l | 95% | -0,45 |
| V | | | | µg/l | | |
| W | | | | µg/l | | |
| X | 2,938 | | 0,4406 | µg/l | 96% | -0,33 |
| Y | 2,9700 | | 0,3564 | µg/l | 97% | -0,24 |
| Z | 3,05 | | 0,47 | µg/l | 100% | 0,00 |



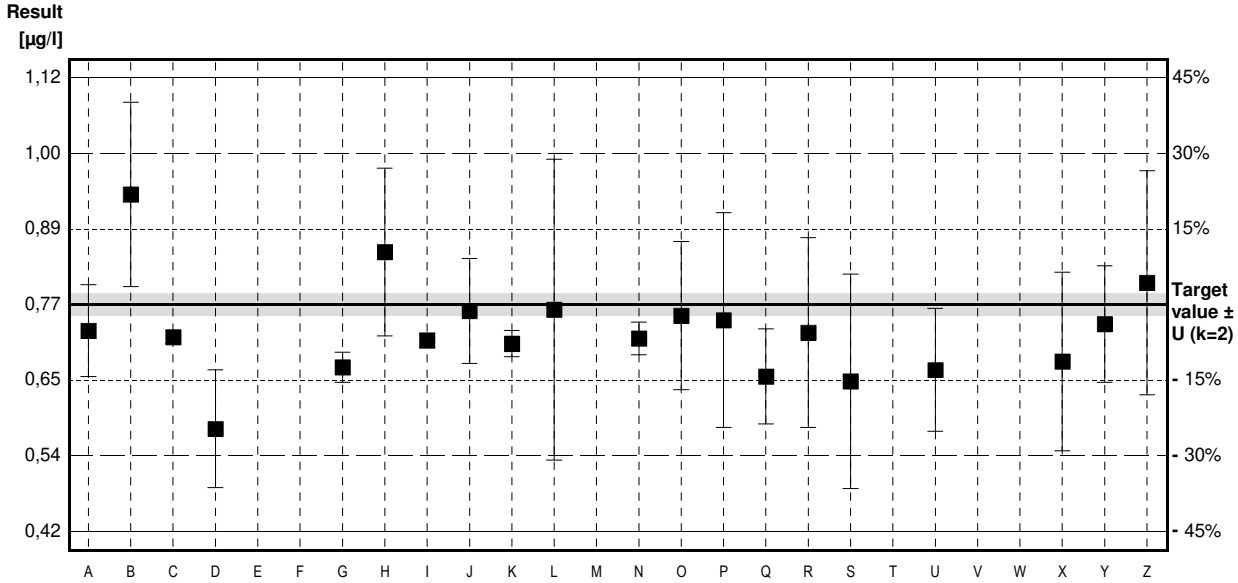



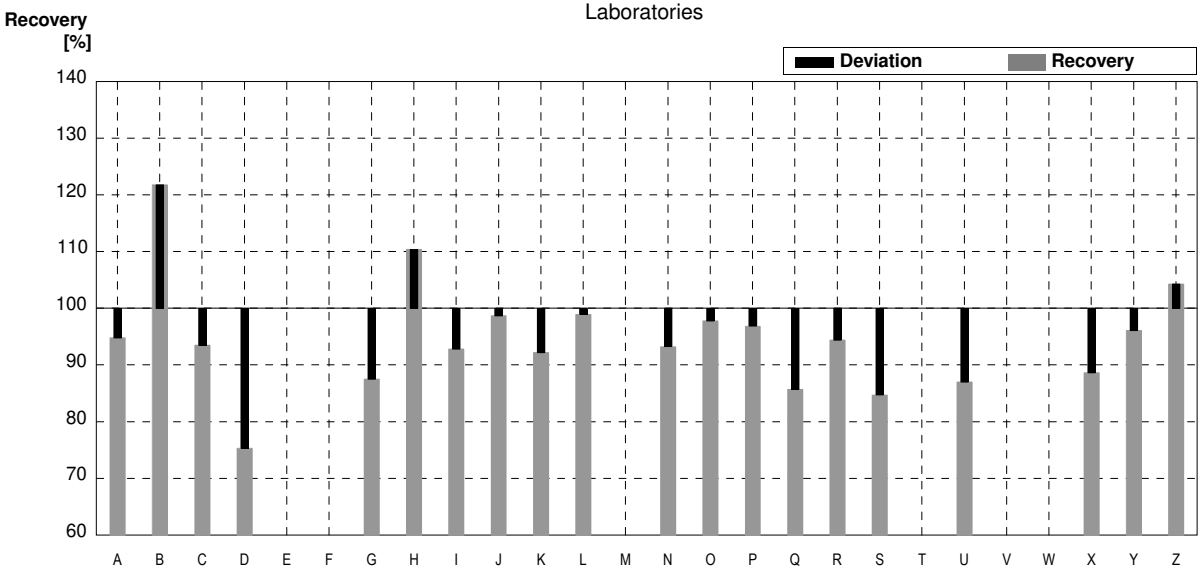

| | All results | Outliers excl. | Unit |
|---|---|---|---|
| Mean ± CI(99%) | 2,99 ± 0,21 | 2,93 ± 0,08 | µg/l |
| Recov. ± CI(99%) | 98,2 ± 7,0 | 96,1 ± 2,7 | % |
| SD between labs | 0,33 | 0,11 | µg/l |
| RSD between labs | 11,1 | 3,9 | % |
| n for calculation | 20 | 16 | |

## Sample M156B
## Parameter Mercury

| | | | | | |
|---|---|---|---|---|---|
| Target value ± U (k=2) | 0,77 | µg/l | ± | 0,02 | µg/l |
| IFA result ± U (k=2) | 0,81 | µg/l | ± | 0,15 | µg/l |
| Stability test | | µg/l | | | |

| Lab Code | Result | | ± | Unit | Recovery | z-Score |
|---|---|---|---|---|---|---|
| A | 0,73 | | 0,07 | µg/l | 95% | -0,47 |
| B | 0,938 | * | 0,141 | µg/l | 122% | 1,98 |
| C | 0,72 | | 0,01 | µg/l | 94% | -0,59 |
| D | 0,580 | | 0,09 | µg/l | 75% | -2,24 |
| E | | | | µg/l | | |
| F | | | | µg/l | | |
| G | 0,674 | | 0,023 | µg/l | 88% | -1,13 |
| H | 0,85 | | 0,128 | µg/l | 110% | 0,94 |
| I | 0,715 | | 0,011 | µg/l | 93% | -0,65 |
| J | 0,76 | | 0,08 | µg/l | 99% | -0,12 |
| K | 0,71 | | 0,02 | µg/l | 92% | -0,71 |
| L | 0,762 | | 0,23 | µg/l | 99% | -0,09 |
| M | | | | µg/l | | |
| N | 0,718 | | 0,025 | µg/l | 93% | -0,61 |
| O | 0,753 | | 0,113 | µg/l | 98% | -0,20 |
| P | 0,746 | | 0,164 | µg/l | 97% | -0,28 |
| Q | 0,66 | | 0,0726 | µg/l | 86% | -1,30 |
| R | 0,727 | | 0,145 | µg/l | 94% | -0,51 |
| S | 0,6524 | | 0,1639 | µg/l | 85% | -1,39 |
| T | | | | µg/l | | |
| U | 0,67 | | 0,094 | µg/l | 87% | -1,18 |
| V | | | | µg/l | | |
| W | | | | µg/l | | |
| X | 0,6828 | | 0,1366 | µg/l | 89% | -1,03 |
| Y | 0,74000 | | 0,0888 | µg/l | 96% | -0,35 |
| Z | 0,803 | | 0,171 | µg/l | 104% | 0,39 |



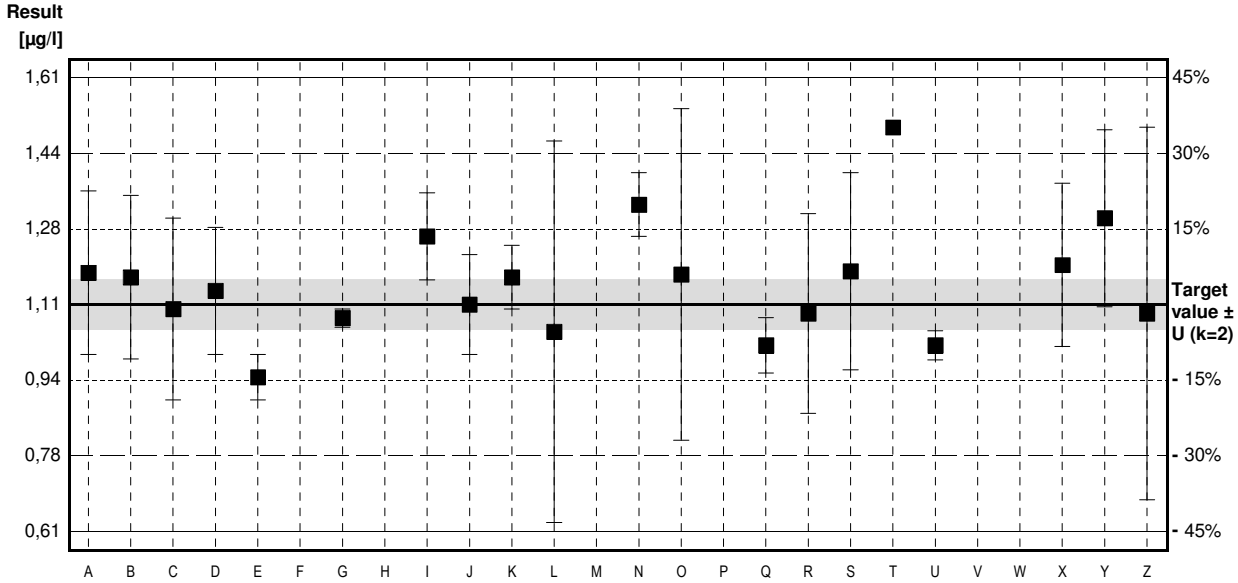



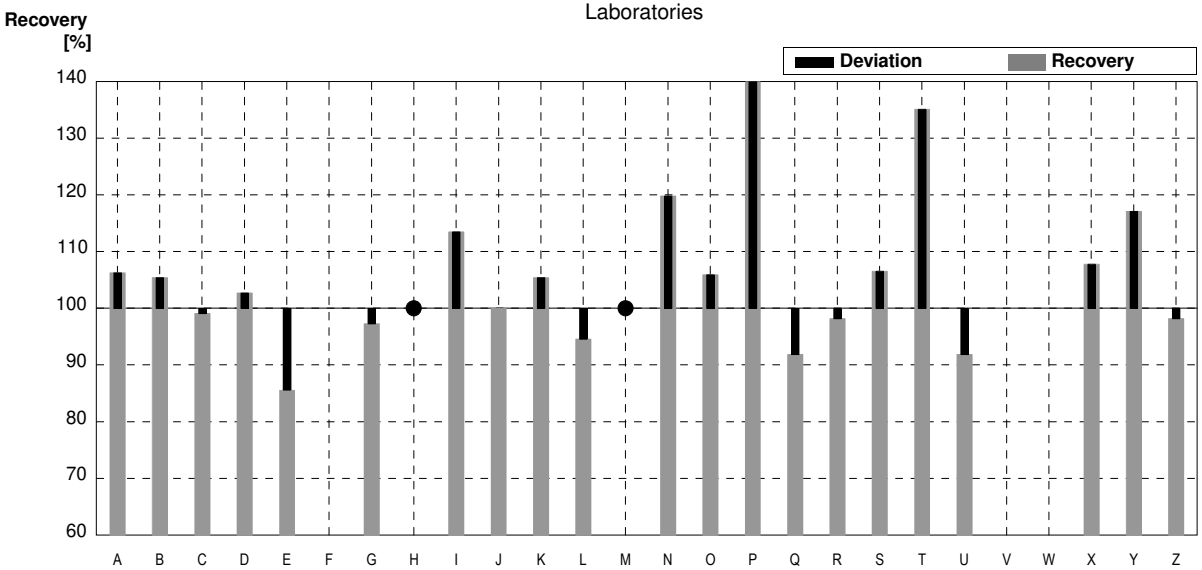

| | All results | Outliers excl. | Unit |
|---|---|---|---|
| Mean ± CI(99%) | 0,73 ± 0,05 | 0,72 ± 0,04 | µg/l |
| Recov. ± CI(99%) | 94,7 ± 6,3 | 93,3 ± 5,1 | % |
| SD between labs | 0,08 | 0,06 | µg/l |
| RSD between labs | 10,4 | 8,3 | % |
| n for calculation | 20 | 19 | |

## Sample M156A
## Parameter Selenium

| | | | | | |
|---|---|---|---|---|---|
| Target value | ± U (k=2) | 1,11 µg/l | ± | 0,06 µg/l | |
| IFA result | ± U (k=2) | 1,14 µg/l | ± | 0,14 µg/l | |
| Stability test | | µg/l | | | |

| Lab Code | Result | ± | Unit | Recovery | z-Score |
|---|---|---|---|---|---|
| A | 1,18 | 0,18 | µg/l | 106% | 0,57 |
| B | 1,17 | 0,18 | µg/l | 105% | 0,49 |
| C | 1,10 | 0,2 | µg/l | 99% | -0,08 |
| D | 1,14 | 0,14 | µg/l | 103% | 0,25 |
| E | 0,95 | 0,05 | µg/l | 86% | -1,31 |
| F | | | µg/l | | |
| G | 1,08 | 0,02 | µg/l | 97% | -0,25 |
| H | <2 | | µg/l | • | |
| I | 1,26 | 0,096 | µg/l | 114% | 1,23 |
| J | 1,11 | 0,11 | µg/l | 100% | 0,00 |
| K | 1,17 | 0,07 | µg/l | 105% | 0,49 |
| L | 1,05 | 0,42 | µg/l | 95% | -0,49 |
| M | <5 | | µg/l | • | |
| N | 1,33 | 0,07 | µg/l | 120% | 1,80 |
| O | 1,176 | 0,365 | µg/l | 106% | 0,54 |
| P | 1,95 * | 0,468 | µg/l | 176% | 6,88 |
| Q | 1,02 | 0,0612 | µg/l | 92% | -0,74 |
| R | 1,09 | 0,22 | µg/l | 98% | -0,16 |
| S | 1,183 | 0,217 | µg/l | 107% | 0,60 |
| T | 1,50 | | µg/l | 135% | 3,19 |
| U | 1,02 | 0,032 | µg/l | 92% | -0,74 |
| V | | | µg/l | | |
| W | | | µg/l | | |
| X | 1,197 | 0,180 | µg/l | 108% | 0,71 |
| Y | 1,3000 | 0,1950 | µg/l | 117% | 1,56 |
| Z | 1,09 | 0,41 | µg/l | 98% | -0,16 |



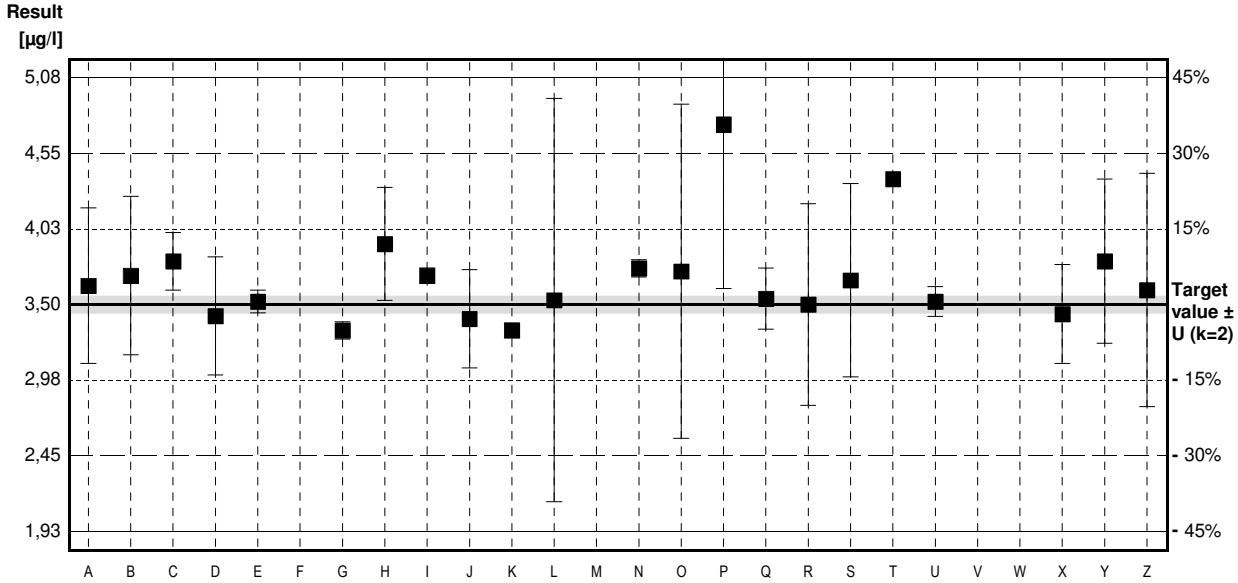



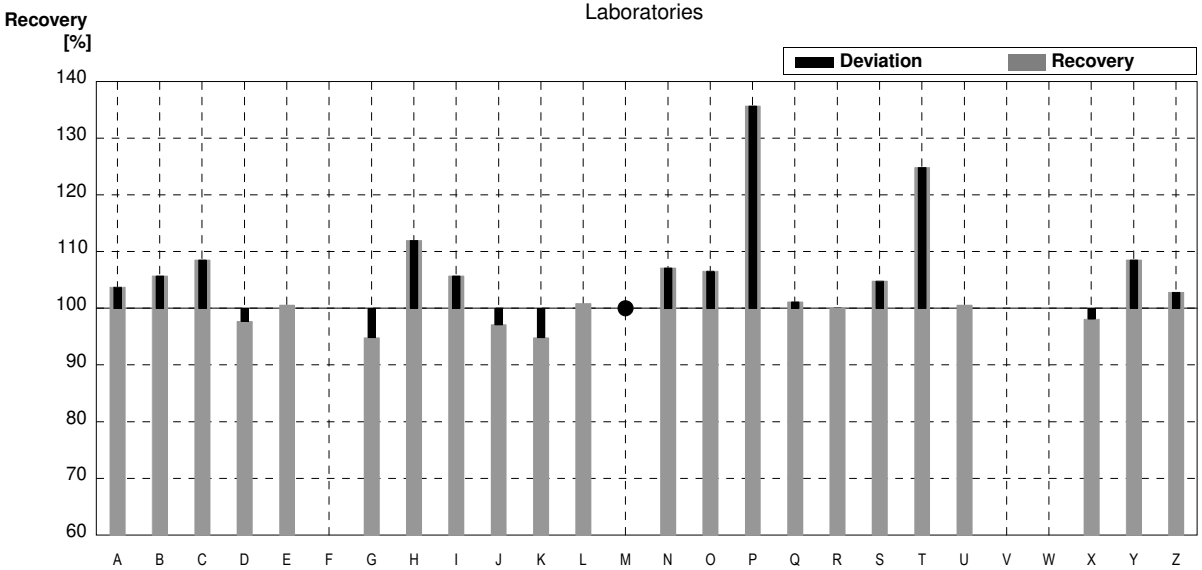

| | All results | Outliers excl. | Unit |
|---|---|---|---|
| Mean ± CI(99%) | 1,19 ± 0,13 | 1,16 ± 0,08 | µg/l |
| Recov. ± CI(99%) | 107,5 ± 11,9 | 104,1 ± 7,2 | % |
| SD between labs | 0,21 | 0,12 | µg/l |
| RSD between labs | 17,7 | 10,8 | % |
| n for calculation | 21 | 20 | |

## Sample M156B
## Parameter Selenium

| | | | | | |
|---|---|---|---|---|---|
| Target value ± U (k=2) | 3,50 | µg/l | ± | 0,06 | µg/l |
| IFA result ± U (k=2) | 3,35 | µg/l | ± | 0,40 | µg/l |
| Stability test | | µg/l | | | |

| Lab Code | Result | ± | Unit | Recovery | z-Score |
|---|---|---|---|---|---|
| A | 3,63 | 0,54 | µg/l | 104% | 0,34 |
| B | 3,70 | 0,55 | µg/l | 106% | 0,52 |
| C | 3,80 | 0,2 | µg/l | 109% | 0,78 |
| D | 3,42 | 0,41 | µg/l | 98% | -0,21 |
| E | 3,52 | 0,08 | µg/l | 101% | 0,05 |
| F | | | µg/l | | |
| G | 3,32 | 0,06 | µg/l | 95% | -0,47 |
| H | 3,92 | 0,392 | µg/l | 112% | 1,09 |
| I | 3,70 | 0,052 | µg/l | 106% | 0,52 |
| J | 3,40 | 0,34 | µg/l | 97% | -0,26 |
| K | 3,32 | 0,05 | µg/l | 95% | -0,47 |
| L | 3,53 | 1,4 | µg/l | 101% | 0,08 |
| M | <5 | | µg/l | • | |
| N | 3,75 | 0,06 | µg/l | 107% | 0,65 |
| O | 3,73 | 1,16 | µg/l | 107% | 0,60 |
| P | 4,75 * | 1,14 | µg/l | 136% | 3,25 |
| Q | 3,54 | 0,2124 | µg/l | 101% | 0,10 |
| R | 3,50 | 0,70 | µg/l | 100% | 0,00 |
| S | 3,668 | 0,671 | µg/l | 105% | 0,44 |
| T | 4,37 * | | µg/l | 125% | 2,26 |
| U | 3,52 | 0,104 | µg/l | 101% | 0,05 |
| V | | | µg/l | | |
| W | | | µg/l | | |
| X | 3,434 | 0,343 | µg/l | 98% | -0,17 |
| Y | 3,800 | 0,570 | µg/l | 109% | 0,78 |
| Z | 3,60 | 0,81 | µg/l | 103% | 0,26 |



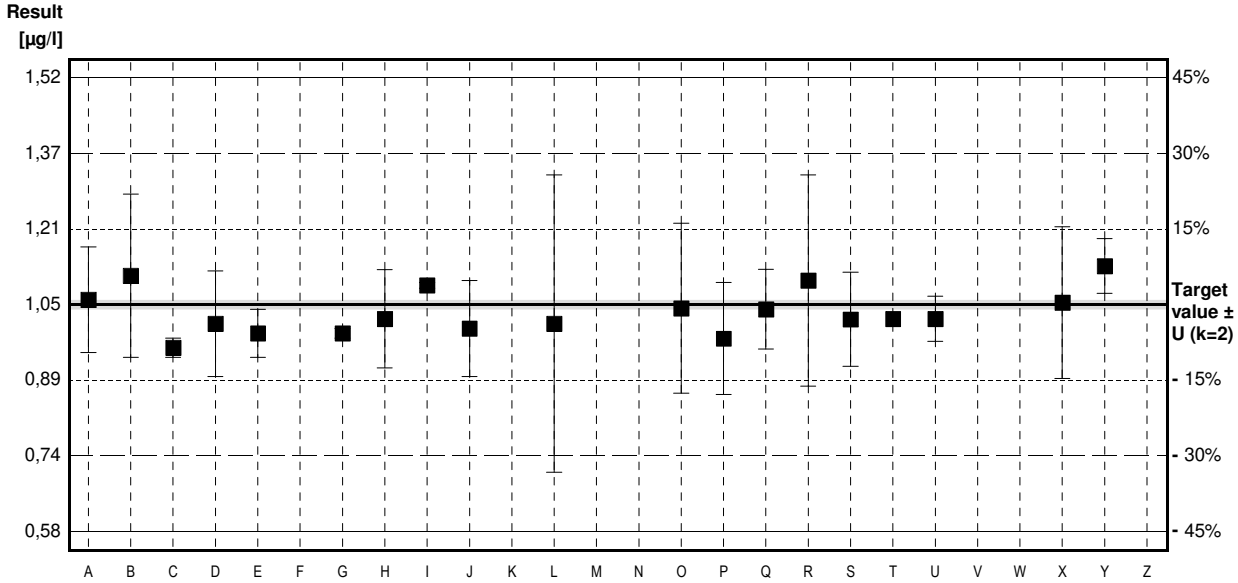



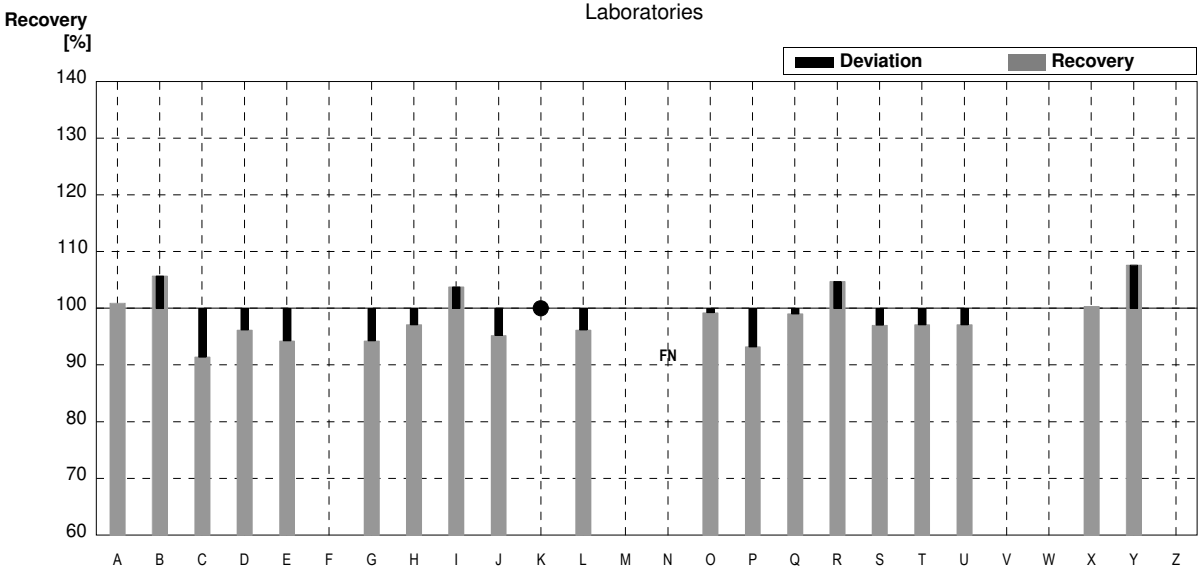

| | All results | Outliers excl. | Unit |
|---|---|---|---|
| Mean ± CI(99%) | 3,68 ± 0,20 | 3,59 ± 0,11 | µg/l |
| Recov. ± CI(99%) | 105,1 ± 5,7 | 102,6 ± 3,1 | % |
| SD between labs | 0,33 | 0,17 | µg/l |
| RSD between labs | 9,0 | 4,7 | % |
| n for calculation | 22 | 20 | |

## Sample M156A
## Parameter Uranium

| | | | | | |
|---|---|---|---|---|---|
| Target value ± U (k=2) | 1,05 | µg/l | ± | 0,01 | µg/l |
| IFA result ± U (k=2) | 1,04 | µg/l | ± | 0,11 | µg/l |
| Stability test | | µg/l | | | |

| Lab Code | Result | ± | Unit | Recovery | z-Score |
|---|---|---|---|---|---|
| A | 1,06 | 0,11 | µg/l | 101% | 0,16 |
| B | 1,11 | 0,17 | µg/l | 106% | 0,99 |
| C | 0,96 | 0,02 | µg/l | 91% | -1,48 |
| D | 1,01 | 0,11 | µg/l | 96% | -0,66 |
| E | 0,99 | 0,05 | µg/l | 94% | -0,99 |
| F | | | µg/l | | |
| G | 0,99 | 0,01 | µg/l | 94% | -0,99 |
| H | 1,02 | 0,102 | µg/l | 97% | -0,49 |
| I | 1,09 | 0,006 | µg/l | 104% | 0,66 |
| J | 1,00 | 0,1 | µg/l | 95% | -0,82 |
| K | <2 | | µg/l | • | |
| L | 1,01 | 0,31 | µg/l | 96% | -0,66 |
| M | | | µg/l | | |
| N | <1,00 | | µg/l | FN | |
| O | 1,042 | 0,177 | µg/l | 99% | -0,13 |
| P | 0,979 | 0,117 | µg/l | 93% | -1,17 |
| Q | 1,04 | 0,0832 | µg/l | 99% | -0,16 |
| R | 1,10 | 0,22 | µg/l | 105% | 0,82 |
| S | 1,019 | 0,098 | µg/l | 97% | -0,51 |
| T | 1,02 | | µg/l | 97% | -0,49 |
| U | 1,02 | 0,047 | µg/l | 97% | -0,49 |
| V | | | µg/l | | |
| W | | | µg/l | | |
| X | 1,054 | 0,158 | µg/l | 100% | 0,07 |
| Y | 1,1300 | 0,057 | µg/l | 108% | 1,31 |
| Z | | | µg/l | | |



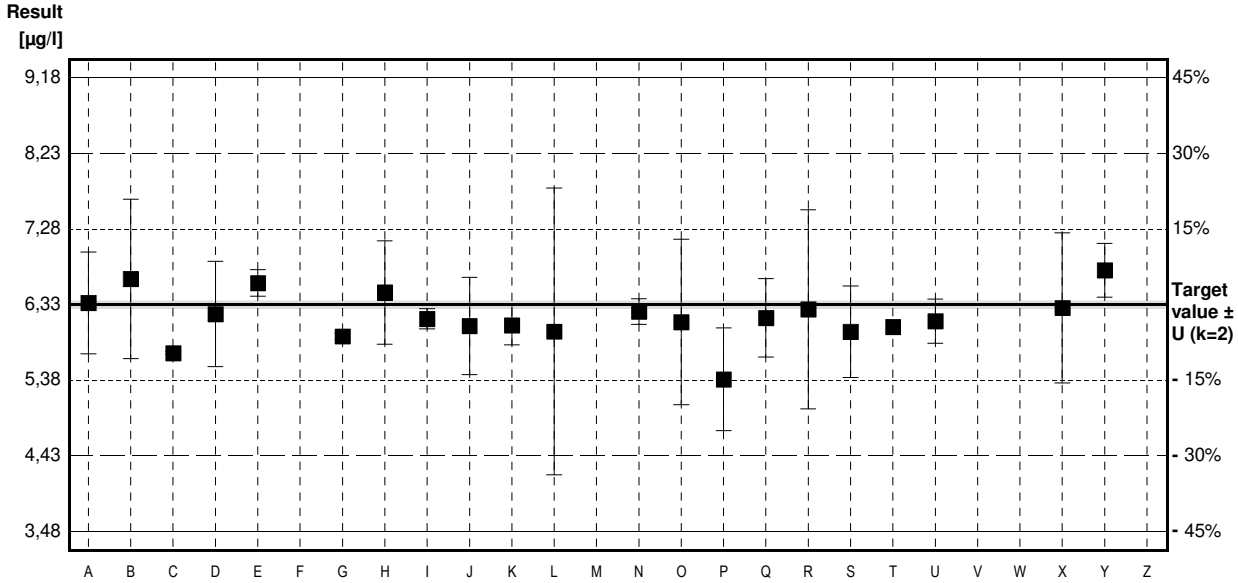



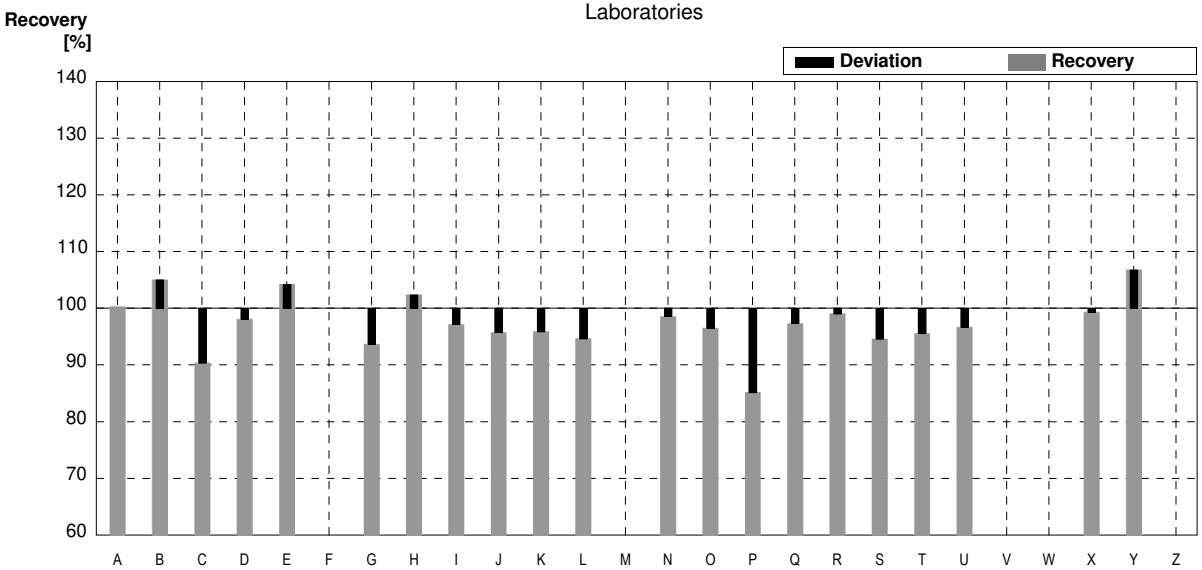

| | All results | Outliers excl. | Unit |
|---|---|---|---|
| Mean ± CI(99%) | 1,03 ± 0,03 | 1,03 ± 0,03 | µg/l |
| Recov. ± CI(99%) | 98,5 ± 2,9 | 98,5 ± 2,9 | % |
| SD between labs | 0,05 | 0,05 | µg/l |
| RSD between labs | 4,5 | 4,5 | % |
| n for calculation | 19 | 19 | |

## Sample M156B
## Parameter Uranium

| | | | | | |
|---|---|---|---|---|---|
| Target value | ± U (k=2) | 6,33 µg/l | ± | 0,05 µg/l | |
| IFA result | ± U (k=2) | 6,05 µg/l | ± | 0,67 µg/l | |
| Stability test | | µg/l | | | |

| Lab Code | Result | ± | Unit | Recovery | z-Score |
|---|---|---|---|---|---|
| A | 6,35 | 0,64 | µg/l | 100% | 0,05 |
| B | 6,65 | 1,00 | µg/l | 105% | 0,87 |
| C | 5,72 | 0,02 | µg/l | 90% | -1,66 |
| D | 6,21 | 0,66 | µg/l | 98% | -0,33 |
| E | 6,6 | 0,168 | µg/l | 104% | 0,74 |
| F | | | µg/l | | |
| G | 5,93 | 0,04 | µg/l | 94% | -1,09 |
| H | 6,48 | 0,648 | µg/l | 102% | 0,41 |
| I | 6,15 | 0,127 | µg/l | 97% | -0,49 |
| J | 6,06 | 0,61 | µg/l | 96% | -0,74 |
| K | 6,07 | 0,25 | µg/l | 96% | -0,71 |
| L | 5,99 | 1,8 | µg/l | 95% | -0,93 |
| M | | | µg/l | | |
| N | 6,24 | 0,16 | µg/l | 99% | -0,25 |
| O | 6,11 | 1,04 | µg/l | 97% | -0,60 |
| P | 5,39 * | 0,647 | µg/l | 85% | -2,56 |
| Q | 6,16 | 0,4928 | µg/l | 97% | -0,46 |
| R | 6,27 | 1,25 | µg/l | 99% | -0,16 |
| S | 5,988 | 0,574 | µg/l | 95% | -0,93 |
| T | 6,05 | | µg/l | 96% | -0,76 |
| U | 6,12 | 0,277 | µg/l | 97% | -0,57 |
| V | | | µg/l | | |
| W | | | µg/l | | |
| X | 6,287 | 0,943 | µg/l | 99% | -0,12 |
| Y | 6,76 | 0,338 | µg/l | 107% | 1,17 |
| Z | | | µg/l | | |



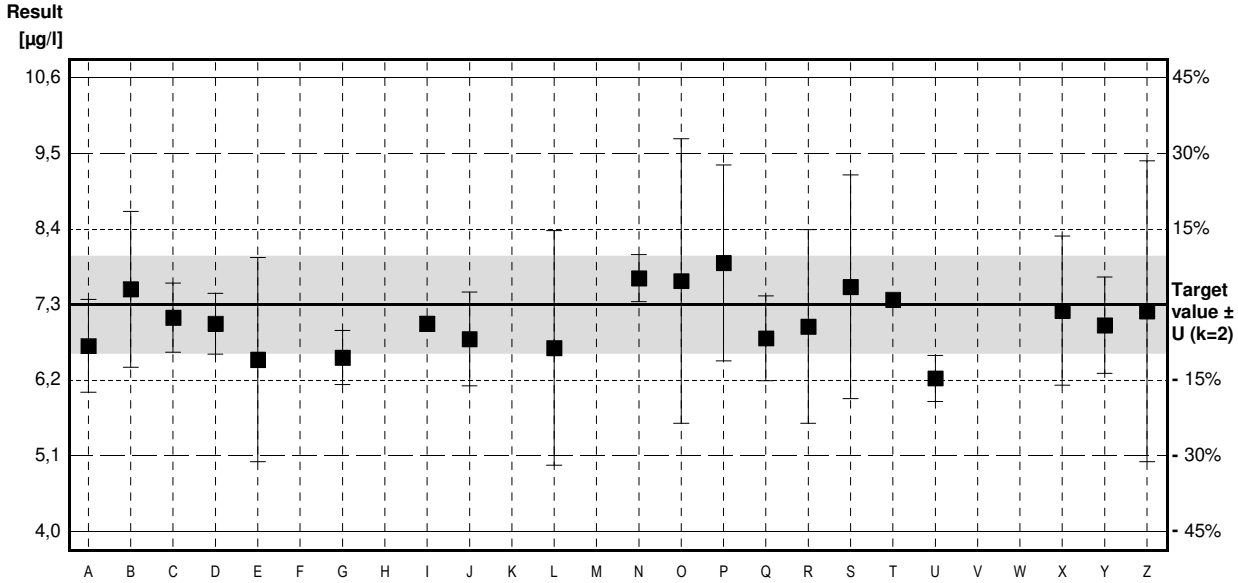

| | All results | Outliers excl. | Unit |
|---|---|---|---|
| Mean ± CI(99%) | 6,17 ± 0,19 | 6,21 ± 0,16 | µg/l |
| Recov. ± CI(99%) | 97,5 ± 3,0 | 98,1 ± 2,6 | % |
| SD between labs | 0,31 | 0,26 | µg/l |
| RSD between labs | 5,0 | 4,1 | % |
| n for calculation | 21 | 20 | |

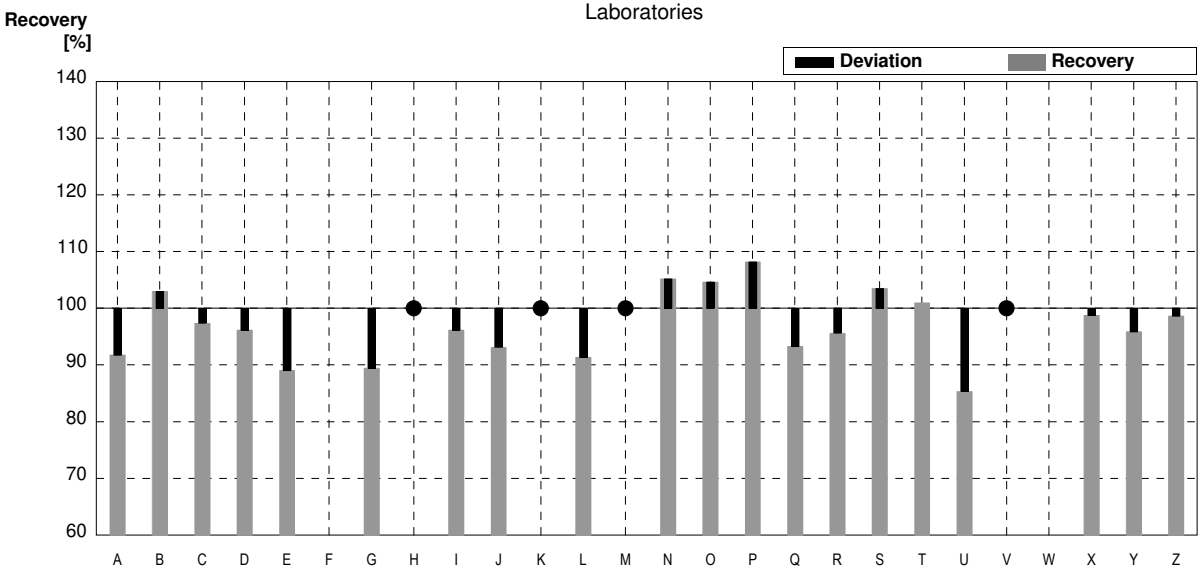
## Sample M156A
## Parameter Zinc

| | | | | |
|---|---|---|---|---|
| Target value ± U (k=2) | 7,3 µg/l | ± | 0,7 µg/l |
| IFA result ± U (k=2) | 7,7 µg/l | ± | 1,2 µg/l |
| Stability test | µg/l | | |

| Lab Code | Result | ± | Unit | Recovery | z-Score |
|---|---|---|---|---|---|
| A | 6,7 | 0,67 | µg/l | 92% | -1,05 |
| B | 7,52 | 1,13 | µg/l | 103% | 0,39 |
| C | 7,11 | 0,5 | µg/l | 97% | -0,33 |
| D | 7,02 | 0,44 | µg/l | 96% | -0,49 |
| E | 6,5 | 1,48 | µg/l | 89% | -1,40 |
| F | | | µg/l | | |
| G | 6,53 | 0,39 | µg/l | 89% | -1,35 |
| H | <15 | | µg/l | • | |
| I | 7,02 | 0,106 | µg/l | 96% | -0,49 |
| J | 6,80 | 0,68 | µg/l | 93% | -0,88 |
| K | <10 | | µg/l | • | |
| L | 6,67 | 1,7 | µg/l | 91% | -1,11 |
| M | <10 | | µg/l | • | |
| N | 7,68 | 0,34 | µg/l | 105% | 0,67 |
| O | 7,64 | 2,06 | µg/l | 105% | 0,60 |
| P | 7,90 | 1,42 | µg/l | 108% | 1,05 |
| Q | 6,81 | 0,6129 | µg/l | 93% | -0,86 |
| R | 6,98 | 1,40 | µg/l | 96% | -0,56 |
| S | 7,556 | 1,619 | µg/l | 104% | 0,45 |
| T | 7,37 | | µg/l | 101% | 0,12 |
| U | 6,23 | 0,334 | µg/l | 85% | -1,88 |
| V | <20,0 | 1,06 | µg/l | • | |
| W | | | µg/l | | |
| X | 7,209 | 1,081 | µg/l | 99% | -0,16 |
| Y | 7,000 | 0,7000 | µg/l | 96% | -0,53 |
| Z | 7,20 | 2,18 | µg/l | 99% | -0,18 |

| | All results | Outliers excl. | Unit |
|---|---|---|---|
| Mean ± CI(99%) | 7,1 ± 0,3 | 7,1 ± 0,3 | µg/l |
| Recov. ± CI(99%) | 96,9 ± 3,9 | 96,9 ± 3,9 | % |
| SD between labs | 0,4 | 0,4 | µg/l |
| RSD between labs | 6,3 | 6,3 | % |
| n for calculation | 20 | 20 | |

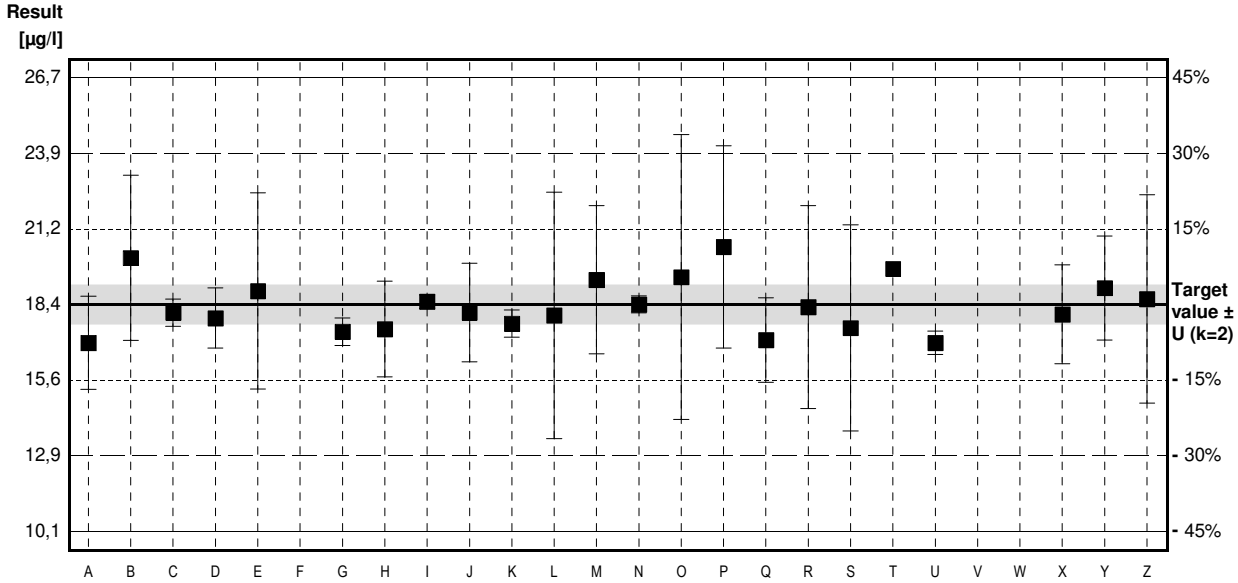


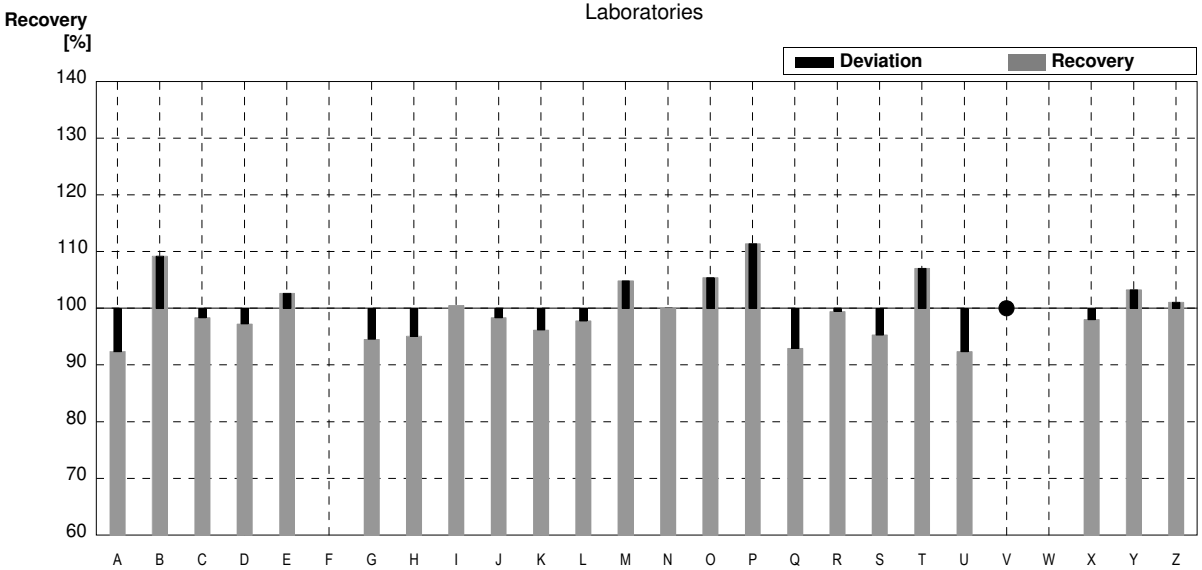



## Sample M156B
## Parameter Zinc

| | | | | | |
|---|---|---|---|---|---|
| Target value ± U (k=2) | 18,4 | µg/l | ± | 0,7 | µg/l |
| IFA result ± U (k=2) | 17,8 | µg/l | ± | 2,3 | µg/l |
| Stability test | | µg/l | | | |

| Lab Code | Result | ± | Unit | Recovery | z-Score |
|---|---|---|---|---|---|
| A | 17,0 | 1,7 | µg/l | 92% | -0,98 |
| B | 20,1 | 3,01 | µg/l | 109% | 1,18 |
| C | 18,1 | 0,5 | µg/l | 98% | -0,21 |
| D | 17,9 | 1,1 | µg/l | 97% | -0,35 |
| E | 18,89 | 3,58 | µg/l | 103% | 0,34 |
| F | | | µg/l | | |
| G | 17,4 | 0,5 | µg/l | 95% | -0,70 |
| H | 17,5 | 1,75 | µg/l | 95% | -0,63 |
| I | 18,5 | 0,248 | µg/l | 101% | 0,07 |
| J | 18,1 | 1,8 | µg/l | 98% | -0,21 |
| K | 17,7 | 0,5 | µg/l | 96% | -0,49 |
| L | 18,0 | 4,5 | µg/l | 98% | -0,28 |
| M | 19,3 | 2,7 | µg/l | 105% | 0,63 |
| N | 18,4 | 0,31 | µg/l | 100% | 0,00 |
| O | 19,4 | 5,2 | µg/l | 105% | 0,70 |
| P | 20,5 | 3,69 | µg/l | 111% | 1,46 |
| Q | 17,1 | 1,539 | µg/l | 93% | -0,91 |
| R | 18,3 | 3,7 | µg/l | 99% | -0,07 |
| S | 17,54 | 3,76 | µg/l | 95% | -0,60 |
| T | 19,7 | | µg/l | 107% | 0,91 |
| U | 17,00 | 0,431 | µg/l | 92% | -0,98 |
| V | <20,0 | 1,06 | µg/l | • | |
| W | | | µg/l | | |
| X | 18,035 | 1,803 | µg/l | 98% | -0,25 |
| Y | 19,000 | 1,9000 | µg/l | 103% | 0,42 |
| Z | 18,6 | 3,8 | µg/l | 101% | 0,14 |




| | All results | Outliers excl. | Unit |
|---|---|---|---|
| Mean ± CI(99%) | 18,4 ± 0,6 | 18,4 ± 0,6 | µg/l |
| Recov. ± CI(99%) | 99,7 ± 3,1 | 99,7 ± 3,1 | % |
| SD between labs | 1,0 | 1,0 | µg/l |
| RSD between labs | 5,3 | 5,3 | % |
| n for calculation | 23 | 23 | |

# Illustration of Results
# Laboratory Oriented Part

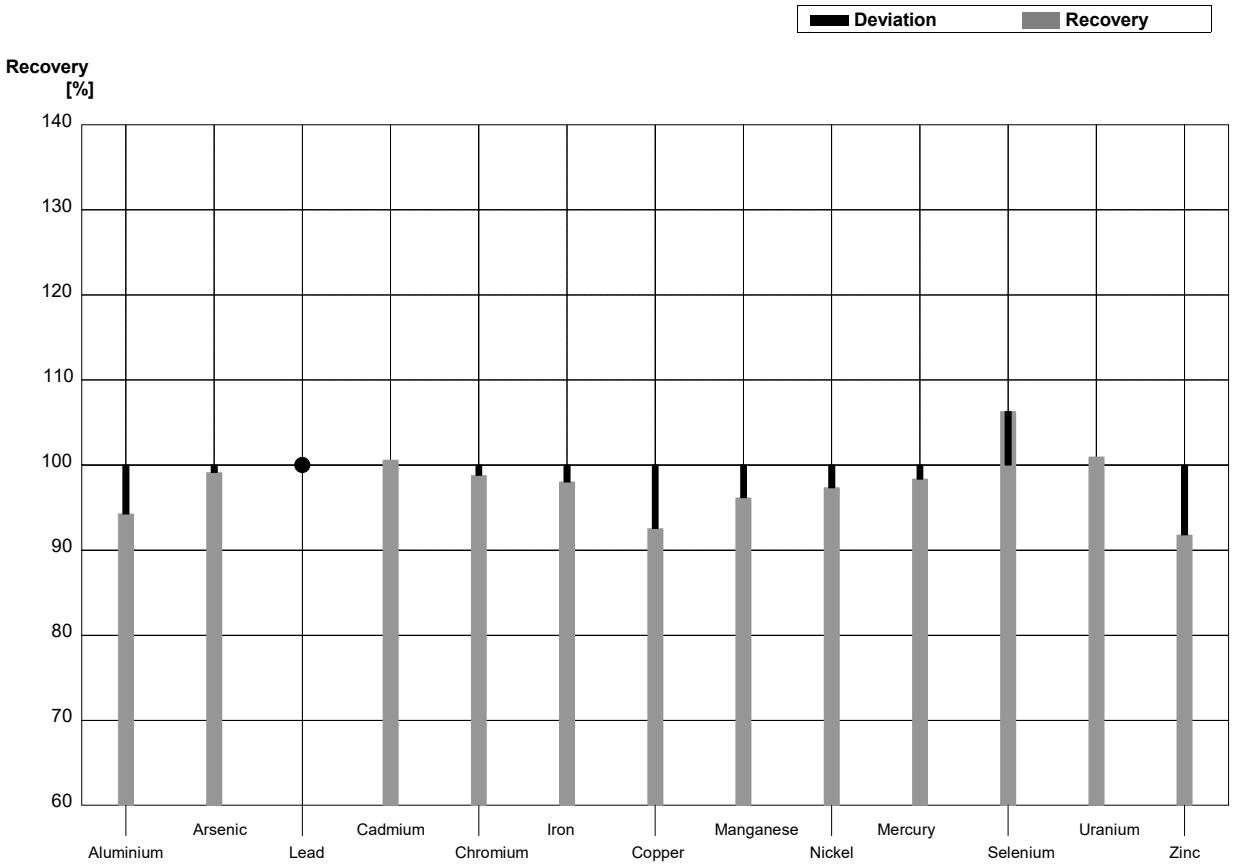
Round M156
Metals

Sample Dispatch: 8 March 2021

TULLN

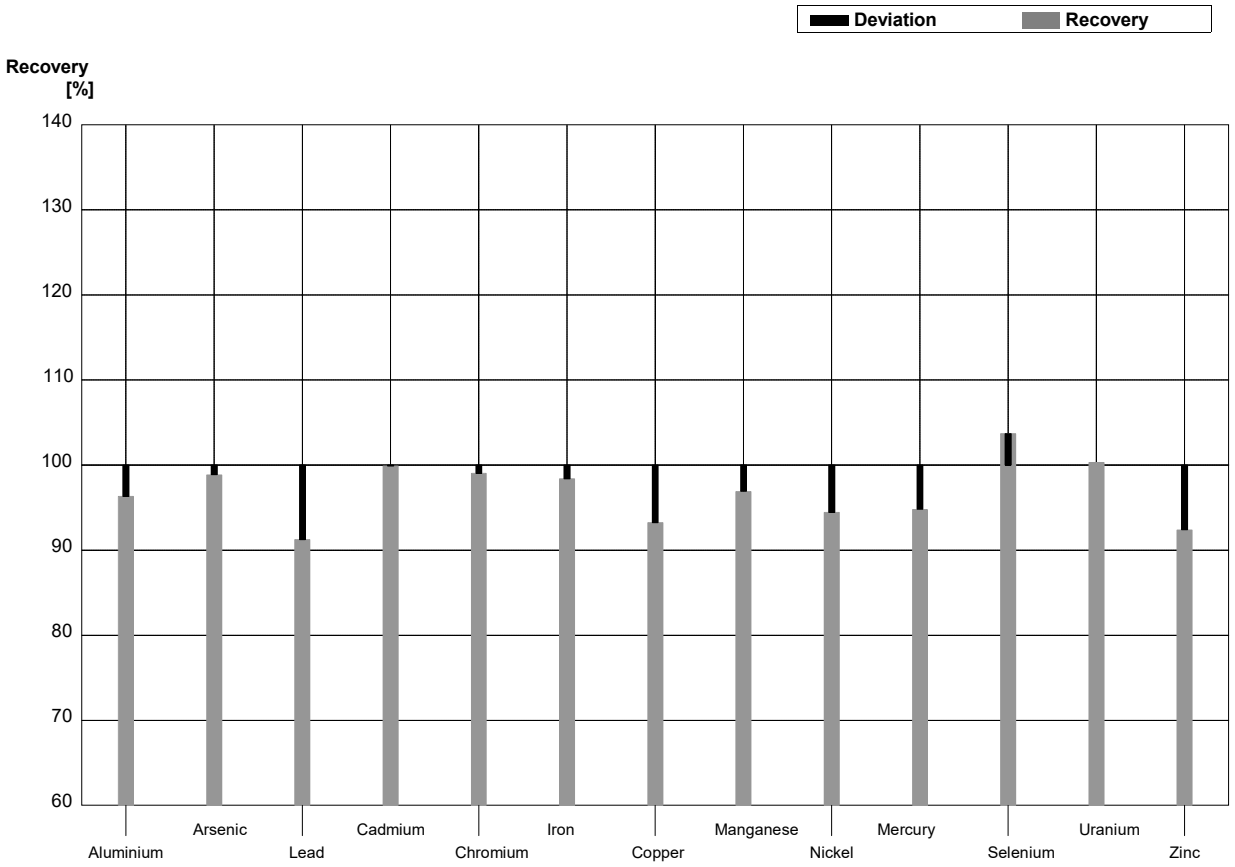
**Sample** **M156A**
**Laboratory** **A**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 17,4 | 0,2 | 16,4 | 1,64 | µg/l | 94% |
| Arsenic | 1,15 | 0,01 | 1,14 | 0,11 | µg/l | 99% |
| Lead | 0,397 | 0,014 | <0,5 | | µg/l | • |
| Cadmium | 1,66 | 0,01 | 1,67 | 0,17 | µg/l | 101% |
| Chromium | 4,15 | 0,03 | 4,10 | 0,41 | µg/l | 99% |
| Iron | 40,7 | 0,2 | 39,9 | 4,0 | µg/l | 98% |
| Copper | 5,23 | 0,04 | 4,84 | 0,48 | µg/l | 93% |
| Manganese | 62,4 | 0,4 | 60,0 | 6,0 | µg/l | 96% |
| Nickel | 4,87 | 0,03 | 4,74 | 0,47 | µg/l | 97% |
| Mercury | 3,05 | 0,03 | 3,00 | 0,30 | µg/l | 98% |
| Selenium | 1,11 | 0,06 | 1,18 | 0,18 | µg/l | 106% |
| Uranium | 1,05 | 0,01 | 1,06 | 0,11 | µg/l | 101% |
| Zinc | 7,3 | 0,7 | 6,7 | 0,67 | µg/l | 92% |



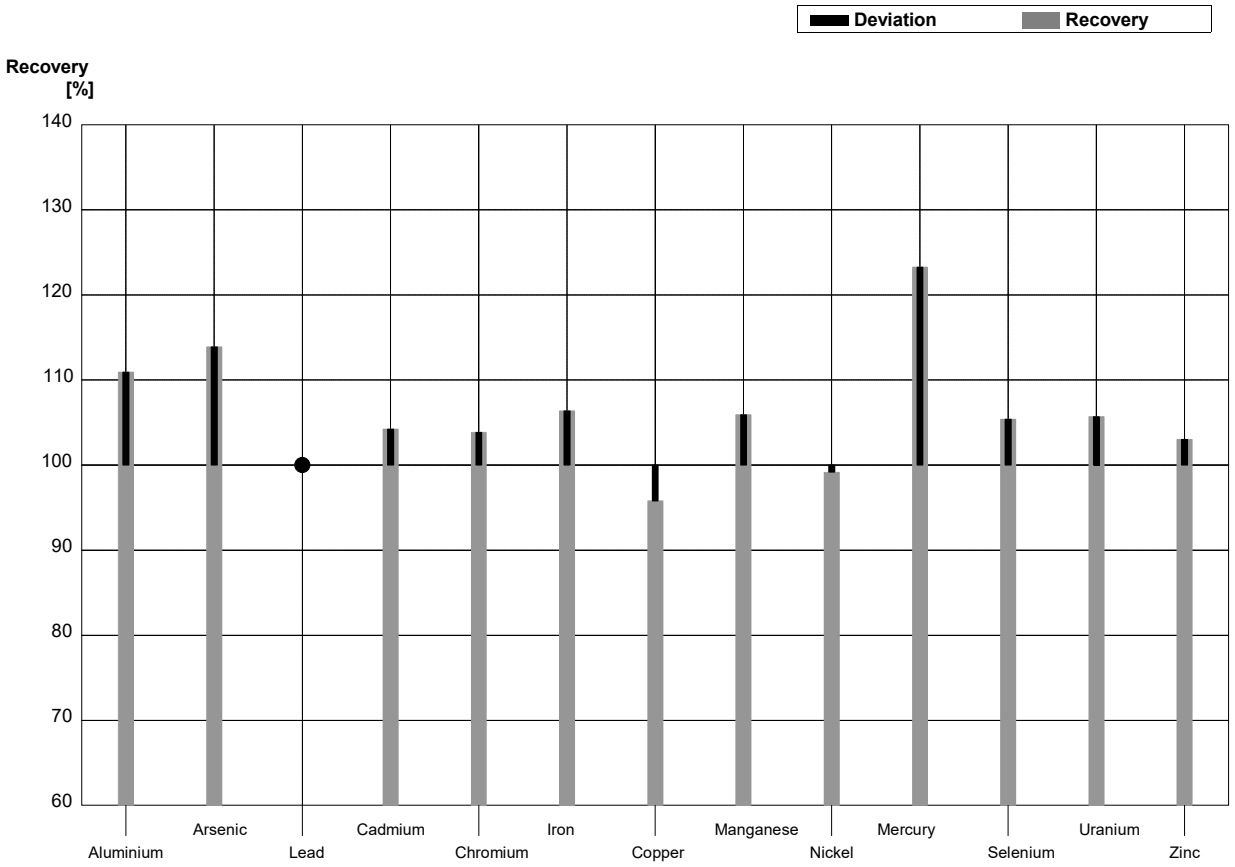
**Sample** **M156B**
**Laboratory** **A**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 21,8 | 0,2 | 21,0 | 2,1 | µg/l | 96% |
| Arsenic | 4,38 | 0,03 | 4,33 | 0,43 | µg/l | 99% |
| Lead | 2,74 | 0,02 | 2,50 | 0,25 | µg/l | 91% |
| Cadmium | 0,891 | 0,008 | 0,89 | 0,09 | µg/l | 100% |
| Chromium | 6,24 | 0,05 | 6,18 | 0,62 | µg/l | 99% |
| Iron | 55,9 | 0,3 | 55 | 5,5 | µg/l | 98% |
| Copper | 101,9 | 0,4 | 95 | 9,5 | µg/l | 93% |
| Manganese | 16,2 | 0,1 | 15,7 | 1,6 | µg/l | 97% |
| Nickel | 10,8 | 0,1 | 10,2 | 1,0 | µg/l | 94% |
| Mercury | 0,77 | 0,02 | 0,73 | 0,07 | µg/l | 95% |
| Selenium | 3,50 | 0,06 | 3,63 | 0,54 | µg/l | 104% |
| Uranium | 6,33 | 0,05 | 6,35 | 0,64 | µg/l | 100% |
| Zinc | 18,4 | 0,7 | 17,0 | 1,7 | µg/l | 92% |



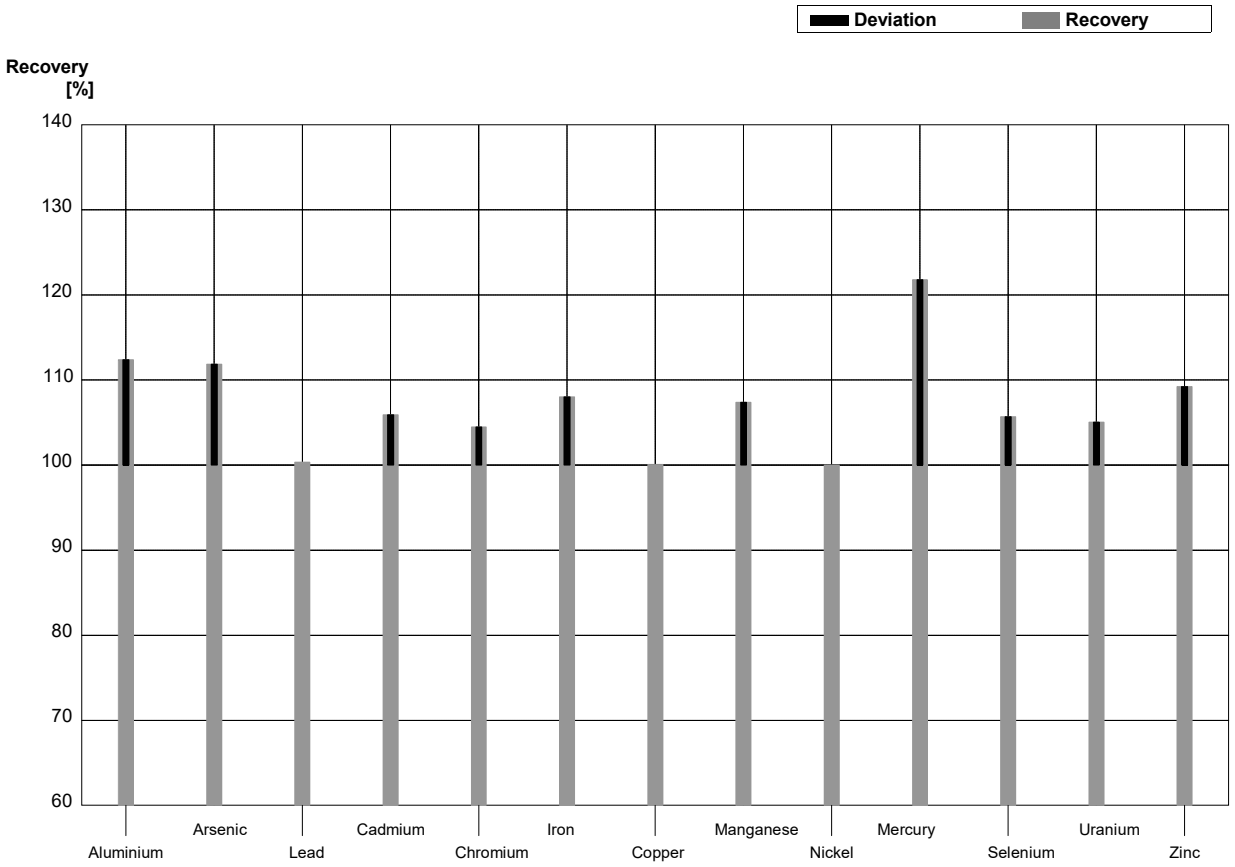
**Sample** **M156A**
**Laboratory** **B**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 17,4 | 0,2 | 19,3 | 2,90 | µg/l | 111% |
| Arsenic | 1,15 | 0,01 | 1,31 | 0,20 | µg/l | 114% |
| Lead | 0,397 | 0,014 | <1 | | µg/l | • |
| Cadmium | 1,66 | 0,01 | 1,73 | 0,26 | µg/l | 104% |
| Chromium | 4,15 | 0,03 | 4,31 | 0,65 | µg/l | 104% |
| Iron | 40,7 | 0,2 | 43,3 | 6,50 | µg/l | 106% |
| Copper | 5,23 | 0,04 | 5,01 | 0,75 | µg/l | 96% |
| Manganese | 62,4 | 0,4 | 66,1 | 9,92 | µg/l | 106% |
| Nickel | 4,87 | 0,03 | 4,83 | 0,72 | µg/l | 99% |
| Mercury | 3,05 | 0,03 | 3,76 | 0,56 | µg/l | 123% |
| Selenium | 1,11 | 0,06 | 1,17 | 0,18 | µg/l | 105% |
| Uranium | 1,05 | 0,01 | 1,11 | 0,17 | µg/l | 106% |
| Zinc | 7,3 | 0,7 | 7,52 | 1,13 | µg/l | 103% |



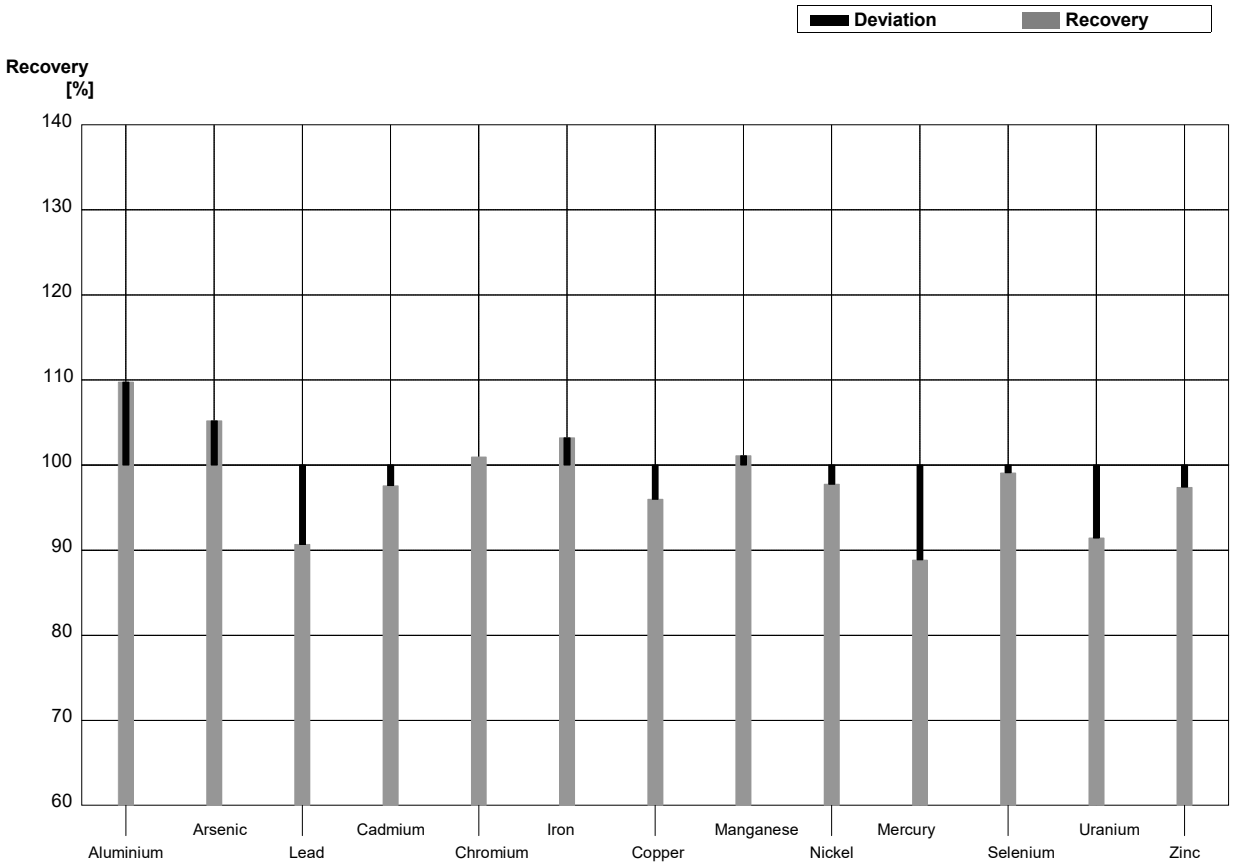
**Sample** **M156B**
**Laboratory** **B**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 21,8 | 0,2 | 24,5 | 3,68 | µg/l | 112% |
| Arsenic | 4,38 | 0,03 | 4,90 | 0,73 | µg/l | 112% |
| Lead | 2,74 | 0,02 | 2,75 | 0,41 | µg/l | 100% |
| Cadmium | 0,891 | 0,008 | 0,944 | 0,142 | µg/l | 106% |
| Chromium | 6,24 | 0,05 | 6,52 | 0,98 | µg/l | 104% |
| Iron | 55,9 | 0,3 | 60,4 | 9,06 | µg/l | 108% |
| Copper | 101,9 | 0,4 | 102 | 15,3 | µg/l | 100% |
| Manganese | 16,2 | 0,1 | 17,4 | 2,60 | µg/l | 107% |
| Nickel | 10,8 | 0,1 | 10,8 | 1,61 | µg/l | 100% |
| Mercury | 0,77 | 0,02 | 0,938 | 0,141 | µg/l | 122% |
| Selenium | 3,50 | 0,06 | 3,70 | 0,55 | µg/l | 106% |
| Uranium | 6,33 | 0,05 | 6,65 | 1,00 | µg/l | 105% |
| Zinc | 18,4 | 0,7 | 20,1 | 3,01 | µg/l | 109% |



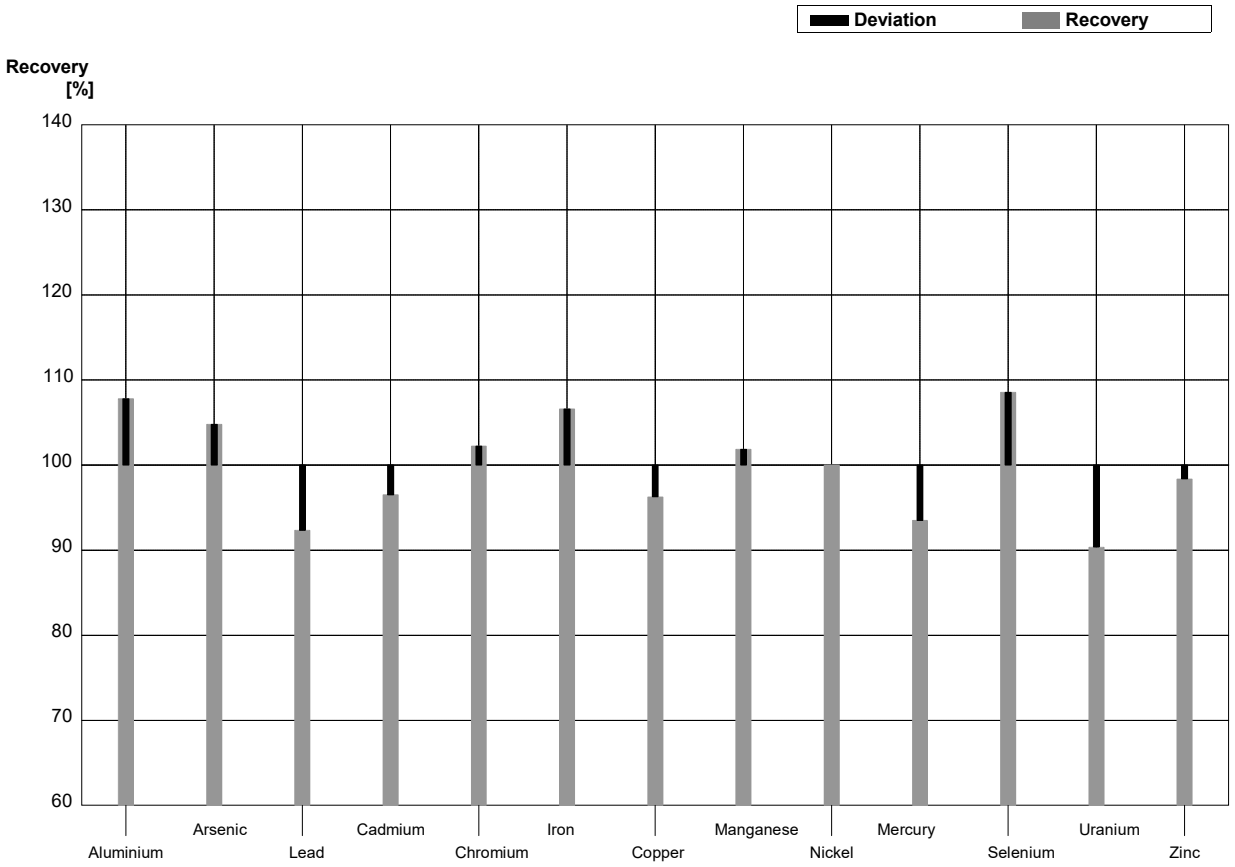
**Sample** **M156A**
**Laboratory** **C**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 17,4 | 0,2 | 19,1 | 1 | µg/l | 110% |
| Arsenic | 1,15 | 0,01 | 1,21 | 0,05 | µg/l | 105% |
| Lead | 0,397 | 0,014 | 0,360 | 0,03 | µg/l | 91% |
| Cadmium | 1,66 | 0,01 | 1,62 | 0,03 | µg/l | 98% |
| Chromium | 4,15 | 0,03 | 4,19 | 0,1 | µg/l | 101% |
| Iron | 40,7 | 0,2 | 42,0 | 0,8 | µg/l | 103% |
| Copper | 5,23 | 0,04 | 5,02 | 0,1 | µg/l | 96% |
| Manganese | 62,4 | 0,4 | 63,1 | 1 | µg/l | 101% |
| Nickel | 4,87 | 0,03 | 4,76 | 0,1 | µg/l | 98% |
| Mercury | 3,05 | 0,03 | 2,71 | 0,01 | µg/l | 89% |
| Selenium | 1,11 | 0,06 | 1,10 | 0,2 | µg/l | 99% |
| Uranium | 1,05 | 0,01 | 0,96 | 0,02 | µg/l | 91% |
| Zinc | 7,3 | 0,7 | 7,11 | 0,5 | µg/l | 97% |



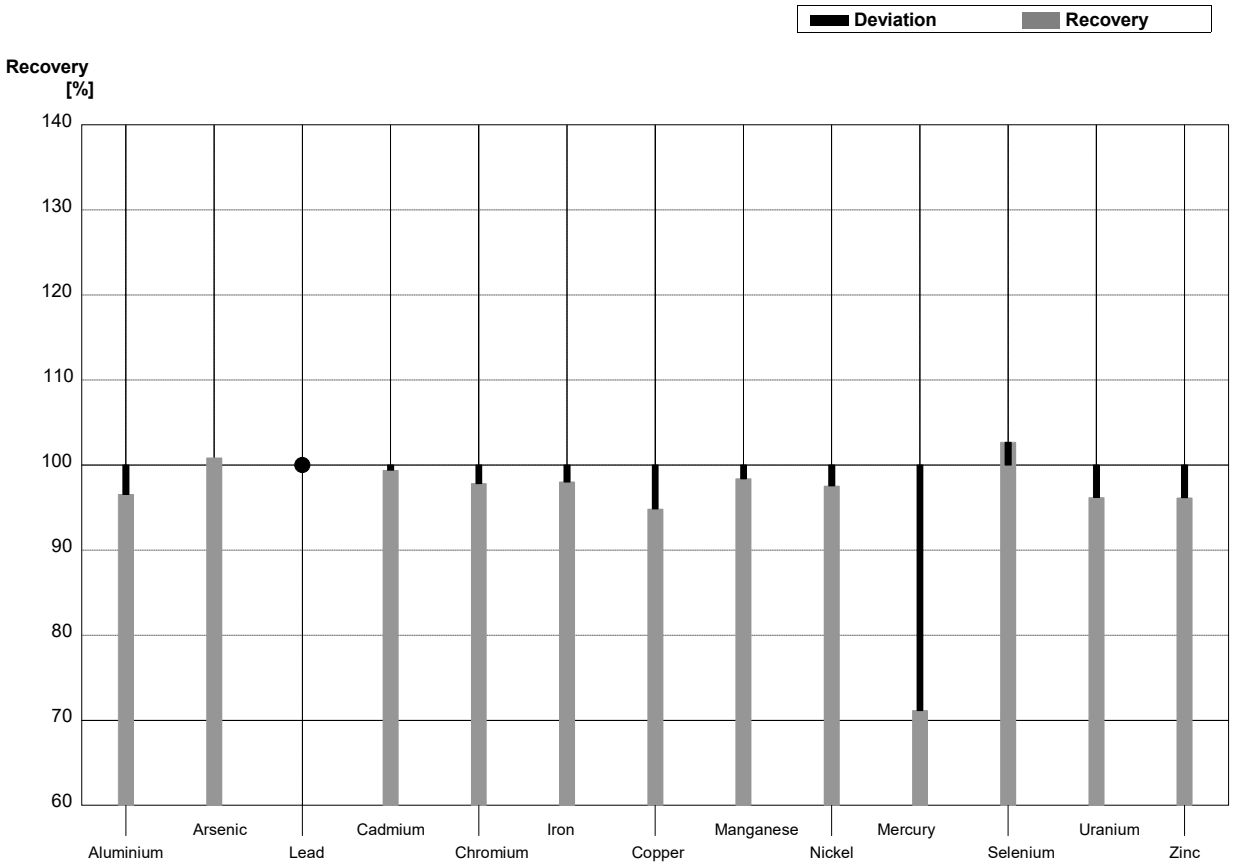
**Sample** **M156B**
**Laboratory** **C**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 21,8 | 0,2 | 23,5 | 1 | µg/l | 108% |
| Arsenic | 4,38 | 0,03 | 4,59 | 0,05 | µg/l | 105% |
| Lead | 2,74 | 0,02 | 2,53 | 0,03 | µg/l | 92% |
| Cadmium | 0,891 | 0,008 | 0,86 | 0,03 | µg/l | 97% |
| Chromium | 6,24 | 0,05 | 6,38 | 0,1 | µg/l | 102% |
| Iron | 55,9 | 0,3 | 59,6 | 0,8 | µg/l | 107% |
| Copper | 101,9 | 0,4 | 98,1 | 0,1 | µg/l | 96% |
| Manganese | 16,2 | 0,1 | 16,5 | 1 | µg/l | 102% |
| Nickel | 10,8 | 0,1 | 10,8 | 0,1 | µg/l | 100% |
| Mercury | 0,77 | 0,02 | 0,72 | 0,01 | µg/l | 94% |
| Selenium | 3,50 | 0,06 | 3,80 | 0,2 | µg/l | 109% |
| Uranium | 6,33 | 0,05 | 5,72 | 0,02 | µg/l | 90% |
| Zinc | 18,4 | 0,7 | 18,1 | 0,5 | µg/l | 98% |



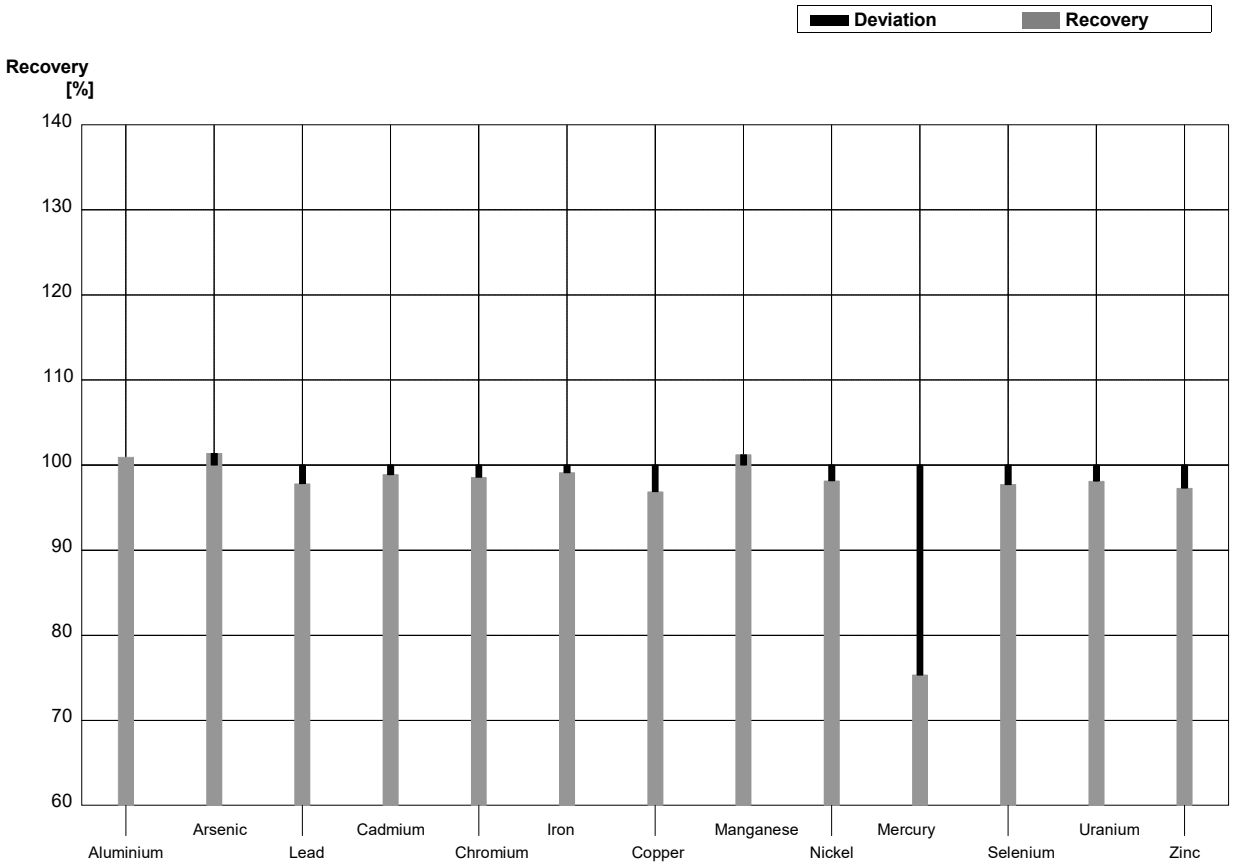
**Sample** **M156A**
**Laboratory** **D**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 17,4 | 0,2 | 16,8 | 1,9 | µg/l | 97% |
| Arsenic | 1,15 | 0,01 | 1,16 | 0,065 | µg/l | 101% |
| Lead | 0,397 | 0,014 | <1,0 | | µg/l | • |
| Cadmium | 1,66 | 0,01 | 1,65 | 0,077 | µg/l | 99% |
| Chromium | 4,15 | 0,03 | 4,06 | 0,57 | µg/l | 98% |
| Iron | 40,7 | 0,2 | 39,9 | 4,4 | µg/l | 98% |
| Copper | 5,23 | 0,04 | 4,96 | 0,27 | µg/l | 95% |
| Manganese | 62,4 | 0,4 | 61,4 | 3,4 | µg/l | 98% |
| Nickel | 4,87 | 0,03 | 4,75 | 0,36 | µg/l | 98% |
| Mercury | 3,05 | 0,03 | 2,17 | 0,34 | µg/l | 71% |
| Selenium | 1,11 | 0,06 | 1,14 | 0,14 | µg/l | 103% |
| Uranium | 1,05 | 0,01 | 1,01 | 0,11 | µg/l | 96% |
| Zinc | 7,3 | 0,7 | 7,02 | 0,44 | µg/l | 96% |



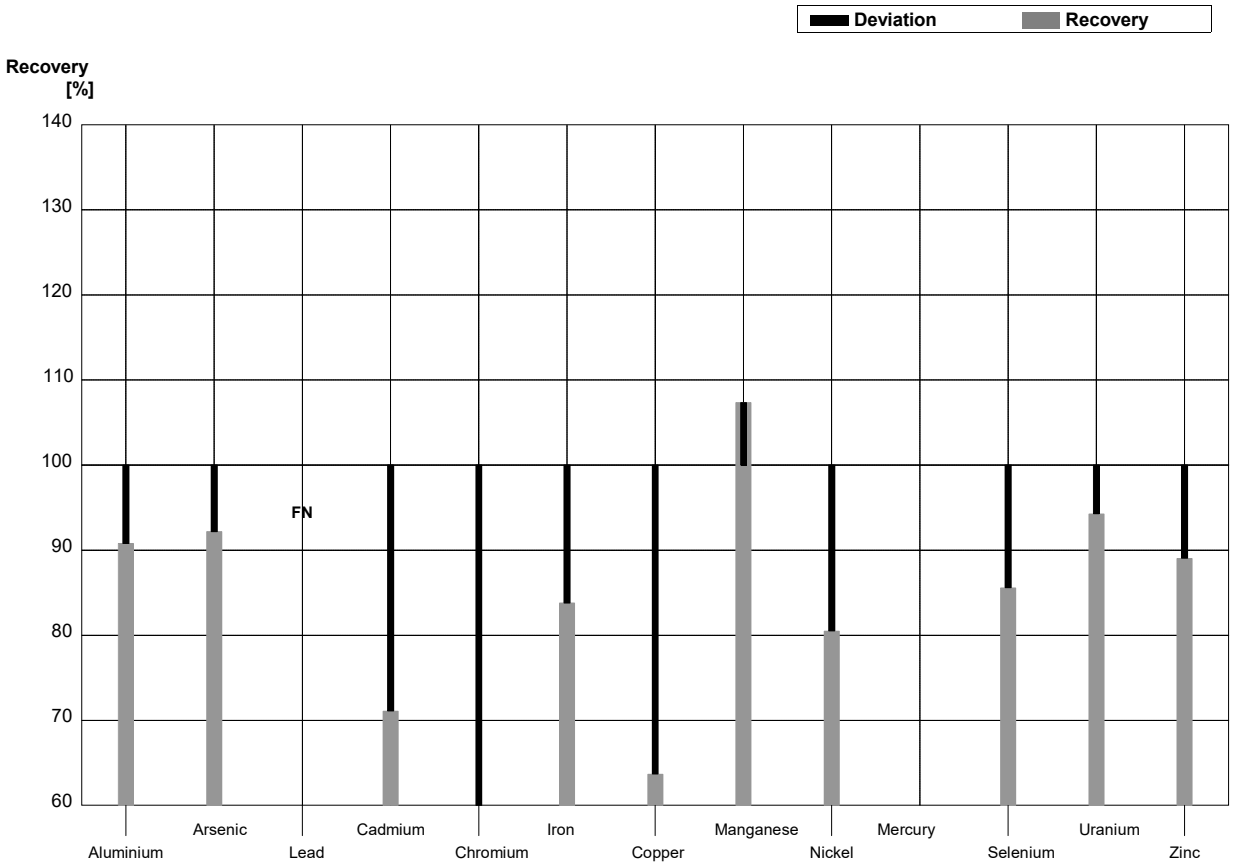
**Sample** **M156B**
**Laboratory** **D**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 21,8 | 0,2 | 22,0 | 2,4 | µg/l | 101% |
| Arsenic | 4,38 | 0,03 | 4,44 | 0,25 | µg/l | 101% |
| Lead | 2,74 | 0,02 | 2,68 | 0,28 | µg/l | 98% |
| Cadmium | 0,891 | 0,008 | 0,881 | 0,041 | µg/l | 99% |
| Chromium | 6,24 | 0,05 | 6,15 | 0,87 | µg/l | 99% |
| Iron | 55,9 | 0,3 | 55,4 | 6,1 | µg/l | 99% |
| Copper | 101,9 | 0,4 | 98,7 | 5,4 | µg/l | 97% |
| Manganese | 16,2 | 0,1 | 16,4 | 0,90 | µg/l | 101% |
| Nickel | 10,8 | 0,1 | 10,6 | 0,81 | µg/l | 98% |
| Mercury | 0,77 | 0,02 | 0,580 | 0,09 | µg/l | 75% |
| Selenium | 3,50 | 0,06 | 3,42 | 0,41 | µg/l | 98% |
| Uranium | 6,33 | 0,05 | 6,21 | 0,66 | µg/l | 98% |
| Zinc | 18,4 | 0,7 | 17,9 | 1,1 | µg/l | 97% |



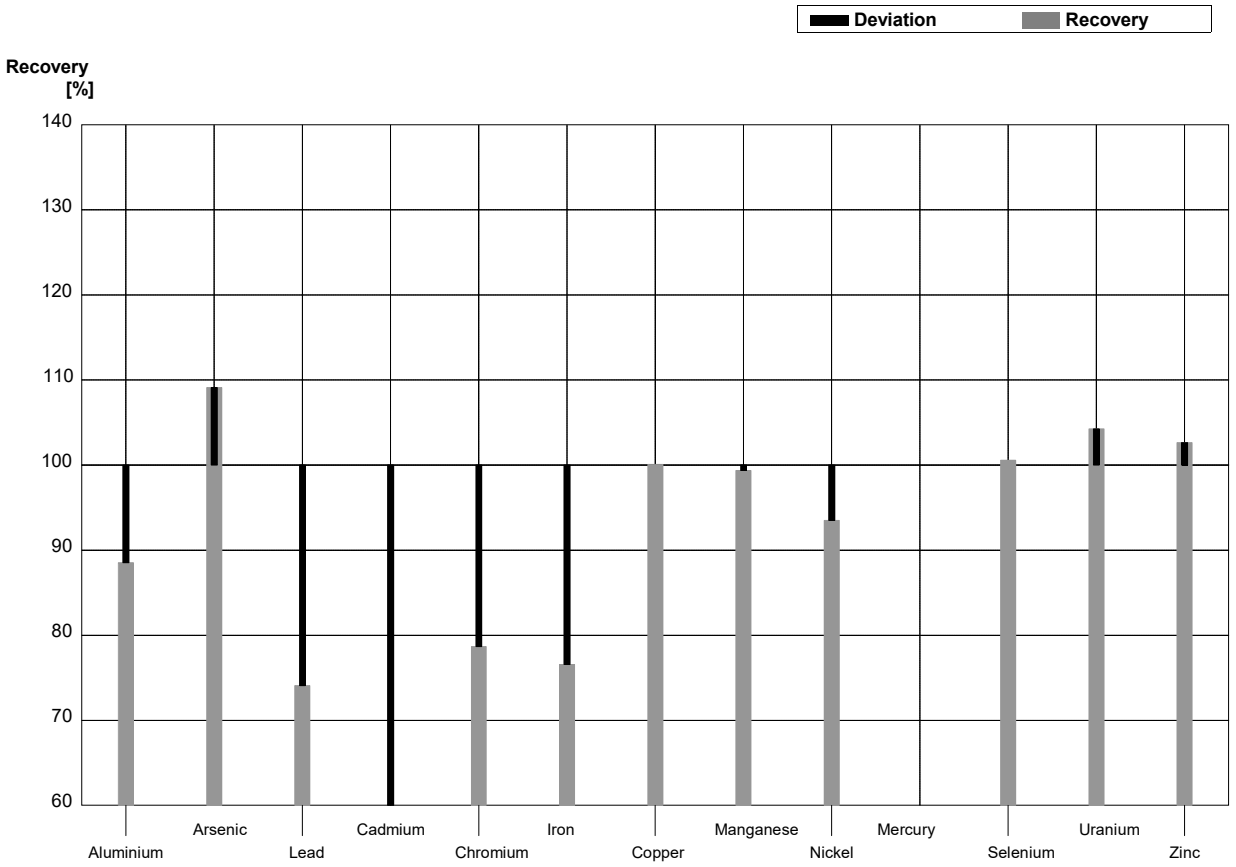
**Sample** **M156A**
**Laboratory** **E**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 17,4 | 0,2 | 15,8 | 0,72 | µg/l | 91% |
| Arsenic | 1,15 | 0,01 | 1,06 | 0,05 | µg/l | 92% |
| Lead | 0,397 | 0,014 | <0,1 | | µg/l | FN |
| Cadmium | 1,66 | 0,01 | 1,18 | 0,05 | µg/l | 71% |
| Chromium | 4,15 | 0,03 | 2,37 | 0,63 | µg/l | 57% |
| Iron | 40,7 | 0,2 | 34,1 | 1,71 | µg/l | 84% |
| Copper | 5,23 | 0,04 | 3,33 | 1 | µg/l | 64% |
| Manganese | 62,4 | 0,4 | 67 | 12 | µg/l | 107% |
| Nickel | 4,87 | 0,03 | 3,92 | 0,92 | µg/l | 80% |
| Mercury | 3,05 | 0,03 | | | µg/l | |
| Selenium | 1,11 | 0,06 | 0,95 | 0,05 | µg/l | 86% |
| Uranium | 1,05 | 0,01 | 0,99 | 0,05 | µg/l | 94% |
| Zinc | 7,3 | 0,7 | 6,5 | 1,48 | µg/l | 89% |



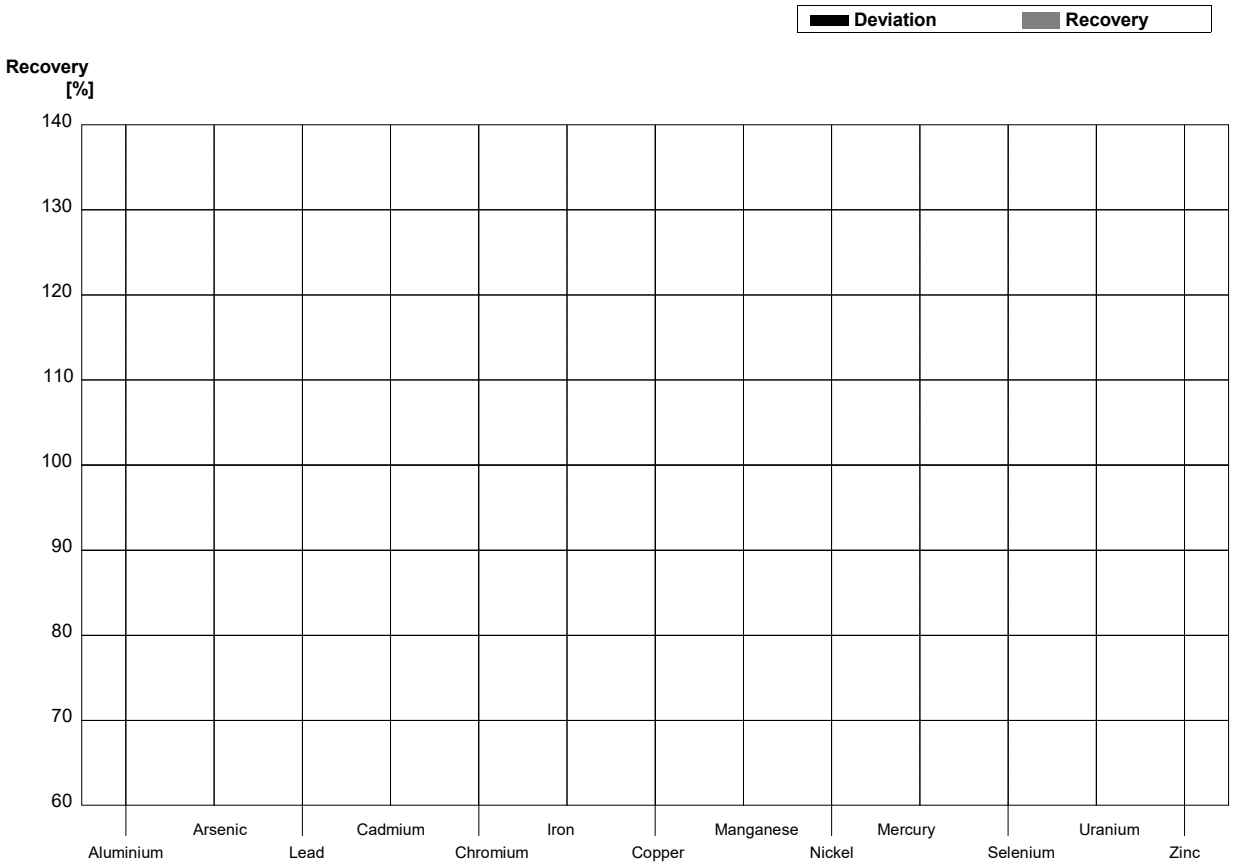
**Sample** **M156B**
**Laboratory** **E**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 21,8 | 0,2 | 19,3 | 0,29 | µg/l | 89% |
| Arsenic | 4,38 | 0,03 | 4,78 | 0,12 | µg/l | 109% |
| Lead | 2,74 | 0,02 | 2,03 | 0,05 | µg/l | 74% |
| Cadmium | 0,891 | 0,008 | 0,291 | 0,05 | µg/l | 33% |
| Chromium | 6,24 | 0,05 | 4,91 | 1,18 | µg/l | 79% |
| Iron | 55,9 | 0,3 | 42,8 | 2,14 | µg/l | 77% |
| Copper | 101,9 | 0,4 | 102 | 16,46 | µg/l | 100% |
| Manganese | 16,2 | 0,1 | 16,1 | 2,83 | µg/l | 99% |
| Nickel | 10,8 | 0,1 | 10,1 | 1,94 | µg/l | 94% |
| Mercury | 0,77 | 0,02 | | | µg/l | |
| Selenium | 3,50 | 0,06 | 3,52 | 0,08 | µg/l | 101% |
| Uranium | 6,33 | 0,05 | 6,6 | 0,168 | µg/l | 104% |
| Zinc | 18,4 | 0,7 | 18,89 | 3,58 | µg/l | 103% |



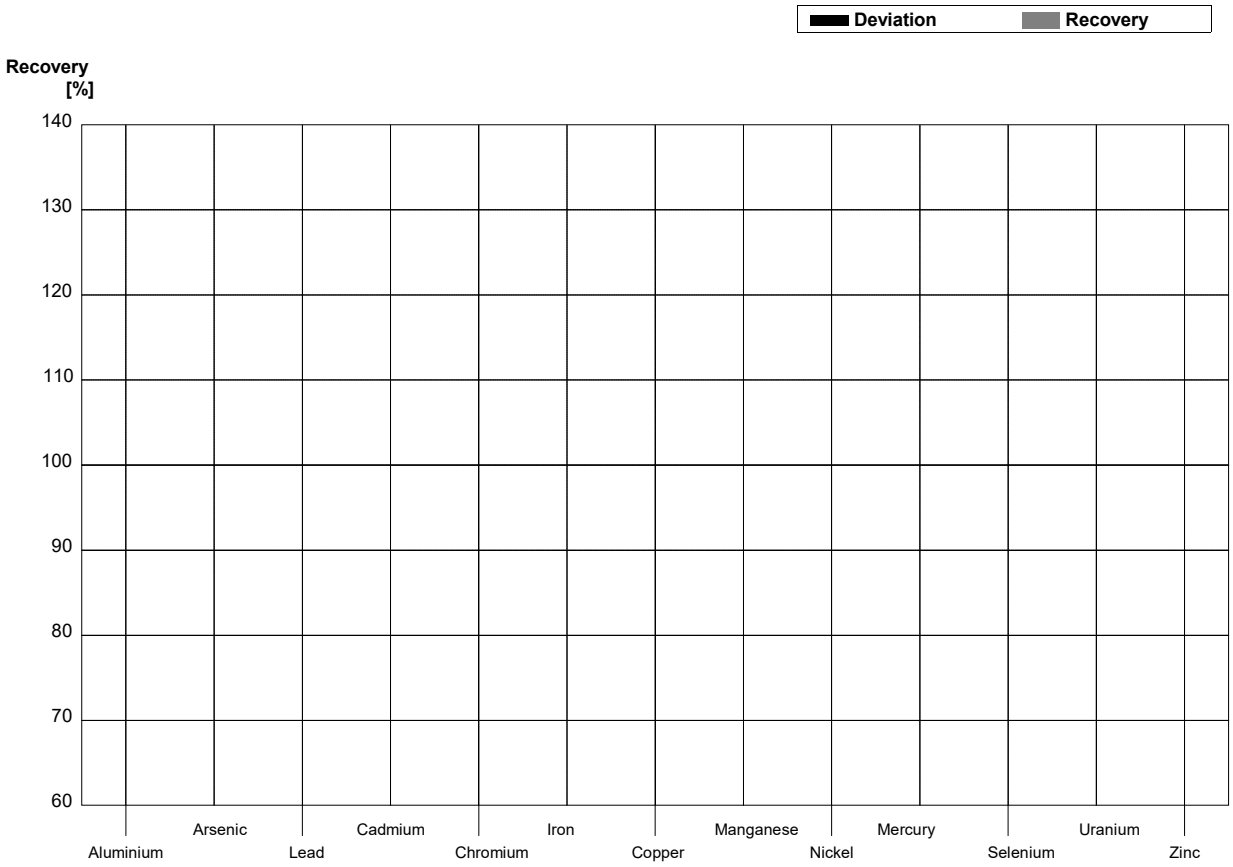
**Sample** **M156A**
**Laboratory** **F**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 17,4 | 0,2 | | | µg/l | |
| Arsenic | 1,15 | 0,01 | | | µg/l | |
| Lead | 0,397 | 0,014 | | | µg/l | |
| Cadmium | 1,66 | 0,01 | | | µg/l | |
| Chromium | 4,15 | 0,03 | | | µg/l | |
| Iron | 40,7 | 0,2 | | | µg/l | |
| Copper | 5,23 | 0,04 | | | µg/l | |
| Manganese | 62,4 | 0,4 | | | µg/l | |
| Nickel | 4,87 | 0,03 | | | µg/l | |
| Mercury | 3,05 | 0,03 | | | µg/l | |
| Selenium | 1,11 | 0,06 | | | µg/l | |
| Uranium | 1,05 | 0,01 | | | µg/l | |
| Zinc | 7,3 | 0,7 | | | µg/l | |



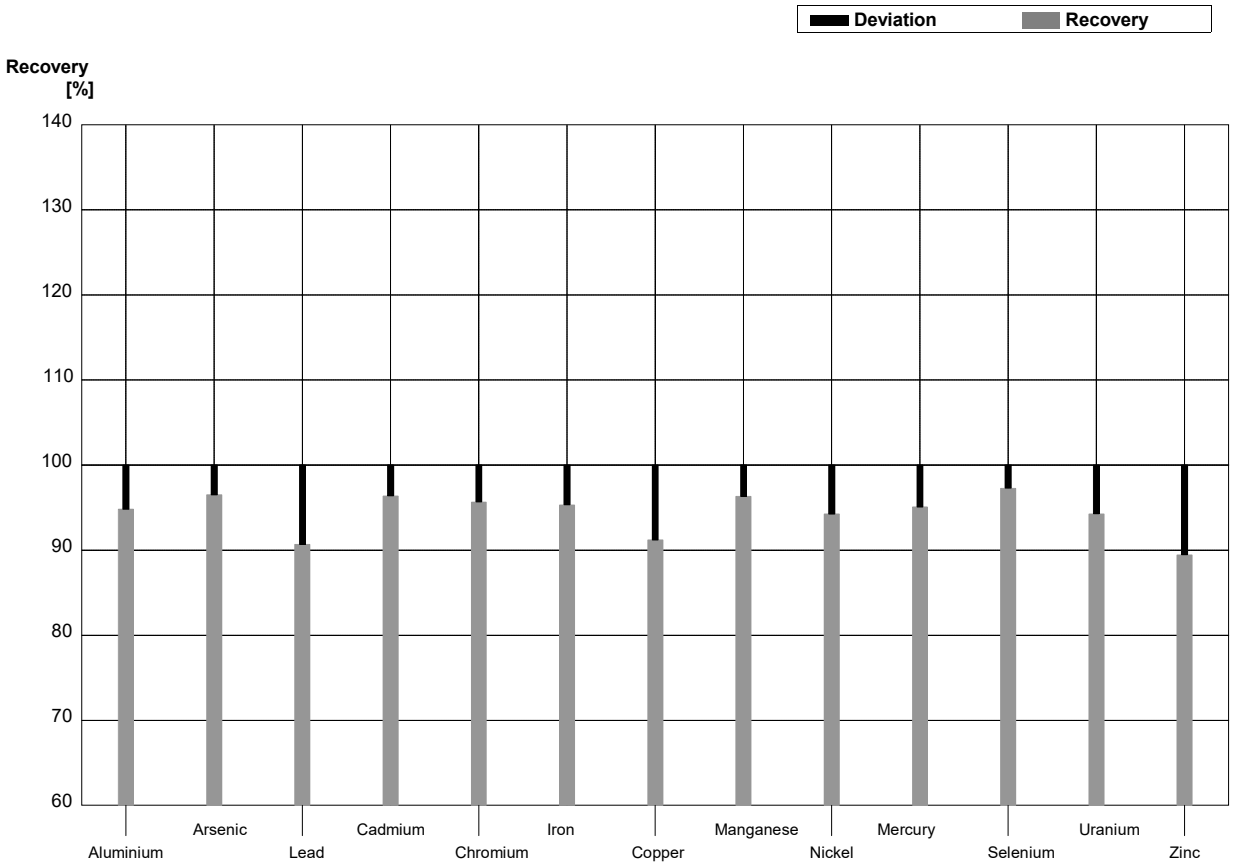
**Sample** **M156B**
**Laboratory** **F**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 21,8 | 0,2 | | | µg/l | |
| Arsenic | 4,38 | 0,03 | | | µg/l | |
| Lead | 2,74 | 0,02 | | | µg/l | |
| Cadmium | 0,891 | 0,008 | | | µg/l | |
| Chromium | 6,24 | 0,05 | | | µg/l | |
| Iron | 55,9 | 0,3 | | | µg/l | |
| Copper | 101,9 | 0,4 | | | µg/l | |
| Manganese | 16,2 | 0,1 | | | µg/l | |
| Nickel | 10,8 | 0,1 | | | µg/l | |
| Mercury | 0,77 | 0,02 | | | µg/l | |
| Selenium | 3,50 | 0,06 | | | µg/l | |
| Uranium | 6,33 | 0,05 | | | µg/l | |
| Zinc | 18,4 | 0,7 | | | µg/l | |



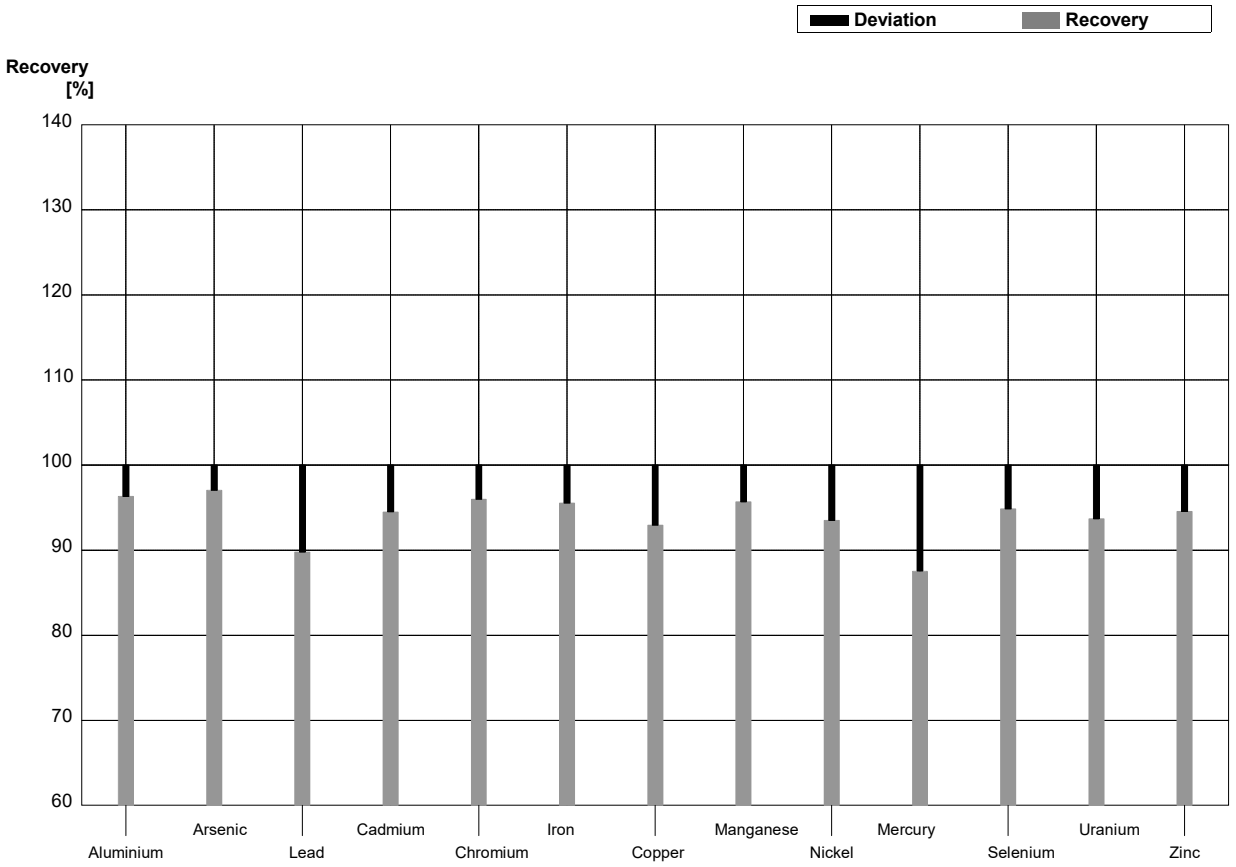
**Sample** **M156A**
**Laboratory** **G**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 17,4 | 0,2 | 16,5 | 0,6 | µg/l | 95% |
| Arsenic | 1,15 | 0,01 | 1,11 | 0,01 | µg/l | 97% |
| Lead | 0,397 | 0,014 | 0,360 | 0,017 | µg/l | 91% |
| Cadmium | 1,66 | 0,01 | 1,60 | 0,03 | µg/l | 96% |
| Chromium | 4,15 | 0,03 | 3,97 | 0,11 | µg/l | 96% |
| Iron | 40,7 | 0,2 | 38,8 | 0,4 | µg/l | 95% |
| Copper | 5,23 | 0,04 | 4,77 | 0,22 | µg/l | 91% |
| Manganese | 62,4 | 0,4 | 60,1 | 1,2 | µg/l | 96% |
| Nickel | 4,87 | 0,03 | 4,59 | 0,05 | µg/l | 94% |
| Mercury | 3,05 | 0,03 | 2,90 | 0,12 | µg/l | 95% |
| Selenium | 1,11 | 0,06 | 1,08 | 0,02 | µg/l | 97% |
| Uranium | 1,05 | 0,01 | 0,99 | 0,01 | µg/l | 94% |
| Zinc | 7,3 | 0,7 | 6,53 | 0,39 | µg/l | 89% |



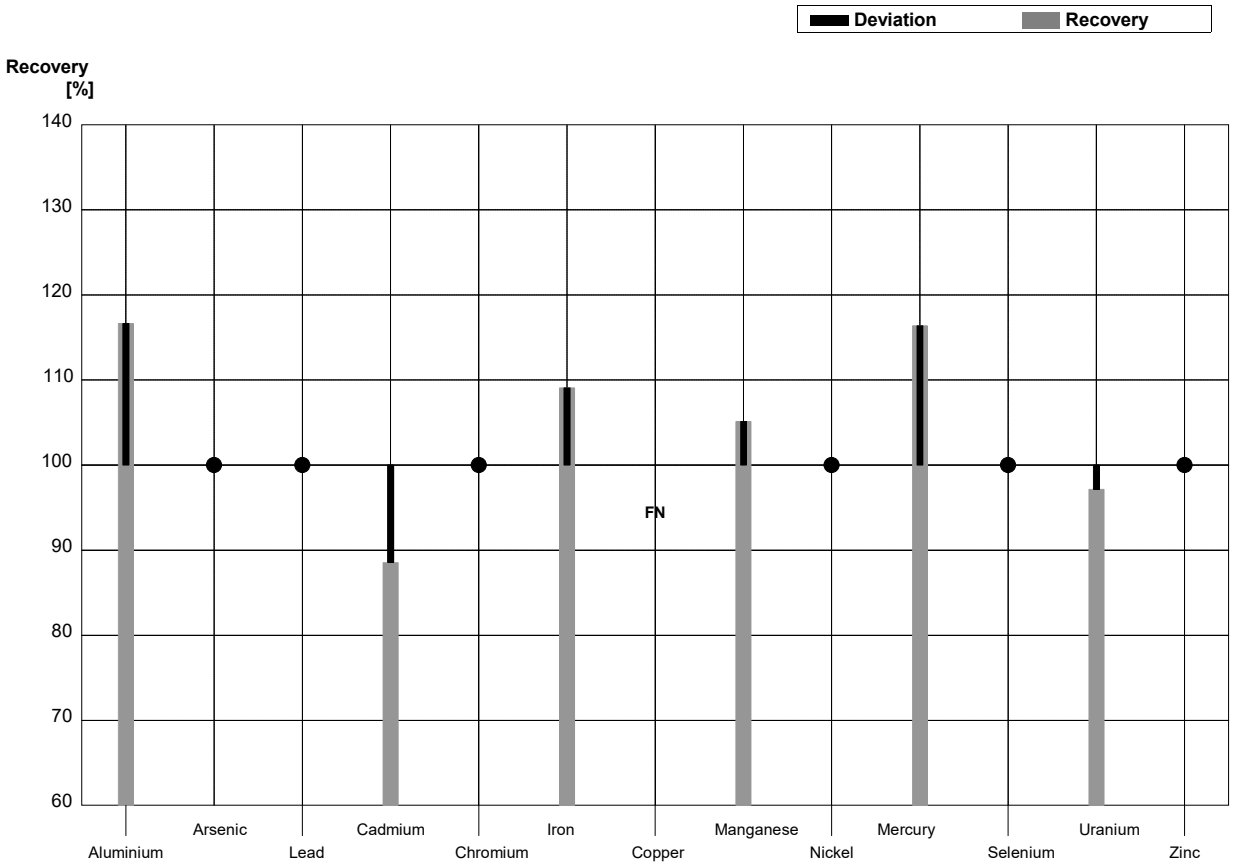
**Sample** **M156B**
**Laboratory** **G**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 21,8 | 0,2 | 21,0 | 0,5 | µg/l | 96% |
| Arsenic | 4,38 | 0,03 | 4,25 | 0,10 | µg/l | 97% |
| Lead | 2,74 | 0,02 | 2,46 | 0,08 | µg/l | 90% |
| Cadmium | 0,891 | 0,008 | 0,842 | 0,022 | µg/l | 95% |
| Chromium | 6,24 | 0,05 | 5,99 | 0,19 | µg/l | 96% |
| Iron | 55,9 | 0,3 | 53,4 | 1,1 | µg/l | 96% |
| Copper | 101,9 | 0,4 | 94,7 | 1,8 | µg/l | 93% |
| Manganese | 16,2 | 0,1 | 15,5 | 0,5 | µg/l | 96% |
| Nickel | 10,8 | 0,1 | 10,1 | 0,2 | µg/l | 94% |
| Mercury | 0,77 | 0,02 | 0,674 | 0,023 | µg/l | 88% |
| Selenium | 3,50 | 0,06 | 3,32 | 0,06 | µg/l | 95% |
| Uranium | 6,33 | 0,05 | 5,93 | 0,04 | µg/l | 94% |
| Zinc | 18,4 | 0,7 | 17,4 | 0,5 | µg/l | 95% |



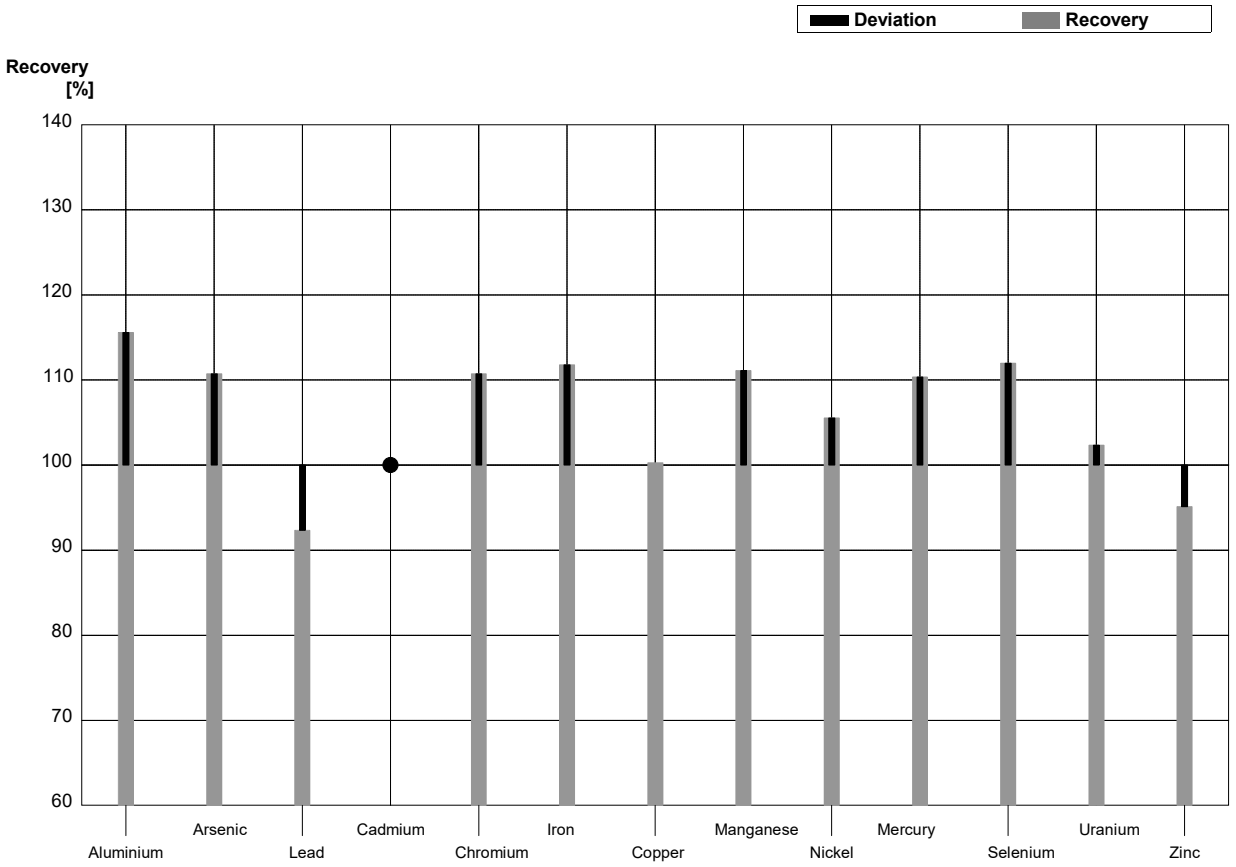
**Sample** **M156A**
**Laboratory** **H**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 17,4 | 0,2 | 20,3 | 2,03 | µg/l | 117% |
| Arsenic | 1,15 | 0,01 | <2 | | µg/l | • |
| Lead | 0,397 | 0,014 | <2 | | µg/l | • |
| Cadmium | 1,66 | 0,01 | 1,47 | 0,147 | µg/l | 89% |
| Chromium | 4,15 | 0,03 | <5 | | µg/l | • |
| Iron | 40,7 | 0,2 | 44,4 | 4,44 | µg/l | 109% |
| Copper | 5,23 | 0,04 | <5 | | µg/l | FN |
| Manganese | 62,4 | 0,4 | 65,6 | 6,56 | µg/l | 105% |
| Nickel | 4,87 | 0,03 | <5 | | µg/l | • |
| Mercury | 3,05 | 0,03 | 3,55 | 0,533 | µg/l | 116% |
| Selenium | 1,11 | 0,06 | <2 | | µg/l | • |
| Uranium | 1,05 | 0,01 | 1,02 | 0,102 | µg/l | 97% |
| Zinc | 7,3 | 0,7 | <15 | | µg/l | • |



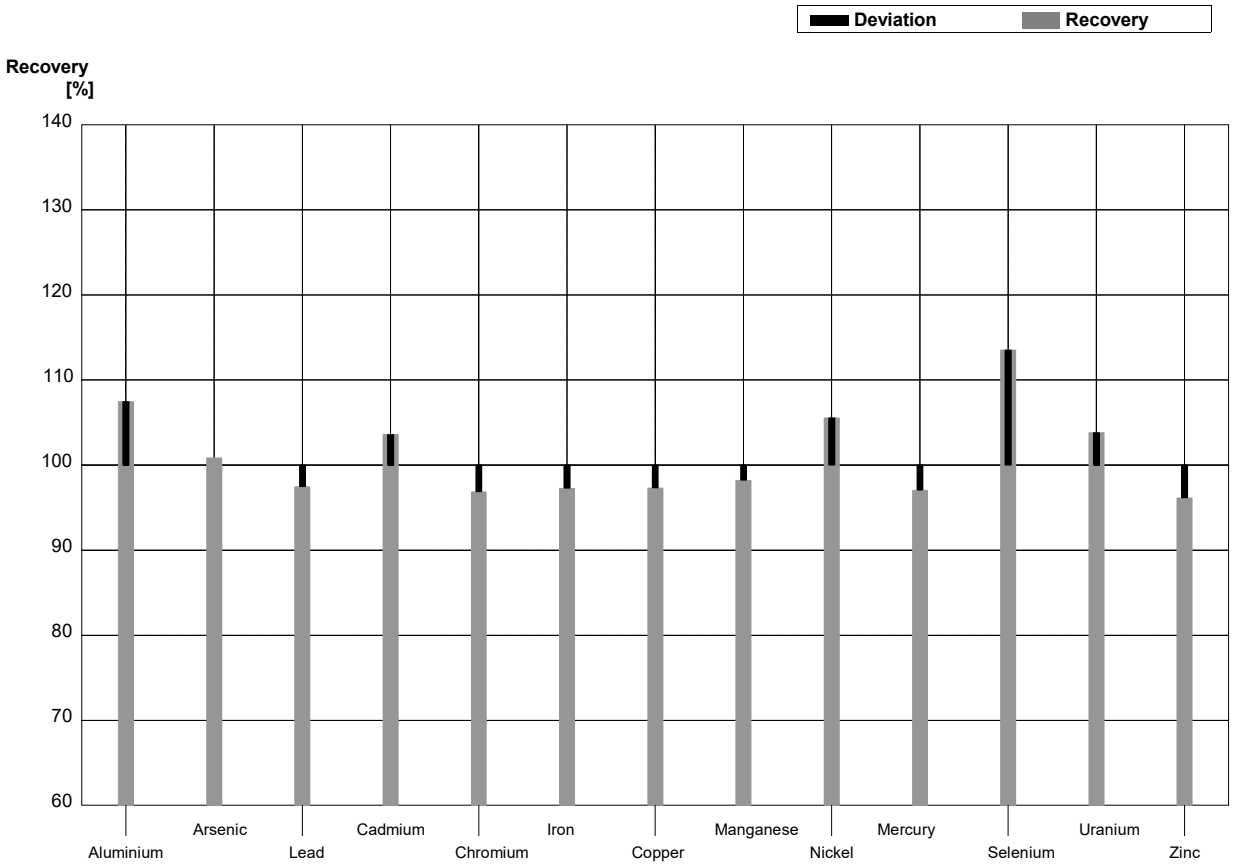
**Sample** **M156B**
**Laboratory** **H**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 21,8 | 0,2 | 25,2 | 2,52 | µg/l | 116% |
| Arsenic | 4,38 | 0,03 | 4,85 | 0,485 | µg/l | 111% |
| Lead | 2,74 | 0,02 | 2,53 | 0,253 | µg/l | 92% |
| Cadmium | 0,891 | 0,008 | <1 | | µg/l | • |
| Chromium | 6,24 | 0,05 | 6,91 | 0,691 | µg/l | 111% |
| Iron | 55,9 | 0,3 | 62,5 | 6,25 | µg/l | 112% |
| Copper | 101,9 | 0,4 | 102,2 | 10,22 | µg/l | 100% |
| Manganese | 16,2 | 0,1 | 18,0 | 1,80 | µg/l | 111% |
| Nickel | 10,8 | 0,1 | 11,4 | 1,14 | µg/l | 106% |
| Mercury | 0,77 | 0,02 | 0,85 | 0,128 | µg/l | 110% |
| Selenium | 3,50 | 0,06 | 3,92 | 0,392 | µg/l | 112% |
| Uranium | 6,33 | 0,05 | 6,48 | 0,648 | µg/l | 102% |
| Zinc | 18,4 | 0,7 | 17,5 | 1,75 | µg/l | 95% |



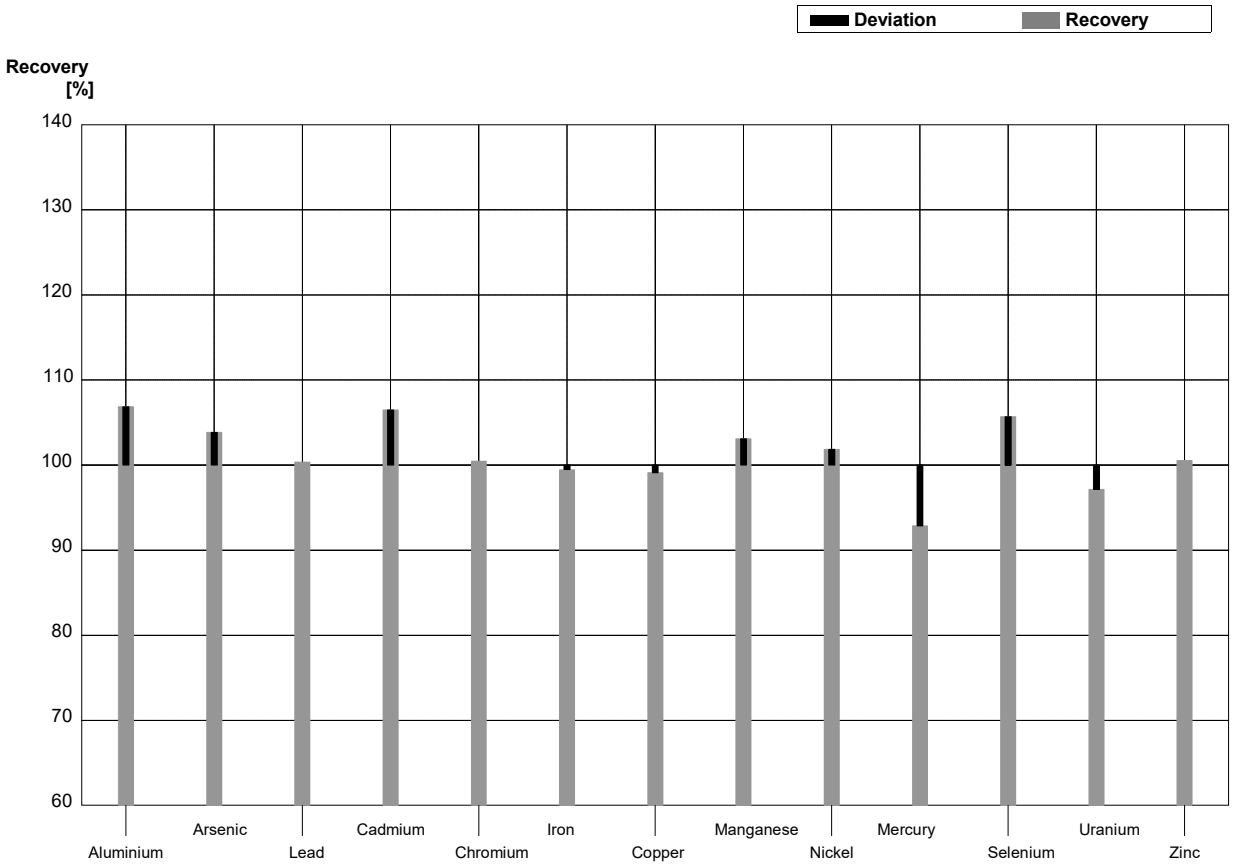
**Sample M156A**
**Laboratory I**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 17,4 | 0,2 | 18,7 | 0,395 | µg/l | 107% |
| Arsenic | 1,15 | 0,01 | 1,16 | 0,043 | µg/l | 101% |
| Lead | 0,397 | 0,014 | 0,387 | 0,006 | µg/l | 97% |
| Cadmium | 1,66 | 0,01 | 1,72 | 0,038 | µg/l | 104% |
| Chromium | 4,15 | 0,03 | 4,02 | 0,082 | µg/l | 97% |
| Iron | 40,7 | 0,2 | 39,6 | 0,272 | µg/l | 97% |
| Copper | 5,23 | 0,04 | 5,09 | 0,090 | µg/l | 97% |
| Manganese | 62,4 | 0,4 | 61,3 | 0,960 | µg/l | 98% |
| Nickel | 4,87 | 0,03 | 5,14 | 0,090 | µg/l | 106% |
| Mercury | 3,05 | 0,03 | 2,96 | 0,028 | µg/l | 97% |
| Selenium | 1,11 | 0,06 | 1,26 | 0,096 | µg/l | 114% |
| Uranium | 1,05 | 0,01 | 1,09 | 0,006 | µg/l | 104% |
| Zinc | 7,3 | 0,7 | 7,02 | 0,106 | µg/l | 96% |



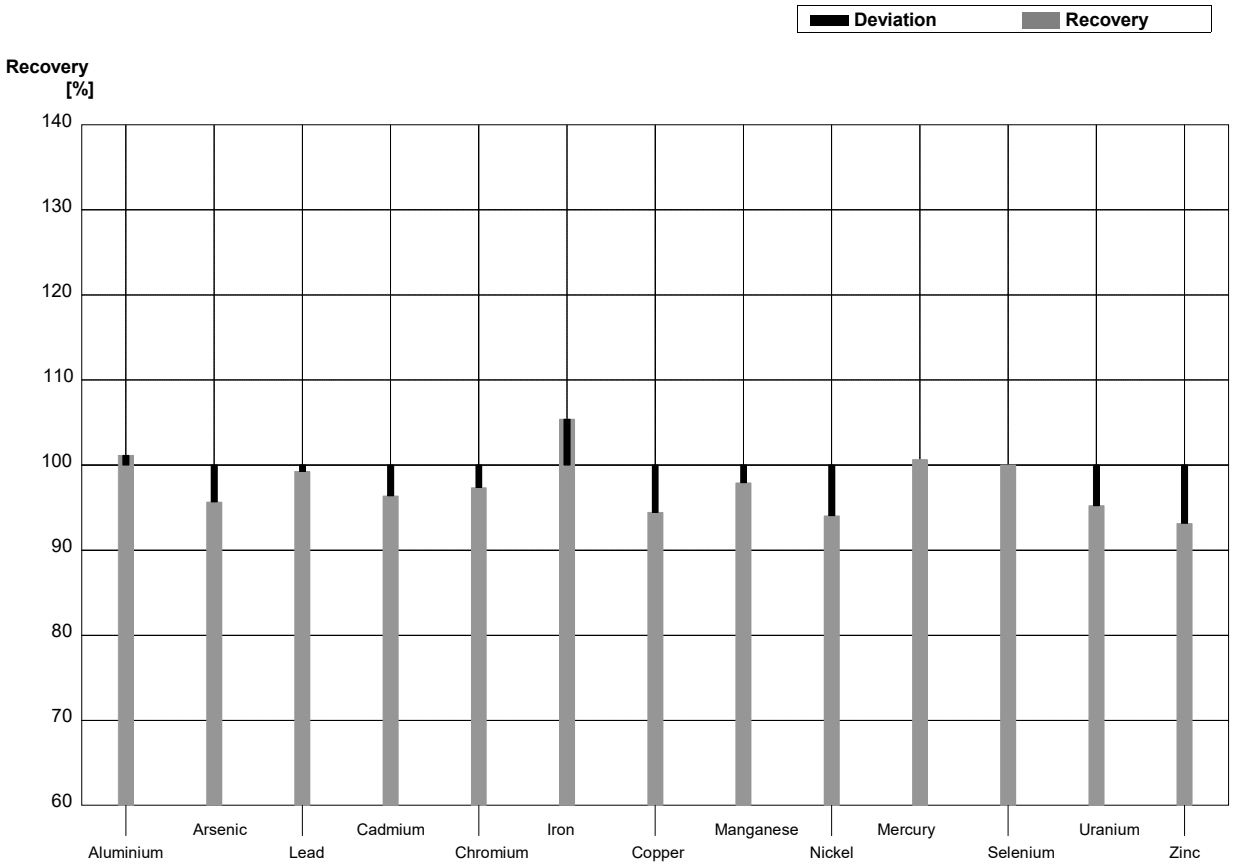
**Sample** **M156B**
**Laboratory** **I**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 21,8 | 0,2 | 23,3 | 0,410 | µg/l | 107% |
| Arsenic | 4,38 | 0,03 | 4,55 | 0,037 | µg/l | 104% |
| Lead | 2,74 | 0,02 | 2,75 | 0,057 | µg/l | 100% |
| Cadmium | 0,891 | 0,008 | 0,949 | 0,019 | µg/l | 107% |
| Chromium | 6,24 | 0,05 | 6,27 | 0,022 | µg/l | 100% |
| Iron | 55,9 | 0,3 | 55,6 | 0,211 | µg/l | 99% |
| Copper | 101,9 | 0,4 | 101 | 0,605 | µg/l | 99% |
| Manganese | 16,2 | 0,1 | 16,7 | 0,299 | µg/l | 103% |
| Nickel | 10,8 | 0,1 | 11,0 | 0,030 | µg/l | 102% |
| Mercury | 0,77 | 0,02 | 0,715 | 0,011 | µg/l | 93% |
| Selenium | 3,50 | 0,06 | 3,70 | 0,052 | µg/l | 106% |
| Uranium | 6,33 | 0,05 | 6,15 | 0,127 | µg/l | 97% |
| Zinc | 18,4 | 0,7 | 18,5 | 0,248 | µg/l | 101% |



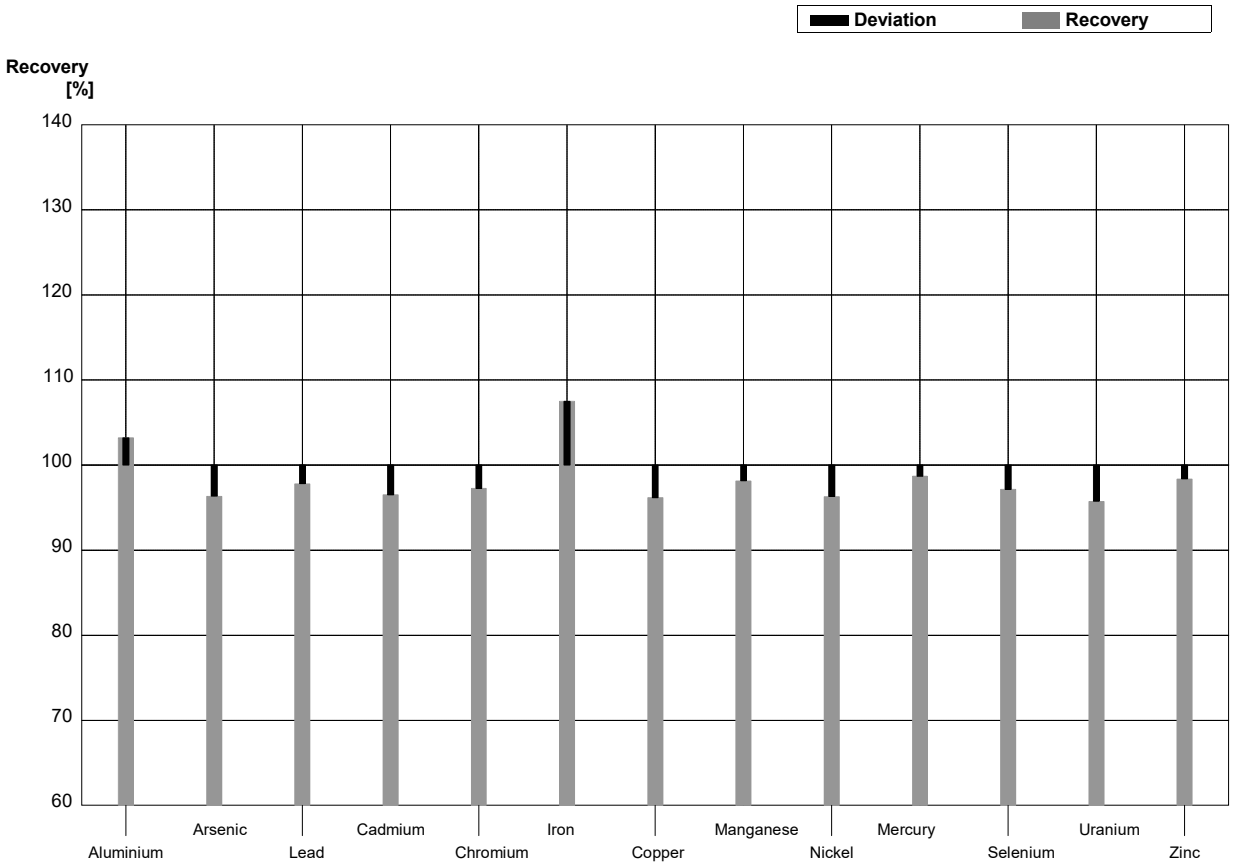
**Sample** **M156A**
**Laboratory** **J**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 17,4 | 0,2 | 17,6 | 1,8 | µg/l | 101% |
| Arsenic | 1,15 | 0,01 | 1,10 | 0,11 | µg/l | 96% |
| Lead | 0,397 | 0,014 | 0,394 | 0,04 | µg/l | 99% |
| Cadmium | 1,66 | 0,01 | 1,60 | 0,16 | µg/l | 96% |
| Chromium | 4,15 | 0,03 | 4,04 | 0,4 | µg/l | 97% |
| Iron | 40,7 | 0,2 | 42,9 | 4,3 | µg/l | 105% |
| Copper | 5,23 | 0,04 | 4,94 | 0,5 | µg/l | 94% |
| Manganese | 62,4 | 0,4 | 61,1 | 6,1 | µg/l | 98% |
| Nickel | 4,87 | 0,03 | 4,58 | 0,46 | µg/l | 94% |
| Mercury | 3,05 | 0,03 | 3,07 | 0,31 | µg/l | 101% |
| Selenium | 1,11 | 0,06 | 1,11 | 0,11 | µg/l | 100% |
| Uranium | 1,05 | 0,01 | 1,00 | 0,1 | µg/l | 95% |
| Zinc | 7,3 | 0,7 | 6,80 | 0,68 | µg/l | 93% |



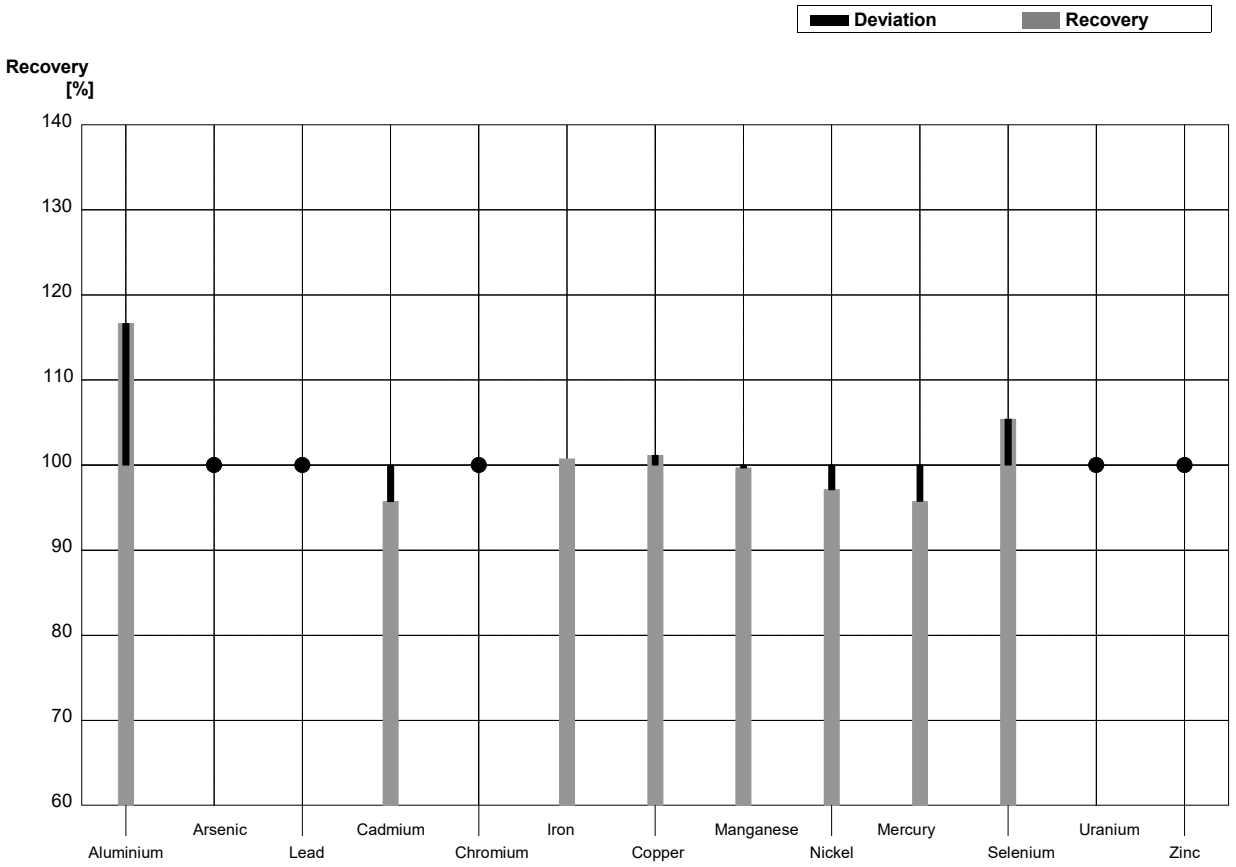
**Sample** **M156B**
**Laboratory** **J**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 21,8 | 0,2 | 22,5 | 2,3 | µg/l | 103% |
| Arsenic | 4,38 | 0,03 | 4,22 | 0,42 | µg/l | 96% |
| Lead | 2,74 | 0,02 | 2,68 | 0,27 | µg/l | 98% |
| Cadmium | 0,891 | 0,008 | 0,86 | 0,09 | µg/l | 97% |
| Chromium | 6,24 | 0,05 | 6,07 | 0,61 | µg/l | 97% |
| Iron | 55,9 | 0,3 | 60,1 | 6,0 | µg/l | 108% |
| Copper | 101,9 | 0,4 | 98,0 | 9,8 | µg/l | 96% |
| Manganese | 16,2 | 0,1 | 15,9 | 1,6 | µg/l | 98% |
| Nickel | 10,8 | 0,1 | 10,4 | 1,0 | µg/l | 96% |
| Mercury | 0,77 | 0,02 | 0,76 | 0,08 | µg/l | 99% |
| Selenium | 3,50 | 0,06 | 3,40 | 0,34 | µg/l | 97% |
| Uranium | 6,33 | 0,05 | 6,06 | 0,61 | µg/l | 96% |
| Zinc | 18,4 | 0,7 | 18,1 | 1,8 | µg/l | 98% |



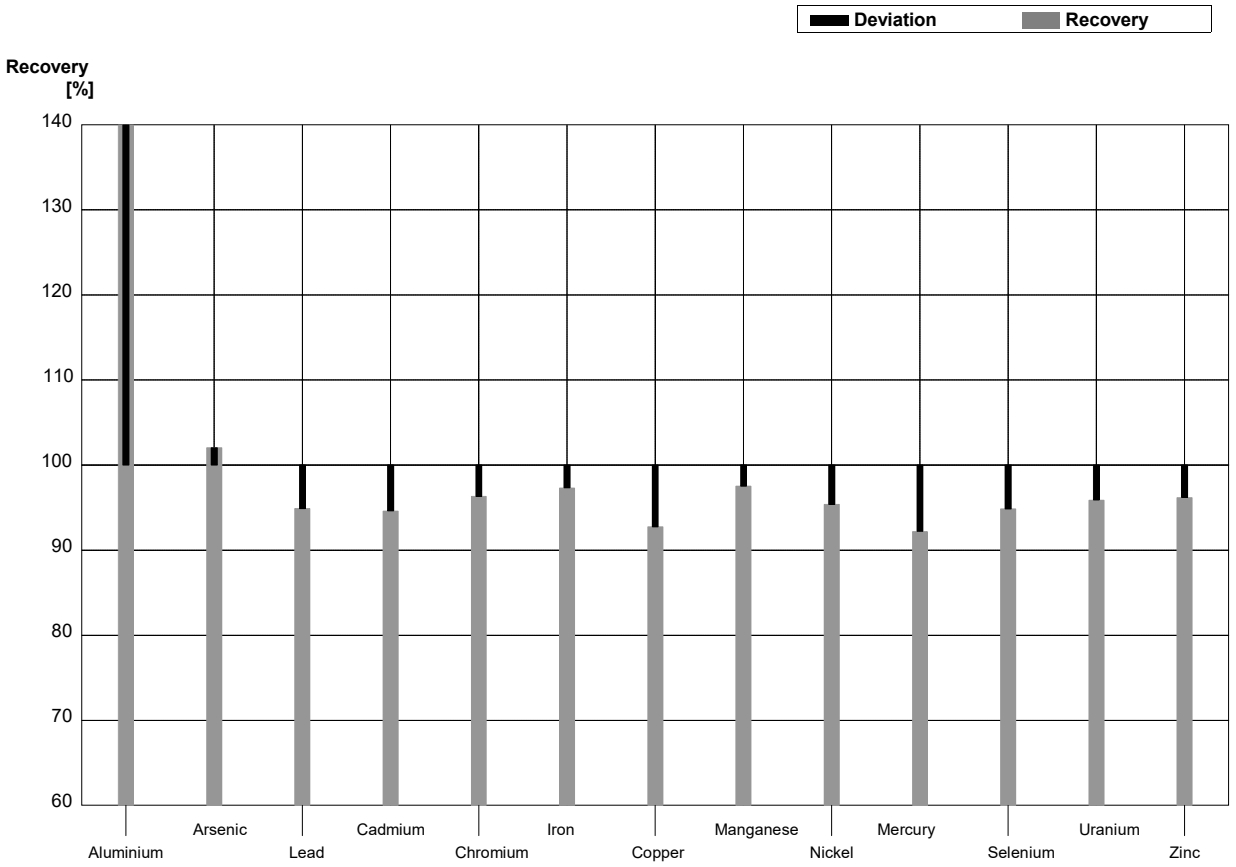
**Sample** **M156A**
**Laboratory** **K**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 17,4 | 0,2 | 20,3 | 1,7 | µg/l | 117% |
| Arsenic | 1,15 | 0,01 | <1,5 | | µg/l | • |
| Lead | 0,397 | 0,014 | <1 | | µg/l | • |
| Cadmium | 1,66 | 0,01 | 1,589 | 0,03 | µg/l | 96% |
| Chromium | 4,15 | 0,03 | <5 | | µg/l | • |
| Iron | 40,7 | 0,2 | 41,0 | 0,5 | µg/l | 101% |
| Copper | 5,23 | 0,04 | 5,29 | 0,71 | µg/l | 101% |
| Manganese | 62,4 | 0,4 | 62,2 | 1,1 | µg/l | 100% |
| Nickel | 4,87 | 0,03 | 4,73 | 0,1 | µg/l | 97% |
| Mercury | 3,05 | 0,03 | 2,92 | 0,07 | µg/l | 96% |
| Selenium | 1,11 | 0,06 | 1,17 | 0,07 | µg/l | 105% |
| Uranium | 1,05 | 0,01 | <2 | | µg/l | • |
| Zinc | 7,3 | 0,7 | <10 | | µg/l | • |



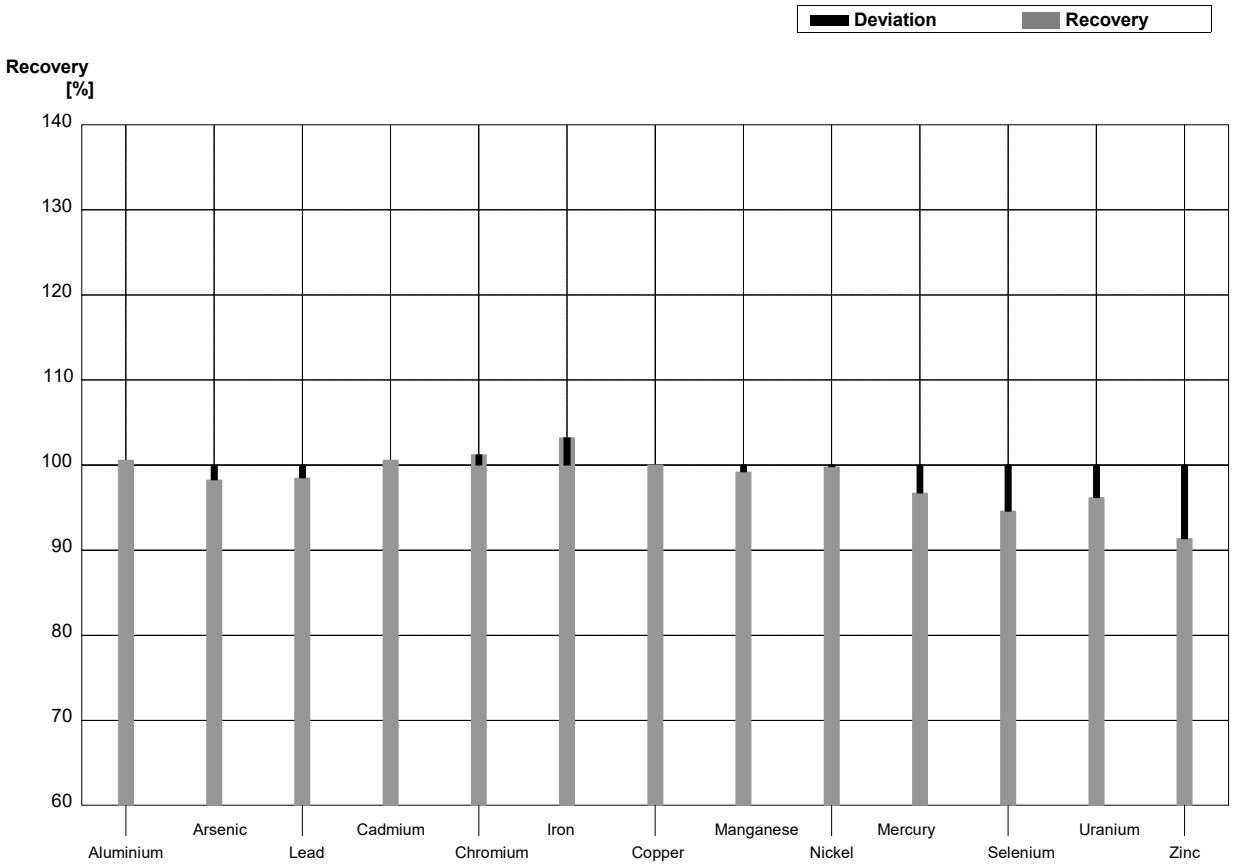
**Sample** **M156B**
**Laboratory** **K**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 21,8 | 0,2 | 35,4 | 1,6 | µg/l | 162% |
| Arsenic | 4,38 | 0,03 | 4,47 | 0,11 | µg/l | 102% |
| Lead | 2,74 | 0,02 | 2,60 | 0,05 | µg/l | 95% |
| Cadmium | 0,891 | 0,008 | 0,843 | 0,36 | µg/l | 95% |
| Chromium | 6,24 | 0,05 | 6,01 | 0,29 | µg/l | 96% |
| Iron | 55,9 | 0,3 | 54,4 | 0,9 | µg/l | 97% |
| Copper | 101,9 | 0,4 | 94,5 | 2,3 | µg/l | 93% |
| Manganese | 16,2 | 0,1 | 15,8 | 0,2 | µg/l | 98% |
| Nickel | 10,8 | 0,1 | 10,3 | 0,19 | µg/l | 95% |
| Mercury | 0,77 | 0,02 | 0,71 | 0,02 | µg/l | 92% |
| Selenium | 3,50 | 0,06 | 3,32 | 0,05 | µg/l | 95% |
| Uranium | 6,33 | 0,05 | 6,07 | 0,25 | µg/l | 96% |
| Zinc | 18,4 | 0,7 | 17,7 | 0,5 | µg/l | 96% |



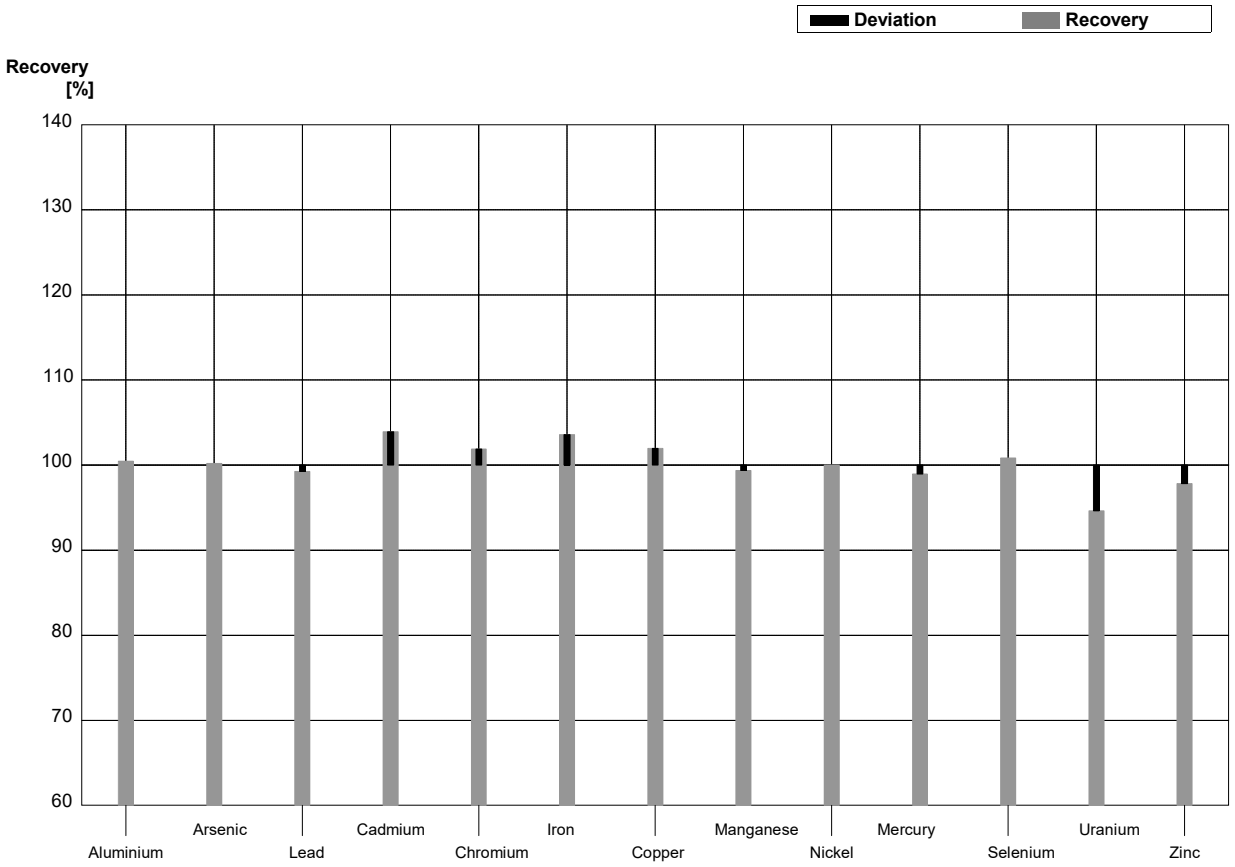
**Sample** **M156A**
**Laboratory** **L**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 17,4 | 0,2 | 17,5 | 4,4 | µg/l | 101% |
| Arsenic | 1,15 | 0,01 | 1,13 | 0,34 | µg/l | 98% |
| Lead | 0,397 | 0,014 | 0,391 | 0,10 | µg/l | 98% |
| Cadmium | 1,66 | 0,01 | 1,67 | 0,42 | µg/l | 101% |
| Chromium | 4,15 | 0,03 | 4,20 | 1,3 | µg/l | 101% |
| Iron | 40,7 | 0,2 | 42,0 | 13 | µg/l | 103% |
| Copper | 5,23 | 0,04 | 5,23 | 1,6 | µg/l | 100% |
| Manganese | 62,4 | 0,4 | 61,9 | 19 | µg/l | 99% |
| Nickel | 4,87 | 0,03 | 4,86 | 1,2 | µg/l | 100% |
| Mercury | 3,05 | 0,03 | 2,95 | 0,89 | µg/l | 97% |
| Selenium | 1,11 | 0,06 | 1,05 | 0,42 | µg/l | 95% |
| Uranium | 1,05 | 0,01 | 1,01 | 0,31 | µg/l | 96% |
| Zinc | 7,3 | 0,7 | 6,67 | 1,7 | µg/l | 91% |



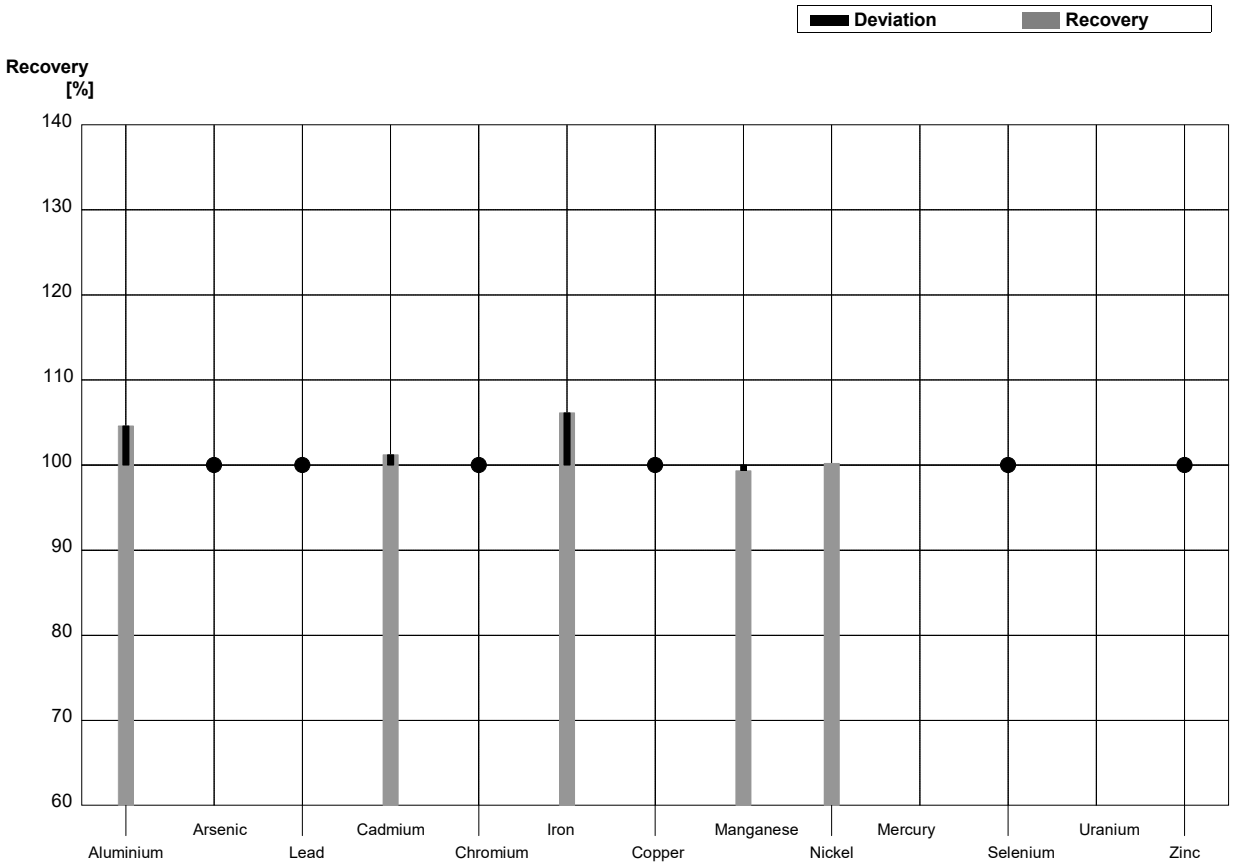
**Sample** **M156B**
**Laboratory** **L**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 21,8 | 0,2 | 21,9 | 5,5 | µg/l | 100% |
| Arsenic | 4,38 | 0,03 | 4,39 | 1,3 | µg/l | 100% |
| Lead | 2,74 | 0,02 | 2,72 | 0,68 | µg/l | 99% |
| Cadmium | 0,891 | 0,008 | 0,926 | 0,24 | µg/l | 104% |
| Chromium | 6,24 | 0,05 | 6,36 | 1,9 | µg/l | 102% |
| Iron | 55,9 | 0,3 | 57,9 | 17 | µg/l | 104% |
| Copper | 101,9 | 0,4 | 103,9 | 31 | µg/l | 102% |
| Manganese | 16,2 | 0,1 | 16,1 | 4,9 | µg/l | 99% |
| Nickel | 10,8 | 0,1 | 10,8 | 2,7 | µg/l | 100% |
| Mercury | 0,77 | 0,02 | 0,762 | 0,23 | µg/l | 99% |
| Selenium | 3,50 | 0,06 | 3,53 | 1,4 | µg/l | 101% |
| Uranium | 6,33 | 0,05 | 5,99 | 1,8 | µg/l | 95% |
| Zinc | 18,4 | 0,7 | 18,0 | 4,5 | µg/l | 98% |



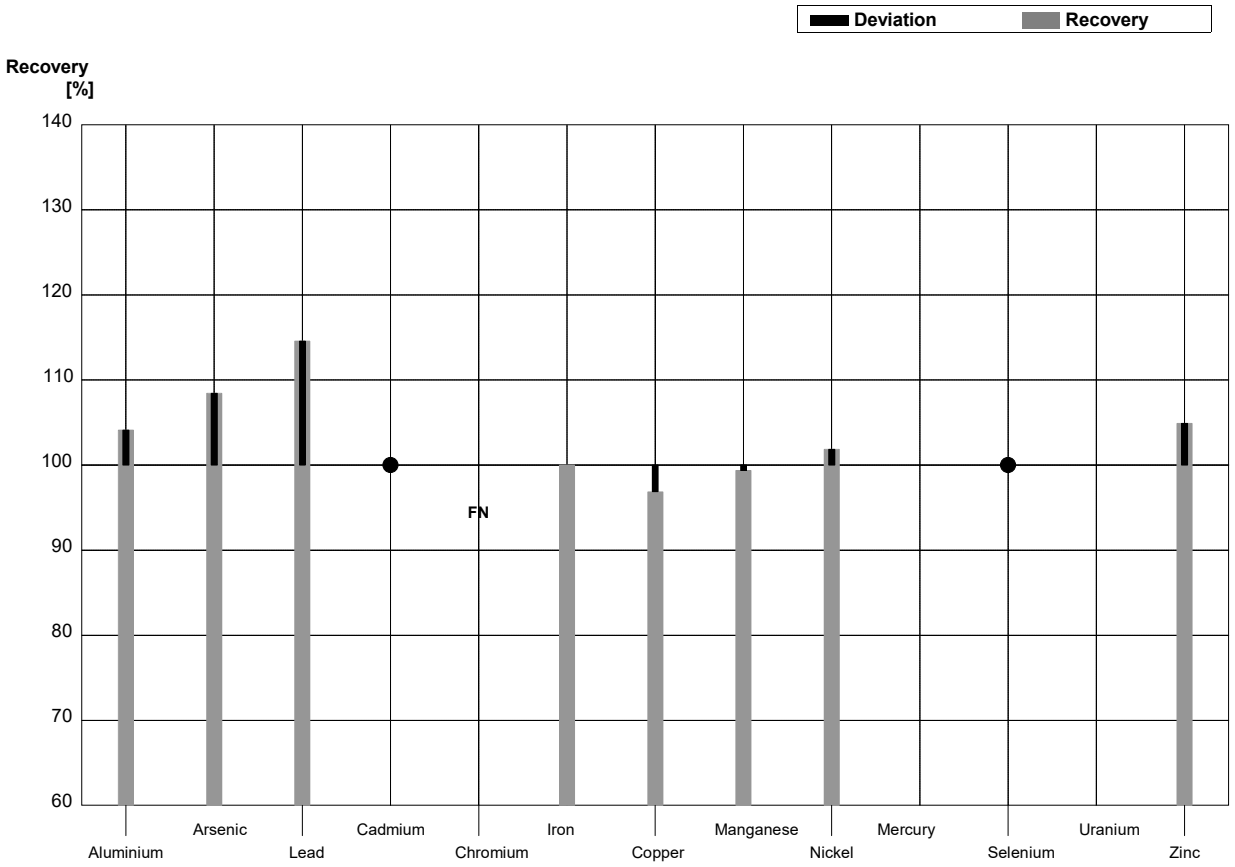
**Sample** **M156A**
**Laboratory** **M**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 17,4 | 0,2 | 18,2 | 2,8 | µg/l | 105% |
| Arsenic | 1,15 | 0,01 | <2 | | µg/l | • |
| Lead | 0,397 | 0,014 | <2 | | µg/l | • |
| Cadmium | 1,66 | 0,01 | 1,68 | 0,12 | µg/l | 101% |
| Chromium | 4,15 | 0,03 | <5 | | µg/l | • |
| Iron | 40,7 | 0,2 | 43,2 | 3,6 | µg/l | 106% |
| Copper | 5,23 | 0,04 | <10 | | µg/l | • |
| Manganese | 62,4 | 0,4 | 62,0 | 5,8 | µg/l | 99% |
| Nickel | 4,87 | 0,03 | 4,88 | 0,6 | µg/l | 100% |
| Mercury | 3,05 | 0,03 | | | µg/l | |
| Selenium | 1,11 | 0,06 | <5 | | µg/l | • |
| Uranium | 1,05 | 0,01 | | | µg/l | |
| Zinc | 7,3 | 0,7 | <10 | | µg/l | • |



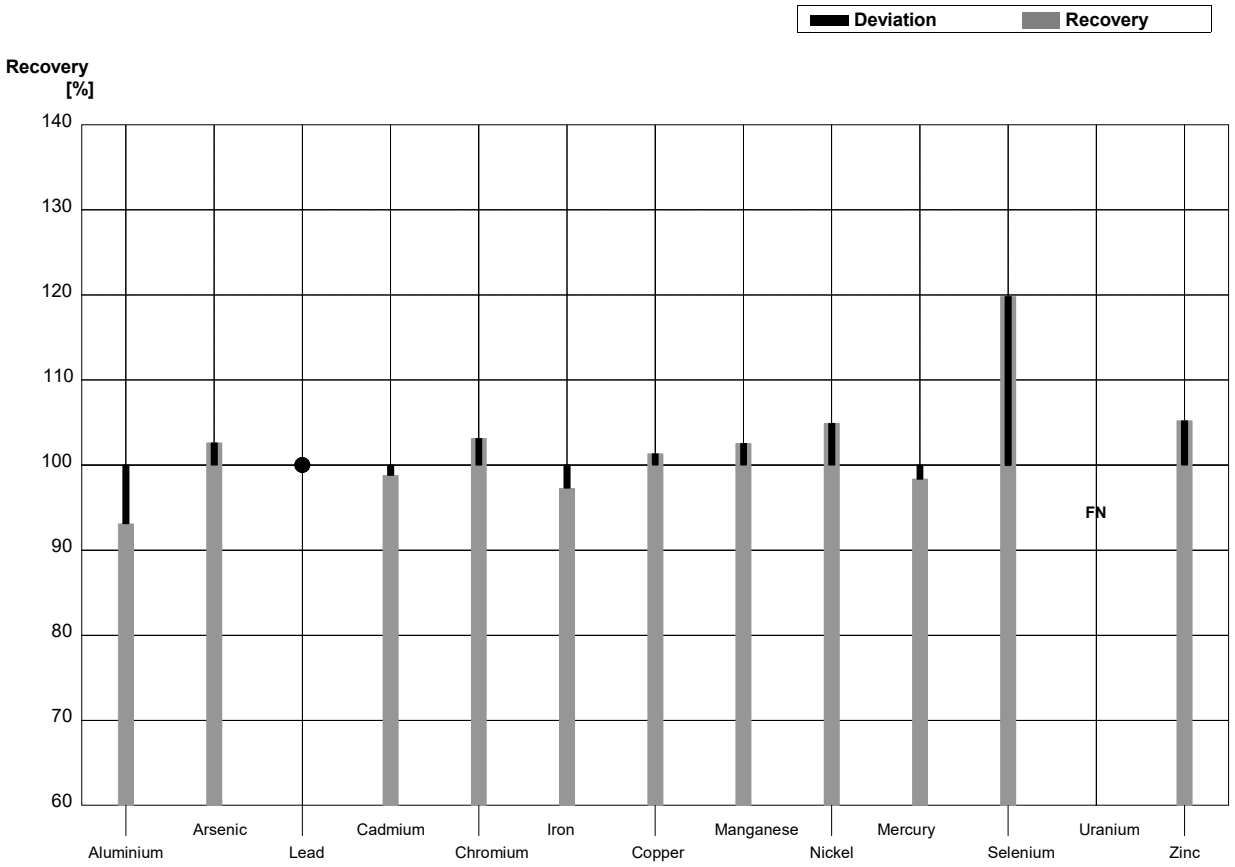
**Sample** **M156B**
**Laboratory** **M**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 21,8 | 0,2 | 22,7 | 3,5 | µg/l | 104% |
| Arsenic | 4,38 | 0,03 | 4,75 | 0,71 | µg/l | 108% |
| Lead | 2,74 | 0,02 | 3,14 | 0,54 | µg/l | 115% |
| Cadmium | 0,891 | 0,008 | <1 | | µg/l | • |
| Chromium | 6,24 | 0,05 | <5 | | µg/l | FN |
| Iron | 55,9 | 0,3 | 55,9 | 4,7 | µg/l | 100% |
| Copper | 101,9 | 0,4 | 98,7 | 25,7 | µg/l | 97% |
| Manganese | 16,2 | 0,1 | 16,1 | 1,5 | µg/l | 99% |
| Nickel | 10,8 | 0,1 | 11,0 | 1,4 | µg/l | 102% |
| Mercury | 0,77 | 0,02 | | | µg/l | |
| Selenium | 3,50 | 0,06 | <5 | | µg/l | • |
| Uranium | 6,33 | 0,05 | | | µg/l | |
| Zinc | 18,4 | 0,7 | 19,3 | 2,7 | µg/l | 105% |



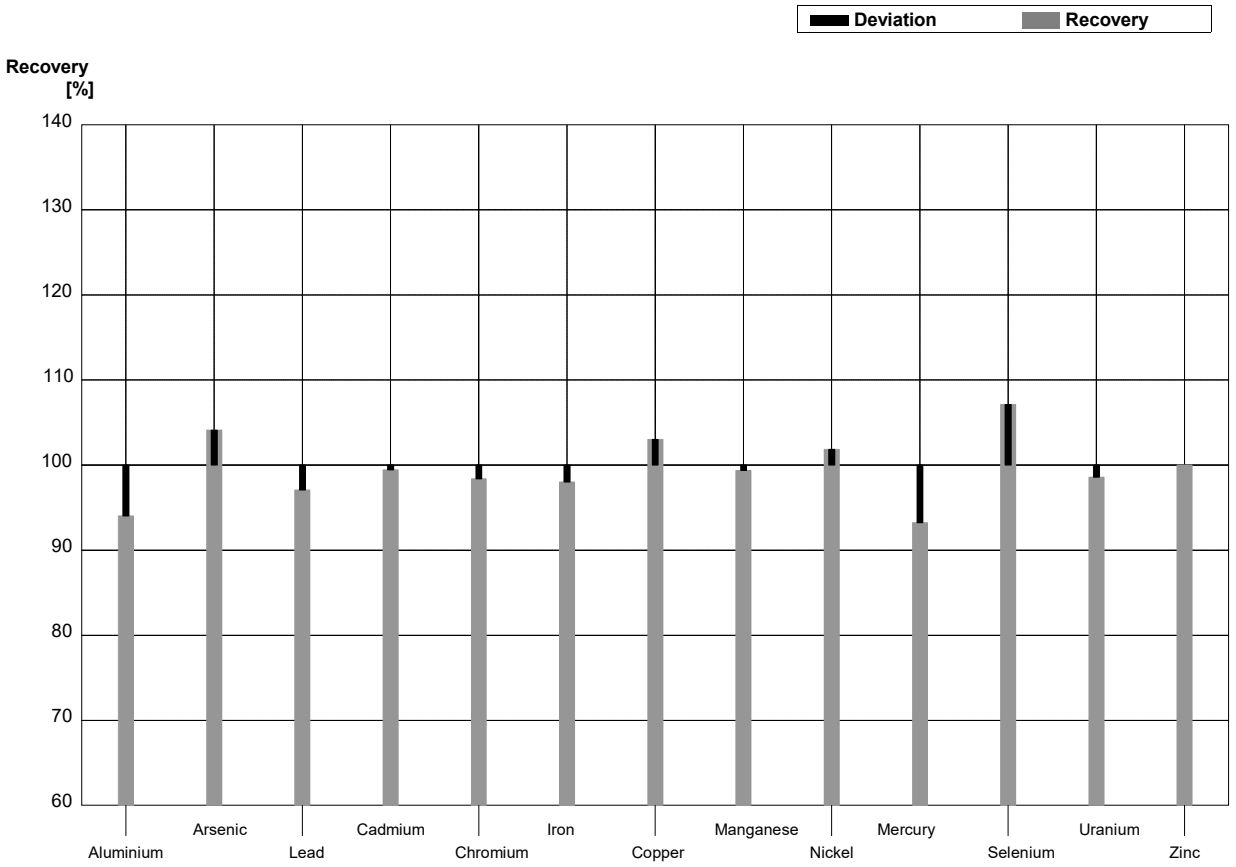
**Sample** **M156A**
**Laboratory** **N**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 17,4 | 0,2 | 16,2 | 0,77 | µg/l | 93% |
| Arsenic | 1,15 | 0,01 | 1,18 | 0,21 | µg/l | 103% |
| Lead | 0,397 | 0,014 | <1,00 | | µg/l | • |
| Cadmium | 1,66 | 0,01 | 1,64 | 0,025 | µg/l | 99% |
| Chromium | 4,15 | 0,03 | 4,28 | 0,10 | µg/l | 103% |
| Iron | 40,7 | 0,2 | 39,6 | 0,82 | µg/l | 97% |
| Copper | 5,23 | 0,04 | 5,3 | 0,04 | µg/l | 101% |
| Manganese | 62,4 | 0,4 | 64,0 | 1,40 | µg/l | 103% |
| Nickel | 4,87 | 0,03 | 5,11 | 0,09 | µg/l | 105% |
| Mercury | 3,05 | 0,03 | 3,00 | 0,05 | µg/l | 98% |
| Selenium | 1,11 | 0,06 | 1,33 | 0,07 | µg/l | 120% |
| Uranium | 1,05 | 0,01 | <1,00 | | µg/l | FN |
| Zinc | 7,3 | 0,7 | 7,68 | 0,34 | µg/l | 105% |



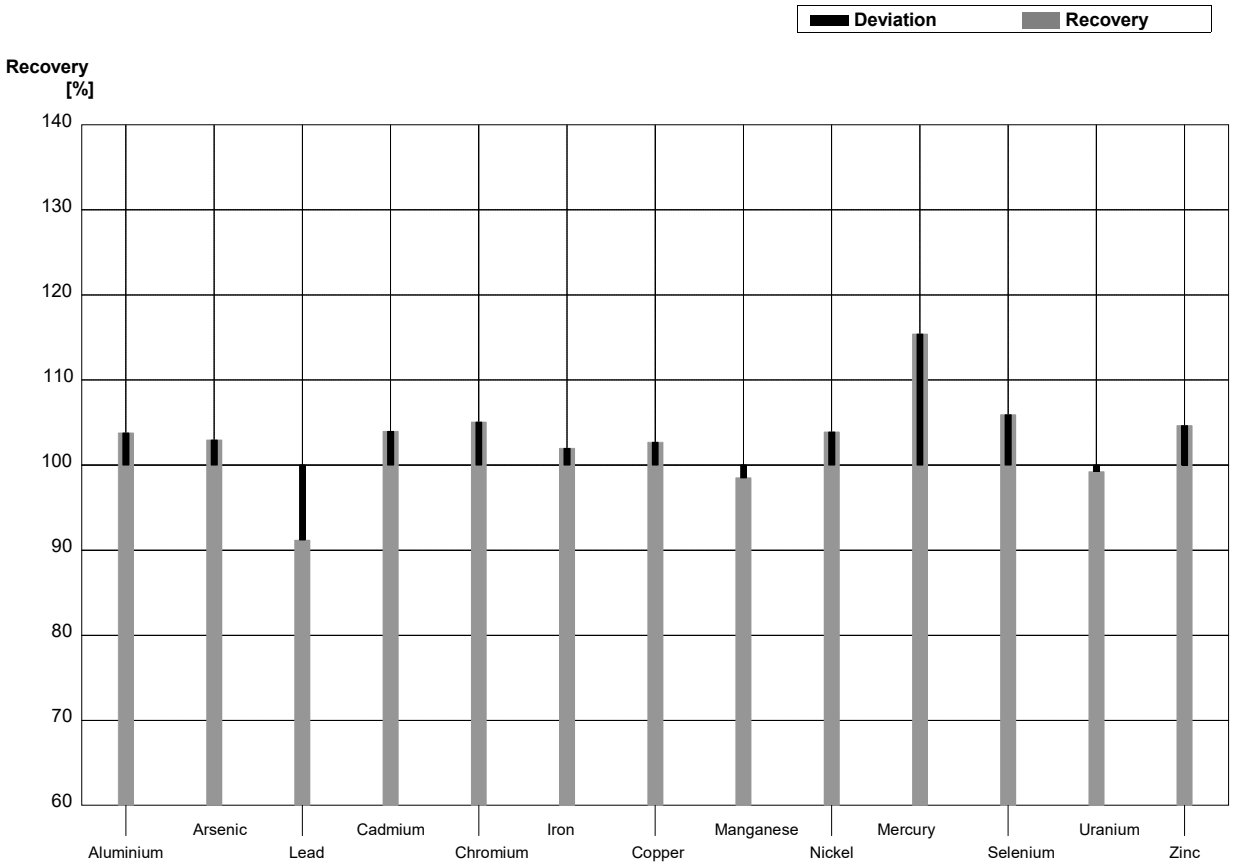
**Sample** **M156B**
**Laboratory** **N**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 21,8 | 0,2 | 20,5 | 0,75 | µg/l | 94% |
| Arsenic | 4,38 | 0,03 | 4,56 | 0,18 | µg/l | 104% |
| Lead | 2,74 | 0,02 | 2,66 | 0,09 | µg/l | 97% |
| Cadmium | 0,891 | 0,008 | 0,886 | 0,01 | µg/l | 99% |
| Chromium | 6,24 | 0,05 | 6,14 | 0,10 | µg/l | 98% |
| Iron | 55,9 | 0,3 | 54,8 | 0,80 | µg/l | 98% |
| Copper | 101,9 | 0,4 | 105 | 1,15 | µg/l | 103% |
| Manganese | 16,2 | 0,1 | 16,1 | 1,59 | µg/l | 99% |
| Nickel | 10,8 | 0,1 | 11,0 | 0,25 | µg/l | 102% |
| Mercury | 0,77 | 0,02 | 0,718 | 0,025 | µg/l | 93% |
| Selenium | 3,50 | 0,06 | 3,75 | 0,06 | µg/l | 107% |
| Uranium | 6,33 | 0,05 | 6,24 | 0,16 | µg/l | 99% |
| Zinc | 18,4 | 0,7 | 18,4 | 0,31 | µg/l | 100% |



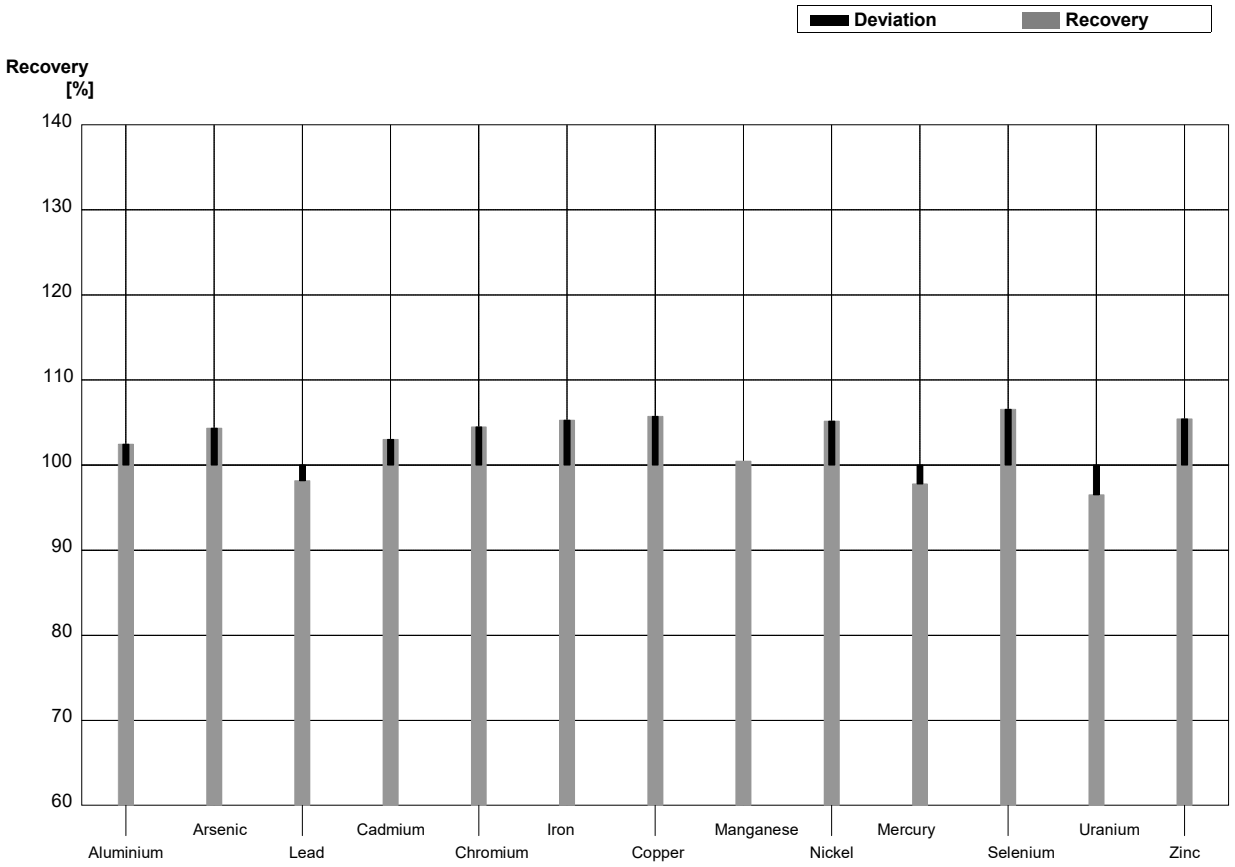
**Sample** **M156A**
**Laboratory** **O**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 17,4 | 0,2 | 18,06 | 4,33 | µg/l | 104% |
| Arsenic | 1,15 | 0,01 | 1,184 | 0,225 | µg/l | 103% |
| Lead | 0,397 | 0,014 | 0,362 | 0,069 | µg/l | 91% |
| Cadmium | 1,66 | 0,01 | 1,726 | 0,259 | µg/l | 104% |
| Chromium | 4,15 | 0,03 | 4,36 | 0,74 | µg/l | 105% |
| Iron | 40,7 | 0,2 | 41,51 | 8,72 | µg/l | 102% |
| Copper | 5,23 | 0,04 | 5,37 | 0,86 | µg/l | 103% |
| Manganese | 62,4 | 0,4 | 61,46 | 9,22 | µg/l | 98% |
| Nickel | 4,87 | 0,03 | 5,06 | 0,81 | µg/l | 104% |
| Mercury | 3,05 | 0,03 | 3,52 | 0,53 | µg/l | 115% |
| Selenium | 1,11 | 0,06 | 1,176 | 0,365 | µg/l | 106% |
| Uranium | 1,05 | 0,01 | 1,042 | 0,177 | µg/l | 99% |
| Zinc | 7,3 | 0,7 | 7,64 | 2,06 | µg/l | 105% |



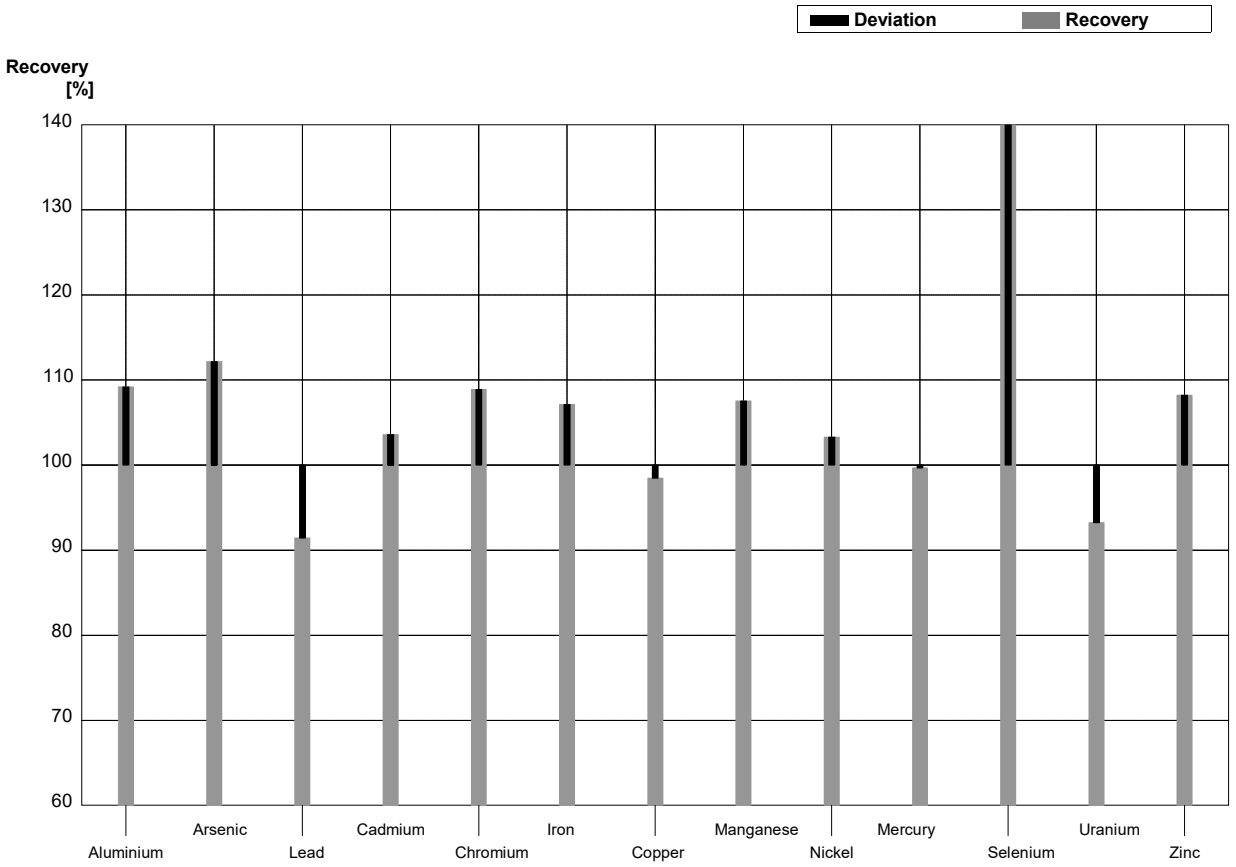
**Sample** **M156B**
**Laboratory** **O**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 21,8 | 0,2 | 22,34 | 5,36 | µg/l | 102% |
| Arsenic | 4,38 | 0,03 | 4,57 | 0,868 | µg/l | 104% |
| Lead | 2,74 | 0,02 | 2,69 | 0,51 | µg/l | 98% |
| Cadmium | 0,891 | 0,008 | 0,918 | 0,138 | µg/l | 103% |
| Chromium | 6,24 | 0,05 | 6,52 | 1,11 | µg/l | 104% |
| Iron | 55,9 | 0,3 | 58,86 | 12,36 | µg/l | 105% |
| Copper | 101,9 | 0,4 | 107,75 | 17,24 | µg/l | 106% |
| Manganese | 16,2 | 0,1 | 16,28 | 2,44 | µg/l | 100% |
| Nickel | 10,8 | 0,1 | 11,36 | 1,82 | µg/l | 105% |
| Mercury | 0,77 | 0,02 | 0,753 | 0,113 | µg/l | 98% |
| Selenium | 3,50 | 0,06 | 3,73 | 1,16 | µg/l | 107% |
| Uranium | 6,33 | 0,05 | 6,11 | 1,04 | µg/l | 97% |
| Zinc | 18,4 | 0,7 | 19,4 | 5,2 | µg/l | 105% |



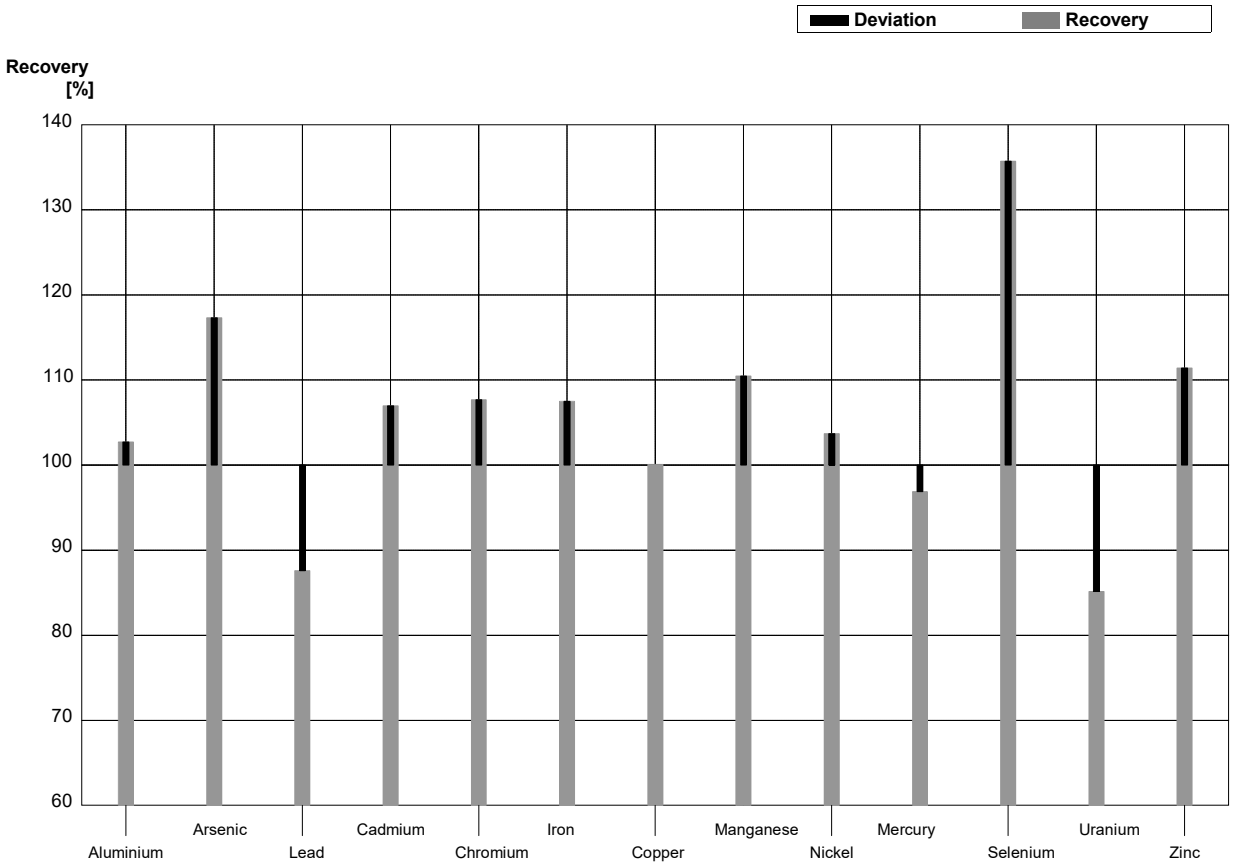
**Sample** **M156A**
**Laboratory** **P**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 17,4 | 0,2 | 19,0 | 3,42 | µg/l | 109% |
| Arsenic | 1,15 | 0,01 | 1,29 | 0,219 | µg/l | 112% |
| Lead | 0,397 | 0,014 | 0,363 | 0,054 | µg/l | 91% |
| Cadmium | 1,66 | 0,01 | 1,72 | 0,224 | µg/l | 104% |
| Chromium | 4,15 | 0,03 | 4,52 | 0,633 | µg/l | 109% |
| Iron | 40,7 | 0,2 | 43,6 | 6,54 | µg/l | 107% |
| Copper | 5,23 | 0,04 | 5,15 | 0,927 | µg/l | 98% |
| Manganese | 62,4 | 0,4 | 67,1 | 8,05 | µg/l | 108% |
| Nickel | 4,87 | 0,03 | 5,03 | 0,905 | µg/l | 103% |
| Mercury | 3,05 | 0,03 | 3,04 | 0,669 | µg/l | 100% |
| Selenium | 1,11 | 0,06 | 1,95 | 0,468 | µg/l | 176% |
| Uranium | 1,05 | 0,01 | 0,979 | 0,117 | µg/l | 93% |
| Zinc | 7,3 | 0,7 | 7,90 | 1,42 | µg/l | 108% |



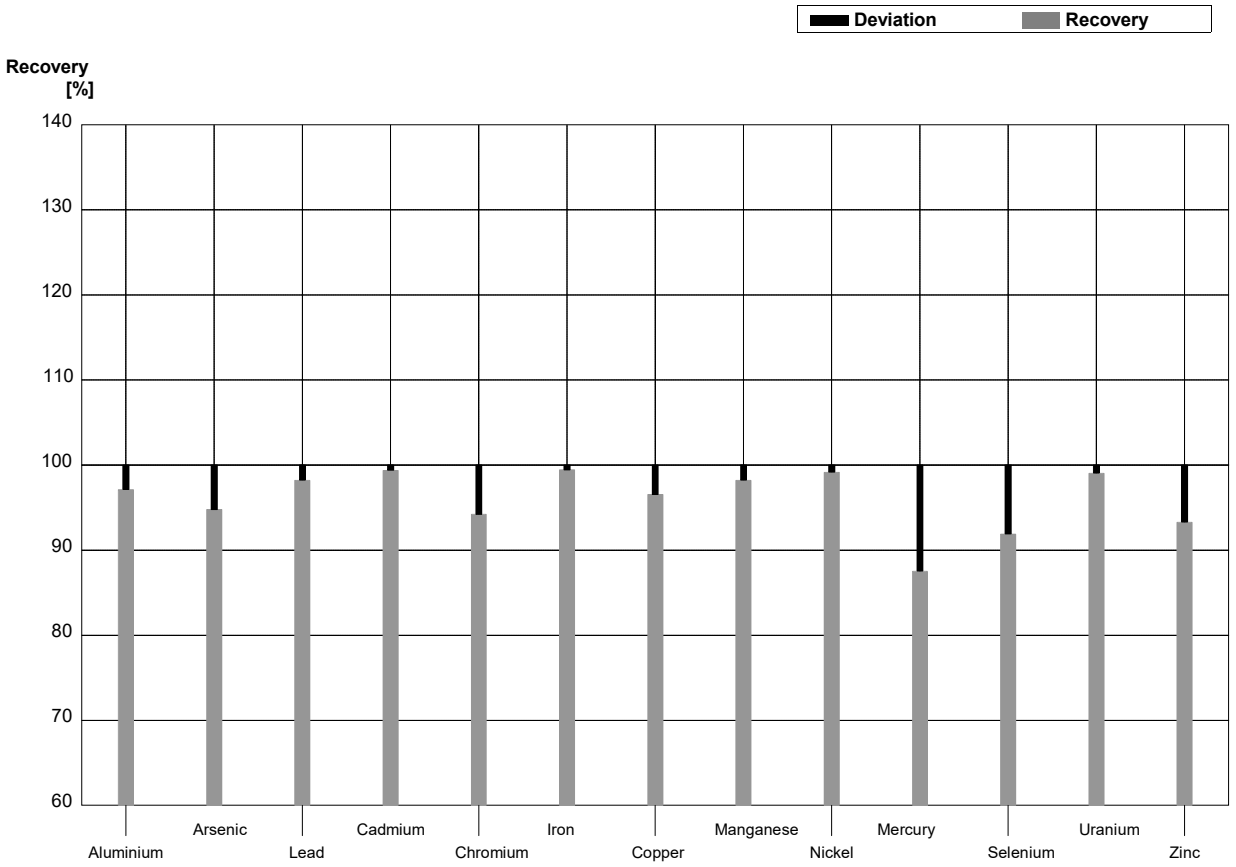
**Sample** **M156B**
**Laboratory** **P**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 21,8 | 0,2 | 22,4 | 4,03 | µg/l | 103% |
| Arsenic | 4,38 | 0,03 | 5,14 | 0,874 | µg/l | 117% |
| Lead | 2,74 | 0,02 | 2,40 | 0,360 | µg/l | 88% |
| Cadmium | 0,891 | 0,008 | 0,953 | 0,124 | µg/l | 107% |
| Chromium | 6,24 | 0,05 | 6,72 | 0,868 | µg/l | 108% |
| Iron | 55,9 | 0,3 | 60,1 | 9,02 | µg/l | 108% |
| Copper | 101,9 | 0,4 | 102 | 18,4 | µg/l | 100% |
| Manganese | 16,2 | 0,1 | 17,9 | 2,15 | µg/l | 110% |
| Nickel | 10,8 | 0,1 | 11,2 | 2,02 | µg/l | 104% |
| Mercury | 0,77 | 0,02 | 0,746 | 0,164 | µg/l | 97% |
| Selenium | 3,50 | 0,06 | 4,75 | 1,14 | µg/l | 136% |
| Uranium | 6,33 | 0,05 | 5,39 | 0,647 | µg/l | 85% |
| Zinc | 18,4 | 0,7 | 20,5 | 3,69 | µg/l | 111% |



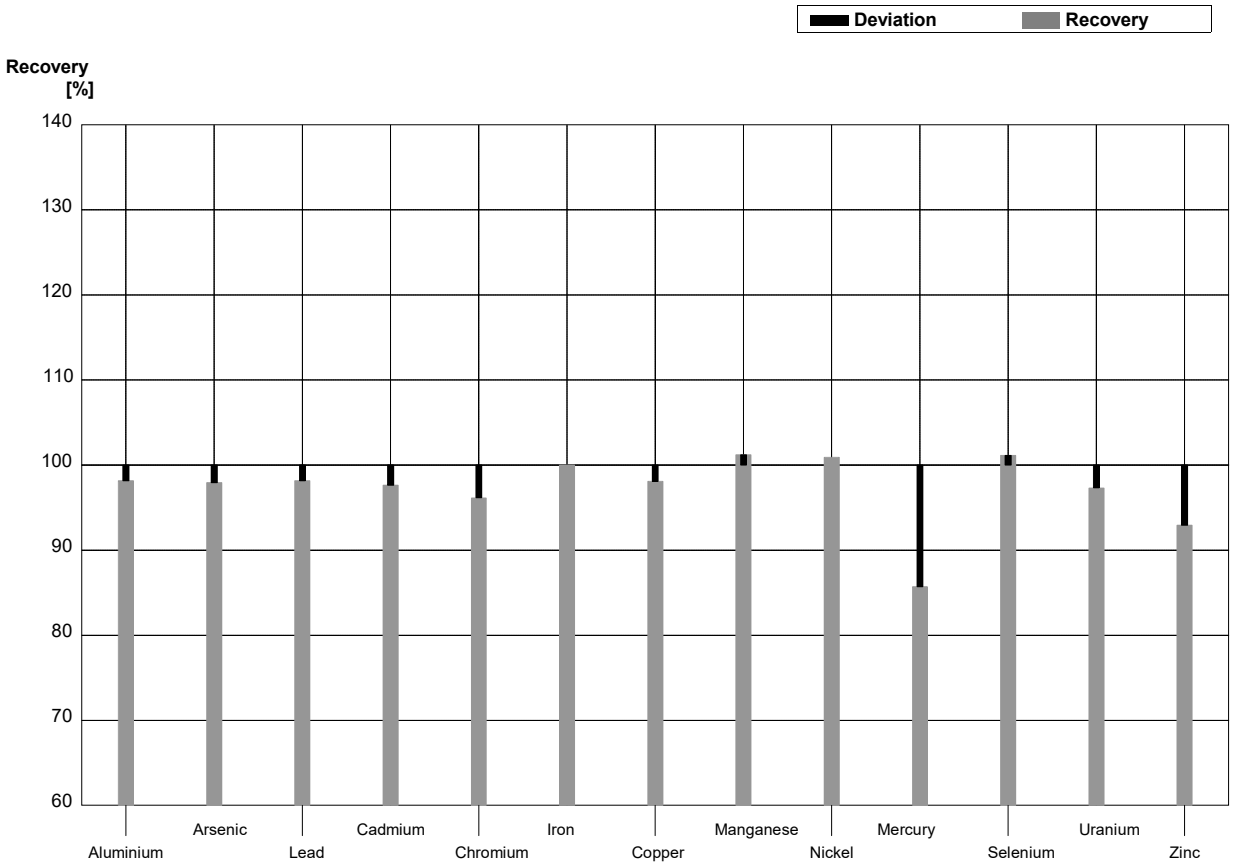
**Sample** **M156A**
**Laboratory** **Q**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 17,4 | 0,2 | 16,9 | 2,873 | µg/l | 97% |
| Arsenic | 1,15 | 0,01 | 1,09 | 0,087 | µg/l | 95% |
| Lead | 0,397 | 0,014 | 0,390 | 0,0195 | µg/l | 98% |
| Cadmium | 1,66 | 0,01 | 1,65 | 0,099 | µg/l | 99% |
| Chromium | 4,15 | 0,03 | 3,91 | 0,3519 | µg/l | 94% |
| Iron | 40,7 | 0,2 | 40,48 | 4,048 | µg/l | 99% |
| Copper | 5,23 | 0,04 | 5,05 | 0,758 | µg/l | 97% |
| Manganese | 62,4 | 0,4 | 61,3 | 5,517 | µg/l | 98% |
| Nickel | 4,87 | 0,03 | 4,83 | 0,869 | µg/l | 99% |
| Mercury | 3,05 | 0,03 | 2,67 | 0,294 | µg/l | 88% |
| Selenium | 1,11 | 0,06 | 1,02 | 0,0612 | µg/l | 92% |
| Uranium | 1,05 | 0,01 | 1,04 | 0,0832 | µg/l | 99% |
| Zinc | 7,3 | 0,7 | 6,81 | 0,6129 | µg/l | 93% |



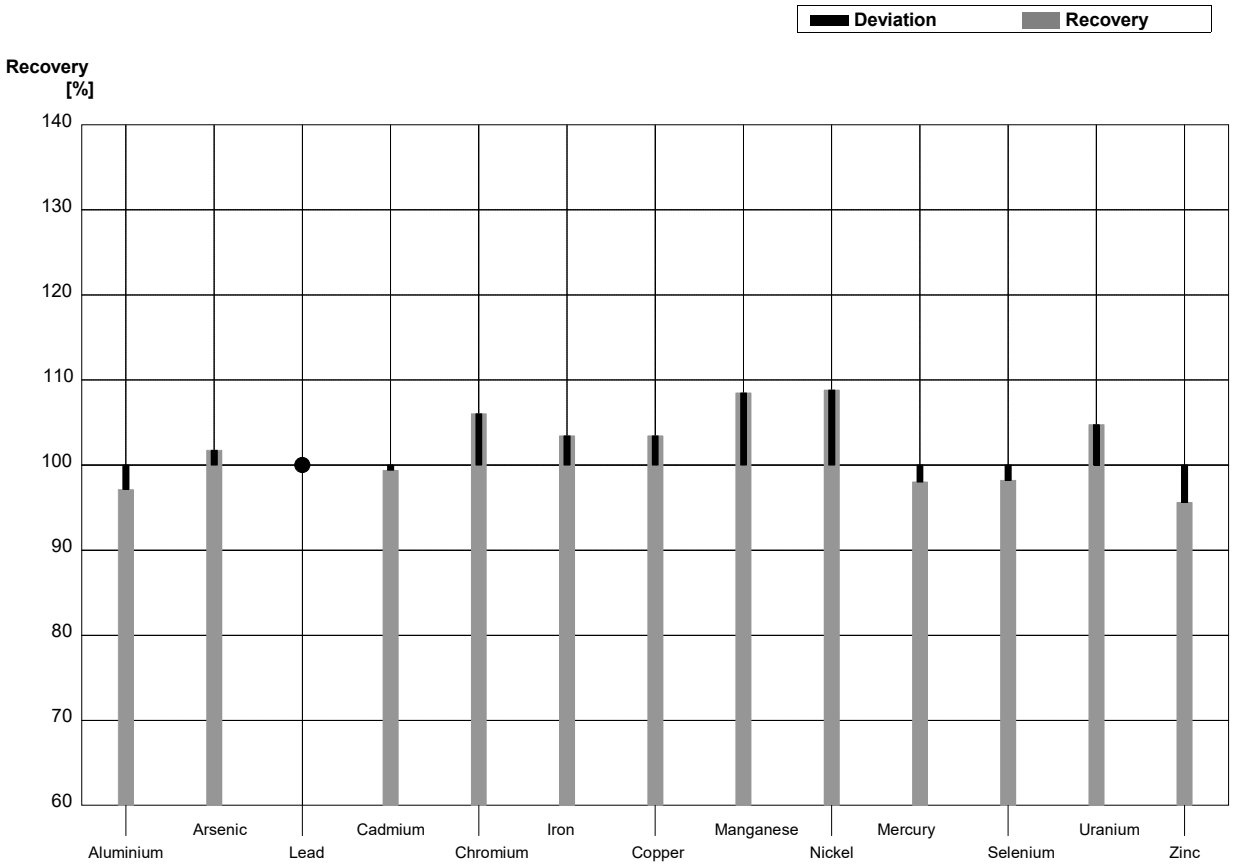
**Sample** **M156B**
**Laboratory** **Q**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 21,8 | 0,2 | 21,4 | 3,638 | µg/l | 98% |
| Arsenic | 4,38 | 0,03 | 4,29 | 0,343 | µg/l | 98% |
| Lead | 2,74 | 0,02 | 2,69 | 0,1345 | µg/l | 98% |
| Cadmium | 0,891 | 0,008 | 0,87 | 0,0522 | µg/l | 98% |
| Chromium | 6,24 | 0,05 | 6,00 | 0,540 | µg/l | 96% |
| Iron | 55,9 | 0,3 | 55,9 | 5,59 | µg/l | 100% |
| Copper | 101,9 | 0,4 | 99,96 | 14,994 | µg/l | 98% |
| Manganese | 16,2 | 0,1 | 16,4 | 1,476 | µg/l | 101% |
| Nickel | 10,8 | 0,1 | 10,9 | 1,962 | µg/l | 101% |
| Mercury | 0,77 | 0,02 | 0,66 | 0,0726 | µg/l | 86% |
| Selenium | 3,50 | 0,06 | 3,54 | 0,2124 | µg/l | 101% |
| Uranium | 6,33 | 0,05 | 6,16 | 0,4928 | µg/l | 97% |
| Zinc | 18,4 | 0,7 | 17,1 | 1,539 | µg/l | 93% |



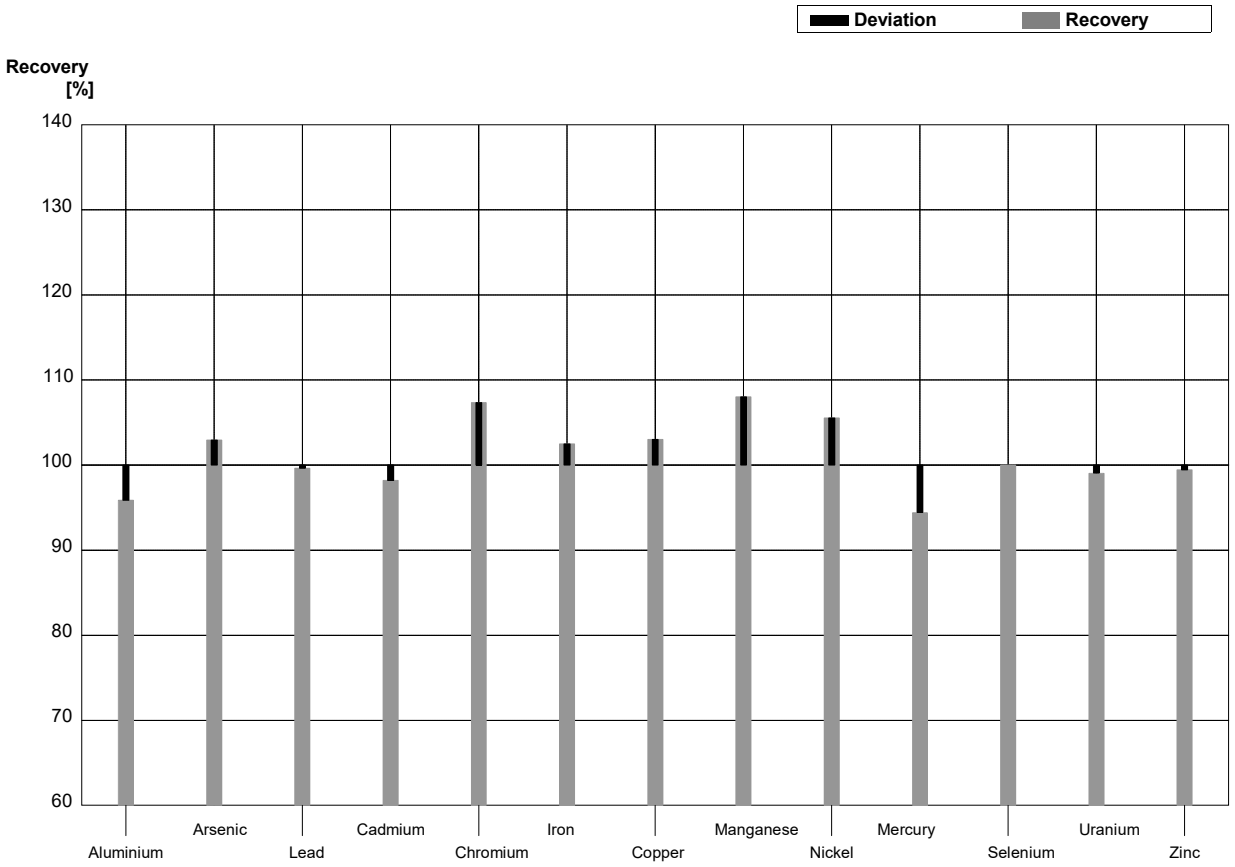
**Sample** **M156A**
**Laboratory** **R**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 17,4 | 0,2 | 16,9 | 3,4 | µg/l | 97% |
| Arsenic | 1,15 | 0,01 | 1,17 | 0,23 | µg/l | 102% |
| Lead | 0,397 | 0,014 | <1,0 | | µg/l | • |
| Cadmium | 1,66 | 0,01 | 1,65 | 0,33 | µg/l | 99% |
| Chromium | 4,15 | 0,03 | 4,40 | 0,88 | µg/l | 106% |
| Iron | 40,7 | 0,2 | 42,1 | 8,4 | µg/l | 103% |
| Copper | 5,23 | 0,04 | 5,41 | 1,08 | µg/l | 103% |
| Manganese | 62,4 | 0,4 | 67,7 | 13,5 | µg/l | 108% |
| Nickel | 4,87 | 0,03 | 5,30 | 1,06 | µg/l | 109% |
| Mercury | 3,05 | 0,03 | 2,99 | 0,60 | µg/l | 98% |
| Selenium | 1,11 | 0,06 | 1,09 | 0,22 | µg/l | 98% |
| Uranium | 1,05 | 0,01 | 1,10 | 0,22 | µg/l | 105% |
| Zinc | 7,3 | 0,7 | 6,98 | 1,40 | µg/l | 96% |



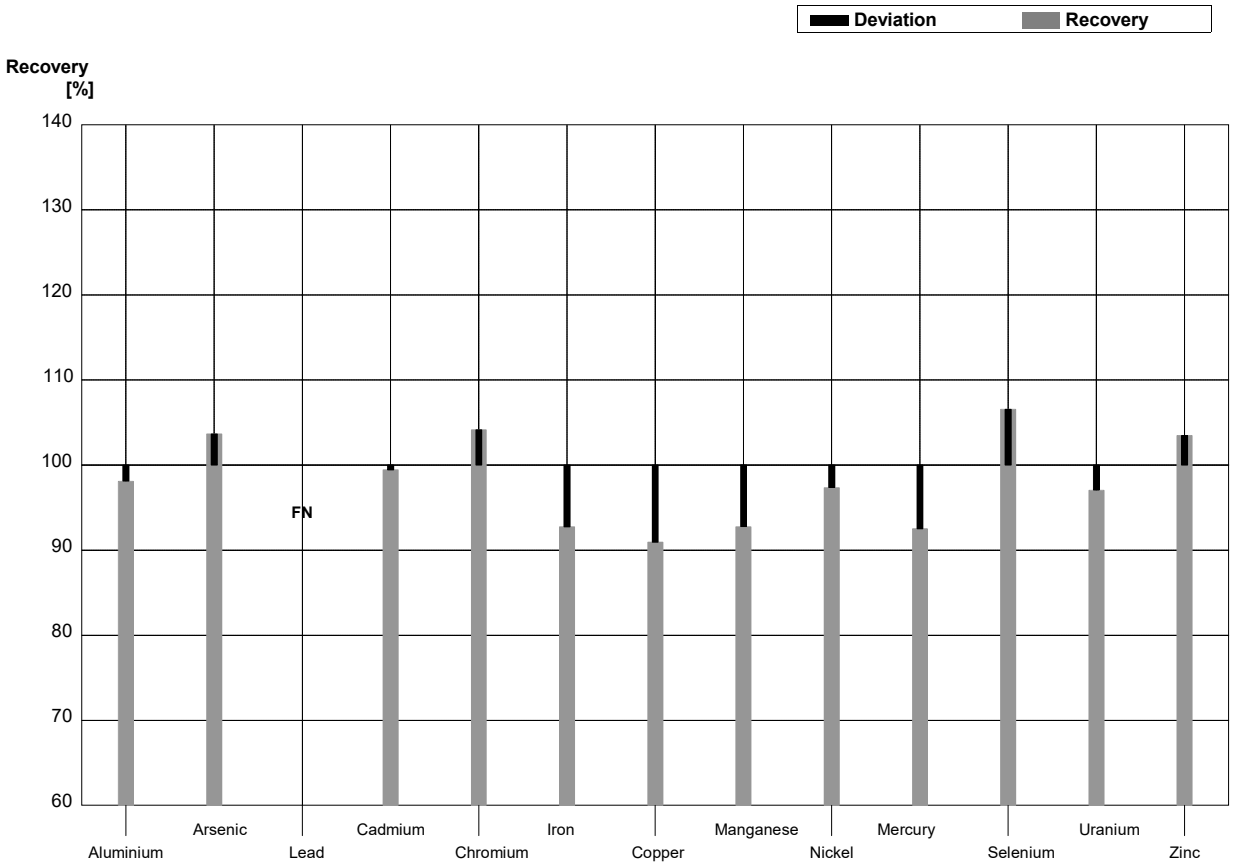
**Sample** **M156B**
**Laboratory** **R**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 21,8 | 0,2 | 20,9 | 4,2 | µg/l | 96% |
| Arsenic | 4,38 | 0,03 | 4,51 | 0,90 | µg/l | 103% |
| Lead | 2,74 | 0,02 | 2,73 | 0,55 | µg/l | 100% |
| Cadmium | 0,891 | 0,008 | 0,875 | 0,175 | µg/l | 98% |
| Chromium | 6,24 | 0,05 | 6,70 | 1,34 | µg/l | 107% |
| Iron | 55,9 | 0,3 | 57,3 | 11,5 | µg/l | 103% |
| Copper | 101,9 | 0,4 | 105 | 21 | µg/l | 103% |
| Manganese | 16,2 | 0,1 | 17,5 | 3,5 | µg/l | 108% |
| Nickel | 10,8 | 0,1 | 11,4 | 2,3 | µg/l | 106% |
| Mercury | 0,77 | 0,02 | 0,727 | 0,145 | µg/l | 94% |
| Selenium | 3,50 | 0,06 | 3,50 | 0,70 | µg/l | 100% |
| Uranium | 6,33 | 0,05 | 6,27 | 1,25 | µg/l | 99% |
| Zinc | 18,4 | 0,7 | 18,3 | 3,7 | µg/l | 99% |



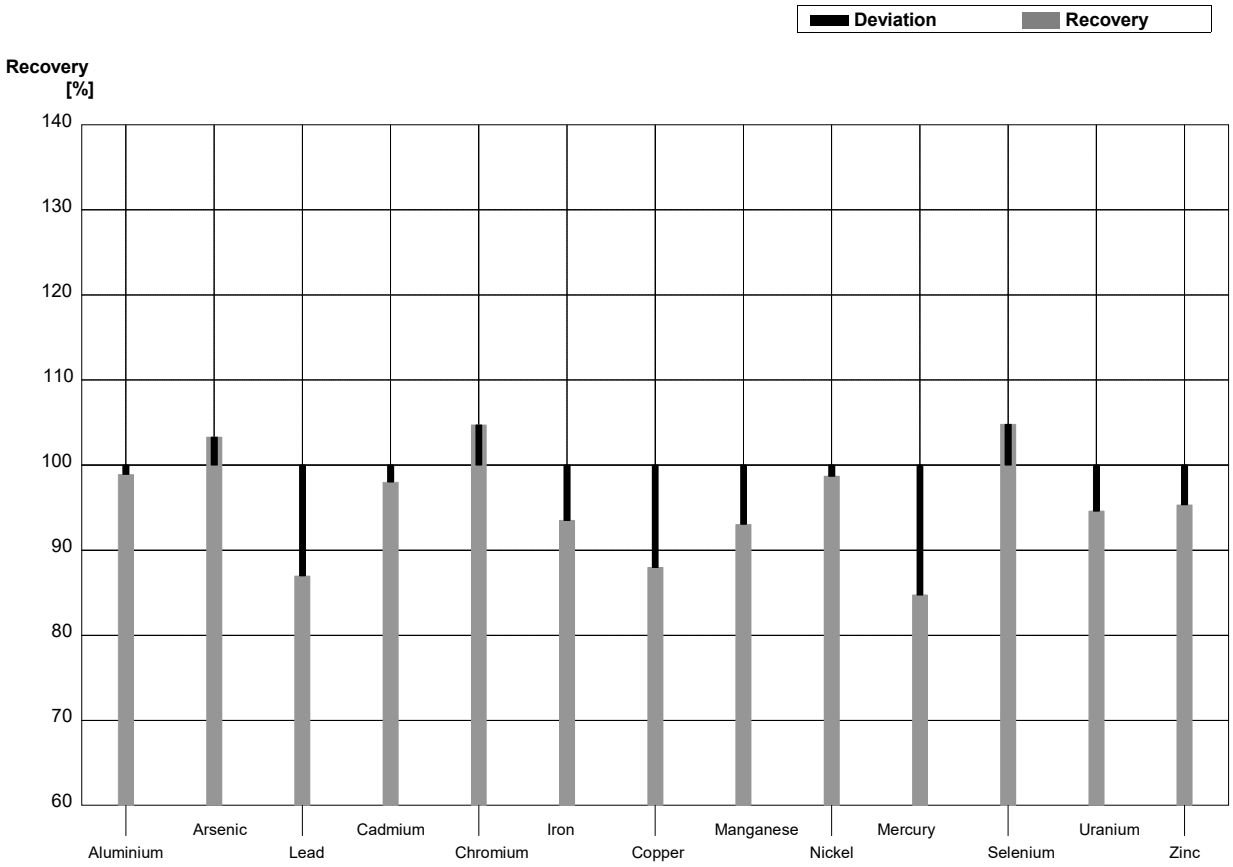
**Sample** **M156A**
**Laboratory** **S**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 17,4 | 0,2 | 17,07 | 1,52 | µg/l | 98% |
| Arsenic | 1,15 | 0,01 | 1,192 | 0,205 | µg/l | 104% |
| Lead | 0,397 | 0,014 | <0,3 | | µg/l | FN |
| Cadmium | 1,66 | 0,01 | 1,651 | 0,213 | µg/l | 99% |
| Chromium | 4,15 | 0,03 | 4,323 | 0,464 | µg/l | 104% |
| Iron | 40,7 | 0,2 | 37,75 | 3,38 | µg/l | 93% |
| Copper | 5,23 | 0,04 | 4,756 | 0,343 | µg/l | 91% |
| Manganese | 62,4 | 0,4 | 57,89 | 3,91 | µg/l | 93% |
| Nickel | 4,87 | 0,03 | 4,741 | 0,514 | µg/l | 97% |
| Mercury | 3,05 | 0,03 | 2,822 | 0,709 | µg/l | 93% |
| Selenium | 1,11 | 0,06 | 1,183 | 0,217 | µg/l | 107% |
| Uranium | 1,05 | 0,01 | 1,019 | 0,098 | µg/l | 97% |
| Zinc | 7,3 | 0,7 | 7,556 | 1,619 | µg/l | 104% |



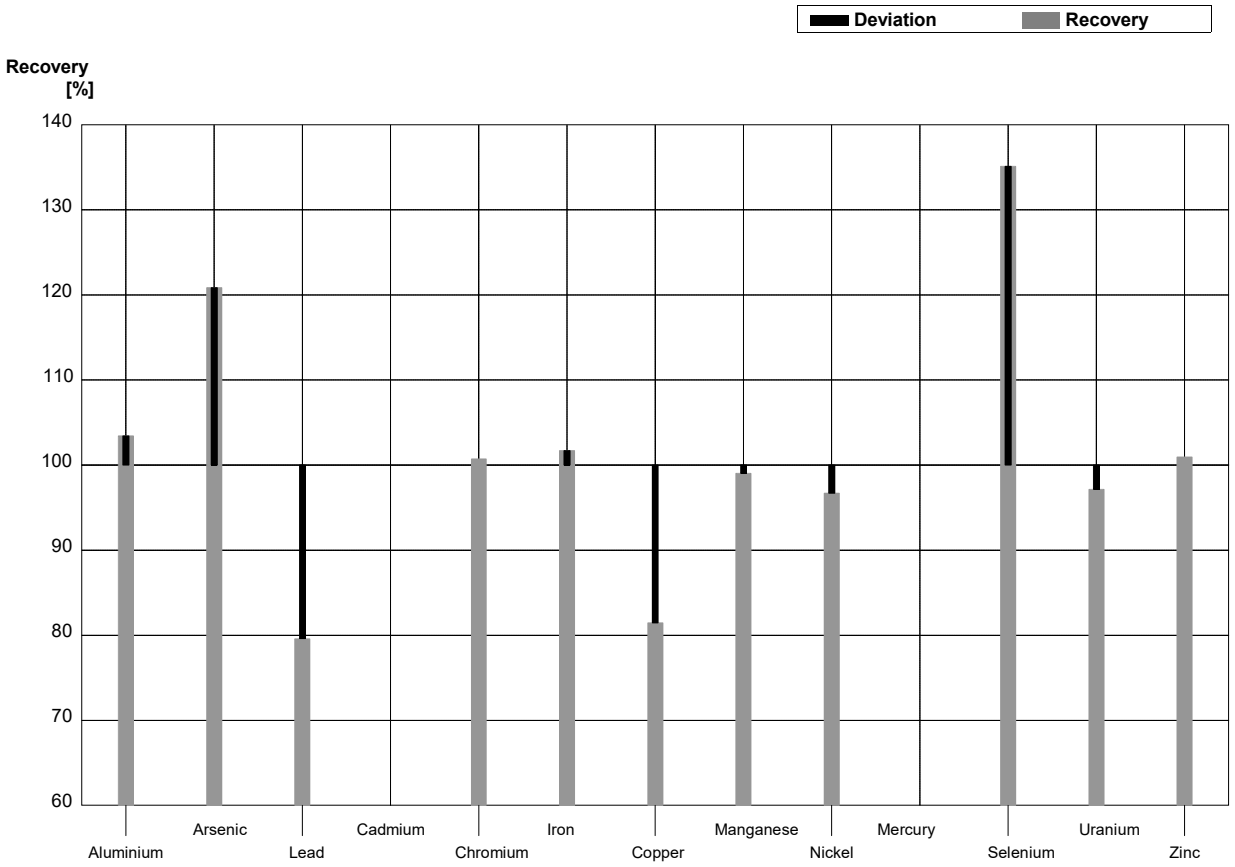
**Sample** **M156B**
**Laboratory** **S**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 21,8 | 0,2 | 21,56 | 1,92 | µg/l | 99% |
| Arsenic | 4,38 | 0,03 | 4,524 | 0,778 | µg/l | 103% |
| Lead | 2,74 | 0,02 | 2,383 | 0,183 | µg/l | 87% |
| Cadmium | 0,891 | 0,008 | 0,8731 | 0,1124 | µg/l | 98% |
| Chromium | 6,24 | 0,05 | 6,536 | 0,701 | µg/l | 105% |
| Iron | 55,9 | 0,3 | 52,27 | 4,67 | µg/l | 94% |
| Copper | 101,9 | 0,4 | 89,64 | 6,47 | µg/l | 88% |
| Manganese | 16,2 | 0,1 | 15,07 | 1,02 | µg/l | 93% |
| Nickel | 10,8 | 0,1 | 10,66 | 1,15 | µg/l | 99% |
| Mercury | 0,77 | 0,02 | 0,6524 | 0,1639 | µg/l | 85% |
| Selenium | 3,50 | 0,06 | 3,668 | 0,671 | µg/l | 105% |
| Uranium | 6,33 | 0,05 | 5,988 | 0,574 | µg/l | 95% |
| Zinc | 18,4 | 0,7 | 17,54 | 3,76 | µg/l | 95% |



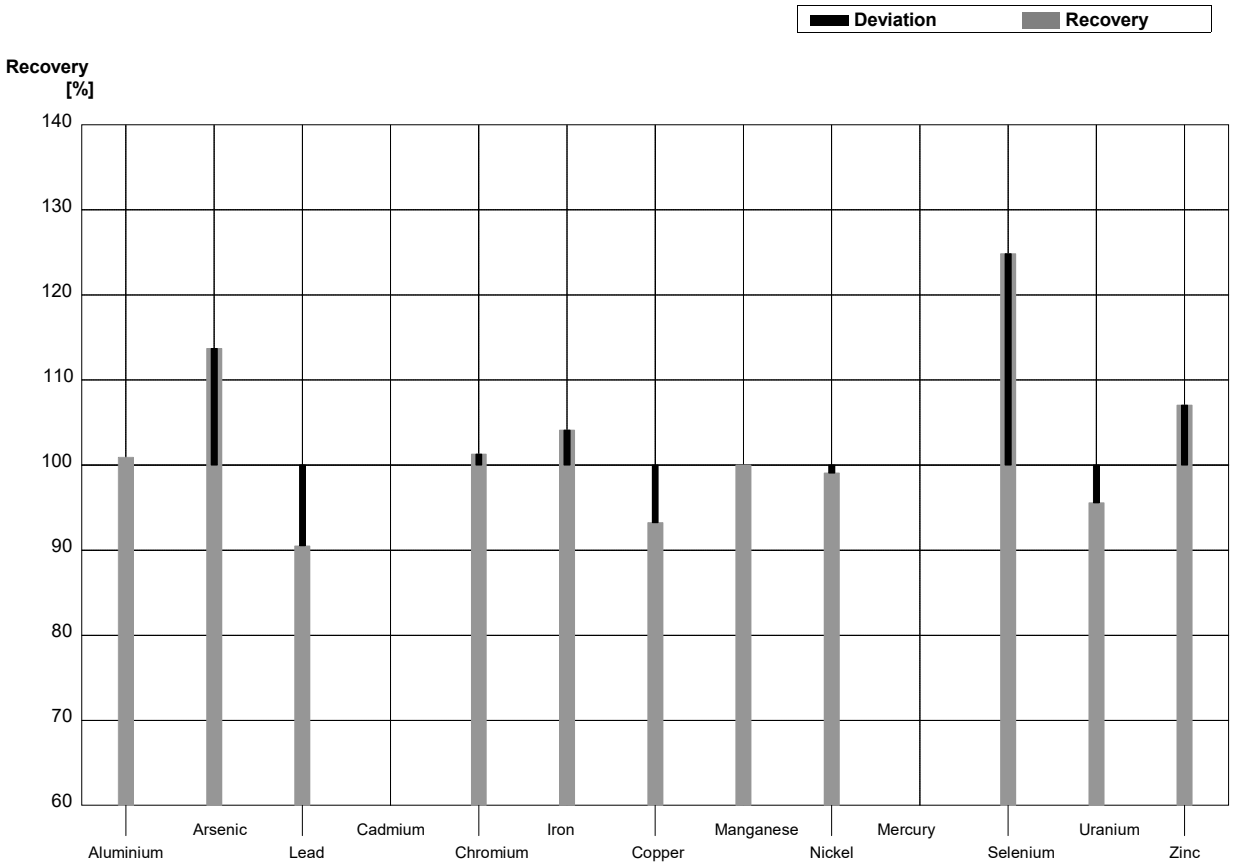
**Sample** **M156A**
**Laboratory** **T**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 17,4 | 0,2 | 18,0 | | µg/l | 103% |
| Arsenic | 1,15 | 0,01 | 1,39 | | µg/l | 121% |
| Lead | 0,397 | 0,014 | 0,316 | | µg/l | 80% |
| Cadmium | 1,66 | 0,01 | | | µg/l | |
| Chromium | 4,15 | 0,03 | 4,18 | | µg/l | 101% |
| Iron | 40,7 | 0,2 | 41,4 | | µg/l | 102% |
| Copper | 5,23 | 0,04 | 4,26 | | µg/l | 81% |
| Manganese | 62,4 | 0,4 | 61,8 | | µg/l | 99% |
| Nickel | 4,87 | 0,03 | 4,71 | | µg/l | 97% |
| Mercury | 3,05 | 0,03 | | | µg/l | |
| Selenium | 1,11 | 0,06 | 1,50 | | µg/l | 135% |
| Uranium | 1,05 | 0,01 | 1,02 | | µg/l | 97% |
| Zinc | 7,3 | 0,7 | 7,37 | | µg/l | 101% |



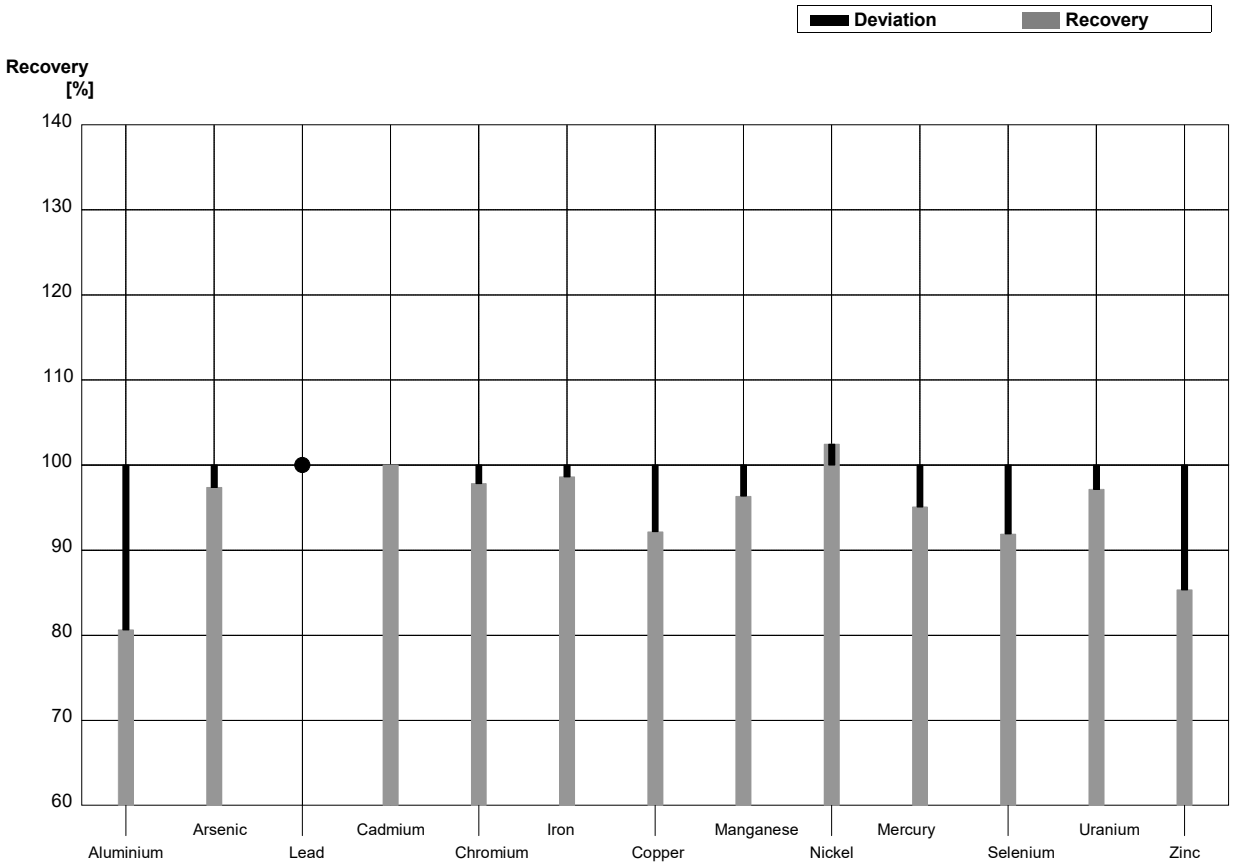
**Sample** **M156B**
**Laboratory** **T**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 21,8 | 0,2 | 22,0 | | µg/l | 101% |
| Arsenic | 4,38 | 0,03 | 4,98 | | µg/l | 114% |
| Lead | 2,74 | 0,02 | 2,48 | | µg/l | 91% |
| Cadmium | 0,891 | 0,008 | | | µg/l | |
| Chromium | 6,24 | 0,05 | 6,32 | | µg/l | 101% |
| Iron | 55,9 | 0,3 | 58,2 | | µg/l | 104% |
| Copper | 101,9 | 0,4 | 95,0 | | µg/l | 93% |
| Manganese | 16,2 | 0,1 | 16,2 | | µg/l | 100% |
| Nickel | 10,8 | 0,1 | 10,7 | | µg/l | 99% |
| Mercury | 0,77 | 0,02 | | | µg/l | |
| Selenium | 3,50 | 0,06 | 4,37 | | µg/l | 125% |
| Uranium | 6,33 | 0,05 | 6,05 | | µg/l | 96% |
| Zinc | 18,4 | 0,7 | 19,7 | | µg/l | 107% |



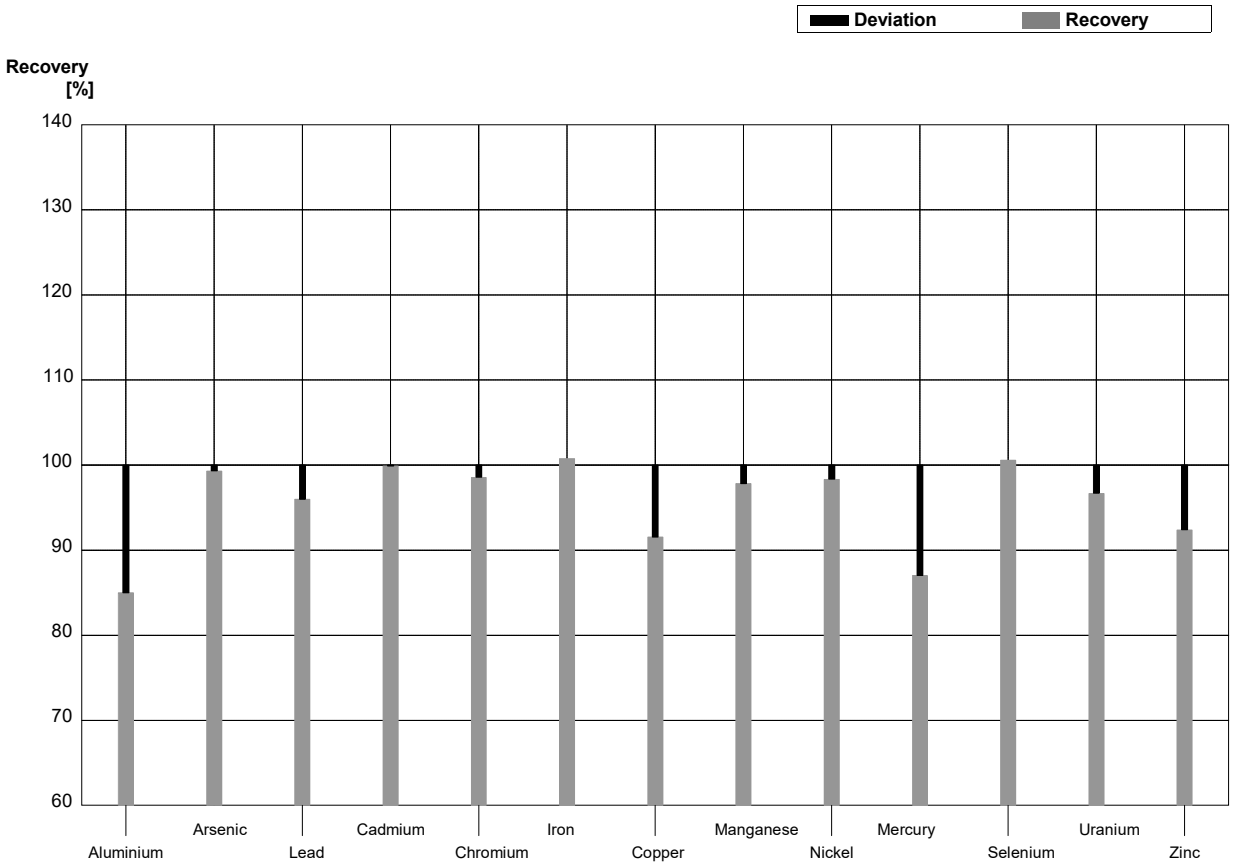
**Sample** **M156A**
**Laboratory** **U**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 17,4 | 0,2 | 14,03 | 0,616 | µg/l | 81% |
| Arsenic | 1,15 | 0,01 | 1,12 | 0,031 | µg/l | 97% |
| Lead | 0,397 | 0,014 | <0,50 | | µg/l | • |
| Cadmium | 1,66 | 0,01 | 1,66 | 0,024 | µg/l | 100% |
| Chromium | 4,15 | 0,03 | 4,06 | 0,116 | µg/l | 98% |
| Iron | 40,7 | 0,2 | 40,14 | 1,492 | µg/l | 99% |
| Copper | 5,23 | 0,04 | 4,82 | 0,068 | µg/l | 92% |
| Manganese | 62,4 | 0,4 | 60,12 | 1,082 | µg/l | 96% |
| Nickel | 4,87 | 0,03 | 4,99 | 0,196 | µg/l | 102% |
| Mercury | 3,05 | 0,03 | 2,90 | 0,406 | µg/l | 95% |
| Selenium | 1,11 | 0,06 | 1,02 | 0,032 | µg/l | 92% |
| Uranium | 1,05 | 0,01 | 1,02 | 0,047 | µg/l | 97% |
| Zinc | 7,3 | 0,7 | 6,23 | 0,334 | µg/l | 85% |



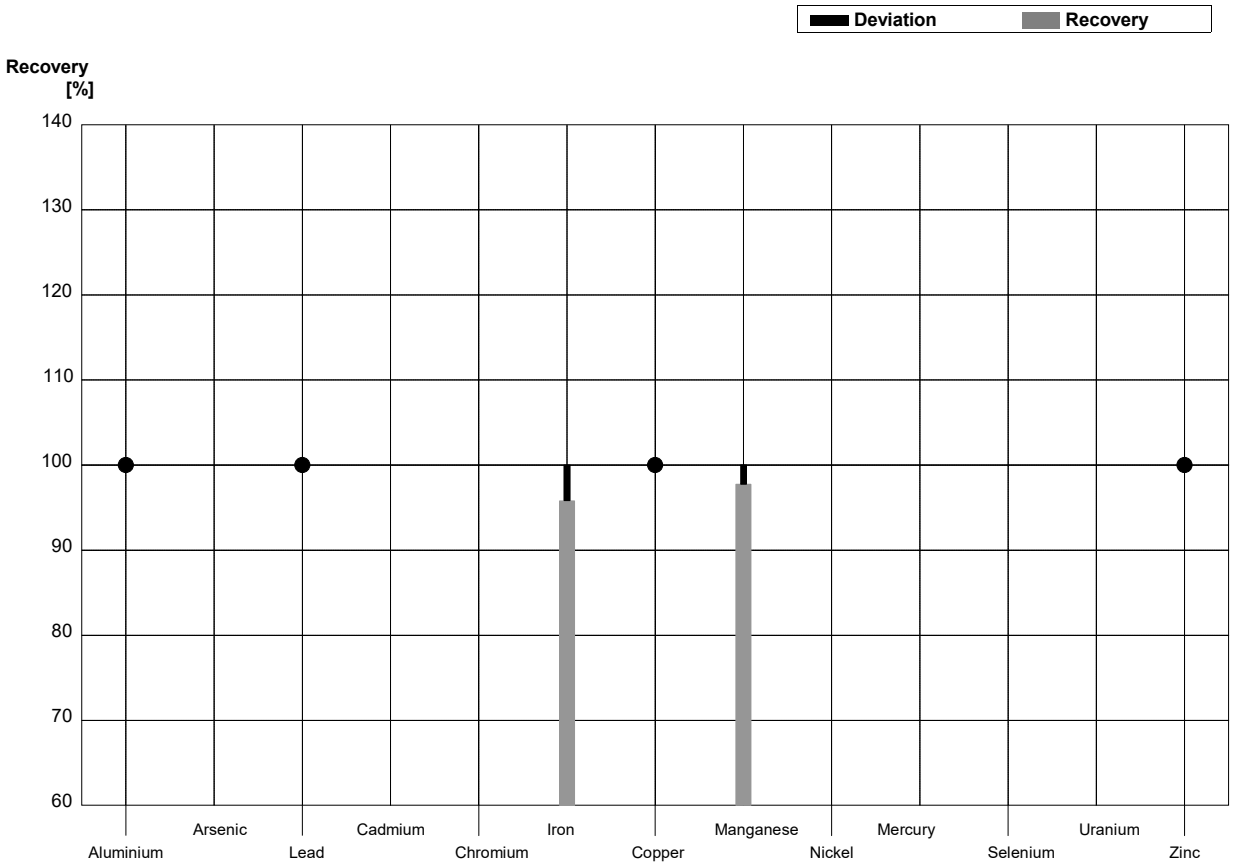
**Sample** **M156B**
**Laboratory** **U**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 21,8 | 0,2 | 18,53 | 0,881 | µg/l | 85% |
| Arsenic | 4,38 | 0,03 | 4,35 | 0,140 | µg/l | 99% |
| Lead | 2,74 | 0,02 | 2,63 | 0,078 | µg/l | 96% |
| Cadmium | 0,891 | 0,008 | 0,89 | 0,013 | µg/l | 100% |
| Chromium | 6,24 | 0,05 | 6,15 | 0,184 | µg/l | 99% |
| Iron | 55,9 | 0,3 | 56,33 | 2,062 | µg/l | 101% |
| Copper | 101,9 | 0,4 | 93,28 | 1,347 | µg/l | 92% |
| Manganese | 16,2 | 0,1 | 15,85 | 0,330 | µg/l | 98% |
| Nickel | 10,8 | 0,1 | 10,62 | 0,292 | µg/l | 98% |
| Mercury | 0,77 | 0,02 | 0,67 | 0,094 | µg/l | 87% |
| Selenium | 3,50 | 0,06 | 3,52 | 0,104 | µg/l | 101% |
| Uranium | 6,33 | 0,05 | 6,12 | 0,277 | µg/l | 97% |
| Zinc | 18,4 | 0,7 | 17,00 | 0,431 | µg/l | 92% |



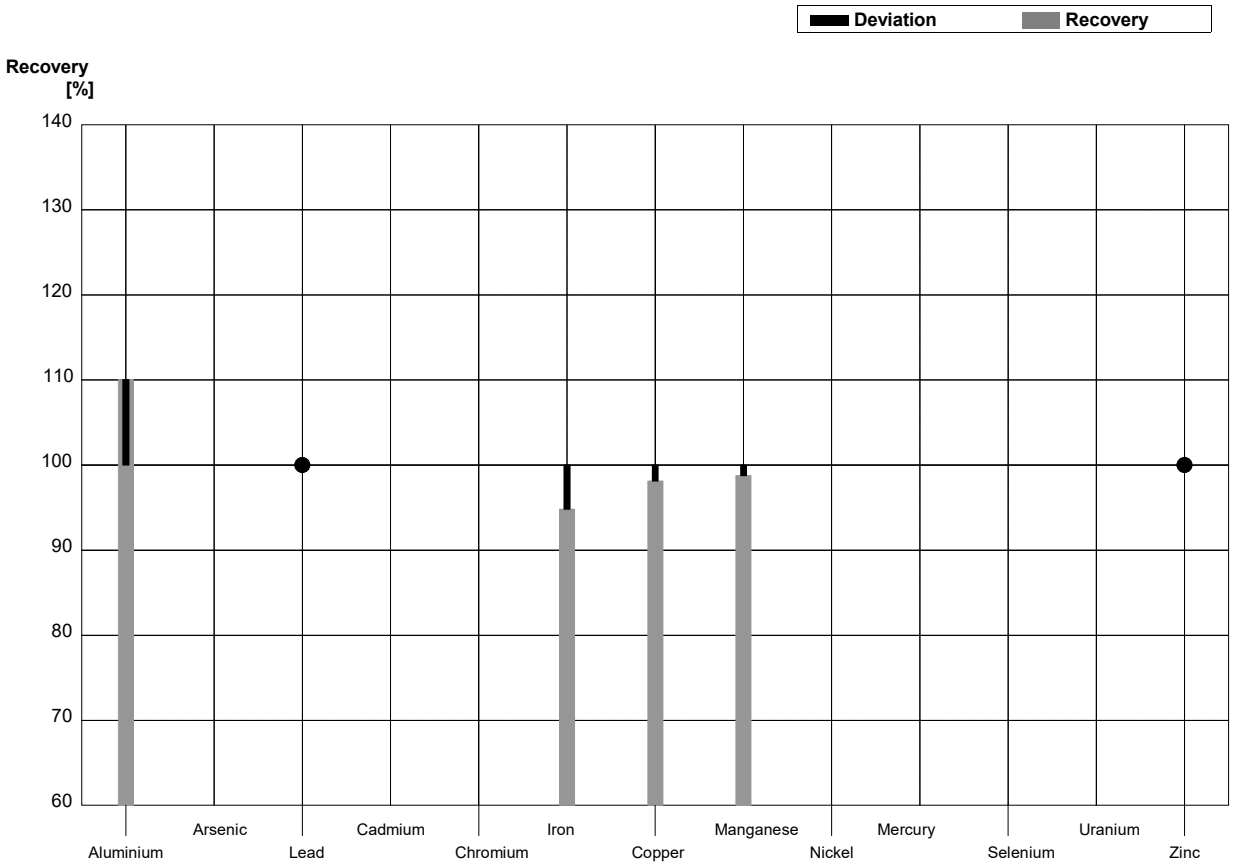
**Sample** **M156A**
**Laboratory** **V**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 17,4 | 0,2 | <20,0 | 5,86 | µg/l | • |
| Arsenic | 1,15 | 0,01 | | | µg/l | |
| Lead | 0,397 | 0,014 | <8,0 | 0,84 | µg/l | • |
| Cadmium | 1,66 | 0,01 | | | µg/l | |
| Chromium | 4,15 | 0,03 | | | µg/l | |
| Iron | 40,7 | 0,2 | 39,0 | 9,15 | µg/l | 96% |
| Copper | 5,23 | 0,04 | <10,0 | 1,53 | µg/l | • |
| Manganese | 62,4 | 0,4 | 61,0 | 8,07 | µg/l | 98% |
| Nickel | 4,87 | 0,03 | | | µg/l | |
| Mercury | 3,05 | 0,03 | | | µg/l | |
| Selenium | 1,11 | 0,06 | | | µg/l | |
| Uranium | 1,05 | 0,01 | | | µg/l | |
| Zinc | 7,3 | 0,7 | <20,0 | 1,06 | µg/l | • |



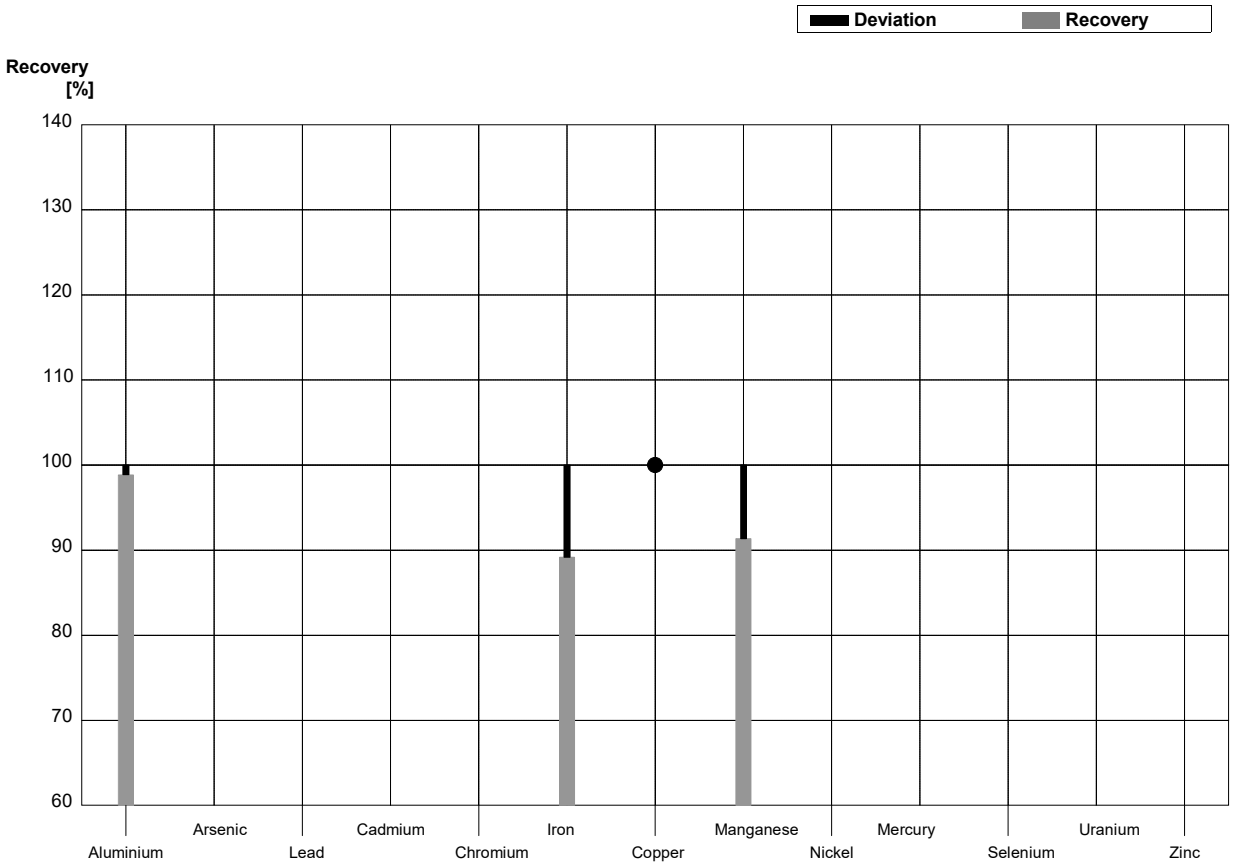
**Sample** **M156B**
**Laboratory** **V**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 21,8 | 0,2 | 24,0 | 7,04 | µg/l | 110% |
| Arsenic | 4,38 | 0,03 | | | µg/l | |
| Lead | 2,74 | 0,02 | <8,0 | 0,84 | µg/l | • |
| Cadmium | 0,891 | 0,008 | | | µg/l | |
| Chromium | 6,24 | 0,05 | | | µg/l | |
| Iron | 55,9 | 0,3 | 53,0 | 12,43 | µg/l | 95% |
| Copper | 101,9 | 0,4 | 100,0 | 15,3 | µg/l | 98% |
| Manganese | 16,2 | 0,1 | 16,0 | 2,12 | µg/l | 99% |
| Nickel | 10,8 | 0,1 | | | µg/l | |
| Mercury | 0,77 | 0,02 | | | µg/l | |
| Selenium | 3,50 | 0,06 | | | µg/l | |
| Uranium | 6,33 | 0,05 | | | µg/l | |
| Zinc | 18,4 | 0,7 | <20,0 | 1,06 | µg/l | • |



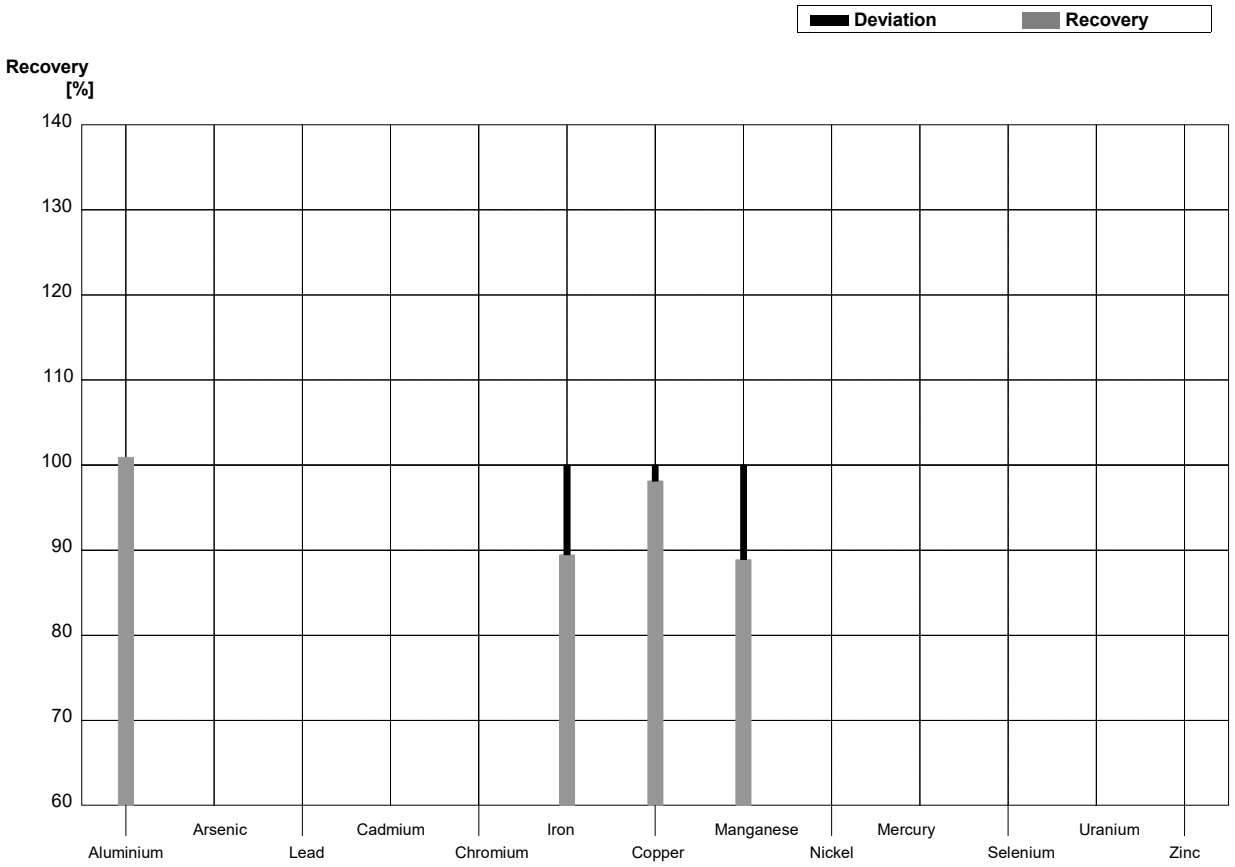
**Sample** **M156A**
**Laboratory** **W**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 17,4 | 0,2 | 17,2 | 4 | µg/l | 99% |
| Arsenic | 1,15 | 0,01 | | | µg/l | |
| Lead | 0,397 | 0,014 | | | µg/l | |
| Cadmium | 1,66 | 0,01 | | | µg/l | |
| Chromium | 4,15 | 0,03 | | | µg/l | |
| Iron | 40,7 | 0,2 | 36,3 | 4 | µg/l | 89% |
| Copper | 5,23 | 0,04 | <10 | | µg/l | • |
| Manganese | 62,4 | 0,4 | 57 | 9 | µg/l | 91% |
| Nickel | 4,87 | 0,03 | | | µg/l | |
| Mercury | 3,05 | 0,03 | | | µg/l | |
| Selenium | 1,11 | 0,06 | | | µg/l | |
| Uranium | 1,05 | 0,01 | | | µg/l | |
| Zinc | 7,3 | 0,7 | | | µg/l | |



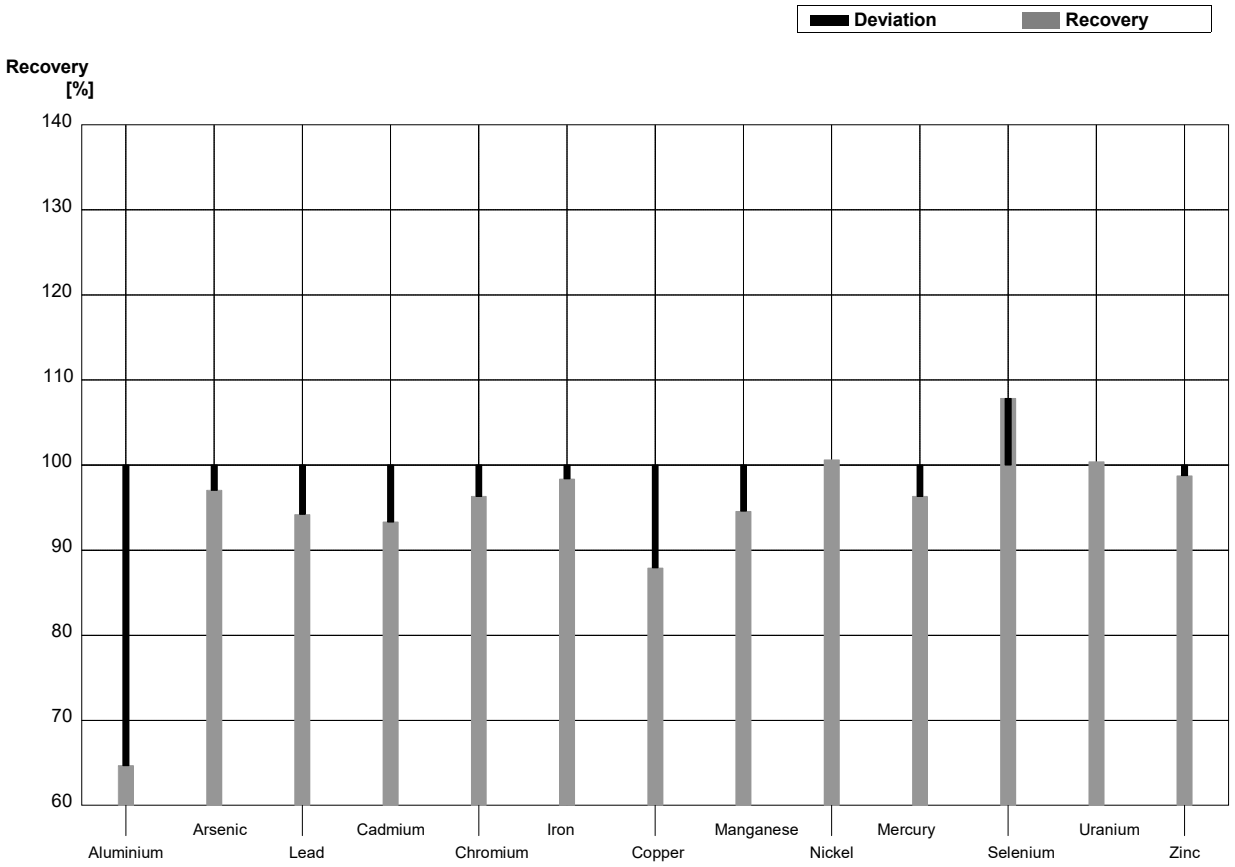
**Sample** **M156B**
**Laboratory** **W**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 21,8 | 0,2 | 22,0 | 10,0 | µg/l | 101% |
| Arsenic | 4,38 | 0,03 | | | µg/l | |
| Lead | 2,74 | 0,02 | | | µg/l | |
| Cadmium | 0,891 | 0,008 | | | µg/l | |
| Chromium | 6,24 | 0,05 | | | µg/l | |
| Iron | 55,9 | 0,3 | 50 | 10 | µg/l | 89% |
| Copper | 101,9 | 0,4 | 100 | | µg/l | 98% |
| Manganese | 16,2 | 0,1 | 14,4 | 2 | µg/l | 89% |
| Nickel | 10,8 | 0,1 | | | µg/l | |
| Mercury | 0,77 | 0,02 | | | µg/l | |
| Selenium | 3,50 | 0,06 | | | µg/l | |
| Uranium | 6,33 | 0,05 | | | µg/l | |
| Zinc | 18,4 | 0,7 | | | µg/l | |



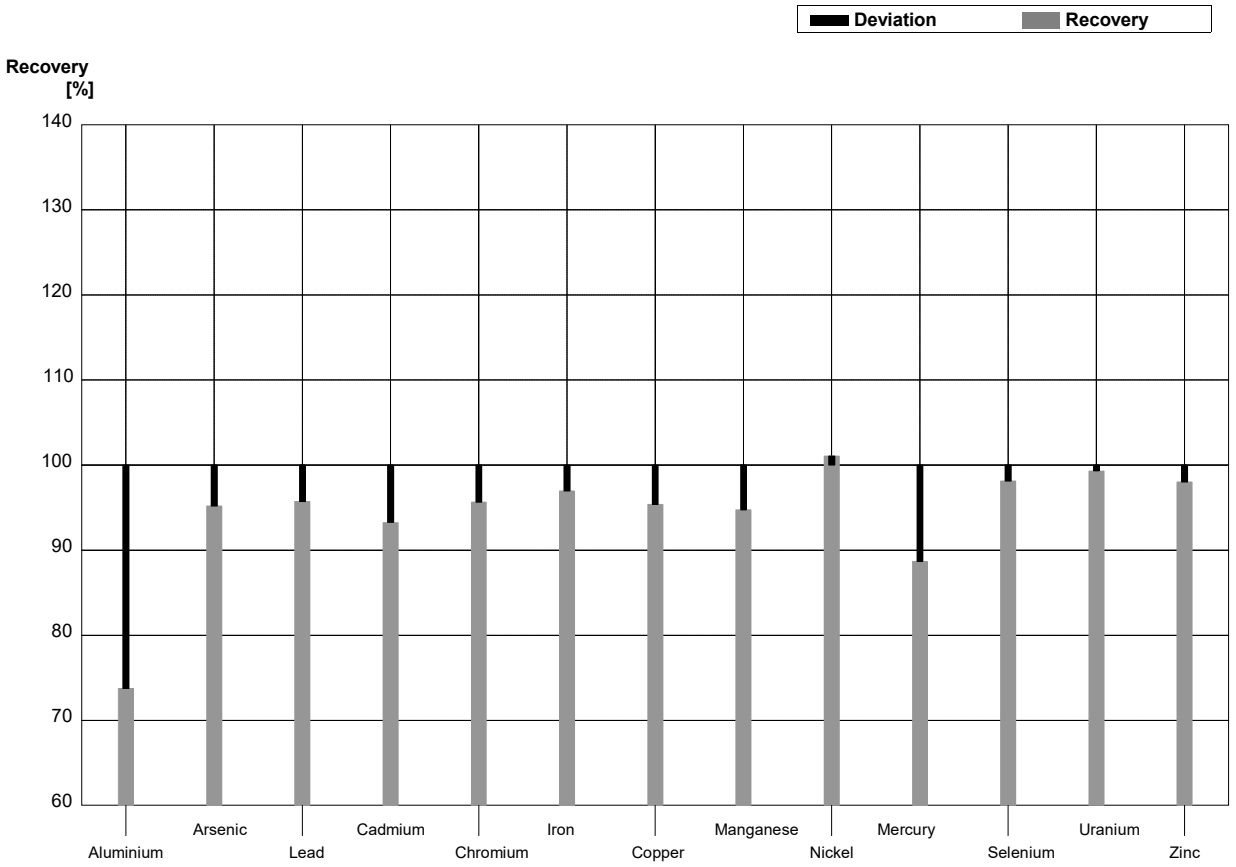
**Sample** **M156A**
**Laboratory** **X**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 17,4 | 0,2 | 11,254 | 2,814 | µg/l | 65% |
| Arsenic | 1,15 | 0,01 | 1,116 | 0,167 | µg/l | 97% |
| Lead | 0,397 | 0,014 | 0,374 | 0,0749 | µg/l | 94% |
| Cadmium | 1,66 | 0,01 | 1,549 | 0,232 | µg/l | 93% |
| Chromium | 4,15 | 0,03 | 3,998 | 0,600 | µg/l | 96% |
| Iron | 40,7 | 0,2 | 40,040 | 4,004 | µg/l | 98% |
| Copper | 5,23 | 0,04 | 4,598 | 0,690 | µg/l | 88% |
| Manganese | 62,4 | 0,4 | 59,015 | 5,902 | µg/l | 95% |
| Nickel | 4,87 | 0,03 | 4,900 | 0,735 | µg/l | 101% |
| Mercury | 3,05 | 0,03 | 2,938 | 0,4406 | µg/l | 96% |
| Selenium | 1,11 | 0,06 | 1,197 | 0,180 | µg/l | 108% |
| Uranium | 1,05 | 0,01 | 1,054 | 0,158 | µg/l | 100% |
| Zinc | 7,3 | 0,7 | 7,209 | 1,081 | µg/l | 99% |



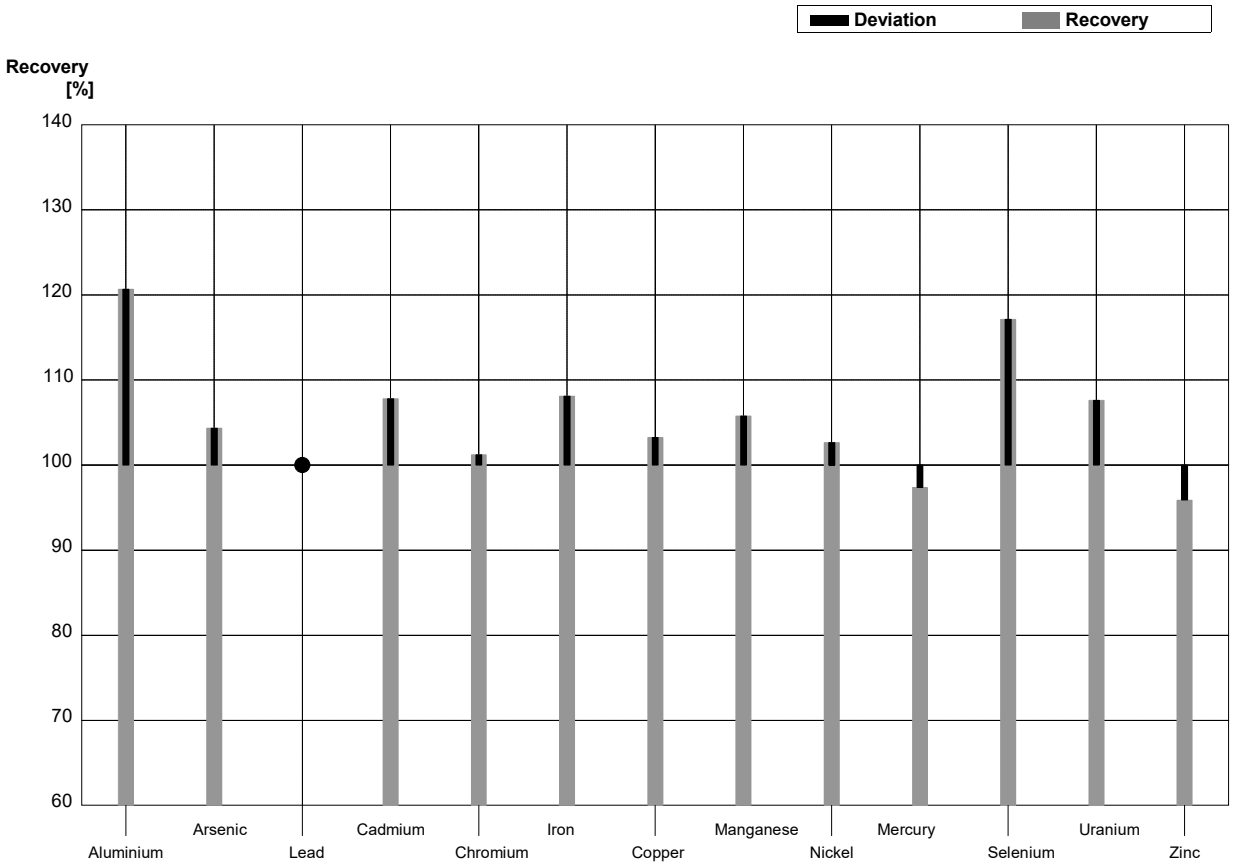
**Sample** **M156B**
**Laboratory** **X**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 21,8 | 0,2 | 16,076 | 4,019 | µg/l | 74% |
| Arsenic | 4,38 | 0,03 | 4,170 | 0,417 | µg/l | 95% |
| Lead | 2,74 | 0,02 | 2,623 | 0,394 | µg/l | 96% |
| Cadmium | 0,891 | 0,008 | 0,831 | 0,166 | µg/l | 93% |
| Chromium | 6,24 | 0,05 | 5,968 | 0,895 | µg/l | 96% |
| Iron | 55,9 | 0,3 | 54,204 | 5,420 | µg/l | 97% |
| Copper | 101,9 | 0,4 | 97,193 | 9,719 | µg/l | 95% |
| Manganese | 16,2 | 0,1 | 15,347 | 1,535 | µg/l | 95% |
| Nickel | 10,8 | 0,1 | 10,915 | 1,637 | µg/l | 101% |
| Mercury | 0,77 | 0,02 | 0,6828 | 0,1366 | µg/l | 89% |
| Selenium | 3,50 | 0,06 | 3,434 | 0,343 | µg/l | 98% |
| Uranium | 6,33 | 0,05 | 6,287 | 0,943 | µg/l | 99% |
| Zinc | 18,4 | 0,7 | 18,035 | 1,803 | µg/l | 98% |



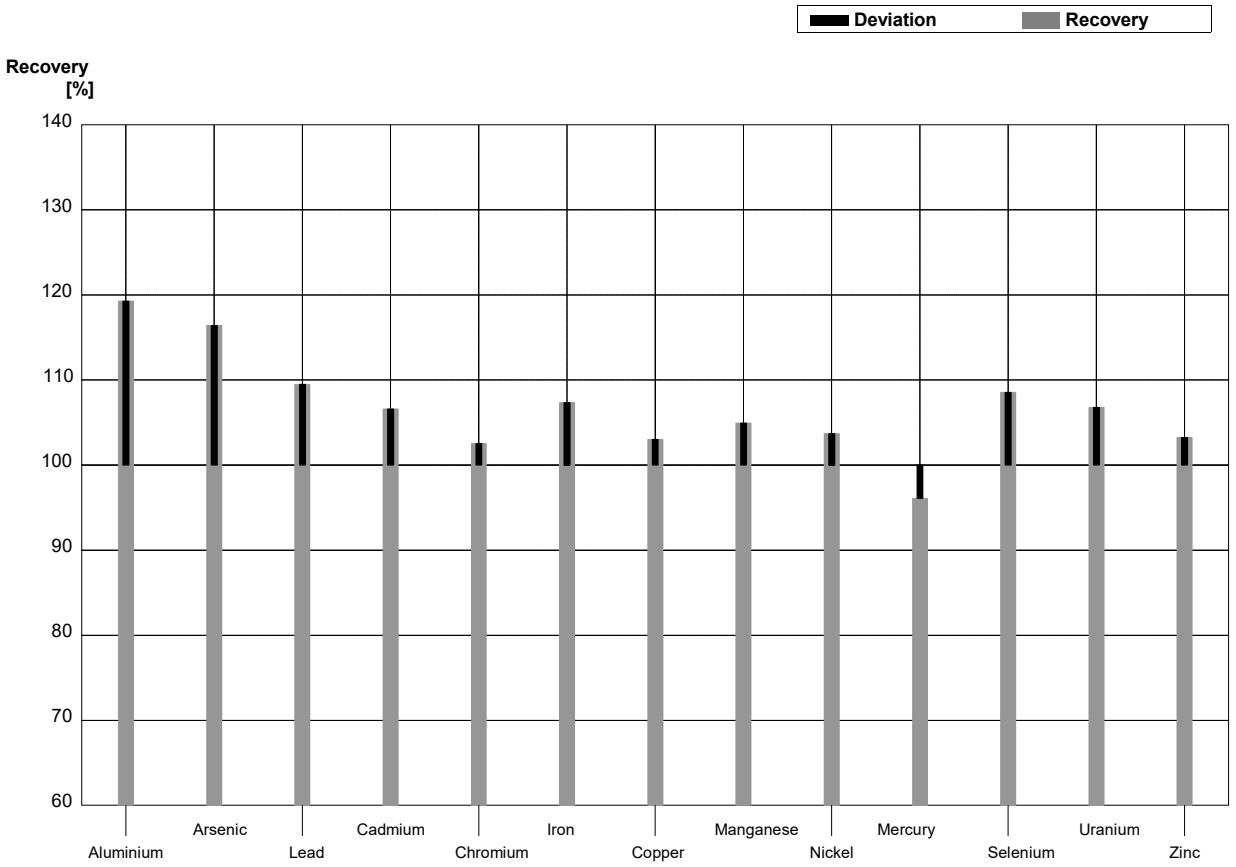
**Sample** **M156A**
**Laboratory** **Y**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 17,4 | 0,2 | 21,000 | 2,1000 | µg/l | 121% |
| Arsenic | 1,15 | 0,01 | 1,2000 | 0,14400 | µg/l | 104% |
| Lead | 0,397 | 0,014 | <0,5 | | µg/l | • |
| Cadmium | 1,66 | 0,01 | 1,79000 | 0,1432 | µg/l | 108% |
| Chromium | 4,15 | 0,03 | 4,2000 | 0,5040 | µg/l | 101% |
| Iron | 40,7 | 0,2 | 44,00 | 11,4400 | µg/l | 108% |
| Copper | 5,23 | 0,04 | 5,4000 | 0,4320 | µg/l | 103% |
| Manganese | 62,4 | 0,4 | 66,000 | 6,6000 | µg/l | 106% |
| Nickel | 4,87 | 0,03 | 5,000 | 0,5000 | µg/l | 103% |
| Mercury | 3,05 | 0,03 | 2,9700 | 0,3564 | µg/l | 97% |
| Selenium | 1,11 | 0,06 | 1,3000 | 0,1950 | µg/l | 117% |
| Uranium | 1,05 | 0,01 | 1,1300 | 0,057 | µg/l | 108% |
| Zinc | 7,3 | 0,7 | 7,000 | 0,7000 | µg/l | 96% |



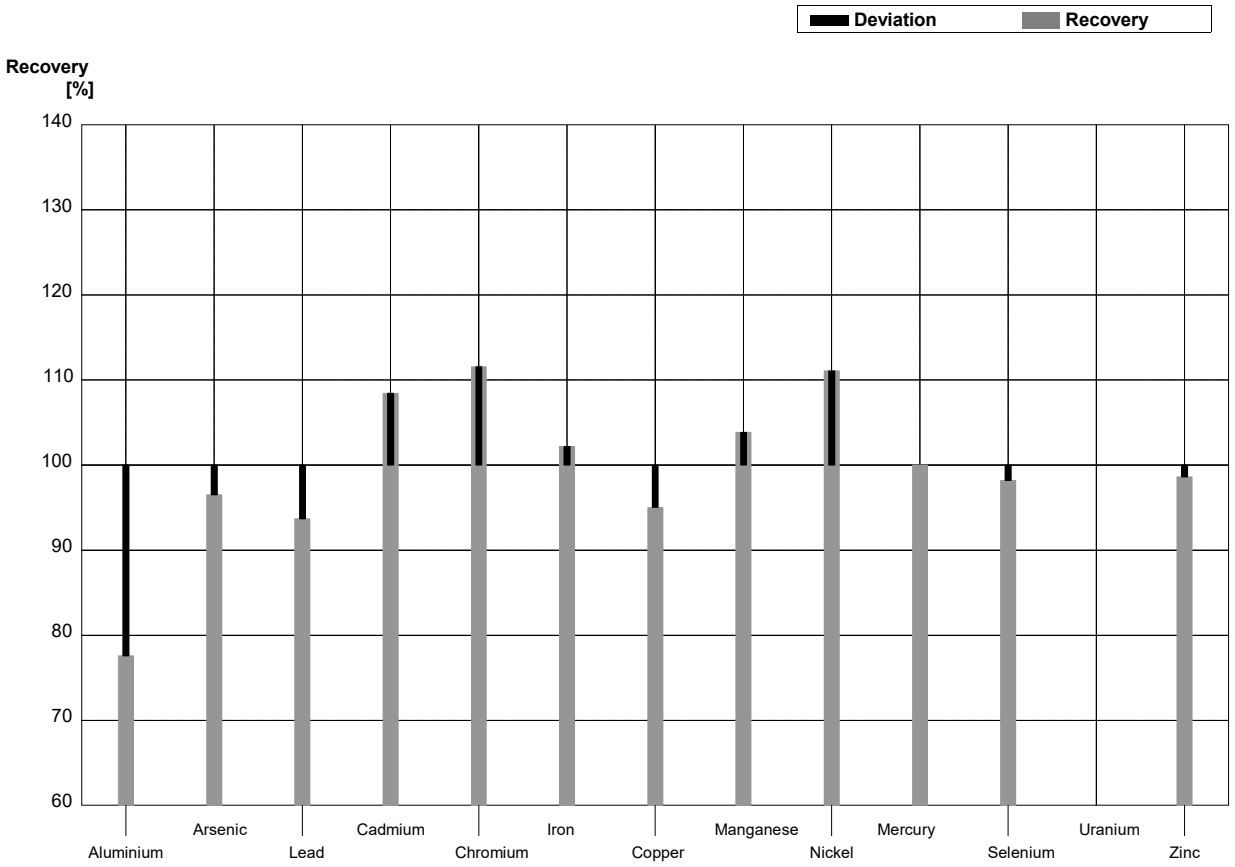
**Sample** **M156B**
**Laboratory** **Y**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 21,8 | 0,2 | 26,000 | 2,6000 | µg/l | 119% |
| Arsenic | 4,38 | 0,03 | 5,1000 | 0,612 | µg/l | 116% |
| Lead | 2,74 | 0,02 | 3,000 | 0,2400 | µg/l | 109% |
| Cadmium | 0,891 | 0,008 | 0,9500 | 0,076 | µg/l | 107% |
| Chromium | 6,24 | 0,05 | 6,400 | 0,768 | µg/l | 103% |
| Iron | 55,9 | 0,3 | 60,00 | 15,6000 | µg/l | 107% |
| Copper | 101,9 | 0,4 | 105,000 | 8,4000 | µg/l | 103% |
| Manganese | 16,2 | 0,1 | 17,000 | 1,7000 | µg/l | 105% |
| Nickel | 10,8 | 0,1 | 11,2000 | 1,12000 | µg/l | 104% |
| Mercury | 0,77 | 0,02 | 0,74000 | 0,0888 | µg/l | 96% |
| Selenium | 3,50 | 0,06 | 3,800 | 0,570 | µg/l | 109% |
| Uranium | 6,33 | 0,05 | 6,76 | 0,338 | µg/l | 107% |
| Zinc | 18,4 | 0,7 | 19,000 | 1,9000 | µg/l | 103% |



**Sample** **M156A**
**Laboratory** **Z**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 17,4 | 0,2 | 13,5 | 3,4 | µg/l | 78% |
| Arsenic | 1,15 | 0,01 | 1,11 | 0,42 | µg/l | 97% |
| Lead | 0,397 | 0,014 | 0,372 | 0,489 | µg/l | 94% |
| Cadmium | 1,66 | 0,01 | 1,80 | 0,37 | µg/l | 108% |
| Chromium | 4,15 | 0,03 | 4,63 | 1,09 | µg/l | 112% |
| Iron | 40,7 | 0,2 | 41,6 | 9,2 | µg/l | 102% |
| Copper | 5,23 | 0,04 | 4,97 | 1,20 | µg/l | 95% |
| Manganese | 62,4 | 0,4 | 64,8 | 12,3 | µg/l | 104% |
| Nickel | 4,87 | 0,03 | 5,41 | 1,42 | µg/l | 111% |
| Mercury | 3,05 | 0,03 | 3,05 | 0,47 | µg/l | 100% |
| Selenium | 1,11 | 0,06 | 1,09 | 0,41 | µg/l | 98% |
| Uranium | 1,05 | 0,01 | | | µg/l | |
| Zinc | 7,3 | 0,7 | 7,20 | 2,18 | µg/l | 99% |



**Sample** **M156B**
**Laboratory** **Z**

| Parameter | Target value | ± U (k=2) | Result | ± | Unit | Recovery |
|---|---|---|---|---|---|---|
| Aluminium | 21,8 | 0,2 | 20,8 | 4,3 | µg/l | 95% |
| Arsenic | 4,38 | 0,03 | 4,33 | 0,98 | µg/l | 99% |
| Lead | 2,74 | 0,02 | 2,62 | 0,89 | µg/l | 96% |
| Cadmium | 0,891 | 0,008 | 0,965 | 0,246 | µg/l | 108% |
| Chromium | 6,24 | 0,05 | 6,81 | 1,34 | µg/l | 109% |
| Iron | 55,9 | 0,3 | 57,2 | 11,3 | µg/l | 102% |
| Copper | 101,9 | 0,4 | 105 | 13 | µg/l | 103% |
| Manganese | 16,2 | 0,1 | 16,9 | 3,5 | µg/l | 104% |
| Nickel | 10,8 | 0,1 | 11,6 | 2,5 | µg/l | 107% |
| Mercury | 0,77 | 0,02 | 0,803 | 0,171 | µg/l | 104% |
| Selenium | 3,50 | 0,06 | 3,60 | 0,81 | µg/l | 103% |
| Uranium | 6,33 | 0,05 | | | µg/l | |
| Zinc | 18,4 | 0,7 | 18,6 | 3,8 | µg/l | 101% |