ENVIRONMENT AGENCY AUSTRIA **umwelt**bundesamt

# EVALUATION OF THE INTERLABORATORY COMPARISON TEST

# Chlorinated hydrocarbons (CHC) and BTEX & C5-C10 – CBL04

Sample dispatch on 23rd October 2018

Edition 18th January 2019

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# Table of contents

# 1 Description of the Interlaboratory comparison test: CHC and BTEX & C5-C10 – CBL04

## 1.1 Participants and time schedule

- Number of registrations: 22
- Number of submitted data records: 22
- Dispatch of samples: 23rd October 2018
- Closing date for submission of data: 20th November 2018

For the interlaboratory comparison test CBL04 the participants could participate in CL05 (CHC) and/or BL06 (BTEX & C5-C10).

To anonymize results, each laboratory was given a laboratory code on a random basis.

## 1.2 Sampling, sample material and distribution

Activated Orbo 32S-charcoal tubes (Supelco) were loaded using a certified calibration gas (Air Liquide). One tube was loaded with cis-1,2-Dichlorethene, trans-1,2-Dichlorethene, Trichloromethane, 1,1,1-Trichloroethane, Trichloroethene, Tetrachloromethane and Tetrachloroethene (CL05) and another tube was loaded with benzene, ethylbenzene o-, m- and p- xylene, toluene, n-Pentane, n-Hexane, n-Heptane, n-Octane, n-Nonane and n-Decane (BL06). In addition to CL05 and BL06, respectively, an unloaded activated charcoal tube was made available to determine the blank value. The tubes were loaded using a t-piece under pressure-less condition. The samples were prepared in two series (CL05 and BL06) using a pump with a continuous and defined flow. The flow of the pump was controlled before as well as after the loading of the tubes. The charcoal tubes were loaded on 19th October and 22nd October 2018 and dispatched on 23rd October 2018.

Each participant received (according to the order):
1 loaded charcoal tube for the interlaboratory comparison test CL05 and/or
1 loaded charcoal tube for the interlaboratory comparison test BL06

1 unloaded charcoal tube (blank)

## 1.3 Control testing

During sampling, aliquots of each sample were collected randomly for control testing. The parameters were determined by an external laboratory (accredited according to EN ISO/IEC 17025 standard).

In the parameter-oriented evaluation, the results of the control testing are given in the form of arithmetic means of the detected concentrations as control test value ± U.

# 2 Evaluation

The analytical results had to be made available to the organiser not later than 20th November 2018. Any values received at a later date were not considered. A statistical evaluation of interlaboratory comparison data was only carried out if at least 6 valid results per parameter were available.

To evaluate the data, outliers were detected first by using the outlier test method according to Hampel. Values identified as conspicuous by this test method are marked specifically in the parameter-oriented evaluation.

Further evaluation was performed in accordance with DIN ISO 5725-2. Results < LOQ or < LOD are not taken into account for calculation.

The adjusted average value (after removal of outliers) for all submitted results was used as a basis for the calculation of recovery rates and z-scores.

**z-Score**

z-Scores were calculated on the basis of the following formula:

$$z - score = \frac{x_i - \overline{X}}{Criteria}$$

In this context,

$x_i$         is the measurement value of the participating laboratory.

$\overline{X}$         is the target value, normally the average value of the participants' results after removal of outliers; if this approach is not applicable, the target value is assigned according to the procedure given in section 4;

Criteria    is normally the reproducibility standard deviation (sR) calculated from the participants' results (after removal of outliers) in the relevant test round; if this approach is not applicable, the criteria is derived according to the procedure given in section 4

**Interpretation of z-Scores in the parameter-oriented evaluation:**

- |z| < 2          result: good
- 2 < |z| < 3      result: questionable
- |z| > 3          result: not satisfactory

# 3   Representation and interpretation of measurement results

The parameter oriented report shows the measurement values including uncertainty, recovery rate, calculated z-Score and the outliers in tabular form. The results listed in the table are also represented graphically.

The laboratory oriented report shows the results of the individual laboratories, including the recovery rates and z-Scores.

An annotation of the tables and graphics is given in section 5.

# 4   Explanatory notes

As explained in section 2, the z-Score is normally calculated using the reproducibility standard deviation, calculated from the participants' results (after removal of outliers) in the relevant test round. It might occur that the z-Score between -2 and 2 covers a large range of measurement values when the variance of the results is high. On the other hand, the range of good results can be very narrow, when the variation of the participants' results is small.

The recovery rate is calculated for the individual result based on the target value and is thus independent of the reproducibility standard deviation. In the case of a high variance of the results, participants should also consider recovery rates as additional criteria to decide on the necessity of internal quality assurance measures.

This is particularly recommended for the parameters trans-1,2-Dichloroethene and n-Decane.

# 5  Annotations on tables and charts

## 5.1  Information and abbreviations in tables

| | |
|---|---|
| Parameter | Analyte identifier |
| Sample | Sample identifier |
| Unit | Given unit for result and uncertainty (e.g. µg/l) |
| Mean | Mean of the participants results, without outliers (3 significant digits) |
| CI (99 %) | 99 % confidence interval (3 significant digits) |
| Minimum | Minimum of all submitted results, after removal of outliers (3 significant digits) |
| Maximum | Maximum of all submitted results, after removal of outliers (3 significant digits) |
| SD | Reproducibility standard deviation, calculated from the participants results, after removal of outliers (3 significant digits) |
| RSD % | Reproducibility standard deviation, calculated from the participants results relative to the target value, given in %, after removal of outliers (2 significant digits) |
| Control test value ± U | Mean of control test value ± measurement uncertainty (3 significant digits) |
| Labcode | Laboratory identifier (anonymized) |
| Result | Result as indicated by participant (max. 5 decimal places) |
| ± U | Results uncertainty as indicated by participant (max. 5 decimal places) |
| LOQ | Limit of quantification |
| LOD | Limit of detection |
| Recovery | Recovery rate in % based on target value (3 significant digits, max. one decimal place given) |
| z-Score | Deviation of result based on target value depicted as a multiple of the criteria (3 significant digits, max. 2 decimal places given) |
| - | *No data available* |
| Comments | Comment on the respective result (e.g. H, FN, FP) |
| H | Outlier according to Hampel-Test |
| FN | False negative – for a result < LOQ or result < LOD: The absolute value of the LOQ or LOD fulfils the condition of an outlier according to the Hampel test. |
| FP | False positive – for parameters where no target value is available because of a too low analyte content (n < 6): |

|  | Result that exceeds the median of the absolute values of the transmitted LOQs or LODs by more than 100 %. |
| --- | --- |
| Standard deviation | Reproducibility standard deviation, calculated from the participants results (3 significant digits) |
| Rel. standard deviation | Reproducibility standard deviation, calculated from the participants results relative to the target value, given in %, (3 significant digits) |
| n | Number of results |
| Target value | Mean of the participants results, without outliers (3 significant digits), unless stated otherwise in section 4 |
| Criteria | Criteria for z-Score calculation. The given value matches the reproducibility standard deviation, calculated from the participants' results, after removal of outliers (3 significant digits), unless stated otherwise in section 4 |

## 5.2 Graphical presentation of results

**Example chart: Results**
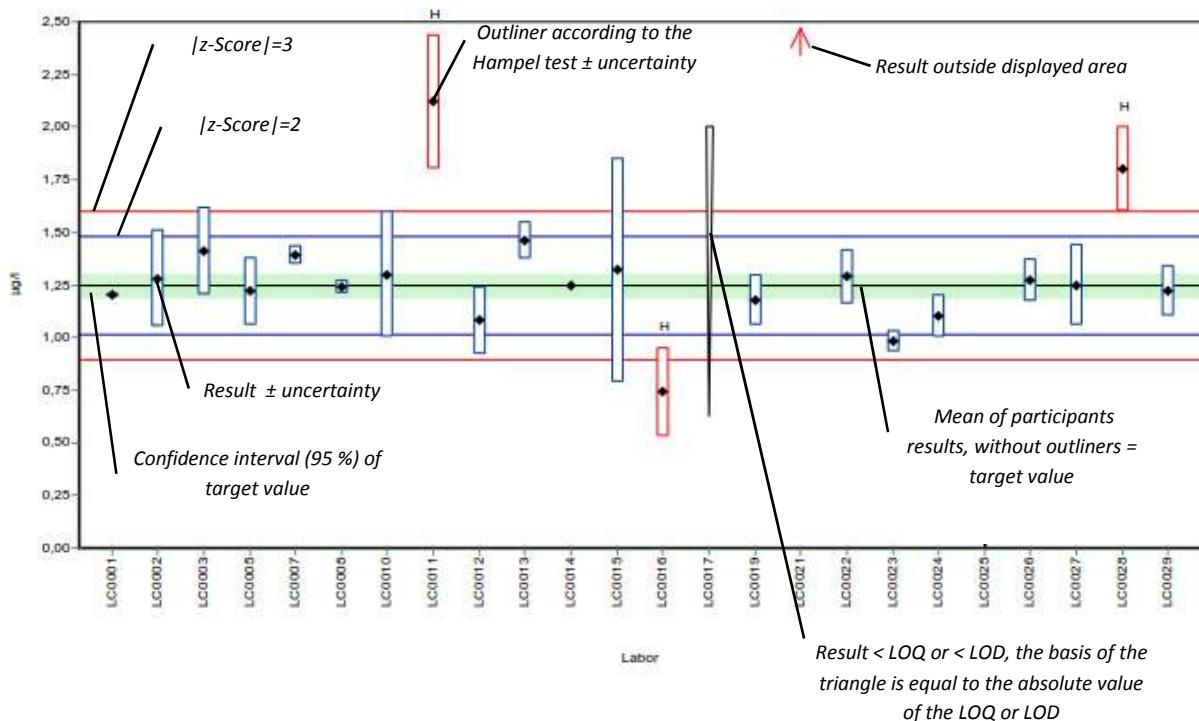


**Example chart: Recovery**
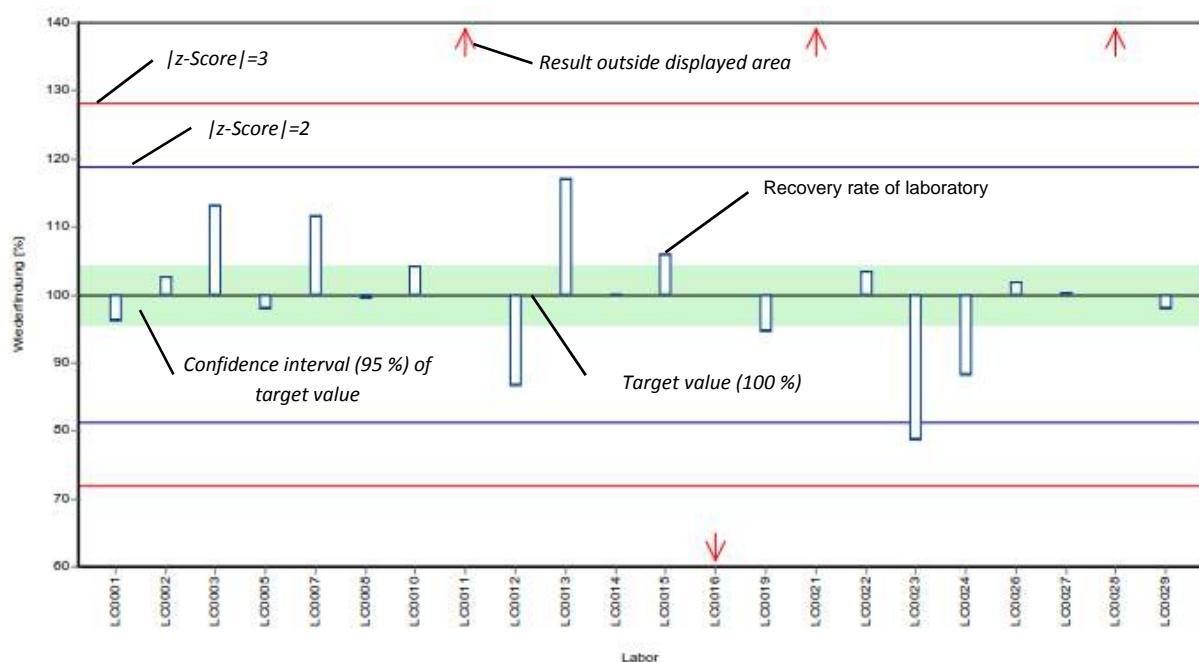
**Example chart: z-score**
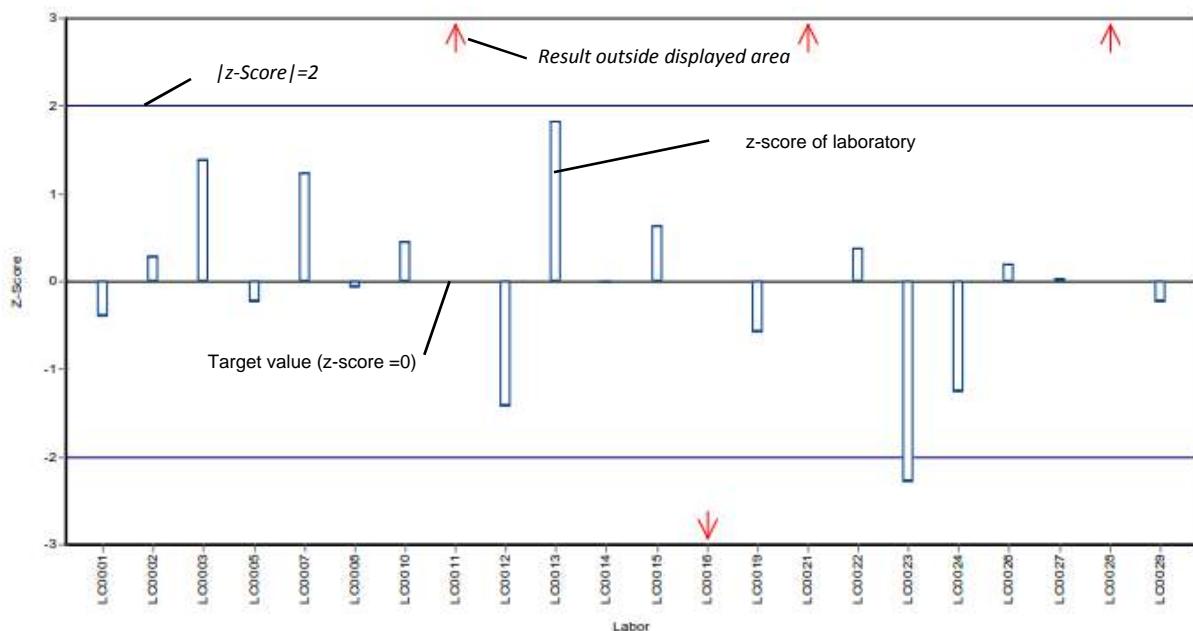


**Example chart: z-score - laboratory oriented report**
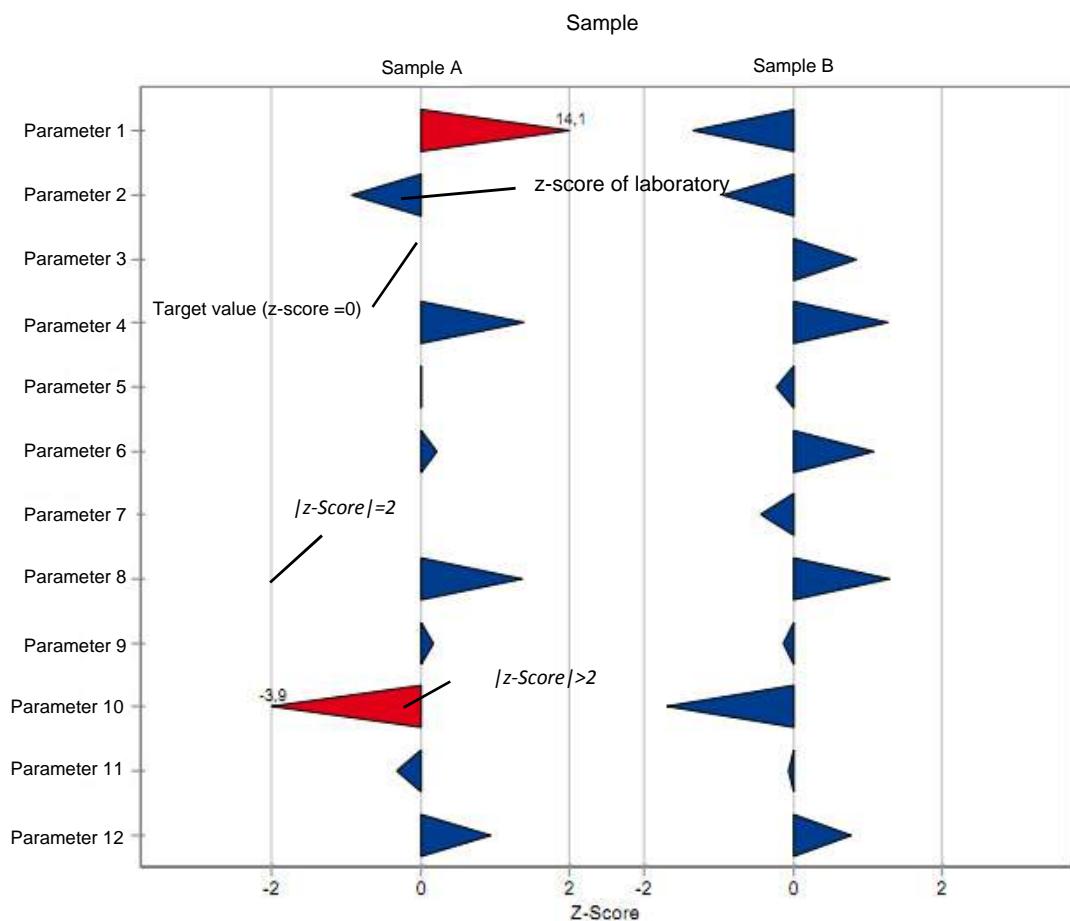
# 6 Summary of results, after removal of outliers

| Parameter | Sample | Unit | Number of results for calculation | Number of outliers | Mean | ± CI (99%) | Minimum | Maximum | SD | RSD % |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | BL06 - BTEX & C5-C10 | µg/tube | 17 | 2 | 4.8 | ± 0.348 | 3.8 | 5.5 | 0.478 | 9.9 |
| Ethylbenzene | BL06 - BTEX & C5-C10 | µg/tube | 19 | 0 | 5.66 | ± 0.659 | 4.27 | 8.16 | 0.958 | 17 |
| o-Xylene | BL06 - BTEX & C5-C10 | µg/tube | 18 | 1 | 5.12 | ± 0.501 | 3.23 | 6.37 | 0.708 | 14 |
| Sum of m-Xylene and p-Xylene | BL06 - BTEX & C5-C10 | µg/tube | 18 | 1 | 10.8 | ± 1.12 | 6.96 | 13.2 | 1.58 | 15 |
| Toluene | BL06 - BTEX & C5-C10 | µg/tube | 18 | 1 | 5.2 | ± 0.407 | 3.95 | 6.1 | 0.576 | 11 |
| n-Decane | BL06 - BTEX & C5-C10 | µg/tube | 11 | 1 | 4.56 | ± 1.28 | 2.4 | 7.29 | 1.41 | 31 |
| n-Heptane | BL06 - BTEX & C5-C10 | µg/tube | 10 | 2 | 5.57 | ± 1.15 | 2.78 | 6.95 | 1.21 | 22 |
| n-Hexane | BL06 - BTEX & C5-C10 | µg/tube | 7 | 3 | 6.02 | ± 0.613 | 4.9 | 6.5 | 0.541 | 9 |
| n-Nonane | BL06 - BTEX & C5-C10 | µg/tube | 11 | 1 | 5.75 | ± 1.44 | 3.58 | 9.38 | 1.59 | 28 |
| n-Octane | BL06 - BTEX & C5-C10 | µg/tube | 10 | 2 | 6.15 | ± 0.998 | 4 | 7.4 | 1.05 | 17 |
| n-Pentane | BL06 - BTEX & C5-C10 | µg/tube | 11 | 1 | 6.2 | ± 0.97 | 4.07 | 7.68 | 1.07 | 17 |
| 1,1,1-Trichloroethane | CL05 - CHC | µg/tube | 16 | 2 | 10.9 | ± 0.689 | 9.43 | 12.5 | 0.919 | 8.5 |
| cis-1,2-Dichloroethene | CL05 - CHC | µg/tube | 16 | 2 | 7.23 | ± 1.55 | 2.3 | 11.1 | 2.07 | 29 |
| Tetrachloroethene | CL05 - CHC | µg/tube | 17 | 1 | 11.5 | ± 1.14 | 8.14 | 14.2 | 1.57 | 14 |
| Tetrachloromethane | CL05 - CHC | µg/tube | 16 | 2 | 13.3 | ± 1.21 | 11.1 | 16.8 | 1.61 | 12 |
| trans-1,2-Dichloroethene | CL05 - CHC | µg/tube | 18 | 0 | 6.31 | ± 2.52 | 0.6 | 13.2 | 3.56 | 56 |
| Trichloroethene | CL05 - CHC | µg/tube | 17 | 1 | 10.1 | ± 1.15 | 6.34 | 13.8 | 1.58 | 16 |
| Trichloromethane | CL05 - CHC | µg/tube | 16 | 2 | 9.71 | ± 0.6 | 8.35 | 11.3 | 0.8 | 8.2 |

# 7 Parameter oriented report

# Parameter oriented report

## BL06 - BTEX & C5-C10

### Benzene

| | |
|---|---|
| Unit | µg/tube |
| Mean ± CI (99%) | 4.8 ± 0.348 |
| Minimum - Maximum | 3.8 - 5.5 |
| Control test value ± U | 4.06 ± 0.349 |

| Labcode | Result | ± U | Recovery [%] | z-score | Comments |
|---|---|---|---|---|---|
| LC0001 | 4.61 | 0.5 | 96 | -0.4 | |
| LC0002 | 3.8 | 0.76 | 79.1 | -2.1 | |
| LC0003 | 3.9 | 0.78 | 81.2 | -1.89 | |
| LC0004 | 4.9 | 2 | 102 | 0.2 | |
| LC0005 | 5.28 | 0.79 | 110 | 1 | |
| LC0006 | 5.1 | 1.5 | 106 | 0.62 | |
| LC0007 | 4.49 | 0.138 | 93.5 | -0.65 | |
| LC0009 | 7.6 | 1.52 | 158 | 5.86 | H |
| LC0010 | 4.27 | 0.1 | 88.9 | -1.11 | |
| LC0011 | 4.69 | 0.94 | 97.7 | -0.23 | |
| LC0012 | 4.817 | 1.2 | 100 | 0.03 | |
| LC0014 | 5.5 | 0.6 | 115 | 1.46 | |
| LC0015 | 5.27 | 1.1 | 110 | 0.98 | |
| LC0016 | 5.032 | 0.302 | 105 | 0.48 | |
| LC0017 | 4.7 | 0.5 | 97.9 | -0.21 | |
| LC0018 | 5.17 | 0.52 | 108 | 0.77 | |
| LC0020 | 4.9 | 1.2 | 102 | 0.2 | |
| LC0021 | 5.203 | 1.04 | 108 | 0.84 | |
| LC0022 | 3.26 | 0.65 | 67.9 | -3.23 | H |

### Characteristics of parameter

| | all results | without outliers | Unit |
|---|---|---|---|
| Mean ± CI (99%) | 4.87 ± 0.602 | 4.8 ± 0.348 | µg/tube |
| Minimum | 3.26 | 3.8 | µg/tube |
| Maximum | 7.6 | 5.5 | µg/tube |
| Standard deviation | 0.875 | 0.478 | µg/tube |
| rel. Standard deviation | 18 | 9.95 | % |
| n | 19 | 17 | - |

**Graphical presentation of results**
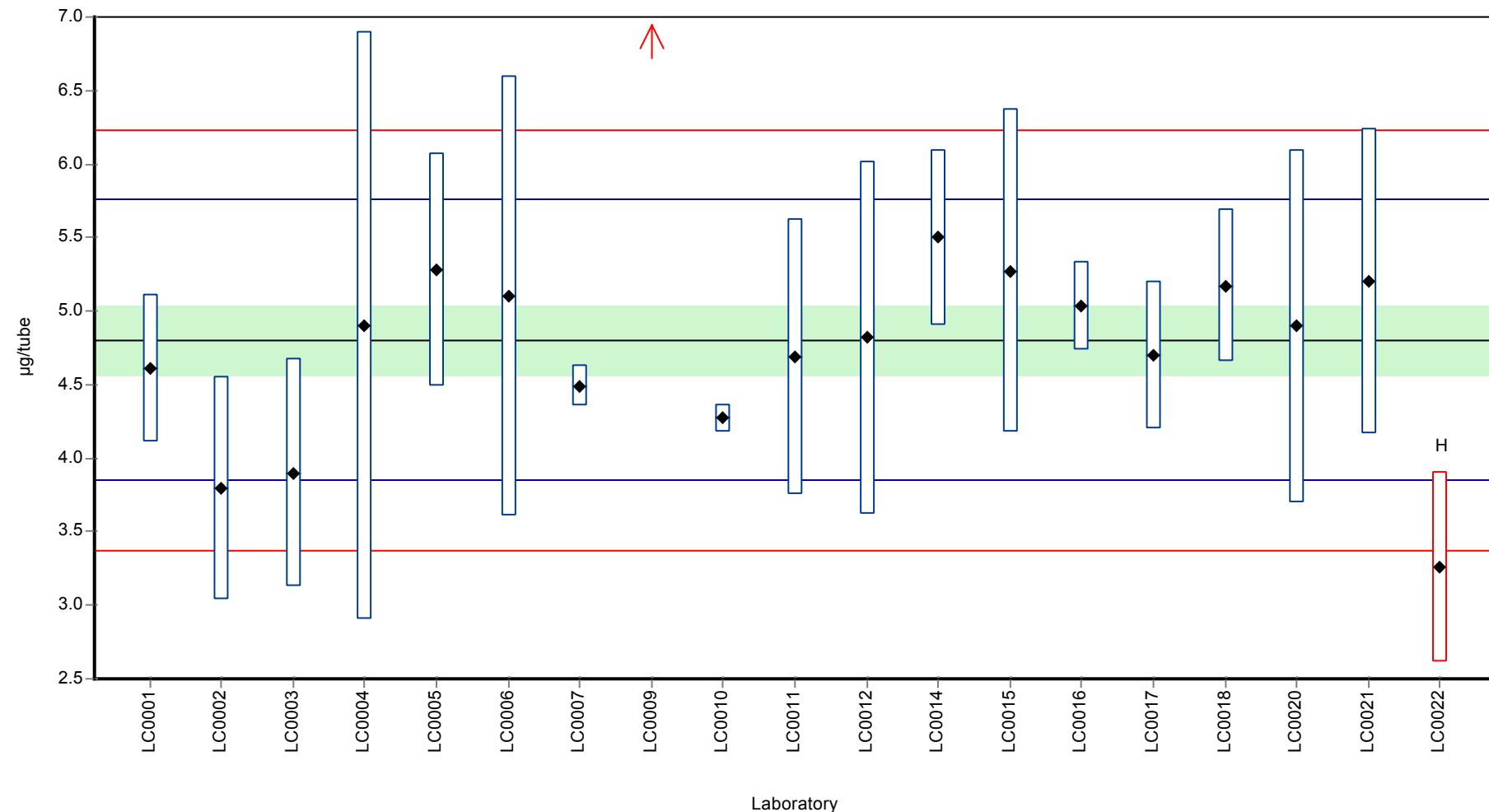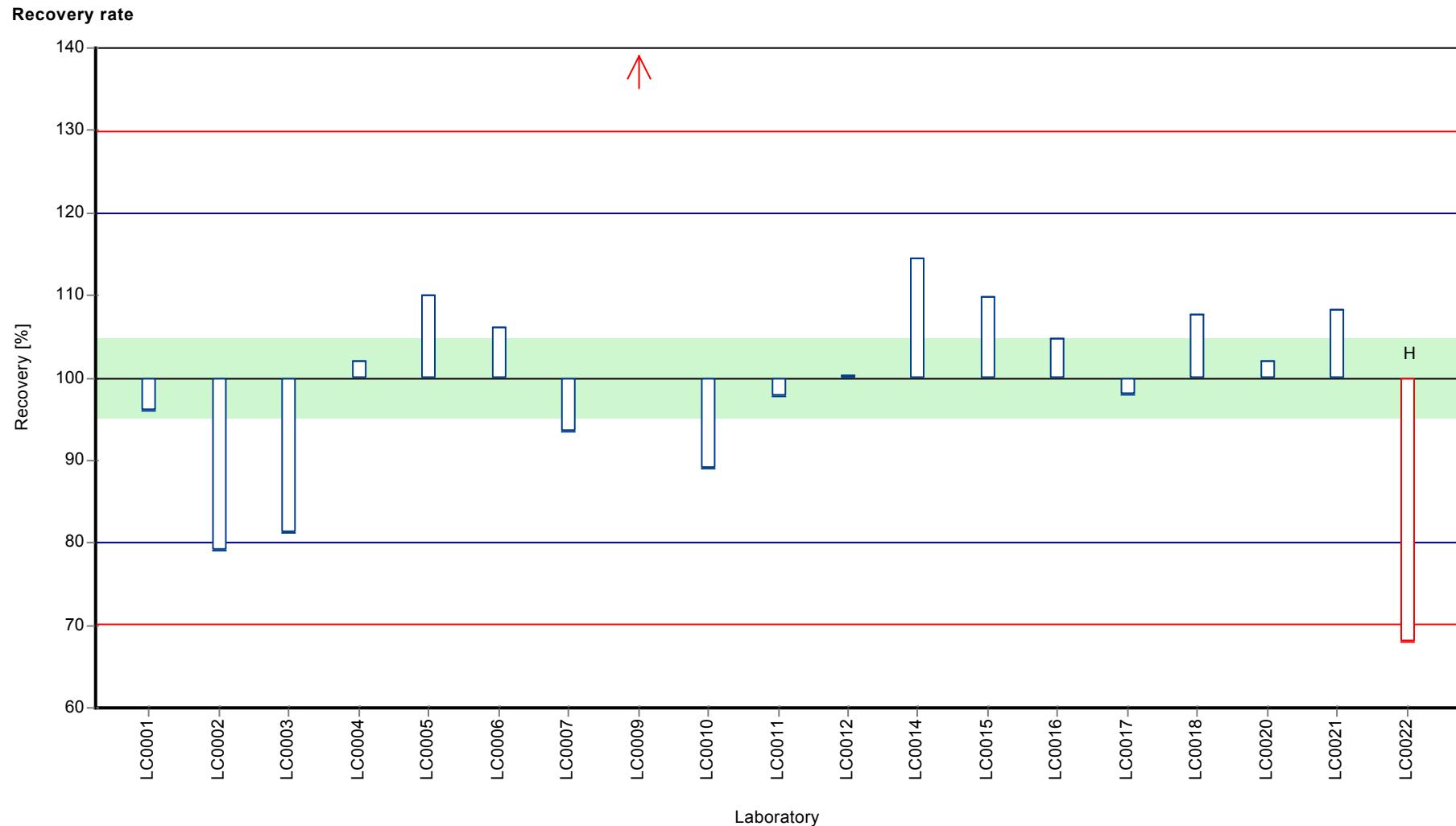
**Results**

**Recovery rate**

**Z-score**



z-score

Laboratory
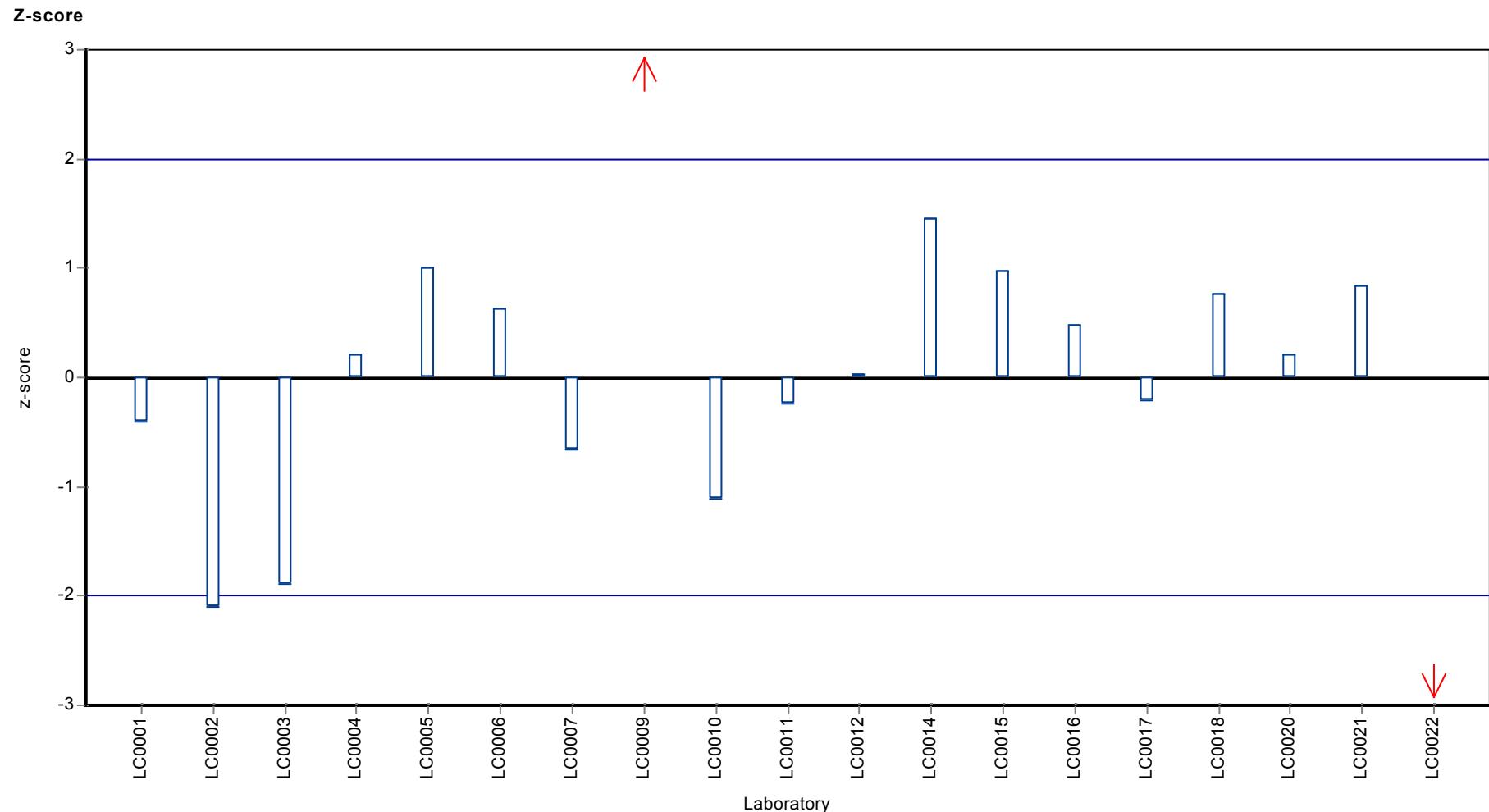
# Parameter oriented report

## BL06 - BTEX & C5-C10

### Ethylbenzene

| | |
|---|---|
| Unit | µg/tube |
| Mean ± Cl (99%) | 5.66 ± 0.659 |
| Minimum - Maximum | 4.27 - 8.16 |
| Control test value ± U | 5.20 ± 0.448 |

| Labcode | Result | ± U | Recovery [%] | z-score | Comments |
|---|---|---|---|---|---|
| LC0001 | 5.71 | 0.6 | 101 | 0.05 | |
| LC0002 | 4.5 | 0.9 | 79.5 | -1.21 | |
| LC0003 | 5.4 | 1.1 | 95.4 | -0.27 | |
| LC0004 | 5.8 | 2.3 | 102 | 0.15 | |
| LC0005 | 6.56 | 0.98 | 116 | 0.94 | |
| LC0006 | 6.1 | 1.8 | 108 | 0.46 | |
| LC0007 | 4.9 | 0.121 | 86.6 | -0.79 | |
| LC0009 | 8.16 | 1.63 | 144 | 2.61 | |
| LC0010 | 4.27 | 0.1 | 75.5 | -1.45 | |
| LC0011 | 5.64 | 1.1 | 99.7 | -0.02 | |
| LC0012 | 5.755 | 1.44 | 102 | 0.1 | |
| LC0014 | 5 | 0.5 | 88.4 | -0.69 | |
| LC0015 | 4.99 | 1 | 88.2 | -0.7 | |
| LC0016 | 6.211 | 0.559 | 110 | 0.58 | |
| LC0017 | 5.3 | 0.5 | 93.7 | -0.37 | |
| LC0018 | 6.83 | 0.68 | 121 | 1.22 | |
| LC0020 | 5.1 | 1.3 | 90.1 | -0.58 | |
| LC0021 | 6.717 | 1.343 | 119 | 1.11 | |
| LC0022 | 4.57 | 0.91 | 80.8 | -1.14 | |

**Characteristics of parameter**

| | all results | without outliers | Unit |
|---|---|---|---|
| Mean ± Cl (99%) | 5.66 ± 0.659 | 5.66 ± 0.659 | µg/tube |
| Minimum | 4.27 | 4.27 | µg/tube |
| Maximum | 8.16 | 8.16 | µg/tube |
| Standard deviation | 0.958 | 0.958 | µg/tube |
| rel. Standard deviation | 16.9 | 16.9 | % |
| n | 19 | 19 | - |

**Graphical presentation of results**

**Results**

**Recovery rate**
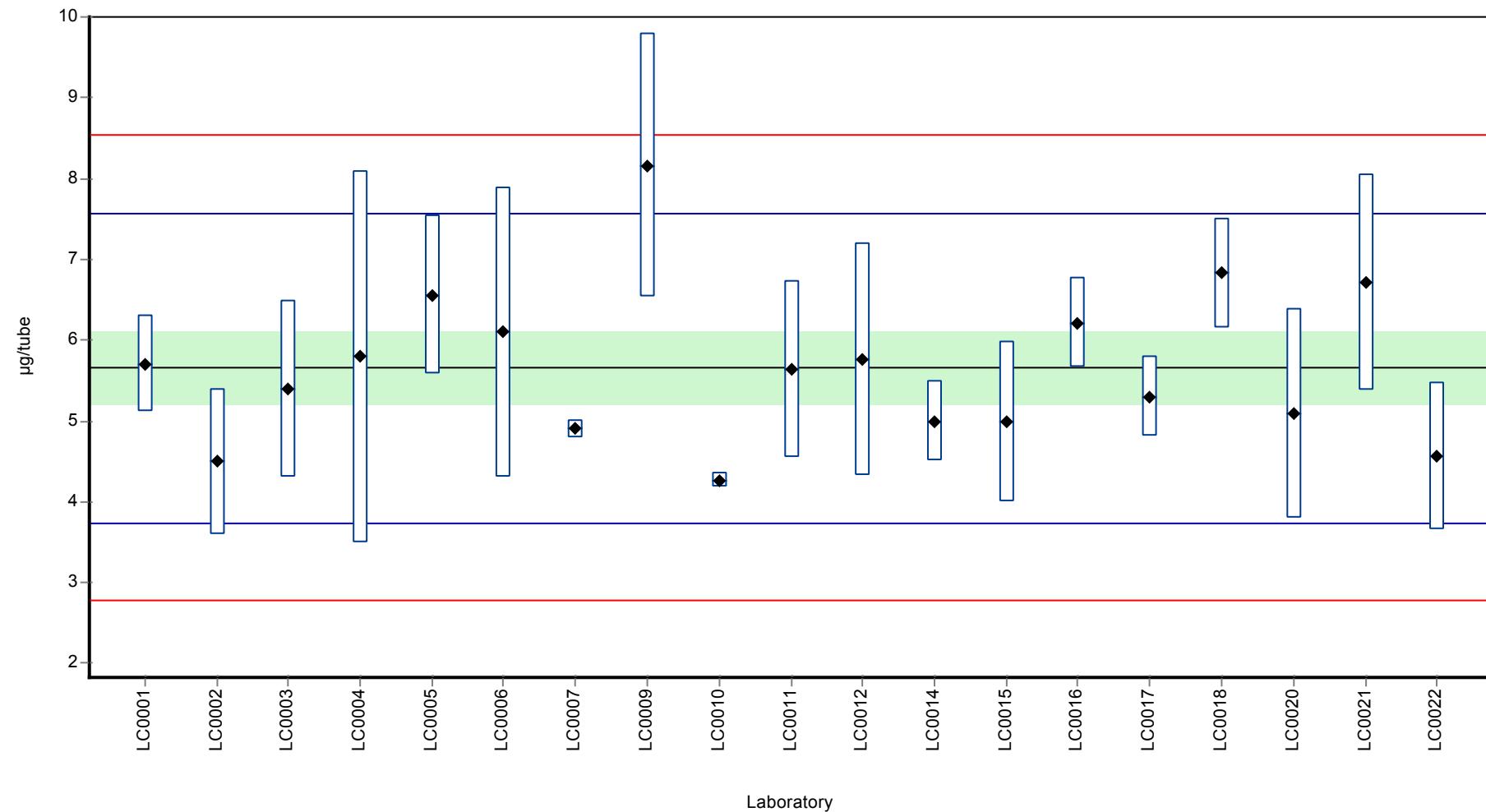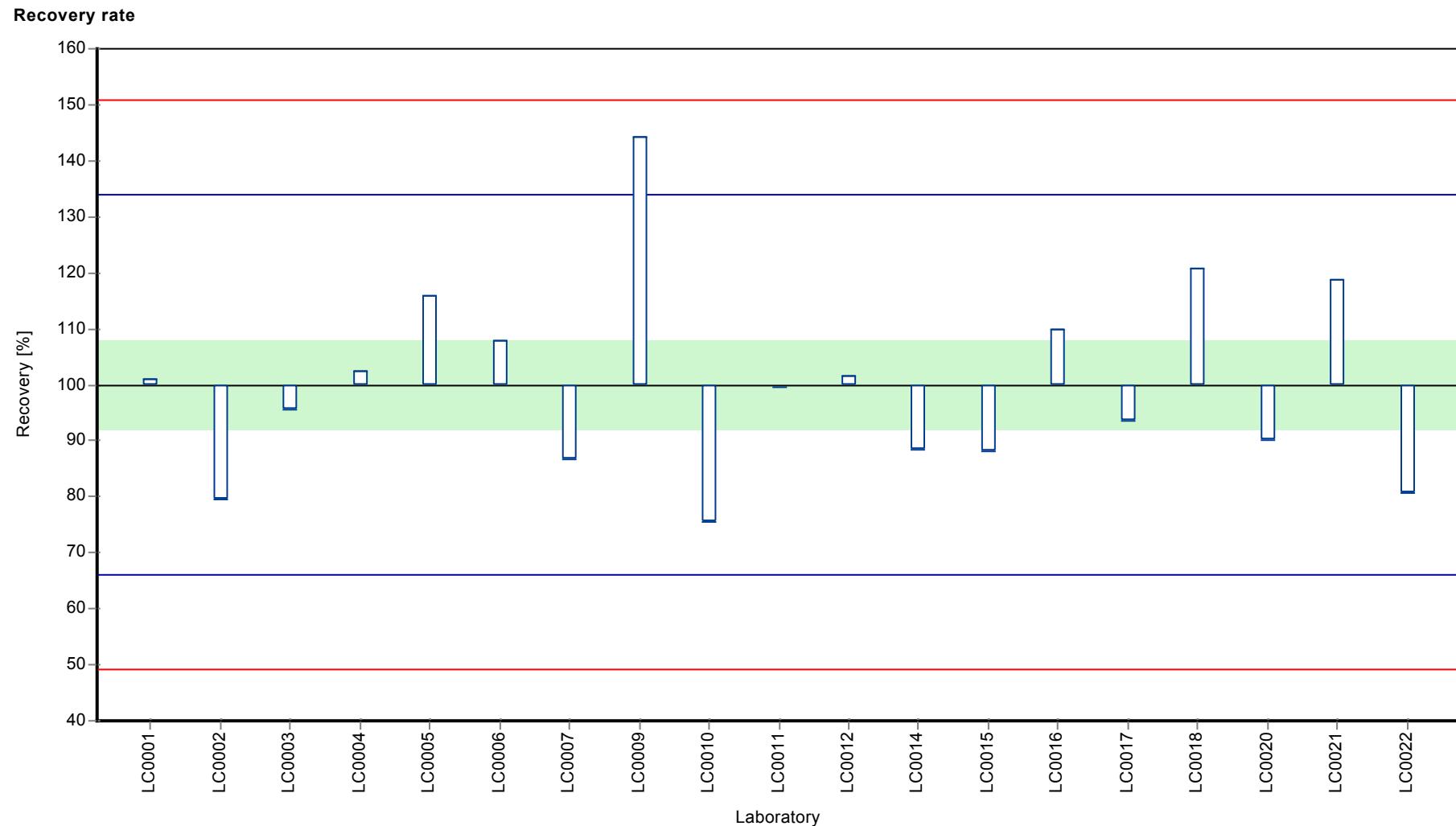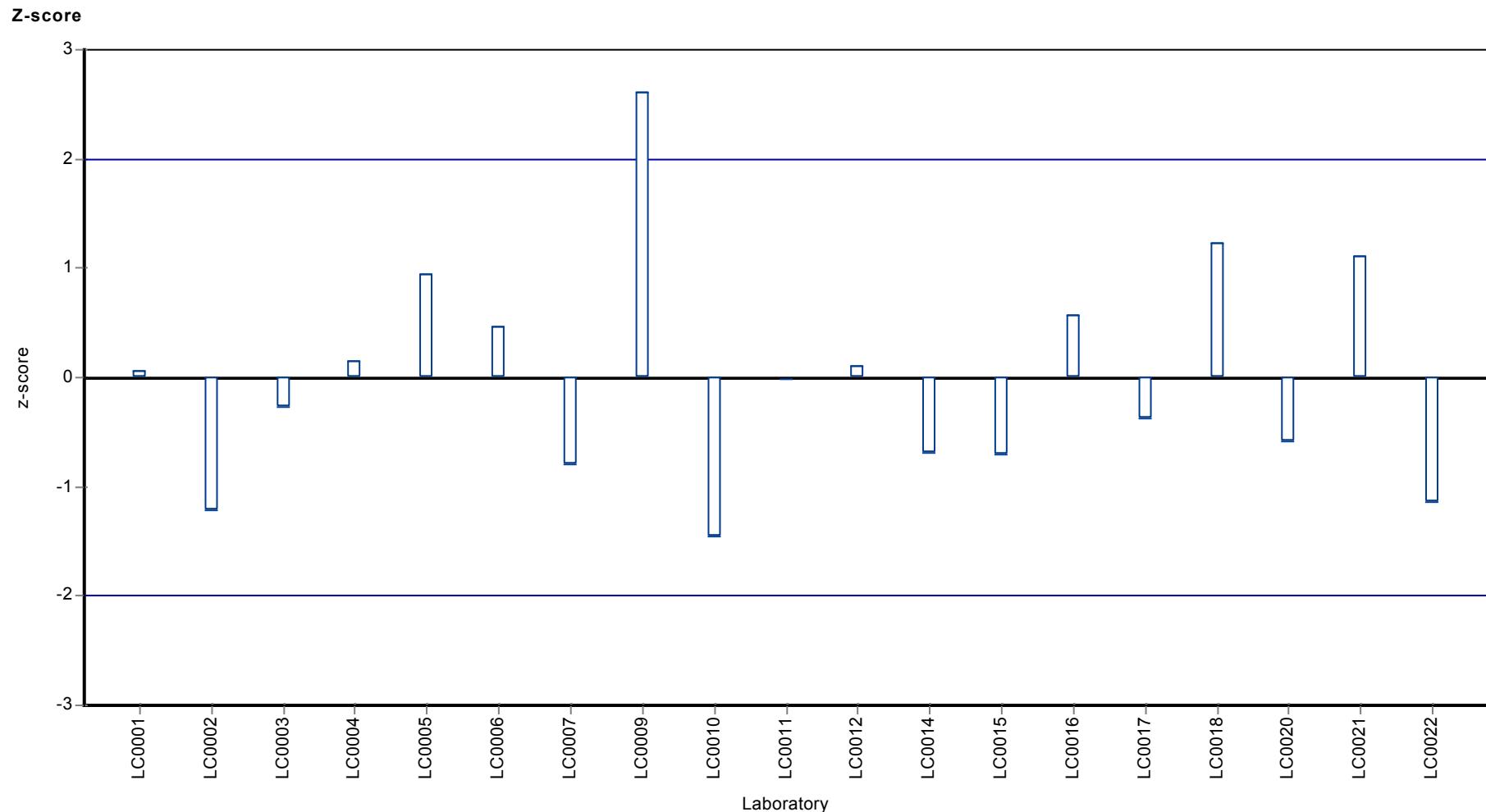
**Z-score**

# Parameter oriented report

## BL06 - BTEX & C5-C10

### o-Xylene

| | |
|---|---|
| Unit | µg/tube |
| Mean ± CI (99%) | 5.12 ± 0.501 |
| Minimum - Maximum | 3.23 - 6.37 |
| Control test value ± U | 4.65 ± 0.4 |

| Labcode | Result | ± U | Recovery [%] | z-score | Comments |
|---|---|---|---|---|---|
| LC0001 | 4.69 | 0.5 | 91.5 | -0.61 | |
| LC0002 | 4.5 | 0.9 | 87.8 | -0.88 | |
| LC0003 | 4.5 | 0.9 | 87.8 | -0.88 | |
| LC0004 | 5.1 | 2 | 99.5 | -0.03 | |
| LC0005 | 5.81 | 0.87 | 113 | 0.97 | |
| LC0006 | 5.3 | 1.6 | 103 | 0.25 | |
| LC0007 | 4.71 | 0.127 | 91.9 | -0.58 | |
| LC0009 | 8.29 | 1.66 | 162 | 4.47 | H |
| LC0010 | 3.23 | 0.1 | 63 | -2.67 | |
| LC0011 | 5.46 | 1.1 | 107 | 0.47 | |
| LC0012 | 5.547 | 1.39 | 108 | 0.6 | |
| LC0014 | 4.7 | 0.5 | 91.7 | -0.6 | |
| LC0015 | 5.4 | 1 | 105 | 0.39 | |
| LC0016 | 5.861 | 0.527 | 114 | 1.04 | |
| LC0017 | 5.5 | 0.6 | 107 | 0.53 | |
| LC0018 | 6.37 | 0.64 | 124 | 1.76 | |
| LC0020 | 5.1 | 1.3 | 99.5 | -0.03 | |
| LC0021 | 5.726 | 1.145 | 112 | 0.85 | |
| LC0022 | 4.73 | 0.95 | 92.3 | -0.56 | |

**Characteristics of parameter**

| | all results | without outliers | Unit |
|---|---|---|---|
| Mean ± CI (99%) | 5.29 ± 0.689 | 5.12 ± 0.501 | µg/tube |
| Minimum | 3.23 | 3.23 | µg/tube |
| Maximum | 8.29 | 6.37 | µg/tube |
| Standard deviation | 1 | 0.708 | µg/tube |
| rel. Standard deviation | 18.9 | 13.8 | % |
| n | 19 | 18 | - |

**Graphical presentation of results**
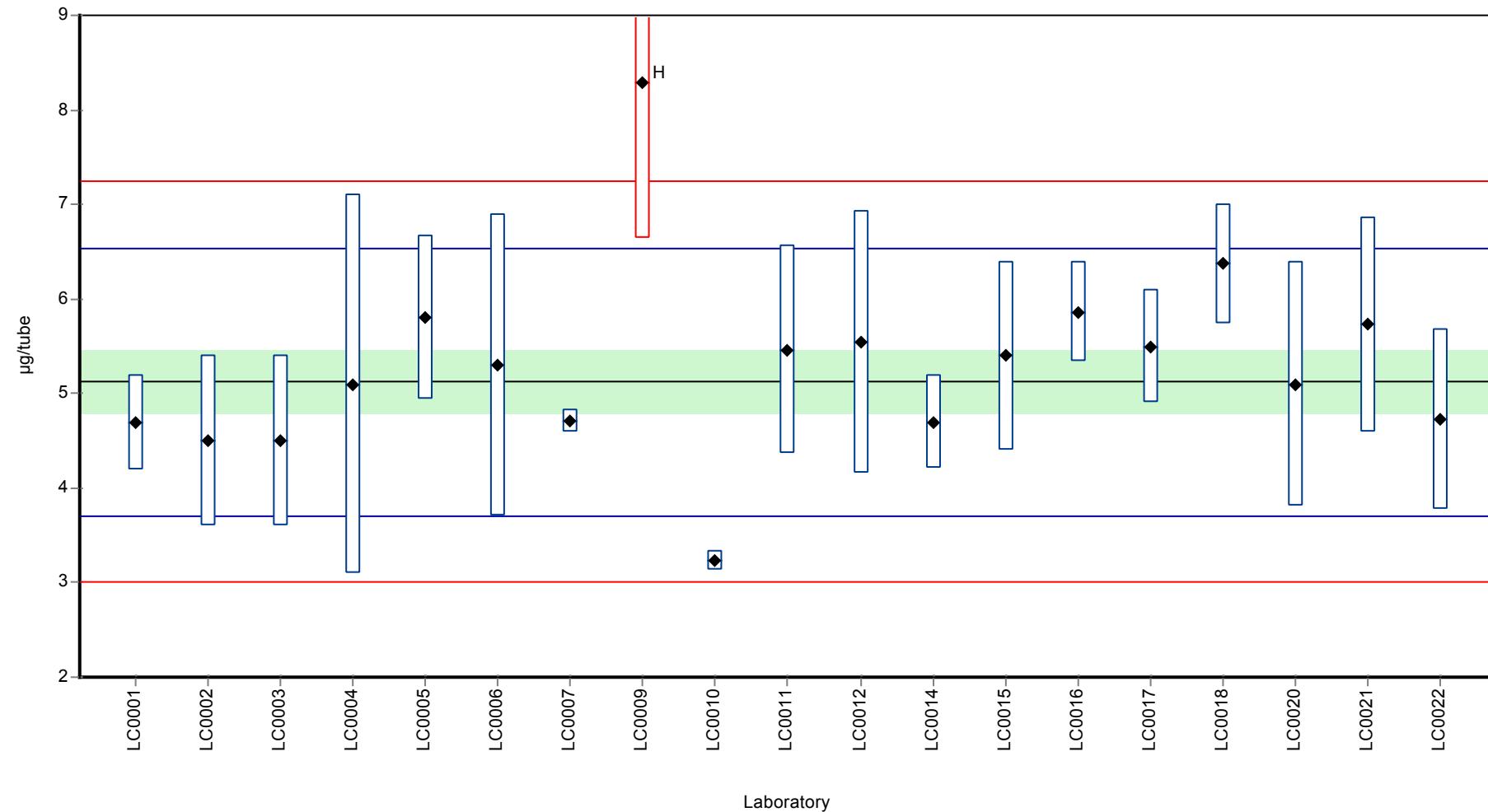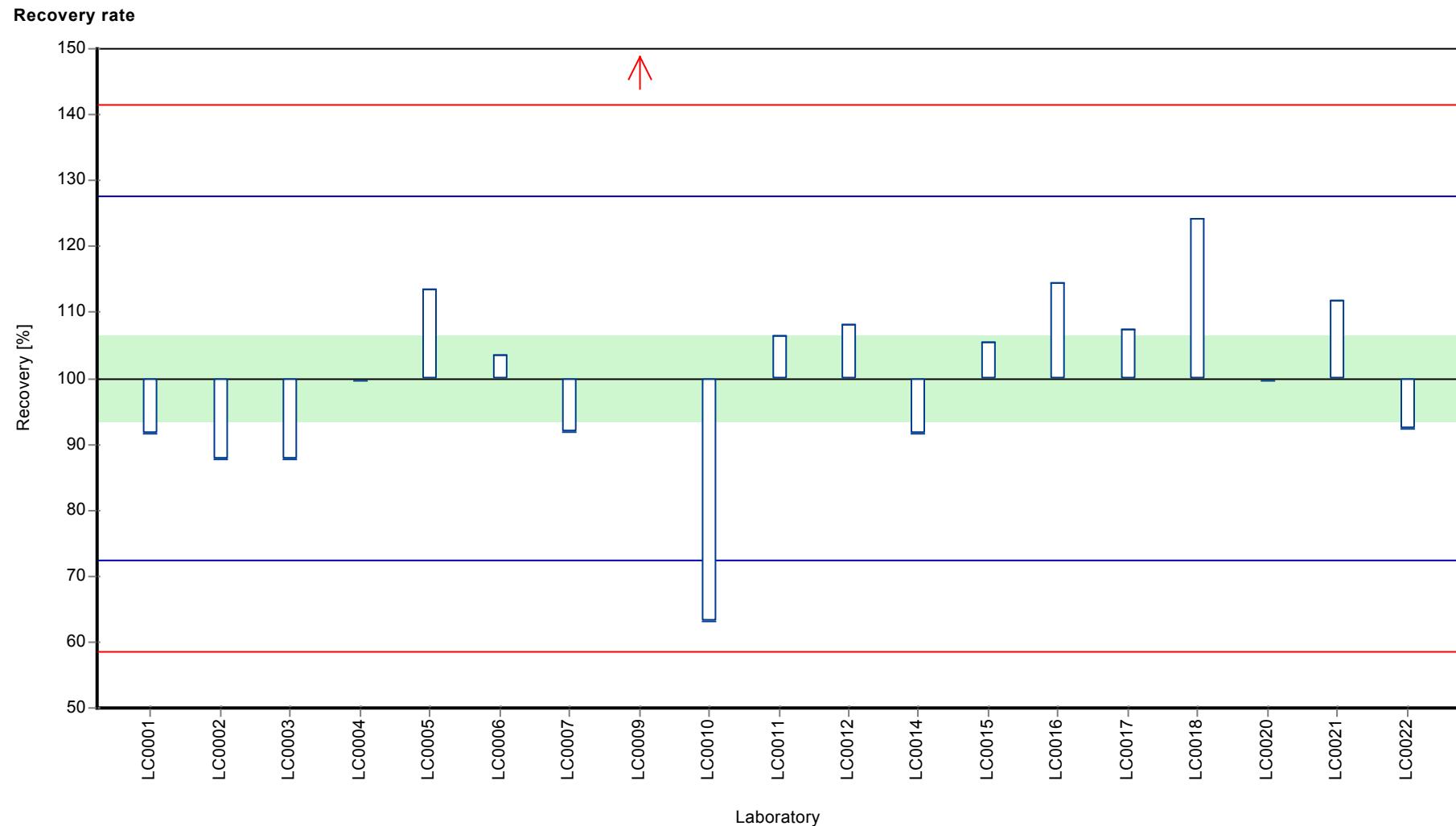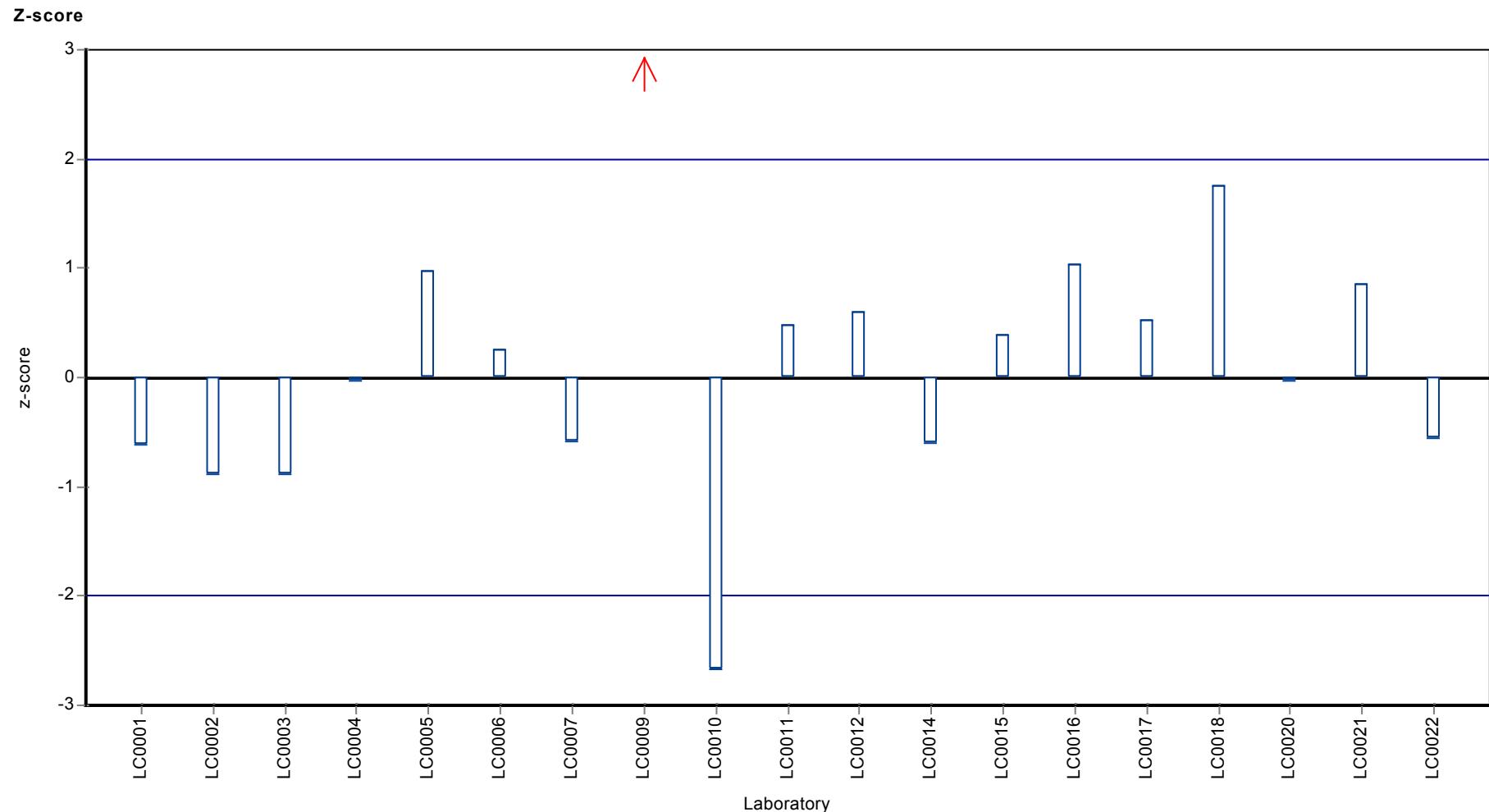
**Results**

**Recovery rate**

**Z-score**

# Parameter oriented report

## BL06 - BTEX & C5-C10

## Sum of m-Xylene and p-Xylene

| | |
|---|---|
| Unit | µg/tube |
| Mean ± CI (99%) | 10.8 ± 1.12 |
| Minimum - Maximum | 6.96 - 13.2 |
| Control test value ± U | 9.45 ± 0.812 |

| Labcode | Result | ± U | Recovery [%] | z-score | Comments |
|---|---|---|---|---|---|
| LC0001 | 10.7 | 1 | 98.8 | -0.08 | |
| LC0002 | 9.1 | 1.8 | 84 | -1.1 | |
| LC0003 | 9.2 | 1.8 | 84.9 | -1.03 | |
| LC0004 | 11.2 | 4.5 | 103 | 0.23 | |
| LC0005 | 12.55 | 1.88 | 116 | 1.09 | |
| LC0006 | 11.9 | 3.6 | 110 | 0.68 | |
| LC0007 | 9.42 | 0.107 | 87 | -0.89 | |
| LC0009 | 16.68 | 3.34 | 154 | 3.7 | H |
| LC0010 | 6.96 | 0.1 | 64.2 | -2.45 | |
| LC0011 | 10.8 | 2.2 | 99.7 | -0.02 | |
| LC0012 | 11.32 | 2.83 | 104 | 0.31 | |
| LC0014 | 10.1 | 1 | 93.2 | -0.46 | |
| LC0015 | 12.38 | 1 | 114 | 0.98 | |
| LC0016 | 12.123 | 0.97 | 112 | 0.82 | |
| LC0017 | 12.3 | 1.2 | 114 | 0.93 | |
| LC0018 | 13.24 | 1.3 | 122 | 1.52 | |
| LC0020 | 10.6 | 2.6 | 97.8 | -0.15 | |
| LC0021 | 11.693 | 2.339 | 108 | 0.54 | |
| LC0022 | 9.42 | 1.88 | 87 | -0.89 | |

**Characteristics of parameter**

| | all results | without outliers | Unit |
|---|---|---|---|
| Mean ± CI (99%) | 11.1 ± 1.4 | 10.8 ± 1.12 | µg/tube |
| Minimum | 6.96 | 6.96 | µg/tube |
| Maximum | 16.7 | 13.2 | µg/tube |
| Standard deviation | 2.04 | 1.58 | µg/tube |
| rel. Standard deviation | 18.3 | 14.6 | % |
| n | 19 | 18 | - |

**Graphical presentation of results**
**Results**
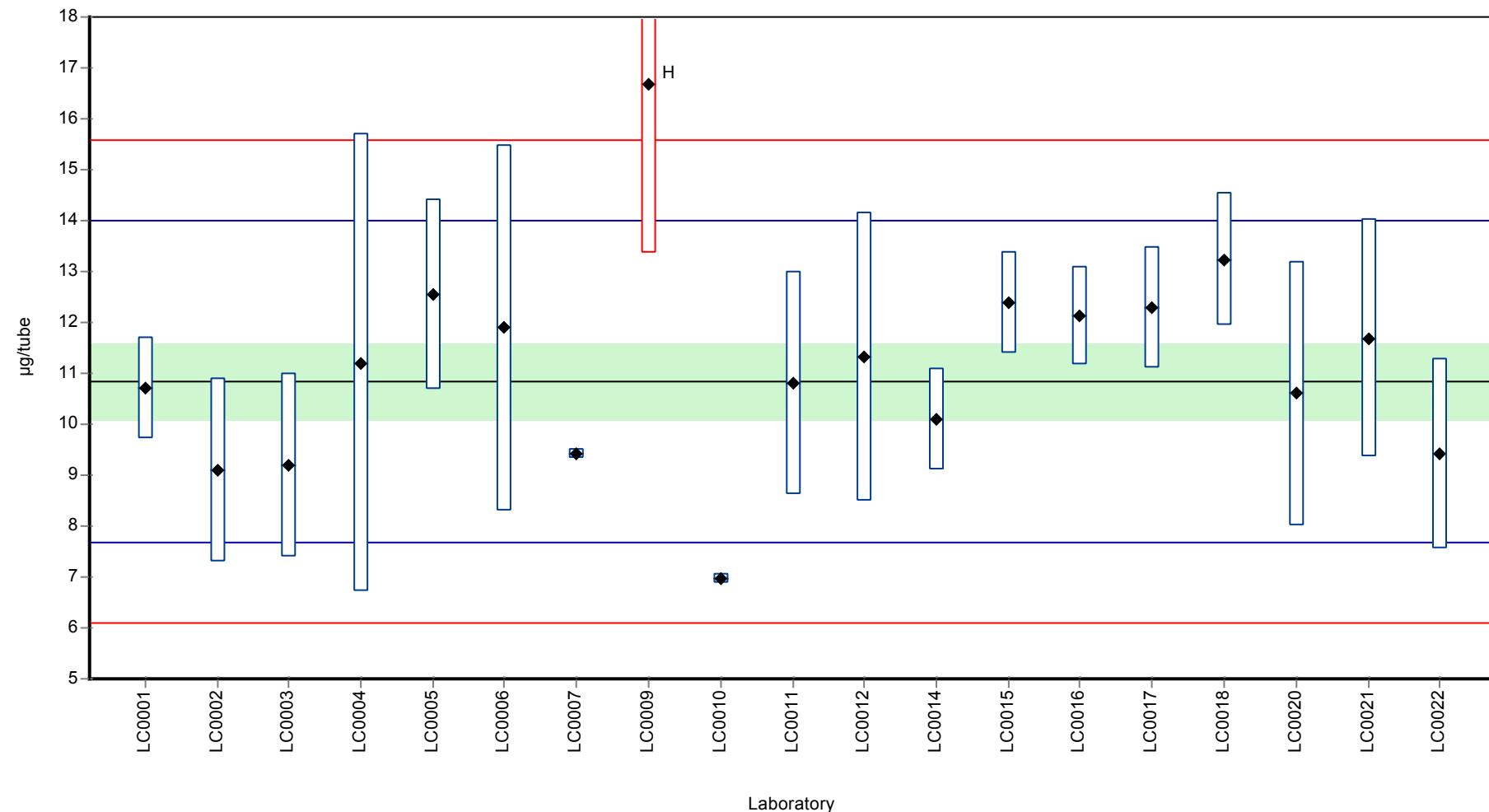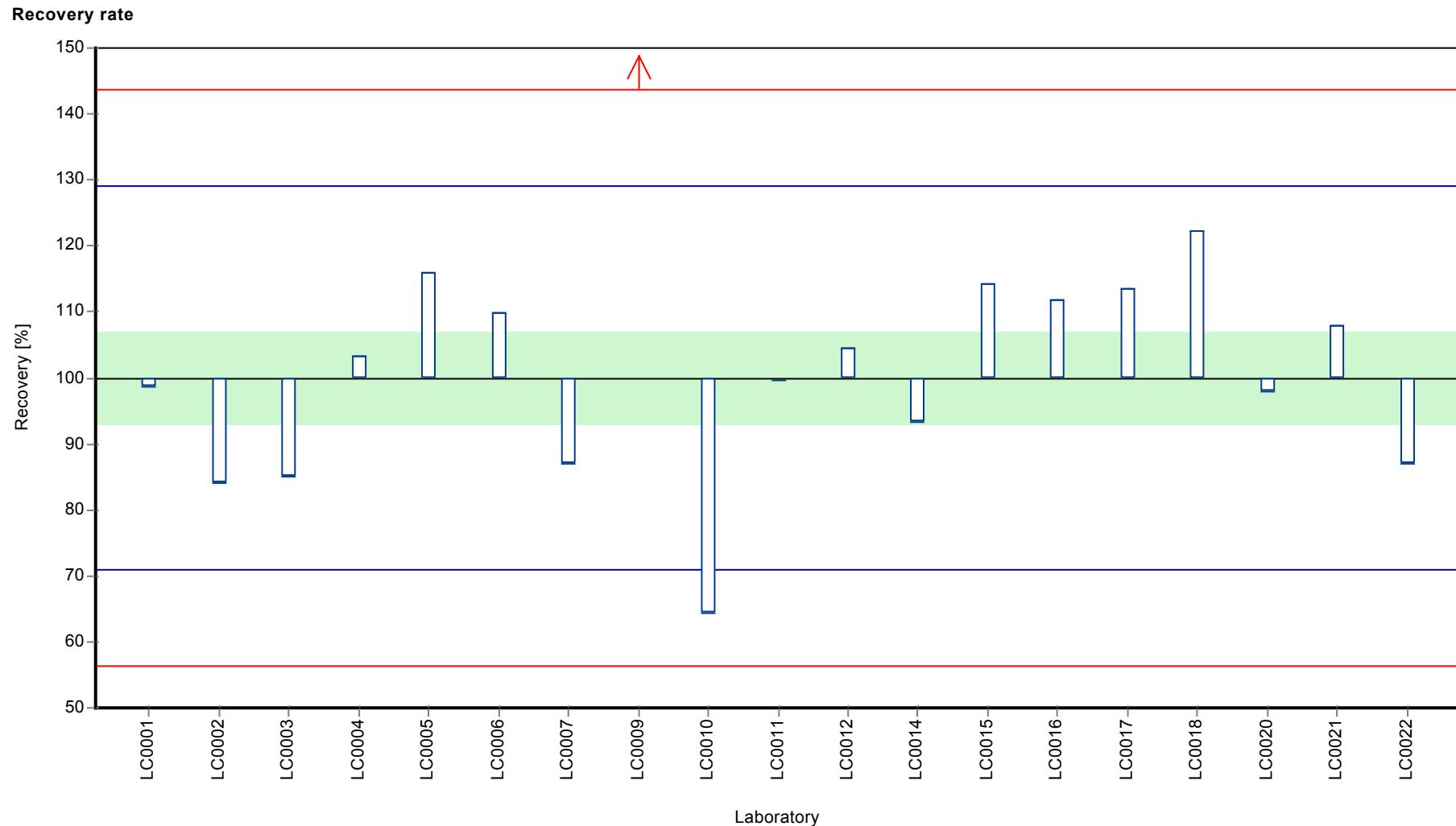


Laboratory

**Recovery rate**
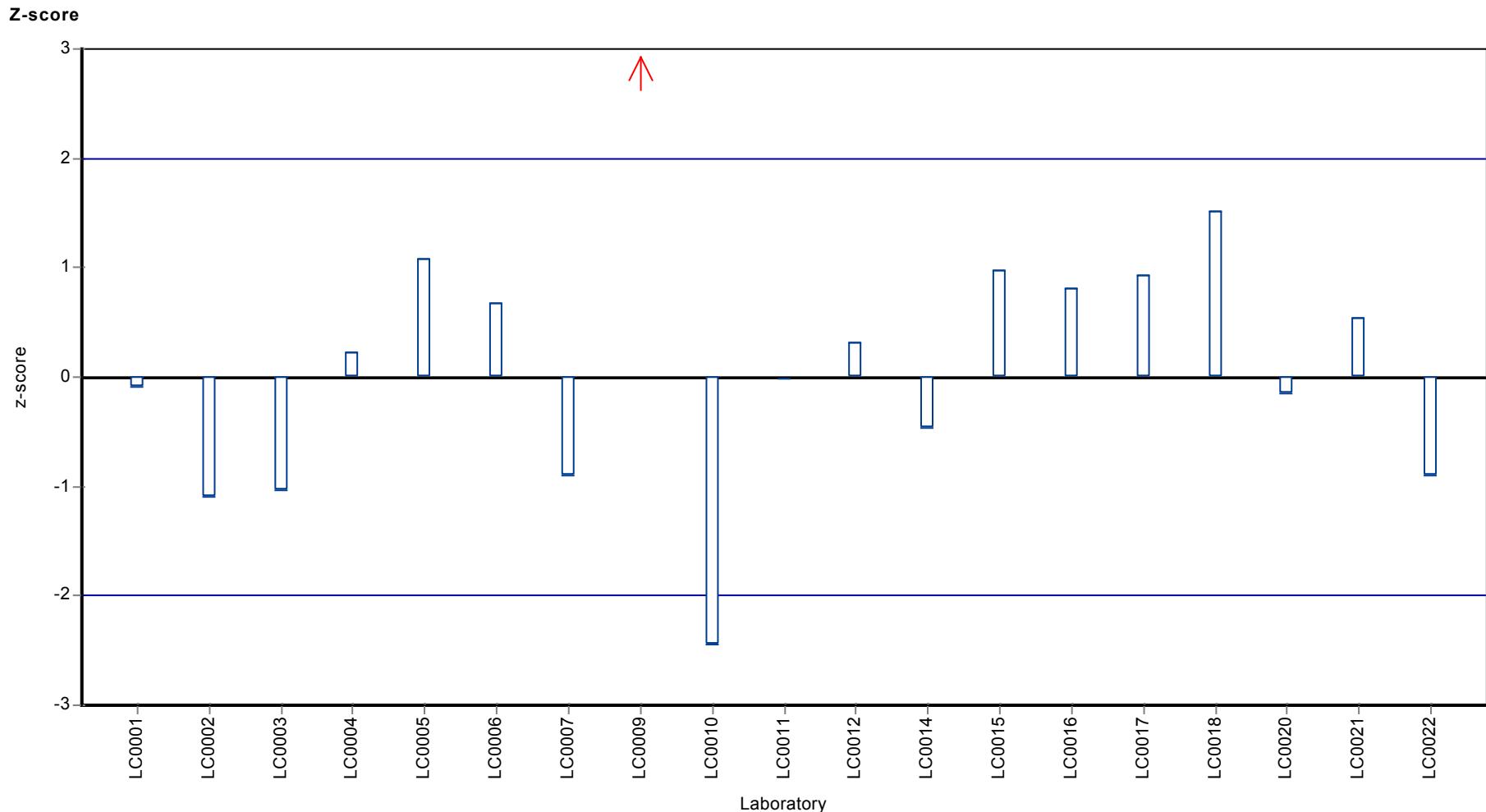
**Z-score**

# Parameter oriented report

### BL06 - BTEX & C5-C10

### Toluene

| | |
|---|---|
| Unit | µg/tube |
| Mean ± CI (99%) | 5.2 ± 0.407 |
| Minimum - Maximum | 3.95 - 6.1 |
| Control test value ± U | 4.52 ± 0.388 |

| Labcode | Result | ± U | Recovery [%] | z-score | Comments |
|---|---|---|---|---|---|
| LC0001 | 5.14 | 0.5 | 98.9 | -0.1 | |
| LC0002 | 4.2 | 0.84 | 80.8 | -1.73 | |
| LC0003 | 4.8 | 0.96 | 92.3 | -0.69 | |
| LC0004 | 5.5 | 2.2 | 106 | 0.52 | |
| LC0005 | 5.89 | 0.88 | 113 | 1.2 | |
| LC0006 | 5.5 | 1.7 | 106 | 0.52 | |
| LC0007 | 4.68 | 0.116 | 90 | -0.9 | |
| LC0009 | 7.62 | 1.52 | 147 | 4.2 | H |
| LC0010 | 5.01 | 0.1 | 96.4 | -0.33 | |
| LC0011 | 5.29 | 1.1 | 102 | 0.16 | |
| LC0012 | 5.552 | 1.39 | 107 | 0.61 | |
| LC0014 | 5.2 | 0.5 | 100 | 0.00 | |
| LC0015 | 4.95 | 1.2 | 95.2 | -0.43 | |
| LC0016 | 5.687 | 0.398 | 109 | 0.85 | |
| LC0017 | 5.9 | 0.6 | 113 | 1.22 | |
| LC0018 | 5.43 | 0.54 | 104 | 0.4 | |
| LC0020 | 4.8 | 1.2 | 92.3 | -0.69 | |
| LC0021 | 6.103 | 1.22 | 117 | 1.57 | |
| LC0022 | 3.95 | 0.79 | 76 | -2.17 | |

### Characteristics of parameter

| | all results | without outliers | Unit |
|---|---|---|---|
| Mean ± CI (99%) | 5.33 ± 0.543 | 5.2 ± 0.407 | µg/tube |
| Minimum | 3.95 | 3.95 | µg/tube |
| Maximum | 7.62 | 6.1 | µg/tube |
| Standard deviation | 0.789 | 0.576 | µg/tube |
| rel. Standard deviation | 14.8 | 11.1 | % |
| n | 19 | 18 | - |

**Graphical presentation of results**
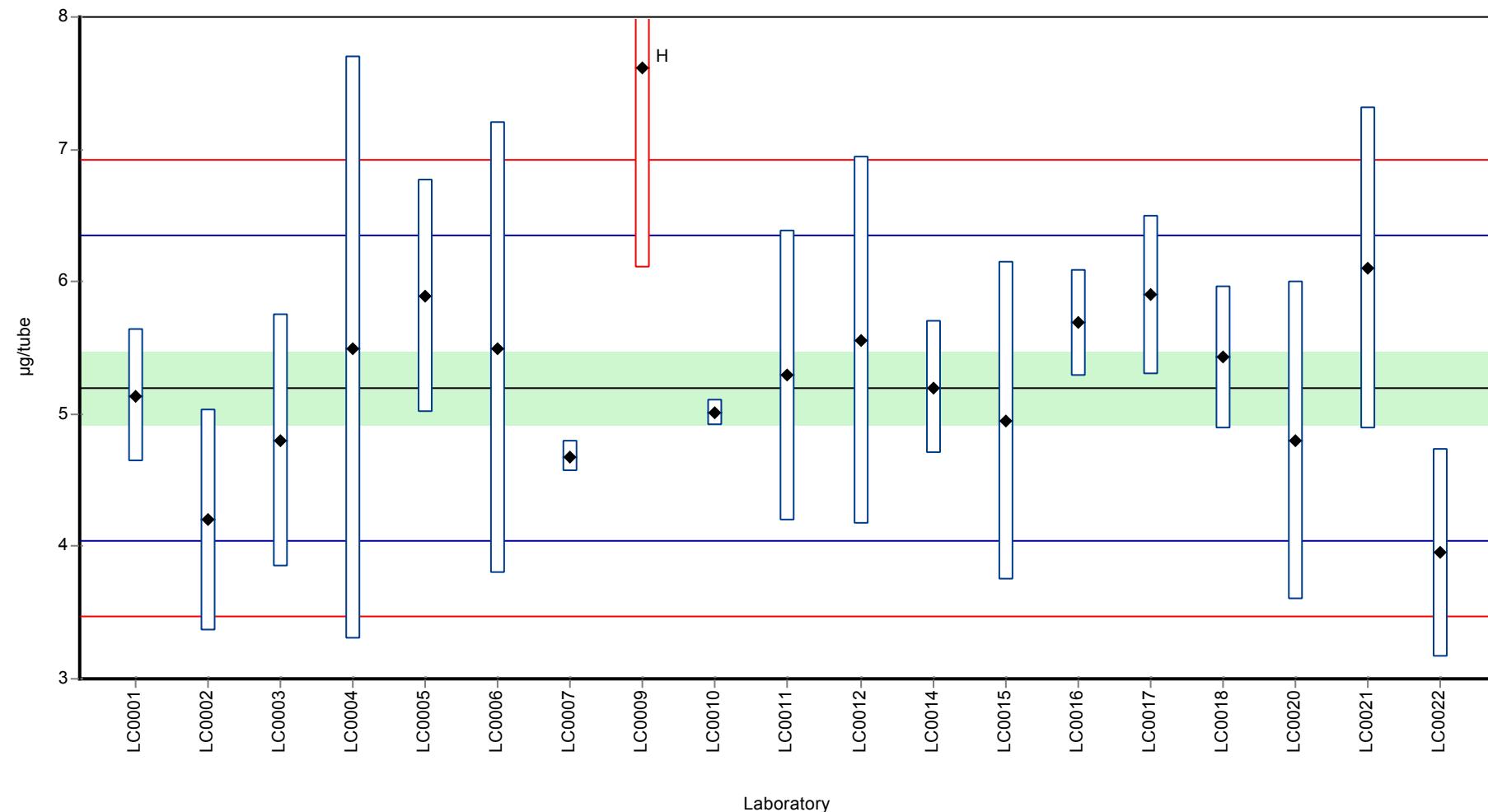
**Results**

**Recovery rate**
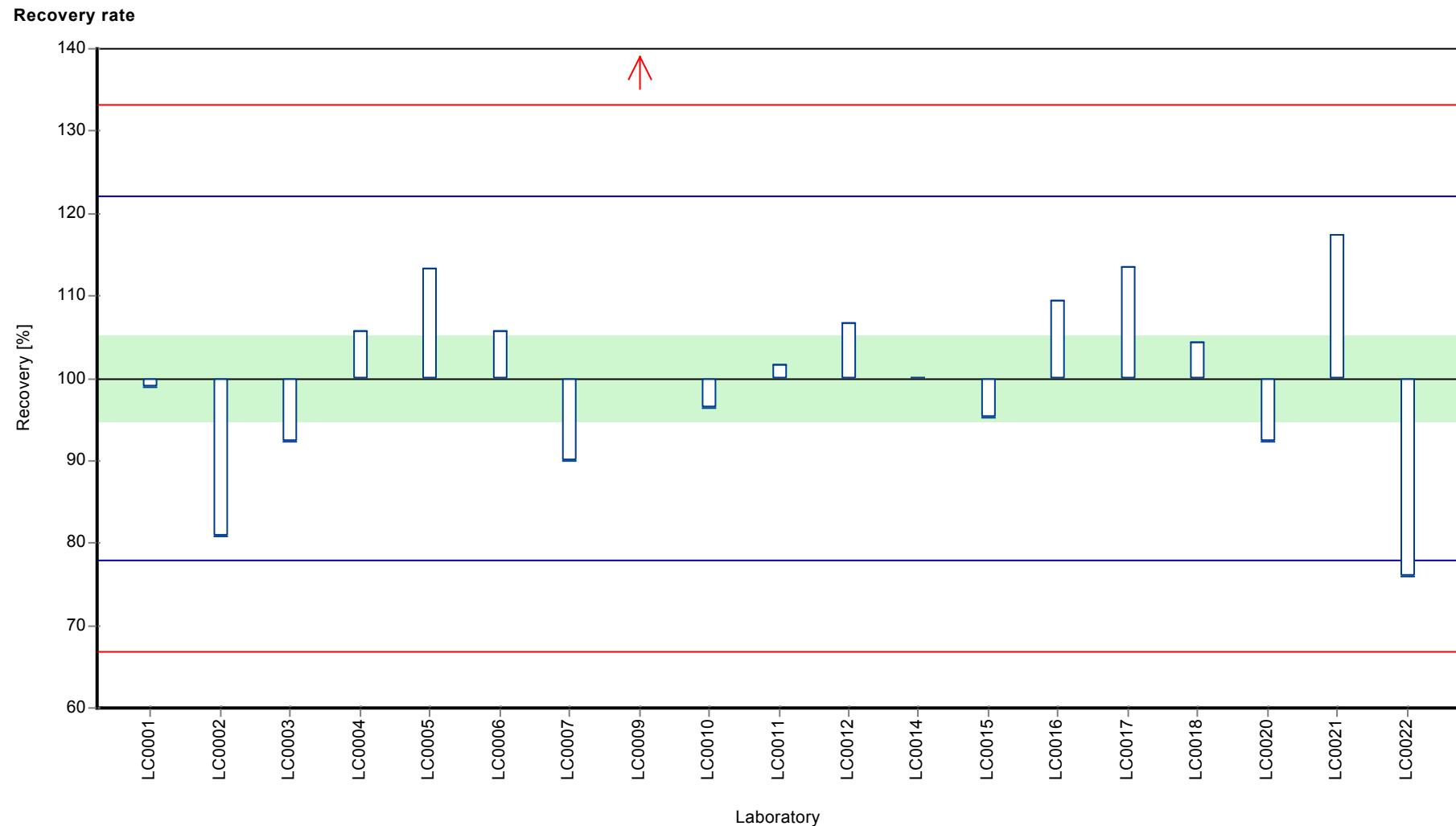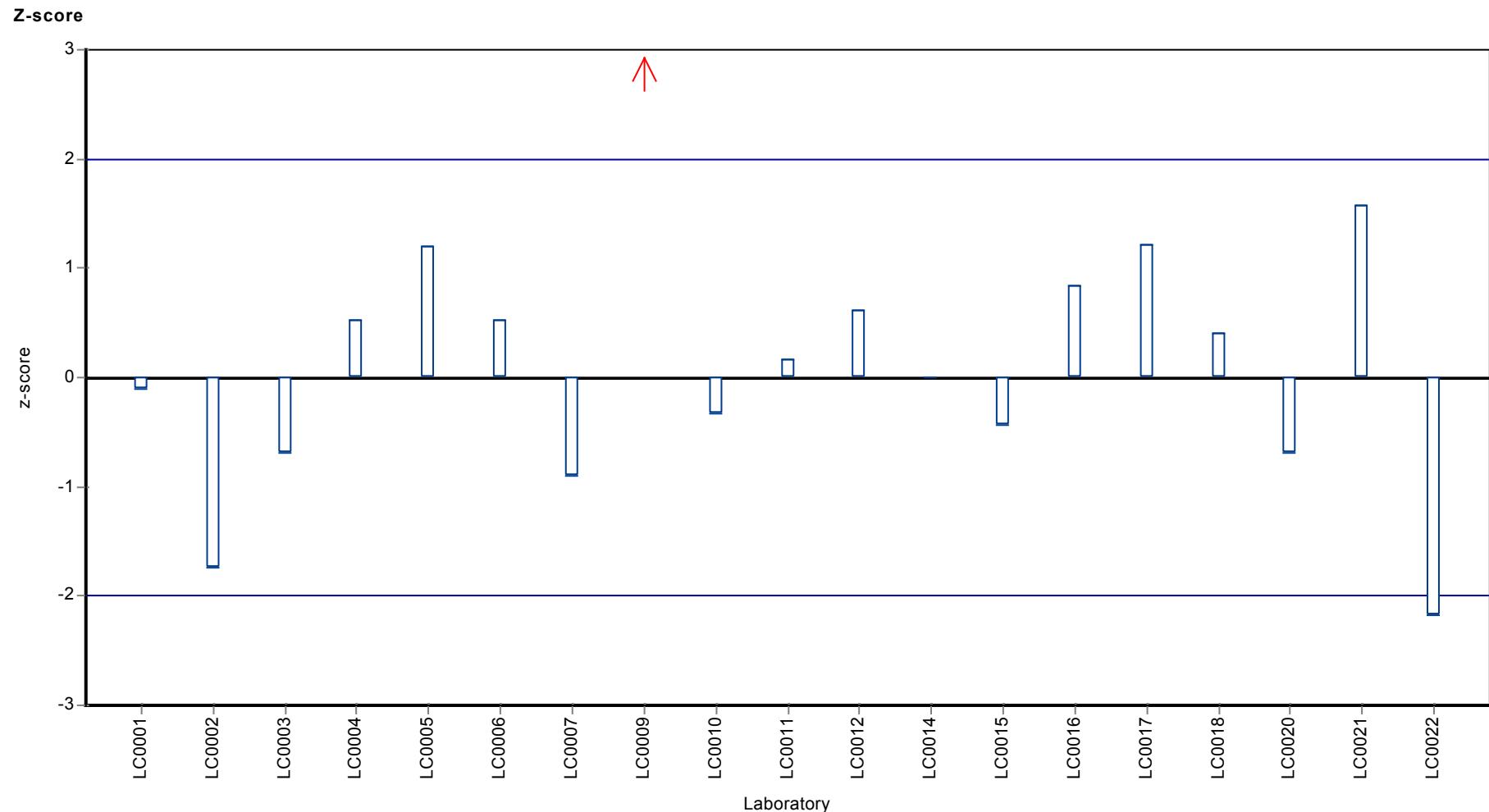
**Z-score**

# Parameter oriented report

## BL06 - BTEX & C5-C10

### n-Decane

| | |
|---|---|
| Unit | µg/tube |
| Mean ± Cl (99%) | 4.56 ± 1.28 |
| Minimum - Maximum | 2.4 - 7.29 |
| Control test value ± U | 5.94 ± 0.891 |

| Labcode | Result | ± U | Recovery [%] | z-score | Comments |
|---|---|---|---|---|---|
| LC0001 | 4.09 | 0.4 | 89.7 | -0.33 | |
| LC0002 | - | - | - | - | |
| LC0003 | 3.2 | 0.64 | 70.2 | -0.96 | |
| LC0004 | 2.4 | 0.96 | 52.7 | -1.53 | |
| LC0005 | - | - | - | - | |
| LC0006 | 4.8 | 1.4 | 105 | 0.17 | |
| LC0007 | 5.56 | 0.135 | 122 | 0.71 | |
| LC0009 | 5.7 | 1.14 | 125 | 0.81 | |
| LC0010 | 3.63 | 0.2 | 79.6 | -0.66 | |
| LC0011 | 4.32 | 0.86 | 94.8 | -0.17 | |
| LC0012 | 5.685 | 1.42 | 125 | 0.8 | |
| LC0014 | - | - | - | - | |
| LC0015 | 11.42 | 1.1 | 251 | 4.86 | H |
| LC0016 | - | - | - | - | |
| LC0017 | - | - | - | - | |
| LC0018 | 3.46 | 0.35 | 75.9 | -0.78 | |
| LC0020 | - | - | - | - | |
| LC0021 | 7.287 | 1.457 | 160 | 1.93 | |
| LC0022 | - | - | - | - | |

### Characteristics of parameter

| | all results | without outliers | Unit |
|---|---|---|---|
| Mean ± Cl (99%) | 5.13 ± 2.07 | 4.56 ± 1.28 | µg/tube |
| Minimum | 2.4 | 2.4 | µg/tube |
| Maximum | 11.4 | 7.29 | µg/tube |
| Standard deviation | 2.4 | 1.41 | µg/tube |
| rel. Standard deviation | 46.7 | 31 | % |
| n | 12 | 11 | - |

**Graphical presentation of results**
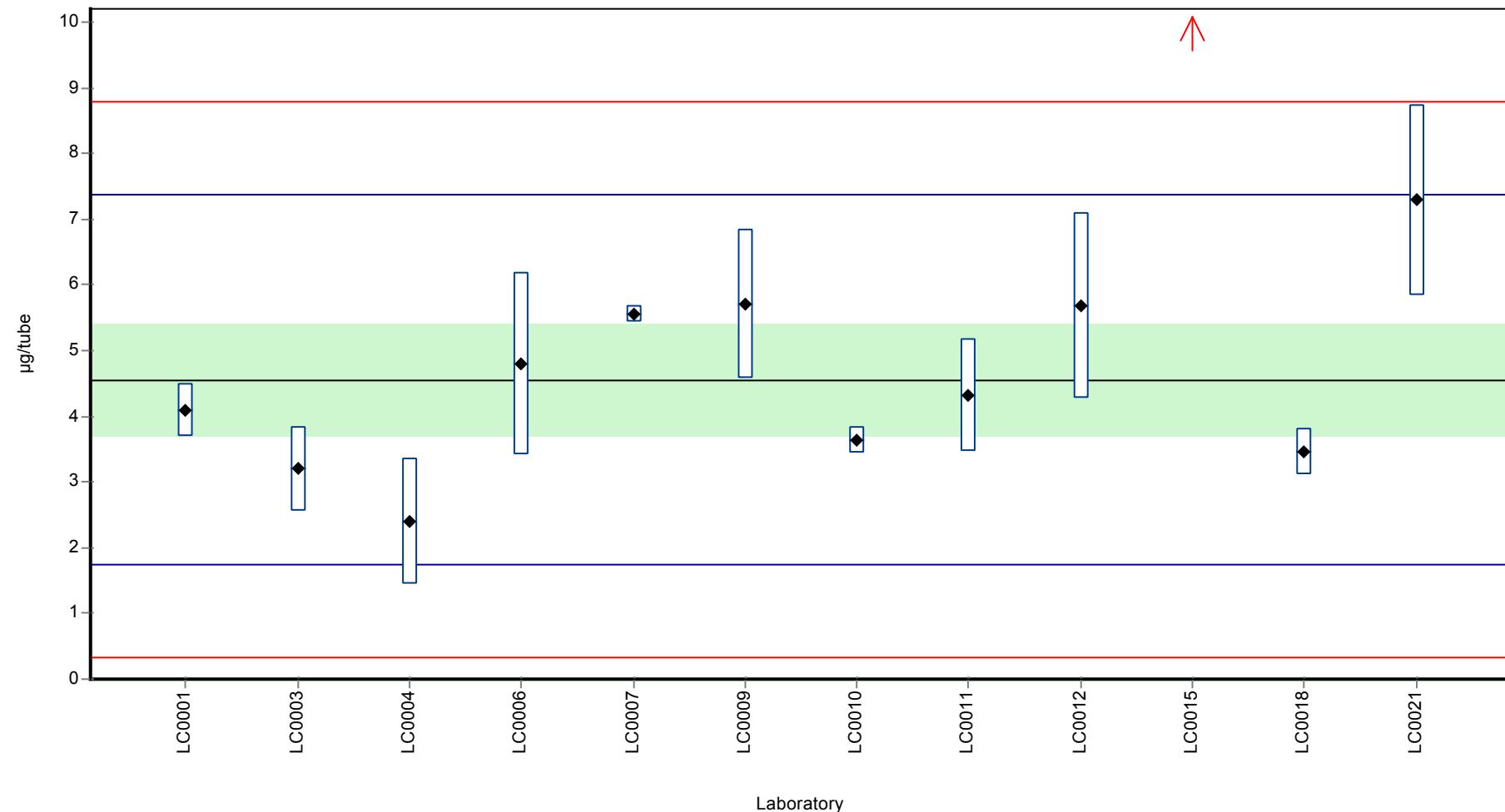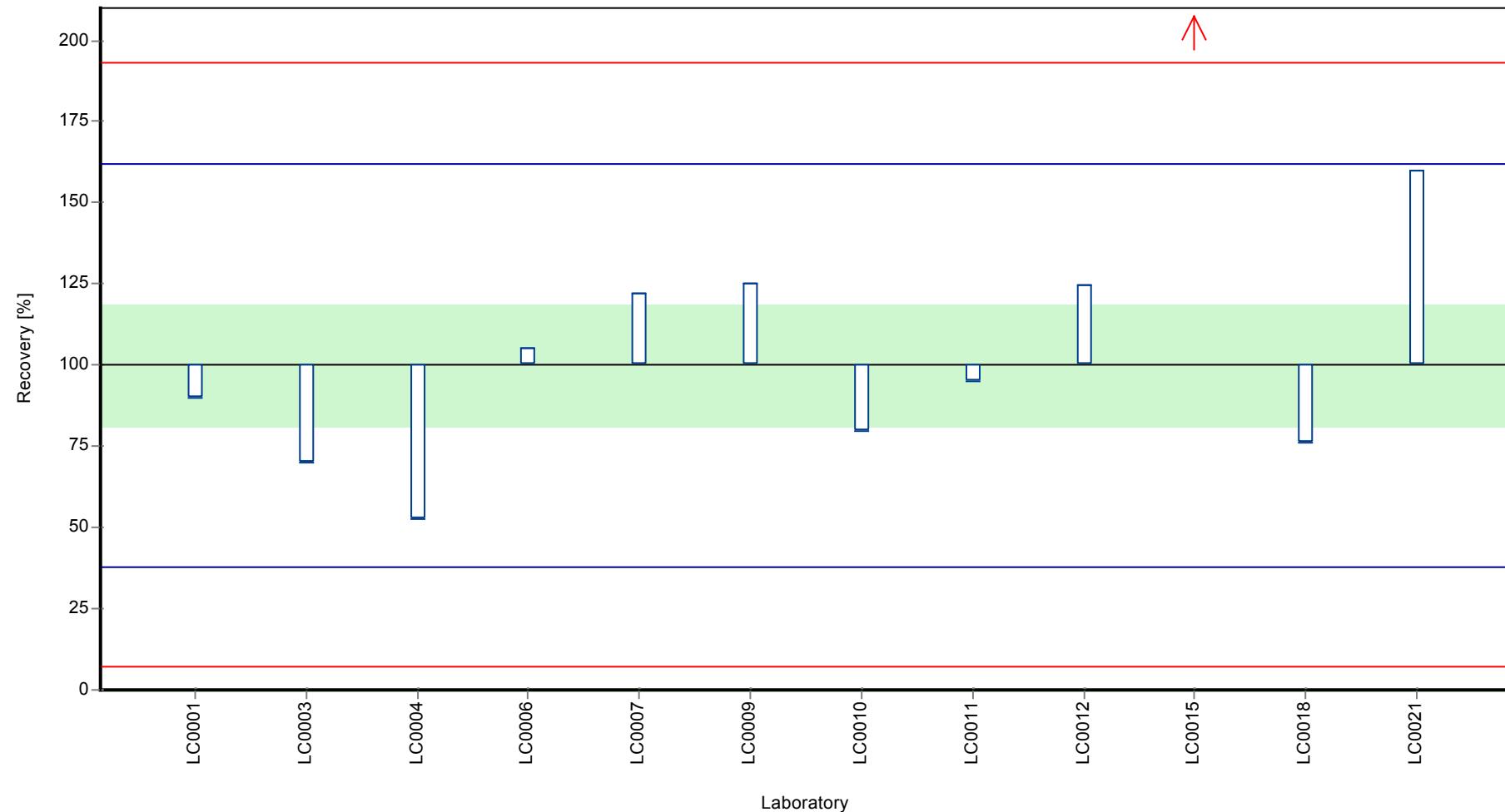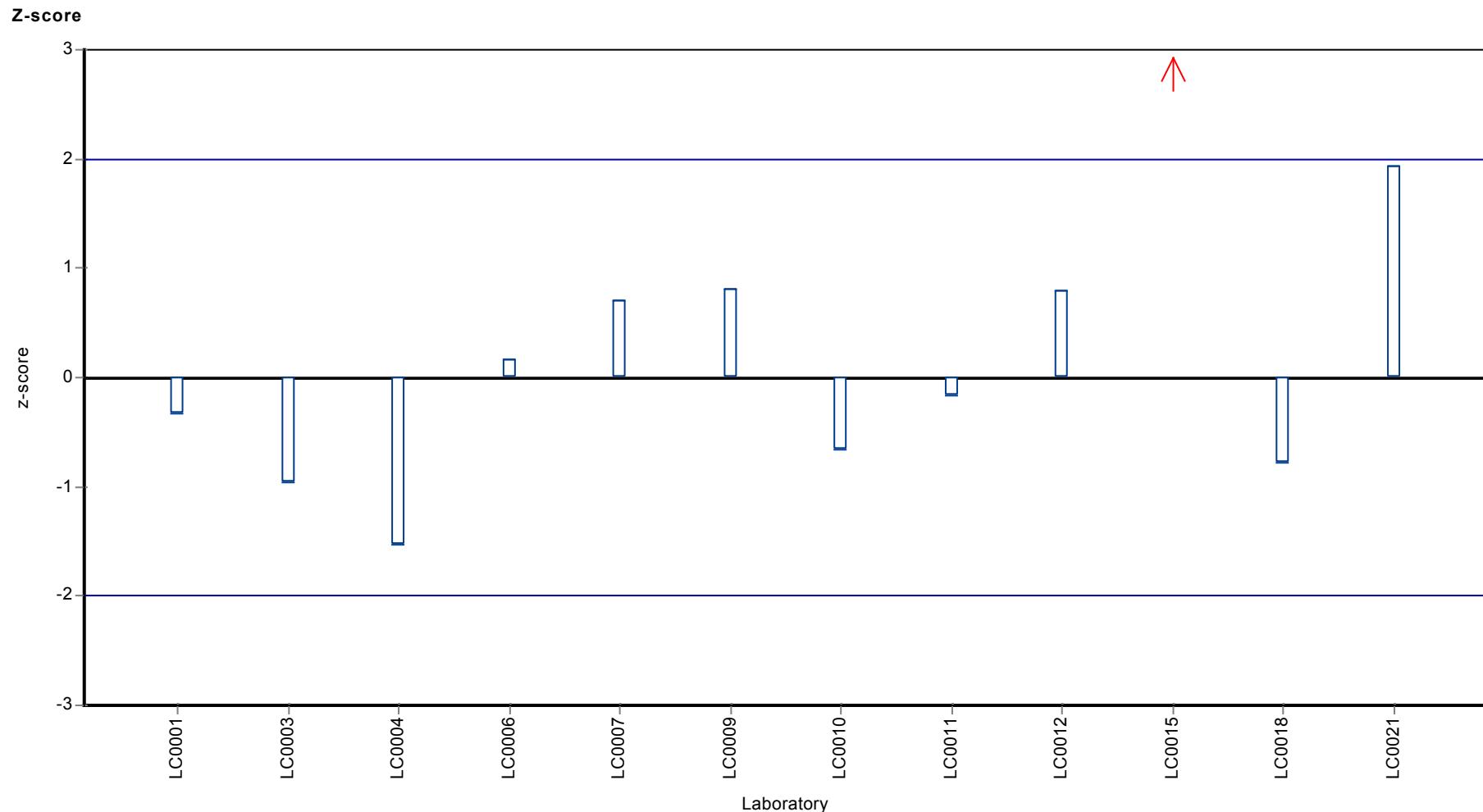
**Results**

**Recovery rate**

**Z-score**

# Parameter oriented report

## BL06 - BTEX & C5-C10

### n-Heptane

| | |
|---|---|
| Unit | µg/tube |
| Mean ± CI (99%) | 5.57 ± 1.15 |
| Minimum - Maximum | 2.78 - 6.95 |
| Control test value ± U | 5.75 ± 0.863 |

| Labcode | Result | ± U | Recovery [%] | z-score | Comments |
|---|---|---|---|---|---|
| LC0001 | 5.27 | 0.5 | 94.6 | -0.25 | |
| LC0002 | - | - | - | - | |
| LC0003 | 5.2 | 1 | 93.3 | -0.31 | |
| LC0004 | 4.8 | 1.9 | 86.1 | -0.64 | |
| LC0005 | - | - | - | - | |
| LC0006 | 5.5 | 1.7 | 98.7 | -0.06 | |
| LC0007 | 6.04 | 0.131 | 108 | 0.39 | |
| LC0009 | 6.95 | 1.39 | 125 | 1.14 | |
| LC0010 | 6.9 | 0.2 | 124 | 1.1 | |
| LC0011 | 6.04 | 1.2 | 108 | 0.39 | |
| LC0012 | 6.253 | 1.56 | 112 | 0.56 | |
| LC0014 | - | - | - | - | |
| LC0015 | 28.04 | 1.3 | 503 | 18.6 | H |
| LC0016 | - | - | - | - | |
| LC0017 | - | - | - | - | |
| LC0018 | 2.78 | 0.29 | 49.9 | -2.31 | |
| LC0020 | - | - | - | - | |
| LC0021 | 13.673 | 2.735 | 245 | 6.69 | H |
| LC0022 | - | - | - | - | |

### Characteristics of parameter

| | all results | without outliers | Unit |
|---|---|---|---|
| Mean ± CI (99%) | 8.12 ± 5.87 | 5.57 ± 1.15 | µg/tube |
| Minimum | 2.78 | 2.78 | µg/tube |
| Maximum | 28 | 6.95 | µg/tube |
| Standard deviation | 6.78 | 1.21 | µg/tube |
| rel. Standard deviation | 83.5 | 21.7 | % |
| n | 12 | 10 | - |

**Graphical presentation of results**

**Results**

**Recovery rate**
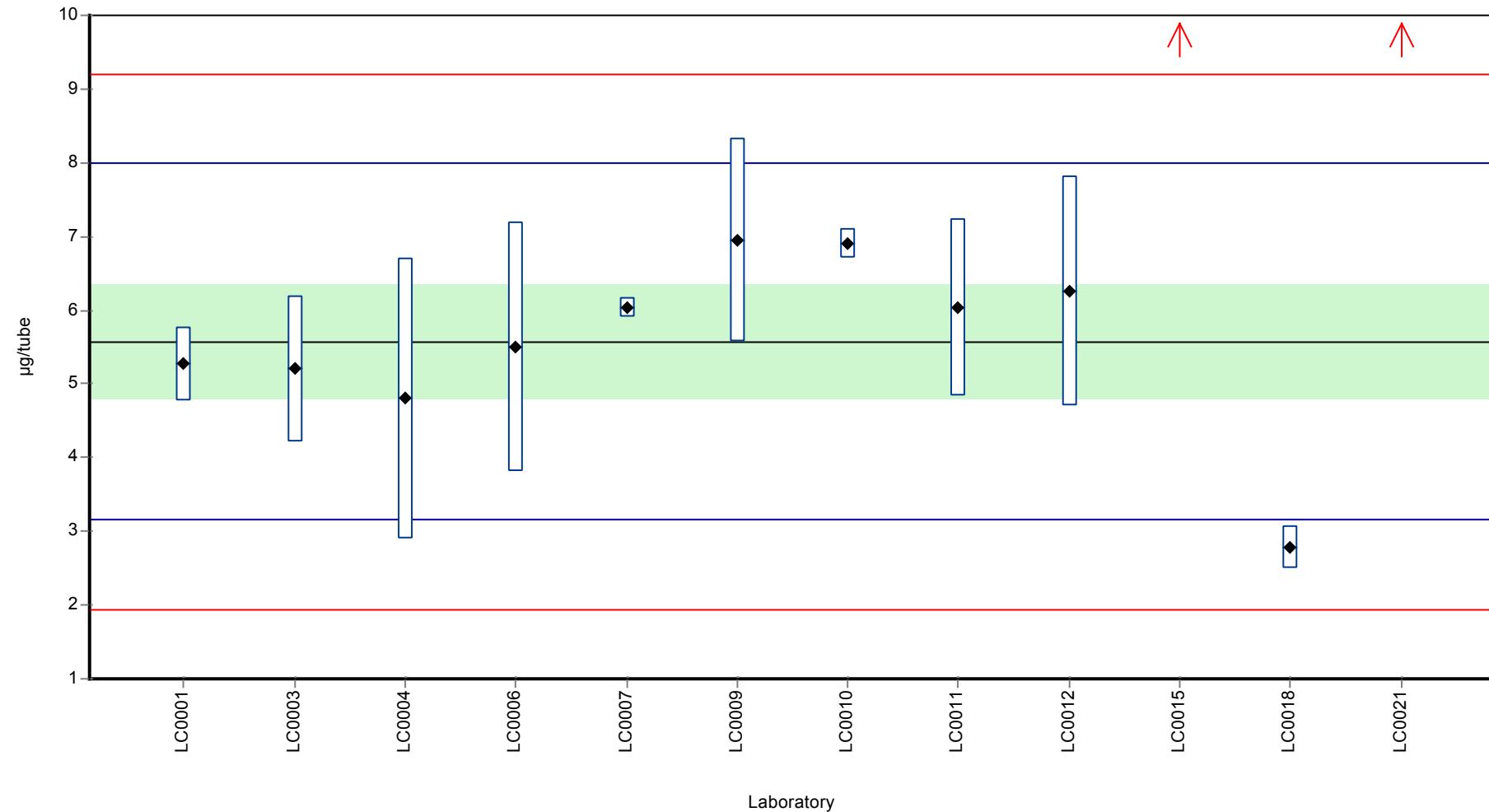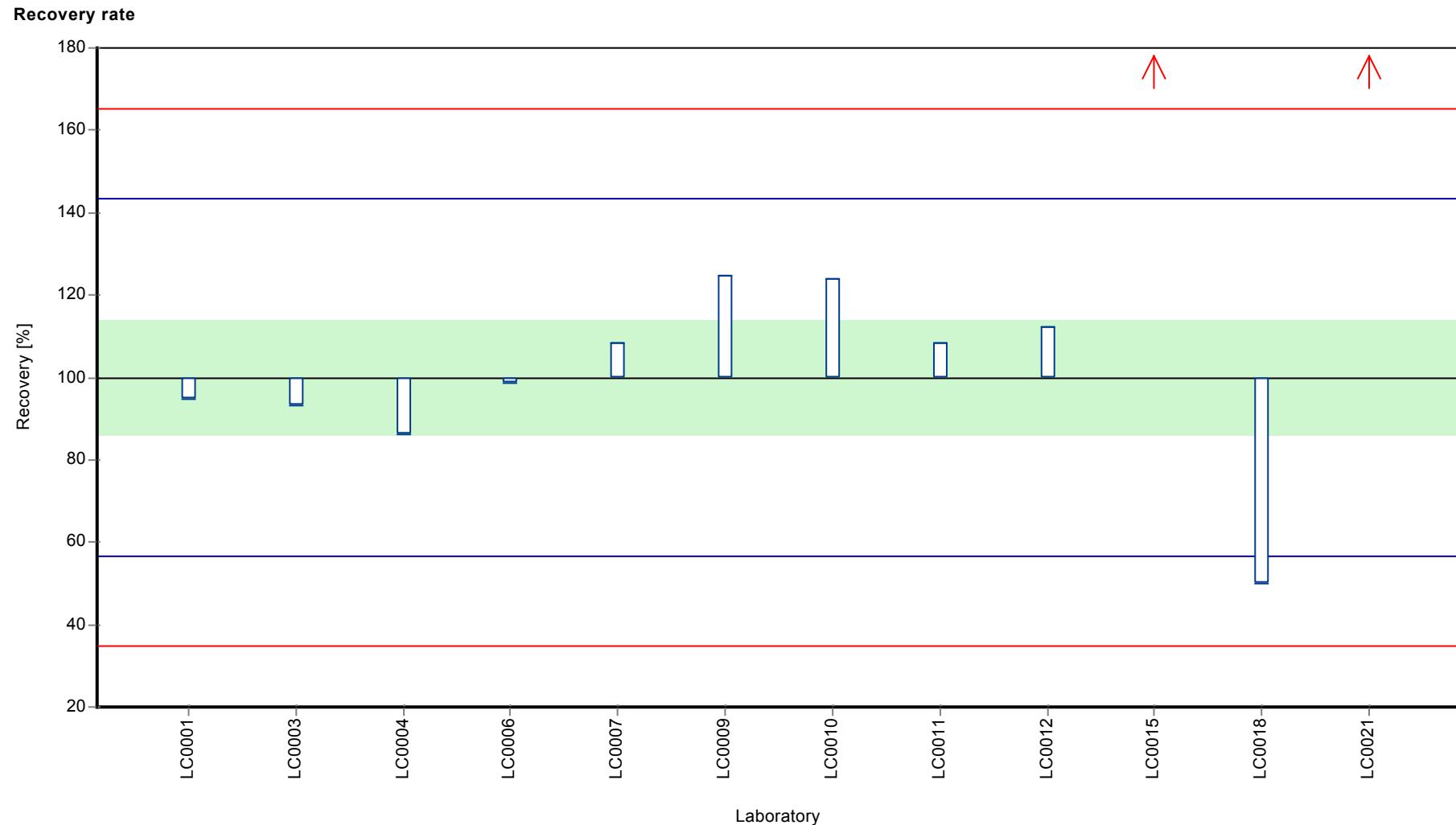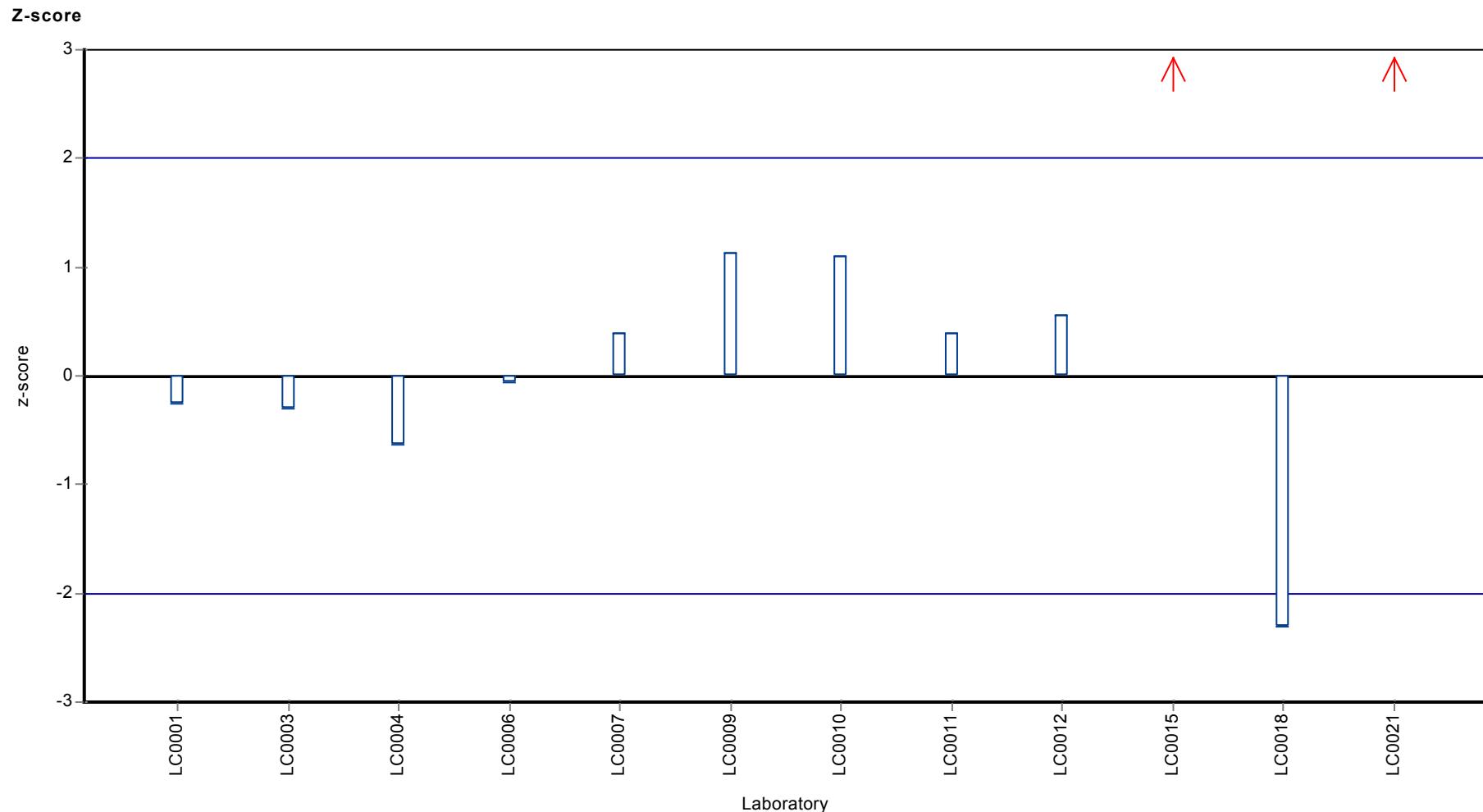
**Z-score**

# Parameter oriented report

## BL06 - BTEX & C5-C10

### n-Hexane

| | |
|---|---|
| Unit | µg/tube |
| Mean ± CI (99%) | 6.02 ± 0.613 |
| Minimum - Maximum | 4.9 - 6.5 |
| Control test value ± U | 5.21 ± 0.781 |

| Labcode | Result | ± U | Recovery [%] | z-score | Comments |
|---|---|---|---|---|---|
| LC0001 | 5.89 | 0.6 | 97.9 | -0.23 | |
| LC0002 | - | - | - | - | |
| LC0003 | 6.5 | 1.3 | 108 | 0.89 | |
| LC0004 | 4.9 | 2 | 81.4 | -2.07 | |
| LC0005 | - | - | - | - | |
| LC0006 | 6.4 | 1.9 | 106 | 0.71 | |
| LC0007 | < 0.1 (LOQ) | - | - | - | |
| LC0009 | 6.23 | 1.25 | 104 | 0.39 | |
| LC0010 | 3.16 | 0.2 | 52.5 | -5.28 | H |
| LC0011 | 6.26 | 1.3 | 104 | 0.45 | |
| LC0012 | 5.937 | 1.48 | 98.7 | -0.15 | |
| LC0014 | - | - | - | - | |
| LC0015 | 4.15 | 1.3 | 69 | -3.45 | H |
| LC0016 | - | - | - | - | |
| LC0017 | - | - | - | - | |
| LC0018 | - | - | - | - | |
| LC0020 | - | - | - | - | |
| LC0021 | 18.28 | 3.656 | 304 | 22.7 | H |
| LC0022 | - | - | - | - | |

### Characteristics of parameter

| | all results | without outliers | Unit |
|---|---|---|---|
| Mean ± CI (99%) | 6.77 ± 3.98 | 6.02 ± 0.613 | µg/tube |
| Minimum | 3.16 | 4.9 | µg/tube |
| Maximum | 18.3 | 6.5 | µg/tube |
| Standard deviation | 4.19 | 0.541 | µg/tube |
| rel. Standard deviation | 61.9 | 8.99 | % |
| n | 10 | 7 | - |

**Graphical presentation of results**

**Results**

**Recovery rate**
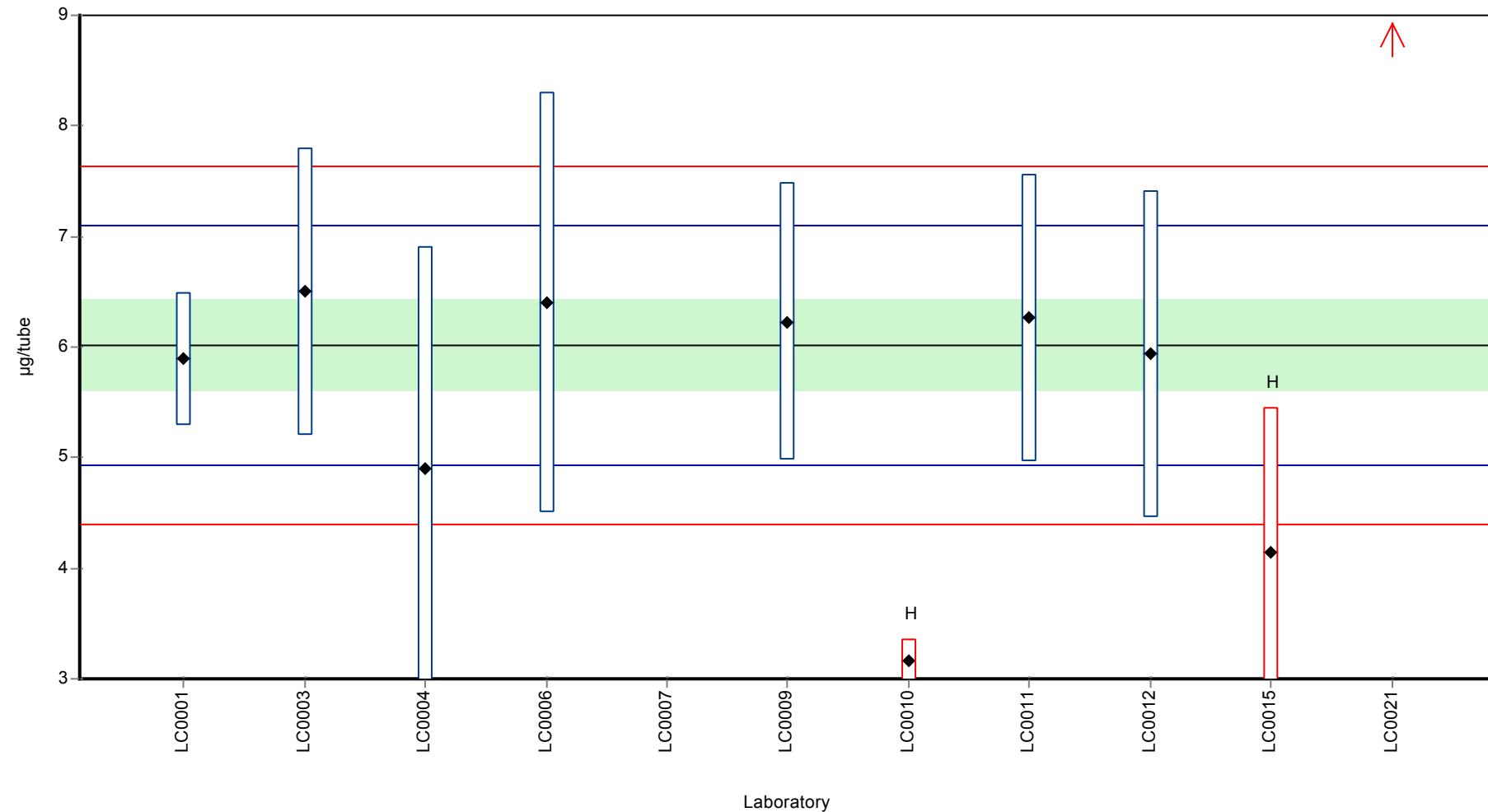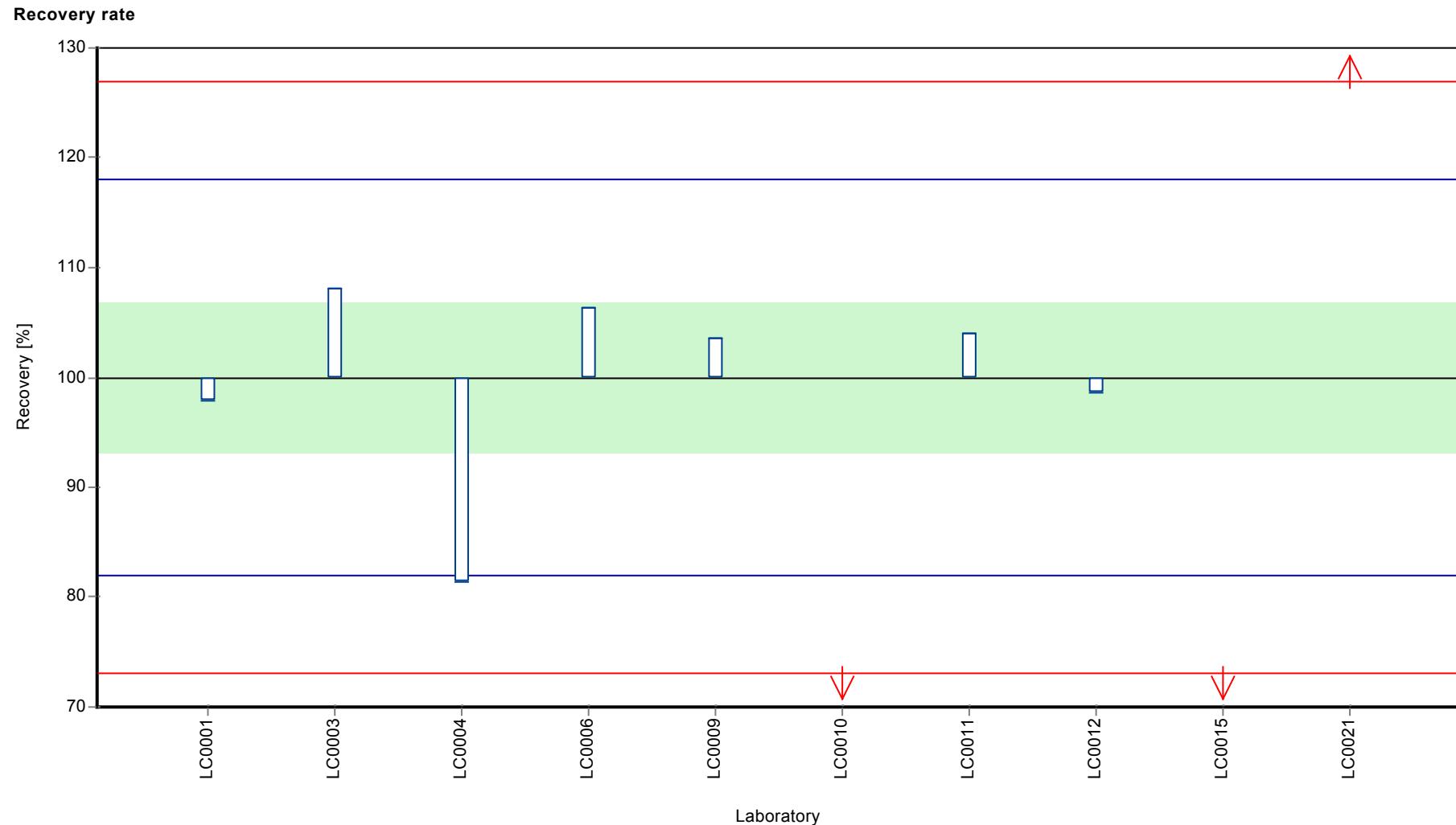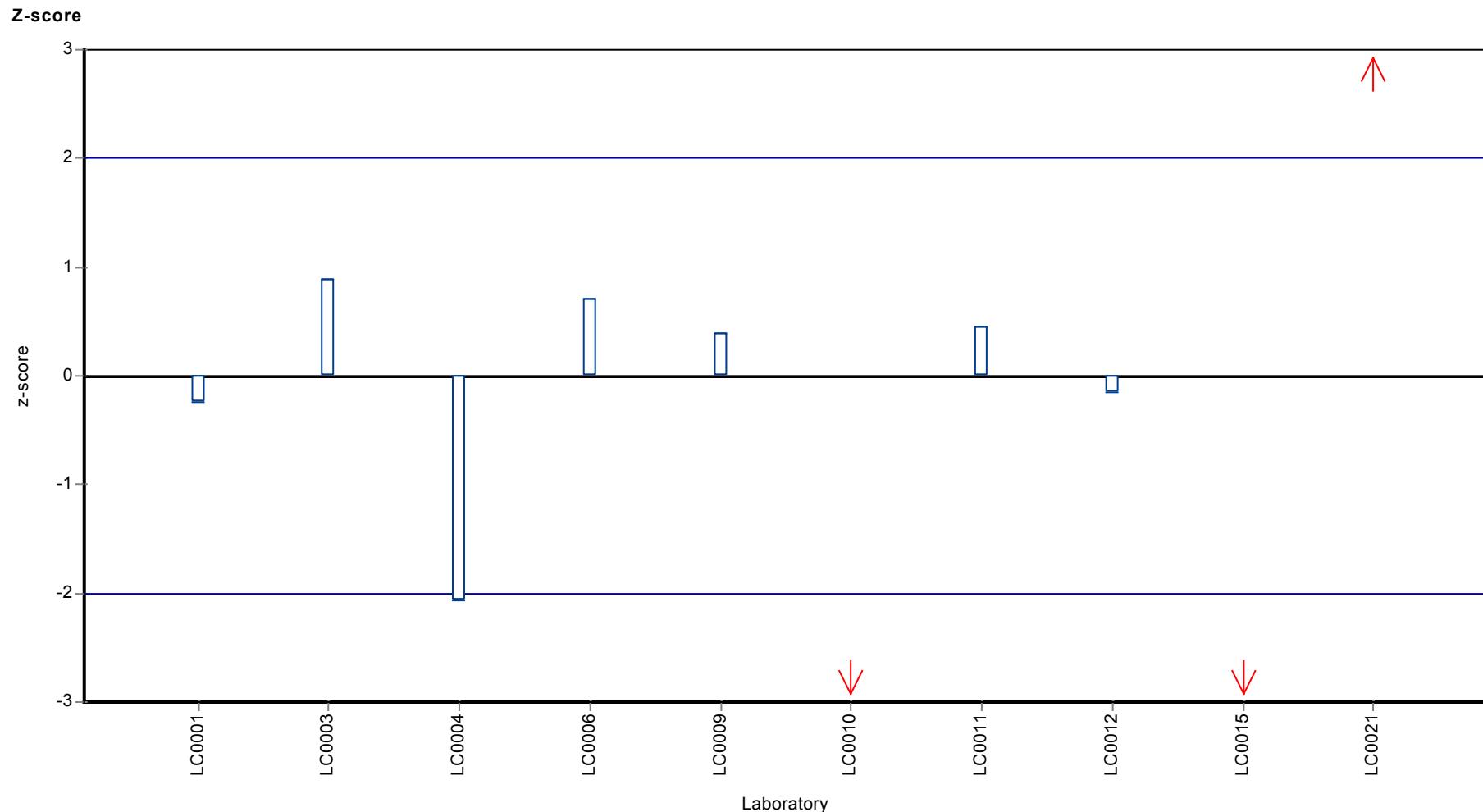
**Z-score**

# Parameter oriented report

## BL06 - BTEX & C5-C10

### n-Nonane

| | |
|---|---|
| Unit | µg/tube |
| Mean ± Cl (99%) | 5.75 ± 1.44 |
| Minimum - Maximum | 3.58 - 9.38 |
| Control test value ± U | 6.22 ± 0.933 |

| Labcode | Result | ± U | Recovery [%] | z-score | Comments |
|---|---|---|---|---|---|
| LC0001 | 6.26 | 0.6 | 109 | 0.32 | |
| LC0002 | - | - | - | - | |
| LC0003 | 4.3 | 0.86 | 74.8 | -0.91 | |
| LC0004 | 3.8 | 1.5 | 66.1 | -1.22 | |
| LC0005 | - | - | - | - | |
| LC0006 | 5.6 | 1.7 | 97.4 | -0.09 | |
| LC0007 | 6.27 | 0.129 | 109 | 0.33 | |
| LC0009 | 6.43 | 1.29 | 112 | 0.43 | |
| LC0010 | 6.09 | 0.2 | 106 | 0.21 | |
| LC0011 | 5.27 | 1.1 | 91.6 | -0.3 | |
| LC0012 | 6.279 | 1.57 | 109 | 0.33 | |
| LC0014 | - | - | - | - | |
| LC0015 | 9.38 | 1.1 | 163 | 2.28 | |
| LC0016 | - | - | - | - | |
| LC0017 | - | - | - | - | |
| LC0018 | 3.58 | 0.36 | 62.3 | -1.36 | |
| LC0020 | - | - | - | - | |
| LC0021 | 10.68 | 2.136 | 186 | 3.09 | H |
| LC0022 | - | - | - | - | |

### Characteristics of parameter

| | all results | without outliers | Unit |
|---|---|---|---|
| Mean ± Cl (99%) | 6.16 ± 1.8 | 5.75 ± 1.44 | µg/tube |
| Minimum | 3.58 | 3.58 | µg/tube |
| Maximum | 10.7 | 9.38 | µg/tube |
| Standard deviation | 2.08 | 1.59 | µg/tube |
| rel. Standard deviation | 33.8 | 27.7 | % |
| n | 12 | 11 | - |

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**Graphical presentation of results**

**Results**

**Recovery rate**
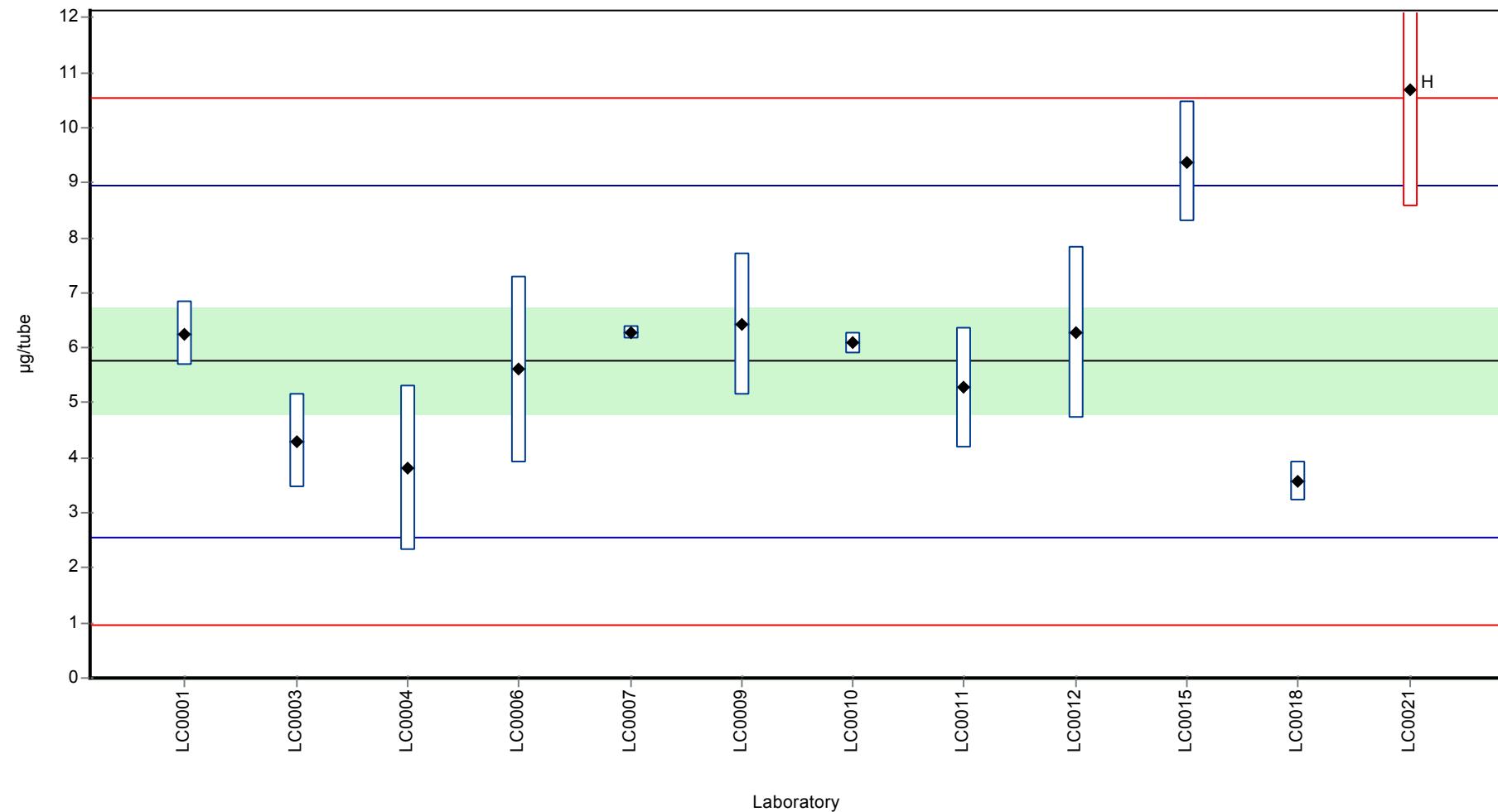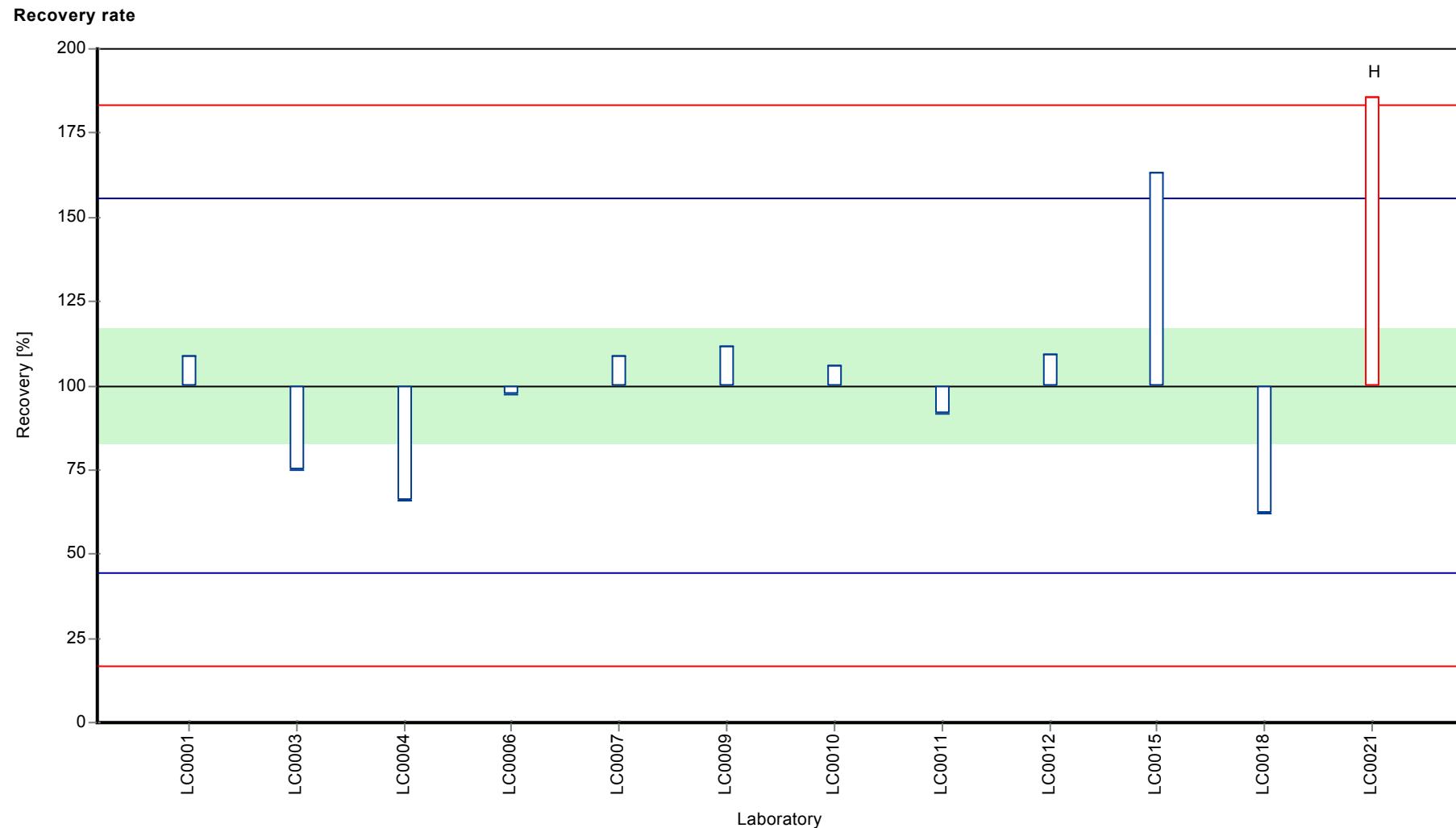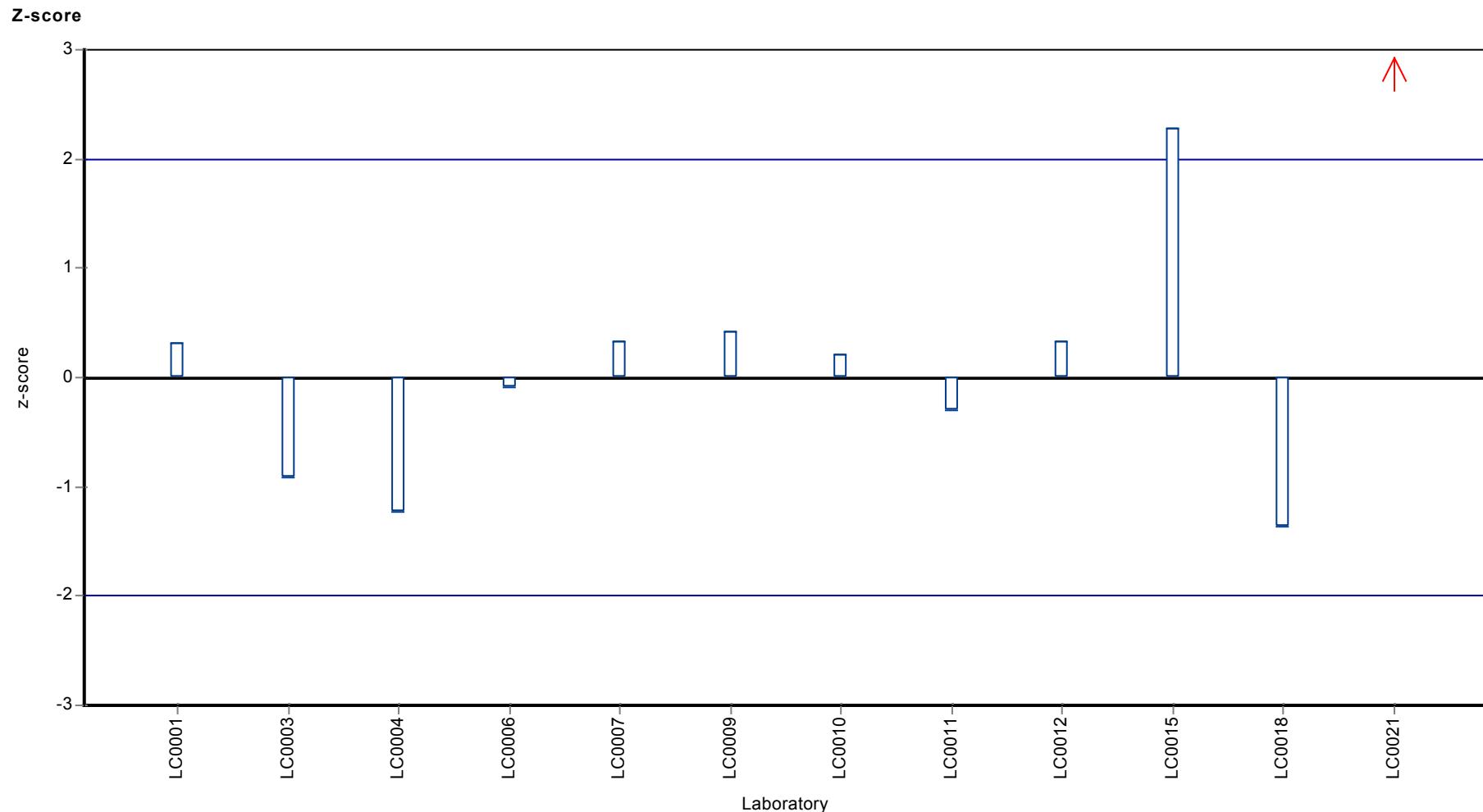
**Z-score**

# Parameter oriented report

## BL06 - BTEX & C5-C10

### n-Octane

| | |
|---|---|
| Unit | µg/tube |
| Mean ± CI (99%) | 6.15 ± 0.998 |
| Minimum - Maximum | 4 - 7.4 |
| Control test value ± U | 6.24 ± 0.937 |

| Labcode | Result | ± U | Recovery [%] | z-score | Comments |
|---|---|---|---|---|---|
| LC0001 | 5.89 | 0.6 | 95.8 | -0.25 | |
| LC0002 | - | - | - | - | |
| LC0003 | 4.8 | 0.96 | 78 | -1.28 | |
| LC0004 | 4 | 1.6 | 65 | -2.04 | |
| LC0005 | - | - | - | - | |
| LC0006 | 7.4 | 2.2 | 120 | 1.19 | |
| LC0007 | 6.37 | 0.127 | 104 | 0.21 | |
| LC0009 | 6.59 | 1.32 | 107 | 0.42 | |
| LC0010 | 6.93 | 0.2 | 113 | 0.74 | |
| LC0011 | 5.85 | 1.2 | 95.1 | -0.28 | |
| LC0012 | 6.8 | 1.7 | 111 | 0.62 | |
| LC0014 | - | - | - | - | |
| LC0015 | 6.87 | 1 | 112 | 0.69 | |
| LC0016 | - | - | - | - | |
| LC0017 | - | - | - | - | |
| LC0018 | 3.47 | 0.35 | 56.4 | -2.55 | H |
| LC0020 | - | - | - | - | |
| LC0021 | 12.467 | 2.493 | 203 | 6.01 | H |
| LC0022 | - | - | - | - | |

### Characteristics of parameter

| | all results | without outliers | Unit |
|---|---|---|---|
| Mean ± CI (99%) | 6.45 ± 1.95 | 6.15 ± 0.998 | µg/tube |
| Minimum | 3.47 | 4 | µg/tube |
| Maximum | 12.5 | 7.4 | µg/tube |
| Standard deviation | 2.26 | 1.05 | µg/tube |
| rel. Standard deviation | 34.9 | 17.1 | % |
| n | 12 | 10 | - |

**Graphical presentation of results**

**Results**

**Recovery rate**
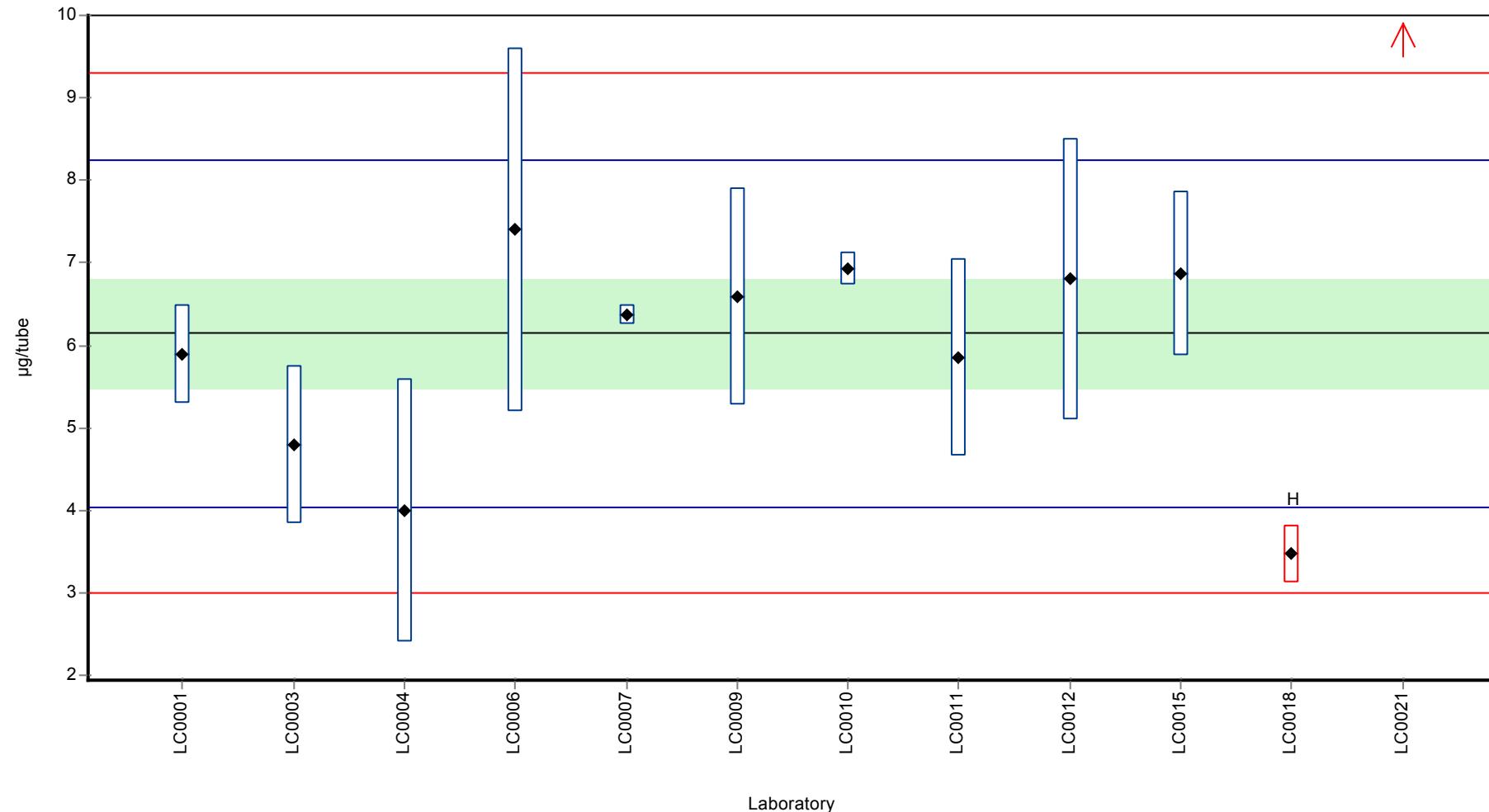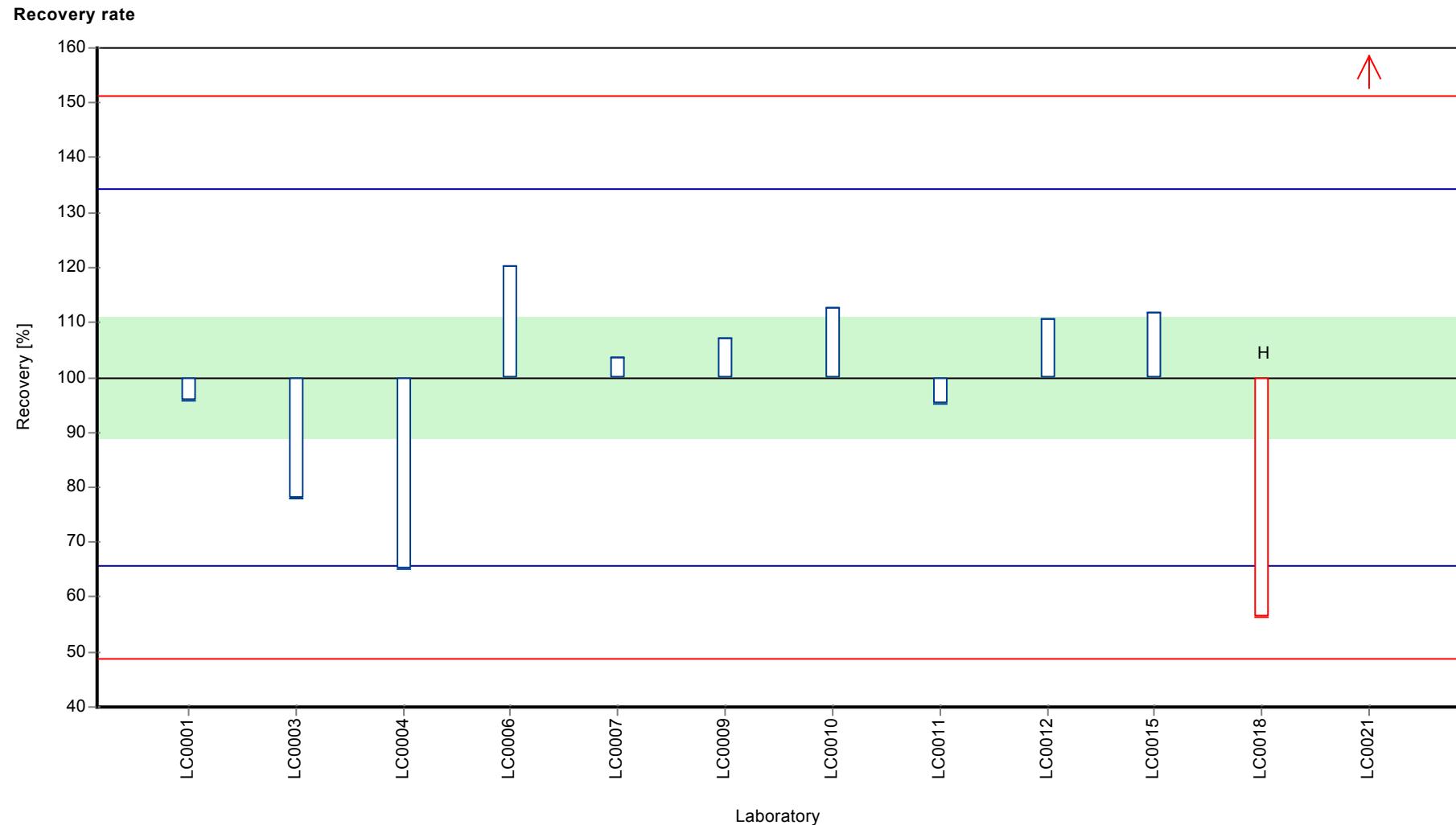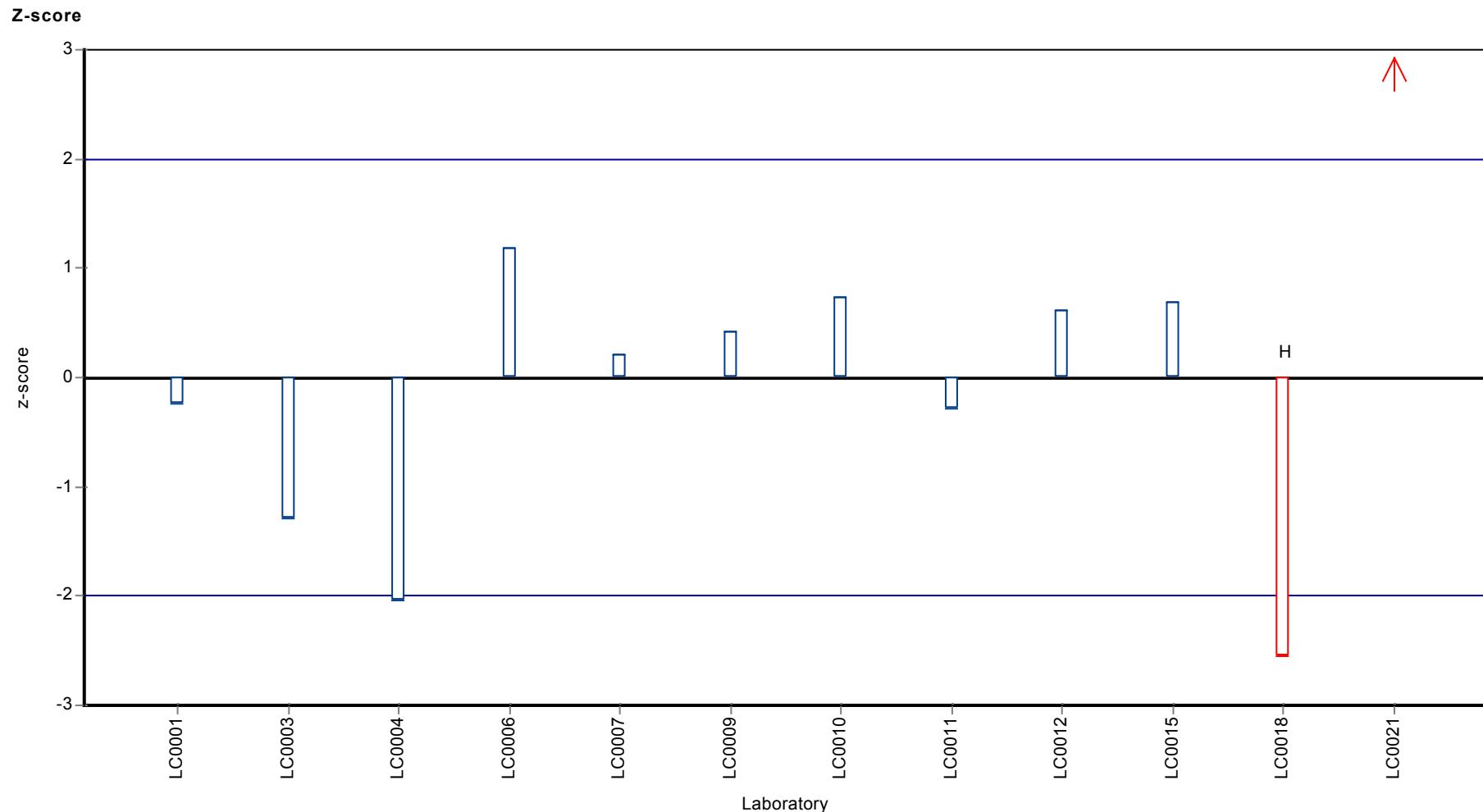
**Z-score**

# Parameter oriented report

## BL06 - BTEX & C5-C10

### n-Pentane

| | |
|---|---|
| Unit | µg/tube |
| Mean ± CI (99%) | 6.2 ± 0.97 |
| Minimum - Maximum | 4.07 - 7.68 |
| Control test value ± U | 4.84 ± 0.969 |

| Labcode | Result | ± U | Recovery [%] | z-score | Comments |
|---|---|---|---|---|---|
| LC0001 | 6.2 | 0.6 | 100 | 0.00 | |
| LC0002 | - | - | - | - | |
| LC0003 | 5.4 | 1.1 | 87.1 | -0.74 | |
| LC0004 | 7.4 | 3 | 119 | 1.12 | |
| LC0005 | - | - | - | - | |
| LC0006 | 7.4 | 2.2 | 119 | 1.12 | |
| LC0007 | 5.87 | 0.126 | 94.7 | -0.3 | |
| LC0009 | 5.63 | 1.13 | 90.9 | -0.53 | |
| LC0010 | 6.82 | 0.2 | 110 | 0.58 | |
| LC0011 | 6.16 | 1.2 | 99.4 | -0.03 | |
| LC0012 | 5.534 | 1.38 | 89.3 | -0.62 | |
| LC0014 | - | - | - | - | |
| LC0015 | 4.07 | 1 | 65.7 | -1.98 | |
| LC0016 | - | - | - | - | |
| LC0017 | - | - | - | - | |
| LC0018 | 7.68 | 0.77 | 124 | 1.38 | |
| LC0020 | - | - | - | - | |
| LC0021 | 24.227 | 4.845 | 391 | 16.8 | H |
| LC0022 | - | - | - | - | |

### Characteristics of parameter

| | all results | without outliers | Unit |
|---|---|---|---|
| Mean ± CI (99%) | 7.7 ± 4.59 | 6.2 ± 0.97 | µg/tube |
| Minimum | 4.07 | 4.07 | µg/tube |
| Maximum | 24.2 | 7.68 | µg/tube |
| Standard deviation | 5.3 | 1.07 | µg/tube |
| rel. Standard deviation | 68.9 | 17.3 | % |
| n | 12 | 11 | - |

**Graphical presentation of results**

**Results**

**Recovery rate**
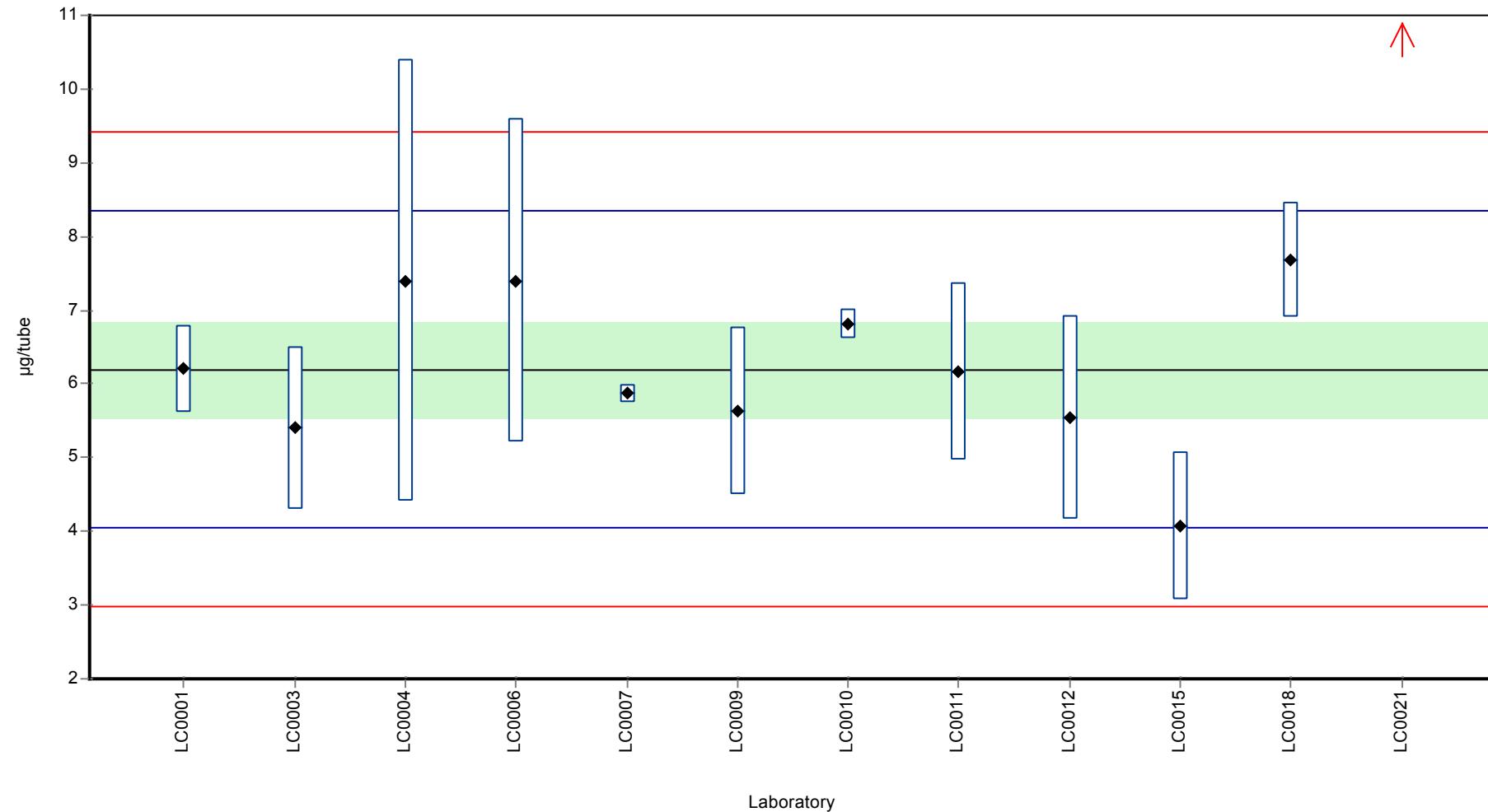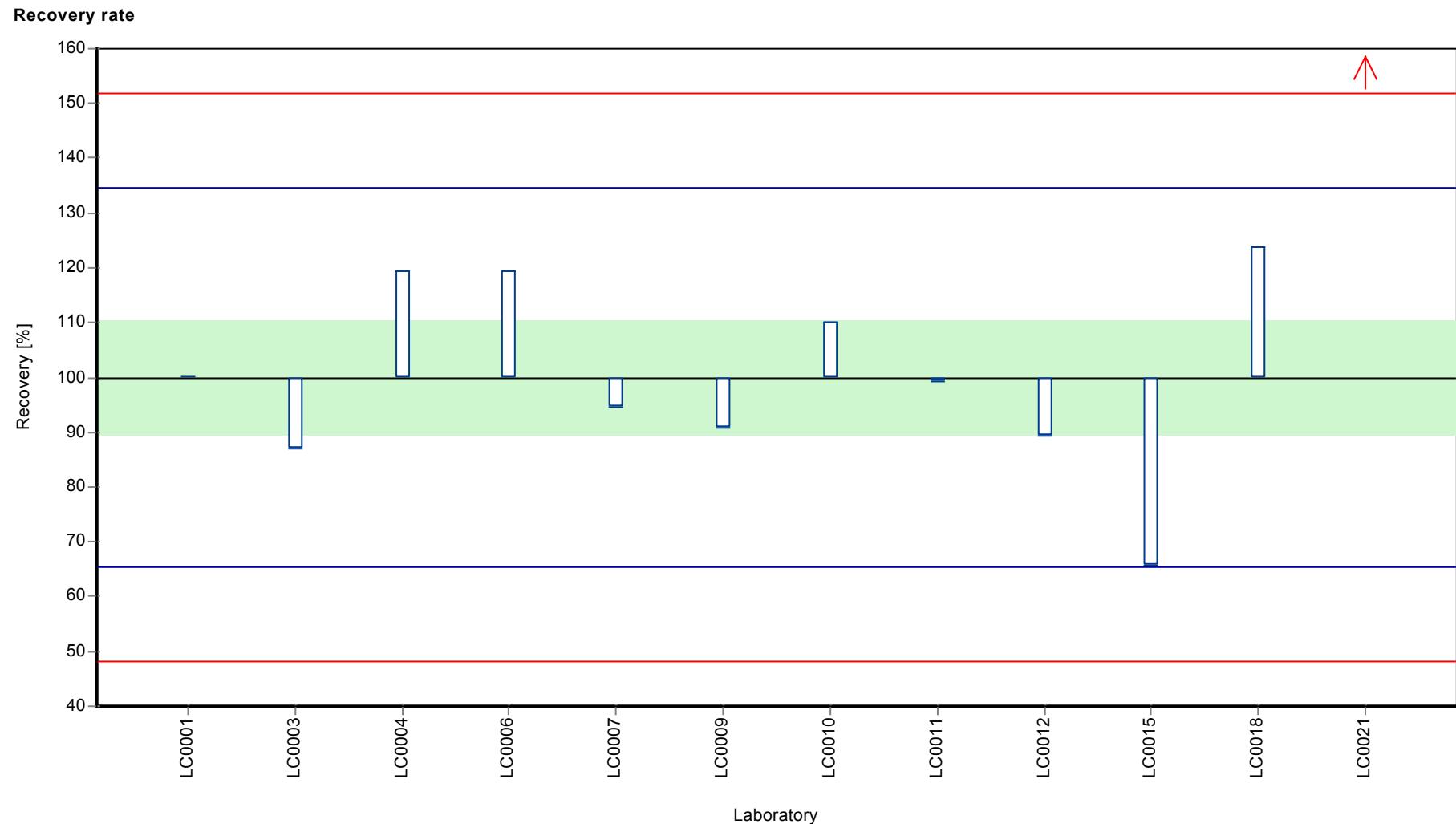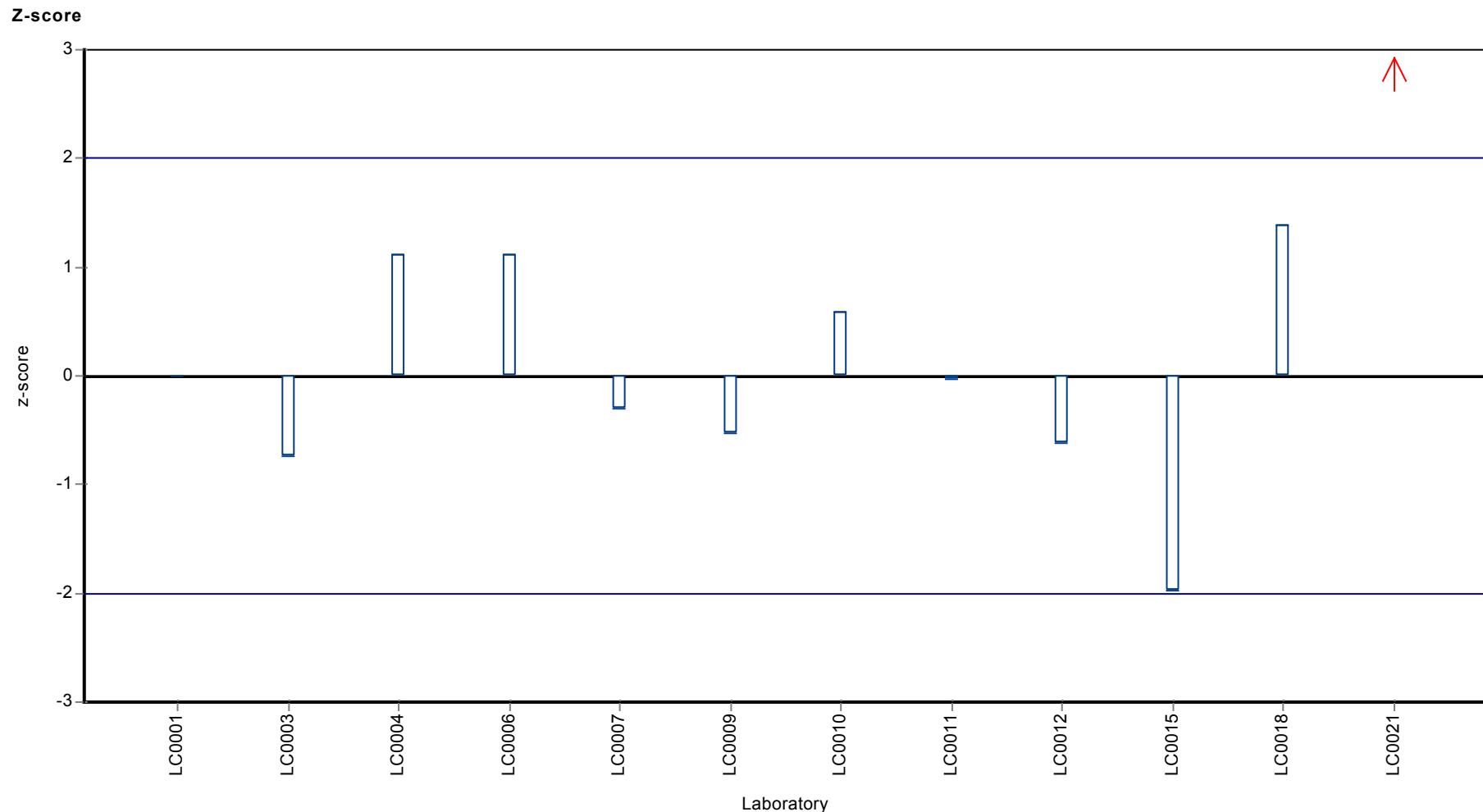
**Z-score**

# Parameter oriented report

## CL05 - CHC

### 1,1,1-Trichloroethane

| | |
|---|---|
| Unit | µg/tube |
| Mean ± Cl (99%) | 10.9 ± 0.689 |
| Minimum - Maximum | 9.43 - 12.5 |
| Control test value ± U | 9.40 ± 1.24 |

| Labcode | Result | ± U | Recovery [%] | z-score | Comments |
|---|---|---|---|---|---|
| LC0001 | 10.2 | 1 | 93.9 | -0.72 | |
| LC0002 | 10.6 | 2.12 | 97.6 | -0.28 | |
| LC0003 | 12 | 2.4 | 110 | 1.24 | |
| LC0004 | 12.5 | 5 | 115 | 1.78 | |
| LC0006 | 11 | 3.3 | 101 | 0.15 | |
| LC0007 | 1.43 | 0.126 | 13.2 | -10.3 | H |
| LC0008 | 10.72 | 0.536 | 98.7 | -0.15 | |
| LC0009 | 10.64 | 2.13 | 98 | -0.24 | |
| LC0010 | 9.43 | 0.2 | 86.8 | -1.56 | |
| LC0011 | 9.62 | 1.9 | 88.6 | -1.35 | |
| LC0012 | 11.62 | 2.91 | 107 | 0.83 | |
| LC0013 | 10.507 | 2.101 | 96.7 | -0.39 | |
| LC0015 | 10.5 | 1 | 96.7 | -0.39 | |
| LC0017 | 10 | 1 | 92.1 | -0.94 | |
| LC0019 | 10.63 | 1.44 | 97.9 | -0.25 | |
| LC0020 | 11.3 | 2.8 | 104 | 0.48 | |
| LC0021 | 16.08 | 3.2 | 148 | 5.68 | H |
| LC0022 | 12.5 | 2.5 | 115 | 1.78 | |

### Characteristics of parameter

| | all results | without outliers | Unit |
|---|---|---|---|
| Mean ± Cl (99%) | 10.6 ± 1.94 | 10.9 ± 0.689 | µg/tube |
| Minimum | 1.43 | 9.43 | µg/tube |
| Maximum | 16.1 | 12.5 | µg/tube |
| Standard deviation | 2.74 | 0.919 | µg/tube |
| rel. Standard deviation | 25.8 | 8.46 | % |
| n | 18 | 16 | - |

**Graphical presentation of results**
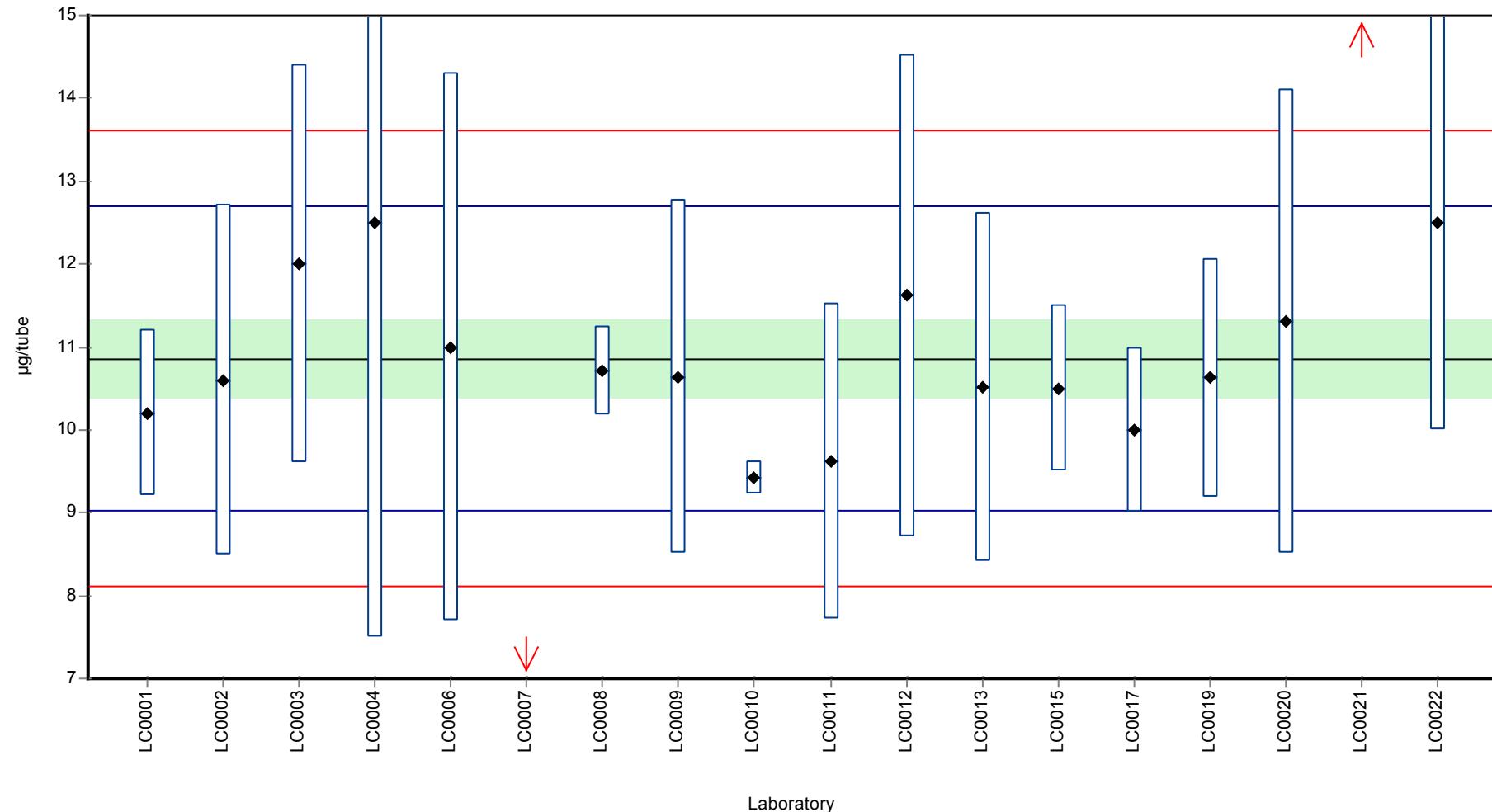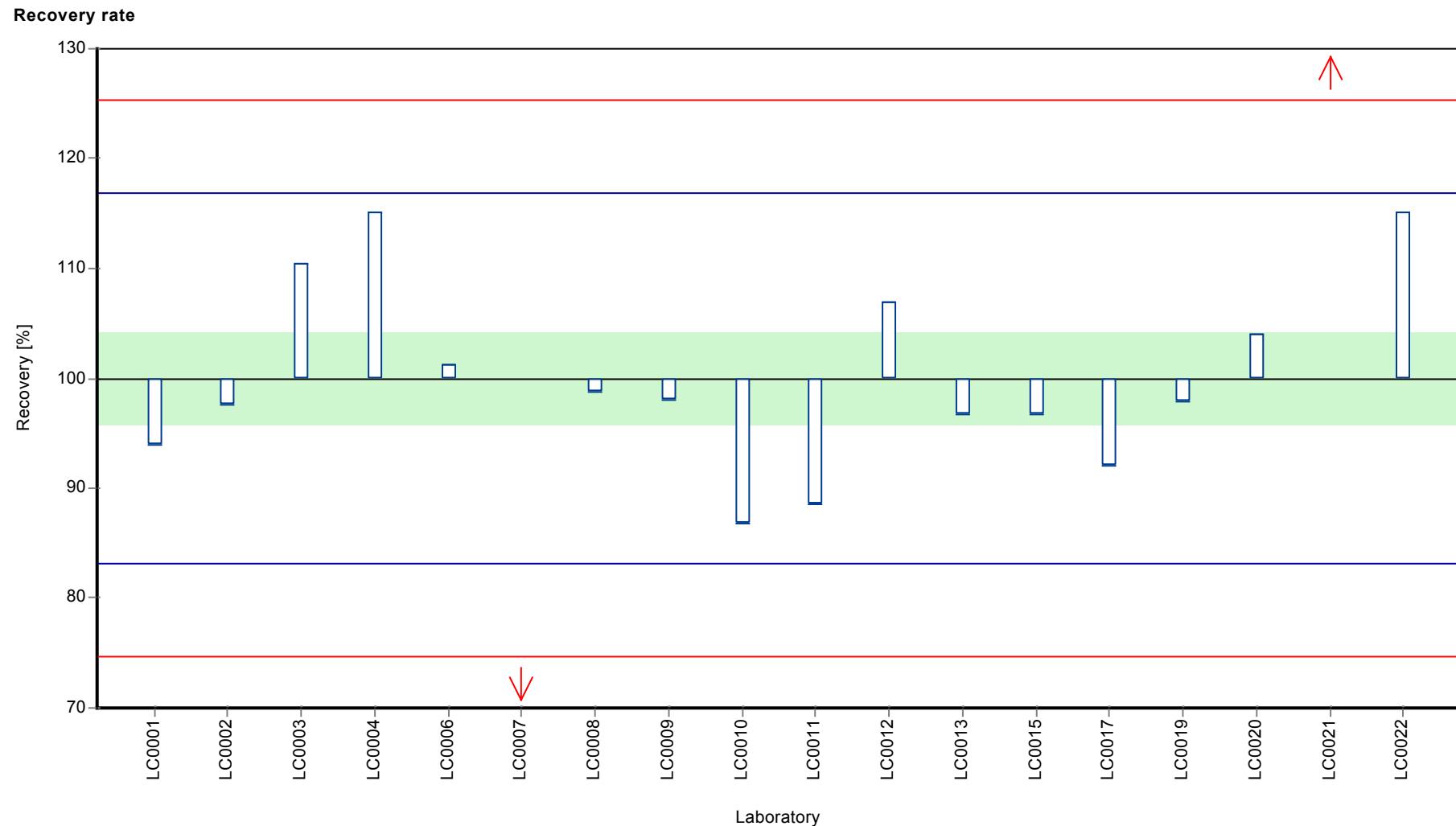
**Results**

**Recovery rate**

**Z-score**



Laboratory
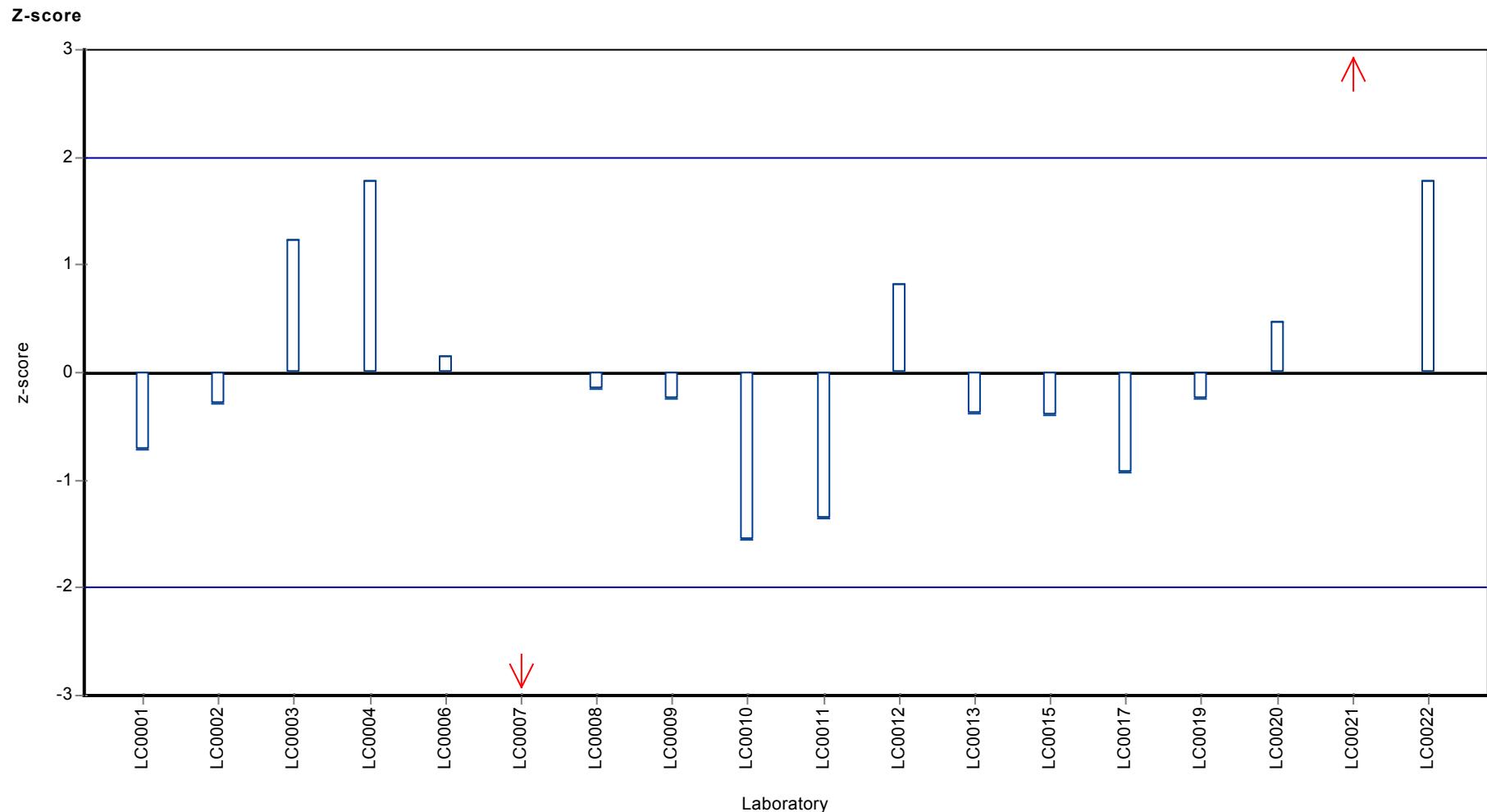
# Parameter oriented report

### CL05 - CHC

### cis-1,2-Dichloroethene

| | |
|---|---|
| Unit | µg/tube |
| Mean ± CI (99%) | 7.23 ± 1.55 |
| Minimum - Maximum | 2.3 - 11.1 |
| Control test value ± U | 8.60 ± 1.19 |

| Labcode | Result | ± U | Recovery [%] | z-score | Comments |
|---|---|---|---|---|---|
| LC0001 | 7.13 | 0.7 | 98.6 | -0.05 | |
| LC0002 | 7.6 | 1.52 | 105 | 0.18 | |
| LC0003 | 5.6 | 1.4 | 77.4 | -0.79 | |
| LC0004 | 8 | 3.2 | 111 | 0.37 | |
| LC0006 | 9.4 | 2.8 | 130 | 1.05 | |
| LC0007 | 1.06 | 0.126 | 14.7 | -2.98 | H |
| LC0008 | 6.37 | 0.313 | 88.1 | -0.42 | |
| LC0009 | 6.69 | 1.34 | 92.5 | -0.26 | |
| LC0010 | 4.85 | 0.2 | 67.1 | -1.15 | |
| LC0011 | 6.12 | 1.2 | 84.6 | -0.54 | |
| LC0012 | 9.316 | 2.33 | 129 | 1.01 | |
| LC0013 | 7.122 | 1.424 | 98.5 | -0.05 | |
| LC0015 | 11.09 | 1.1 | 153 | 1.87 | |
| LC0017 | 2.3 | 0.2 | 31.8 | -2.38 | |
| LC0019 | 7.03 | 0.77 | 97.2 | -0.1 | |
| LC0020 | 7.8 | 2 | 108 | 0.28 | |
| LC0021 | 9.28 | 1.8 | 128 | 0.99 | |
| LC0022 | 32.7 | 6.5 | 452 | 12.3 | H |

### Characteristics of parameter

| | all results | without outliers | Unit |
|---|---|---|---|
| Mean ± CI (99%) | 8.3 ± 4.63 | 7.23 ± 1.55 | µg/tube |
| Minimum | 1.06 | 2.3 | µg/tube |
| Maximum | 32.7 | 11.1 | µg/tube |
| Standard deviation | 6.55 | 2.07 | µg/tube |
| rel. Standard deviation | 78.9 | 28.6 | % |
| n | 18 | 16 | - |

**Graphical presentation of results**
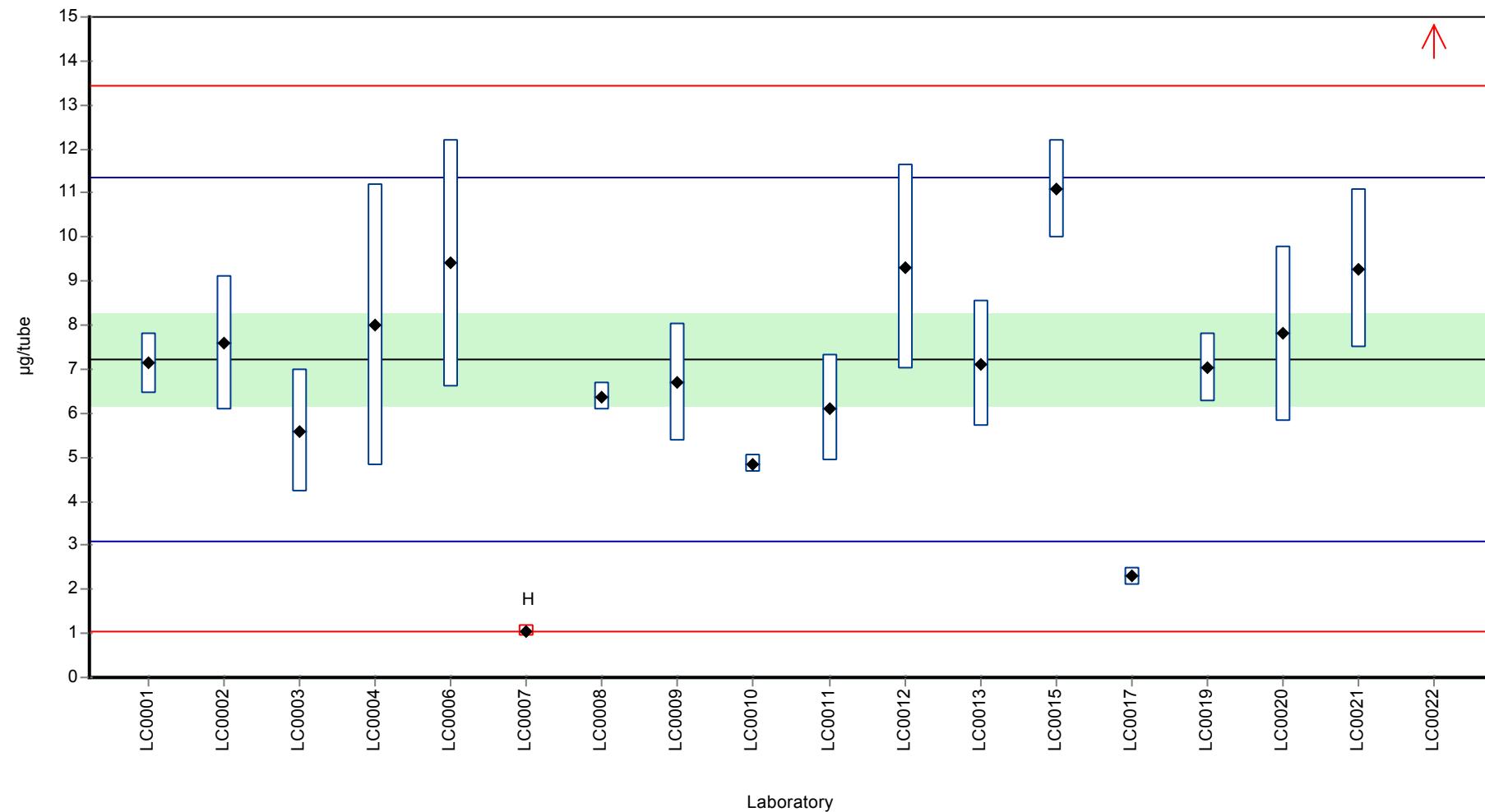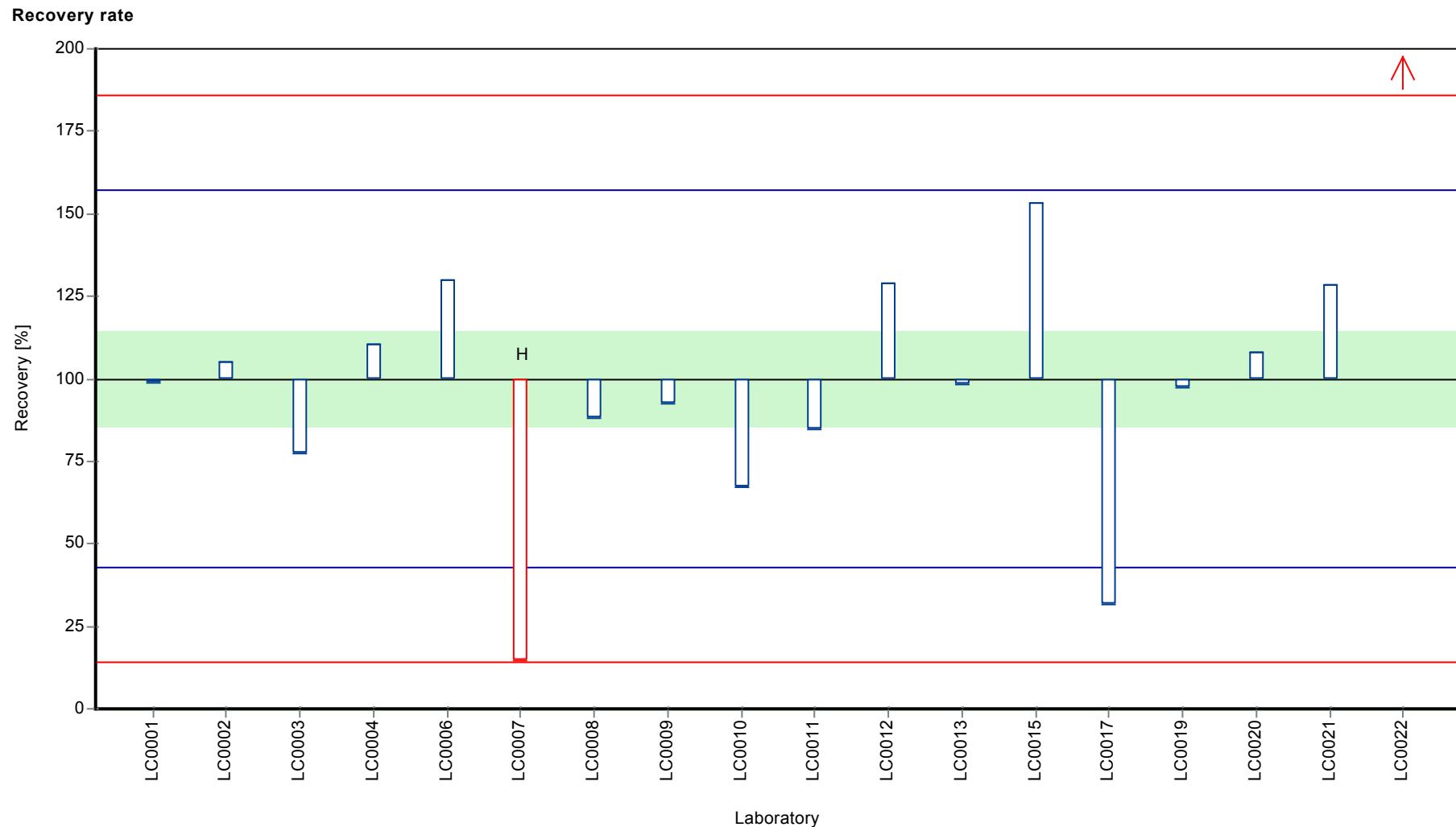
**Results**

**Recovery rate**
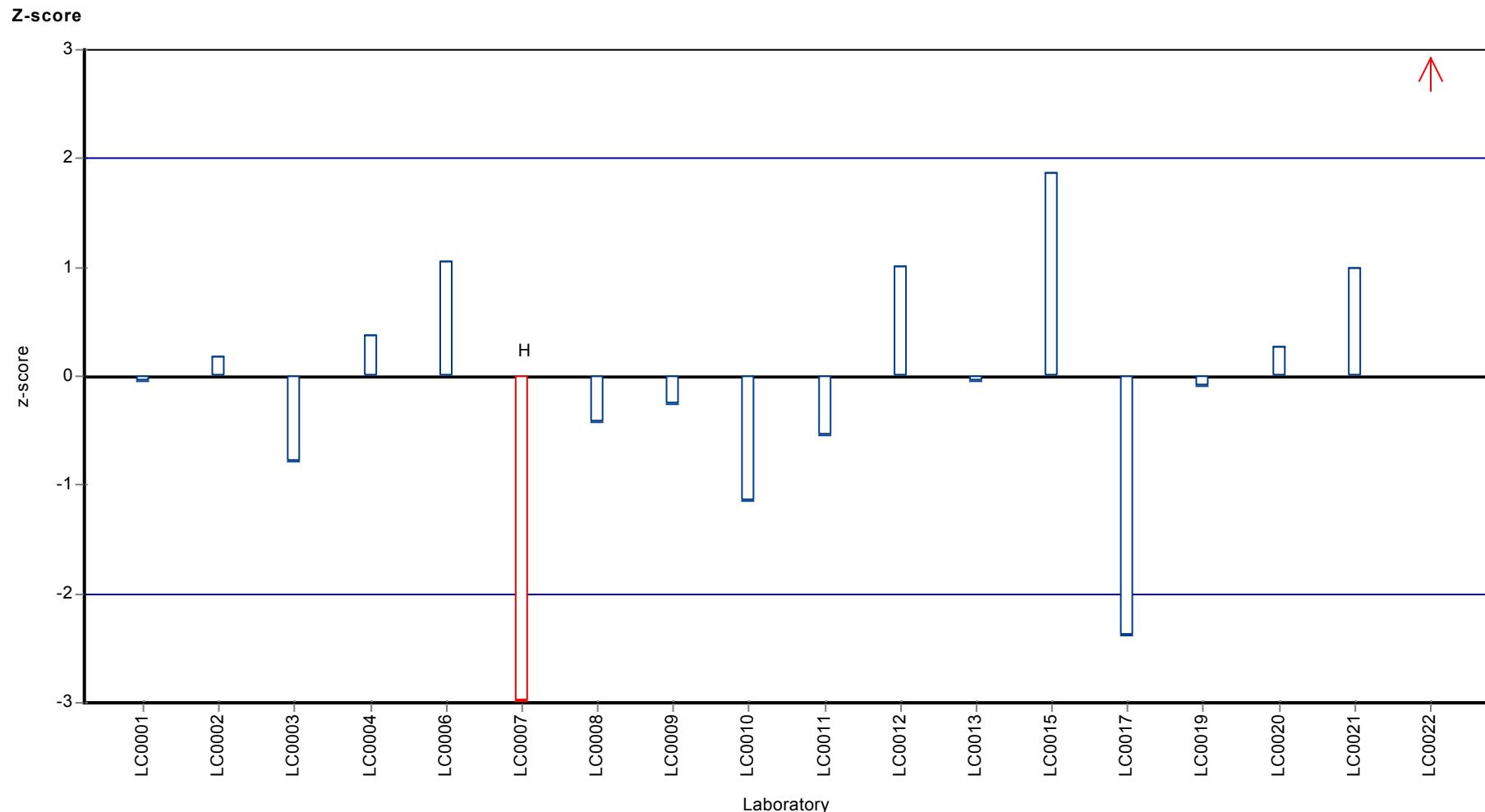
**Z-score**

# Parameter oriented report

### CL05 - CHC

### Tetrachloroethene

| | |
|---|---|
| Unit | µg/tube |
| Mean ± CI (99%) | 11.5 ± 1.14 |
| Minimum - Maximum | 8.14 - 14.2 |
| Control test value ± U | 11.0 ± 1.45 |

| Labcode | Result | ± U | Recovery [%] | z-score | Comments |
|---------|--------|-----|--------------|---------|----------|
| LC0001 | 10.3 | 1 | 89.9 | -0.74 | |
| LC0002 | 11.3 | 2.26 | 98.6 | -0.1 | |
| LC0003 | 12 | 2.2 | 105 | 0.34 | |
| LC0004 | 10.4 | 4.2 | 90.8 | -0.68 | |
| LC0006 | 11.4 | 3.2 | 99.5 | -0.04 | |
| LC0007 | 1.39 | 0.128 | 12.1 | -6.42 | H |
| LC0008 | 12.74 | 0.698 | 111 | 0.82 | |
| LC0009 | 11.54 | 2.31 | 101 | 0.05 | |
| LC0010 | 9.67 | 0.1 | 84.4 | -1.14 | |
| LC0011 | 10.8 | 2.2 | 94.3 | -0.42 | |
| LC0012 | 12.96 | 3.24 | 113 | 0.96 | |
| LC0013 | 8.141 | 1.62 | 71 | -2.12 | |
| LC0015 | 14.23 | 1 | 124 | 1.77 | |
| LC0017 | 10.7 | 1.1 | 93.4 | -0.48 | |
| LC0019 | 10.07 | 1.01 | 87.9 | -0.89 | |
| LC0020 | 11.7 | 2.9 | 102 | 0.15 | |
| LC0021 | 13.64 | 2.7 | 119 | 1.39 | |
| LC0022 | 13.2 | 2.6 | 115 | 1.11 | |

### Characteristics of parameter

| | all results | without outliers | Unit |
|---|---|---|---|
| Mean ± CI (99%) | 10.9 ± 1.99 | 11.5 ± 1.14 | µg/tube |
| Minimum | 1.39 | 8.14 | µg/tube |
| Maximum | 14.2 | 14.2 | µg/tube |
| Standard deviation | 2.82 | 1.57 | µg/tube |
| rel. Standard deviation | 25.9 | 13.7 | % |
| n | 18 | 17 | - |

**ENVIRONMENT AGENCY AUSTRIA umweltbundesamt**

**Graphical presentation of results**

**Results**



Laboratory

**Recovery rate**
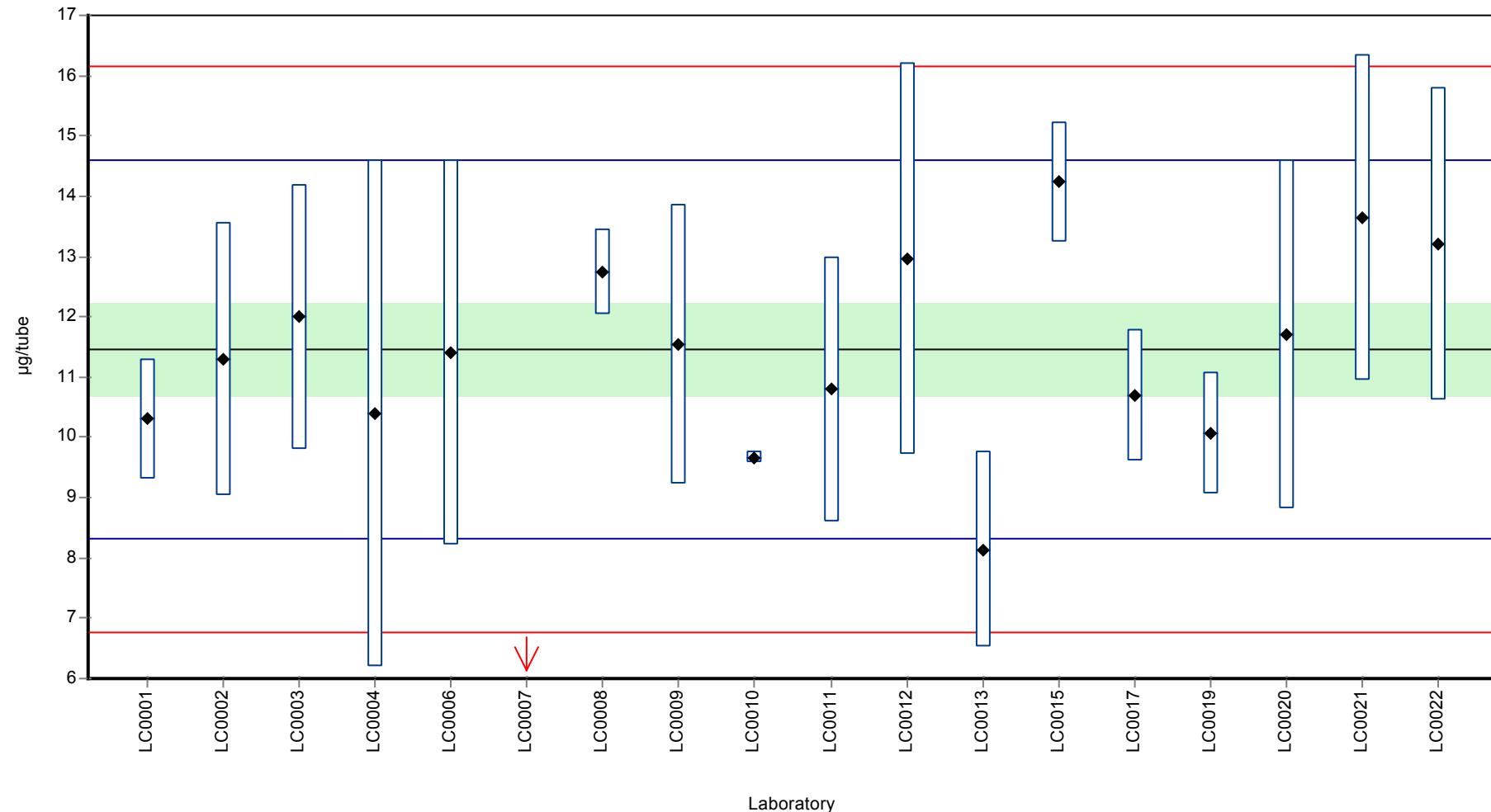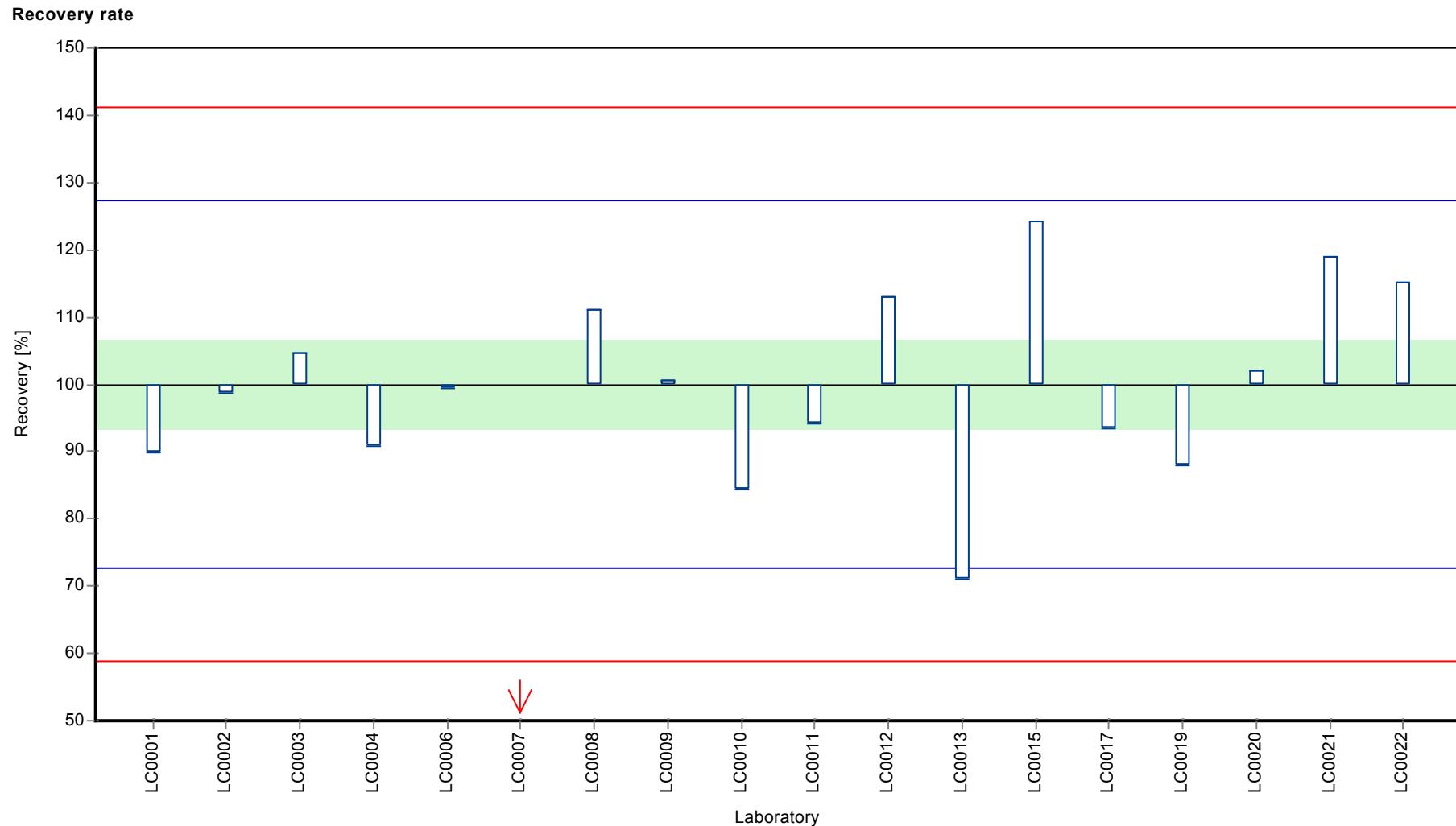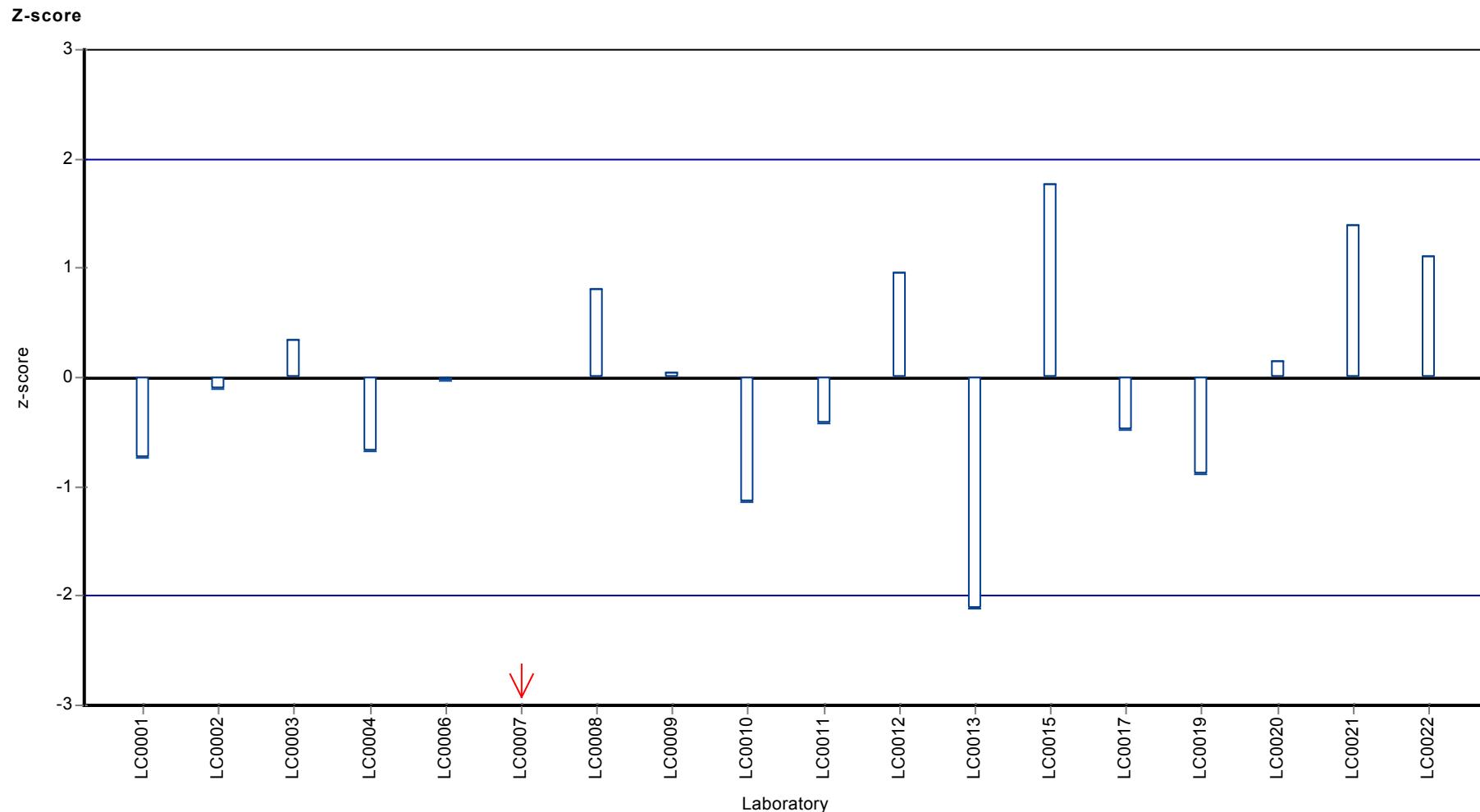
**Z-score**

# Parameter oriented report

### CL05 - CHC

### Tetrachloromethane

| | |
|---|---|
| Unit | µg/tube |
| Mean ± CI (99%) | 13.3 ± 1.21 |
| Minimum - Maximum | 11.1 - 16.8 |
| Control test value ± U | 11.5 ± 1.52 |

| Labcode | Result | ± U | Recovery [%] | z-score | Comments |
|---|---|---|---|---|---|
| LC0001 | 12.3 | 1.2 | 92.8 | -0.59 | |
| LC0002 | 12.4 | 2.48 | 93.5 | -0.53 | |
| LC0003 | 14 | 2.8 | 106 | 0.46 | |
| LC0004 | 15.8 | 6.3 | 119 | 1.58 | |
| LC0006 | 12 | 3.5 | 90.5 | -0.78 | |
| LC0007 | 1.56 | 0.129 | 11.8 | -7.25 | H |
| LC0008 | 61.19 | 2.75 | 462 | 29.7 | H |
| LC0009 | 12.98 | 2.6 | 97.9 | -0.17 | |
| LC0010 | 12.5 | 0.2 | 94.3 | -0.47 | |
| LC0011 | 11.1 | 2.2 | 83.7 | -1.34 | |
| LC0012 | 13.98 | 3.5 | 105 | 0.45 | |
| LC0013 | 12.593 | 2.518 | 95 | -0.41 | |
| LC0015 | 13.8 | 1 | 104 | 0.34 | |
| LC0017 | 12.1 | 1.2 | 91.3 | -0.72 | |
| LC0019 | 11.15 | 1.54 | 84.1 | -1.31 | |
| LC0020 | 13.4 | 3.3 | 101 | 0.09 | |
| LC0021 | 16.81 | 3.4 | 127 | 2.2 | |
| LC0022 | 15.2 | 3 | 115 | 1.2 | |

### Characteristics of parameter

| | all results | without outliers | Unit |
|---|---|---|---|
| Mean ± CI (99%) | 15.3 ± 8.4 | 13.3 ± 1.21 | µg/tube |
| Minimum | 1.56 | 11.1 | µg/tube |
| Maximum | 61.2 | 16.8 | µg/tube |
| Standard deviation | 11.9 | 1.61 | µg/tube |
| rel. Standard deviation | 77.8 | 12.2 | % |
| n | 18 | 16 | - |

**Graphical presentation of results**

**Results**

**Recovery rate**
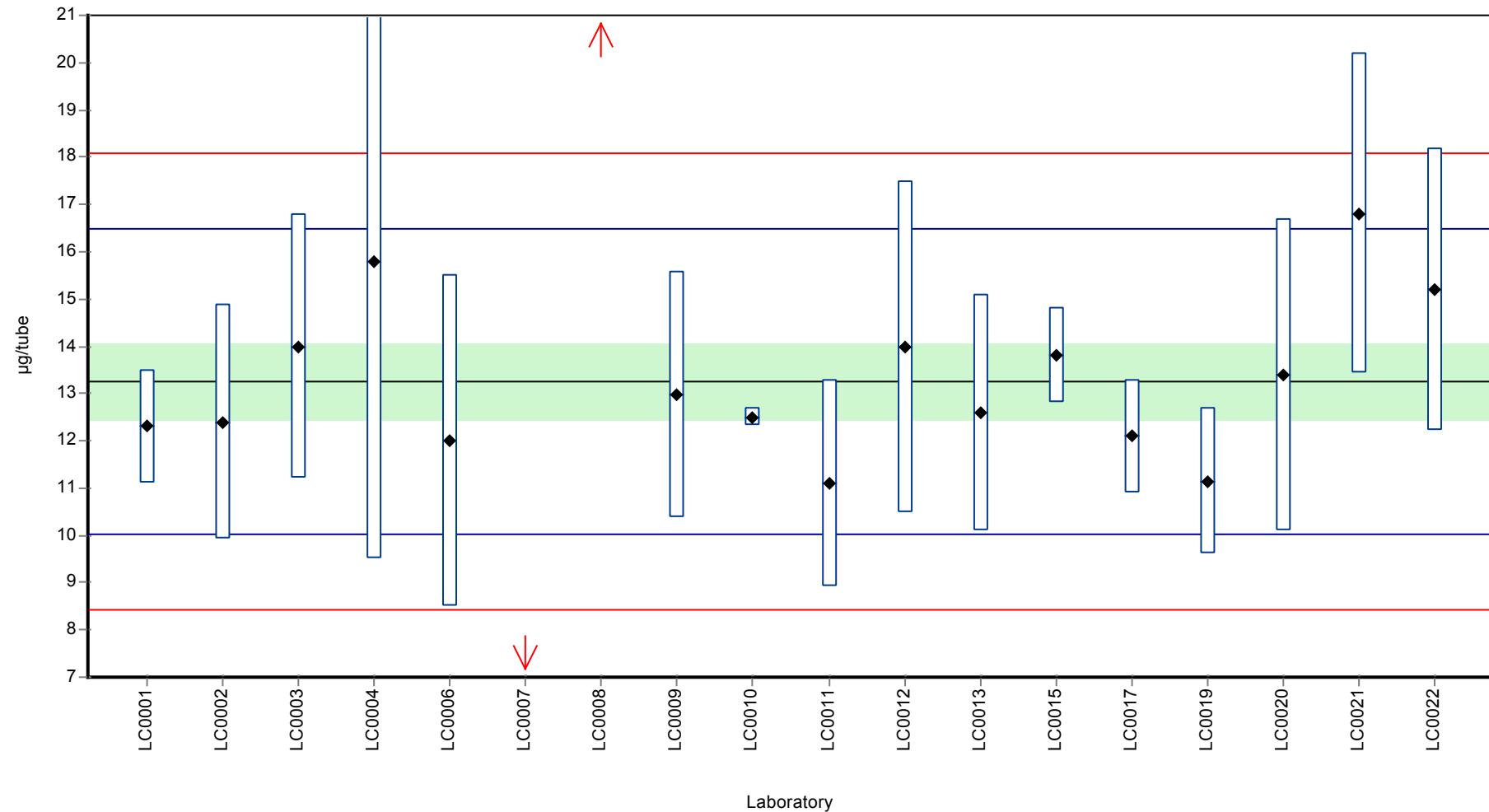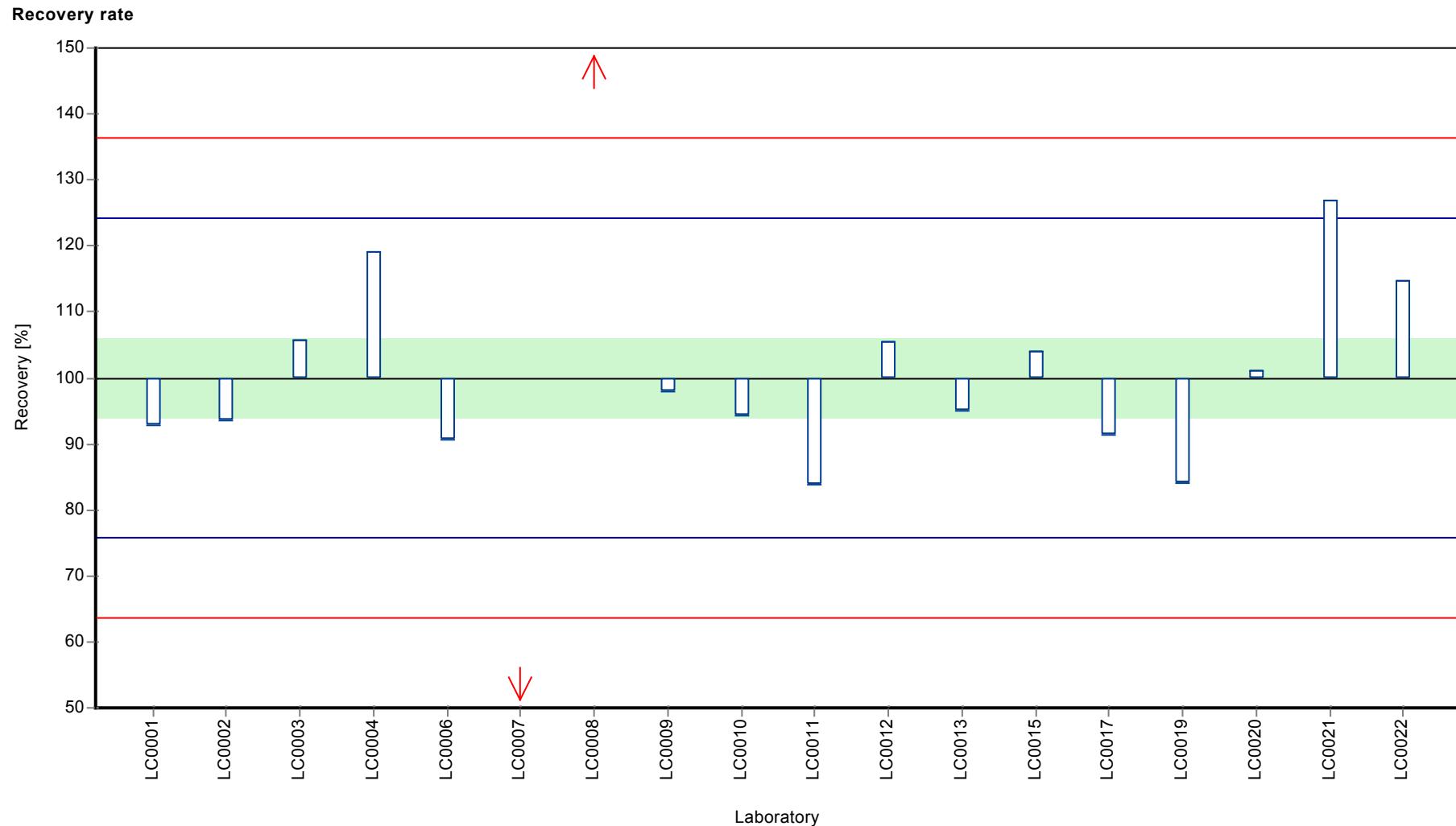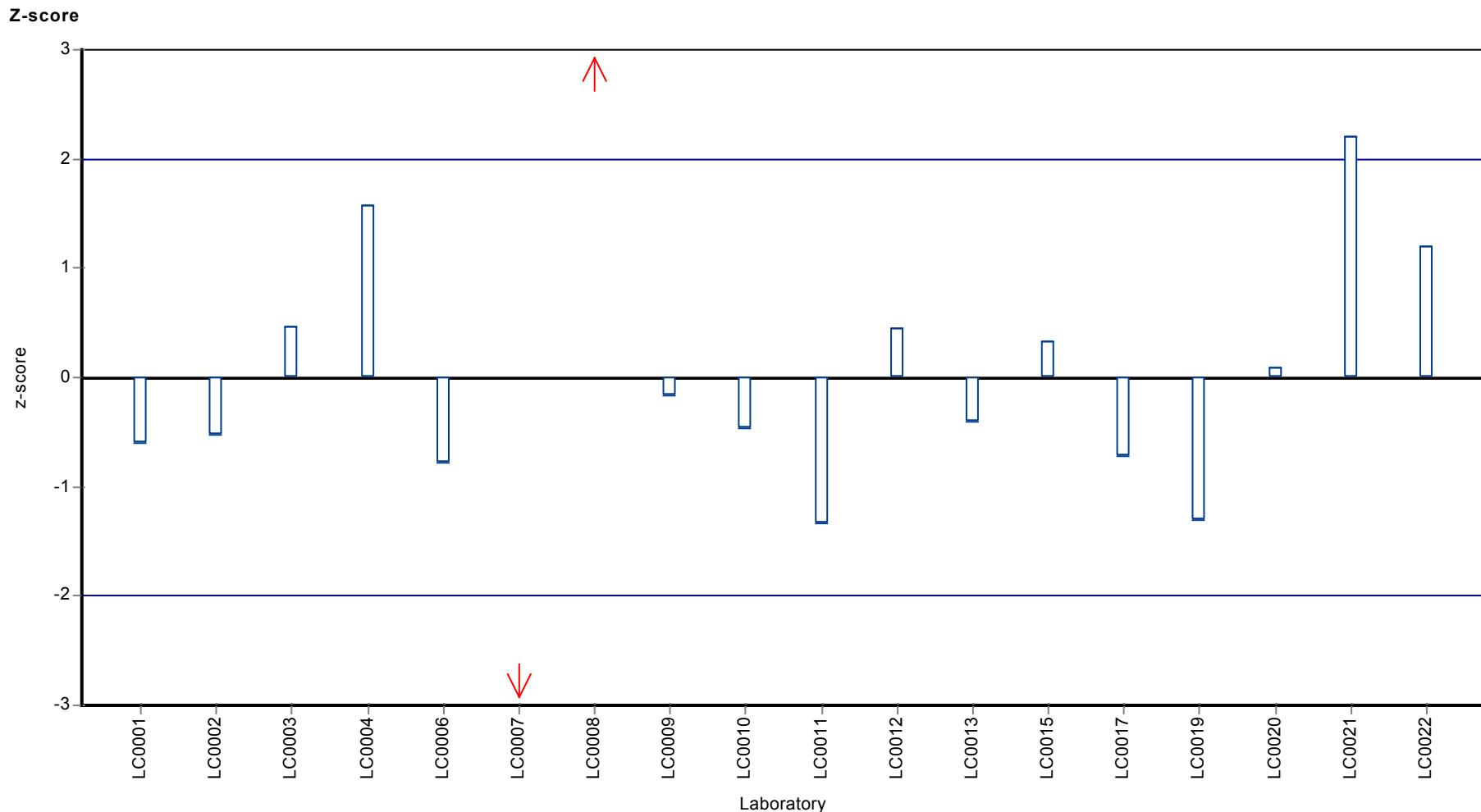
**Z-score**

# Parameter oriented report

### CL05 - CHC

### trans-1,2-Dichloroethene

| | |
|---|---|
| Unit | µg/tube |
| Mean ± CI (99%) | 6.31 ± 2.52 |
| Minimum - Maximum | 0.6 - 13.2 |
| Control test value ± U | 8.11 ± 1.07 |

| Labcode | Result | ± U | Recovery [%] | z-score | Comments |
|---|---|---|---|---|---|
| LC0001 | 6.87 | 0.7 | 109 | 0.16 | |
| LC0002 | 7.8 | 1.56 | 124 | 0.42 | |
| LC0003 | 2.7 | 0.68 | 42.8 | -1.01 | |
| LC0004 | 8.9 | 3.6 | 141 | 0.73 | |
| LC0006 | 9.5 | 2.7 | 151 | 0.9 | |
| LC0007 | 1.13 | 0.129 | 17.9 | -1.45 | |
| LC0008 | 3.77 | 0.189 | 59.7 | -0.71 | |
| LC0009 | 3.1 | 0.62 | 49.1 | -0.9 | |
| LC0010 | 1.86 | 0.2 | 29.5 | -1.25 | |
| LC0011 | 4.16 | 0.83 | 65.9 | -0.6 | |
| LC0012 | 9.222 | 2.31 | 146 | 0.82 | |
| LC0013 | 6.253 | 1.252 | 99.1 | -0.02 | |
| LC0015 | 13.18 | 1.2 | 209 | 1.93 | |
| LC0017 | 0.6 | 0.06 | 9.5 | -1.6 | |
| LC0019 | 7.24 | 0.78 | 115 | 0.26 | |
| LC0020 | 8.7 | 2.2 | 138 | 0.67 | |
| LC0021 | 8.2 | 1.6 | 130 | 0.53 | |
| LC0022 | 10.4 | 2.1 | 165 | 1.15 | |

### Characteristics of parameter

| | all results | without outliers | Unit |
|---|---|---|---|
| Mean ± CI (99%) | 6.31 ± 2.52 | 6.31 ± 2.52 | µg/tube |
| Minimum | 0.6 | 0.6 | µg/tube |
| Maximum | 13.2 | 13.2 | µg/tube |
| Standard deviation | 3.56 | 3.56 | µg/tube |
| rel. Standard deviation | 56.4 | 56.4 | % |
| n | 18 | 18 | - |

**Graphical presentation of results**

**Results**



Laboratory

**Recovery rate**
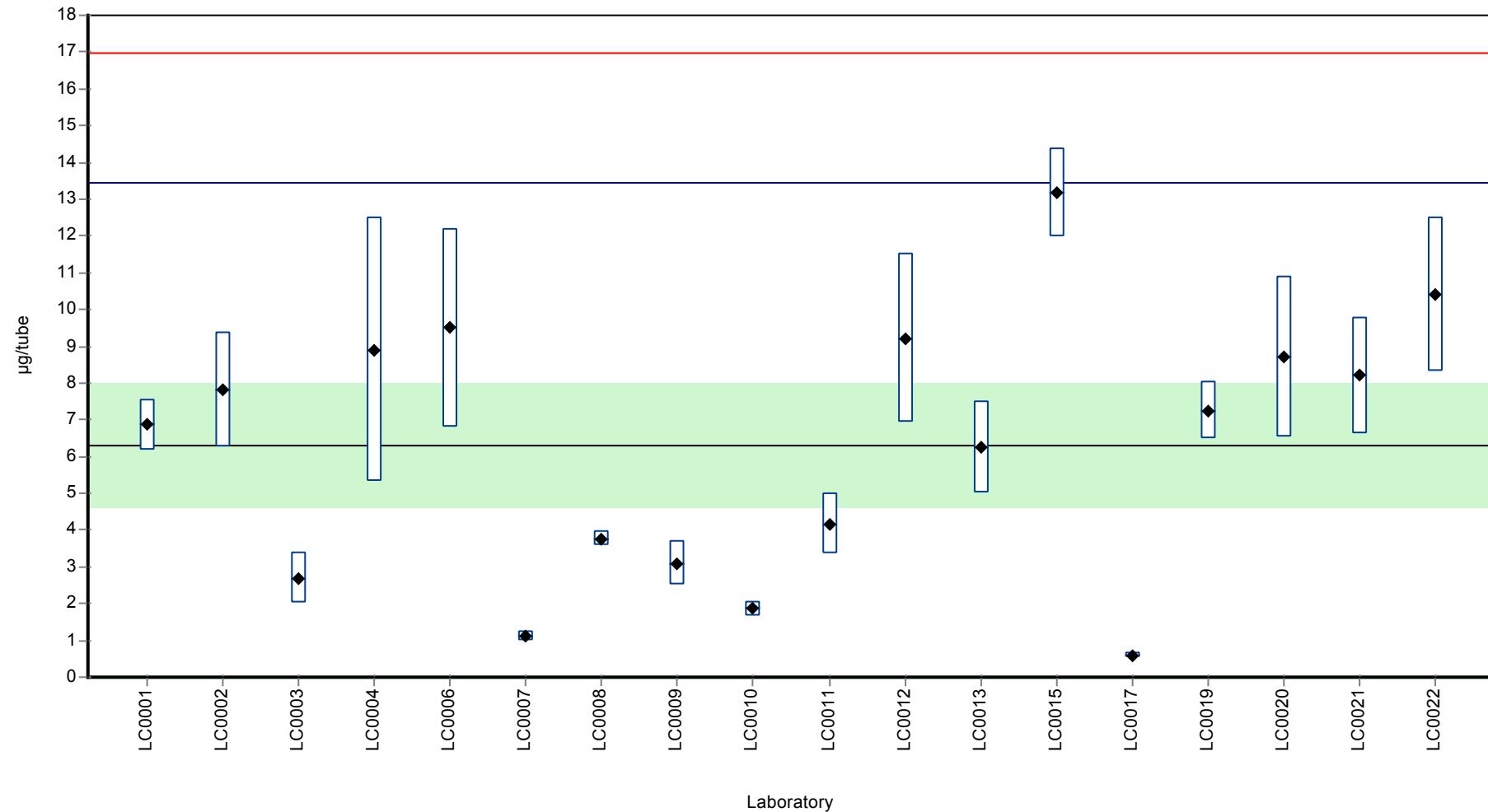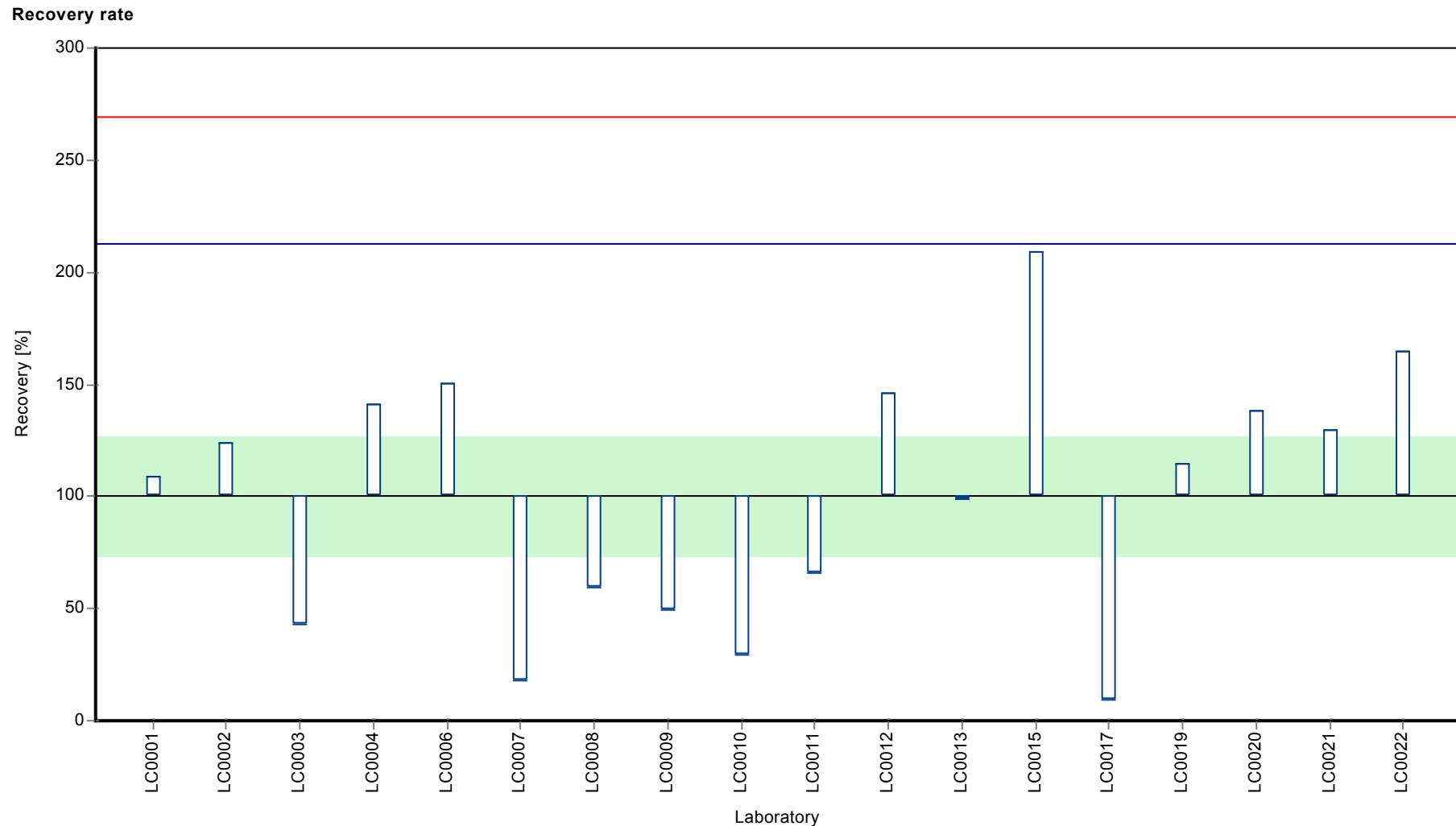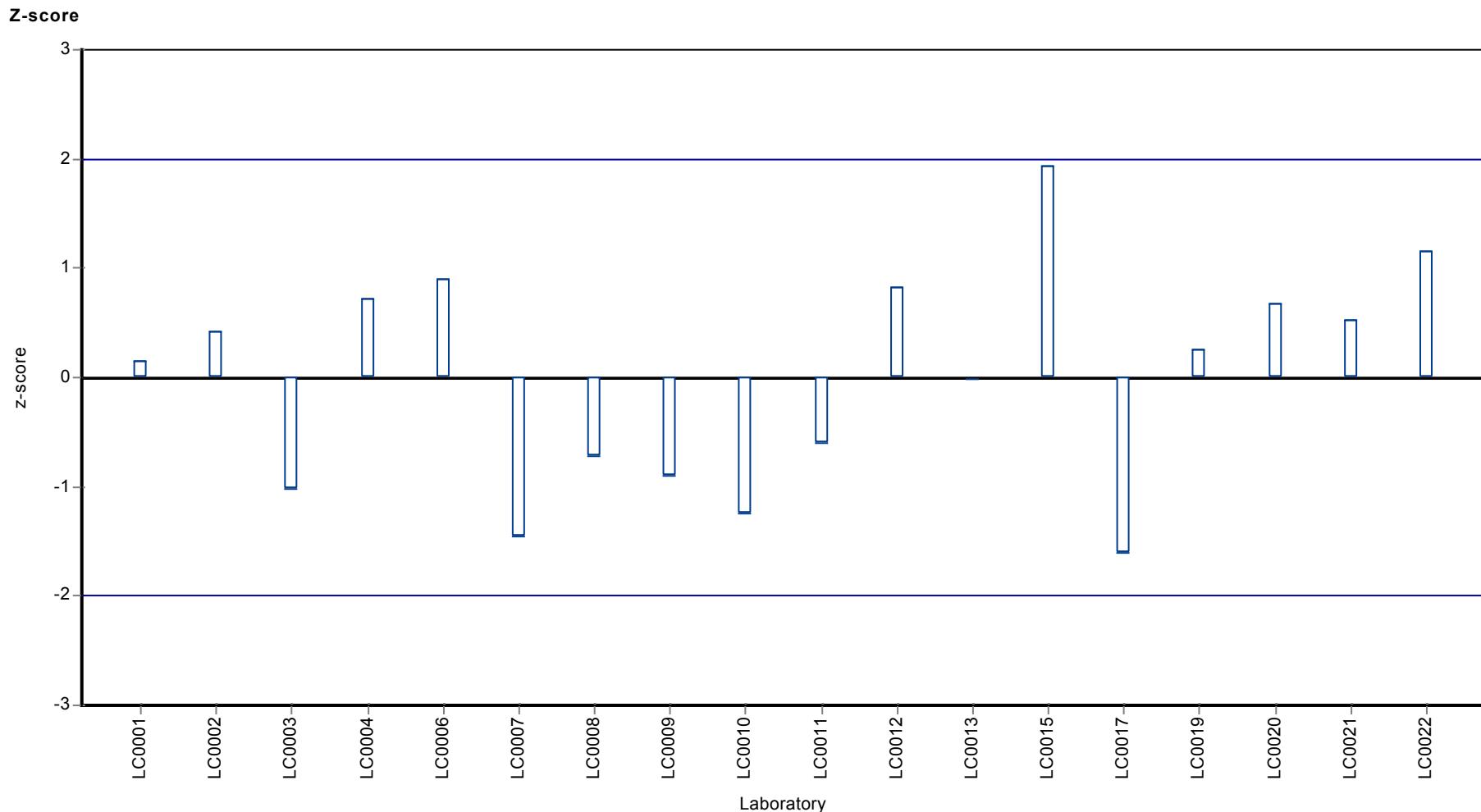
**Z-score**

# Parameter oriented report

### CL05 - CHC

### Trichloroethene

| | |
|---|---|
| Unit | µg/tube |
| Mean ± CI (99%) | 10.1 ± 1.15 |
| Minimum - Maximum | 6.34 - 13.8 |
| Control test value ± U | 9.91 ± 1.31 |

| Labcode | Result | ± U | Recovery [%] | z-score | Comments |
|---|---|---|---|---|---|
| LC0001 | 9.61 | 1 | 95.4 | -0.29 | |
| LC0002 | 10.3 | 2.06 | 102 | 0.15 | |
| LC0003 | 10 | 2 | 99.3 | -0.04 | |
| LC0004 | 10.7 | 4.3 | 106 | 0.4 | |
| LC0006 | 9.1 | 2.7 | 90.4 | -0.61 | |
| LC0007 | 1.29 | 0.127 | 12.8 | -5.56 | H |
| LC0008 | 10.54 | 0.537 | 105 | 0.3 | |
| LC0009 | 9.98 | 2 | 99.1 | -0.06 | |
| LC0010 | 6.34 | 0.1 | 63 | -2.36 | |
| LC0011 | 9.31 | 1.9 | 92.5 | -0.48 | |
| LC0012 | 11.62 | 2.9 | 115 | 0.98 | |
| LC0013 | 8.692 | 1.738 | 86.3 | -0.87 | |
| LC0015 | 11.15 | 1 | 111 | 0.69 | |
| LC0017 | 8.4 | 0.8 | 83.4 | -1.06 | |
| LC0019 | 10.27 | 1.99 | 102 | 0.13 | |
| LC0020 | 10.1 | 2.5 | 100 | 0.02 | |
| LC0021 | 13.77 | 2.7 | 137 | 2.35 | |
| LC0022 | 11.3 | 2.3 | 112 | 0.78 | |

### Characteristics of parameter

| | all results | without outliers | Unit |
|---|---|---|---|
| Mean ± CI (99%) | 9.58 ± 1.82 | 10.1 ± 1.15 | µg/tube |
| Minimum | 1.29 | 6.34 | µg/tube |
| Maximum | 13.8 | 13.8 | µg/tube |
| Standard deviation | 2.57 | 1.58 | µg/tube |
| rel. Standard deviation | 26.9 | 15.7 | % |
| n | 18 | 17 | - |

**Graphical presentation of results**

**Results**

**Recovery rate**
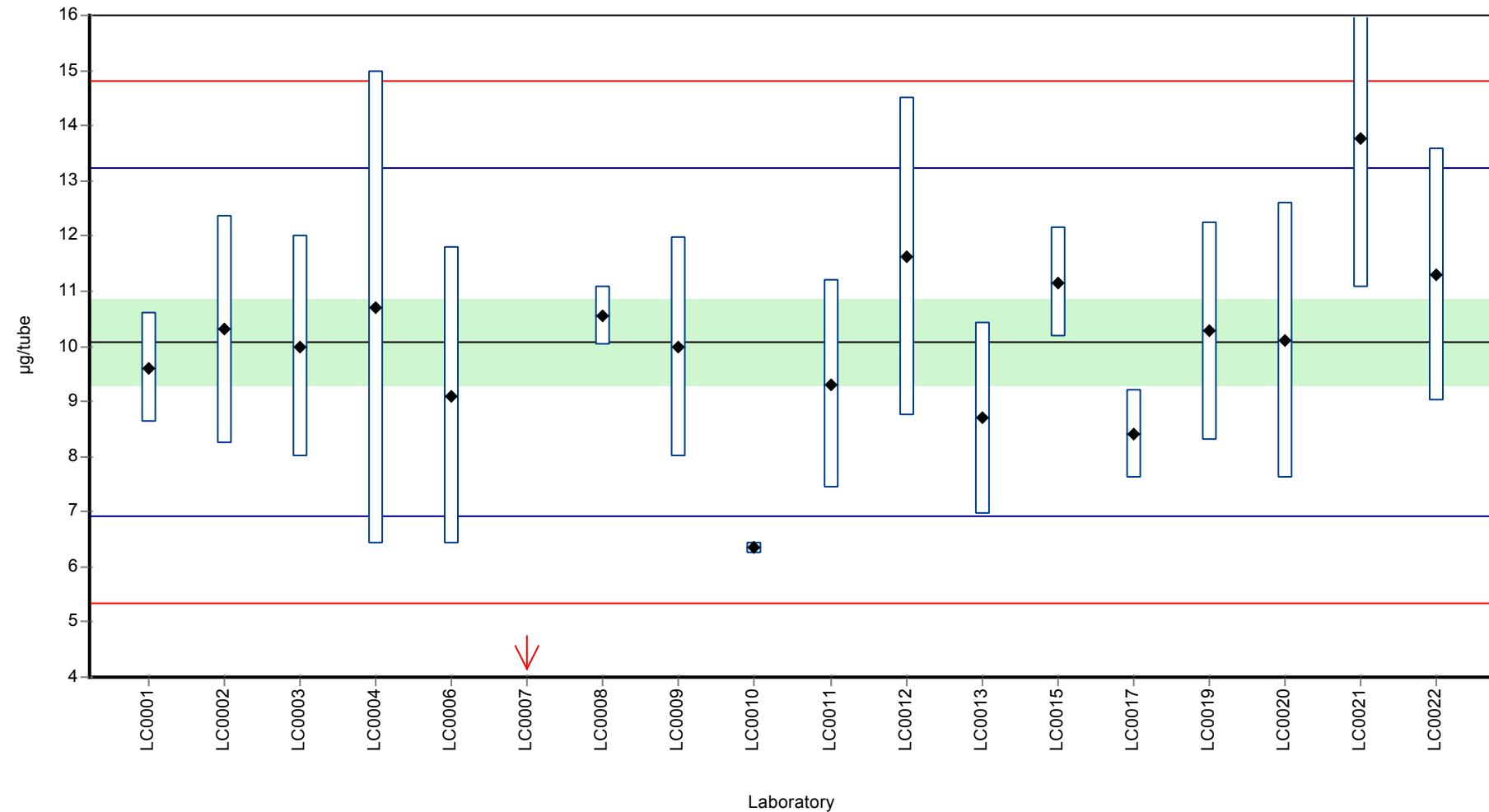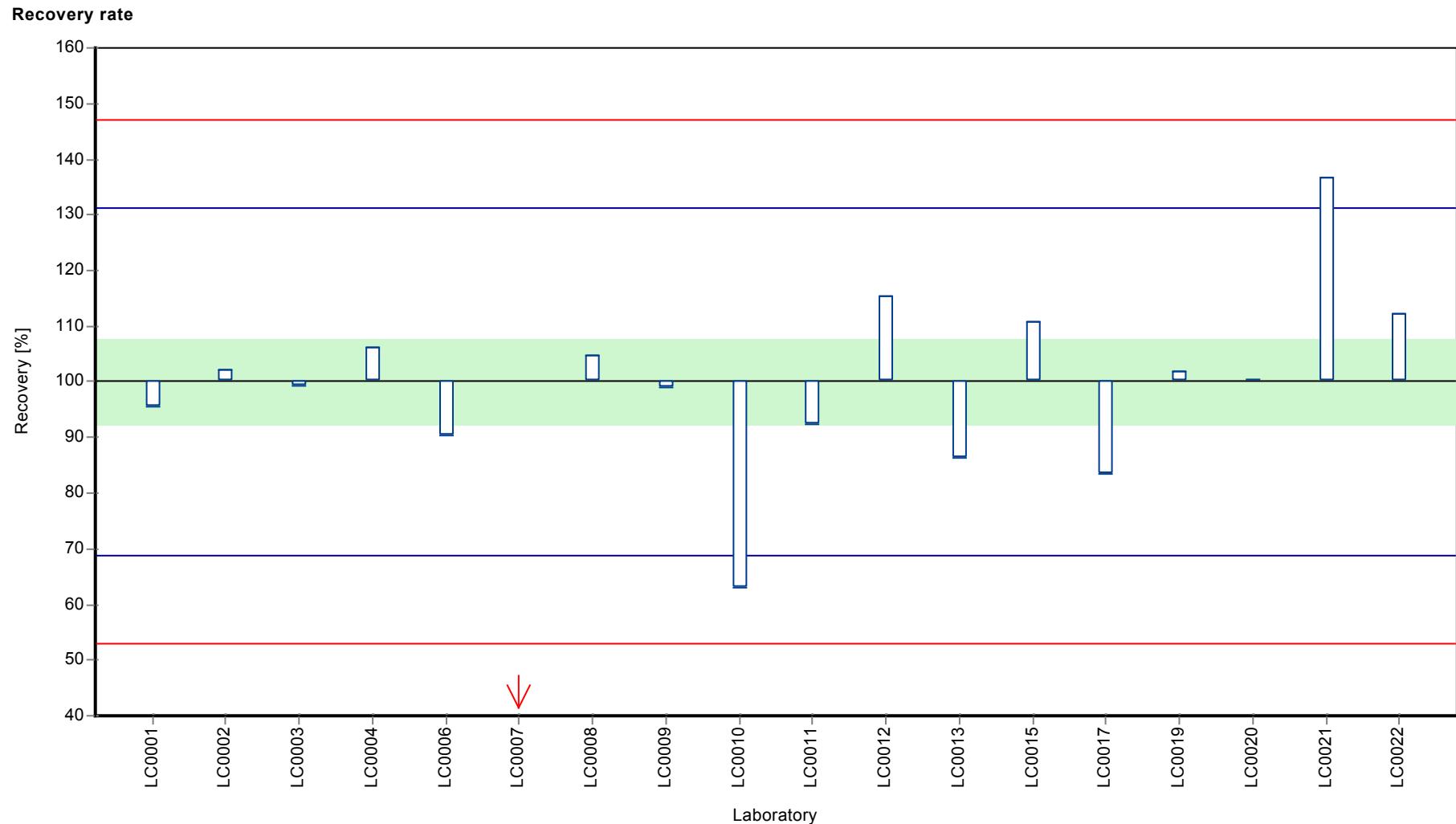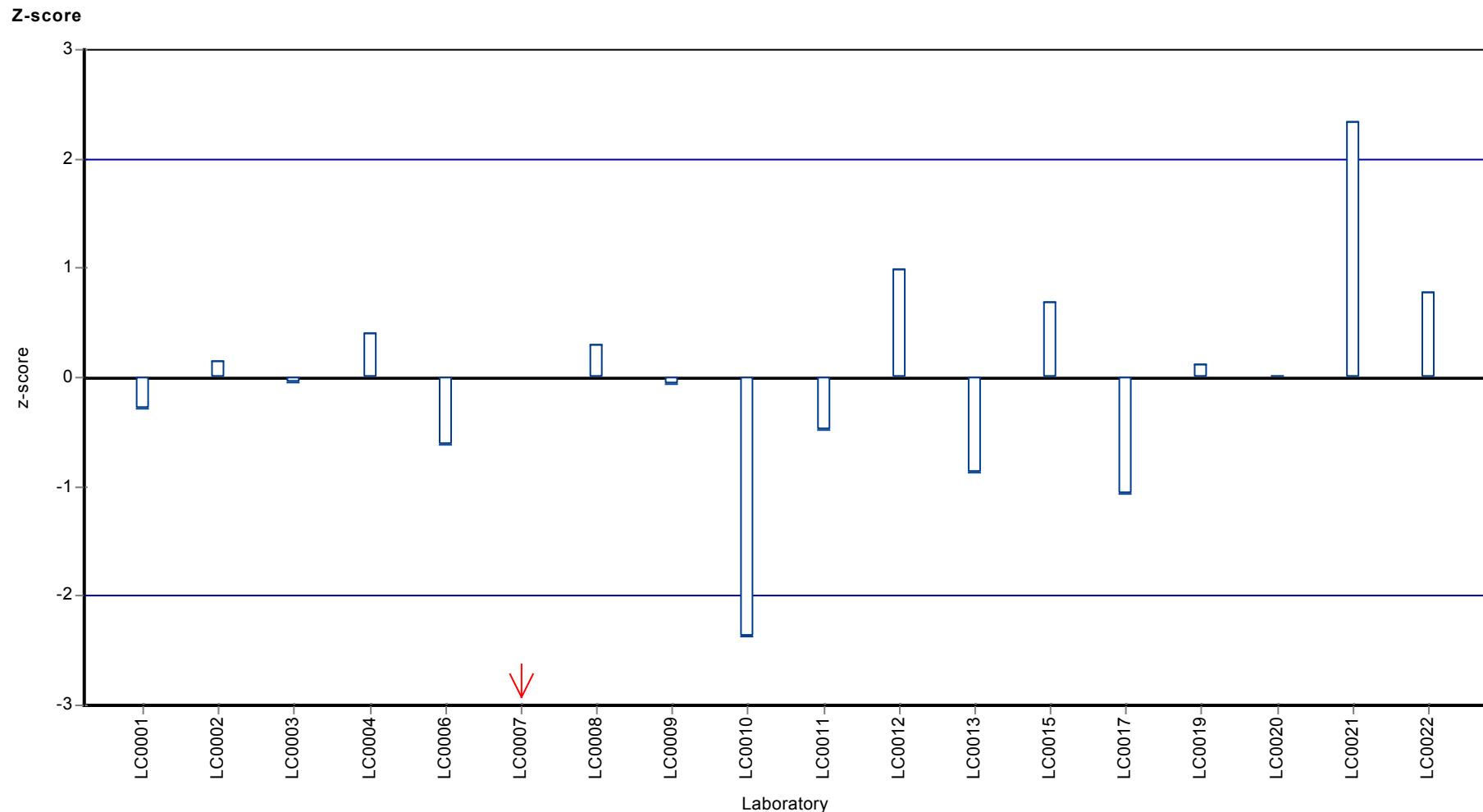
**Z-score**

# Parameter oriented report

### CL05 - CHC

### Trichloromethane

| | |
|---|---|
| Unit | µg/tube |
| Mean ± CI (99%) | 9.71 ± 0.6 |
| Minimum - Maximum | 8.35 - 11.3 |
| Control test value ± U | 9.29 ± 1.23 |

| Labcode | Result | ± U | Recovery [%] | z-score | Comments |
|---|---|---|---|---|---|
| LC0001 | 9.5 | 1 | 97.9 | -0.26 | |
| LC0002 | 10 | 2 | 103 | 0.36 | |
| LC0003 | 9.9 | 2 | 102 | 0.24 | |
| LC0004 | 10.4 | 4.2 | 107 | 0.86 | |
| LC0006 | 10.5 | 3.2 | 108 | 0.99 | |
| LC0007 | 1.27 | 0.127 | 13.1 | -10.5 | H |
| LC0008 | 10.66 | 0.544 | 110 | 1.19 | |
| LC0009 | 9.1 | 1.82 | 93.7 | -0.76 | |
| LC0010 | 9.55 | 0.2 | 98.4 | -0.2 | |
| LC0011 | 9.11 | 1.8 | 93.8 | -0.75 | |
| LC0012 | 11.26 | 2.81 | 116 | 1.94 | |
| LC0013 | 8.345 | 1.669 | 86 | -1.7 | |
| LC0015 | 9.19 | 1.1 | 94.7 | -0.65 | |
| LC0017 | 8.5 | 0.9 | 87.6 | -1.51 | |
| LC0019 | 5.01 | 1.03 | 51.6 | -5.87 | H |
| LC0020 | 9.5 | 2.4 | 97.9 | -0.26 | |
| LC0021 | 10.43 | 2.1 | 107 | 0.9 | |
| LC0022 | 9.38 | 1.88 | 96.6 | -0.41 | |

### Characteristics of parameter

| | all results | without outliers | Unit |
|---|---|---|---|
| Mean ± CI (99%) | 8.98 ± 1.66 | 9.71 ± 0.6 | µg/tube |
| Minimum | 1.27 | 8.35 | µg/tube |
| Maximum | 11.3 | 11.3 | µg/tube |
| Standard deviation | 2.34 | 0.8 | µg/tube |
| rel. Standard deviation | 26.1 | 8.24 | % |
| n | 18 | 16 | - |

**Graphical presentation of results**
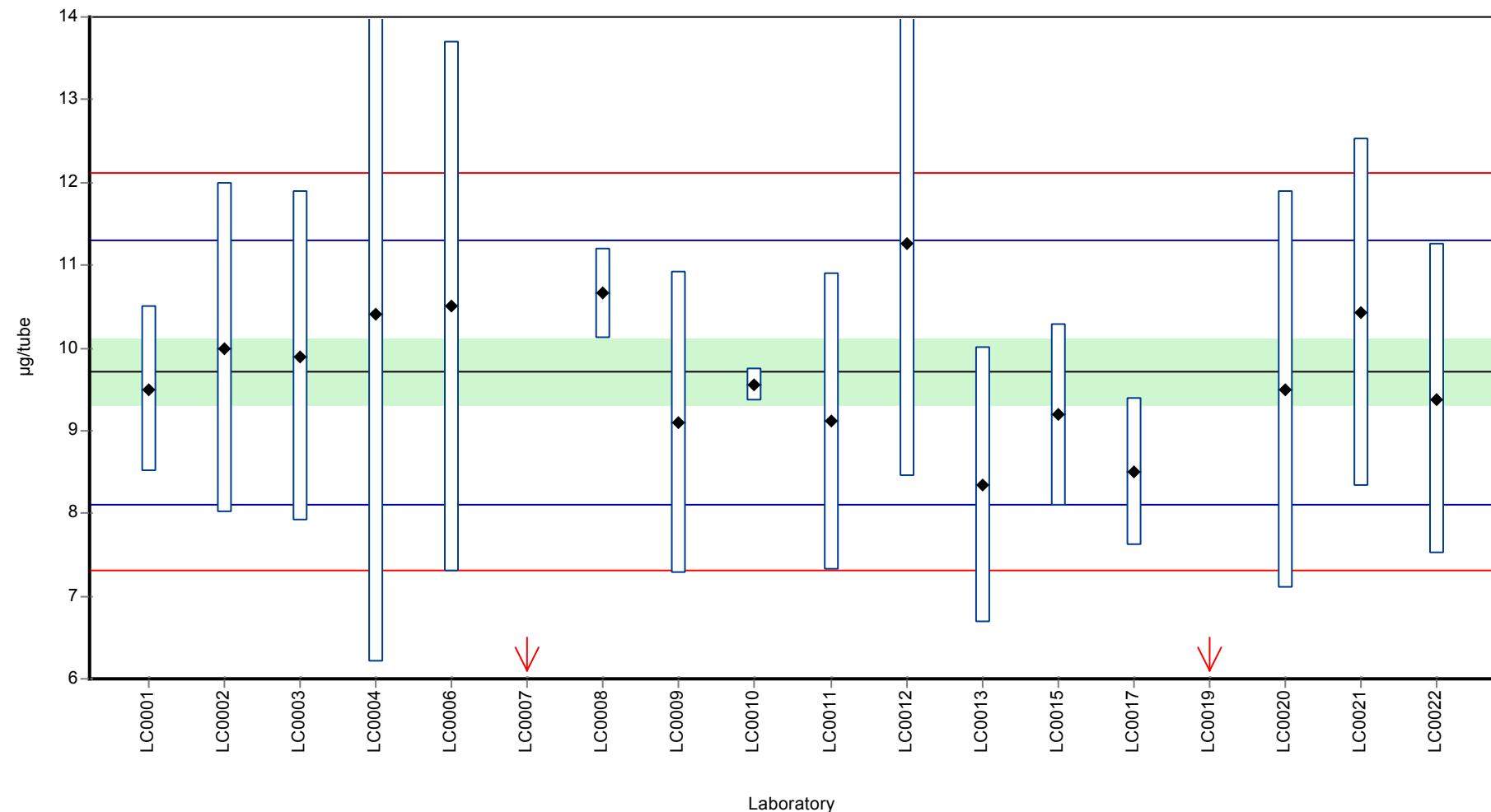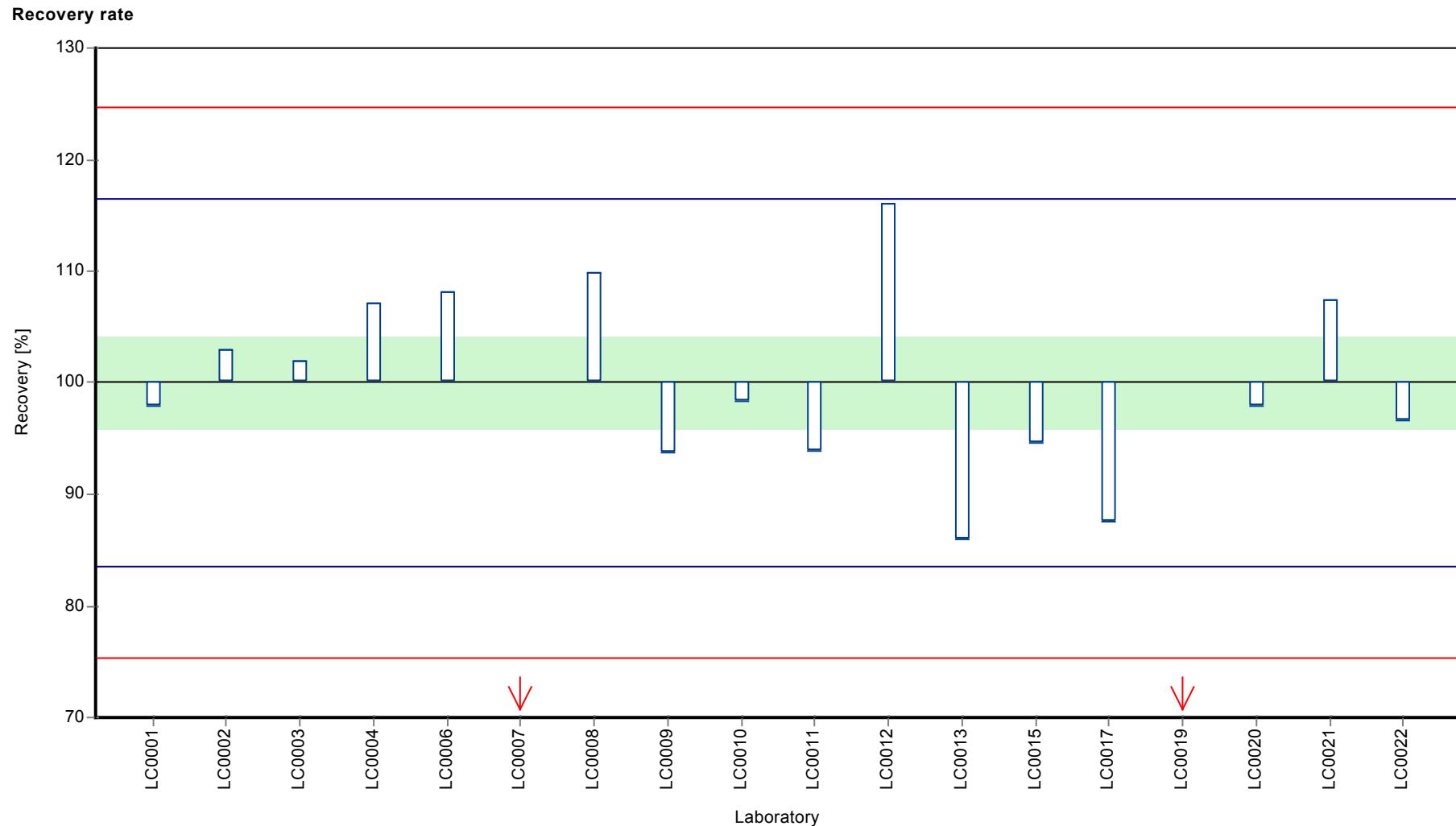
**Results**

**Recovery rate**
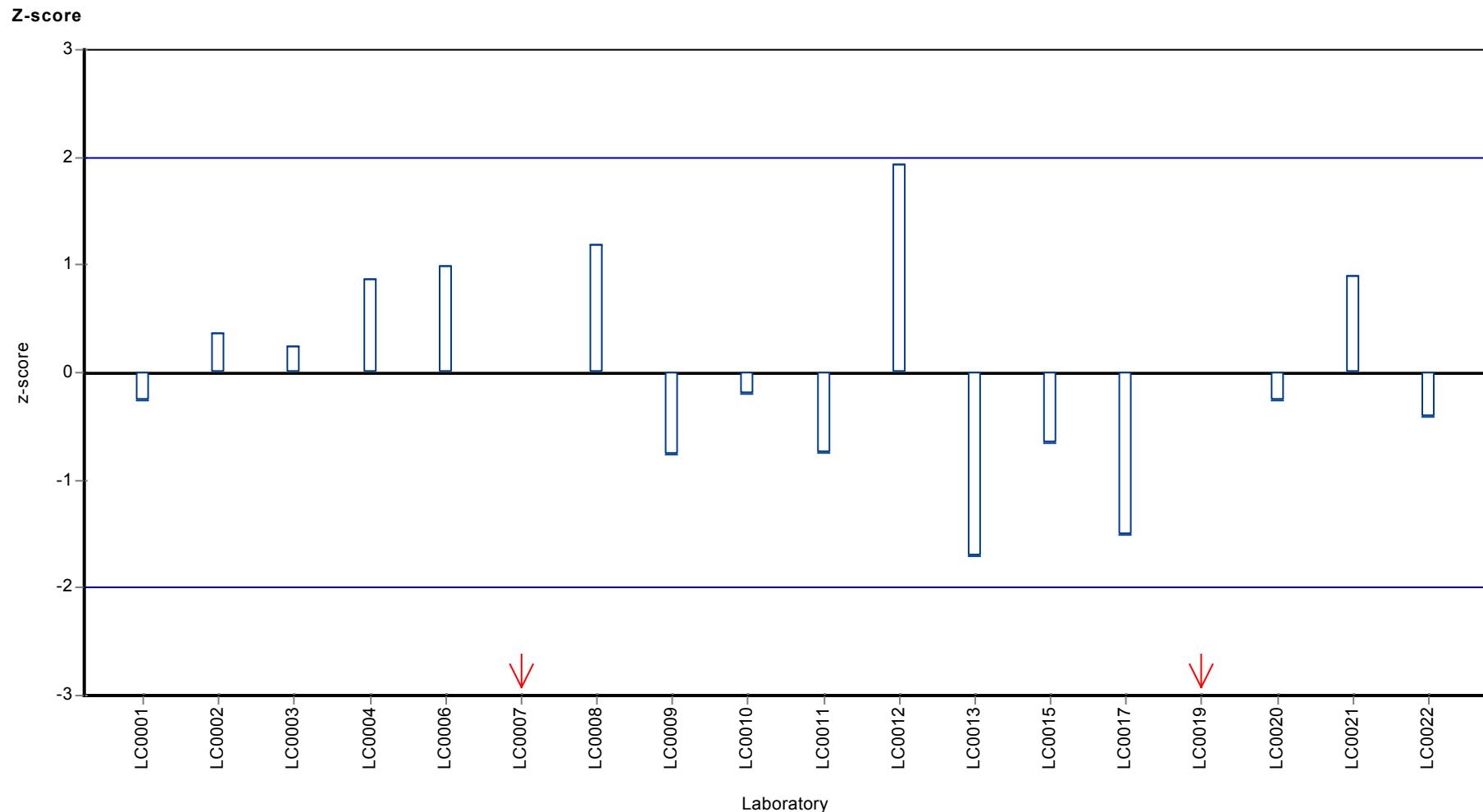
**Z-score**

# 8 Laboratory oriented report

The laboratory oriented report is sorted by laboratory code.

The following results were achieved:

## Sample: BL06

| Parameter | Unit | Target | ± | CI(99%) | Result | ±U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | µg/tube | 4.8 | ± | 0.348 | 4.61 | 0.5 | 0.478 | 96 | -0.40 |
| Ethylbenzene | µg/tube | 5.66 | ± | 0.659 | 5.71 | 0.6 | 0.958 | 101 | 0.05 |
| o-Xylene | µg/tube | 5.12 | ± | 0.501 | 4.69 | 0.5 | 0.708 | 91.5 | -0.61 |
| Sum of m-Xylene and p-Xylene | µg/tube | 10.8 | ± | 1.12 | 10.7 | 1 | 1.58 | 98.8 | -0.08 |
| Toluene | µg/tube | 5.2 | ± | 0.407 | 5.14 | 0.5 | 0.576 | 98.9 | -0.10 |
| n-Decane | µg/tube | 4.56 | ± | 1.28 | 4.09 | 0.4 | 1.41 | 89.7 | -0.33 |
| n-Heptane | µg/tube | 5.57 | ± | 1.15 | 5.27 | 0.5 | 1.21 | 94.6 | -0.25 |
| n-Hexane | µg/tube | 6.02 | ± | 0.613 | 5.89 | 0.6 | 0.541 | 97.9 | -0.23 |
| n-Nonane | µg/tube | 5.75 | ± | 1.44 | 6.26 | 0.6 | 1.59 | 109 | 0.32 |
| n-Octane | µg/tube | 6.15 | ± | 0.998 | 5.89 | 0.6 | 1.05 | 95.8 | -0.25 |
| n-Pentane | µg/tube | 6.2 | ± | 0.97 | 6.2 | 0.6 | 1.07 | 100 | 0.00 |

## Sample: CL05

| Parameter | Unit | Target | ± | CI(99%) | Result | ±U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | µg/tube | 10.9 | ± | 0.689 | 10.2 | 1 | 0.919 | 93.9 | -0.72 |
| cis-1,2-Dichloroethene | µg/tube | 7.23 | ± | 1.55 | 7.13 | 0.7 | 2.07 | 98.6 | -0.05 |
| Tetrachloroethene | µg/tube | 11.5 | ± | 1.14 | 10.3 | 1 | 1.57 | 89.9 | -0.74 |
| Tetrachloromethane | µg/tube | 13.3 | ± | 1.21 | 12.3 | 1.2 | 1.61 | 92.8 | -0.59 |
| trans-1,2-Dichloroethene | µg/tube | 6.31 | ± | 2.52 | 6.87 | 0.7 | 3.56 | 109 | 0.16 |
| Trichloroethene | µg/tube | 10.1 | ± | 1.15 | 9.61 | 1 | 1.58 | 95.4 | -0.29 |
| Trichloromethane | µg/tube | 9.71 | ± | 0.6 | 9.5 | 1 | 0.8 | 97.9 | -0.26 |
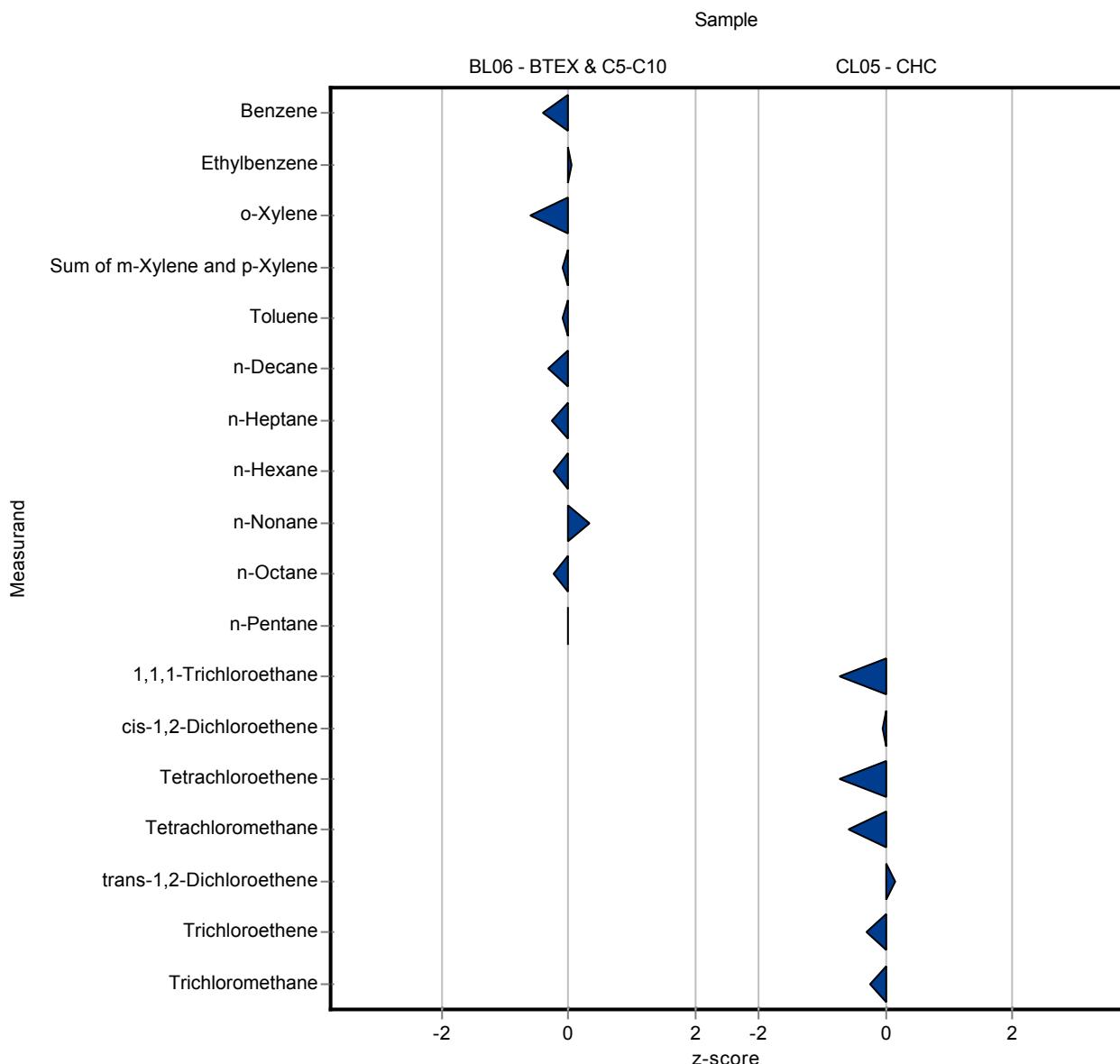
The following results were achieved:

## Sample: BL06

| Parameter | Unit | Target | ± CI(99%) | Result | ±U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|
| Benzene | µg/tube | 4.8 ± | 0.348 | 3.8 | 0.76 | 0.478 | 79.1 | -2.10 |
| Ethylbenzene | µg/tube | 5.66 ± | 0.659 | 4.5 | 0.9 | 0.958 | 79.5 | -1.21 |
| o-Xylene | µg/tube | 5.12 ± | 0.501 | 4.5 | 0.9 | 0.708 | 87.8 | -0.88 |
| Sum of m-Xylene and p-Xylene | µg/tube | 10.8 ± | 1.12 | 9.1 | 1.8 | 1.58 | 84 | -1.10 |
| Toluene | µg/tube | 5.2 ± | 0.407 | 4.2 | 0.84 | 0.576 | 80.8 | -1.73 |
| n-Decane | µg/tube | 4.56 ± | 1.28 | - | - | 1.41 | - | - |
| n-Heptane | µg/tube | 5.57 ± | 1.15 | - | - | 1.21 | - | - |
| n-Hexane | µg/tube | 6.02 ± | 0.613 | - | - | 0.541 | - | - |
| n-Nonane | µg/tube | 5.75 ± | 1.44 | - | - | 1.59 | - | - |
| n-Octane | µg/tube | 6.15 ± | 0.998 | - | - | 1.05 | - | - |
| n-Pentane | µg/tube | 6.2 ± | 0.97 | - | - | 1.07 | - | - |

## Sample: CL05

| Parameter | Unit | Target | ± CI(99%) | Result | ±U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | µg/tube | 10.9 ± | 0.689 | 10.6 | 2.12 | 0.919 | 97.6 | -0.28 |
| cis-1,2-Dichloroethene | µg/tube | 7.23 ± | 1.55 | 7.6 | 1.52 | 2.07 | 105 | 0.18 |
| Tetrachloroethene | µg/tube | 11.5 ± | 1.14 | 11.3 | 2.26 | 1.57 | 98.6 | -0.10 |
| Tetrachloromethane | µg/tube | 13.3 ± | 1.21 | 12.4 | 2.48 | 1.61 | 93.5 | -0.53 |
| trans-1,2-Dichloroethene | µg/tube | 6.31 ± | 2.52 | 7.8 | 1.56 | 3.56 | 124 | 0.42 |
| Trichloroethene | µg/tube | 10.1 ± | 1.15 | 10.3 | 2.06 | 1.58 | 102 | 0.15 |
| Trichloromethane | µg/tube | 9.71 ± | 0.6 | 10 | 2 | 0.8 | 103 | 0.36 |
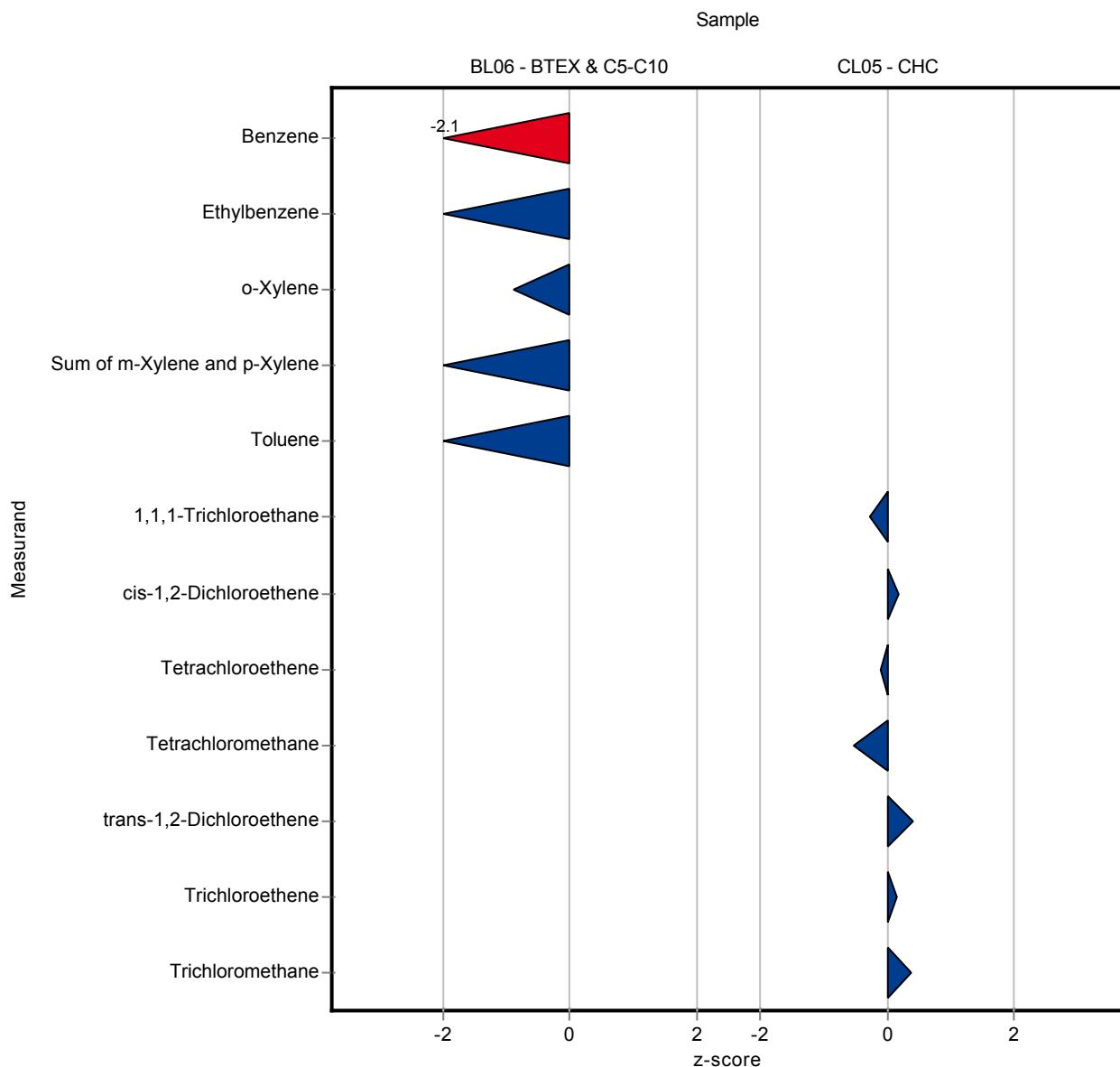
Sample

The following results were achieved:

## Sample: BL06

| Parameter | Unit | Target | ± | CI(99%) | Result | ± U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | µg/tube | 4.8 | ± | 0.348 | 3.9 | 0.78 | 0.478 | 81.2 | -1.89 |
| Ethylbenzene | µg/tube | 5.66 | ± | 0.659 | 5.4 | 1.1 | 0.958 | 95.4 | -0.27 |
| o-Xylene | µg/tube | 5.12 | ± | 0.501 | 4.5 | 0.9 | 0.708 | 87.8 | -0.88 |
| Sum of m-Xylene and p-Xylene | µg/tube | 10.8 | ± | 1.12 | 9.2 | 1.8 | 1.58 | 84.9 | -1.03 |
| Toluene | µg/tube | 5.2 | ± | 0.407 | 4.8 | 0.96 | 0.576 | 92.3 | -0.69 |
| n-Decane | µg/tube | 4.56 | ± | 1.28 | 3.2 | 0.64 | 1.41 | 70.2 | -0.96 |
| n-Heptane | µg/tube | 5.57 | ± | 1.15 | 5.2 | 1 | 1.21 | 93.3 | -0.31 |
| n-Hexane | µg/tube | 6.02 | ± | 0.613 | 6.5 | 1.3 | 0.541 | 108 | 0.89 |
| n-Nonane | µg/tube | 5.75 | ± | 1.44 | 4.3 | 0.86 | 1.59 | 74.8 | -0.91 |
| n-Octane | µg/tube | 6.15 | ± | 0.998 | 4.8 | 0.96 | 1.05 | 78 | -1.28 |
| n-Pentane | µg/tube | 6.2 | ± | 0.97 | 5.4 | 1.1 | 1.07 | 87.1 | -0.74 |

## Sample: CL05

| Parameter | Unit | Target | ± | CI(99%) | Result | ± U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | µg/tube | 10.9 | ± | 0.689 | 12 | 2.4 | 0.919 | 110 | 1.24 |
| cis-1,2-Dichloroethene | µg/tube | 7.23 | ± | 1.55 | 5.6 | 1.4 | 2.07 | 77.4 | -0.79 |
| Tetrachloroethene | µg/tube | 11.5 | ± | 1.14 | 12 | 2.2 | 1.57 | 105 | 0.34 |
| Tetrachloromethane | µg/tube | 13.3 | ± | 1.21 | 14 | 2.8 | 1.61 | 106 | 0.46 |
| trans-1,2-Dichloroethene | µg/tube | 6.31 | ± | 2.52 | 2.7 | 0.68 | 3.56 | 42.8 | -1.01 |
| Trichloroethene | µg/tube | 10.1 | ± | 1.15 | 10 | 2 | 1.58 | 99.3 | -0.04 |
| Trichloromethane | µg/tube | 9.71 | ± | 0.6 | 9.9 | 2 | 0.8 | 102 | 0.24 |
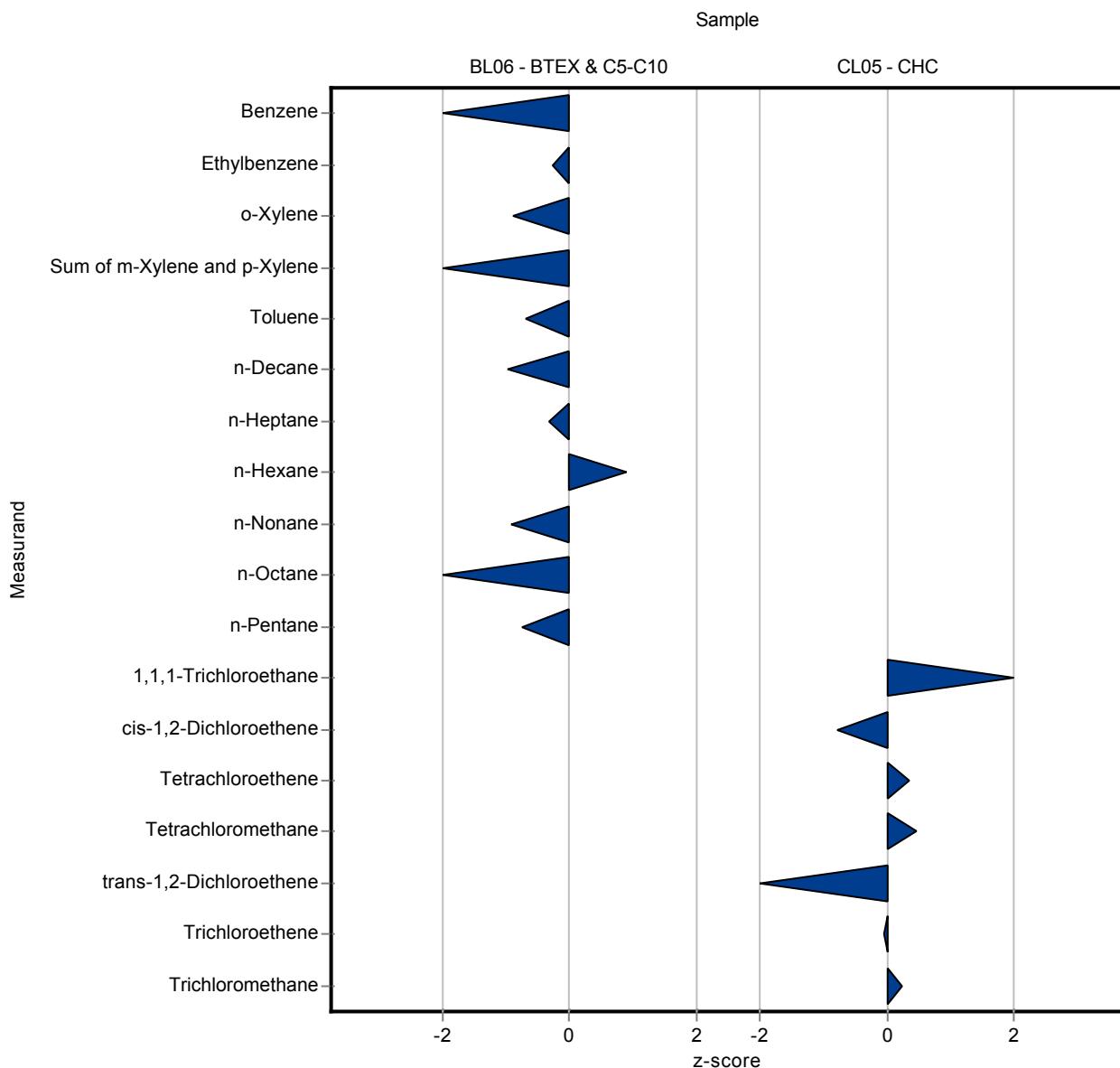
The following results were achieved:

## Sample: BL06

| Parameter | Unit | Target ± CI(99%) | | Result | ±U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|
| Benzene | µg/tube | 4.8 ± | 0.348 | 4.9 | 2 | 0.478 | 102 | 0.20 |
| Ethylbenzene | µg/tube | 5.66 ± | 0.659 | 5.8 | 2.3 | 0.958 | 102 | 0.15 |
| o-Xylene | µg/tube | 5.12 ± | 0.501 | 5.1 | 2 | 0.708 | 99.5 | -0.03 |
| Sum of m-Xylene and p-Xylene | µg/tube | 10.8 ± | 1.12 | 11.2 | 4.5 | 1.58 | 103 | 0.23 |
| Toluene | µg/tube | 5.2 ± | 0.407 | 5.5 | 2.2 | 0.576 | 106 | 0.52 |
| n-Decane | µg/tube | 4.56 ± | 1.28 | 2.4 | 0.96 | 1.41 | 52.7 | -1.53 |
| n-Heptane | µg/tube | 5.57 ± | 1.15 | 4.8 | 1.9 | 1.21 | 86.1 | -0.64 |
| n-Hexane | µg/tube | 6.02 ± | 0.613 | 4.9 | 2 | 0.541 | 81.4 | -2.07 |
| n-Nonane | µg/tube | 5.75 ± | 1.44 | 3.8 | 1.5 | 1.59 | 66.1 | -1.22 |
| n-Octane | µg/tube | 6.15 ± | 0.998 | 4 | 1.6 | 1.05 | 65 | -2.04 |
| n-Pentane | µg/tube | 6.2 ± | 0.97 | 7.4 | 3 | 1.07 | 119 | 1.12 |

## Sample: CL05

| Parameter | Unit | Target ± CI(99%) | | Result | ±U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | µg/tube | 10.9 ± | 0.689 | 12.5 | 5 | 0.919 | 115 | 1.78 |
| cis-1,2-Dichloroethene | µg/tube | 7.23 ± | 1.55 | 8 | 3.2 | 2.07 | 111 | 0.37 |
| Tetrachloroethene | µg/tube | 11.5 ± | 1.14 | 10.4 | 4.2 | 1.57 | 90.8 | -0.68 |
| Tetrachloromethane | µg/tube | 13.3 ± | 1.21 | 15.8 | 6.3 | 1.61 | 119 | 1.58 |
| trans-1,2-Dichloroethene | µg/tube | 6.31 ± | 2.52 | 8.9 | 3.6 | 3.56 | 141 | 0.73 |
| Trichloroethene | µg/tube | 10.1 ± | 1.15 | 10.7 | 4.3 | 1.58 | 106 | 0.40 |
| Trichloromethane | µg/tube | 9.71 ± | 0.6 | 10.4 | 4.2 | 0.8 | 107 | 0.86 |
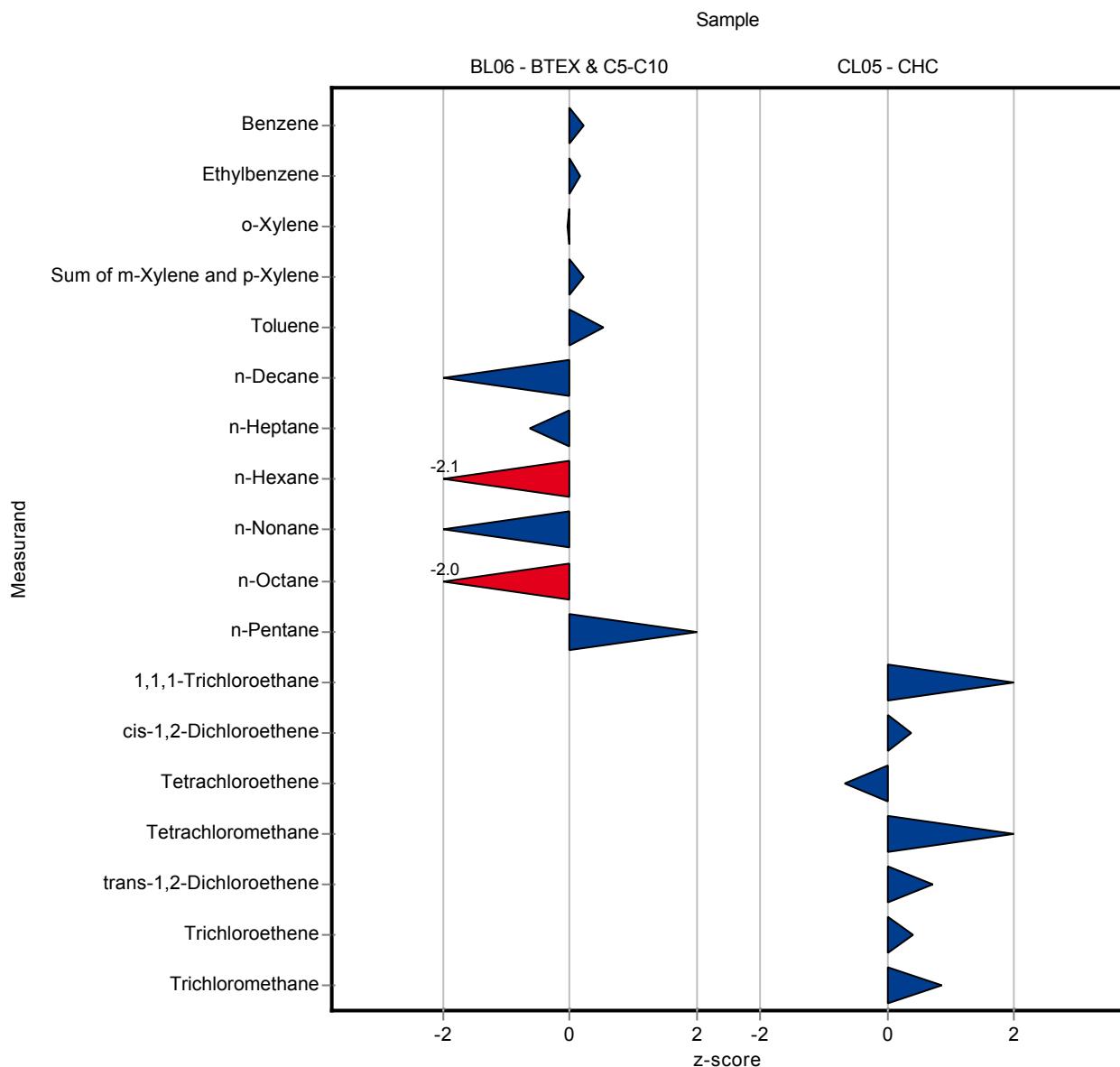
The following results were achieved:

## Sample: BL06

| Parameter | Unit | Target ± CI(99%) | | Result | ± U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|
| Benzene | µg/tube | 4.8 ± | 0.348 | 5.28 | 0.79 | 0.478 | 110 | 1.00 |
| Ethylbenzene | µg/tube | 5.66 ± | 0.659 | 6.56 | 0.98 | 0.958 | 116 | 0.94 |
| o-Xylene | µg/tube | 5.12 ± | 0.501 | 5.81 | 0.87 | 0.708 | 113 | 0.97 |
| Sum of m-Xylene and p-Xylene | µg/tube | 10.8 ± | 1.12 | 12.55 | 1.88 | 1.58 | 116 | 1.09 |
| Toluene | µg/tube | 5.2 ± | 0.407 | 5.89 | 0.88 | 0.576 | 113 | 1.20 |
| n-Decane | µg/tube | 4.56 ± | 1.28 | - | - | 1.41 | - | - |
| n-Heptane | µg/tube | 5.57 ± | 1.15 | - | - | 1.21 | - | - |
| n-Hexane | µg/tube | 6.02 ± | 0.613 | - | - | 0.541 | - | - |
| n-Nonane | µg/tube | 5.75 ± | 1.44 | - | - | 1.59 | - | - |
| n-Octane | µg/tube | 6.15 ± | 0.998 | - | - | 1.05 | - | - |
| n-Pentane | µg/tube | 6.2 ± | 0.97 | - | - | 1.07 | - | - |

Sample

BL06 - BTEX & C5-C10

The following results were achieved:

## Sample: BL06

| Parameter | Unit | Target | ± | CI(99%) | Result | ±U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | µg/tube | 4.8 | ± | 0.348 | 5.1 | 1.5 | 0.478 | 106 | 0.62 |
| Ethylbenzene | µg/tube | 5.66 | ± | 0.659 | 6.1 | 1.8 | 0.958 | 108 | 0.46 |
| o-Xylene | µg/tube | 5.12 | ± | 0.501 | 5.3 | 1.6 | 0.708 | 103 | 0.25 |
| Sum of m-Xylene and p-Xylene | µg/tube | 10.8 | ± | 1.12 | 11.9 | 3.6 | 1.58 | 110 | 0.68 |
| Toluene | µg/tube | 5.2 | ± | 0.407 | 5.5 | 1.7 | 0.576 | 106 | 0.52 |
| n-Decane | µg/tube | 4.56 | ± | 1.28 | 4.8 | 1.4 | 1.41 | 105 | 0.17 |
| n-Heptane | µg/tube | 5.57 | ± | 1.15 | 5.5 | 1.7 | 1.21 | 98.7 | -0.06 |
| n-Hexane | µg/tube | 6.02 | ± | 0.613 | 6.4 | 1.9 | 0.541 | 106 | 0.71 |
| n-Nonane | µg/tube | 5.75 | ± | 1.44 | 5.6 | 1.7 | 1.59 | 97.4 | -0.09 |
| n-Octane | µg/tube | 6.15 | ± | 0.998 | 7.4 | 2.2 | 1.05 | 120 | 1.19 |
| n-Pentane | µg/tube | 6.2 | ± | 0.97 | 7.4 | 2.2 | 1.07 | 119 | 1.12 |

## Sample: CL05

| Parameter | Unit | Target | ± | CI(99%) | Result | ±U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | µg/tube | 10.9 | ± | 0.689 | 11 | 3.3 | 0.919 | 101 | 0.15 |
| cis-1,2-Dichloroethene | µg/tube | 7.23 | ± | 1.55 | 9.4 | 2.8 | 2.07 | 130 | 1.05 |
| Tetrachloroethene | µg/tube | 11.5 | ± | 1.14 | 11.4 | 3.2 | 1.57 | 99.5 | -0.04 |
| Tetrachloromethane | µg/tube | 13.3 | ± | 1.21 | 12 | 3.5 | 1.61 | 90.5 | -0.78 |
| trans-1,2-Dichloroethene | µg/tube | 6.31 | ± | 2.52 | 9.5 | 2.7 | 3.56 | 151 | 0.90 |
| Trichloroethene | µg/tube | 10.1 | ± | 1.15 | 9.1 | 2.7 | 1.58 | 90.4 | -0.61 |
| Trichloromethane | µg/tube | 9.71 | ± | 0.6 | 10.5 | 3.2 | 0.8 | 108 | 0.99 |
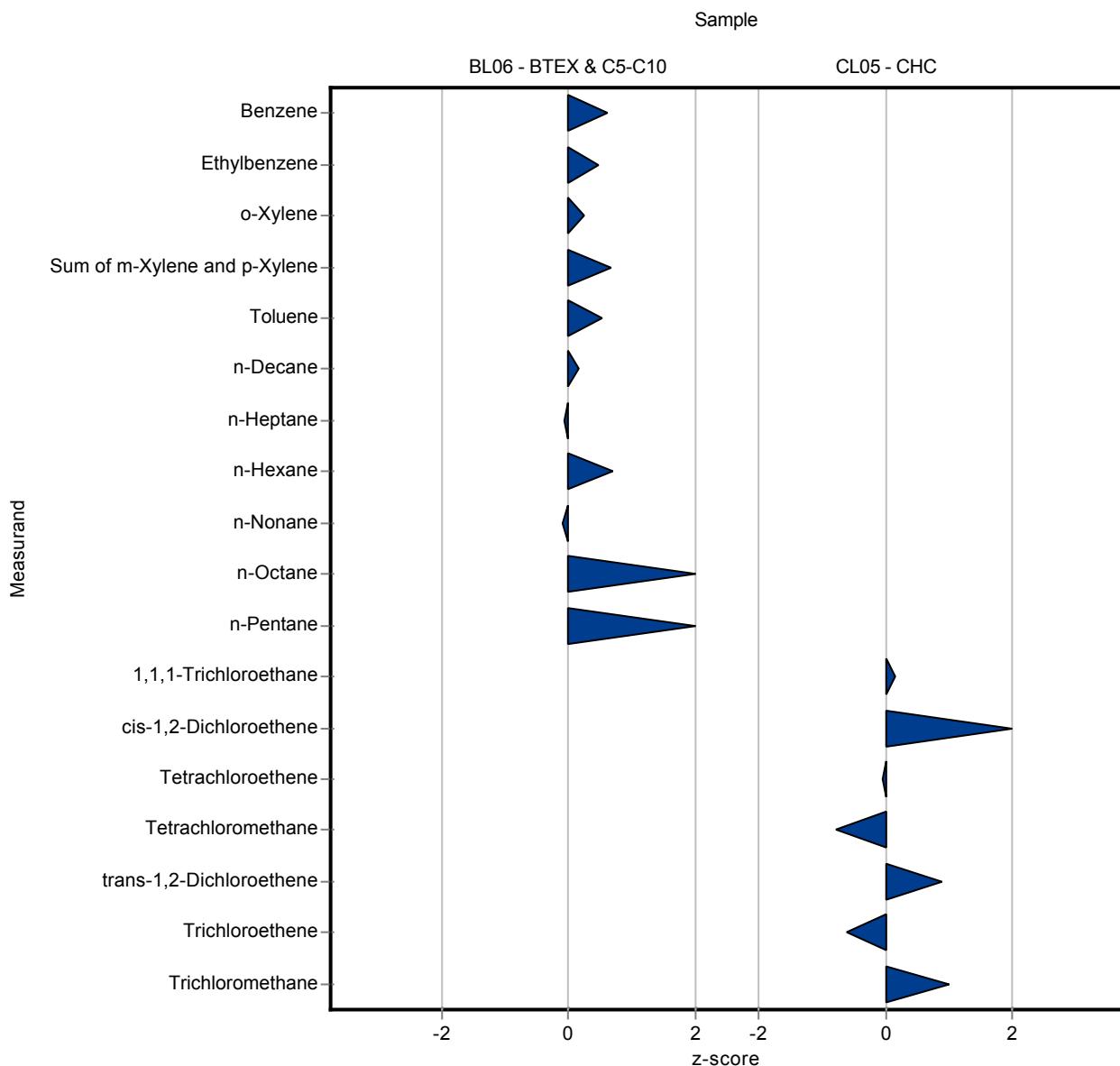
Sample

The following results were achieved:

## Sample: BL06

| Parameter | Unit | Target | ± CI(99%) | Result | ± U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|
| Benzene | µg/tube | 4.8 ± | 0.348 | 4.49 | 0.138 | 0.478 | 93.5 | -0.65 |
| Ethylbenzene | µg/tube | 5.66 ± | 0.659 | 4.9 | 0.121 | 0.958 | 86.6 | -0.79 |
| o-Xylene | µg/tube | 5.12 ± | 0.501 | 4.71 | 0.127 | 0.708 | 91.9 | -0.58 |
| Sum of m-Xylene and p-Xylene | µg/tube | 10.8 ± | 1.12 | 9.42 | 0.107 | 1.58 | 87 | -0.89 |
| Toluene | µg/tube | 5.2 ± | 0.407 | 4.68 | 0.116 | 0.576 | 90 | -0.90 |
| n-Decane | µg/tube | 4.56 ± | 1.28 | 5.56 | 0.135 | 1.41 | 122 | 0.71 |
| n-Heptane | µg/tube | 5.57 ± | 1.15 | 6.04 | 0.131 | 1.21 | 108 | 0.39 |
| n-Hexane | µg/tube | 6.02 ± | 0.613 | <0.1 (LOQ) | - | 0.541 | - | - |
| n-Nonane | µg/tube | 5.75 ± | 1.44 | 6.27 | 0.129 | 1.59 | 109 | 0.33 |
| n-Octane | µg/tube | 6.15 ± | 0.998 | 6.37 | 0.127 | 1.05 | 104 | 0.21 |
| n-Pentane | µg/tube | 6.2 ± | 0.97 | 5.87 | 0.126 | 1.07 | 94.7 | -0.30 |

## Sample: CL05

| Parameter | Unit | Target | ± CI(99%) | Result | ± U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | µg/tube | 10.9 ± | 0.689 | 1.43 | 0.126 | 0.919 | 13.2 | -10.30 |
| cis-1,2-Dichloroethene | µg/tube | 7.23 ± | 1.55 | 1.06 | 0.126 | 2.07 | 14.7 | -2.98 |
| Tetrachloroethene | µg/tube | 11.5 ± | 1.14 | 1.39 | 0.128 | 1.57 | 12.1 | -6.42 |
| Tetrachloromethane | µg/tube | 13.3 ± | 1.21 | 1.56 | 0.129 | 1.61 | 11.8 | -7.25 |
| trans-1,2-Dichloroethene | µg/tube | 6.31 ± | 2.52 | 1.13 | 0.129 | 3.56 | 17.9 | -1.45 |
| Trichloroethene | µg/tube | 10.1 ± | 1.15 | 1.29 | 0.127 | 1.58 | 12.8 | -5.56 |
| Trichloromethane | µg/tube | 9.71 ± | 0.6 | 1.27 | 0.127 | 0.8 | 13.1 | -10.50 |
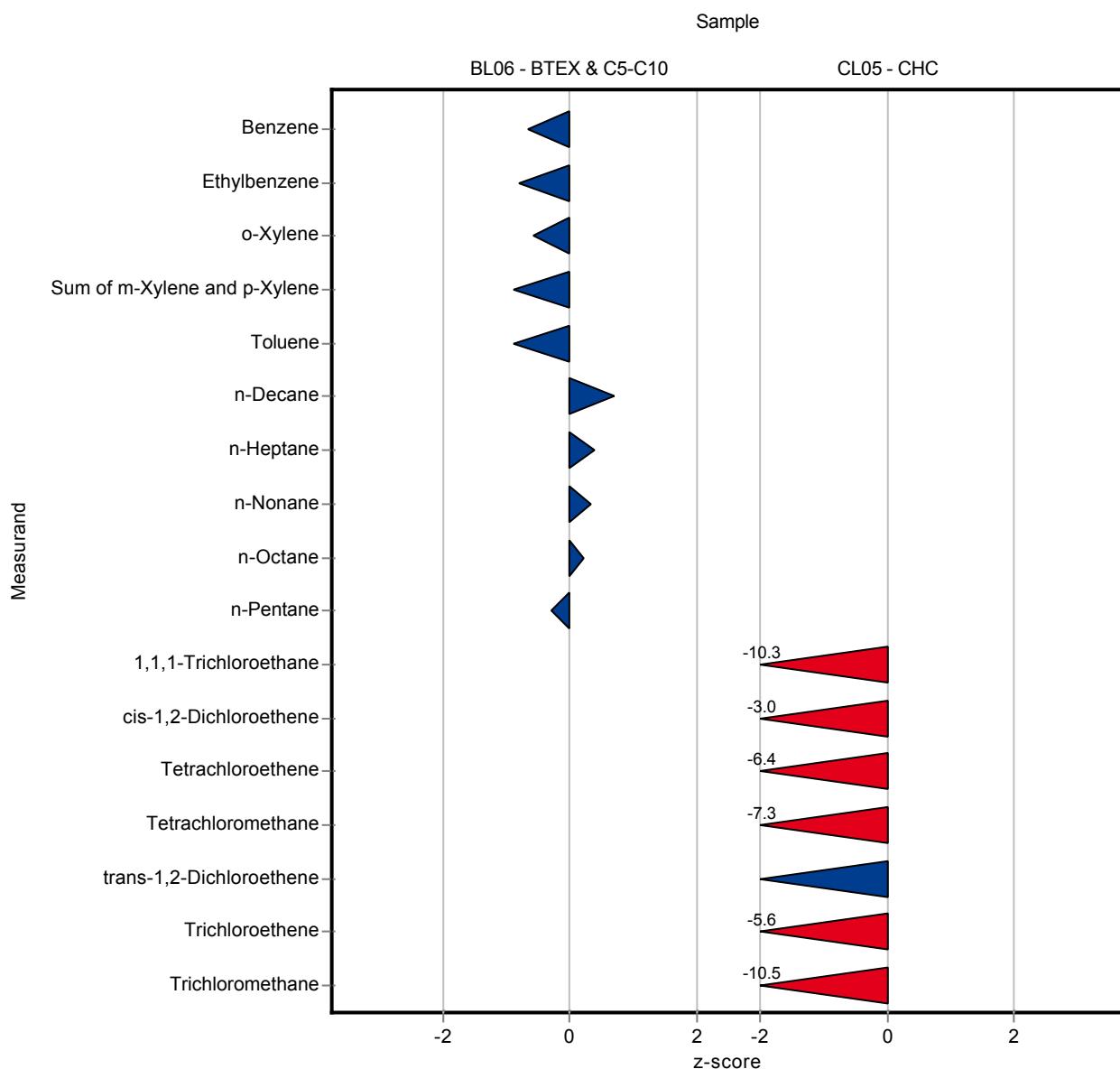
Sample

BL06 - BTEX & C5-C10                    CL05 - CHC

The following results were achieved:

## Sample: CL05

| Parameter | Unit | Target | ± | CI(99%) | Result | ± U | Criteria | Recovery | z-score |
|-----------|------|--------|---|---------|--------|-----|----------|----------|---------|
| 1,1,1-Trichloroethane | µg/tube | 10.9 | ± | 0.689 | 10.72 | 0.536 | 0.919 | 98.7 | -0.15 |
| cis-1,2-Dichloroethene | µg/tube | 7.23 | ± | 1.55 | 6.37 | 0.313 | 2.07 | 88.1 | -0.42 |
| Tetrachloroethene | µg/tube | 11.5 | ± | 1.14 | 12.74 | 0.698 | 1.57 | 111 | 0.82 |
| Tetrachloromethane | µg/tube | 13.3 | ± | 1.21 | 61.19 | 2.75 | 1.61 | 462 | 29.70 |
| trans-1,2-Dichloroethene | µg/tube | 6.31 | ± | 2.52 | 3.77 | 0.189 | 3.56 | 59.7 | -0.71 |
| Trichloroethene | µg/tube | 10.1 | ± | 1.15 | 10.54 | 0.537 | 1.58 | 105 | 0.30 |
| Trichloromethane | µg/tube | 9.71 | ± | 0.6 | 10.66 | 0.544 | 0.8 | 110 | 1.19 |
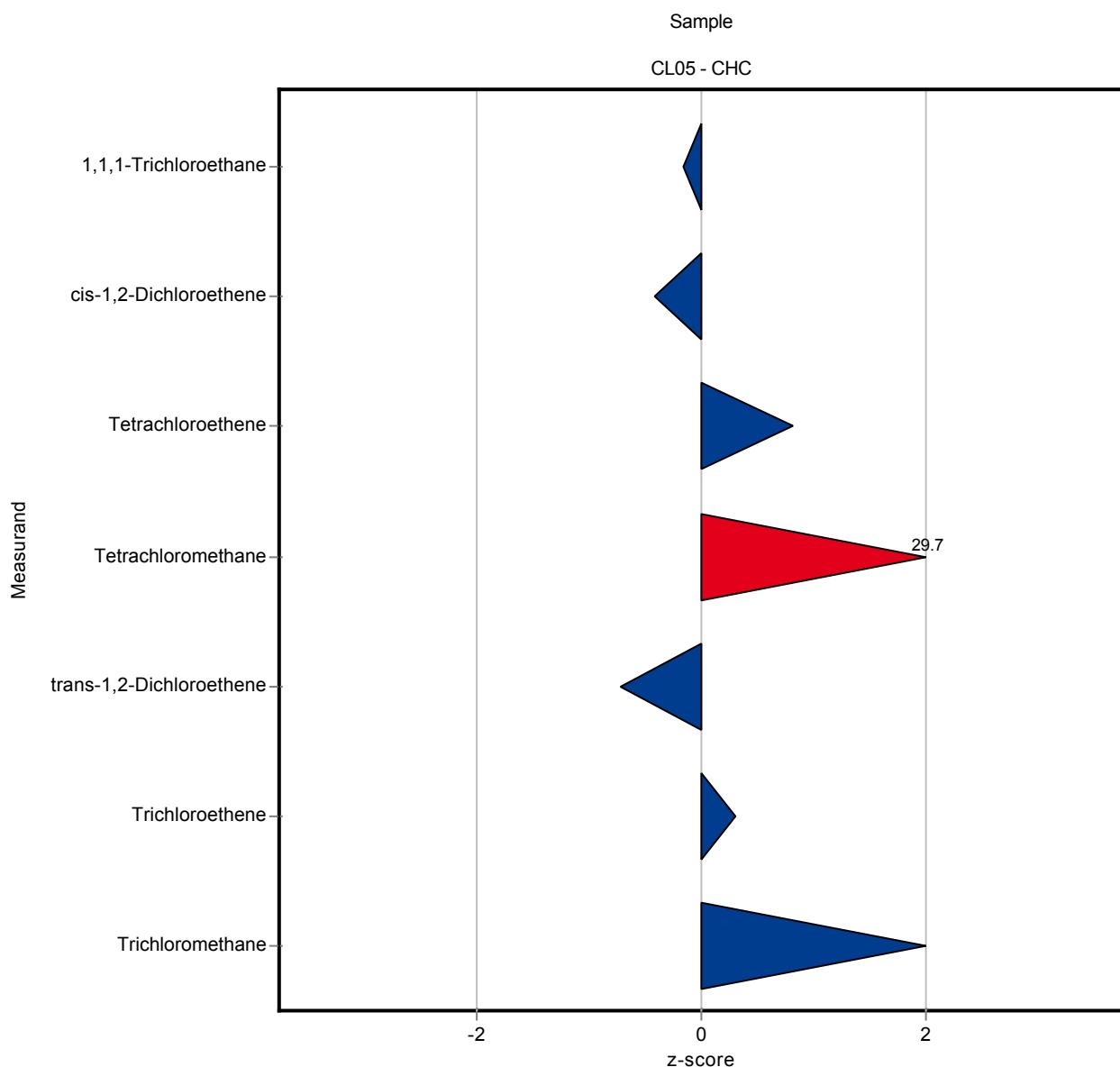
Sample

CL05 - CHC

The following results were achieved:

## Sample: BL06

| Parameter | Unit | Target | ± | CI(99%) | Result | ± U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | µg/tube | 4.8 | ± | 0.348 | 7.6 | 1.52 | 0.478 | 158 | 5.86 |
| Ethylbenzene | µg/tube | 5.66 | ± | 0.659 | 8.16 | 1.63 | 0.958 | 144 | 2.61 |
| o-Xylene | µg/tube | 5.12 | ± | 0.501 | 8.29 | 1.66 | 0.708 | 162 | 4.47 |
| Sum of m-Xylene and p-Xylene | µg/tube | 10.8 | ± | 1.12 | 16.68 | 3.34 | 1.58 | 154 | 3.70 |
| Toluene | µg/tube | 5.2 | ± | 0.407 | 7.62 | 1.52 | 0.576 | 147 | 4.20 |
| n-Decane | µg/tube | 4.56 | ± | 1.28 | 5.7 | 1.14 | 1.41 | 125 | 0.81 |
| n-Heptane | µg/tube | 5.57 | ± | 1.15 | 6.95 | 1.39 | 1.21 | 125 | 1.14 |
| n-Hexane | µg/tube | 6.02 | ± | 0.613 | 6.23 | 1.25 | 0.541 | 104 | 0.39 |
| n-Nonane | µg/tube | 5.75 | ± | 1.44 | 6.43 | 1.29 | 1.59 | 112 | 0.43 |
| n-Octane | µg/tube | 6.15 | ± | 0.998 | 6.59 | 1.32 | 1.05 | 107 | 0.42 |
| n-Pentane | µg/tube | 6.2 | ± | 0.97 | 5.63 | 1.13 | 1.07 | 90.9 | -0.53 |

## Sample: CL05

| Parameter | Unit | Target | ± | CI(99%) | Result | ± U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | µg/tube | 10.9 | ± | 0.689 | 10.64 | 2.13 | 0.919 | 98 | -0.24 |
| cis-1,2-Dichloroethene | µg/tube | 7.23 | ± | 1.55 | 6.69 | 1.34 | 2.07 | 92.5 | -0.26 |
| Tetrachloroethene | µg/tube | 11.5 | ± | 1.14 | 11.54 | 2.31 | 1.57 | 101 | 0.05 |
| Tetrachloromethane | µg/tube | 13.3 | ± | 1.21 | 12.98 | 2.6 | 1.61 | 97.9 | -0.17 |
| trans-1,2-Dichloroethene | µg/tube | 6.31 | ± | 2.52 | 3.1 | 0.62 | 3.56 | 49.1 | -0.90 |
| Trichloroethene | µg/tube | 10.1 | ± | 1.15 | 9.98 | 2 | 1.58 | 99.1 | -0.06 |
| Trichloromethane | µg/tube | 9.71 | ± | 0.6 | 9.1 | 1.82 | 0.8 | 93.7 | -0.76 |
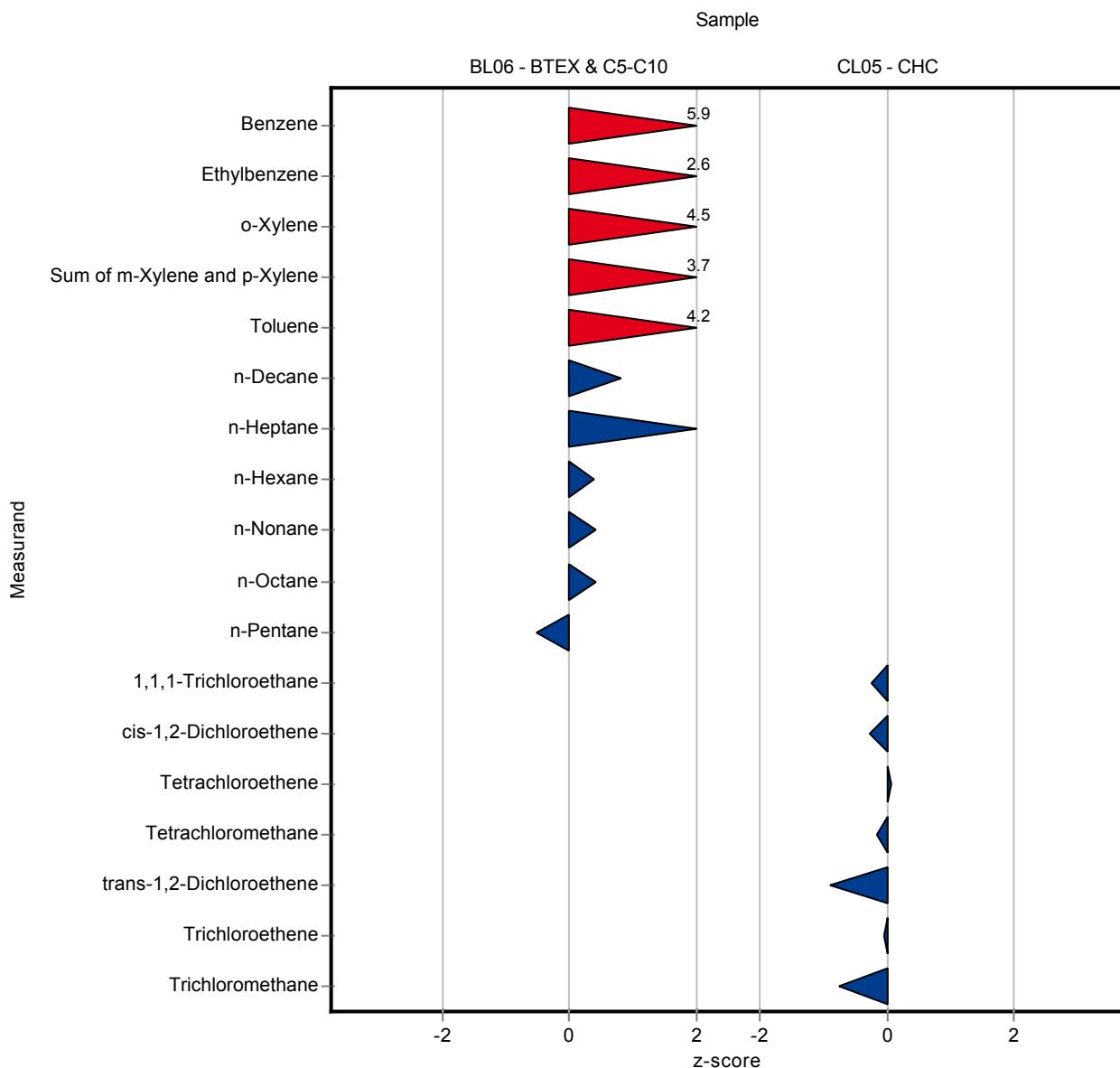
Sample

| BL06 - BTEX & C5-C10 | CL05 - CHC |



Benzene — 5.9
Ethylbenzene — 2.6
o-Xylene — 4.5
Sum of m-Xylene and p-Xylene — 3.7
Toluene — 4.2
n-Decane
n-Heptane
n-Hexane
n-Nonane
n-Octane
n-Pentane
1,1,1-Trichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Trichloroethene
Trichloromethane

z-score

The following results were achieved:

## Sample: BL06

| Parameter | Unit | Target ± CI(99%) | | Result | ± U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|
| Benzene | µg/tube | 4.8 ± | 0.348 | 4.27 | 0.1 | 0.478 | 88.9 | -1.11 |
| Ethylbenzene | µg/tube | 5.66 ± | 0.659 | 4.27 | 0.1 | 0.958 | 75.5 | -1.45 |
| o-Xylene | µg/tube | 5.12 ± | 0.501 | 3.23 | 0.1 | 0.708 | 63 | -2.67 |
| Sum of m-Xylene and p-Xylene | µg/tube | 10.8 ± | 1.12 | 6.96 | 0.1 | 1.58 | 64.2 | -2.45 |
| Toluene | µg/tube | 5.2 ± | 0.407 | 5.01 | 0.1 | 0.576 | 96.4 | -0.33 |
| n-Decane | µg/tube | 4.56 ± | 1.28 | 3.63 | 0.2 | 1.41 | 79.6 | -0.66 |
| n-Heptane | µg/tube | 5.57 ± | 1.15 | 6.9 | 0.2 | 1.21 | 124 | 1.10 |
| n-Hexane | µg/tube | 6.02 ± | 0.613 | 3.16 | 0.2 | 0.541 | 52.5 | -5.28 |
| n-Nonane | µg/tube | 5.75 ± | 1.44 | 6.09 | 0.2 | 1.59 | 106 | 0.21 |
| n-Octane | µg/tube | 6.15 ± | 0.998 | 6.93 | 0.2 | 1.05 | 113 | 0.74 |
| n-Pentane | µg/tube | 6.2 ± | 0.97 | 6.82 | 0.2 | 1.07 | 110 | 0.58 |

## Sample: CL05

| Parameter | Unit | Target ± CI(99%) | | Result | ± U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | µg/tube | 10.9 ± | 0.689 | 9.43 | 0.2 | 0.919 | 86.8 | -1.56 |
| cis-1,2-Dichloroethene | µg/tube | 7.23 ± | 1.55 | 4.85 | 0.2 | 2.07 | 67.1 | -1.15 |
| Tetrachloroethene | µg/tube | 11.5 ± | 1.14 | 9.67 | 0.1 | 1.57 | 84.4 | -1.14 |
| Tetrachloromethane | µg/tube | 13.3 ± | 1.21 | 12.5 | 0.2 | 1.61 | 94.3 | -0.47 |
| trans-1,2-Dichloroethene | µg/tube | 6.31 ± | 2.52 | 1.86 | 0.2 | 3.56 | 29.5 | -1.25 |
| Trichloroethene | µg/tube | 10.1 ± | 1.15 | 6.34 | 0.1 | 1.58 | 63 | -2.36 |
| Trichloromethane | µg/tube | 9.71 ± | 0.6 | 9.55 | 0.2 | 0.8 | 98.4 | -0.20 |
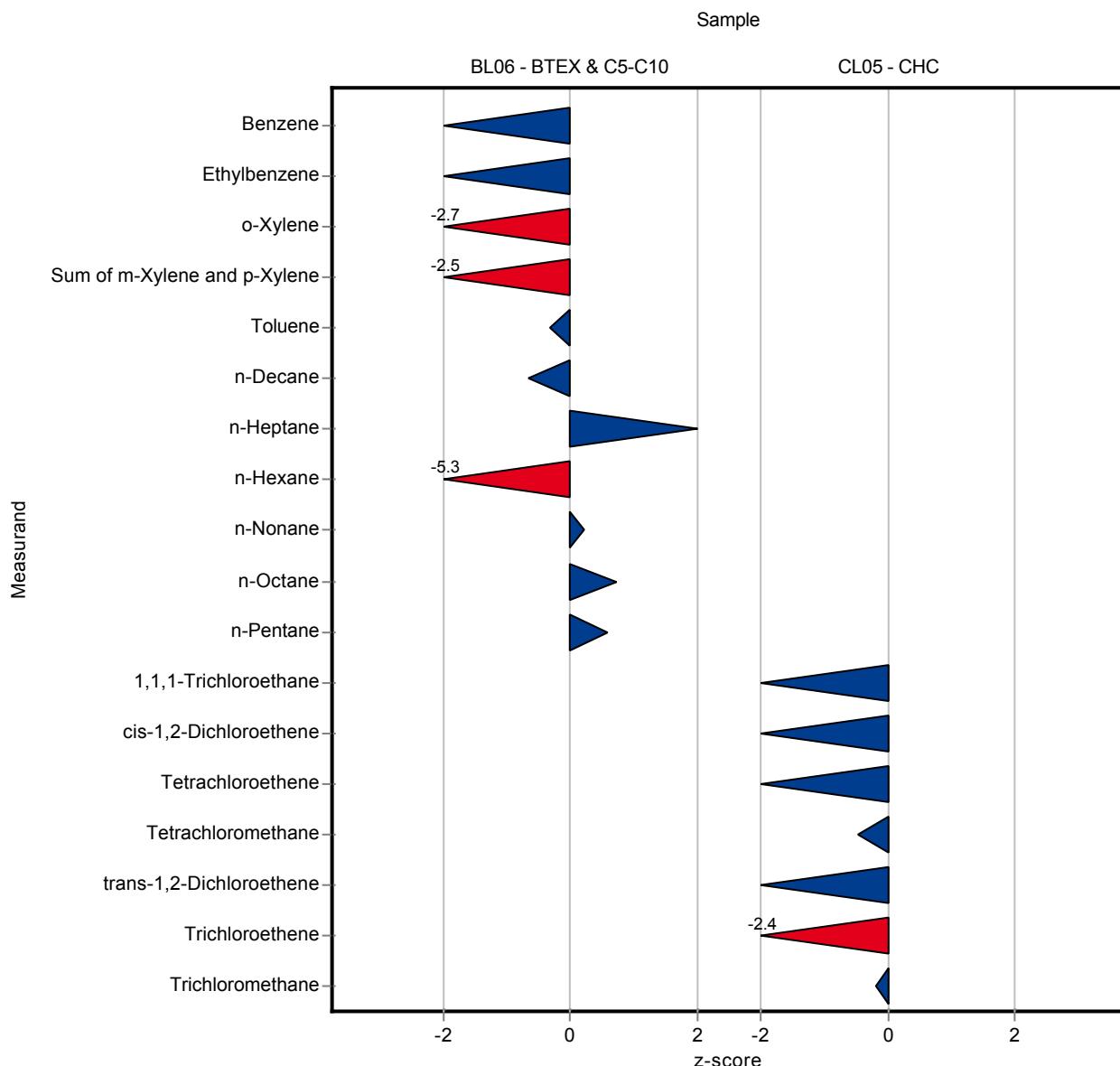
Sample

BL06 - BTEX & C5-C10                    CL05 - CHC

The following results were achieved:

## Sample: BL06

| Parameter | Unit | Target | ± | CI(99%) | Result | ±U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | µg/tube | 4.8 | ± | 0.348 | 4.69 | 0.94 | 0.478 | 97.7 | -0.23 |
| Ethylbenzene | µg/tube | 5.66 | ± | 0.659 | 5.64 | 1.1 | 0.958 | 99.7 | -0.02 |
| o-Xylene | µg/tube | 5.12 | ± | 0.501 | 5.46 | 1.1 | 0.708 | 107 | 0.47 |
| Sum of m-Xylene and p-Xylene | µg/tube | 10.8 | ± | 1.12 | 10.8 | 2.2 | 1.58 | 99.7 | -0.02 |
| Toluene | µg/tube | 5.2 | ± | 0.407 | 5.29 | 1.1 | 0.576 | 102 | 0.16 |
| n-Decane | µg/tube | 4.56 | ± | 1.28 | 4.32 | 0.86 | 1.41 | 94.8 | -0.17 |
| n-Heptane | µg/tube | 5.57 | ± | 1.15 | 6.04 | 1.2 | 1.21 | 108 | 0.39 |
| n-Hexane | µg/tube | 6.02 | ± | 0.613 | 6.26 | 1.3 | 0.541 | 104 | 0.45 |
| n-Nonane | µg/tube | 5.75 | ± | 1.44 | 5.27 | 1.1 | 1.59 | 91.6 | -0.30 |
| n-Octane | µg/tube | 6.15 | ± | 0.998 | 5.85 | 1.2 | 1.05 | 95.1 | -0.28 |
| n-Pentane | µg/tube | 6.2 | ± | 0.97 | 6.16 | 1.2 | 1.07 | 99.4 | -0.03 |

## Sample: CL05

| Parameter | Unit | Target | ± | CI(99%) | Result | ±U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | µg/tube | 10.9 | ± | 0.689 | 9.62 | 1.9 | 0.919 | 88.6 | -1.35 |
| cis-1,2-Dichloroethene | µg/tube | 7.23 | ± | 1.55 | 6.12 | 1.2 | 2.07 | 84.6 | -0.54 |
| Tetrachloroethene | µg/tube | 11.5 | ± | 1.14 | 10.8 | 2.2 | 1.57 | 94.3 | -0.42 |
| Tetrachloromethane | µg/tube | 13.3 | ± | 1.21 | 11.1 | 2.2 | 1.61 | 83.7 | -1.34 |
| trans-1,2-Dichloroethene | µg/tube | 6.31 | ± | 2.52 | 4.16 | 0.83 | 3.56 | 65.9 | -0.60 |
| Trichloroethene | µg/tube | 10.1 | ± | 1.15 | 9.31 | 1.9 | 1.58 | 92.5 | -0.48 |
| Trichloromethane | µg/tube | 9.71 | ± | 0.6 | 9.11 | 1.8 | 0.8 | 93.8 | -0.75 |
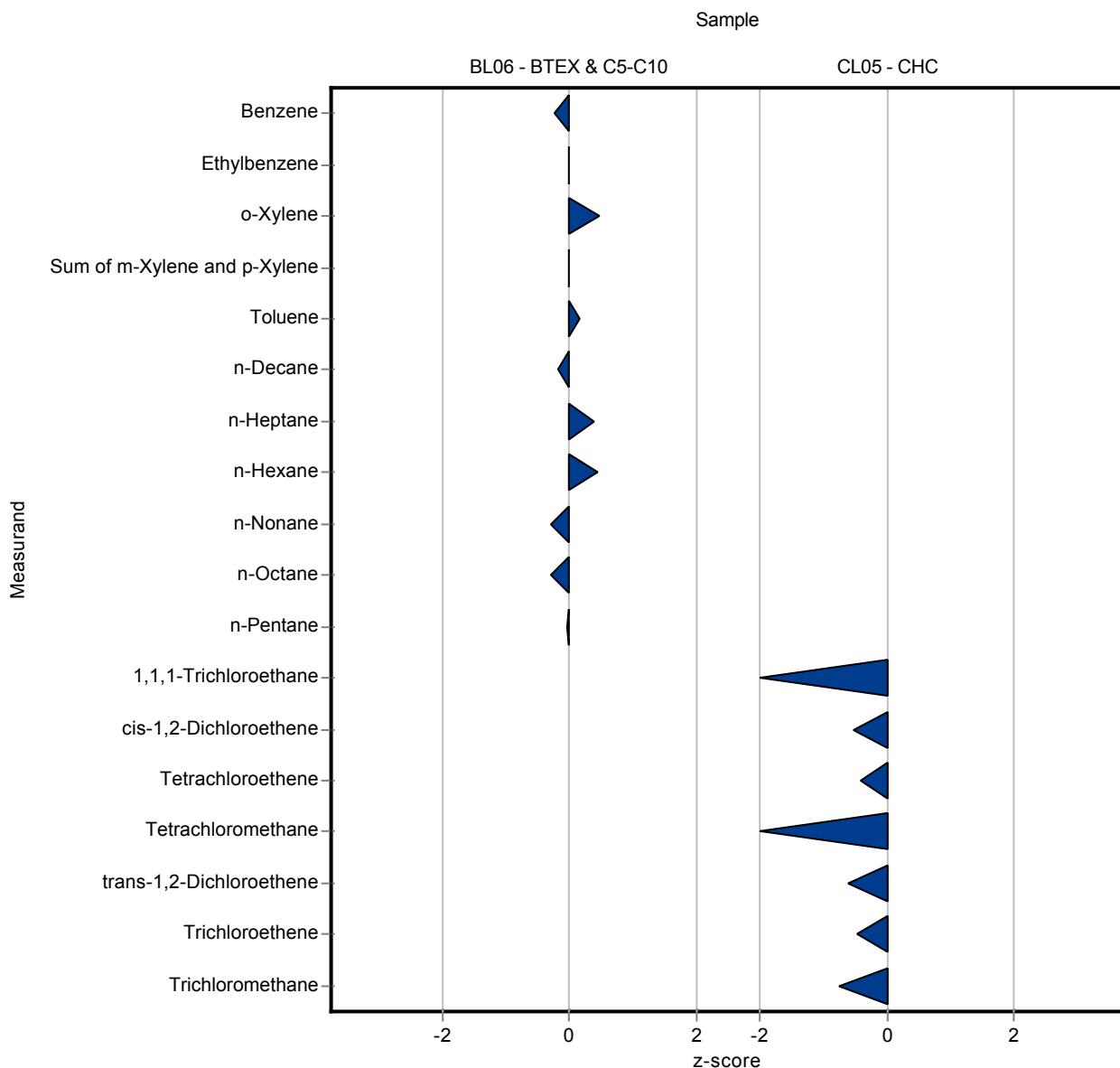
Sample

BL06 - BTEX & C5-C10                    CL05 - CHC

The following results were achieved:

## Sample: BL06

| Parameter | Unit | Target | ± | CI(99%) | Result | ± U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | µg/tube | 4.8 | ± | 0.348 | 4.817 | 1.2 | 0.478 | 100 | 0.03 |
| Ethylbenzene | µg/tube | 5.66 | ± | 0.659 | 5.755 | 1.44 | 0.958 | 102 | 0.10 |
| o-Xylene | µg/tube | 5.12 | ± | 0.501 | 5.547 | 1.39 | 0.708 | 108 | 0.60 |
| Sum of m-Xylene and p-Xylene | µg/tube | 10.8 | ± | 1.12 | 11.32 | 2.83 | 1.58 | 104 | 0.31 |
| Toluene | µg/tube | 5.2 | ± | 0.407 | 5.552 | 1.39 | 0.576 | 107 | 0.61 |
| n-Decane | µg/tube | 4.56 | ± | 1.28 | 5.685 | 1.42 | 1.41 | 125 | 0.80 |
| n-Heptane | µg/tube | 5.57 | ± | 1.15 | 6.253 | 1.56 | 1.21 | 112 | 0.56 |
| n-Hexane | µg/tube | 6.02 | ± | 0.613 | 5.937 | 1.48 | 0.541 | 98.7 | -0.15 |
| n-Nonane | µg/tube | 5.75 | ± | 1.44 | 6.279 | 1.57 | 1.59 | 109 | 0.33 |
| n-Octane | µg/tube | 6.15 | ± | 0.998 | 6.8 | 1.7 | 1.05 | 111 | 0.62 |
| n-Pentane | µg/tube | 6.2 | ± | 0.97 | 5.534 | 1.38 | 1.07 | 89.3 | -0.62 |

## Sample: CL05

| Parameter | Unit | Target | ± | CI(99%) | Result | ± U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | µg/tube | 10.9 | ± | 0.689 | 11.62 | 2.91 | 0.919 | 107 | 0.83 |
| cis-1,2-Dichloroethene | µg/tube | 7.23 | ± | 1.55 | 9.316 | 2.33 | 2.07 | 129 | 1.01 |
| Tetrachloroethene | µg/tube | 11.5 | ± | 1.14 | 12.96 | 3.24 | 1.57 | 113 | 0.96 |
| Tetrachloromethane | µg/tube | 13.3 | ± | 1.21 | 13.98 | 3.5 | 1.61 | 105 | 0.45 |
| trans-1,2-Dichloroethene | µg/tube | 6.31 | ± | 2.52 | 9.222 | 2.31 | 3.56 | 146 | 0.82 |
| Trichloroethene | µg/tube | 10.1 | ± | 1.15 | 11.62 | 2.9 | 1.58 | 115 | 0.98 |
| Trichloromethane | µg/tube | 9.71 | ± | 0.6 | 11.26 | 2.81 | 0.8 | 116 | 1.94 |
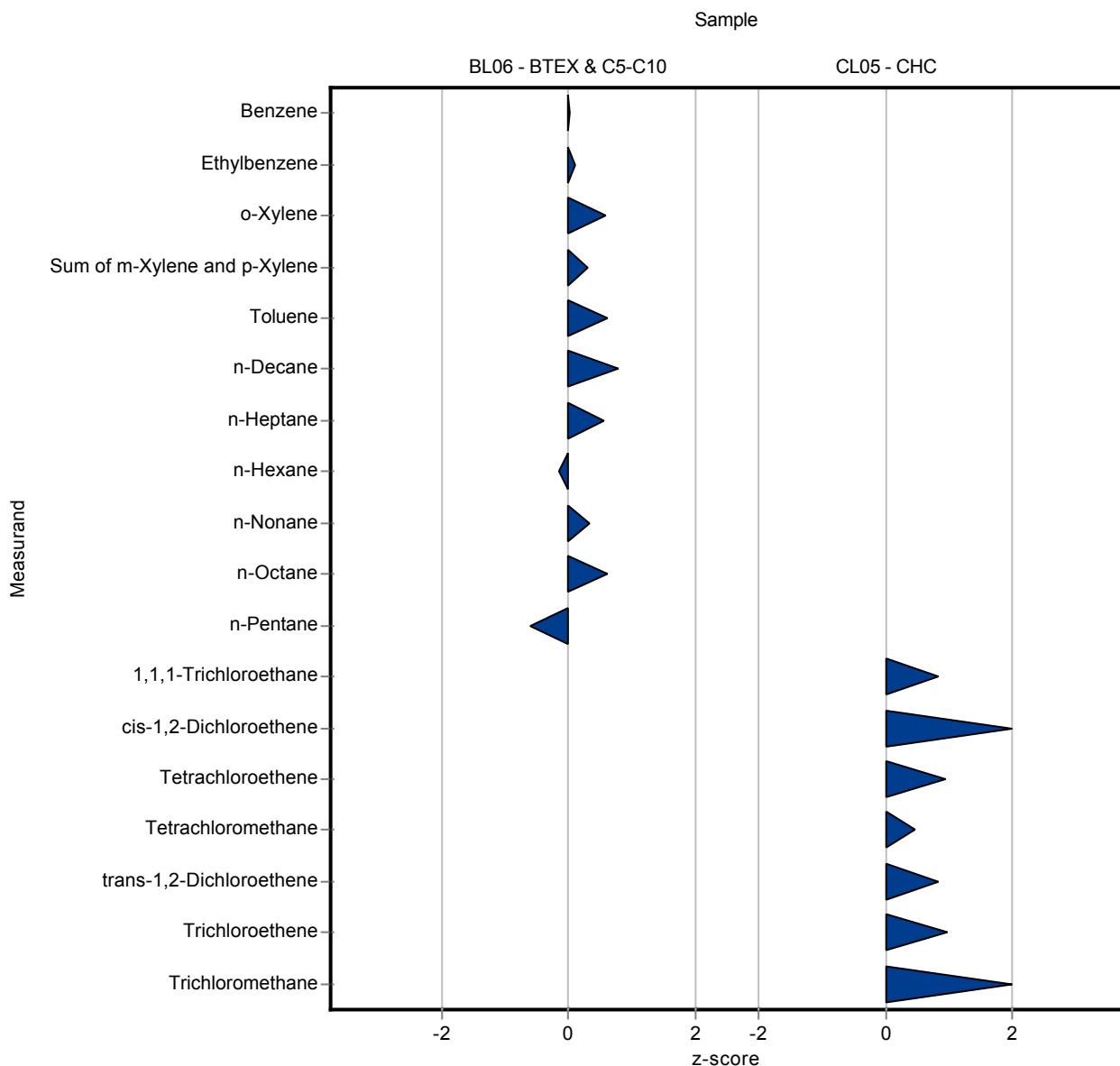
The following results were achieved:

## Sample: CL05

| Parameter | Unit | Target | ± CI(99%) | Result | ± U | Criteria | Recovery | z-score |
|-----------|------|--------|-----------|--------|-----|----------|----------|---------|
| 1,1,1-Trichloroethane | µg/tube | 10.9 ± | 0.689 | 10.507 | 2.101 | 0.919 | 96.7 | -0.39 |
| cis-1,2-Dichloroethene | µg/tube | 7.23 ± | 1.55 | 7.122 | 1.424 | 2.07 | 98.5 | -0.05 |
| Tetrachloroethene | µg/tube | 11.5 ± | 1.14 | 8.141 | 1.62 | 1.57 | 71 | -2.12 |
| Tetrachloromethane | µg/tube | 13.3 ± | 1.21 | 12.593 | 2.518 | 1.61 | 95 | -0.41 |
| trans-1,2-Dichloroethene | µg/tube | 6.31 ± | 2.52 | 6.253 | 1.252 | 3.56 | 99.1 | -0.02 |
| Trichloroethene | µg/tube | 10.1 ± | 1.15 | 8.692 | 1.738 | 1.58 | 86.3 | -0.87 |
| Trichloromethane | µg/tube | 9.71 ± | 0.6 | 8.345 | 1.669 | 0.8 | 86 | -1.70 |
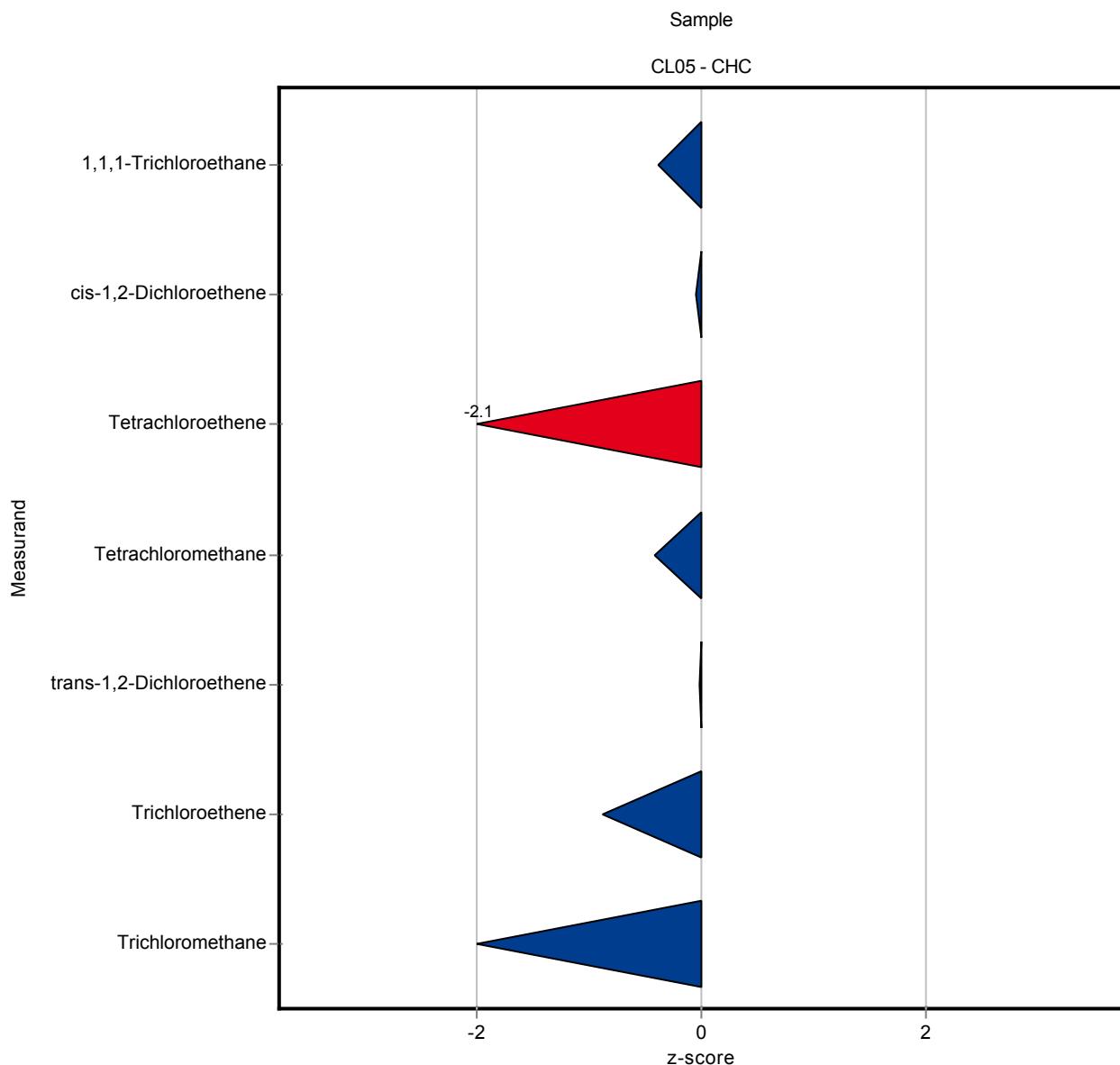
Sample

CL05 - CHC

The following results were achieved:

## Sample: BL06

| Parameter | Unit | Target | ± CI(99%) | Result | ± U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|
| Benzene | µg/tube | 4.8 ± | 0.348 | 5.5 | 0.6 | 0.478 | 115 | 1.46 |
| Ethylbenzene | µg/tube | 5.66 ± | 0.659 | 5 | 0.5 | 0.958 | 88.4 | -0.69 |
| o-Xylene | µg/tube | 5.12 ± | 0.501 | 4.7 | 0.5 | 0.708 | 91.7 | -0.60 |
| Sum of m-Xylene and p-Xylene | µg/tube | 10.8 ± | 1.12 | 10.1 | 1 | 1.58 | 93.2 | -0.46 |
| Toluene | µg/tube | 5.2 ± | 0.407 | 5.2 | 0.5 | 0.576 | 100 | 0.00 |
| n-Decane | µg/tube | 4.56 ± | 1.28 | - | - | 1.41 | - | - |
| n-Heptane | µg/tube | 5.57 ± | 1.15 | - | - | 1.21 | - | - |
| n-Hexane | µg/tube | 6.02 ± | 0.613 | - | - | 0.541 | - | - |
| n-Nonane | µg/tube | 5.75 ± | 1.44 | - | - | 1.59 | - | - |
| n-Octane | µg/tube | 6.15 ± | 0.998 | - | - | 1.05 | - | - |
| n-Pentane | µg/tube | 6.2 ± | 0.97 | - | - | 1.07 | - | - |

Sample

BL06 - BTEX & C5-C10

The following results were achieved:

## Sample: BL06

| Parameter | Unit | Target | ± CI(99%) | Result | ± U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|
| Benzene | µg/tube | 4.8 ± | 0.348 | 5.27 | 1.1 | 0.478 | 110 | 0.98 |
| Ethylbenzene | µg/tube | 5.66 ± | 0.659 | 4.99 | 1 | 0.958 | 88.2 | -0.70 |
| o-Xylene | µg/tube | 5.12 ± | 0.501 | 5.4 | 1 | 0.708 | 105 | 0.39 |
| Sum of m-Xylene and p-Xylene | µg/tube | 10.8 ± | 1.12 | 12.38 | 1 | 1.58 | 114 | 0.98 |
| Toluene | µg/tube | 5.2 ± | 0.407 | 4.95 | 1.2 | 0.576 | 95.2 | -0.43 |
| n-Decane | µg/tube | 4.56 ± | 1.28 | 11.42 | 1.1 | 1.41 | 251 | 4.86 |
| n-Heptane | µg/tube | 5.57 ± | 1.15 | 28.04 | 1.3 | 1.21 | 503 | 18.60 |
| n-Hexane | µg/tube | 6.02 ± | 0.613 | 4.15 | 1.3 | 0.541 | 69 | -3.45 |
| n-Nonane | µg/tube | 5.75 ± | 1.44 | 9.38 | 1.1 | 1.59 | 163 | 2.28 |
| n-Octane | µg/tube | 6.15 ± | 0.998 | 6.87 | 1 | 1.05 | 112 | 0.69 |
| n-Pentane | µg/tube | 6.2 ± | 0.97 | 4.07 | 1 | 1.07 | 65.7 | -1.98 |

## Sample: CL05

| Parameter | Unit | Target | ± CI(99%) | Result | ± U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | µg/tube | 10.9 ± | 0.689 | 10.5 | 1 | 0.919 | 96.7 | -0.39 |
| cis-1,2-Dichloroethene | µg/tube | 7.23 ± | 1.55 | 11.09 | 1.1 | 2.07 | 153 | 1.87 |
| Tetrachloroethene | µg/tube | 11.5 ± | 1.14 | 14.23 | 1 | 1.57 | 124 | 1.77 |
| Tetrachloromethane | µg/tube | 13.3 ± | 1.21 | 13.8 | 1 | 1.61 | 104 | 0.34 |
| trans-1,2-Dichloroethene | µg/tube | 6.31 ± | 2.52 | 13.18 | 1.2 | 3.56 | 209 | 1.93 |
| Trichloroethene | µg/tube | 10.1 ± | 1.15 | 11.15 | 1 | 1.58 | 111 | 0.69 |
| Trichloromethane | µg/tube | 9.71 ± | 0.6 | 9.19 | 1.1 | 0.8 | 94.7 | -0.65 |
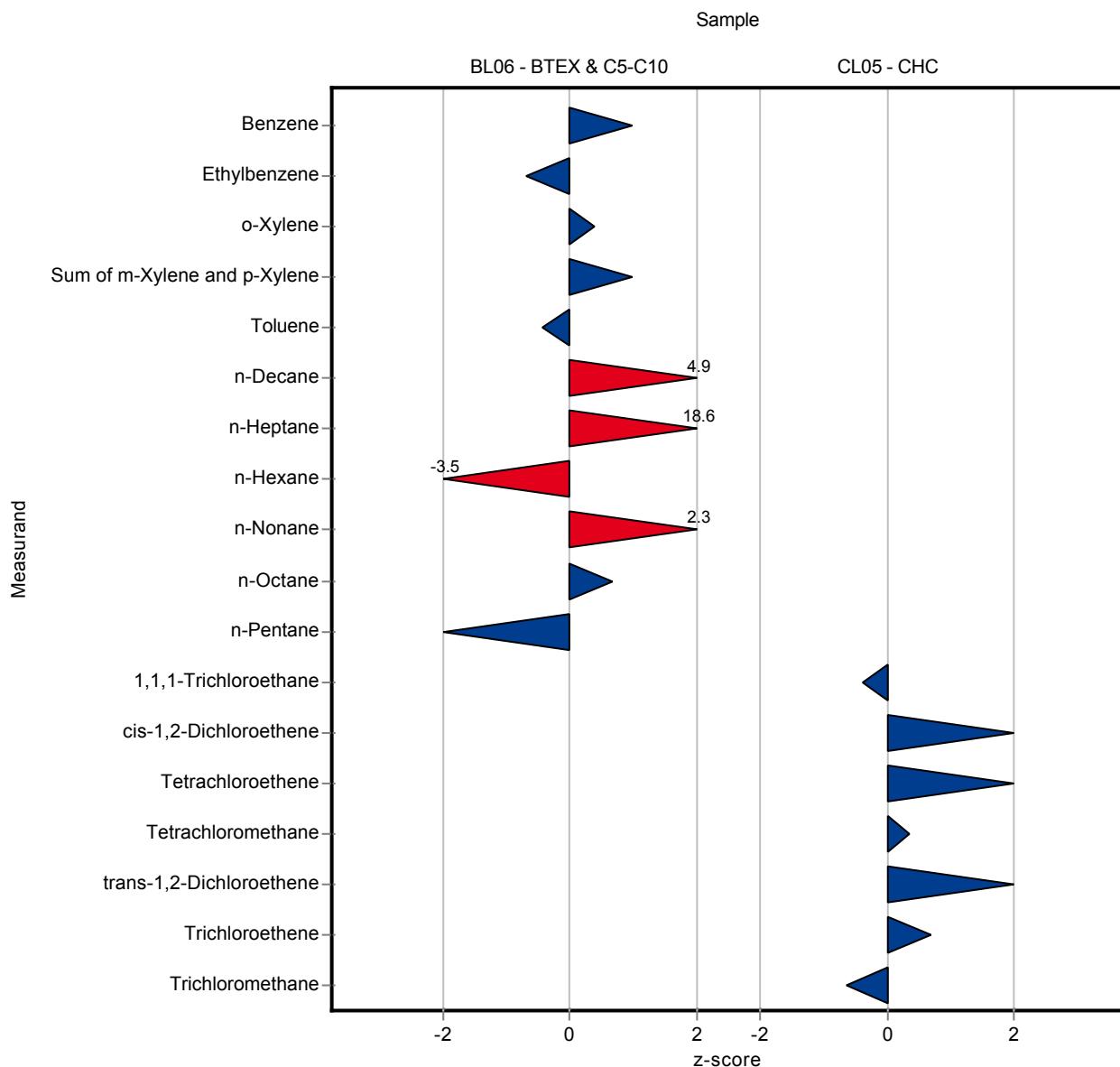
The following results were achieved:

## Sample: BL06

| Parameter | Unit | Target | ± CI(99%) | Result | ± U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|
| Benzene | µg/tube | 4.8 ± | 0.348 | 5.032 | 0.302 | 0.478 | 105 | 0.48 |
| Ethylbenzene | µg/tube | 5.66 ± | 0.659 | 6.211 | 0.559 | 0.958 | 110 | 0.58 |
| o-Xylene | µg/tube | 5.12 ± | 0.501 | 5.861 | 0.527 | 0.708 | 114 | 1.04 |
| Sum of m-Xylene and p-Xylene | µg/tube | 10.8 ± | 1.12 | 12.123 | 0.97 | 1.58 | 112 | 0.82 |
| Toluene | µg/tube | 5.2 ± | 0.407 | 5.687 | 0.398 | 0.576 | 109 | 0.85 |
| n-Decane | µg/tube | 4.56 ± | 1.28 | - | - | 1.41 | - | - |
| n-Heptane | µg/tube | 5.57 ± | 1.15 | - | - | 1.21 | - | - |
| n-Hexane | µg/tube | 6.02 ± | 0.613 | - | - | 0.541 | - | - |
| n-Nonane | µg/tube | 5.75 ± | 1.44 | - | - | 1.59 | - | - |
| n-Octane | µg/tube | 6.15 ± | 0.998 | - | - | 1.05 | - | - |
| n-Pentane | µg/tube | 6.2 ± | 0.97 | - | - | 1.07 | - | - |

Sample

BL06 - BTEX & C5-C10

The following results were achieved:

## Sample: BL06

| Parameter | Unit | Target | ± | CI(99%) | Result | ±U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | µg/tube | 4.8 | ± | 0.348 | 4.7 | 0.5 | 0.478 | 97.9 | -0.21 |
| Ethylbenzene | µg/tube | 5.66 | ± | 0.659 | 5.3 | 0.5 | 0.958 | 93.7 | -0.37 |
| o-Xylene | µg/tube | 5.12 | ± | 0.501 | 5.5 | 0.6 | 0.708 | 107 | 0.53 |
| Sum of m-Xylene and p-Xylene | µg/tube | 10.8 | ± | 1.12 | 12.3 | 1.2 | 1.58 | 114 | 0.93 |
| Toluene | µg/tube | 5.2 | ± | 0.407 | 5.9 | 0.6 | 0.576 | 113 | 1.22 |
| n-Decane | µg/tube | 4.56 | ± | 1.28 | - | - | 1.41 | - | - |
| n-Heptane | µg/tube | 5.57 | ± | 1.15 | - | - | 1.21 | - | - |
| n-Hexane | µg/tube | 6.02 | ± | 0.613 | - | - | 0.541 | - | - |
| n-Nonane | µg/tube | 5.75 | ± | 1.44 | - | - | 1.59 | - | - |
| n-Octane | µg/tube | 6.15 | ± | 0.998 | - | - | 1.05 | - | - |
| n-Pentane | µg/tube | 6.2 | ± | 0.97 | - | - | 1.07 | - | - |

## Sample: CL05

| Parameter | Unit | Target | ± | CI(99%) | Result | ±U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | µg/tube | 10.9 | ± | 0.689 | 10 | 1 | 0.919 | 92.1 | -0.94 |
| cis-1,2-Dichloroethene | µg/tube | 7.23 | ± | 1.55 | 2.3 | 0.2 | 2.07 | 31.8 | -2.38 |
| Tetrachloroethene | µg/tube | 11.5 | ± | 1.14 | 10.7 | 1.1 | 1.57 | 93.4 | -0.48 |
| Tetrachloromethane | µg/tube | 13.3 | ± | 1.21 | 12.1 | 1.2 | 1.61 | 91.3 | -0.72 |
| trans-1,2-Dichloroethene | µg/tube | 6.31 | ± | 2.52 | 0.6 | 0.06 | 3.56 | 9.51 | -1.60 |
| Trichloroethene | µg/tube | 10.1 | ± | 1.15 | 8.4 | 0.8 | 1.58 | 83.4 | -1.06 |
| Trichloromethane | µg/tube | 9.71 | ± | 0.6 | 8.5 | 0.9 | 0.8 | 87.6 | -1.51 |
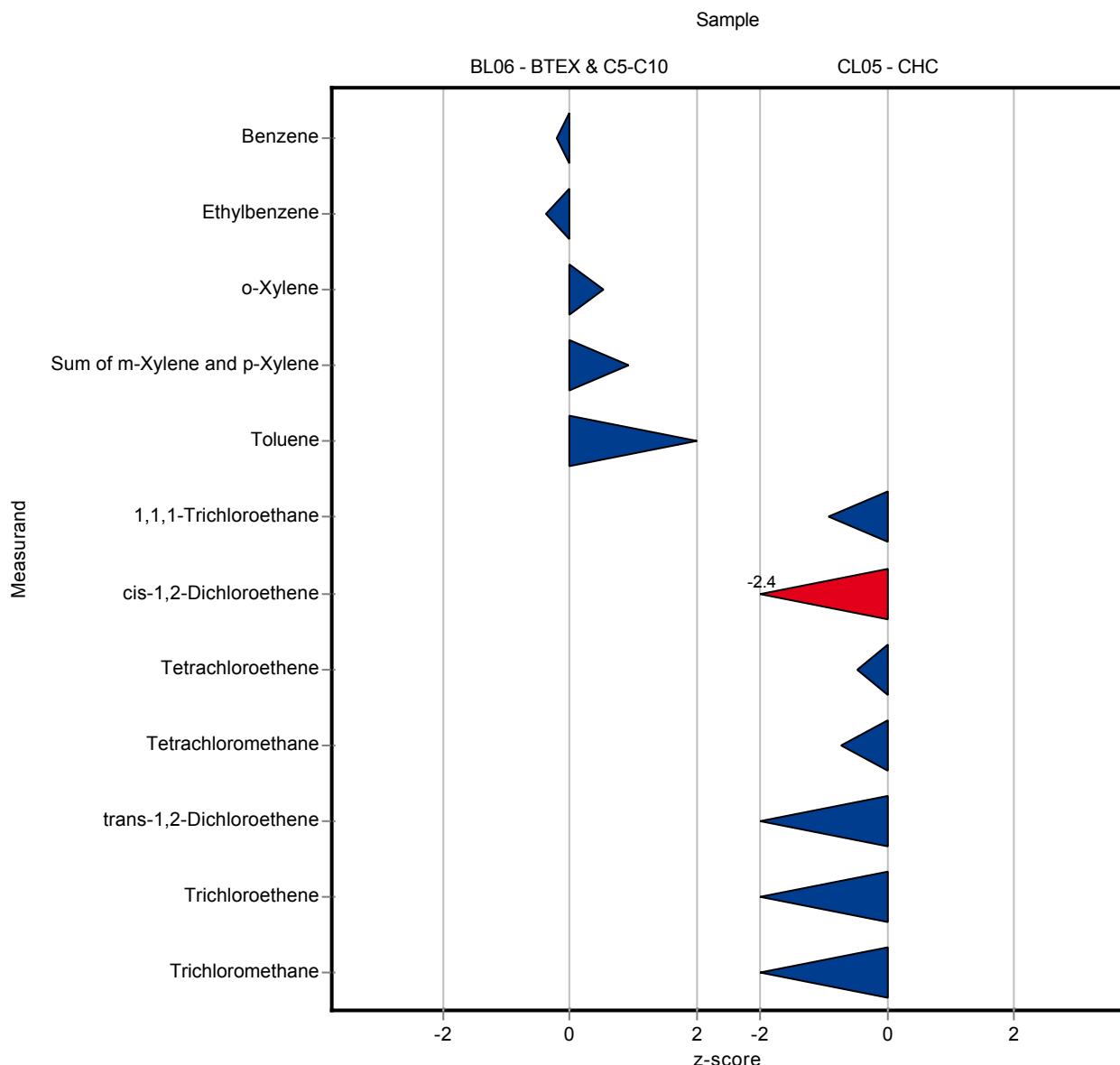
The following results were achieved:

## Sample: BL06

| Parameter | Unit | Target | ± | CI(99%) | Result | ±U | Criteria | Recovery | z-score |
|-----------|------|--------|---|---------|--------|-----|----------|----------|---------|
| Benzene | µg/tube | 4.8 | ± | 0.348 | 5.17 | 0.52 | 0.478 | 108 | 0.77 |
| Ethylbenzene | µg/tube | 5.66 | ± | 0.659 | 6.83 | 0.68 | 0.958 | 121 | 1.22 |
| o-Xylene | µg/tube | 5.12 | ± | 0.501 | 6.37 | 0.64 | 0.708 | 124 | 1.76 |
| Sum of m-Xylene and p-Xylene | µg/tube | 10.8 | ± | 1.12 | 13.24 | 1.3 | 1.58 | 122 | 1.52 |
| Toluene | µg/tube | 5.2 | ± | 0.407 | 5.43 | 0.54 | 0.576 | 104 | 0.40 |
| n-Decane | µg/tube | 4.56 | ± | 1.28 | 3.46 | 0.35 | 1.41 | 75.9 | -0.78 |
| n-Heptane | µg/tube | 5.57 | ± | 1.15 | 2.78 | 0.29 | 1.21 | 49.9 | -2.31 |
| n-Hexane | µg/tube | 6.02 | ± | 0.613 | - | - | 0.541 | - | - |
| n-Nonane | µg/tube | 5.75 | ± | 1.44 | 3.58 | 0.36 | 1.59 | 62.3 | -1.36 |
| n-Octane | µg/tube | 6.15 | ± | 0.998 | 3.47 | 0.35 | 1.05 | 56.4 | -2.55 |
| n-Pentane | µg/tube | 6.2 | ± | 0.97 | 7.68 | 0.77 | 1.07 | 124 | 1.38 |
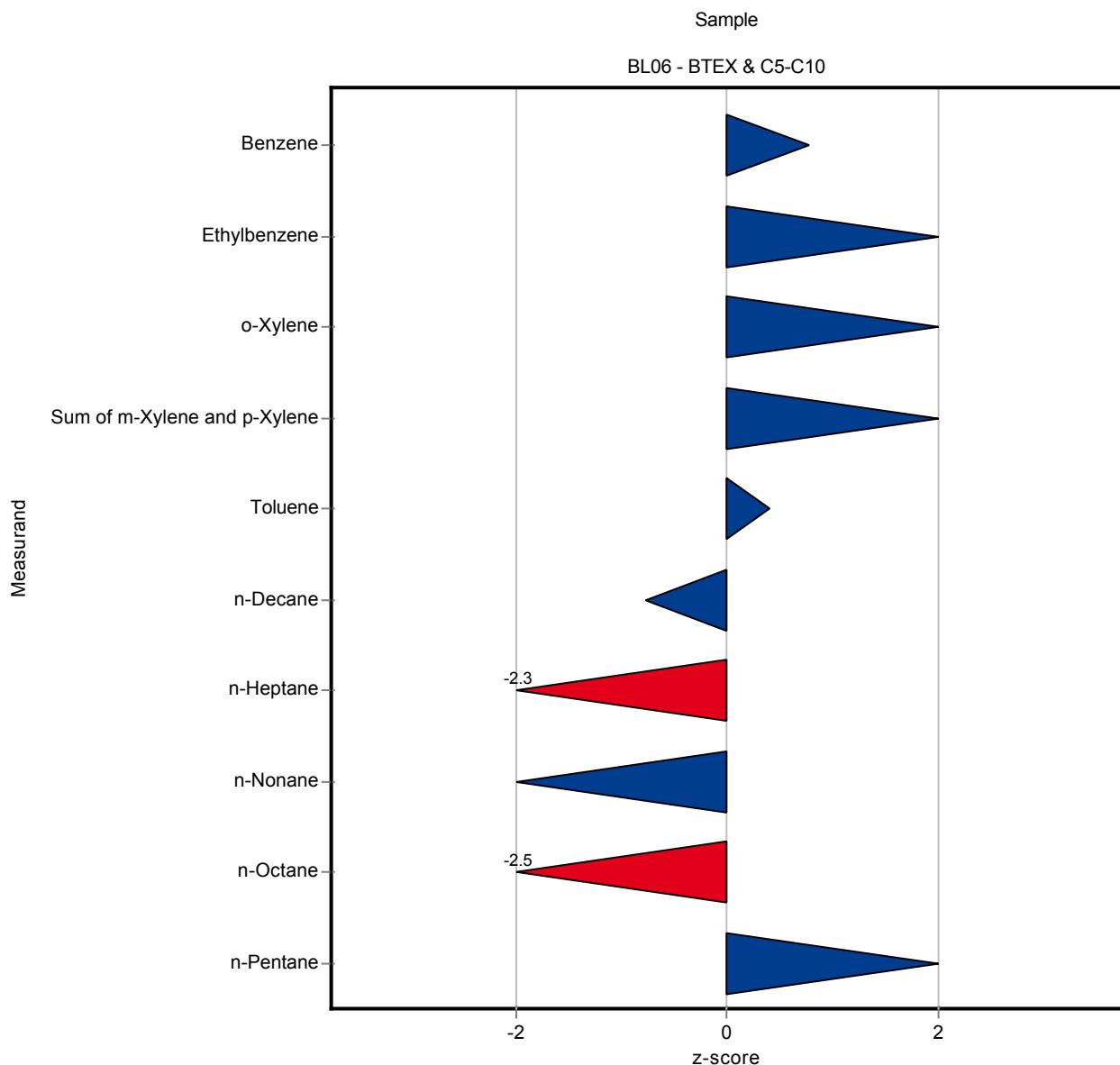
Sample

BL06 - BTEX & C5-C10

The following results were achieved:

## Sample: CL05

| Parameter | Unit | Target | ± CI(99%) | Result | ± U | Criteria | Recovery | z-score |
|-----------|------|--------|-----------|--------|-----|----------|----------|---------|
| 1,1,1-Trichloroethane | µg/tube | 10.9 ± | 0.689 | 10.63 | 1.44 | 0.919 | 97.9 | -0.25 |
| cis-1,2-Dichloroethene | µg/tube | 7.23 ± | 1.55 | 7.03 | 0.77 | 2.07 | 97.2 | -0.10 |
| Tetrachloroethene | µg/tube | 11.5 ± | 1.14 | 10.07 | 1.01 | 1.57 | 87.9 | -0.89 |
| Tetrachloromethane | µg/tube | 13.3 ± | 1.21 | 11.15 | 1.54 | 1.61 | 84.1 | -1.31 |
| trans-1,2-Dichloroethene | µg/tube | 6.31 ± | 2.52 | 7.24 | 0.78 | 3.56 | 115 | 0.26 |
| Trichloroethene | µg/tube | 10.1 ± | 1.15 | 10.27 | 1.99 | 1.58 | 102 | 0.13 |
| Trichloromethane | µg/tube | 9.71 ± | 0.6 | 5.01 | 1.03 | 0.8 | 51.6 | -5.87 |
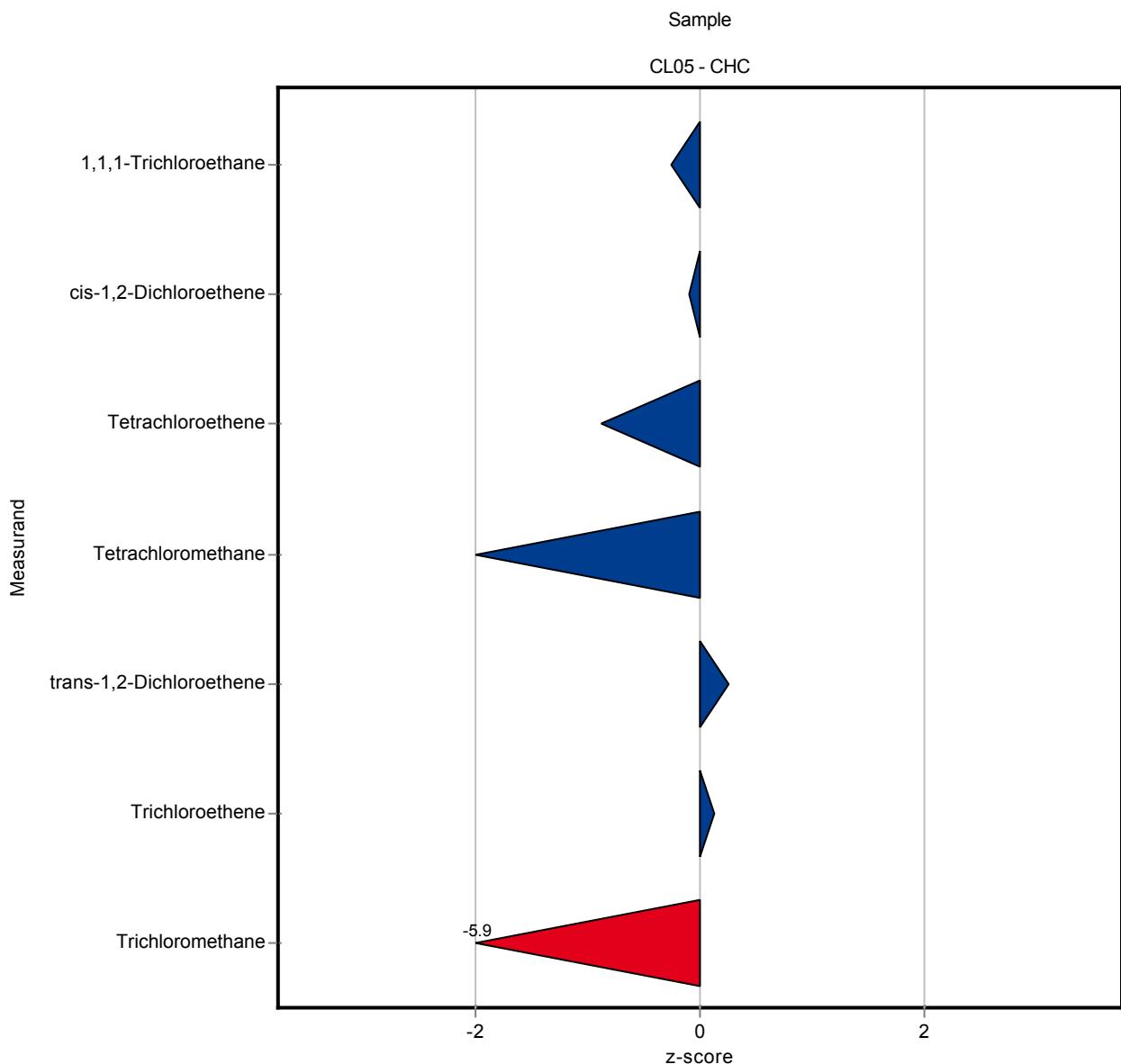
ENVIRONMENT
AGENCY AUSTRIA **umwelt**bundesamt

Sample

CL05 - CHC

The following results were achieved:

## Sample: BL06

| Parameter | Unit | Target | ± CI(99%) | Result | ±U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|
| Benzene | µg/tube | 4.8 ± | 0.348 | 4.9 | 1.2 | 0.478 | 102 | 0.20 |
| Ethylbenzene | µg/tube | 5.66 ± | 0.659 | 5.1 | 1.3 | 0.958 | 90.1 | -0.58 |
| o-Xylene | µg/tube | 5.12 ± | 0.501 | 5.1 | 1.3 | 0.708 | 99.5 | -0.03 |
| Sum of m-Xylene and p-Xylene | µg/tube | 10.8 ± | 1.12 | 10.6 | 2.6 | 1.58 | 97.8 | -0.15 |
| Toluene | µg/tube | 5.2 ± | 0.407 | 4.8 | 1.2 | 0.576 | 92.3 | -0.69 |
| n-Decane | µg/tube | 4.56 ± | 1.28 | - | - | 1.41 | - | - |
| n-Heptane | µg/tube | 5.57 ± | 1.15 | - | - | 1.21 | - | - |
| n-Hexane | µg/tube | 6.02 ± | 0.613 | - | - | 0.541 | - | - |
| n-Nonane | µg/tube | 5.75 ± | 1.44 | - | - | 1.59 | - | - |
| n-Octane | µg/tube | 6.15 ± | 0.998 | - | - | 1.05 | - | - |
| n-Pentane | µg/tube | 6.2 ± | 0.97 | - | - | 1.07 | - | - |

## Sample: CL05

| Parameter | Unit | Target | ± CI(99%) | Result | ±U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | µg/tube | 10.9 ± | 0.689 | 11.3 | 2.8 | 0.919 | 104 | 0.48 |
| cis-1,2-Dichloroethene | µg/tube | 7.23 ± | 1.55 | 7.8 | 2 | 2.07 | 108 | 0.28 |
| Tetrachloroethene | µg/tube | 11.5 ± | 1.14 | 11.7 | 2.9 | 1.57 | 102 | 0.15 |
| Tetrachloromethane | µg/tube | 13.3 ± | 1.21 | 13.4 | 3.3 | 1.61 | 101 | 0.09 |
| trans-1,2-Dichloroethene | µg/tube | 6.31 ± | 2.52 | 8.7 | 2.2 | 3.56 | 138 | 0.67 |
| Trichloroethene | µg/tube | 10.1 ± | 1.15 | 10.1 | 2.5 | 1.58 | 100 | 0.02 |
| Trichloromethane | µg/tube | 9.71 ± | 0.6 | 9.5 | 2.4 | 0.8 | 97.9 | -0.26 |
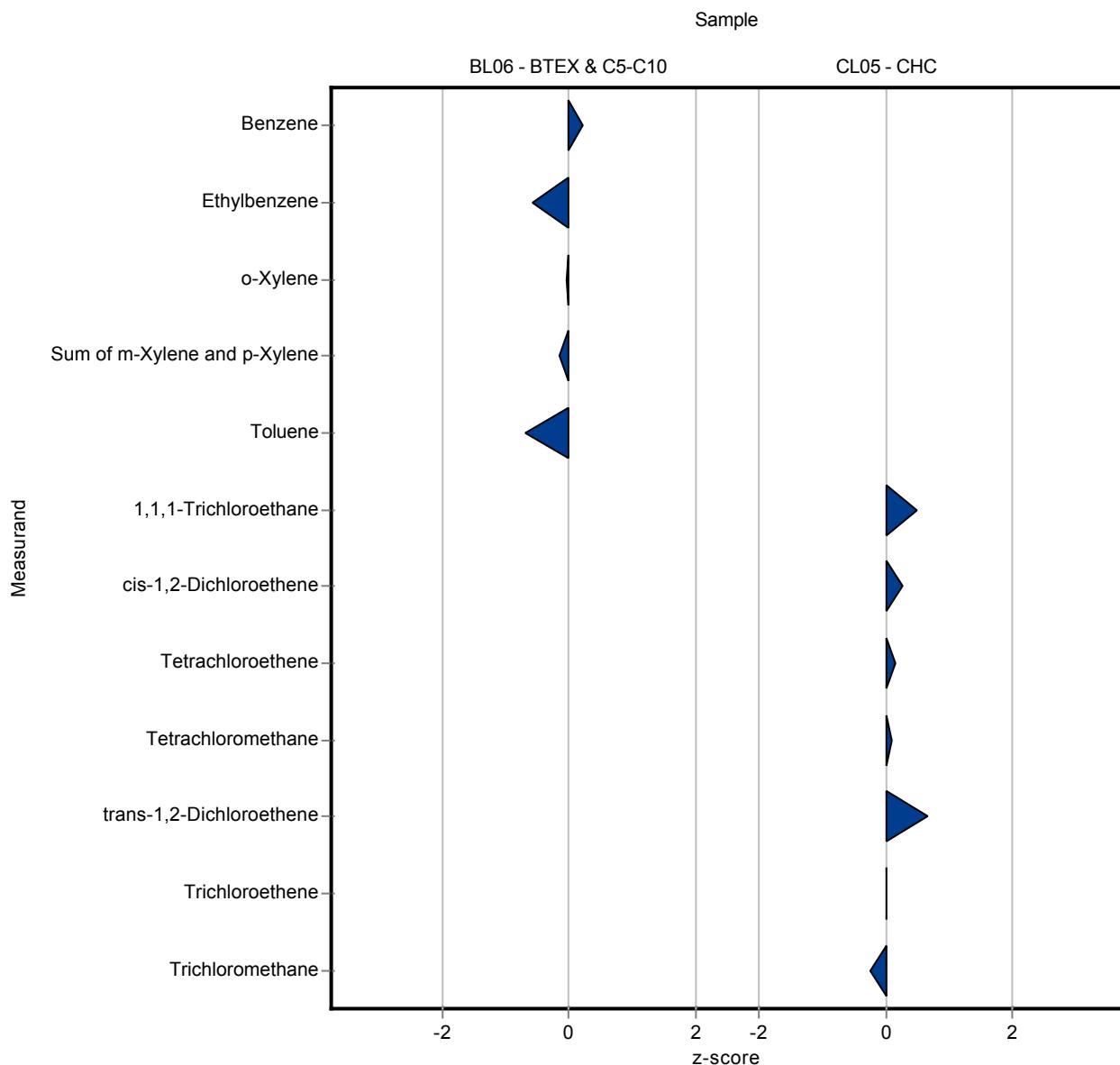
The following results were achieved:

## Sample: BL06

| Parameter | Unit | Target | ± CI(99%) | Result | ± U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|
| Benzene | µg/tube | 4.8 ± | 0.348 | 5.203 | 1.04 | 0.478 | 108 | 0.84 |
| Ethylbenzene | µg/tube | 5.66 ± | 0.659 | 6.717 | 1.343 | 0.958 | 119 | 1.11 |
| o-Xylene | µg/tube | 5.12 ± | 0.501 | 5.726 | 1.145 | 0.708 | 112 | 0.85 |
| Sum of m-Xylene and p-Xylene | µg/tube | 10.8 ± | 1.12 | 11.693 | 2.339 | 1.58 | 108 | 0.54 |
| Toluene | µg/tube | 5.2 ± | 0.407 | 6.103 | 1.22 | 0.576 | 117 | 1.57 |
| n-Decane | µg/tube | 4.56 ± | 1.28 | 7.287 | 1.457 | 1.41 | 160 | 1.93 |
| n-Heptane | µg/tube | 5.57 ± | 1.15 | 13.673 | 2.735 | 1.21 | 245 | 6.69 |
| n-Hexane | µg/tube | 6.02 ± | 0.613 | 18.28 | 3.656 | 0.541 | 304 | 22.70 |
| n-Nonane | µg/tube | 5.75 ± | 1.44 | 10.68 | 2.136 | 1.59 | 186 | 3.09 |
| n-Octane | µg/tube | 6.15 ± | 0.998 | 12.467 | 2.493 | 1.05 | 203 | 6.01 |
| n-Pentane | µg/tube | 6.2 ± | 0.97 | 24.227 | 4.845 | 1.07 | 391 | 16.80 |

## Sample: CL05

| Parameter | Unit | Target | ± CI(99%) | Result | ± U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | µg/tube | 10.9 ± | 0.689 | 16.08 | 3.2 | 0.919 | 148 | 5.68 |
| cis-1,2-Dichloroethene | µg/tube | 7.23 ± | 1.55 | 9.28 | 1.8 | 2.07 | 128 | 0.99 |
| Tetrachloroethene | µg/tube | 11.5 ± | 1.14 | 13.64 | 2.7 | 1.57 | 119 | 1.39 |
| Tetrachloromethane | µg/tube | 13.3 ± | 1.21 | 16.81 | 3.4 | 1.61 | 127 | 2.20 |
| trans-1,2-Dichloroethene | µg/tube | 6.31 ± | 2.52 | 8.2 | 1.6 | 3.56 | 130 | 0.53 |
| Trichloroethene | µg/tube | 10.1 ± | 1.15 | 13.77 | 2.7 | 1.58 | 137 | 2.35 |
| Trichloromethane | µg/tube | 9.71 ± | 0.6 | 10.43 | 2.1 | 0.8 | 107 | 0.90 |
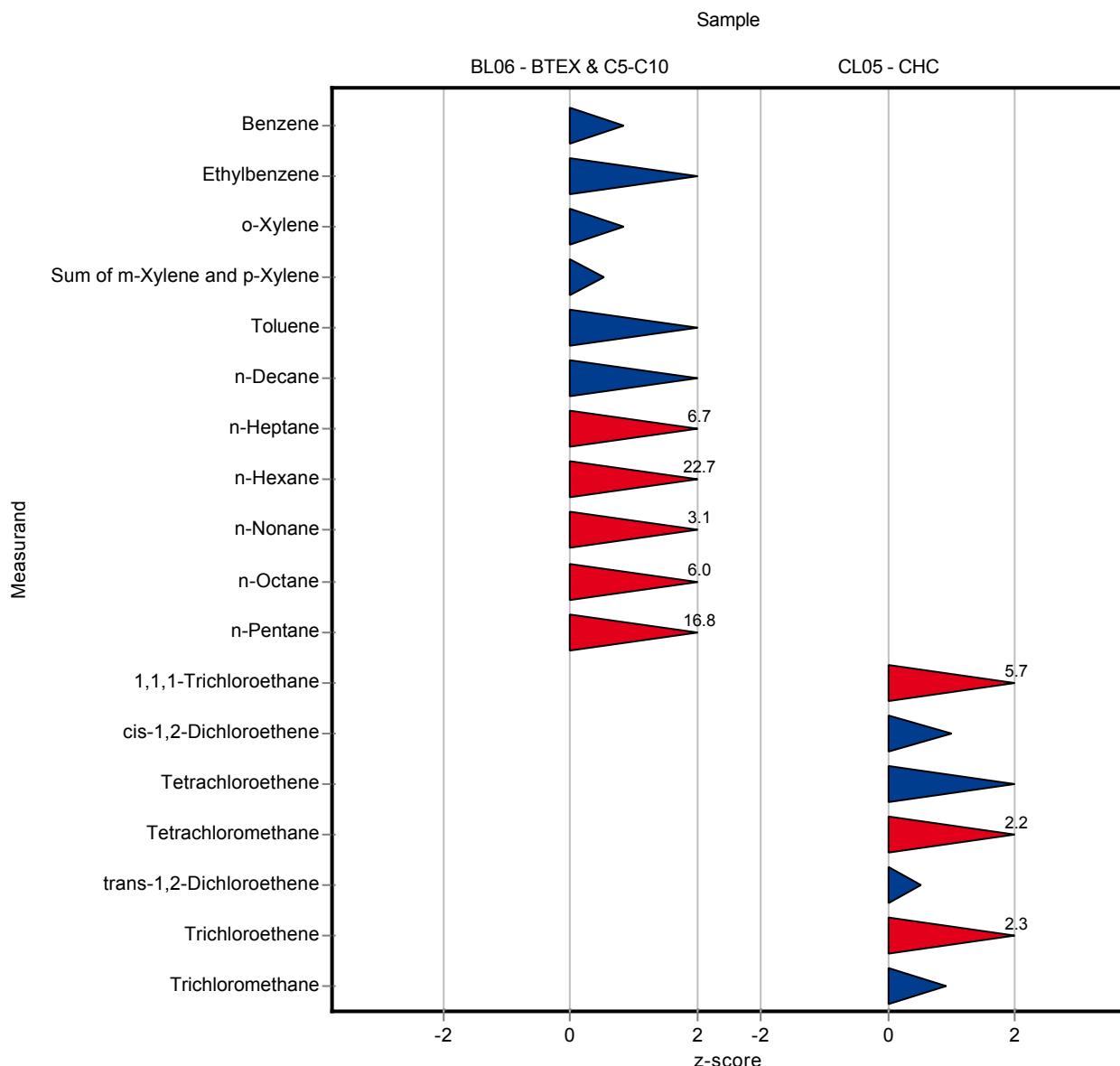
Sample

The following results were achieved:

## Sample: BL06

| Parameter | Unit | Target | ± CI(99%) | Result | ± U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|
| Benzene | µg/tube | 4.8 ± | 0.348 | 3.26 | 0.65 | 0.478 | 67.9 | -3.23 |
| Ethylbenzene | µg/tube | 5.66 ± | 0.659 | 4.57 | 0.91 | 0.958 | 80.8 | -1.14 |
| o-Xylene | µg/tube | 5.12 ± | 0.501 | 4.73 | 0.95 | 0.708 | 92.3 | -0.56 |
| Sum of m-Xylene and p-Xylene | µg/tube | 10.8 ± | 1.12 | 9.42 | 1.88 | 1.58 | 87 | -0.89 |
| Toluene | µg/tube | 5.2 ± | 0.407 | 3.95 | 0.79 | 0.576 | 76 | -2.17 |
| n-Decane | µg/tube | 4.56 ± | 1.28 | - | - | 1.41 | - | - |
| n-Heptane | µg/tube | 5.57 ± | 1.15 | - | - | 1.21 | - | - |
| n-Hexane | µg/tube | 6.02 ± | 0.613 | - | - | 0.541 | - | - |
| n-Nonane | µg/tube | 5.75 ± | 1.44 | - | - | 1.59 | - | - |
| n-Octane | µg/tube | 6.15 ± | 0.998 | - | - | 1.05 | - | - |
| n-Pentane | µg/tube | 6.2 ± | 0.97 | - | - | 1.07 | - | - |

## Sample: CL05

| Parameter | Unit | Target | ± CI(99%) | Result | ± U | Criteria | Recovery | z-score |
|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | µg/tube | 10.9 ± | 0.689 | 12.5 | 2.5 | 0.919 | 115 | 1.78 |
| cis-1,2-Dichloroethene | µg/tube | 7.23 ± | 1.55 | 32.7 | 6.5 | 2.07 | 452 | 12.30 |
| Tetrachloroethene | µg/tube | 11.5 ± | 1.14 | 13.2 | 2.6 | 1.57 | 115 | 1.11 |
| Tetrachloromethane | µg/tube | 13.3 ± | 1.21 | 15.2 | 3 | 1.61 | 115 | 1.20 |
| trans-1,2-Dichloroethene | µg/tube | 6.31 ± | 2.52 | 10.4 | 2.1 | 3.56 | 165 | 1.15 |
| Trichloroethene | µg/tube | 10.1 ± | 1.15 | 11.3 | 2.3 | 1.58 | 112 | 0.78 |
| Trichloromethane | µg/tube | 9.71 ± | 0.6 | 9.38 | 1.88 | 0.8 | 96.6 | -0.41 |

ENVIRONMENT AGENCY AUSTRIA **umwelt**bundesamt

Sample