IFA-Proficiency Testing Scheme for Water Analysis

Round C69
Volatile Halogenated Hydrocarbons

Sample Dispatch: 12 June 2023

In accordance with the procedure: AVKPS.03

University of Natural Resources and Life Sciences Vienna, Department of Agrobiotechnology, IFA-Tulln
Institute of Bioanalytics and Agro-Metabolomics, IFA-Proficiency Testing Scheme
3430 Tulln, Konrad-Lorenz-Straße 20, www.ifatest.eu
tel.: +43 (0)1 47654 ext. 97306 or 97361, fax.: +43 (0)1 47654 97309

Address: **University of Natural Resources and Life Sciences, Vienna**
Department of Agrobiotechnology, IFA-Tulln
Institute of Bioanalytics and Agro-Metabolomics
Head: Prof. DI Dr. Rudolf Krska
Konrad-Lorenz-Str. 20
3430 Tulln
Austria

Website: www.ifatest.eu
www.ifa-tulln.boku.ac.at

Telephone/Fax: +43(0) 1 47654 - Ext
+43(0) 1 47654 - 97309

Proficiency Testing (PT) Scheme:

Coordinator and technical manager:

Dipl.-HTL-Ing. Andrea Koutnik Ext 97306 andrea.koutnik@boku.ac.at

Quality assurance representative:

Dr. Wolfgang Kandler Ext 97308 wolfgang.kandler@boku.ac.at

Method specialists:

Ing. Uta Kachelmeier Ext 97361 uta.kachelmeier@boku.ac.at
Ing. Caroline Stadlmann Ext 97306 caroline.stadlmann@boku.ac.at

Approved by:	Dipl.-HTL-Ing. Andrea Koutnik	
Round C69:	Date / Signature:	11.07.2023

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This report summarises the results of round C69 “Volatile Halogenated Hydrocarbons” within the IFA-Test Proficiency Testing Scheme for Water Analysis. The samples were distributed to 20 participants on Monday, 12 June 2023. Each participant received two samples of 600 mL filled into aluminium bottles.

Closing date for reporting results to the IFA-Tulln was Friday, 7 July 2023. All laboratories submitted results. To make the participants anonymous, each laboratory obtained a letter code by random.

Samples

For sample preparation, ultrapure water was spiked with concentrated solutions of inorganic salts in order to simulate the ionic composition of natural ground water. The following salts were added to the samples: $Mg(NO_3)_2$, $MgSO_4$, Na_2SO_4, $NaHCO_3$, $KHCO_3$, $CaCl_2$ and $Ca(NO_3)_2$. Prior to sample preparation, samples of ultrapure water and artificial water matrix were analysed by Purge&Trap-GC-MS to exclude contamination.

The samples C69A and C69B were spiked with traces of trichloroethene, trichloromethane, 1,1,1-trichloroethane, tetrachloromethane, tribromomethane, tetrachloroethene, bromodichloromethane, 1,2-dichloroethane, dibromochloromethane, 1,1-dichloroethene, dichloromethane, cis-1,2-dichloroethene and trans-1,2-dichloroethene.

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

For verification of homogeneity samples were analysed for the compounds of interest by Purge&Trap-GC-MS measurements prior to shipment to the participants. The results of the measurements are listed in the result tables and the parameter oriented part of the report (”IFA result”).

Usually we perform an additional check of PT-samples’ stability five weeks after sample preparation. The results of the measurements are listed in the result tables and the parameter oriented part of the report (”Stability test”).

Results

Data evaluation was based on target concentrations that were calculated from the weights of the standards used to prepare 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 target concentrations. The results were tested for outliers using the Hampel outlier test (level of significance 99 %). A minimum number of four results was required for the outlier test.

The substance concentrations adjusted by standard addition were between 0.192 µg/L (trans-1,2-dichloroethene in C69A) and 2.70 µg/L (dichloromethane in C69B).

Trichloromethane was not added to sample C69A and tetrachloromethane and dibromochloromethane were not added to sample C69B in order to check the analytical blank values. The target concentrations were set to <0.1 µg/L trichloromethane, <0.1 µg/L tetrachloromethane and <0.1 µg/L dibromochloromethane, which meets the minimum quantifiable values defined by the Austrian ground and river water monitoring program and the quantification limits of the analytical methods applied in the IFA.

Standard deviations and coefficients of variation (CVs) were only calculated, when at least three results were available. The recoveries of the target concentrations, calculated from outlier-corrected data mean values ranged between 92.7 % (trichloroethene in sample C69A and tribromomethane in sample C69B) and 107.0 % (dichloromethane in sample C69A) The between-laboratory coefficients of variation ranged from 8.1 % (tetrachloroethene in sample C69A) to 17.7 % (cis-1,2-dichloroethene in sample C69A).

The confidence intervals of the outlier-corrected laboratory mean values encompass the corresponding target values with their uncertainties.

z-Scores

The most common approach is to form the z-score 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“)
σ_{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 2012 to 2022. 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.

Calculation example:

A laboratory found 7.20 µg/L for the parameter Dichloromethane (recovery of 120 %). The target value for Dichloromethane was 6.02 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 14 %, which is 0.84 µg/L Dichloromethane, when based on the target value.

$$z = \frac{x_i - X}{\sigma_{PT}} = \frac{7.20\ \mu g/L - 6.02\ \mu g/L}{0.84\ \mu g/L} \approx 1.4 \quad \textbf{or} \quad \frac{120\% - 100\%}{14\ \%} \approx 1.4$$

z z-score
x_i 7.20 µg/L equivalent to 120 % (value of the laboratory)
X 6.02 µg/L equivalent to 100 % (target value)
σ_{pt} 0.84 µg/L equivalent to 14 % (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 based on the target value [%]	Lower limit [µg/L]
1,1,1-Trichloroethane	13	0.15
1,1-Dichloroethene	17	0.25
1,2-Dichloroethane	13	0.5
cis-1,2-Dichloroethene	14	0.15
trans-1,2-Dichloroethene	15	0.15
Bromodichloromethane	12	0.15
Dibromochloromethane	12	0.2
Dichloromethane	14	1
Tetrachloroethene	15	0.15
Tetrachloromethane	17	0.15
Tribromomethane	15	0.2
Trichloroethene	14	0.15
Trichloromethane	13	0.25

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 represented. The standard deviations for proficiency assessment are given in concentration units there.

An overview table of all z-scores can be found after the result tables in the parameter-oriented part.

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 value. 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, or the measured value was given as “0” when the substance was added.
- “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 recovery can be calculated are illustrated by this symbol

Tulln, 11 July 2023

Sample C10B
Parameter Dichloromethane

Target value ± U (k=2) 10,4 µg/l ± 0,5 µg/l ***Obtained from mass weighed out, U = uncertainty***

IFA result ± U (k=2) 10,2 µg/l ± 1,0 µg/l ***Determined at IFA prior to shipment of samples***

Stability test ± U (k=2) 10,2 µg/l ± 1,0 µg/l ***Determined at IFA 5 weeks after sample dispatch***

Lab code	Result	Out	+/-	Unit	Recovery	z-Score
A	11,0		1,28	µg/l	106 %	0,30
B	9,0		1,8	µg/l	87 %	-0,71
C	10		2	µg/l	96 %	-0,20
D				µg/l		
E	13,7		0,40	µg/l	132 %	1,67
F	6,8		0,7	µg/l	65 %	-1,82
G	< 20			µg/l		
H				µg/l	•	
I	11,0			µg/l	106%	0,30
J	24,1	*	1,51	µg/l	232 %	6,93
K	10,09		1,22	µg/l	97 %	-0,16
L	2,76	*		µg/l	27 %	-3,87
M	6,38		1,87	µg/l	61 %	-2,03
N	< 5		0,5	µg/l	FN	
O	15,6	*	4	µg/l	150 %	2,63
P	10,3		1,0	µg/l	99 %	-0,05
Q	10		1,14	µg/l	96 %	-0,20
R	8,88		0,46	µg/l	85 %	-0,77
S				µg/l		
T	9,03		0,08	µg/l	87 %	-0,69
U	22,5	*	0,5	µg/l	216 %	6,12
V	10,33		0,25	µg/l	99 %	-0,04

Recovery of target value in percent

z-Score of the laboratory

An asterisk 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%)	11,3 ± 3,8	9,7 ± 1,6	µg/l
Recov. +/- CI (99%)	108,3 ± 36,3	93,6 ± 15,1	%
SD between labs	5,3	1,9	µg/l
RSD between labs	47,3	19,1	%
n for calculation	17	13	

Between laboratory standard deviation

Overall laboratory mean and recovery with corresponding confidence intervals (p=99%)

Number of data used for calculation of statistic parameters

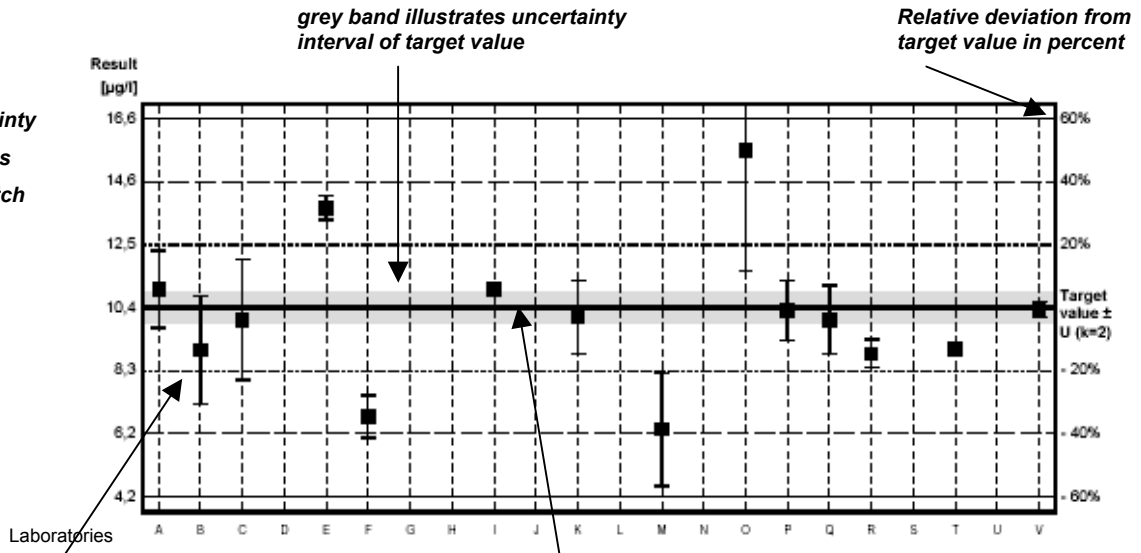


Diagram 1. Measurement results and corresponding uncertainty intervals

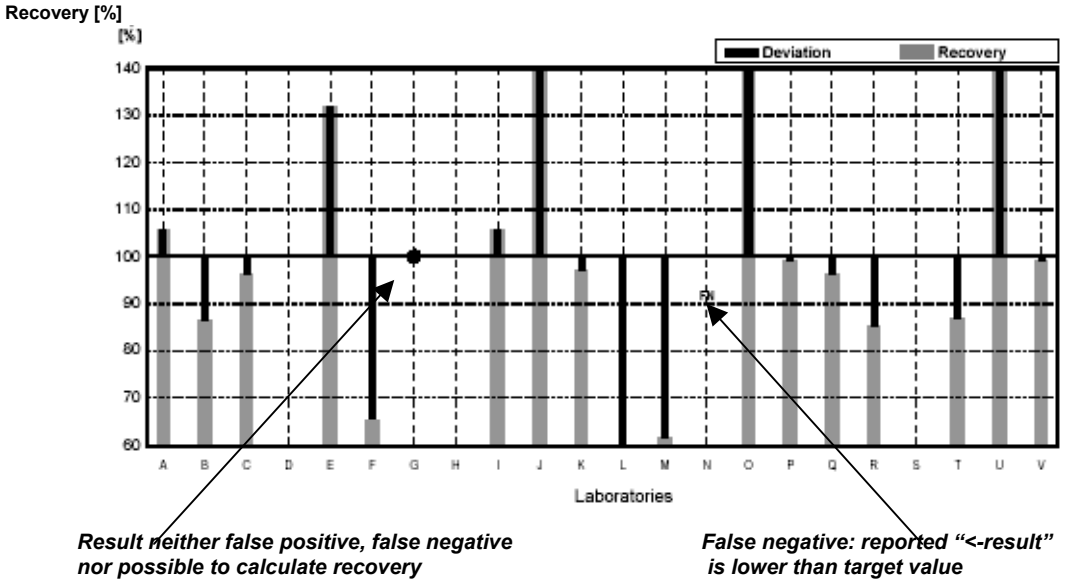


Diagram 2. Recoveries and deviations from target values

EXPLANATION

Illustration of Results
Tables and Parameter Oriented Part

Round C69
Volatile Halogenated Hydrocarbons

Sample Dispatch: 12 June 2023

Results Sample C69A

	Trichloro-ethene	Tetrachloro-ethene	1,1,1-Tri-chloroethane	Trichloro-methane	Tetrachloro-methane	1,1-Dichloro-ethene	Tribromo-methane
Target value	1.00	2.28	1.33	<0.1	1.10	0.268	1.78
IFA Result	0.95	2.16	1.27	<0.1	1.06	0.258	1.76
Stability test	0.97	2.21	1.34	<0.1	1.11	0.242	1.72
A	0.985	2.08	1.34	<0.1	1.07	0.306	1.56
B	0.775	2.35	1.30	<0.1	1.05	0.255	2.30
C	1.05	2.31	1.41	<0.100	1.18		1.71
D	0.819	2.429	1.572	<0.05	1.309	0.340	1.842
E	0.677	2.02	1.16	<0.25	0.842	0.321	1.48
F	1.050	2.250	1.370	<0.030	1.120	0.270	1.790
G	0.855	1.830	1.155	<0.05	0.915	0.258	1.610
H	0.928	3.59	1.96		1.82		
I	0.888	2.250	1.348	<0.1	1.153	0.290	1.468
J	1.06	2.38	1.40	<0.1	1.25	0.354	1.52
K	1.02	2.29	1.39	<0.05	0.961	0.289	1.77
L	0.99	2.15	1.59	0.201	0.98		0.92
M	0.875	1.99	1.27	<0.10	1.06	0.273	1.66
N	1.13	3.09	1.61		1.35		1.76
O	0.87	2.23	1.28	<0.10	0.96	<0.05	2.70
P	0.92	1.86		<0.1			1.62
Q	0.869	2.04	1.32	<0.2	1.08	0.255	1.78
R	0.989	2.20	1.31	<0.1	1.07	0.211	1.84
S	0.947	2.11	1.24	<0.05	1.06	0.262	1.52
T	0.84	1.99	1.312	<bg	1.18	0.319	1.35

All data in µg/L

Measurement Uncertainties Sample C69A

	Trichloro-ethene ±	Tetrachloro-ethene ±	1,1,1-Tri-chloroethane ±	Trichloro-methane ±	Tetrachloro-methane ±	1,1-Dichloro-ethene ±	Tribromo-methane ±
Target value	0.06	0.12	0.07		0.06	0.045	0.10
IFA Result	0.05	0.14	0.12		0.11	0.028	0.21
Stability test	0.05	0.15	0.12		0.11	0.026	0.20
A	0.071	0.17	0.25		0.27	0.060	0.39
B	0.23	0.71	0.39		0.32	0.077	0.69
C	0.12	0.37	0.18		0.15		0.17
D	0.0910	0.3107	0.1839		0.1684	0.0501	0.1890
E	0.136	0.444	0.355		0.276	0.102	0.338
F	0.210	0.450	0.274		0.224	0.054	0.358
G	0.282	0.604	0.254	0.014	0.174	0.041	0.483
H							
I	0.29	1.00	0.10		0.05	0.01	0.43
J	0.30	0.62	0.37	0.03	0.32	0.09	0.40
K	0.103	0.057	0.115		0.069	0.013	0.101
L	0.43	0.94	0.70	0.09	0.43		0.41
M	0.149	0.338	0.216		0.180	0.046	0.282
N	0.2	0.2	0.2		0.1		0.6
O	0.38	0.98	0.56		0.42		1.18
P	0.28	0.56					0.49
Q	0.269	0.57	0.18		0.17	0.033	0.25
R	0.148	0.33	0.20		0.16	0.032	0.28
S	0.2	0.5	0.3	0.01	0.3	0.1	0.4
T	0.17	0.40	0.26		0.236	0.064	0.270

All data in µg/L

Results Sample C69A

	Bromodichloro-methane	Dibromochloro-methane	Dichloro-methane	1,2-Dichloro-ethane	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene
Target value	0.52	0.84	1.67	0.97	0.419	0.192
IFA Result	0.51	0.81	1.67	0.97	0.418	0.188
Stability test	0.52	0.83	1.63	1.01	0.419	0.189
A	0.506	0.724	1.72	0.864	0.435	0.226
B	0.575	0.865	1.80	1.10	0.430	0.210
C	0.54	0.82	1.70	1.00	0.437	
D	0.590	0.968	2.167	1.117	0.479	0.220
E	0.503	0.669	1.90	0.856	0.438	0.208
F	0.470	0.870	1.790	1.010	0.440	0.200
G	0.449	0.735	1.597	0.870	0.407	0.174
H	5.11	0.902				
I	0.528	0.763	1.610	0.930	0.393	0.185
J	0.522	0.795	1.94	0.960	0.500	0.219
K	0.577	0.866	1.74	0.946	0.476	0.195
L	0.418	0.55		1.19		
M	0.499	0.788	1.65	0.920	0.374	0.183
N	0.50	0.90				
O	0.58	1.09	2.04	0.67	0.250	0.130
P	0.51	0.79		1.06		
Q	0.519	0.844	1.82	1.00	0.390	0.187
R	0.491	0.808	1.80	1.16	0.561	<0.5
S	0.476	0.738	1.54	0.878	0.383	0.175
T	0.379	0.63	<bg	0.83	0.303	0.240

All data in µg/L

Measurement Uncertainties Sample C69A

	Bromodichloro-methane ±	Dibromochloro-methane ±	Dichloro-methane ±	1,2-Dichloro-ethane ±	cis-1,2-Dichloroethene ±	trans-1,2-Dichloroethene ±
Target value	0.05	0.07	0.12	0.14	0.031	0.021
IFA Result	0.05	0.06	0.04	0.06	0.025	0.010
Stability test	0.05	0.07	0.04	0.06	0.026	0.010
A	0.13	0.18	0.43	0.21	0.080	0.045
B	0.17	0.26	0.54	0.33	0.13	0.06
C	0.07	0.15	0.27	0.11	0.041	
D	0.0668	0.1026	0.2628	0.1255	0.0571	0.0236
E	0.219	0.172	0.251	0.146	0.114	0.036
F	0.094	0.174	0.358	0.202	0.088	0.040
G	0.112	0.191	0.463	0.296	0.094	0.045
H						
I	0.08	0.33	0.36	0.08	0.03	0.01
J	0.14	0.21	0.51	0.25	0.13	0.06
K	0.093	0.104	0.057	0.048	0.025	0.008
L	0.18	0.24		0.52		
M	0.085	0.134	0.281	0.156	0.064	0.031
N	0.2	0.5				
O	0.26	0.48	0.90	0.29	0.11	0.06
P	0.15	0.24		0.32		
Q	0.114	0.228	0.51	0.26	0.179	0.062
R	0.074	0.121	0.27	0.17	0.084	
S	0.1	0.2	0.4	0.2	0.1	0.04
T	0.076	0.127		0.17	0.061	0.048

All data in µg/L

Results Sample C69B

	Trichloro-ethene	Tetrachloro-ethene	1,1,1-Tri-chloroethane	Trichloro-methane	Tetrachloro-methane	1,1-Dichloro-ethene	Tribromo-methane
Target value	0.318	0.332	0.276	1.34	<0.1	1.19	0.75
IFA Result	0.310	0.329	0.275	1.38	<0.1	1.16	0.75
Stability test	0.343	0.335	0.272	1.33	<0.1	1.20	0.73
A	0.327	0.320	0.293	1.42	<0.1	1.45	0.700
B	0.240	0.325	0.250	1.35	<0.1	1.05	0.935
C	0.370	0.380	0.323	1.41	<0.100		0.73
D	0.269	0.365	0.334	1.544	<0.05	1.660	0.821
E	0.212	0.345	0.227	1.31	<0.15	1.04	0.703
F	0.330	0.330	0.270	1.330	<0.090	1.200	0.760
G	0.293	0.265	0.249	1.175	<0.05	1.050	0.755
H	0.449	0.489	0.486		<0.2		
I	0.293	0.333	2.900	1.383	<0.1	1.243	0.670
J	0.363	0.394	0.290	1.55	<0.1	1.60	0.662
K	0.313	0.322	0.282	1.42	<0.05	1.19	0.736
L	0.399	0.376	3.23	1.58	<BG		0.59
M	0.278	0.295	0.263	1.23	<0.10	1.19	0.691
N	0.410	0.56	0.390	1.56			0.73
O	0.270	0.65	0.260	1.35	<0.10	0.89	1.06
P	0.277	0.263		1.30			0.69
Q	0.280	0.305	0.275	1.39	<0.2	1.18	0.720
R	0.273	0.288	0.221	1.29	<0.1	1.27	0.700
S	0.291	0.311	0.255	1.21	<0.05	1.12	0.613
T	0.255	0.276	0.267	1.14	<bg	1.31	0.55

All data in µg/L

Measurement Uncertainties Sample C69B

	Trichloro-ethene ±	Tetrachloro-ethene ±	1,1,1-Tri-chloroethane ±	Trichloro-methane ±	Tetrachloro-methane ±	1,1-Dichloro-ethene ±	Tribromo-methane ±
Target value	0.031	0.022	0.020	0.10		0.07	0.07
IFA Result	0.016	0.022	0.025	0.12		0.13	0.09
Stability test	0.017	0.022	0.025	0.12		0.13	0.09
A	0.023	0.027	0.055	0.28		0.28	0.18
B	0.07	0.10	0.08	0.41		0.32	0.28
C	0.042	0.060	0.042	0.20			0.07
D	0.0299	0.0466	0.0391	0.1653		0.2444	0.0843
E	0.063	0.109	0.041	0.345		0.208	0.225
F	0.066	0.066	0.054	0.266		0.240	0.152
G	0.097	0.087	0.055	0.317	0.010	0.168	0.227
H							
I	0.10	0.15	0.02	0.12		0.06	0.19
J	0.09	0.10	0.08	0.40	0.03	0.41	0.17
K	0.009	0.018	0.017	0.058		0.070	0.108
L	0.18	0.17	1.42	0.70			0.26
M	0.047	0.050	0.045	0.209		0.202	0.117
N	0.2	0.2	0.2	0.4			0.6
O	0.12	0.29	0.11	0.59		0.39	0.47
P	0.083	0.079		0.39			0.21
Q	0.087	0.085	0.039	0.19		0.15	0.101
R	0.041	0.043	0.033	0.19	0.105	0.19	
S	0.1	0.1	0.1	0.3	0.01	0.3	0.2
T	0.051	0.055	0.053	0.227		0.26	0.11

All data in µg/L

Results Sample C69B

	Bromodichloro-methane	Dibromochloro-methane	Dichloro-methane	1,2-Dichloro-ethane	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene
Target value	0.95	<0.1	2.70	1.47	0.84	1.57
IFA Result	0.95	<0.1	2.71	1.46	0.83	1.45
Stability test	0.91	<0.1	2.73	1.44	0.82	1.49
A	0.981	<0.1	3.04	1.40	0.892	1.82
B	0.995	<0.1	2.85	1.65	0.845	1.65
C	0.97	<0.100	2.73	1.50	0.86	
D	1.004	<0.05	3.690	1.688	0.937	1.818
E	0.737	<0.2	3.03	1.28	0.782	1.33
F	0.980	<0.040	2.720	1.500	0.860	1.530
G	0.970	<0.05	2.780	1.670	0.690	1.345
H	1.071	<0.2				
I	1.028	<0.1	2.845	1.573	0.810	1.633
J	1.06	<0.1	3.03	1.67	1.05	1.78
K	0.976	<0.05	2.75	1.45	0.887	1.54
L	0.91	<BG		0.340		
M	0.903	<0.10	2.60	1.38	0.737	1.48
N	0.99					
O	1.05	<0.10	3.26	0.98	0.51	1.11
P	0.90	<0.1		1.57		
Q	0.952	<0.2	2.99	1.48	0.805	1.59
R	0.898	<0.1	2.84	1.68	1.00	1.71
S	0.847	<0.05	2.40	1.29	0.756	1.40
T	0.69	<bg	2.16	1.23	0.59	1.85

All data in µg/L

Measurement Uncertainties Sample C69B

	Bromodichloro-methane ±	Dibromochloro-methane ±	Dichloro-methane ±	1,2-Dichloro-ethane ±	cis-1,2-Dichloroethene ±	trans-1,2-Dichloroethene ±
Target value	0.06		0.16	0.15	0.05	0.08
IFA Result	0.10		0.07	0.09	0.05	0.08
Stability test	0.09		0.07	0.09	0.05	0.08
A	0.25		0.76	0.34	0.16	0.36
B	0.30		0.86	0.50	0.25	0.50
C	0.13		0.43	0.16	0.081	
D	0.1135		0.4476	0.1895	0.1116	0.1949
E	0.217		0.246	0.284	0.113	0.268
F	0.196		0.544	0.300	0.172	0.306
G	0.243	0.013	0.806	0.568	0.159	0.350
H						
I	0.17		0.63	0.14	0.06	0.06
J	0.27	0.03	0.79	0.43	0.27	0.46
K	0.182		0.067	0.053	0.065	0.115
L	0.40			0.15		
M	0.154		0.442	0.235	0.125	0.252
N	0.2					
O	0.46		1.43	0.43	0.22	0.49
P	0.27			0.47		
Q	0.209		0.84	0.38	0.370	0.52
R	0.135		0.43	0.25	0.15	0.26
S	0.2	0.01	0.6	0.3	0.2	0.4
T	0.14		0.43	0.25	0.12	0.37

All data in µg/L

Z-Scores Sample C69A

	Trichloro-ethene	Tetrachloro-ethene	1,1,1-Tri-chloroethane	Trichloro-methane	Tetrachloro-methane	1,1-Dichloro-ethene	Tribromo-methane
A	-0.11	-0.58	0.06		-0.16	0.83	-0.82
B	-1.61	0.20	-0.17		-0.27	-0.29	1.95
C	0.36	0.09	0.46		0.43		-0.26
D	-1.29	0.44	1.40		1.12	1.58	0.23
E	-2.31	-0.76	-0.98		-1.38	1.16	-1.12
F	0.36	-0.09	0.23		0.11	0.04	0.04
G	-1.04	-1.32	-1.01		-0.99	-0.22	-0.64
H	-0.51	3.83	3.64		3.85		
I	-0.80	-0.09	0.10		0.28	0.48	-1.17
J	0.43	0.29	0.40		0.80	1.89	-0.97
K	0.14	0.03	0.35		-0.74	0.46	-0.04
L	-0.07	-0.38	1.50		-0.64		-3.22
M	-0.89	-0.85	-0.35		-0.21	0.11	-0.45
N	0.93	2.37	1.62		1.34		-0.07
O	-0.93	-0.15	-0.29		-0.75		3.45
P	-0.57	-1.23					-0.60
Q	-0.94	-0.70	-0.06		-0.11	-0.29	0.00
R	-0.08	-0.23	-0.12		-0.16	-1.25	0.22
S	-0.38	-0.50	-0.52		-0.21	-0.13	-0.97
T	-1.14	-0.85	-0.10		0.43	1.12	-1.61

Z-Scores Sample C69A

	Bromodichloro-methane	Dibromochloro-methane	Dichloro-methane	1,2-Dichloro-ethane	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene
A	-0.22	-1.15	0.21	-0.84	0.27	1.18
B	0.88	0.25	0.56	1.03	0.19	0.62
C	0.32	-0.20	0.13	0.24	0.31	
D	1.12	1.27	2.13	1.17	1.02	0.97
E	-0.27	-1.70	0.98	-0.90	0.32	0.56
F	-0.80	0.30	0.51	0.32	0.36	0.28
G	-1.14	-1.04	-0.31	-0.79	-0.20	-0.63
H	73.56	0.62				
I	0.13	-0.76	-0.26	-0.32	-0.44	-0.24
J	0.03	-0.45	1.15	-0.08	1.38	0.94
K	0.91	0.26	0.30	-0.19	0.97	0.10
L	-1.63	-2.88		1.74		
M	-0.34	-0.52	-0.09	-0.40	-0.77	-0.31
N	-0.32	0.60				
O	0.96	2.48	1.58	-2.38	-2.88	-2.15
P	-0.16	-0.50		0.71		
Q	-0.02	0.04	0.64	0.24	-0.49	-0.17
R	-0.46	-0.32	0.56	1.51	2.42	
S	-0.71	-1.01	-0.56	-0.73	-0.61	-0.59
T	-2.26	-2.08		-1.11	-1.98	1.67

Z-Scores Sample C69B

	Trichloro-ethene	Tetrachloro-ethene	1,1,1-Tri-chloroethane	Trichloro-methane	Tetrachloro-methane	1,1-Dichloro-ethene	Tribromo-methane
A	0.20	-0.24	0.47	0.46		1.29	-0.44
B	-1.75	-0.14	-0.72	0.06		-0.69	1.64
C	1.17	0.96	1.31	0.40			-0.18
D	-1.10	0.66	1.62	1.17		2.32	0.63
E	-2.38	0.26	-1.37	-0.17		-0.74	-0.42
F	0.27	-0.04	-0.17	-0.06		0.05	0.09
G	-0.56	-1.35	-0.75	-0.95		-0.69	0.04
H	2.94	3.15	5.85				
I	-0.56	0.02	73.1	0.25		0.26	-0.71
J	1.01	1.24	0.39	1.21		2.03	-0.78
K	-0.11	-0.20	0.17	0.46		0.00	-0.12
L	1.82	0.88	82.33	1.38			-1.42
M	-0.90	-0.74	-0.36	-0.63		0.00	-0.52
N	2.07	4.58	3.18	1.26			-0.18
O	-1.08	6.39	-0.45	0.06		-1.48	2.76
P	-0.92	-1.39		-0.23			-0.53
Q	-0.85	-0.54	-0.03	0.29		-0.05	-0.27
R	-1.01	-0.88	-1.53	-0.29		0.40	-0.44
S	-0.61	-0.42	-0.59	-0.75		-0.35	-1.22
T	-1.42	-1.12	-0.25	-1.15		0.59	-1.78

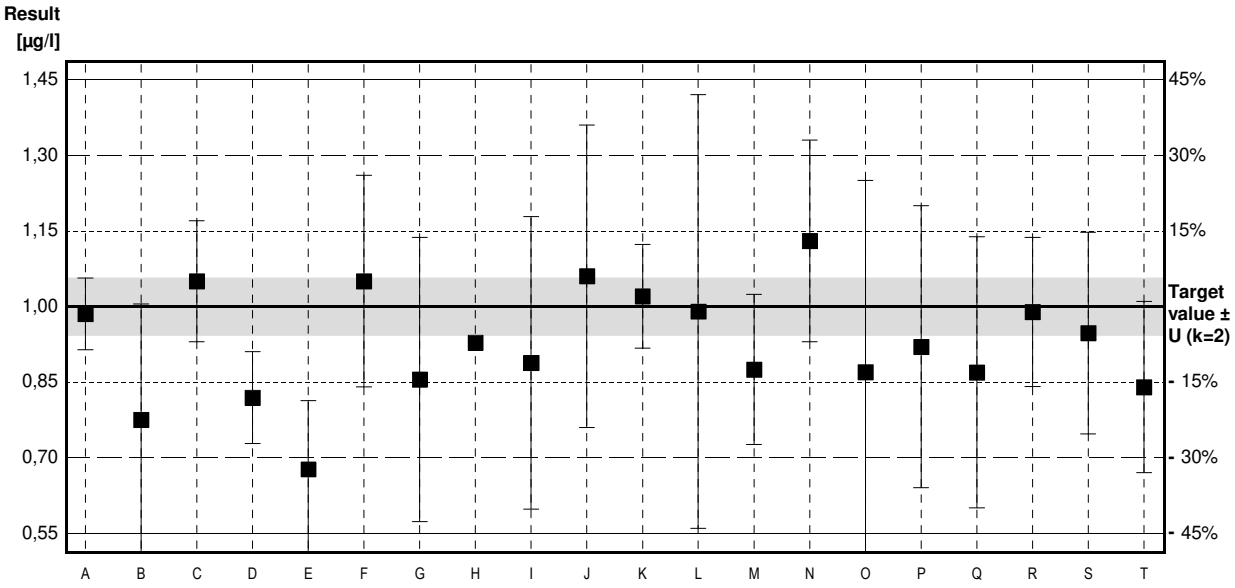
Z-Scores Sample C69B

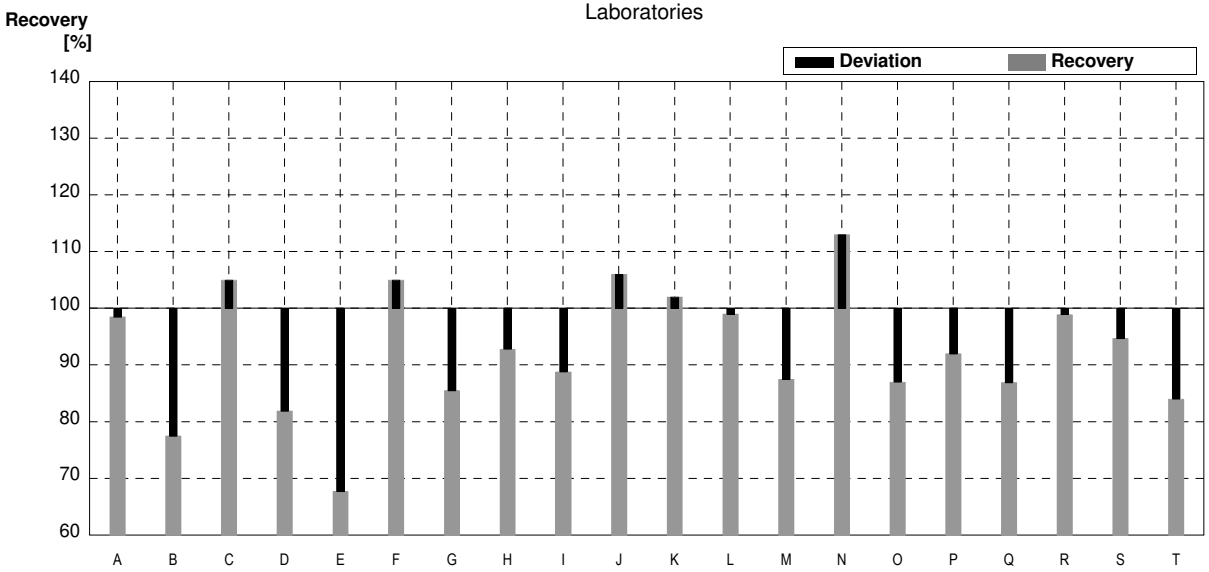
	Bromodichloro-methane	Dibromochloro-methane	Dichloro-methane	1,2-Dichloro-ethane	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene
A	0.27		0.90	-0.37	0.44	1.06
B	0.39		0.40	0.94	0.04	0.34
C	0.18		0.08	0.16	0.17	
D	0.47		2.62	1.14	0.82	1.05
E	-1.87		0.87	-0.99	-0.49	-1.02
F	0.26		0.05	0.16	0.17	-0.17
G	0.18		0.21	1.05	-1.28	-0.96
H	1.06					
I	0.68		0.38	0.54	-0.26	0.27
J	0.96		0.87	1.05	1.79	0.89
K	0.23		0.13	-0.10	0.40	-0.13
L	-0.35			-5.91		
M	-0.41		-0.26	-0.47	-0.88	-0.38
N	0.35					
O	0.88		1.48	-2.56	-2.81	-1.95
P	-0.44			0.52		
Q	0.02		0.77	0.05	-0.30	0.08
R	-0.46		0.37	1.10	1.36	0.59
S	-0.90		-0.79	-0.94	-0.71	-0.72
T	-2.28		-1.43	-1.26	-2.13	1.19

Sample C69A
Parameter Trichloroethene

Target value	± U (k=2)	1,00 µg/l	±	0,06 µg/l	
IFA result	± U (k=2)	0,95 µg/l	±	0,05 µg/l	
Stability test	± U (k=2)	0,97 µg/l	±	0,05 µg/l	

Lab Code	Result	±	Unit	Recovery	z-Score
A	0,985	0,071	µg/l	99%	-0,11
B	0,775	0,23	µg/l	78%	-1,61
C	1,05	0,12	µg/l	105%	0,36
D	0,819	0,0910	µg/l	82%	-1,29
E	0,677	0,136	µg/l	68%	-2,31
F	1,050	0,210	µg/l	105%	0,36
G	0,855	0,282	µg/l	86%	-1,04
H	0,928		µg/l	93%	-0,51
I	0,888	0,29	µg/l	89%	-0,80
J	1,06	0,30	µg/l	106%	0,43
K	1,02	0,103	µg/l	102%	0,14
L	0,99	0,43	µg/l	99%	-0,07
M	0,875	0,149	µg/l	88%	-0,89
N	1,13	0,2	µg/l	113%	0,93
O	0,87	0,38	µg/l	87%	-0,93
P	0,92	0,28	µg/l	92%	-0,57
Q	0,869	0,269	µg/l	87%	-0,94
R	0,989	0,148	µg/l	99%	-0,08
S	0,947	0,2	µg/l	95%	-0,38
T	0,84	0,17	µg/l	84%	-1,14





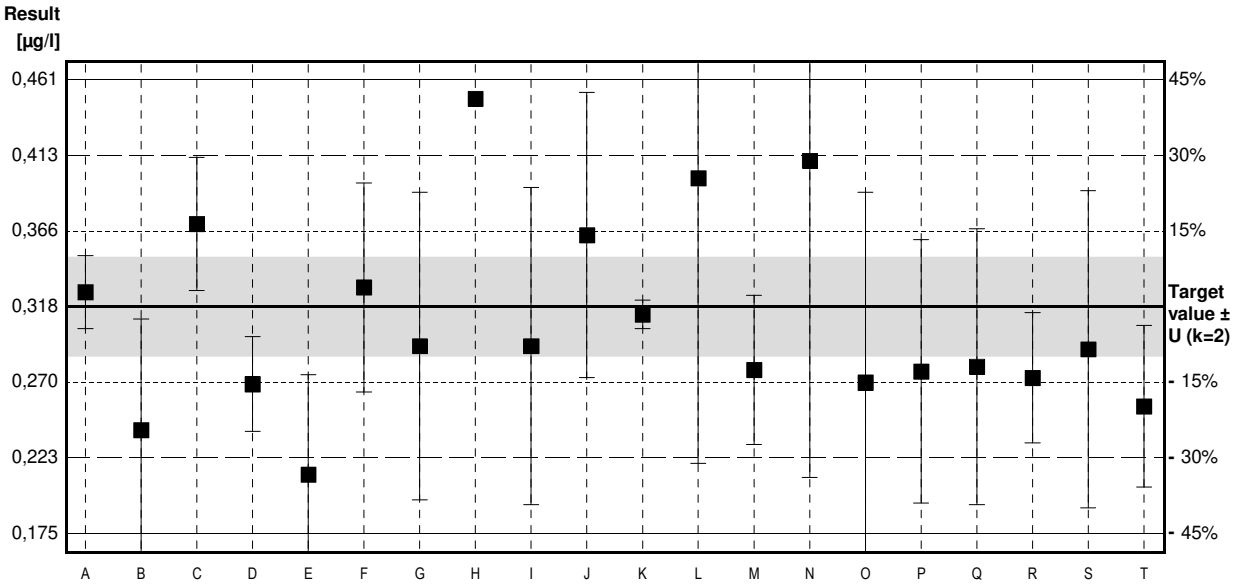
	All results	Outliers excl.	Unit
Mean ± CI(99%)	0,93 ± 0,07	0,93 ± 0,07	µg/l
Recov. ± CI(99%)	92,7 ± 7,0	92,7 ± 7,0	%
SD between labs	0,11	0,11	µg/l
RSD between labs	11,9	11,9	%
n for calculation	20	20	

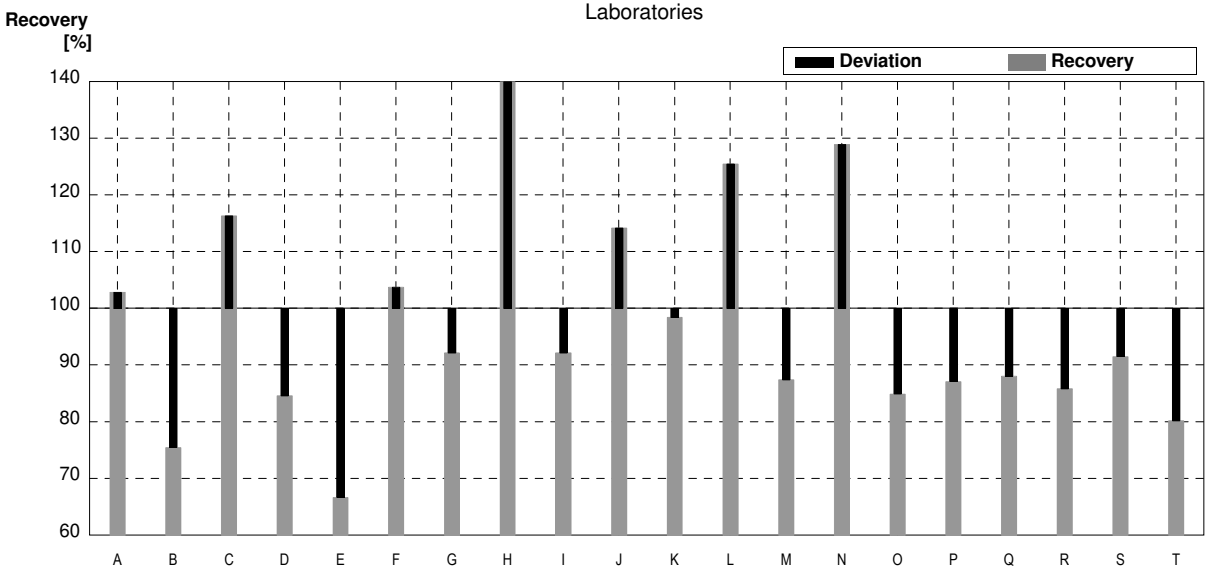
Sample C69B

Parameter Trichloroethene

Target value	± U (k=2)	0,318 µg/l	±	0,031 µg/l	
IFA result	± U (k=2)	0,310 µg/l	±	0,016 µg/l	
Stability test	± U (k=2)	0,343 µg/l	±	0,017 µg/l	

Lab Code	Result	±	Unit	Recovery	z-Score
A	0,327	0,023	µg/l	103%	0,20
B	0,240	0,07	µg/l	75%	-1,75
C	0,370	0,042	µg/l	116%	1,17
D	0,269	0,0299	µg/l	85%	-1,10
E	0,212	0,063	µg/l	67%	-2,38
F	0,330	0,066	µg/l	104%	0,27
G	0,293	0,097	µg/l	92%	-0,56
H	0,449 *		µg/l	141%	2,94
I	0,293	0,10	µg/l	92%	-0,56
J	0,363	0,09	µg/l	114%	1,01
K	0,313	0,009	µg/l	98%	-0,11
L	0,399	0,18	µg/l	125%	1,82
M	0,278	0,047	µg/l	87%	-0,90
N	0,410	0,2	µg/l	129%	2,07
O	0,270	0,12	µg/l	85%	-1,08
P	0,277	0,083	µg/l	87%	-0,92
Q	0,280	0,087	µg/l	88%	-0,85
R	0,273	0,041	µg/l	86%	-1,01
S	0,291	0,1	µg/l	92%	-0,61
T	0,255	0,051	µg/l	80%	-1,42





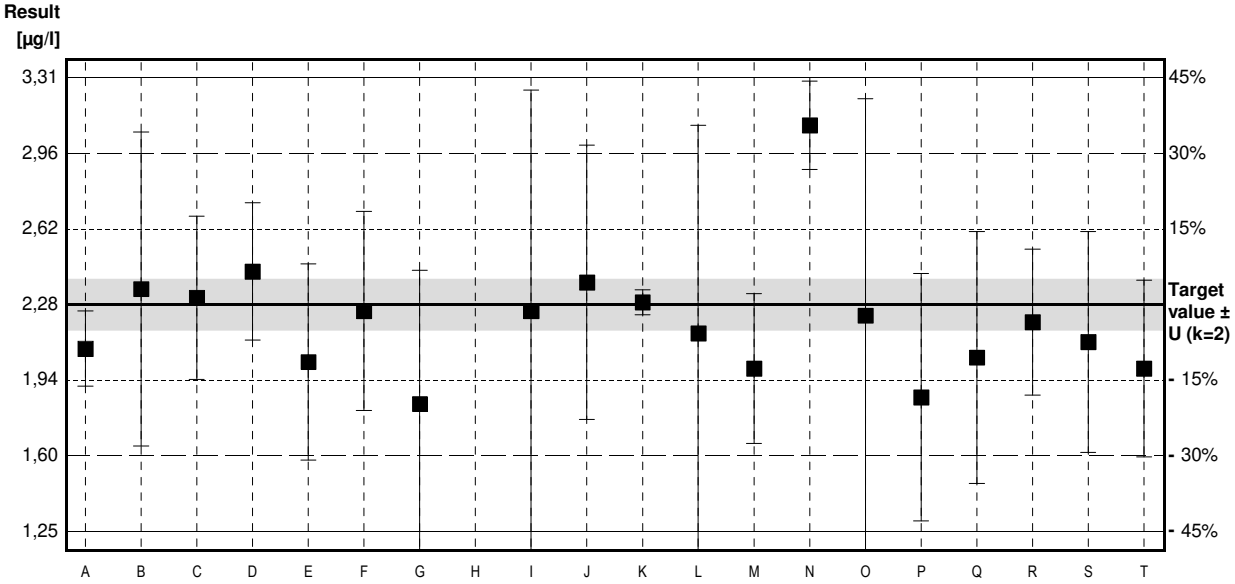
	All results	Outliers excl.	Unit
Mean ± CI(99%)	0,310 ± 0,039	0,302 ± 0,035	µg/l
Recov. ± CI(99%)	97,4 ± 12,2	95,1 ± 11,0	%
SD between labs	0,061	0,053	µg/l
RSD between labs	19,7	17,4	%
n for calculation	20	19	

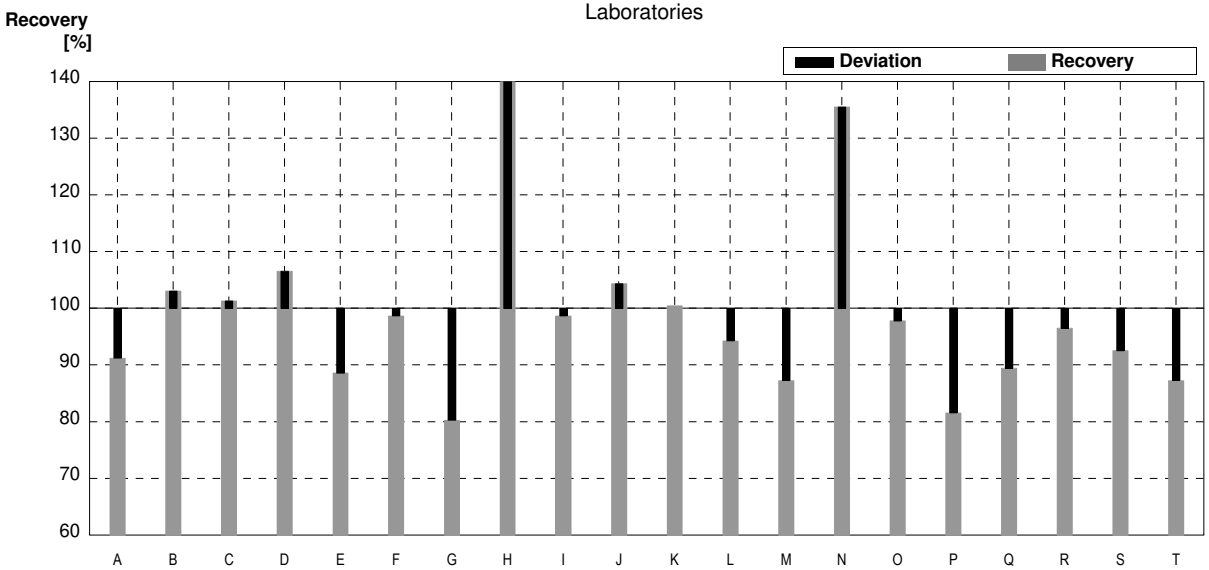
Sample C69A

Parameter Tetrachloroethene

Target value	± U (k=2)	2,28 µg/l	±	0,12 µg/l
IFA result	± U (k=2)	2,16 µg/l	±	0,14 µg/l
Stability test	± U (k=2)	2,21 µg/l	±	0,15 µg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	2,08	0,17	µg/l	91%	-0,58
B	2,35	0,71	µg/l	103%	0,20
C	2,31	0,37	µg/l	101%	0,09
D	2,429	0,3107	µg/l	107%	0,44
E	2,02	0,444	µg/l	89%	-0,76
F	2,250	0,450	µg/l	99%	-0,09
G	1,830	0,604	µg/l	80%	-1,32
H	3,59 *		µg/l	157%	3,83
I	2,250	1,00	µg/l	99%	-0,09
J	2,38	0,62	µg/l	104%	0,29
K	2,29	0,057	µg/l	100%	0,03
L	2,15	0,94	µg/l	94%	-0,38
M	1,99	0,338	µg/l	87%	-0,85
N	3,09 *	0,2	µg/l	136%	2,37
O	2,23	0,98	µg/l	98%	-0,15
P	1,86	0,56	µg/l	82%	-1,23
Q	2,04	0,57	µg/l	89%	-0,70
R	2,20	0,33	µg/l	96%	-0,23
S	2,11	0,5	µg/l	93%	-0,50
T	1,99	0,40	µg/l	87%	-0,85





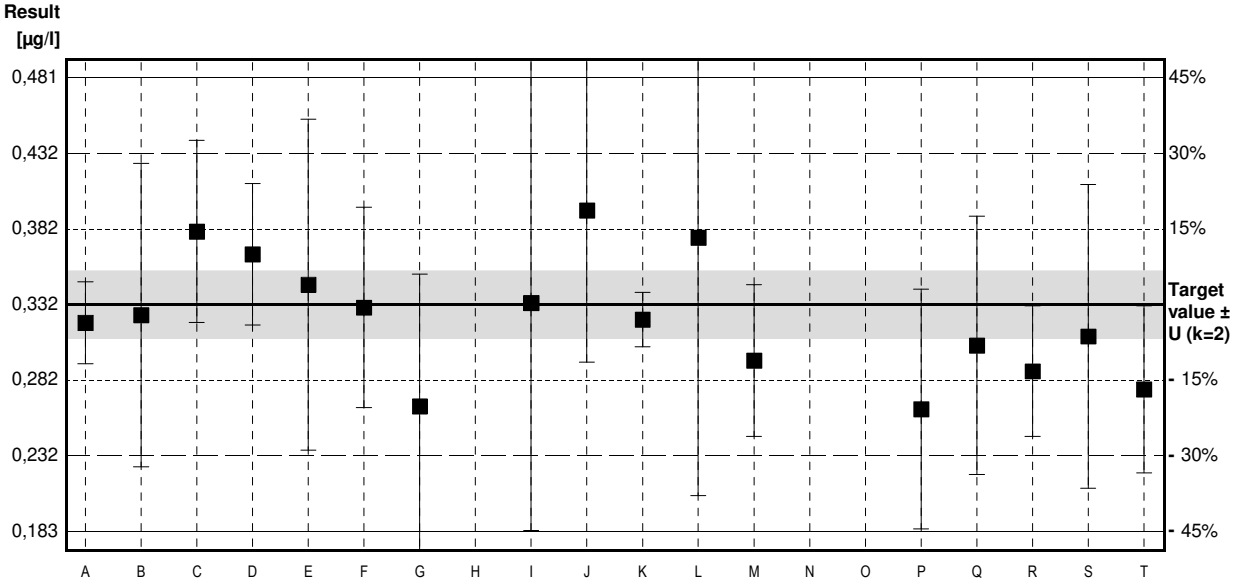
	All results	Outliers excl.	Unit
Mean ± CI(99%)	2,27 ± 0,26	2,15 ± 0,12	µg/l
Recov. ± CI(99%)	99,6 ± 11,5	94,4 ± 5,2	%
SD between labs	0,41	0,17	µg/l
RSD between labs	18,0	8,1	%
n for calculation	20	18	

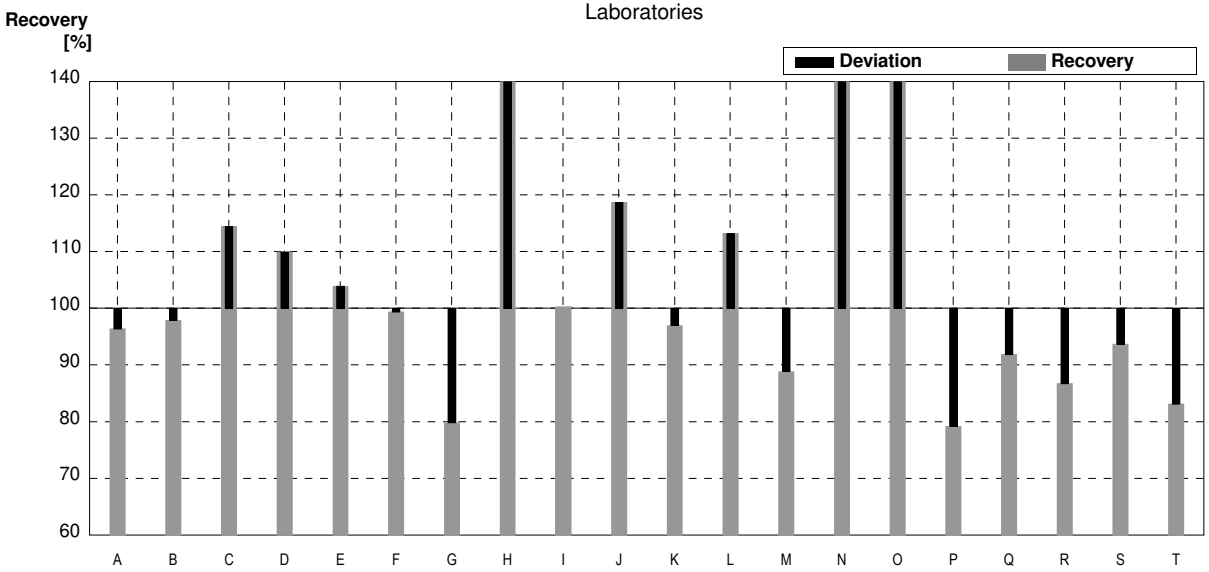
Sample C69B

Parameter Tetrachloroethene

Target value ± U (k=2)	0,332 µg/l	±	0,022 µg/l	
IFA result ± U (k=2)	0,329 µg/l	±	0,022 µg/l	
Stability test ± U (k=2)	0,335 µg/l	±	0,022 µg/l	

Lab Code	Result	±	Unit	Recovery	z-Score
A	0,320	0,027	µg/l	96%	-0,24
B	0,325	0,10	µg/l	98%	-0,14
C	0,380	0,060	µg/l	114%	0,96
D	0,365	0,0466	µg/l	110%	0,66
E	0,345	0,109	µg/l	104%	0,26
F	0,330	0,066	µg/l	99%	-0,04
G	0,265	0,087	µg/l	80%	-1,35
H	0,489		µg/l	147%	3,15
I	0,333	0,15	µg/l	100%	0,02
J	0,394	0,10	µg/l	119%	1,24
K	0,322	0,018	µg/l	97%	-0,20
L	0,376	0,17	µg/l	113%	0,88
M	0,295	0,050	µg/l	89%	-0,74
N	0,56 *	0,2	µg/l	169%	4,58
O	0,65 *	0,29	µg/l	196%	6,39
P	0,263	0,079	µg/l	79%	-1,39
Q	0,305	0,085	µg/l	92%	-0,54
R	0,288	0,043	µg/l	87%	-0,88
S	0,311	0,1	µg/l	94%	-0,42
T	0,276	0,055	µg/l	83%	-1,12





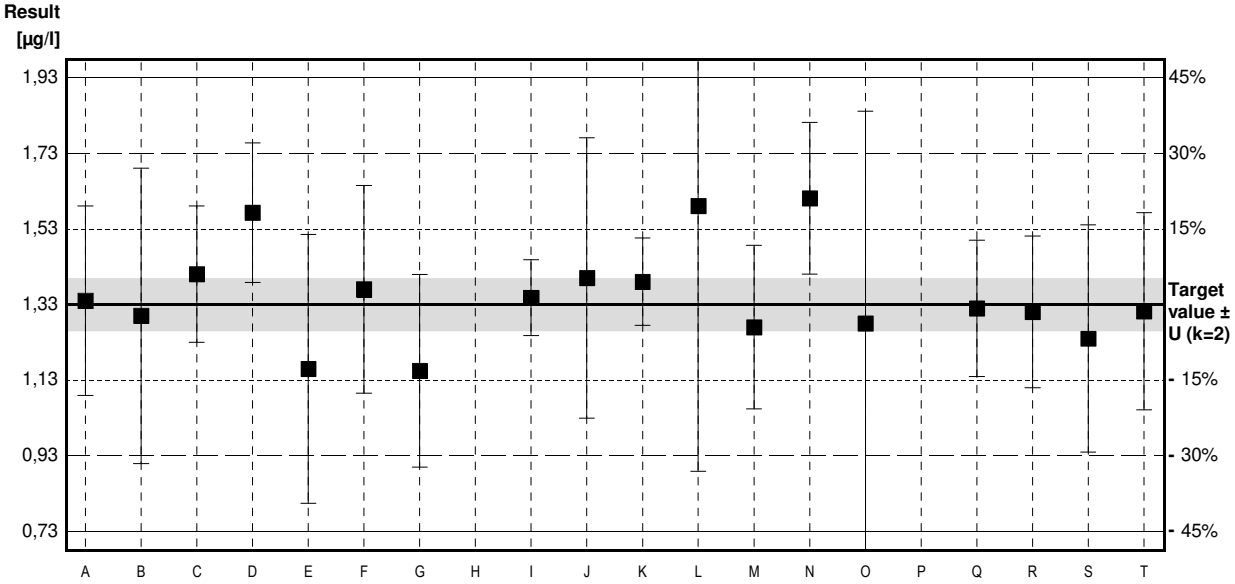
	All results	Outliers excl.	Unit
Mean ± CI(99%)	0,360 ± 0,064	0,332 ± 0,037	µg/l
Recov. ± CI(99%)	108,3 ± 19,2	100,1 ± 11,3	%
SD between labs	0,100	0,055	µg/l
RSD between labs	27,7	16,5	%
n for calculation	20	18	

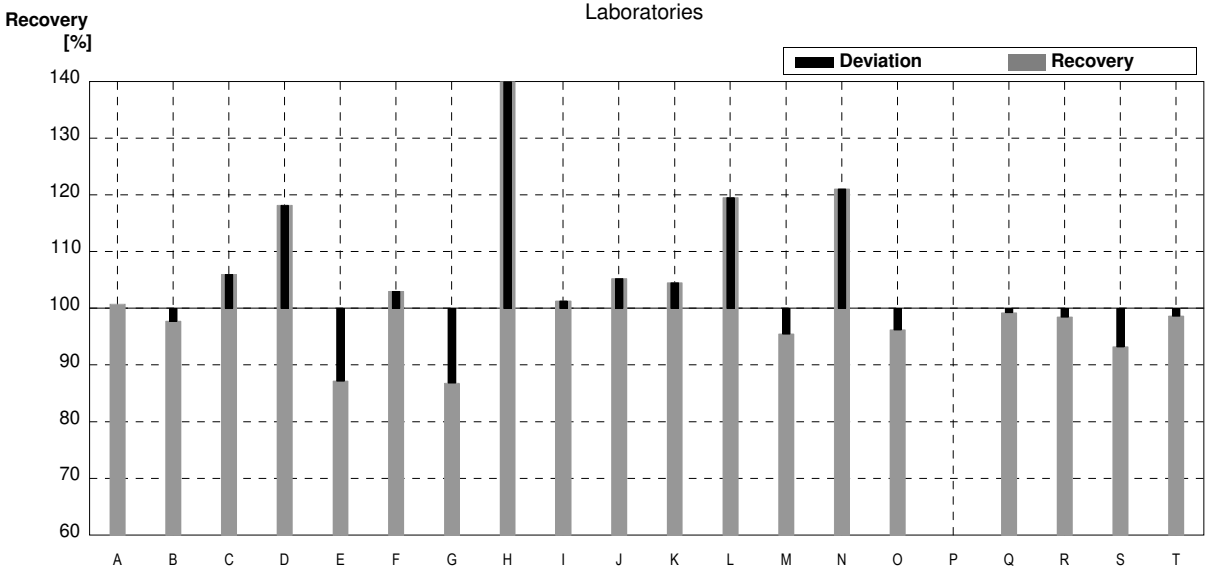
Sample C69A

Parameter 1,1,1-Trichloroethane

Target value ± U (k=2)	1,33 µg/l	±	0,07 µg/l	
IFA result ± U (k=2)	1,27 µg/l	±	0,12 µg/l	
Stability test ± U (k=2)	1,34 µg/l	±	0,12 µg/l	

Lab Code	Result	±	Unit	Recovery	z-Score
A	1,34	0,25	µg/l	101%	0,06
B	1,30	0,39	µg/l	98%	-0,17
C	1,41	0,18	µg/l	106%	0,46
D	1,572	0,1839	µg/l	118%	1,40
E	1,16	0,355	µg/l	87%	-0,98
F	1,370	0,274	µg/l	103%	0,23
G	1,155	0,254	µg/l	87%	-1,01
H	1,96 *		µg/l	147%	3,64
I	1,348	0,10	µg/l	101%	0,10
J	1,40	0,37	µg/l	105%	0,40
K	1,39	0,115	µg/l	105%	0,35
L	1,59	0,70	µg/l	120%	1,50
M	1,27	0,216	µg/l	95%	-0,35
N	1,61	0,2	µg/l	121%	1,62
O	1,28	0,56	µg/l	96%	-0,29
P			µg/l		
Q	1,32	0,18	µg/l	99%	-0,06
R	1,31	0,20	µg/l	98%	-0,12
S	1,24	0,3	µg/l	93%	-0,52
T	1,312	0,26	µg/l	99%	-0,10





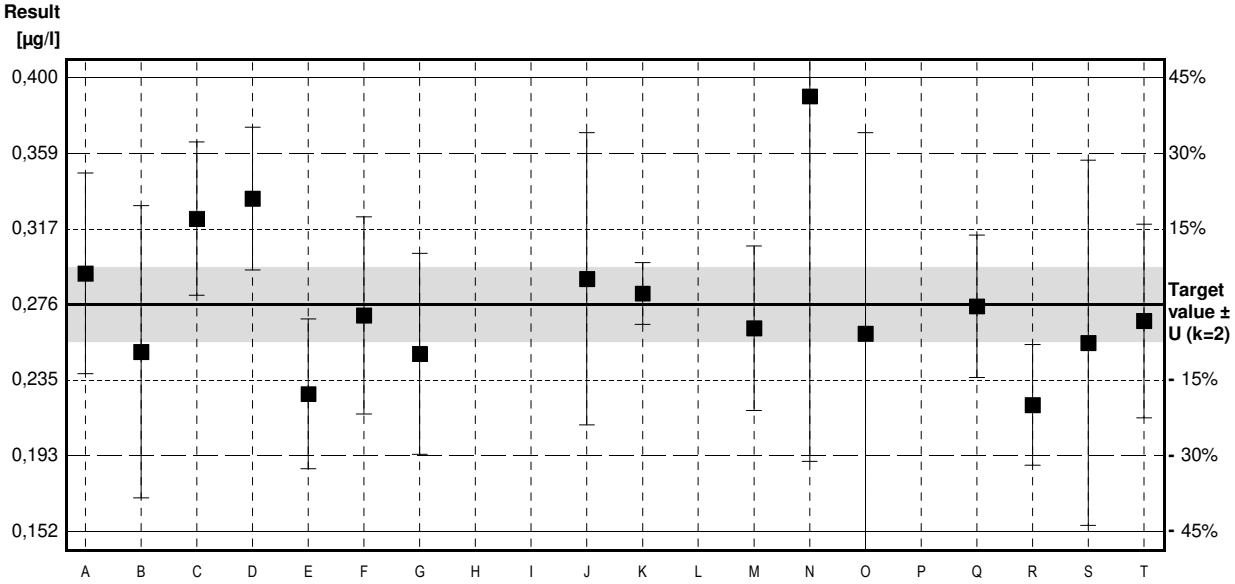
	All results	Outliers excl.	Unit
Mean ± CI(99%)	1,39 ± 0,12	1,35 ± 0,09	µg/l
Recov. ± CI(99%)	104,2 ± 9,3	101,8 ± 6,7	%
SD between labs	0,19	0,13	µg/l
RSD between labs	13,5	9,6	%
n for calculation	19	18	

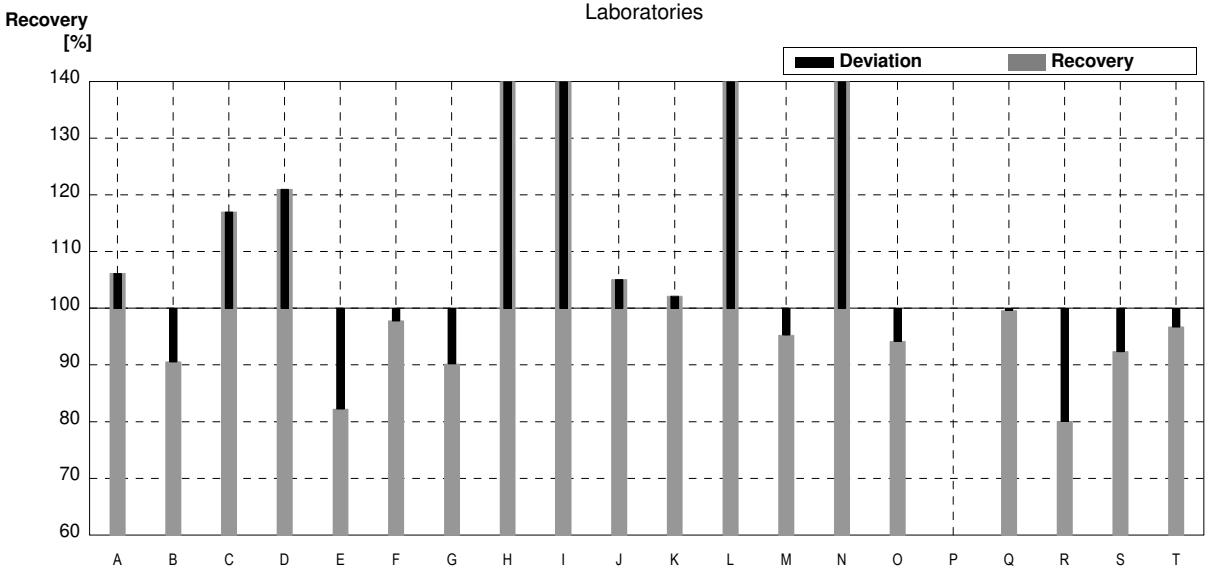
Sample C69B

Parameter 1,1,1-Trichloroethane

Target value	± U (k=2)	0,276 µg/l	±	0,020 µg/l	
IFA result	± U (k=2)	0,275 µg/l	±	0,025 µg/l	
Stability test	± U (k=2)	0,272 µg/l	±	0,025 µg/l	

Lab Code	Result	±	Unit	Recovery	z-Score
A	0,293	0,055	µg/l	106%	0,47
B	0,250	0,08	µg/l	91%	-0,72
C	0,323	0,042	µg/l	117%	1,31
D	0,334	0,0391	µg/l	121%	1,62
E	0,227	0,041	µg/l	82%	-1,37
F	0,270	0,054	µg/l	98%	-0,17
G	0,249	0,055	µg/l	90%	-0,75
H	0,486 *		µg/l	176%	5,85
I	2,900 *	0,02	µg/l	1051%	73,13
J	0,290	0,08	µg/l	105%	0,39
K	0,282	0,017	µg/l	102%	0,17
L	3,23 *	1,42	µg/l	1170%	82,33
M	0,263	0,045	µg/l	95%	-0,36
N	0,390	0,2	µg/l	141%	3,18
O	0,260	0,11	µg/l	94%	-0,45
P			µg/l		
Q	0,275	0,039	µg/l	100%	-0,03
R	0,221	0,033	µg/l	80%	-1,53
S	0,255	0,1	µg/l	92%	-0,59
T	0,267	0,053	µg/l	97%	-0,25



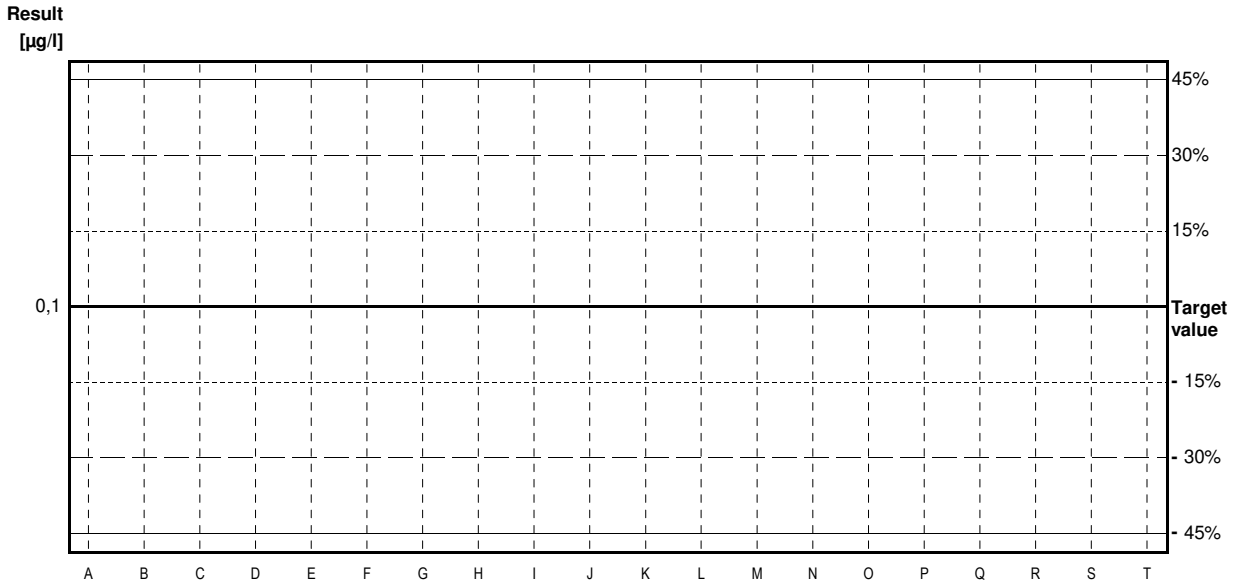


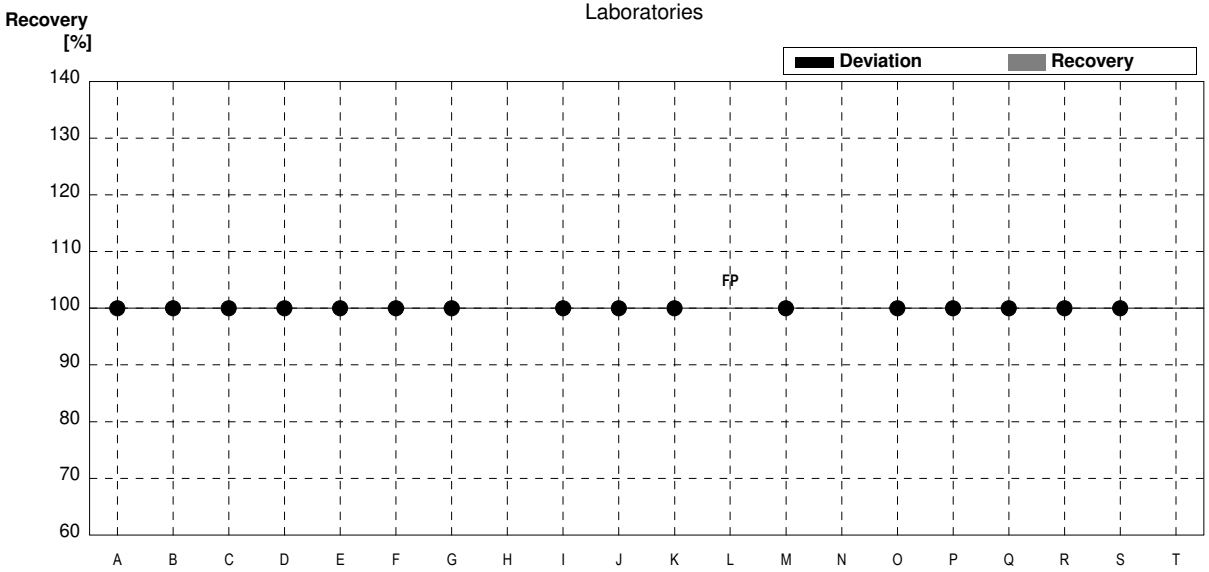
	All results	Outliers excl.	Unit
Mean ± CI(99%)	0,582 ± 0,581	0,278 ± 0,031	µg/l
Recov. ± CI(99%)	211,0 ± 210,4	100,7 ± 11,3	%
SD between labs	0,879	0,042	µg/l
RSD between labs	150,9	15,2	%
n for calculation	19	16	

Sample C69A
Parameter Trichloromethane

Target value <0,1 µg/l
IFA result <0,1 µg/l
Stability test <0,1 µg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	<0,1		µg/l	•	
B	<0,1		µg/l	•	
C	<0,100		µg/l	•	
D	<0,05		µg/l	•	
E	<0,25		µg/l	•	
F	<0,030		µg/l	•	
G	<0,05	0,014	µg/l	•	
H			µg/l		
I	<0,1		µg/l	•	
J	<0,1	0,03	µg/l	•	
K	<0,05		µg/l	•	
L	0,201	0,09	µg/l	FP	
M	<0,10		µg/l	•	
N			µg/l		
O	<0,10		µg/l	•	
P	<0,1		µg/l	•	
Q	<0,2		µg/l	•	
R	<0,1		µg/l	•	
S	<0,05	0,01	µg/l	•	
T	<bg		µg/l		





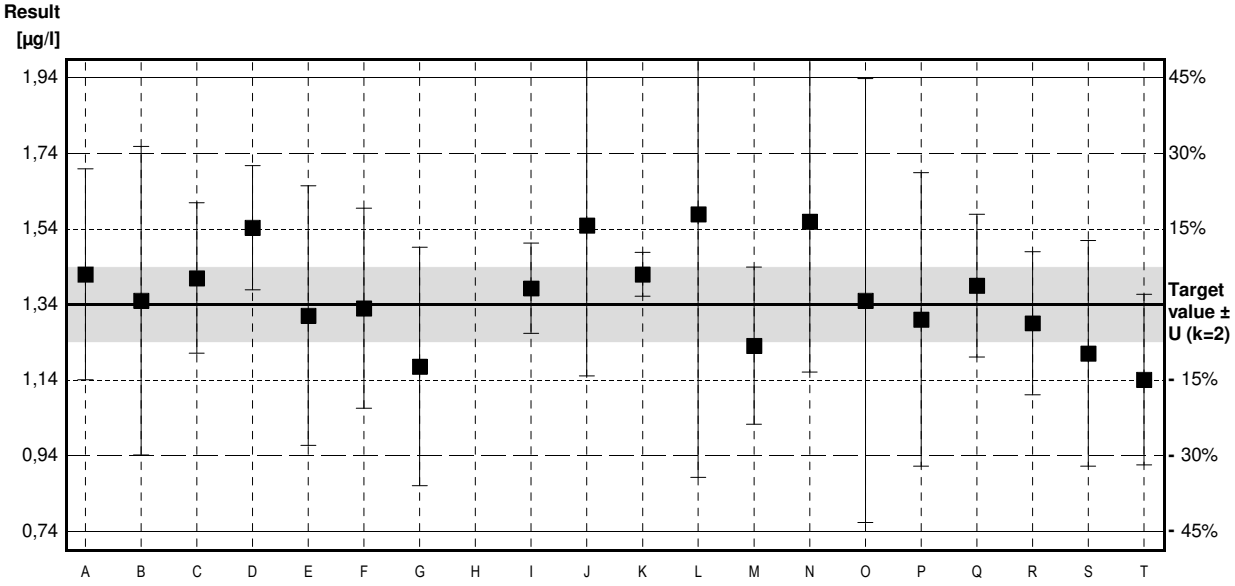
	All results	Outliers excl.	Unit
Mean ± CI(99%)			µg/l
Recov. ± CI(99%)			%
SD between labs			µg/l
RSD between labs			%
n for calculation			

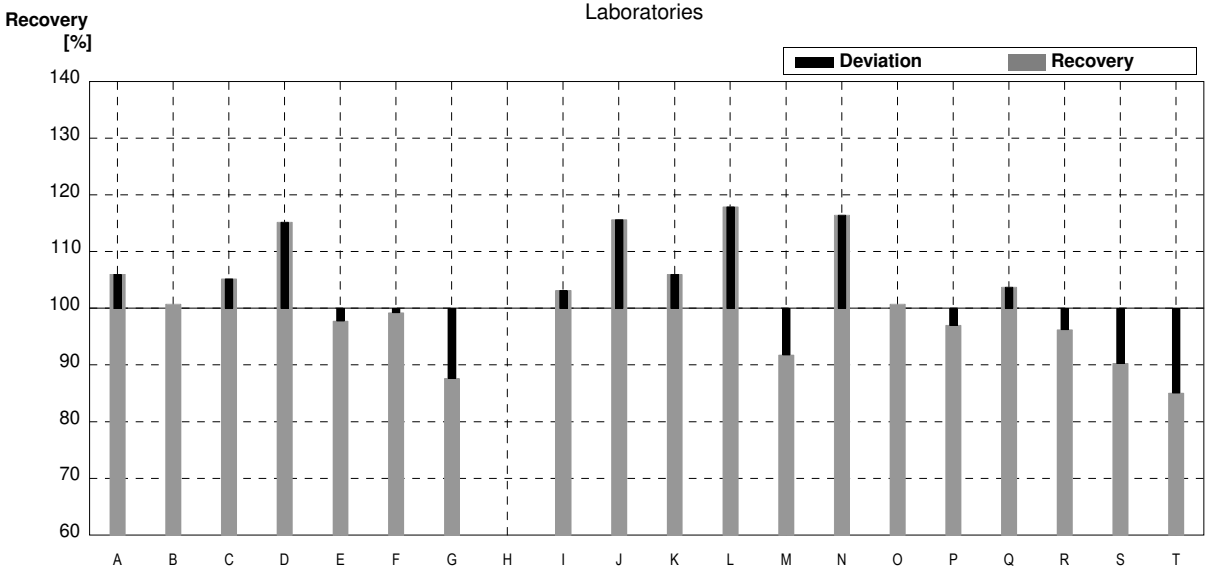
Sample C69B

Parameter Trichloromethane

Target value	± U (k=2)	1,34 µg/l	±	0,10 µg/l
IFA result	± U (k=2)	1,38 µg/l	±	0,12 µg/l
Stability test	± U (k=2)	1,33 µg/l	±	0,12 µg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	1,42	0,28	µg/l	106%	0,46
B	1,35	0,41	µg/l	101%	0,06
C	1,41	0,20	µg/l	105%	0,40
D	1,544	0,1653	µg/l	115%	1,17
E	1,31	0,345	µg/l	98%	-0,17
F	1,330	0,266	µg/l	99%	-0,06
G	1,175	0,317	µg/l	88%	-0,95
H			µg/l		
I	1,383	0,12	µg/l	103%	0,25
J	1,55	0,40	µg/l	116%	1,21
K	1,42	0,058	µg/l	106%	0,46
L	1,58	0,70	µg/l	118%	1,38
M	1,23	0,209	µg/l	92%	-0,63
N	1,56	0,4	µg/l	116%	1,26
O	1,35	0,59	µg/l	101%	0,06
P	1,30	0,39	µg/l	97%	-0,23
Q	1,39	0,19	µg/l	104%	0,29
R	1,29	0,19	µg/l	96%	-0,29
S	1,21	0,3	µg/l	90%	-0,75
T	1,14	0,227	µg/l	85%	-1,15





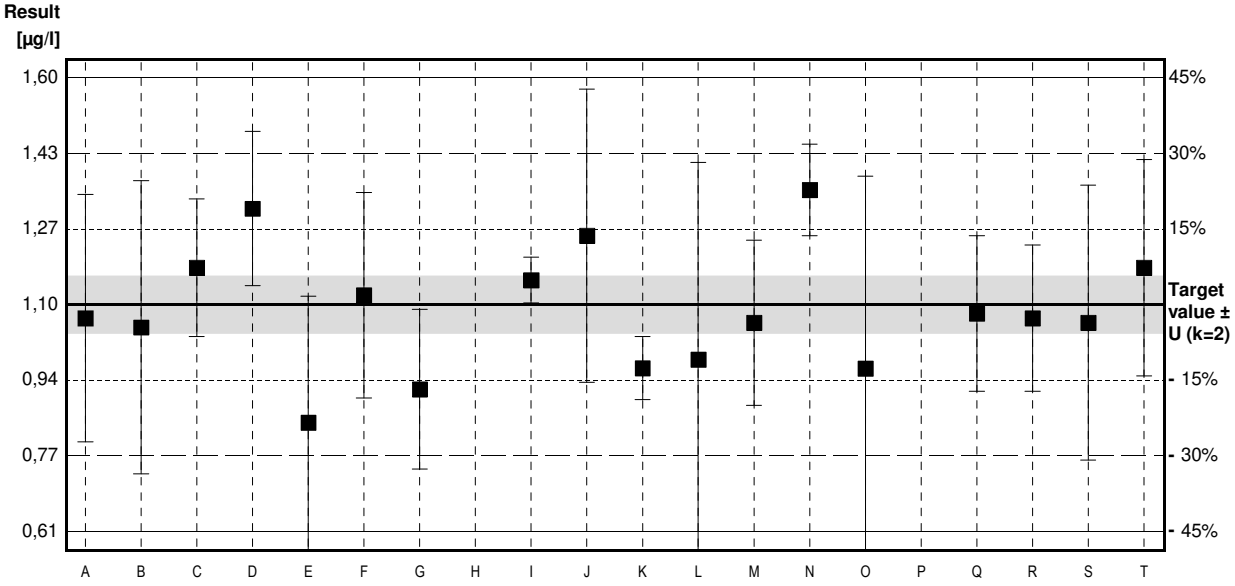
	All results	Outliers excl.	Unit
Mean ± CI(99%)	1,37 ± 0,09	1,37 ± 0,09	µg/l
Recov. ± CI(99%)	101,9 ± 6,4	101,9 ± 6,4	%
SD between labs	0,13	0,13	µg/l
RSD between labs	9,5	9,5	%
n for calculation	19	19	

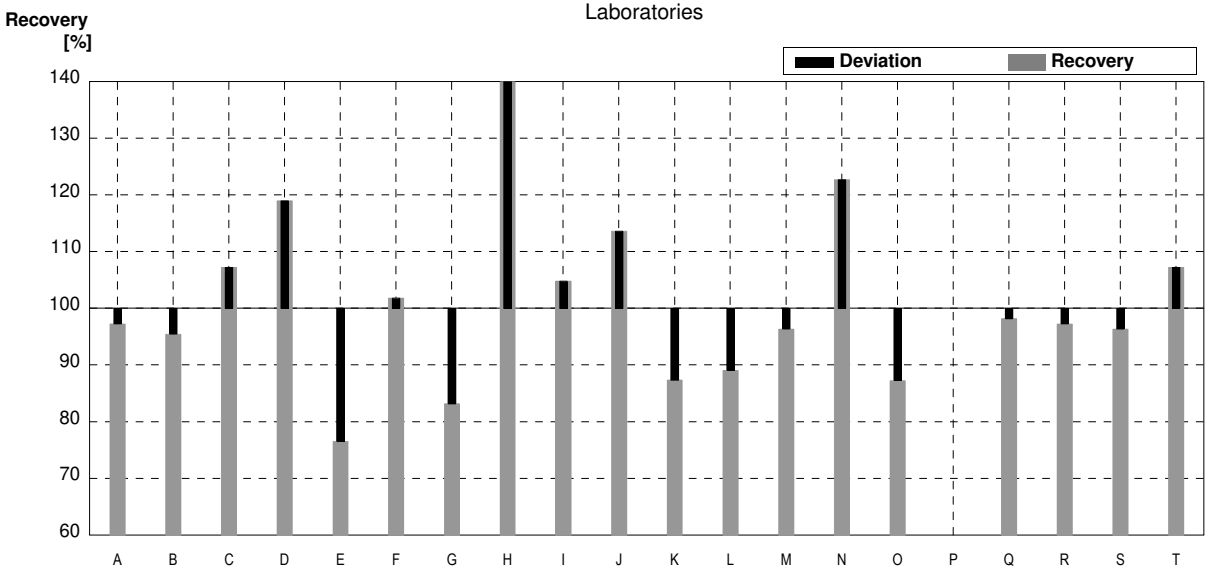
Sample C69A

Parameter Tetrachloromethane

Target value ± U (k=2)	1,10 µg/l	±	0,06 µg/l	
IFA result ± U (k=2)	1,06 µg/l	±	0,11 µg/l	
Stability test ± U (k=2)	1,11 µg/l	±	0,11 µg/l	

Lab Code	Result	±	Unit	Recovery	z-Score
A	1,07	0,27	µg/l	97%	-0,16
B	1,05	0,32	µg/l	95%	-0,27
C	1,18	0,15	µg/l	107%	0,43
D	1,309	0,1684	µg/l	119%	1,12
E	0,842	0,276	µg/l	77%	-1,38
F	1,120	0,224	µg/l	102%	0,11
G	0,915	0,174	µg/l	83%	-0,99
H	1,82 *		µg/l	165%	3,85
I	1,153	0,05	µg/l	105%	0,28
J	1,25	0,32	µg/l	114%	0,80
K	0,961	0,069	µg/l	87%	-0,74
L	0,98	0,43	µg/l	89%	-0,64
M	1,06	0,180	µg/l	96%	-0,21
N	1,35	0,1	µg/l	123%	1,34
O	0,96	0,42	µg/l	87%	-0,75
P			µg/l		
Q	1,08	0,17	µg/l	98%	-0,11
R	1,07	0,16	µg/l	97%	-0,16
S	1,06	0,3	µg/l	96%	-0,21
T	1,18	0,236	µg/l	107%	0,43





	All results	Outliers excl.	Unit
Mean ± CI(99%)	1,13 ± 0,14	1,09 ± 0,09	µg/l
Recov. ± CI(99%)	102,4 ± 12,8	98,9 ± 8,3	%
SD between labs	0,21	0,13	µg/l
RSD between labs	18,8	12,3	%
n for calculation	19	18	

Sample C69B

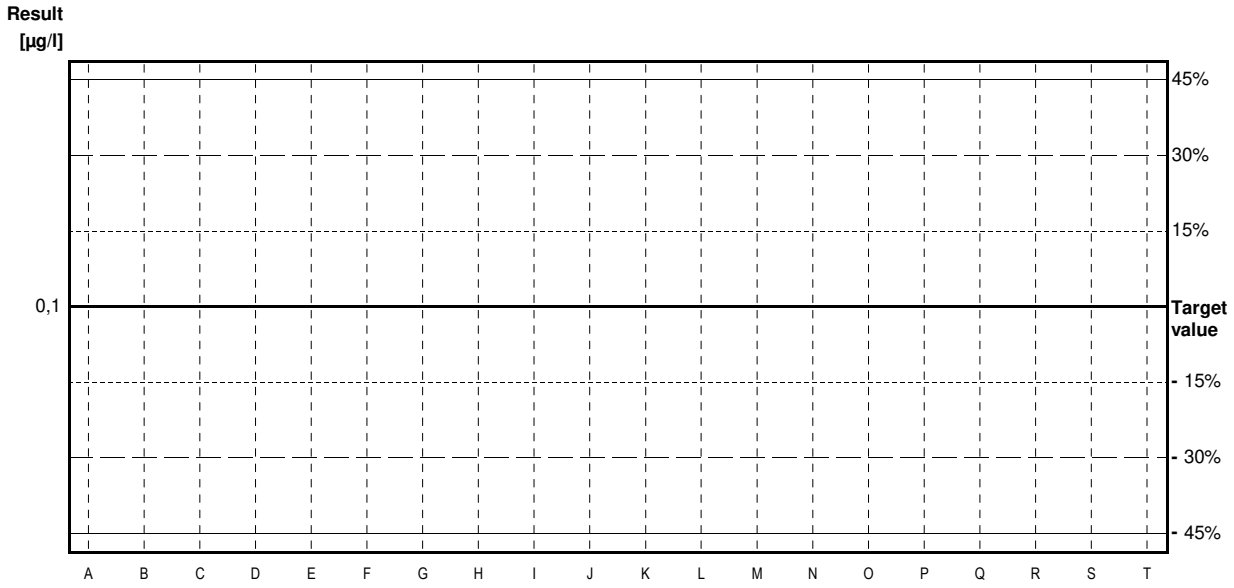
Parameter Tetrachloromethane

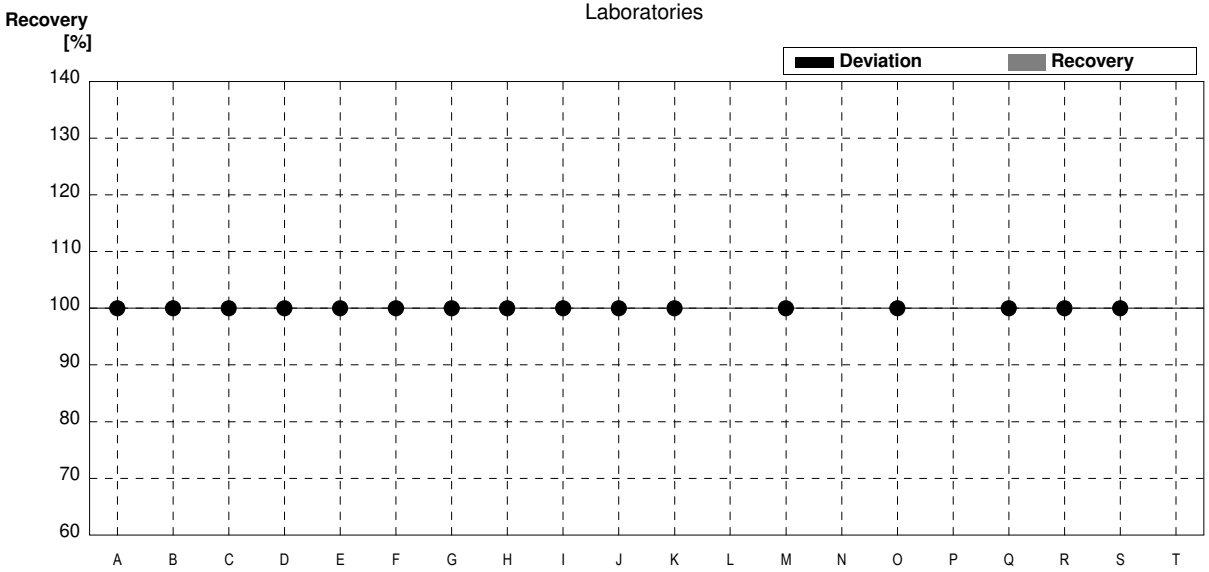
Target value <0,1 µg/l

IFA result <0,1 µg/l

Stability test <0,1 µg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	<0,1		µg/l	•	
B	<0,1		µg/l	•	
C	<0,100		µg/l	•	
D	<0,05		µg/l	•	
E	<0,15		µg/l	•	
F	<0,090		µg/l	•	
G	<0,05	0,010	µg/l	•	
H	<0,2		µg/l	•	
I	<0,1		µg/l	•	
J	<0,1	0,03	µg/l	•	
K	<0,05		µg/l	•	
L	<BG		µg/l		
M	<0,10		µg/l	•	
N			µg/l		
O	<0,10		µg/l	•	
P			µg/l		
Q	<0,2		µg/l	•	
R	<0,1	0,105	µg/l	•	
S	<0,05	0,01	µg/l	•	
T	<bg		µg/l		





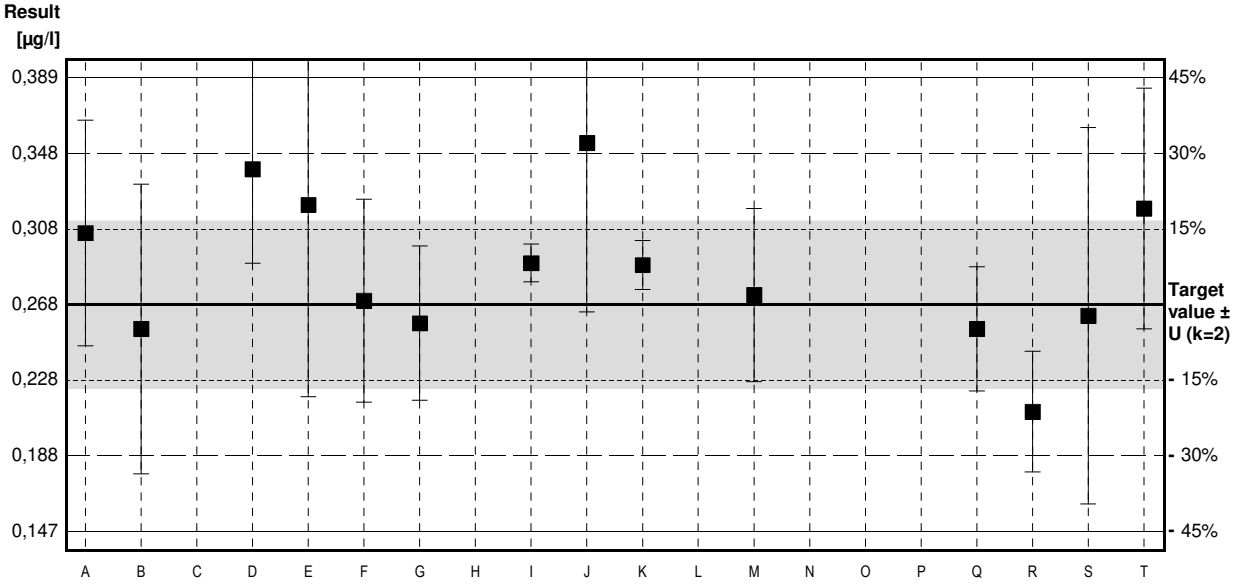
	All results	Outliers excl.	Unit
Mean ± CI(99%)			µg/l
Recov. ± CI(99%)			%
SD between labs			µg/l
RSD between labs			%
n for calculation			

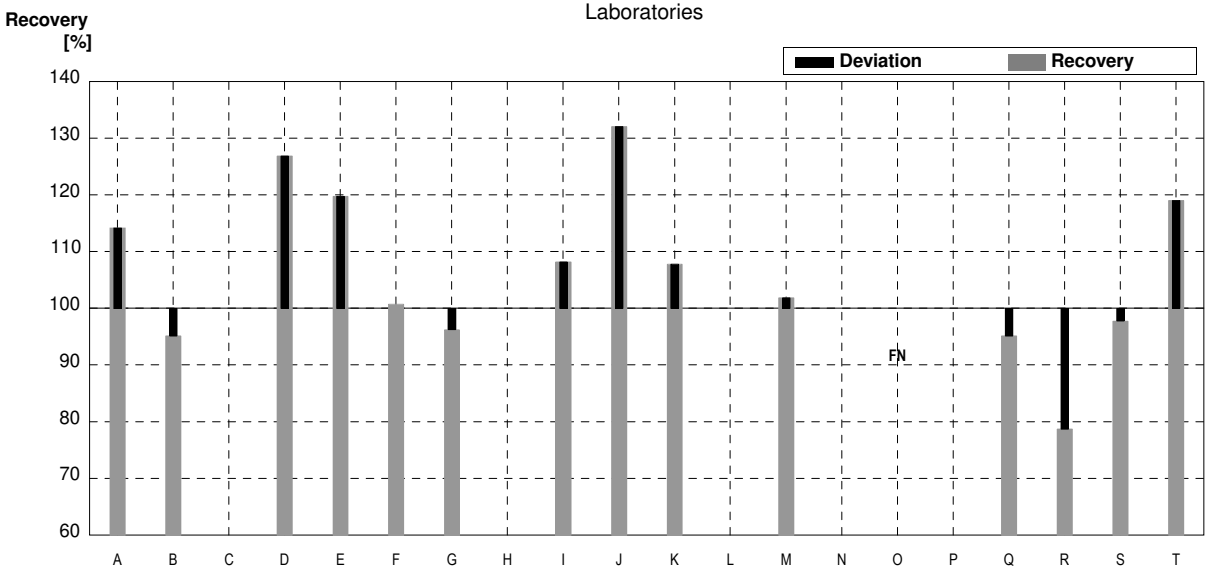
Sample C69A

Parameter 1,1-Dichloroethene

Target value	± U (k=2)	0,268 µg/l	±	0,045 µg/l
IFA result	± U (k=2)	0,258 µg/l	±	0,028 µg/l
Stability test	± U (k=2)	0,242 µg/l	±	0,026 µg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	0,306	0,060	µg/l	114%	0,83
B	0,255	0,077	µg/l	95%	-0,29
C			µg/l		
D	0,340	0,0501	µg/l	127%	1,58
E	0,321	0,102	µg/l	120%	1,16
F	0,270	0,054	µg/l	101%	0,04
G	0,258	0,041	µg/l	96%	-0,22
H			µg/l		
I	0,290	0,01	µg/l	108%	0,48
J	0,354	0,09	µg/l	132%	1,89
K	0,289	0,013	µg/l	108%	0,46
L			µg/l		
M	0,273	0,046	µg/l	102%	0,11
N			µg/l		
O	<0,05		µg/l	FN	
P			µg/l		
Q	0,255	0,033	µg/l	95%	-0,29
R	0,211	0,032	µg/l	79%	-1,25
S	0,262	0,1	µg/l	98%	-0,13
T	0,319	0,064	µg/l	119%	1,12





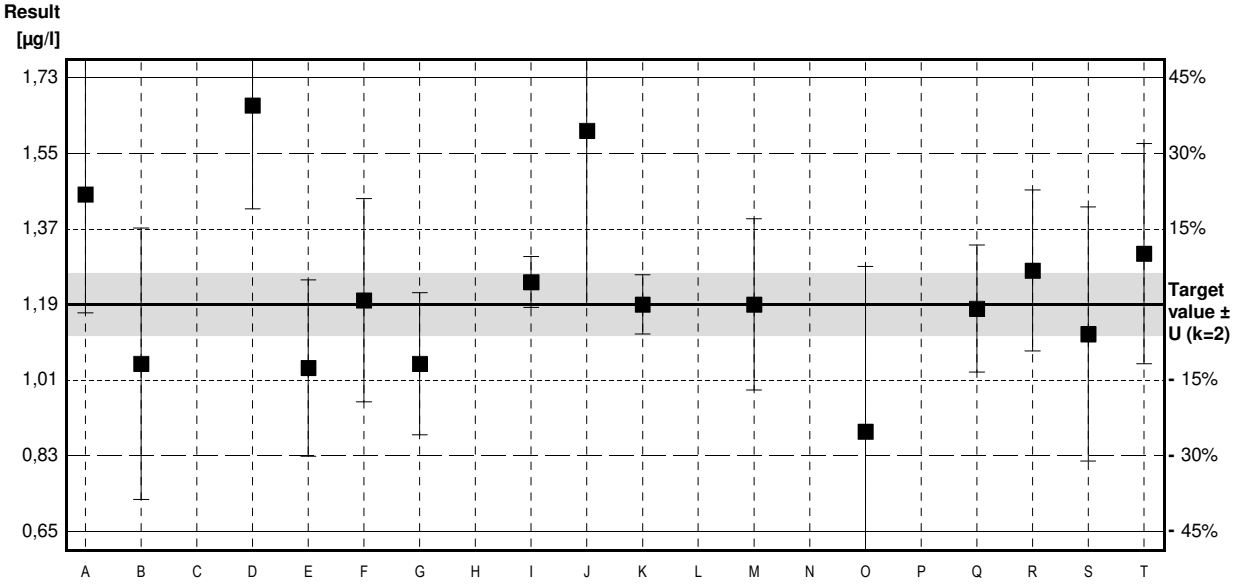
	All results	Outliers excl.	Unit
Mean ± CI(99%)	0,286 ± 0,031	0,286 ± 0,031	µg/l
Recov. ± CI(99%)	106,7 ± 11,7	106,7 ± 11,7	%
SD between labs	0,039	0,039	µg/l
RSD between labs	13,6	13,6	%
n for calculation	14	14	

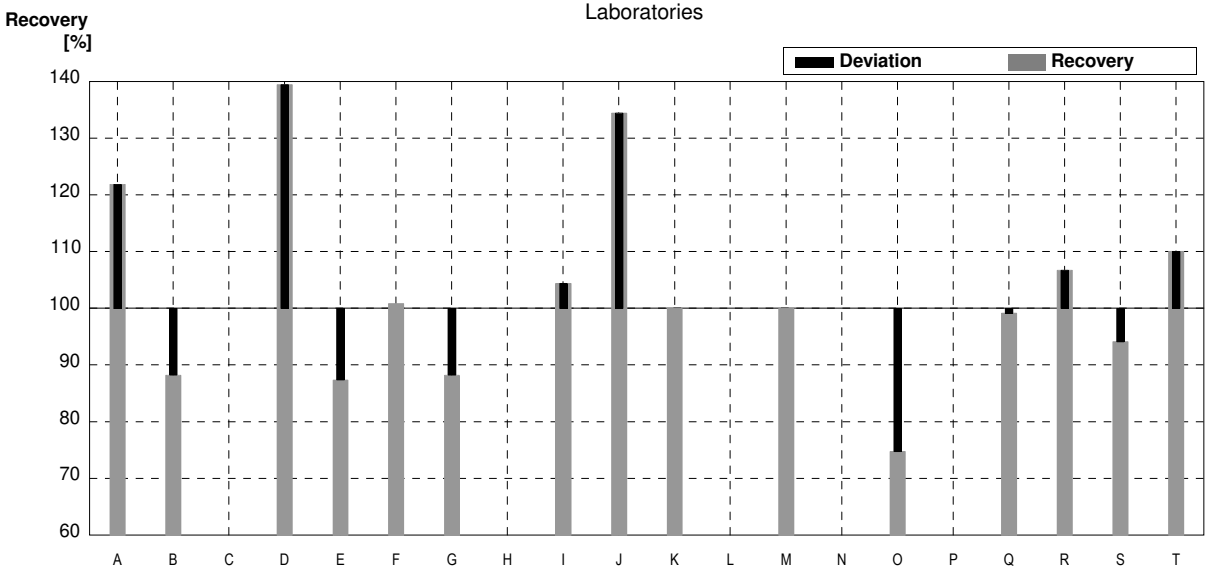
Sample C69B

Parameter 1,1-Dichloroethene

Target value ± U (k=2)	1,19 µg/l	±	0,07 µg/l	
IFA result ± U (k=2)	1,16 µg/l	±	0,13 µg/l	
Stability test ± U (k=2)	1,20 µg/l	±	0,13 µg/l	

Lab Code	Result	±	Unit	Recovery	z-Score
A	1,45	0,28	µg/l	122%	1,29
B	1,05	0,32	µg/l	88%	-0,69
C			µg/l		
D	1,660	0,2444	µg/l	139%	2,32
E	1,04	0,208	µg/l	87%	-0,74
F	1,200	0,240	µg/l	101%	0,05
G	1,050	0,168	µg/l	88%	-0,69
H			µg/l		
I	1,243	0,06	µg/l	104%	0,26
J	1,60	0,41	µg/l	134%	2,03
K	1,19	0,070	µg/l	100%	0,00
L			µg/l		
M	1,19	0,202	µg/l	100%	0,00
N			µg/l		
O	0,89	0,39	µg/l	75%	-1,48
P			µg/l		
Q	1,18	0,15	µg/l	99%	-0,05
R	1,27	0,19	µg/l	107%	0,40
S	1,12	0,3	µg/l	94%	-0,35
T	1,31	0,26	µg/l	110%	0,59



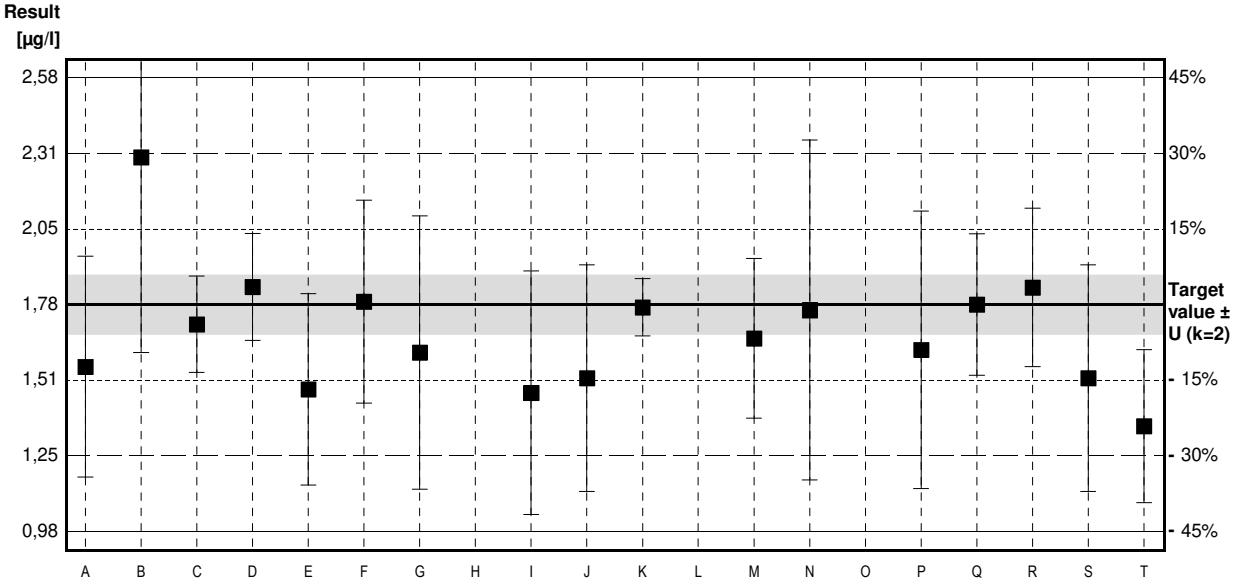


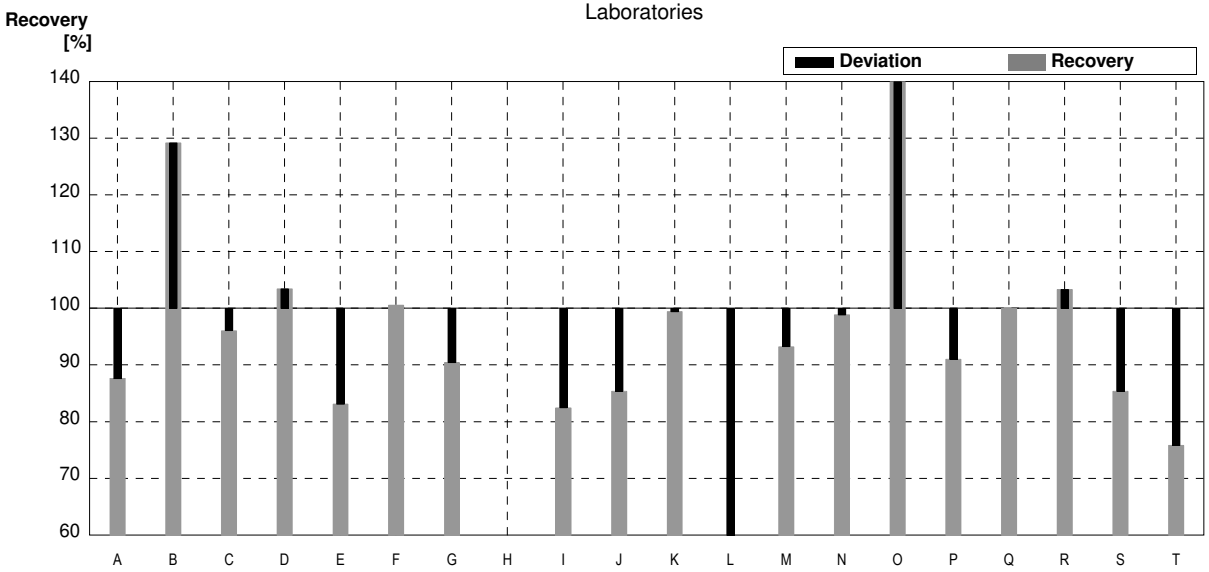
	All results	Outliers excl.	Unit
Mean ± CI(99%)	1,23 ± 0,16	1,23 ± 0,16	µg/l
Recov. ± CI(99%)	103,3 ± 13,5	103,3 ± 13,5	%
SD between labs	0,21	0,21	µg/l
RSD between labs	17,0	17,0	%
n for calculation	15	15	

Sample C69A
Parameter Tribromomethane

Target value	± U (k=2)	1,78 µg/l	±	0,10 µg/l	
IFA result	± U (k=2)	1,76 µg/l	±	0,21 µg/l	
Stability test	± U (k=2)	1,72 µg/l	±	0,20 µg/l	

Lab Code	Result	±	Unit	Recovery	z-Score
A	1,56	0,39	µg/l	88%	-0,82
B	2,30	0,69	µg/l	129%	1,95
C	1,71	0,17	µg/l	96%	-0,26
D	1,842	0,1890	µg/l	103%	0,23
E	1,48	0,338	µg/l	83%	-1,12
F	1,790	0,358	µg/l	101%	0,04
G	1,610	0,483	µg/l	90%	-0,64
H			µg/l		
I	1,468	0,43	µg/l	82%	-1,17
J	1,52	0,40	µg/l	85%	-0,97
K	1,77	0,101	µg/l	99%	-0,04
L	0,92 *	0,41	µg/l	52%	-3,22
M	1,66	0,282	µg/l	93%	-0,45
N	1,76	0,6	µg/l	99%	-0,07
O	2,70 *	1,18	µg/l	152%	3,45
P	1,62	0,49	µg/l	91%	-0,60
Q	1,78	0,25	µg/l	100%	0,00
R	1,84	0,28	µg/l	103%	0,22
S	1,52	0,4	µg/l	85%	-0,97
T	1,35	0,270	µg/l	76%	-1,61





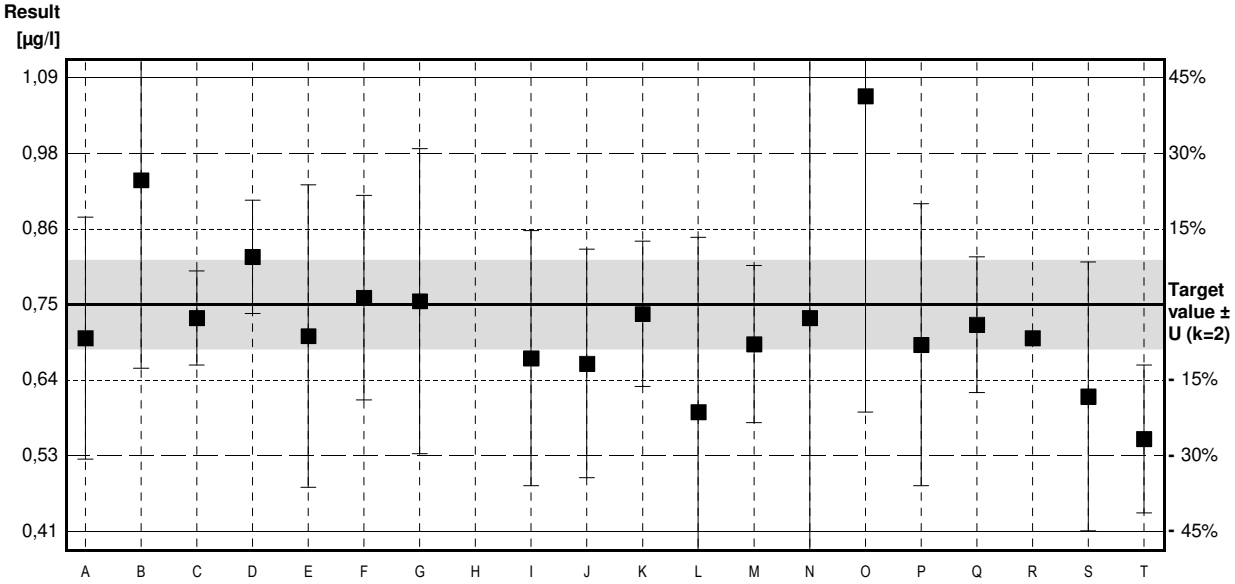
	All results	Outliers excl.	Unit
Mean ± CI(99%)	1,69 ± 0,24	1,68 ± 0,15	µg/l
Recov. ± CI(99%)	95,2 ± 13,4	94,4 ± 8,6	%
SD between labs	0,36	0,22	µg/l
RSD between labs	21,3	12,8	%
n for calculation	19	17	

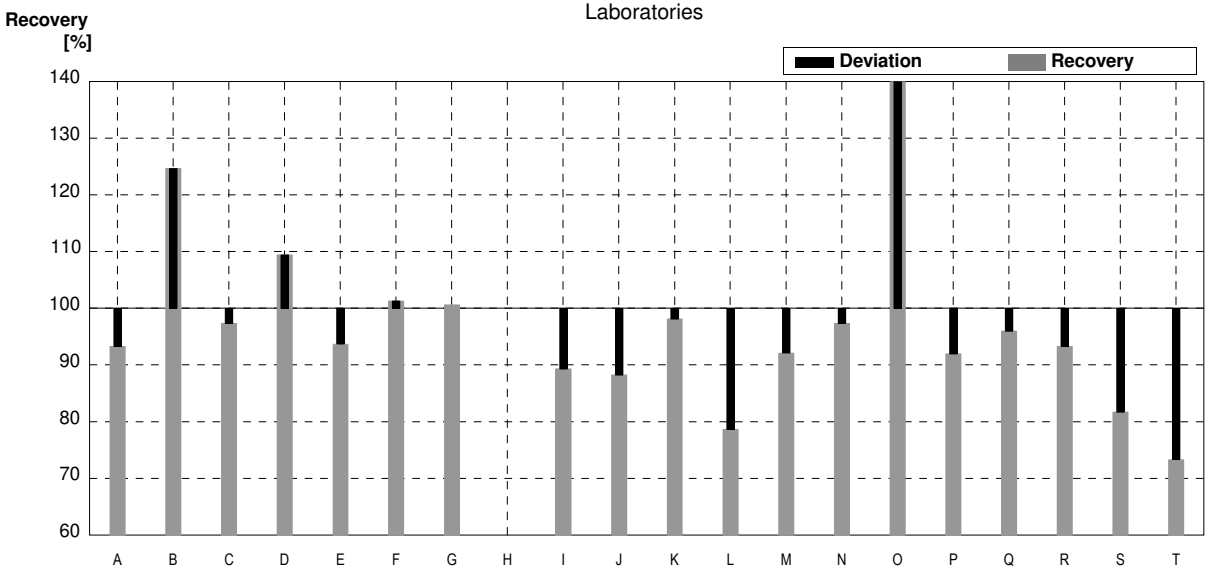
Sample C69B

Parameter Tribromomethane

Target value	± U (k=2)	0,75 µg/l	±	0,07 µg/l
IFA result	± U (k=2)	0,75 µg/l	±	0,09 µg/l
Stability test	± U (k=2)	0,73 µg/l	±	0,09 µg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	0,700	0,18	µg/l	93%	-0,44
B	0,935 *	0,28	µg/l	125%	1,64
C	0,73	0,07	µg/l	97%	-0,18
D	0,821	0,0843	µg/l	109%	0,63
E	0,703	0,225	µg/l	94%	-0,42
F	0,760	0,152	µg/l	101%	0,09
G	0,755	0,227	µg/l	101%	0,04
H			µg/l		
I	0,670	0,19	µg/l	89%	-0,71
J	0,662	0,17	µg/l	88%	-0,78
K	0,736	0,108	µg/l	98%	-0,12
L	0,59	0,26	µg/l	79%	-1,42
M	0,691	0,117	µg/l	92%	-0,52
N	0,73	0,6	µg/l	97%	-0,18
O	1,06 *	0,47	µg/l	141%	2,76
P	0,69	0,21	µg/l	92%	-0,53
Q	0,720	0,101	µg/l	96%	-0,27
R	0,700		µg/l	93%	-0,44
S	0,613	0,2	µg/l	82%	-1,22
T	0,55	0,11	µg/l	73%	-1,78





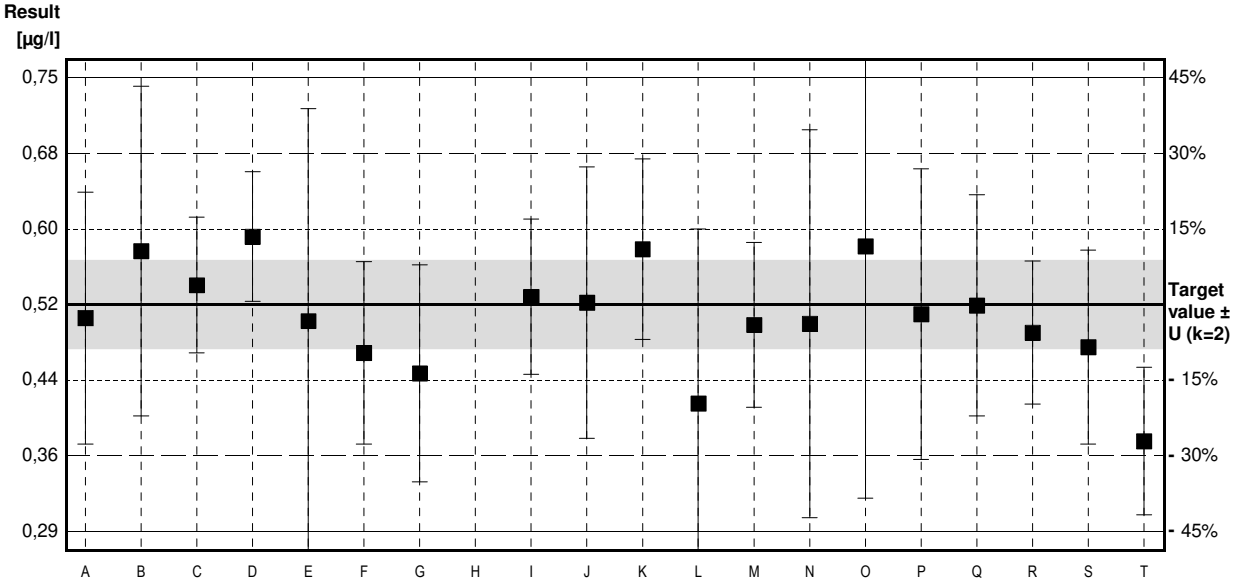
	All results	Outliers excl.	Unit
Mean ± CI(99%)	0,73 ± 0,08	0,70 ± 0,05	µg/l
Recov. ± CI(99%)	97,0 ± 10,2	92,7 ± 6,2	%
SD between labs	0,12	0,07	µg/l
RSD between labs	15,9	9,5	%
n for calculation	19	17	

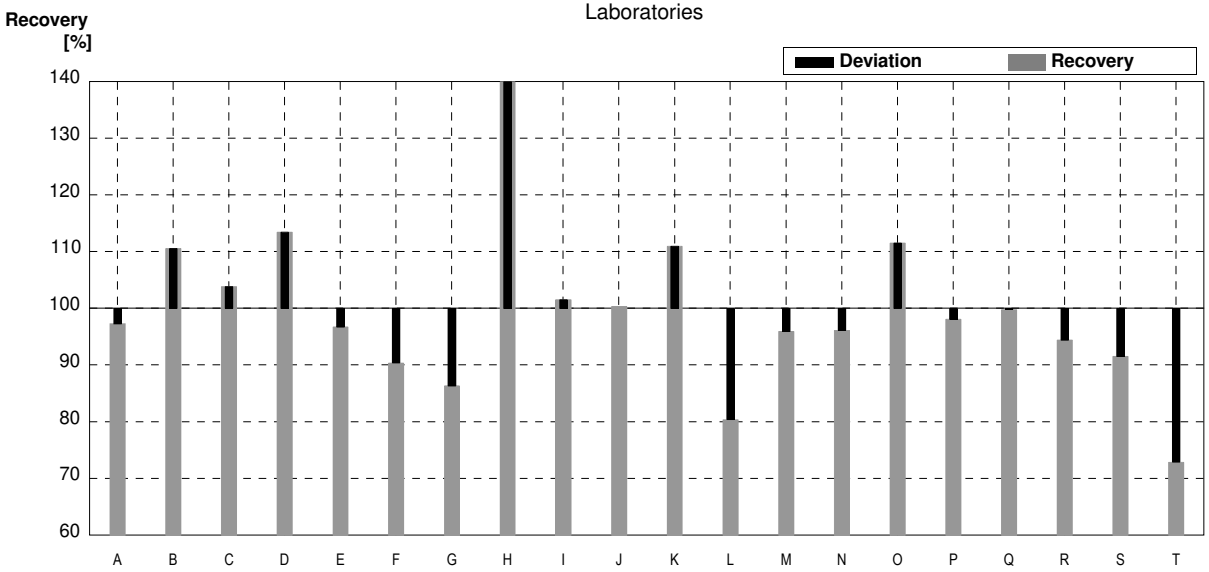
Sample C69A

Parameter Bromodichloromethane

Target value ± U (k=2)	0,52 µg/l	±	0,05 µg/l	
IFA result ± U (k=2)	0,51 µg/l	±	0,05 µg/l	
Stability test ± U (k=2)	0,52 µg/l	±	0,05 µg/l	

Lab Code	Result	±	Unit	Recovery	z-Score
A	0,506	0,13	µg/l	97%	-0,22
B	0,575	0,17	µg/l	111%	0,88
C	0,54	0,07	µg/l	104%	0,32
D	0,590	0,0668	µg/l	113%	1,12
E	0,503	0,219	µg/l	97%	-0,27
F	0,470	0,094	µg/l	90%	-0,80
G	0,449	0,112	µg/l	86%	-1,14
H	5,11 *		µg/l	983%	73,56
I	0,528	0,08	µg/l	102%	0,13
J	0,522	0,14	µg/l	100%	0,03
K	0,577	0,093	µg/l	111%	0,91
L	0,418	0,18	µg/l	80%	-1,63
M	0,499	0,085	µg/l	96%	-0,34
N	0,50	0,2	µg/l	96%	-0,32
O	0,58	0,26	µg/l	112%	0,96
P	0,51	0,15	µg/l	98%	-0,16
Q	0,519	0,114	µg/l	100%	-0,02
R	0,491	0,074	µg/l	94%	-0,46
S	0,476	0,1	µg/l	92%	-0,71
T	0,379	0,076	µg/l	73%	-2,26





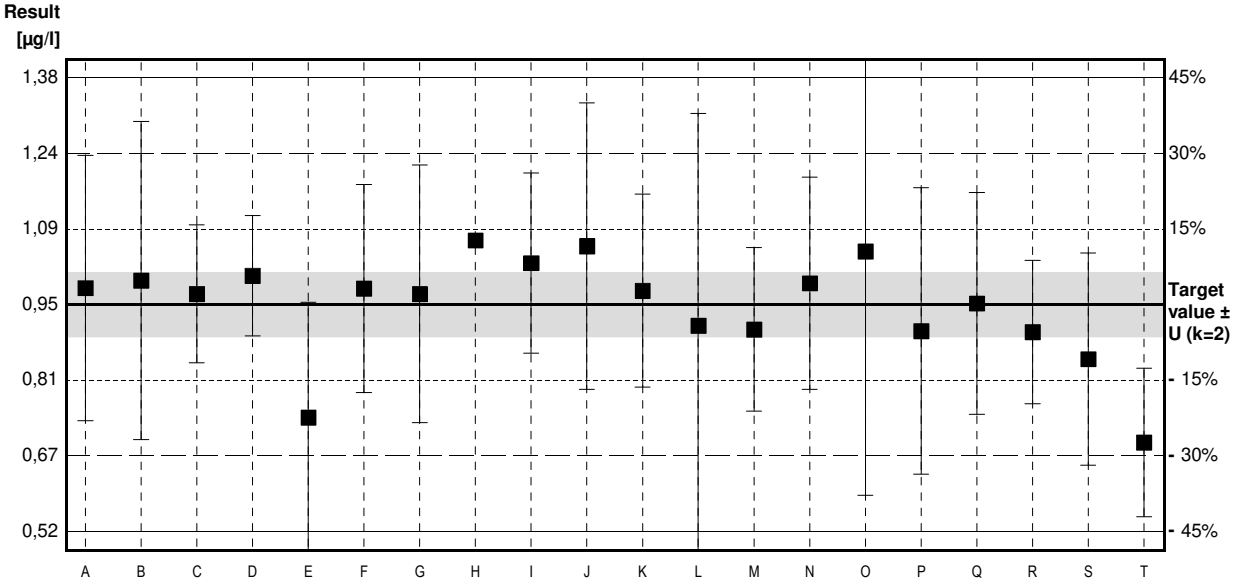
	All results	Outliers excl.	Unit
Mean ± CI(99%)	0,74 ± 0,66	0,51 ± 0,04	µg/l
Recov. ± CI(99%)	141,8 ± 126,8	97,5 ± 7,0	%
SD between labs	1,03	0,05	µg/l
RSD between labs	139,8	10,8	%
n for calculation	20	19	

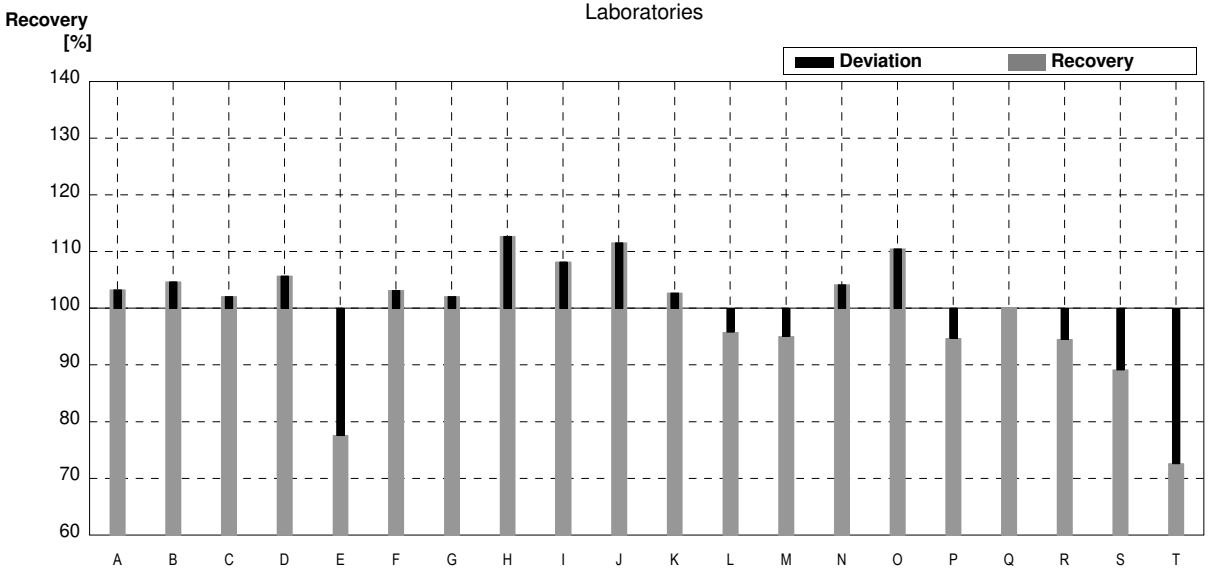
Sample C69B

Parameter Bromodichloromethane

Target value	± U (k=2)	0,95 µg/l	±	0,06 µg/l
IFA result	± U (k=2)	0,95 µg/l	±	0,10 µg/l
Stability test	± U (k=2)	0,91 µg/l	±	0,09 µg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	0,981	0,25	µg/l	103%	0,27
B	0,995	0,30	µg/l	105%	0,39
C	0,97	0,13	µg/l	102%	0,18
D	1,004	0,1135	µg/l	106%	0,47
E	0,737	0,217	µg/l	78%	-1,87
F	0,980	0,196	µg/l	103%	0,26
G	0,970	0,243	µg/l	102%	0,18
H	1,071		µg/l	113%	1,06
I	1,028	0,17	µg/l	108%	0,68
J	1,06	0,27	µg/l	112%	0,96
K	0,976	0,182	µg/l	103%	0,23
L	0,91	0,40	µg/l	96%	-0,35
M	0,903	0,154	µg/l	95%	-0,41
N	0,99	0,2	µg/l	104%	0,35
O	1,05	0,46	µg/l	111%	0,88
P	0,90	0,27	µg/l	95%	-0,44
Q	0,952	0,209	µg/l	100%	0,02
R	0,898	0,135	µg/l	95%	-0,46
S	0,847	0,2	µg/l	89%	-0,90
T	0,69 *	0,14	µg/l	73%	-2,28





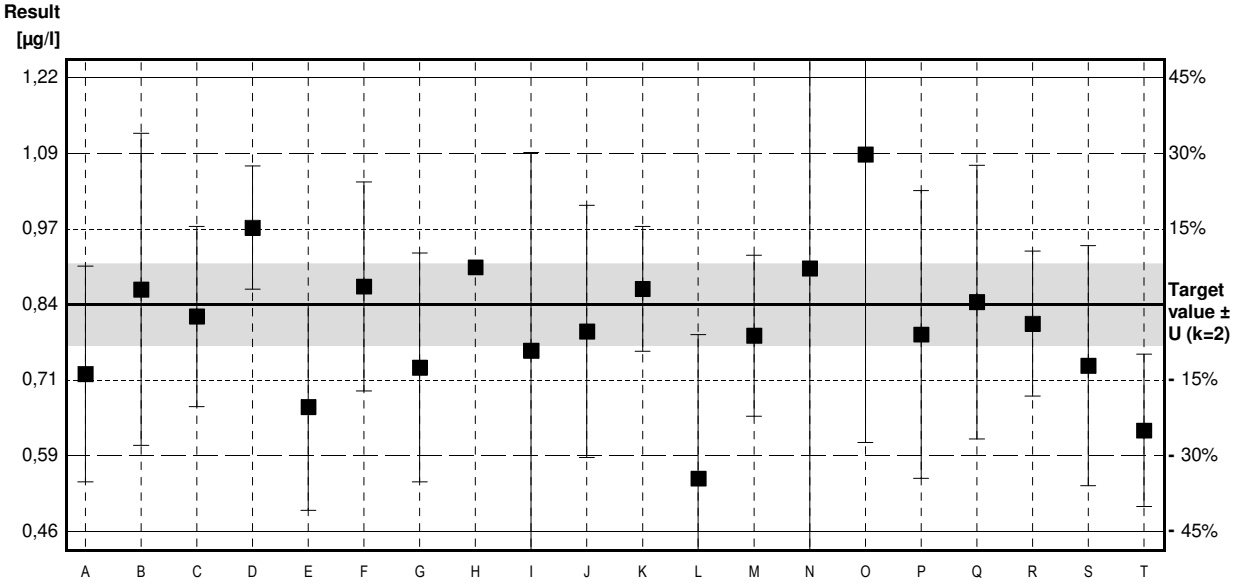
	All results	Outliers excl.	Unit
Mean ± CI(99%)	0,95 ± 0,06	0,96 ± 0,05	µg/l
Recov. ± CI(99%)	99,5 ± 6,6	101,0 ± 5,6	%
SD between labs	0,10	0,08	µg/l
RSD between labs	10,4	8,4	%
n for calculation	20	19	

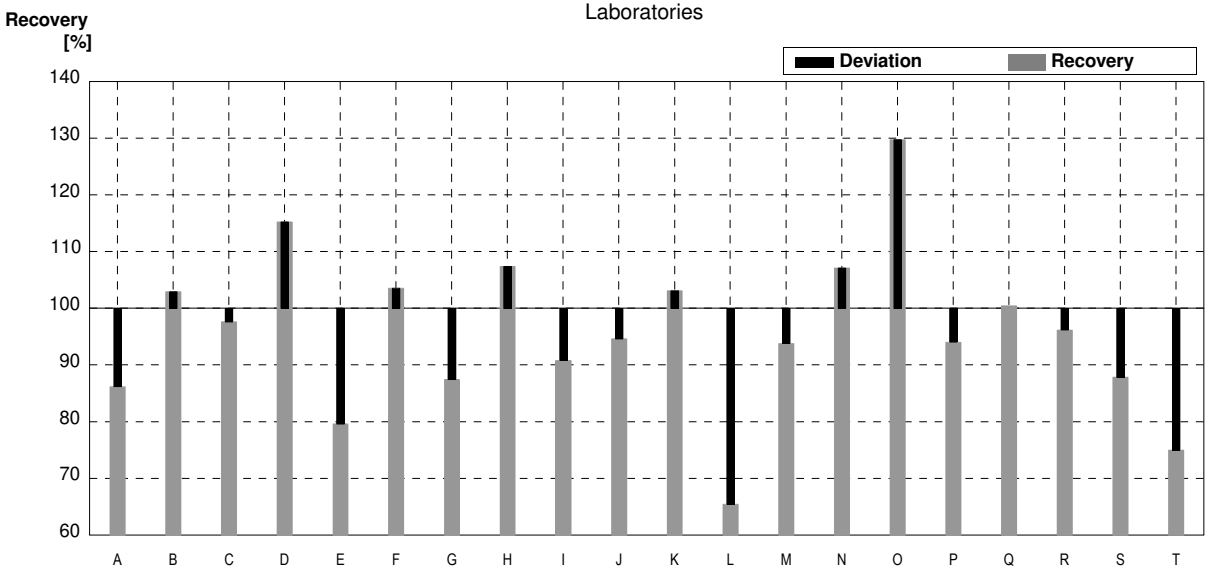
Sample C69A

Parameter Dibromochloromethane

Target value ± U (k=2)	0,84 µg/l	±	0,07 µg/l	
IFA result ± U (k=2)	0,81 µg/l	±	0,06 µg/l	
Stability test ± U (k=2)	0,83 µg/l	±	0,07 µg/l	

Lab Code	Result	±	Unit	Recovery	z-Score
A	0,724	0,18	µg/l	86%	-1,15
B	0,865	0,26	µg/l	103%	0,25
C	0,82	0,15	µg/l	98%	-0,20
D	0,968	0,1026	µg/l	115%	1,27
E	0,669	0,172	µg/l	80%	-1,70
F	0,870	0,174	µg/l	104%	0,30
G	0,735	0,191	µg/l	88%	-1,04
H	0,902		µg/l	107%	0,62
I	0,763	0,33	µg/l	91%	-0,76
J	0,795	0,21	µg/l	95%	-0,45
K	0,866	0,104	µg/l	103%	0,26
L	0,55	0,24	µg/l	65%	-2,88
M	0,788	0,134	µg/l	94%	-0,52
N	0,90	0,5	µg/l	107%	0,60
O	1,09	0,48	µg/l	130%	2,48
P	0,79	0,24	µg/l	94%	-0,50
Q	0,844	0,228	µg/l	100%	0,04
R	0,808	0,121	µg/l	96%	-0,32
S	0,738	0,2	µg/l	88%	-1,01
T	0,63	0,127	µg/l	75%	-2,08





	All results	Outliers excl.	Unit
Mean ± CI(99%)	0,81 ± 0,08	0,81 ± 0,08	µg/l
Recov. ± CI(99%)	95,9 ± 9,1	95,9 ± 9,1	%
SD between labs	0,12	0,12	µg/l
RSD between labs	14,8	14,8	%
n for calculation	20	20	

Sample C69B

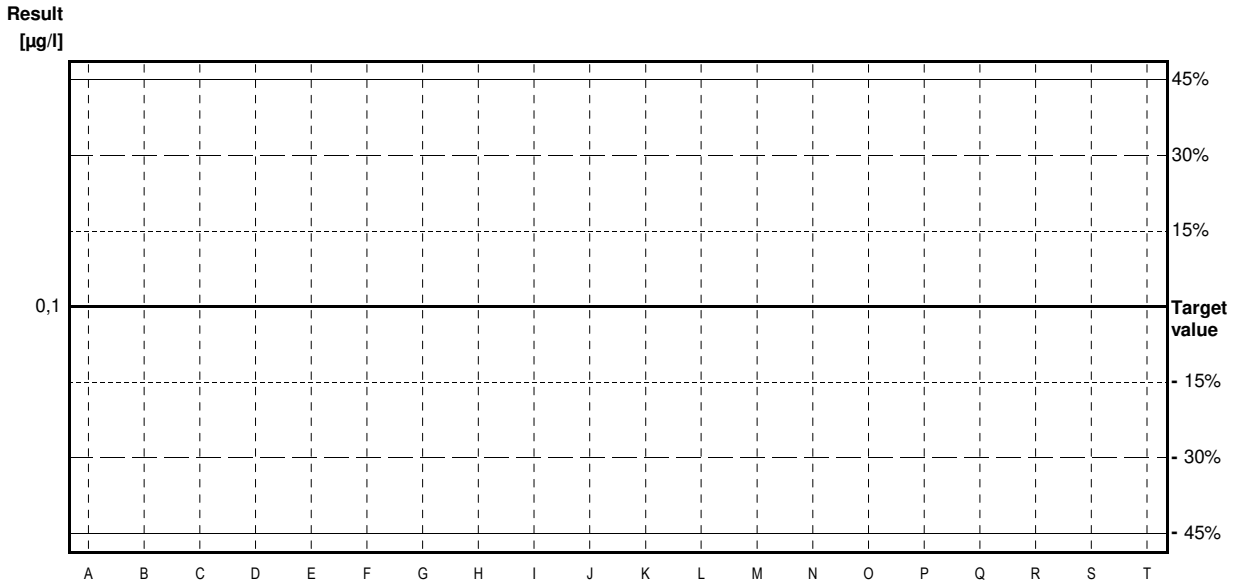
Parameter Dibromochloromethane

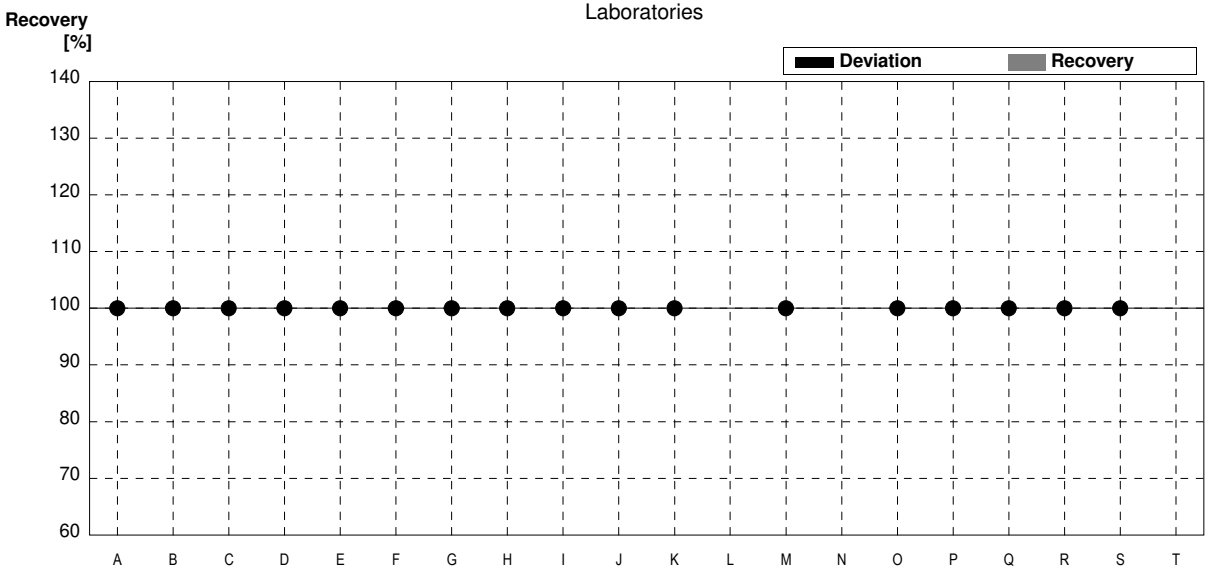
Target value <0,1 µg/l

IFA result <0,1 µg/l

Stability test <0,1 µg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	<0,1		µg/l	•	
B	<0,1		µg/l	•	
C	<0,100		µg/l	•	
D	<0,05		µg/l	•	
E	<0,2		µg/l	•	
F	<0,040		µg/l	•	
G	<0,05	0,013	µg/l	•	
H	<0,2		µg/l	•	
I	<0,1		µg/l	•	
J	<0,1	0,03	µg/l	•	
K	<0,05		µg/l	•	
L	<BG		µg/l		
M	<0,10		µg/l	•	
N			µg/l		
O	<0,10		µg/l	•	
P	<0,1		µg/l	•	
Q	<0,2		µg/l	•	
R	<0,1		µg/l	•	
S	<0,05	0,01	µg/l	•	
T	<bg		µg/l		



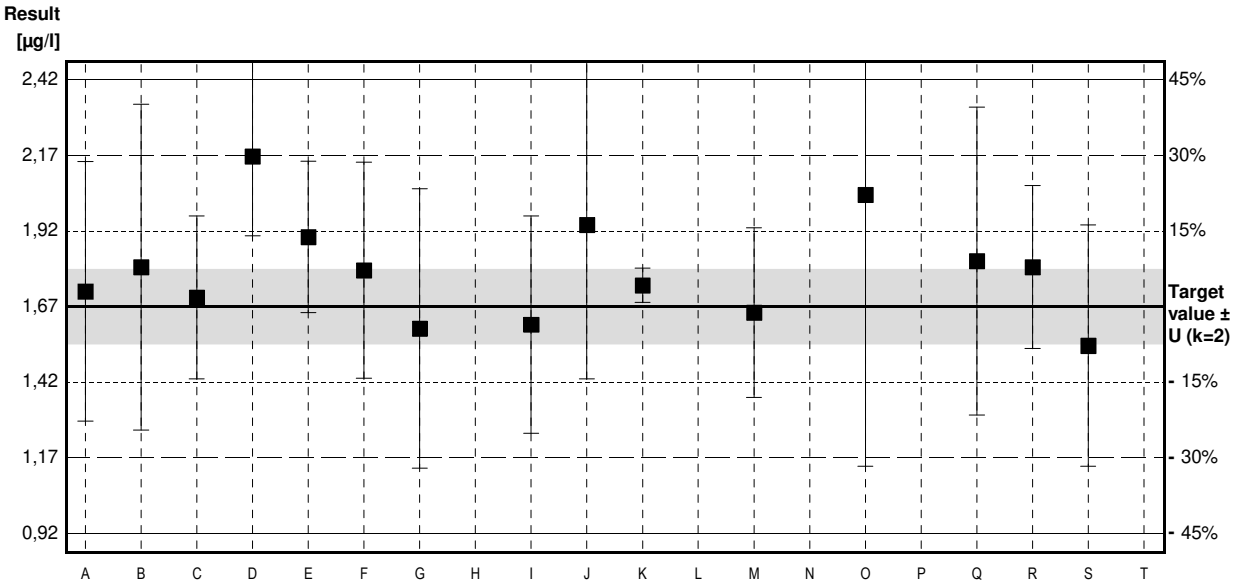


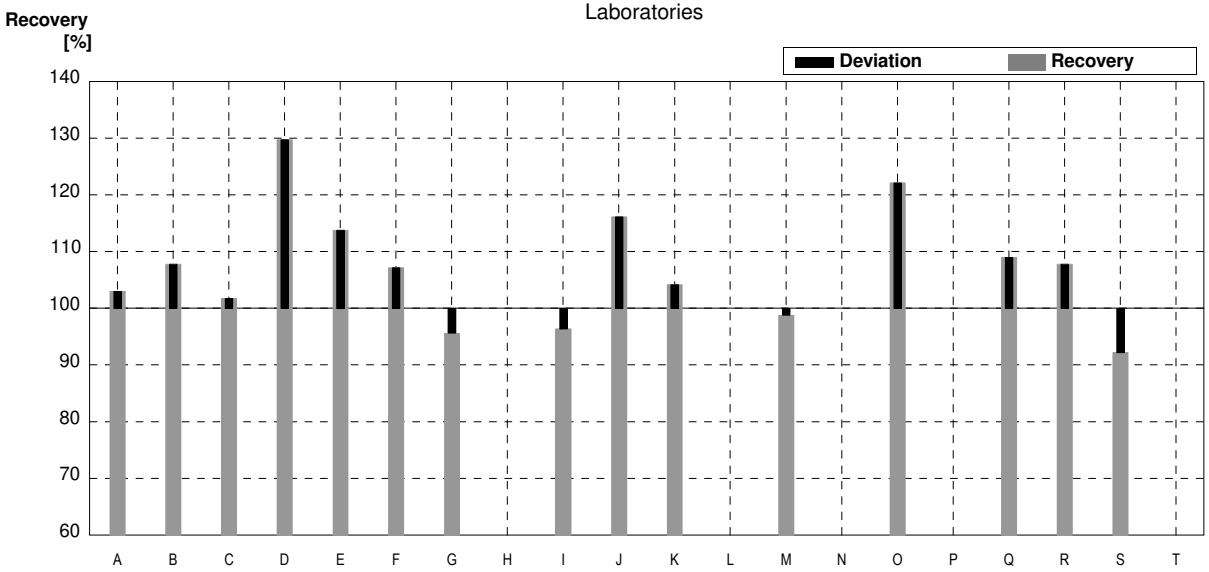
	All results	Outliers excl.	Unit
Mean ± CI(99%)			µg/l
Recov. ± CI(99%)			%
SD between labs			µg/l
RSD between labs			%
n for calculation			

Sample C69A
Parameter Dichloromethane

Target value ± U (k=2)	1,67 µg/l	±	0,12 µg/l	
IFA result ± U (k=2)	1,67 µg/l	±	0,04 µg/l	
Stability test ± U (k=2)	1,63 µg/l	±	0,04 µg/l	

Lab Code	Result	±	Unit	Recovery	z-Score
A	1,72	0,43	µg/l	103%	0,21
B	1,80	0,54	µg/l	108%	0,56
C	1,70	0,27	µg/l	102%	0,13
D	2,167	0,2628	µg/l	130%	2,13
E	1,90	0,251	µg/l	114%	0,98
F	1,790	0,358	µg/l	107%	0,51
G	1,597	0,463	µg/l	96%	-0,31
H			µg/l		
I	1,610	0,36	µg/l	96%	-0,26
J	1,94	0,51	µg/l	116%	1,15
K	1,74	0,057	µg/l	104%	0,30
L			µg/l		
M	1,65	0,281	µg/l	99%	-0,09
N			µg/l		
O	2,04	0,90	µg/l	122%	1,58
P			µg/l		
Q	1,82	0,51	µg/l	109%	0,64
R	1,80	0,27	µg/l	108%	0,56
S	1,54	0,4	µg/l	92%	-0,56
T	<bg		µg/l		



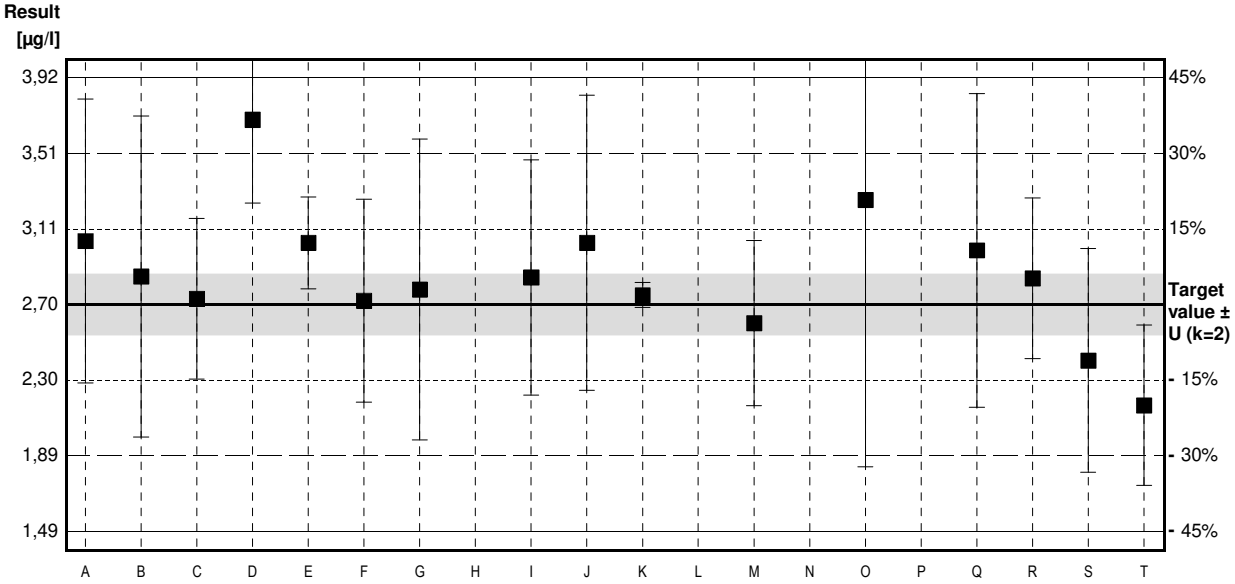


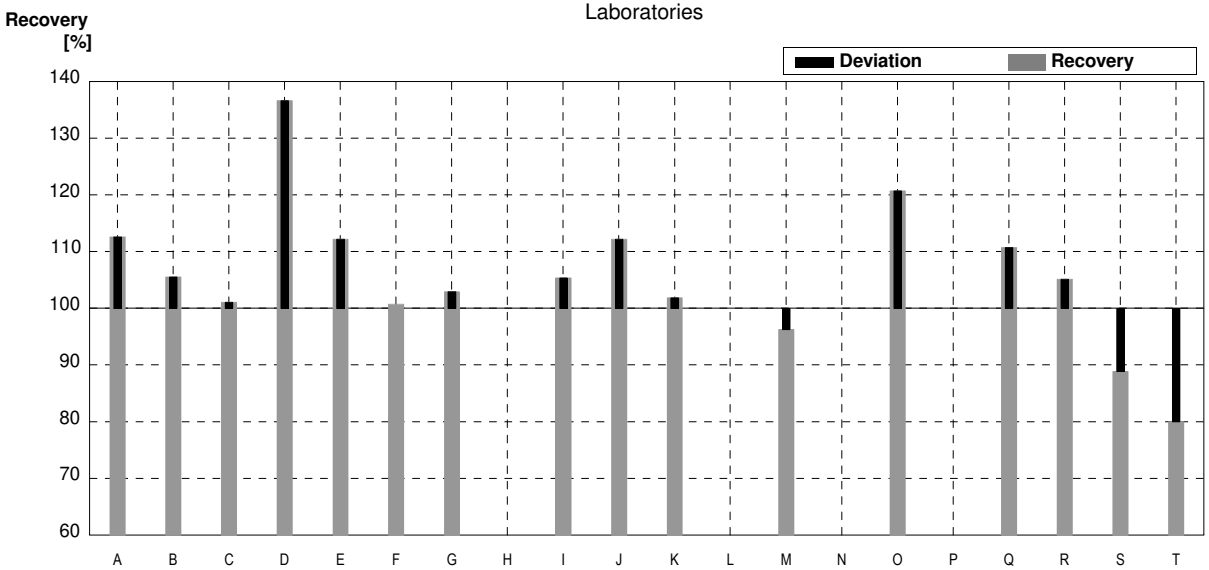
	All results	Outliers excl.	Unit
Mean ± CI(99%)	1,79 ± 0,13	1,79 ± 0,13	µg/l
Recov. ± CI(99%)	107,0 ± 7,9	107,0 ± 7,9	%
SD between labs	0,17	0,17	µg/l
RSD between labs	9,5	9,5	%
n for calculation	15	15	

Sample C69B
Parameter Dichloromethane

Target value	± U (k=2)	2,70 µg/l	±	0,16 µg/l	
IFA result	± U (k=2)	2,71 µg/l	±	0,07 µg/l	
Stability test	± U (k=2)	2,73 µg/l	±	0,07 µg/l	

Lab Code	Result	±	Unit	Recovery	z-Score
A	3,04	0,76	µg/l	113%	0,90
B	2,85	0,86	µg/l	106%	0,40
C	2,73	0,43	µg/l	101%	0,08
D	3,690 *	0,4476	µg/l	137%	2,62
E	3,03	0,246	µg/l	112%	0,87
F	2,720	0,544	µg/l	101%	0,05
G	2,780	0,806	µg/l	103%	0,21
H			µg/l		
I	2,845	0,63	µg/l	105%	0,38
J	3,03	0,79	µg/l	112%	0,87
K	2,75	0,067	µg/l	102%	0,13
L			µg/l		
M	2,60	0,442	µg/l	96%	-0,26
N			µg/l		
O	3,26	1,43	µg/l	121%	1,48
P			µg/l		
Q	2,99	0,84	µg/l	111%	0,77
R	2,84	0,43	µg/l	105%	0,37
S	2,40	0,6	µg/l	89%	-0,79
T	2,16	0,43	µg/l	80%	-1,43





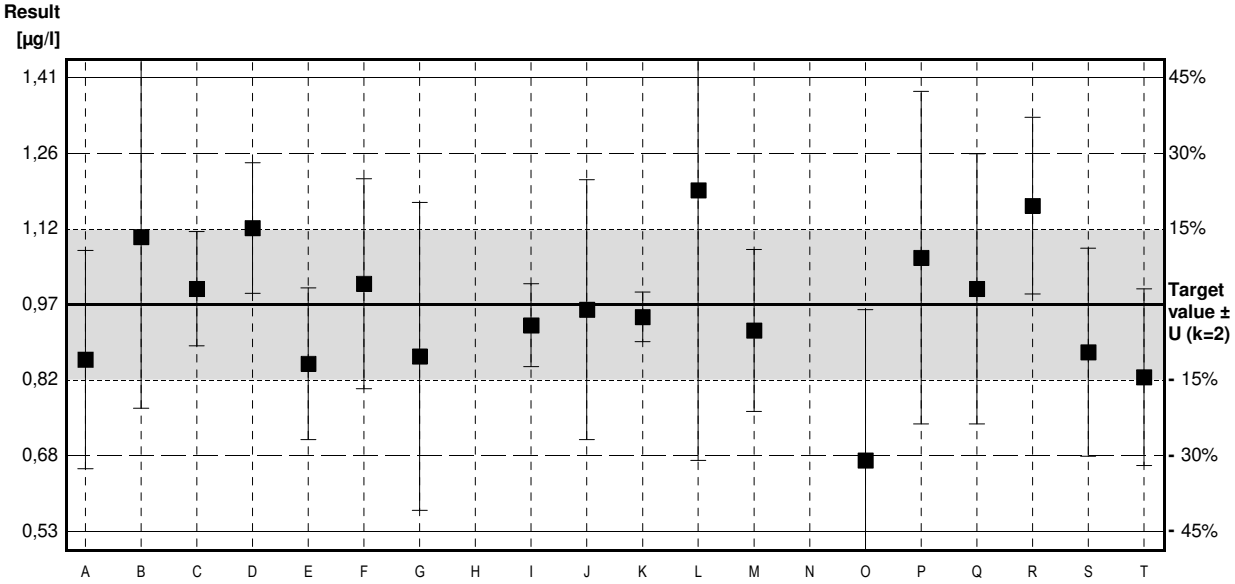
	All results	Outliers excl.	Unit
Mean ± CI(99%)	2,86 ± 0,25	2,80 ± 0,21	µg/l
Recov. ± CI(99%)	105,8 ± 9,4	103,8 ± 7,8	%
SD between labs	0,34	0,27	µg/l
RSD between labs	12,1	9,7	%
n for calculation	16	15	

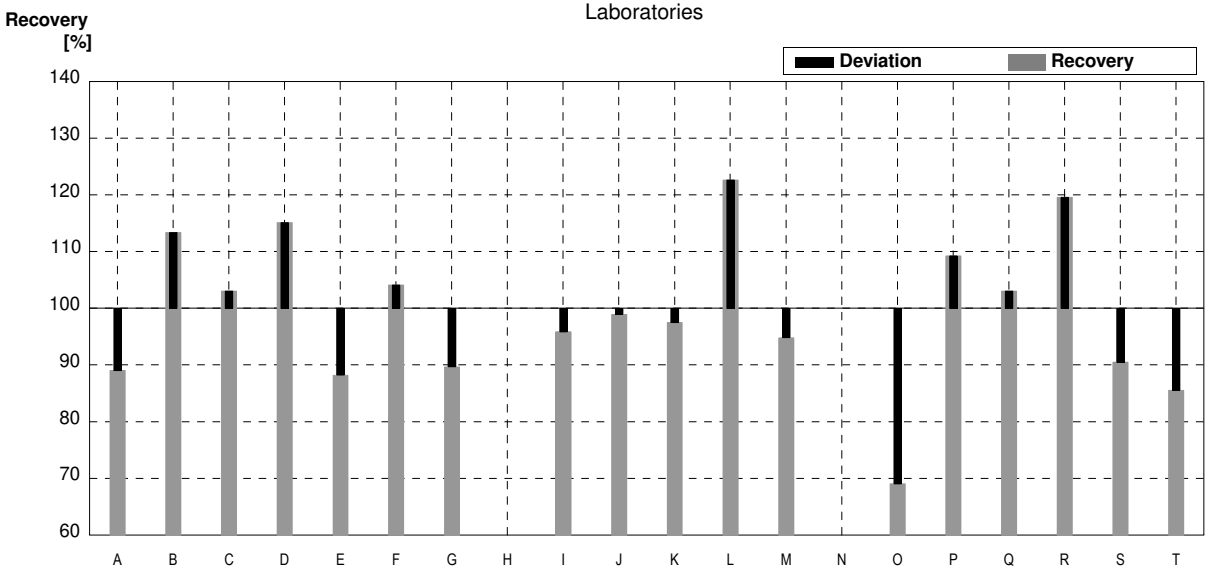
Sample C69A

Parameter 1,2-Dichloroethane

Target value	± U (k=2)	0,97 µg/l	±	0,14 µg/l	
IFA result	± U (k=2)	0,97 µg/l	±	0,06 µg/l	
Stability test	± U (k=2)	1,01 µg/l	±	0,06 µg/l	

Lab Code	Result	±	Unit	Recovery	z-Score
A	0,864	0,21	µg/l	89%	-0,84
B	1,10	0,33	µg/l	113%	1,03
C	1,00	0,11	µg/l	103%	0,24
D	1,117	0,1255	µg/l	115%	1,17
E	0,856	0,146	µg/l	88%	-0,90
F	1,010	0,202	µg/l	104%	0,32
G	0,870	0,296	µg/l	90%	-0,79
H			µg/l		
I	0,930	0,08	µg/l	96%	-0,32
J	0,960	0,25	µg/l	99%	-0,08
K	0,946	0,048	µg/l	98%	-0,19
L	1,19	0,52	µg/l	123%	1,74
M	0,920	0,156	µg/l	95%	-0,40
N			µg/l		
O	0,67	0,29	µg/l	69%	-2,38
P	1,06	0,32	µg/l	109%	0,71
Q	1,00	0,26	µg/l	103%	0,24
R	1,16	0,17	µg/l	120%	1,51
S	0,878	0,2	µg/l	91%	-0,73
T	0,83	0,17	µg/l	86%	-1,11





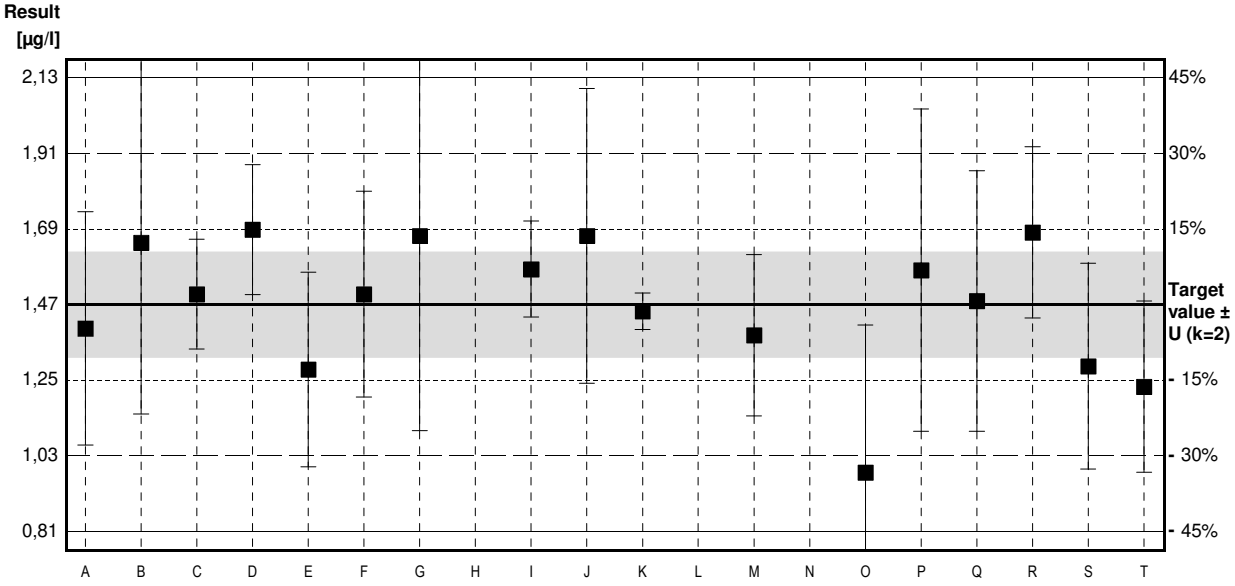
	All results	Outliers excl.	Unit
Mean ± CI(99%)	0,96 ± 0,09	0,96 ± 0,09	µg/l
Recov. ± CI(99%)	99,4 ± 9,2	99,4 ± 9,2	%
SD between labs	0,13	0,13	µg/l
RSD between labs	13,6	13,6	%
n for calculation	18	18	

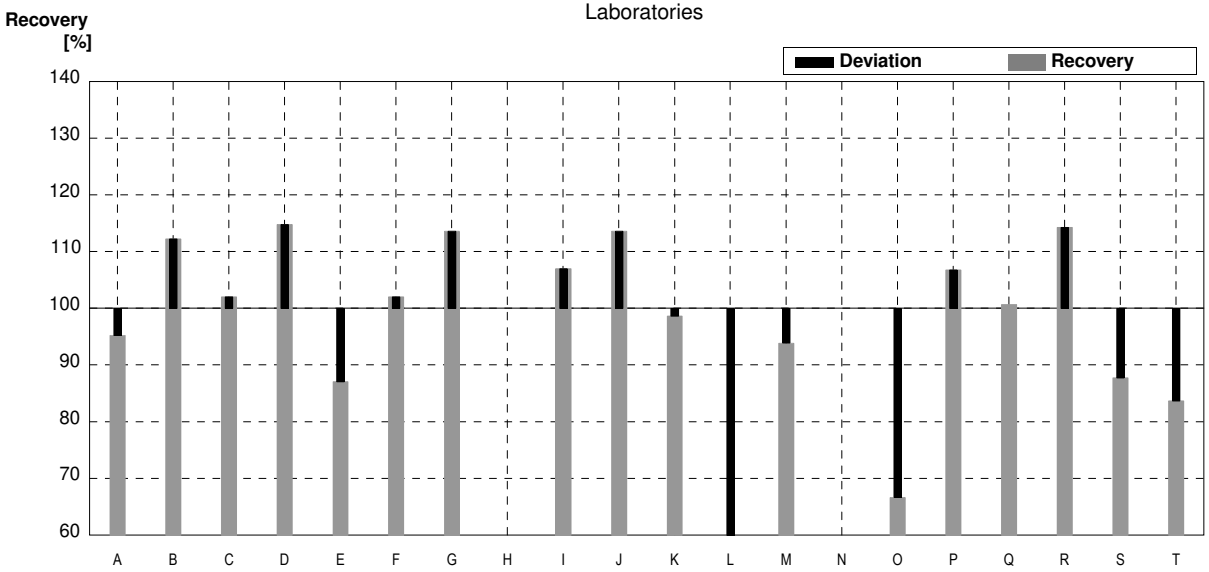
Sample C69B

Parameter 1,2-Dichloroethane

Target value	± U (k=2)	1,47 µg/l	±	0,15 µg/l
IFA result	± U (k=2)	1,46 µg/l	±	0,09 µg/l
Stability test	± U (k=2)	1,44 µg/l	±	0,09 µg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	1,40	0,34	µg/l	95%	-0,37
B	1,65	0,50	µg/l	112%	0,94
C	1,50	0,16	µg/l	102%	0,16
D	1,688	0,1895	µg/l	115%	1,14
E	1,28	0,284	µg/l	87%	-0,99
F	1,500	0,300	µg/l	102%	0,16
G	1,670	0,568	µg/l	114%	1,05
H			µg/l		
I	1,573	0,14	µg/l	107%	0,54
J	1,67	0,43	µg/l	114%	1,05
K	1,45	0,053	µg/l	99%	-0,10
L	0,340 *	0,15	µg/l	23%	-5,91
M	1,38	0,235	µg/l	94%	-0,47
N			µg/l		
O	0,98	0,43	µg/l	67%	-2,56
P	1,57	0,47	µg/l	107%	0,52
Q	1,48	0,38	µg/l	101%	0,05
R	1,68	0,25	µg/l	114%	1,10
S	1,29	0,3	µg/l	88%	-0,94
T	1,23	0,25	µg/l	84%	-1,26





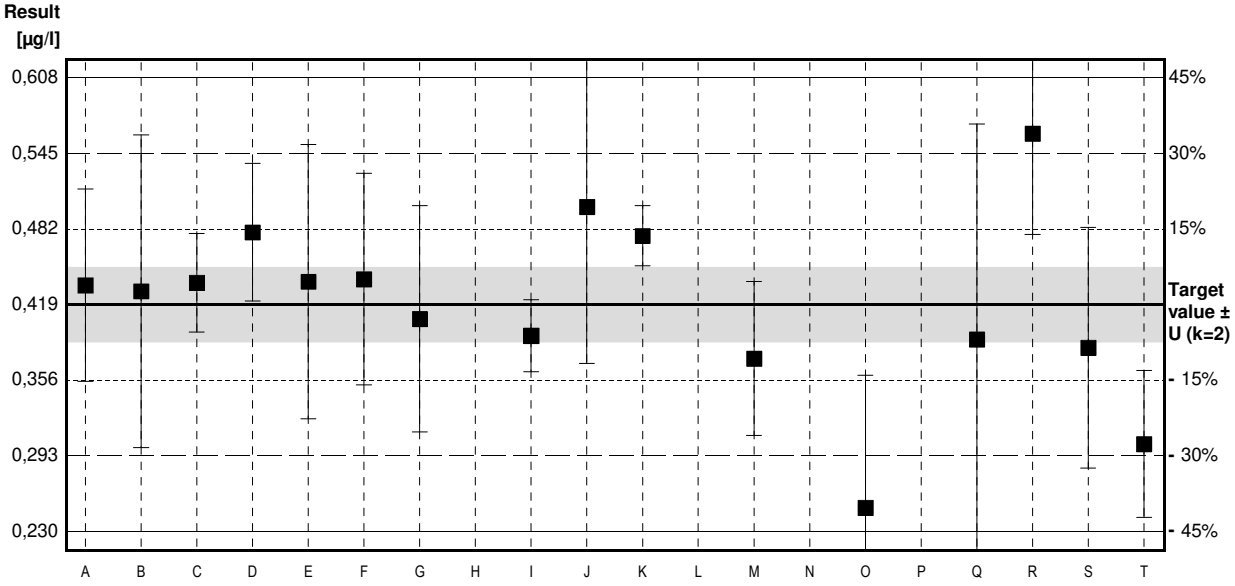
	All results	Outliers excl.	Unit
Mean ± CI(99%)	1,41 ± 0,22	1,47 ± 0,14	µg/l
Recov. ± CI(99%)	95,7 ± 15,2	100,0 ± 9,4	%
SD between labs	0,33	0,19	µg/l
RSD between labs	23,2	13,2	%
n for calculation	18	17	

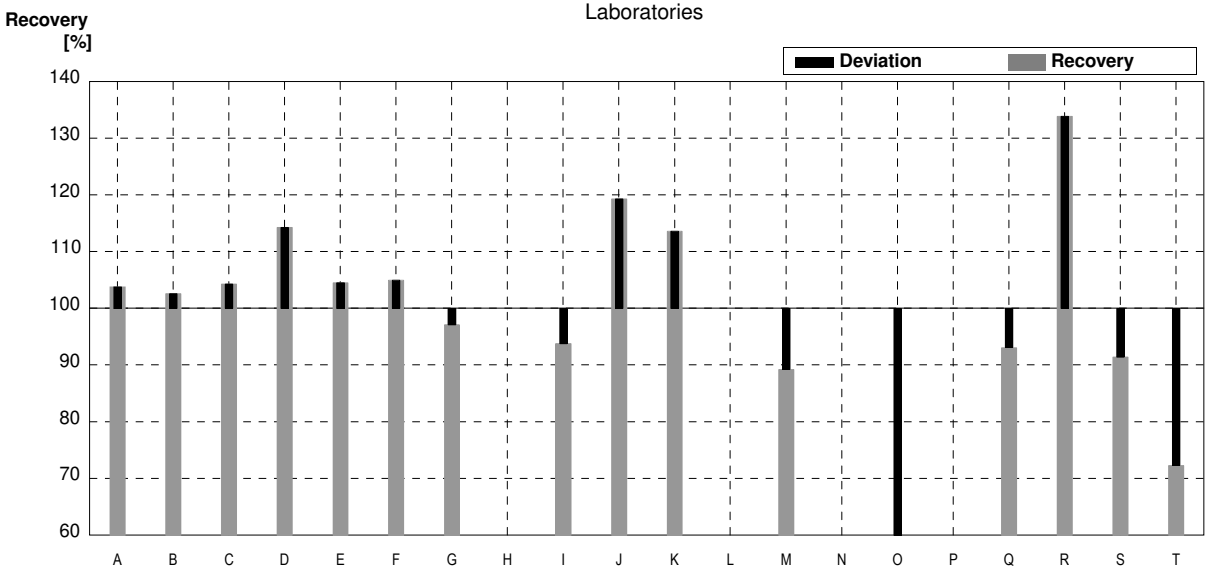
Sample C69A

Parameter cis-1,2-Dichloroethene

Target value ± U (k=2)	0,419 µg/l	±	0,031 µg/l	
IFA result ± U (k=2)	0,418 µg/l	±	0,025 µg/l	
Stability test ± U (k=2)	0,419 µg/l	±	0,026 µg/l	

Lab Code	Result	±	Unit	Recovery	z-Score
A	0,435	0,080	µg/l	104%	0,27
B	0,430	0,13	µg/l	103%	0,19
C	0,437	0,041	µg/l	104%	0,31
D	0,479	0,0571	µg/l	114%	1,02
E	0,438	0,114	µg/l	105%	0,32
F	0,440	0,088	µg/l	105%	0,36
G	0,407	0,094	µg/l	97%	-0,20
H			µg/l		
I	0,393	0,03	µg/l	94%	-0,44
J	0,500	0,13	µg/l	119%	1,38
K	0,476	0,025	µg/l	114%	0,97
L			µg/l		
M	0,374	0,064	µg/l	89%	-0,77
N			µg/l		
O	0,250	0,11	µg/l	60%	-2,88
P			µg/l		
Q	0,390	0,179	µg/l	93%	-0,49
R	0,561	0,084	µg/l	134%	2,42
S	0,383	0,1	µg/l	91%	-0,61
T	0,303	0,061	µg/l	72%	-1,98





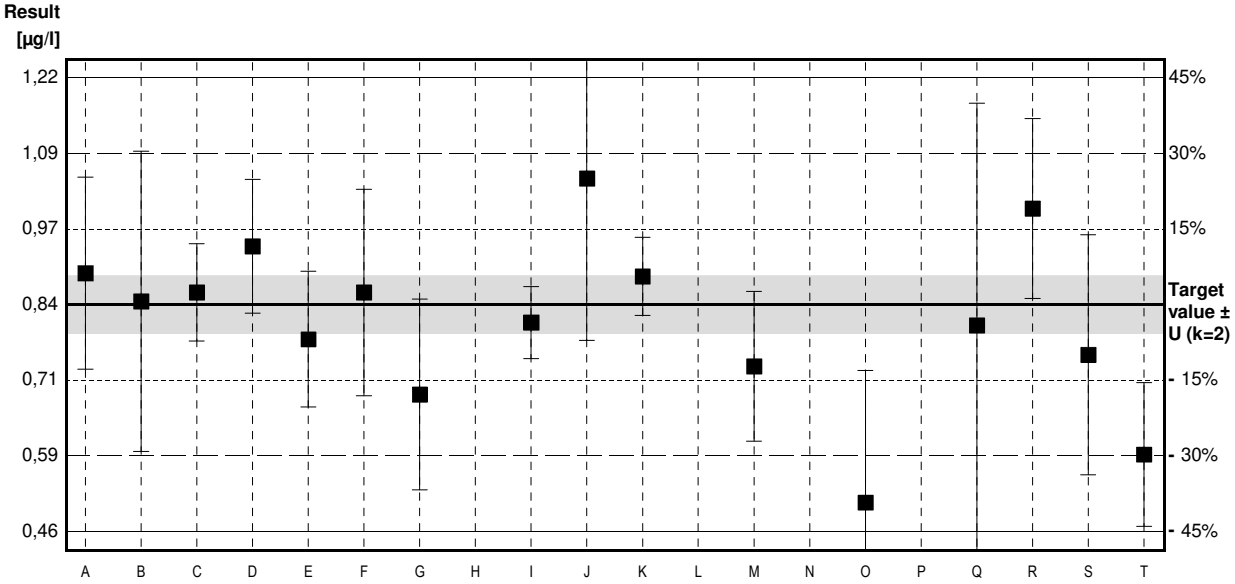
	All results	Outliers excl.	Unit
Mean ± CI(99%)	0,419 ± 0,055	0,419 ± 0,055	µg/l
Recov. ± CI(99%)	99,9 ± 13,0	99,9 ± 13,0	%
SD between labs	0,074	0,074	µg/l
RSD between labs	17,7	17,7	%
n for calculation	16	16	

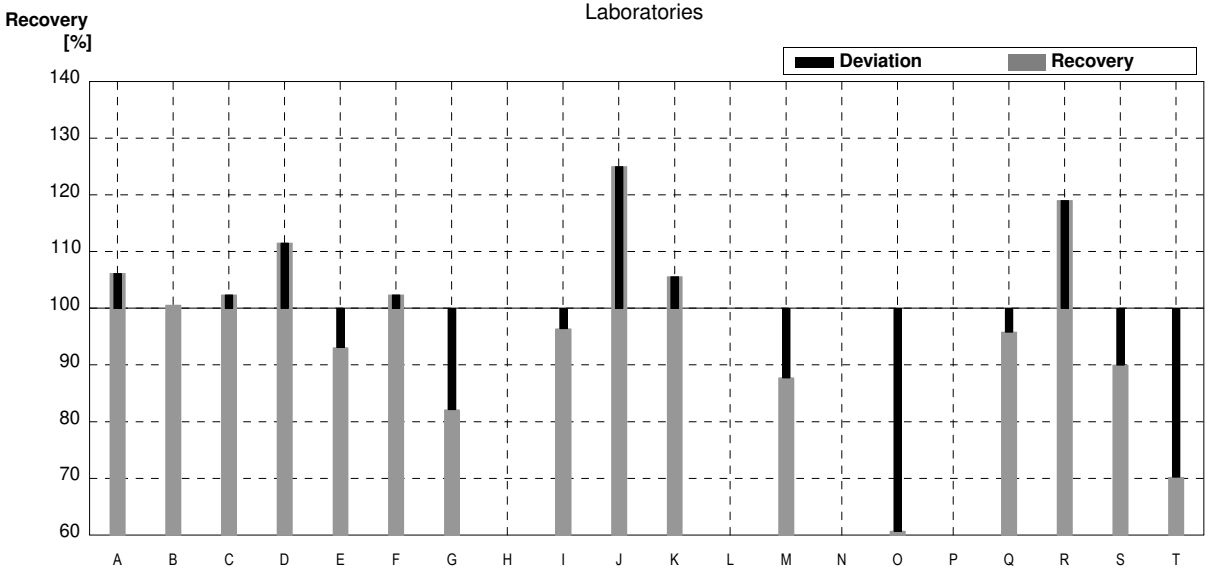
Sample C69B

Parameter cis-1,2-Dichloroethene

Target value	± U (k=2)	0,84 µg/l	±	0,05 µg/l
IFA result	± U (k=2)	0,83 µg/l	±	0,05 µg/l
Stability test	± U (k=2)	0,82 µg/l	±	0,05 µg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	0,892	0,16	µg/l	106%	0,44
B	0,845	0,25	µg/l	101%	0,04
C	0,86	0,081	µg/l	102%	0,17
D	0,937	0,1116	µg/l	112%	0,82
E	0,782	0,113	µg/l	93%	-0,49
F	0,860	0,172	µg/l	102%	0,17
G	0,690	0,159	µg/l	82%	-1,28
H			µg/l		
I	0,810	0,06	µg/l	96%	-0,26
J	1,05	0,27	µg/l	125%	1,79
K	0,887	0,065	µg/l	106%	0,40
L			µg/l		
M	0,737	0,125	µg/l	88%	-0,88
N			µg/l		
O	0,51	0,22	µg/l	61%	-2,81
P			µg/l		
Q	0,805	0,370	µg/l	96%	-0,30
R	1,00	0,15	µg/l	119%	1,36
S	0,756	0,2	µg/l	90%	-0,71
T	0,59	0,12	µg/l	70%	-2,13





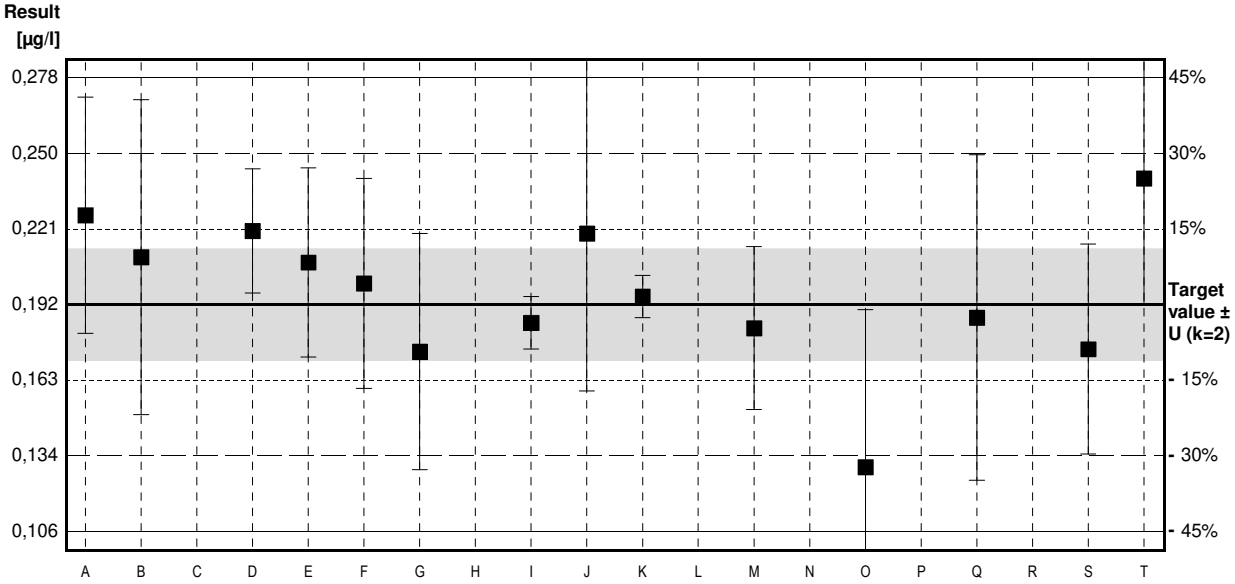
	All results	Outliers excl.	Unit
Mean ± CI(99%)	0,81 ± 0,10	0,81 ± 0,10	µg/l
Recov. ± CI(99%)	96,8 ± 12,2	96,8 ± 12,2	%
SD between labs	0,14	0,14	µg/l
RSD between labs	17,1	17,1	%
n for calculation	16	16	

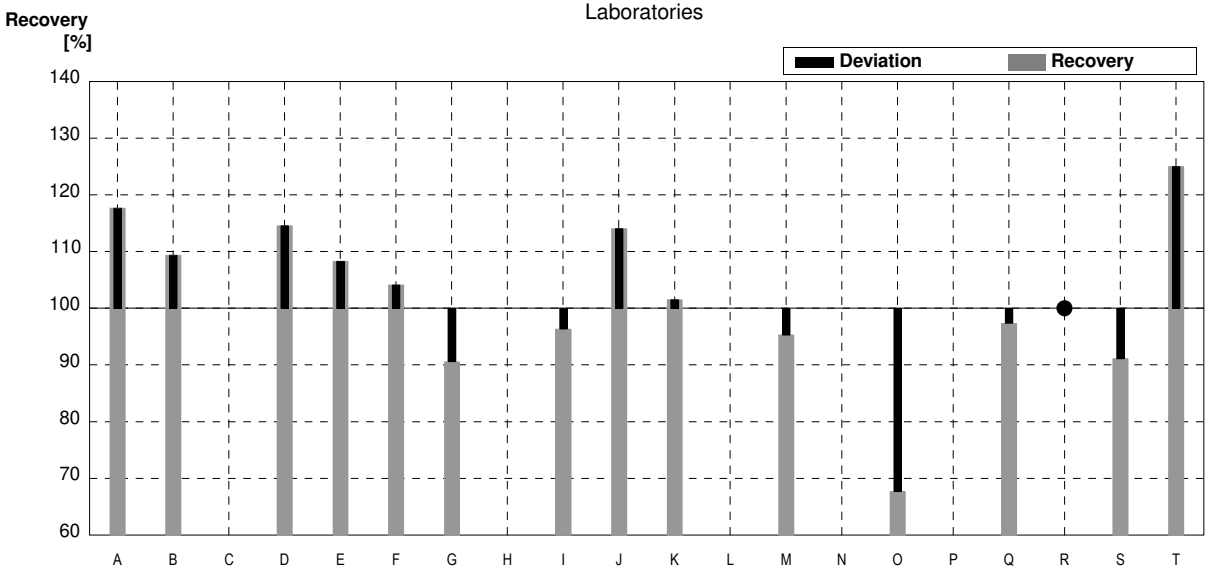
Sample C69A

Parameter trans-1,2-Dichloroethene

Target value	± U (k=2)	0,192	µg/l	±	0,021 µg/l
IFA result	± U (k=2)	0,188	µg/l	±	0,010 µg/l
Stability test	± U (k=2)	0,189	µg/l	±	0,010 µg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	0,226	0,045	µg/l	118%	1,18
B	0,210	0,06	µg/l	109%	0,63
C			µg/l		
D	0,220	0,0236	µg/l	115%	0,97
E	0,208	0,036	µg/l	108%	0,56
F	0,200	0,040	µg/l	104%	0,28
G	0,174	0,045	µg/l	91%	-0,63
H			µg/l		
I	0,185	0,01	µg/l	96%	-0,24
J	0,219	0,06	µg/l	114%	0,94
K	0,195	0,008	µg/l	102%	0,10
L			µg/l		
M	0,183	0,031	µg/l	95%	-0,31
N			µg/l		
O	0,130	0,06	µg/l	68%	-2,15
P			µg/l		
Q	0,187	0,062	µg/l	97%	-0,17
R	<0,5		µg/l	•	
S	0,175	0,04	µg/l	91%	-0,59
T	0,240	0,048	µg/l	125%	1,67





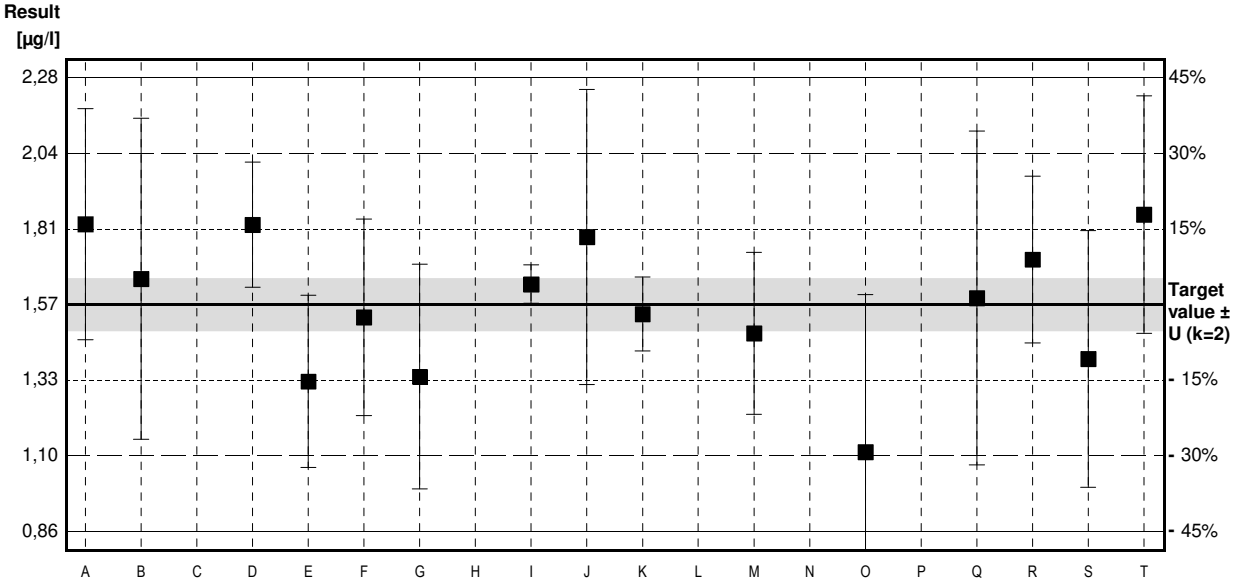
	All results	Outliers excl.	Unit
Mean ± CI(99%)	0,197 ± 0,022	0,197 ± 0,022	µg/l
Recov. ± CI(99%)	102,4 ± 11,6	102,4 ± 11,6	%
SD between labs	0,028	0,028	µg/l
RSD between labs	14,1	14,1	%
n for calculation	14	14	

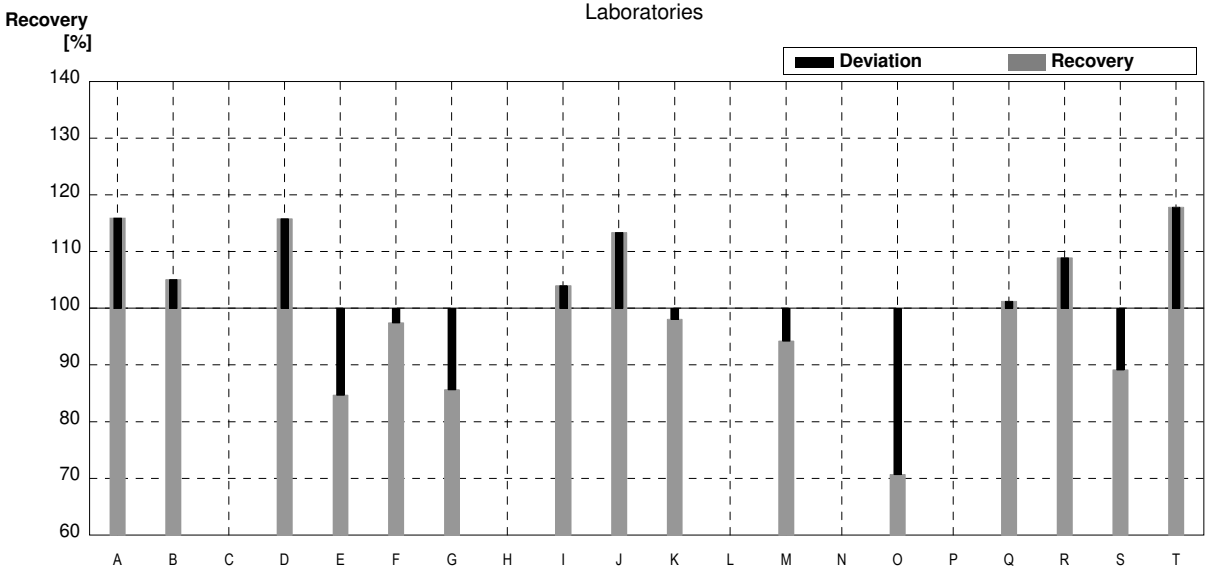
Sample C69B

Parameter trans-1,2-Dichloroethene

Target value ± U (k=2)	1,57	µg/l	±	0,08	µg/l
IFA result ± U (k=2)	1,45	µg/l	±	0,08	µg/l
Stability test ± U (k=2)	1,49	µg/l	±	0,08	µg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	1,82	0,36	µg/l	116%	1,06
B	1,65	0,50	µg/l	105%	0,34
C			µg/l		
D	1,818	0,1949	µg/l	116%	1,05
E	1,33	0,268	µg/l	85%	-1,02
F	1,530	0,306	µg/l	97%	-0,17
G	1,345	0,350	µg/l	86%	-0,96
H			µg/l		
I	1,633	0,06	µg/l	104%	0,27
J	1,78	0,46	µg/l	113%	0,89
K	1,54	0,115	µg/l	98%	-0,13
L			µg/l		
M	1,48	0,252	µg/l	94%	-0,38
N			µg/l		
O	1,11	0,49	µg/l	71%	-1,95
P			µg/l		
Q	1,59	0,52	µg/l	101%	0,08
R	1,71	0,26	µg/l	109%	0,59
S	1,40	0,4	µg/l	89%	-0,72
T	1,85	0,37	µg/l	118%	1,19





	All results	Outliers excl.	Unit
Mean ± CI(99%)	1,57 ± 0,16	1,57 ± 0,16	µg/l
Recov. ± CI(99%)	100,2 ± 10,4	100,2 ± 10,4	%
SD between labs	0,21	0,21	µg/l
RSD between labs	13,6	13,6	%
n for calculation	15	15	

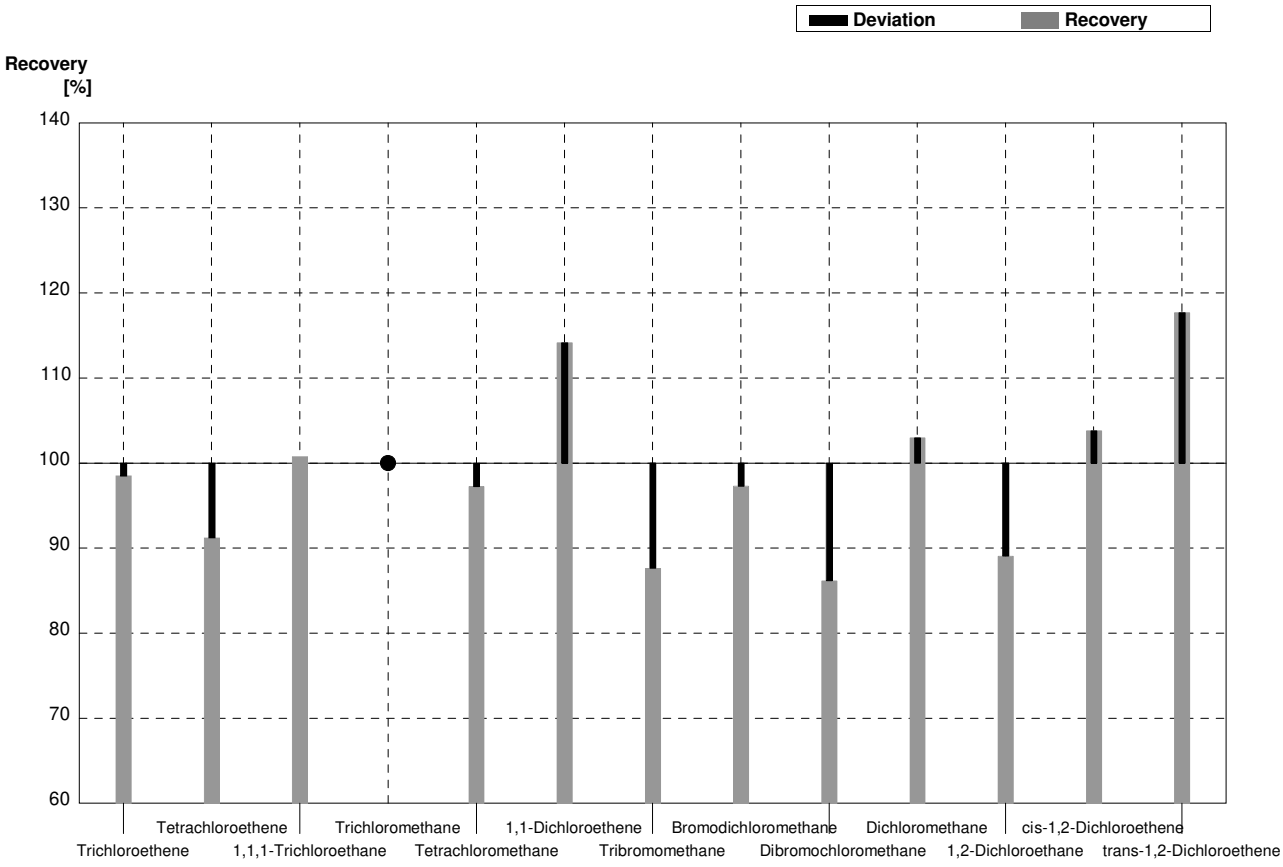
Illustration of Results
Laboratory Oriented Part

Round C69
Volatile Halogenated Hydrocarbons

Sample Dispatch: 12 June 2023

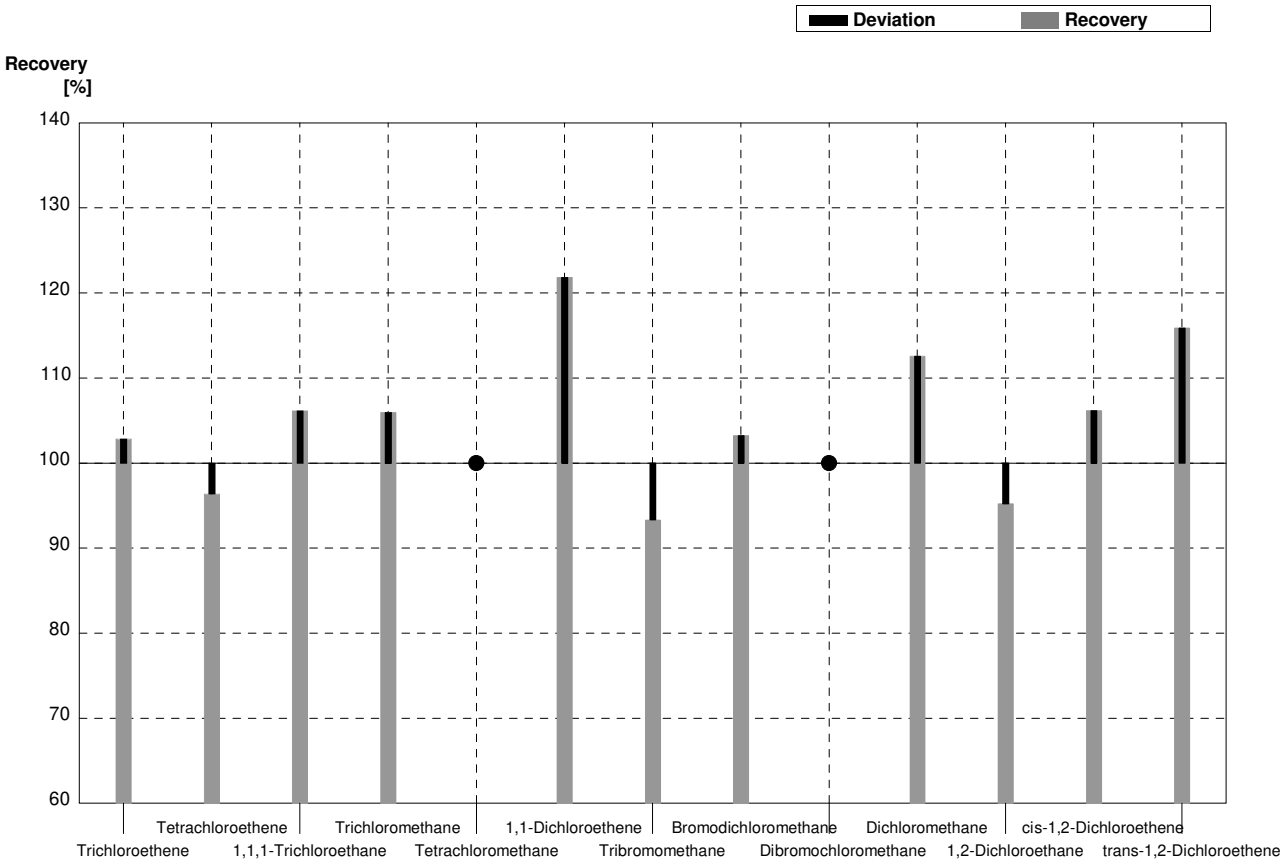
Sample C69A
Laboratory A

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	1,00	0,06	0,985	0,071	µg/l	99%
Tetrachloroethene	2,28	0,12	2,08	0,17	µg/l	91%
1,1,1-Trichloroethane	1,33	0,07	1,34	0,25	µg/l	101%
Trichloromethane	<0,1		<0,1		µg/l	•
Tetrachloromethane	1,10	0,06	1,07	0,27	µg/l	97%
1,1-Dichloroethene	0,268	0,045	0,306	0,060	µg/l	114%
Tribromomethane	1,78	0,10	1,56	0,39	µg/l	88%
Bromodichloromethane	0,52	0,05	0,506	0,13	µg/l	97%
Dibromochloromethane	0,84	0,07	0,724	0,18	µg/l	86%
Dichloromethane	1,67	0,12	1,72	0,43	µg/l	103%
1,2-Dichloroethane	0,97	0,14	0,864	0,21	µg/l	89%
cis-1,2-Dichloroethene	0,419	0,031	0,435	0,080	µg/l	104%
trans-1,2-Dichloroethene	0,192	0,021	0,226	0,045	µg/l	118%



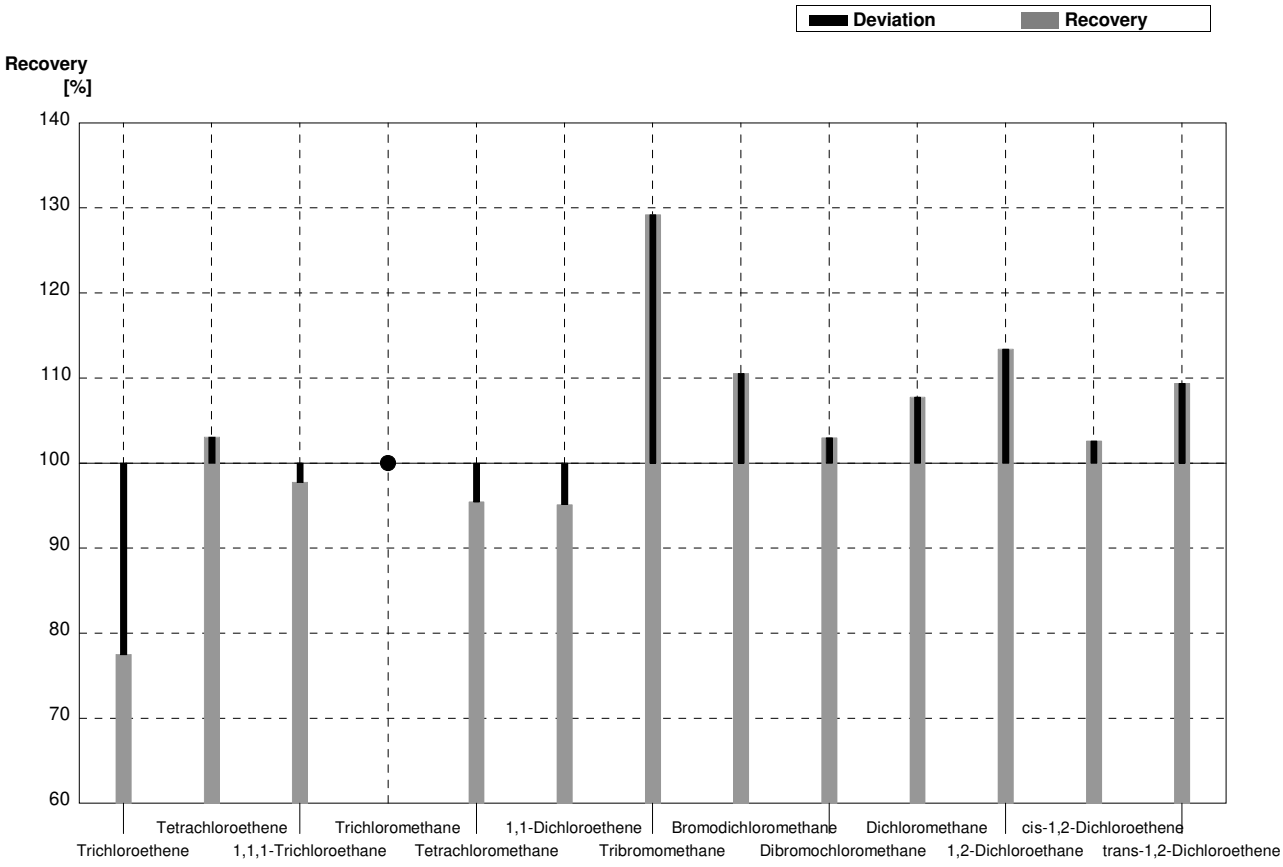
Sample C69B
Laboratory A

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	0,318	0,031	0,327	0,023	µg/l	103%
Tetrachloroethene	0,332	0,022	0,320	0,027	µg/l	96%
1,1,1-Trichloroethane	0,276	0,020	0,293	0,055	µg/l	106%
Trichloromethane	1,34	0,10	1,42	0,28	µg/l	106%
Tetrachloromethane	<0,1		<0,1		µg/l	•
1,1-Dichloroethene	1,19	0,07	1,45	0,28	µg/l	122%
Tribromomethane	0,75	0,07	0,700	0,18	µg/l	93%
Bromodichloromethane	0,95	0,06	0,981	0,25	µg/l	103%
Dibromochloromethane	<0,1		<0,1		µg/l	•
Dichloromethane	2,70	0,16	3,04	0,76	µg/l	113%
1,2-Dichloroethane	1,47	0,15	1,40	0,34	µg/l	95%
cis-1,2-Dichloroethene	0,84	0,05	0,892	0,16	µg/l	106%
trans-1,2-Dichloroethene	1,57	0,08	1,82	0,36	µg/l	116%



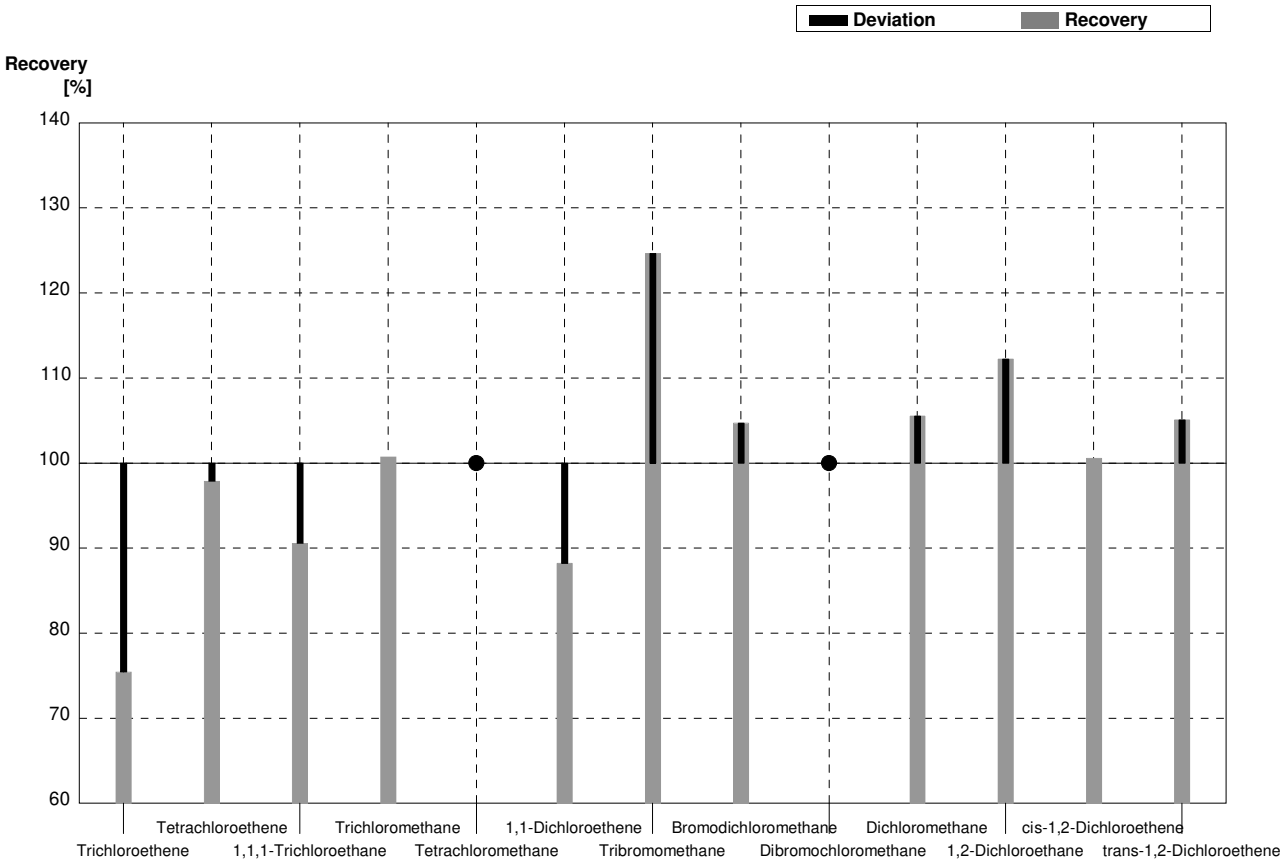
Sample C69A
Laboratory B

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	1,00	0,06	0,775	0,23	µg/l	78%
Tetrachloroethene	2,28	0,12	2,35	0,71	µg/l	103%
1,1,1-Trichloroethane	1,33	0,07	1,30	0,39	µg/l	98%
Trichloromethane	<0,1		<0,1		µg/l	•
Tetrachloromethane	1,10	0,06	1,05	0,32	µg/l	95%
1,1-Dichloroethene	0,268	0,045	0,255	0,077	µg/l	95%
Tribromomethane	1,78	0,10	2,30	0,69	µg/l	129%
Bromodichloromethane	0,52	0,05	0,575	0,17	µg/l	111%
Dibromochloromethane	0,84	0,07	0,865	0,26	µg/l	103%
Dichloromethane	1,67	0,12	1,80	0,54	µg/l	108%
1,2-Dichloroethane	0,97	0,14	1,10	0,33	µg/l	113%
cis-1,2-Dichloroethene	0,419	0,031	0,430	0,13	µg/l	103%
trans-1,2-Dichloroethene	0,192	0,021	0,210	0,06	µg/l	109%



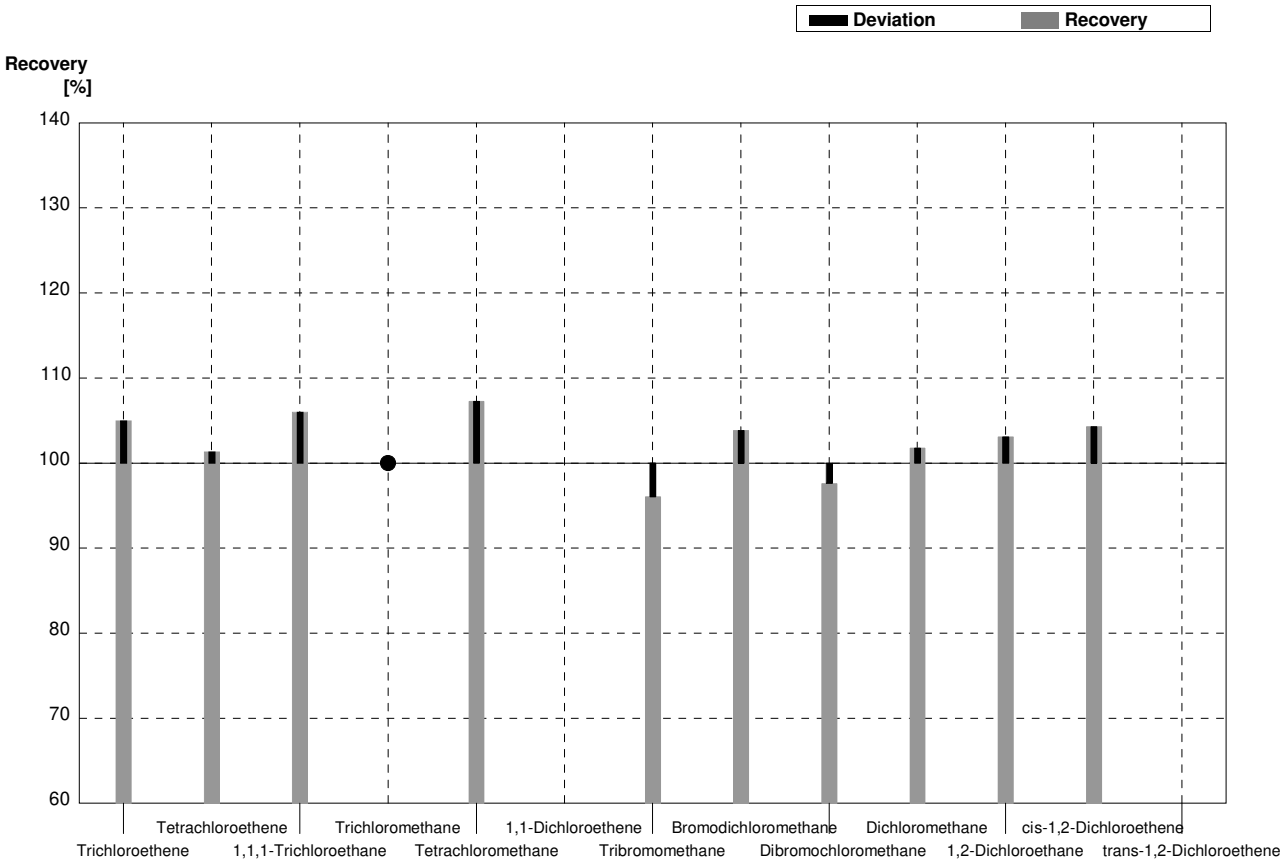
Sample C69B
Laboratory B

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	0,318	0,031	0,240	0,07	µg/l	75%
Tetrachloroethene	0,332	0,022	0,325	0,10	µg/l	98%
1,1,1-Trichloroethane	0,276	0,020	0,250	0,08	µg/l	91%
Trichloromethane	1,34	0,10	1,35	0,41	µg/l	101%
Tetrachloromethane	<0,1		<0,1		µg/l	•
1,1-Dichloroethene	1,19	0,07	1,05	0,32	µg/l	88%
Tribromomethane	0,75	0,07	0,935	0,28	µg/l	125%
Bromodichloromethane	0,95	0,06	0,995	0,30	µg/l	105%
Dibromochloromethane	<0,1		<0,1		µg/l	•
Dichloromethane	2,70	0,16	2,85	0,86	µg/l	106%
1,2-Dichloroethane	1,47	0,15	1,65	0,50	µg/l	112%
cis-1,2-Dichloroethene	0,84	0,05	0,845	0,25	µg/l	101%
trans-1,2-Dichloroethene	1,57	0,08	1,65	0,50	µg/l	105%



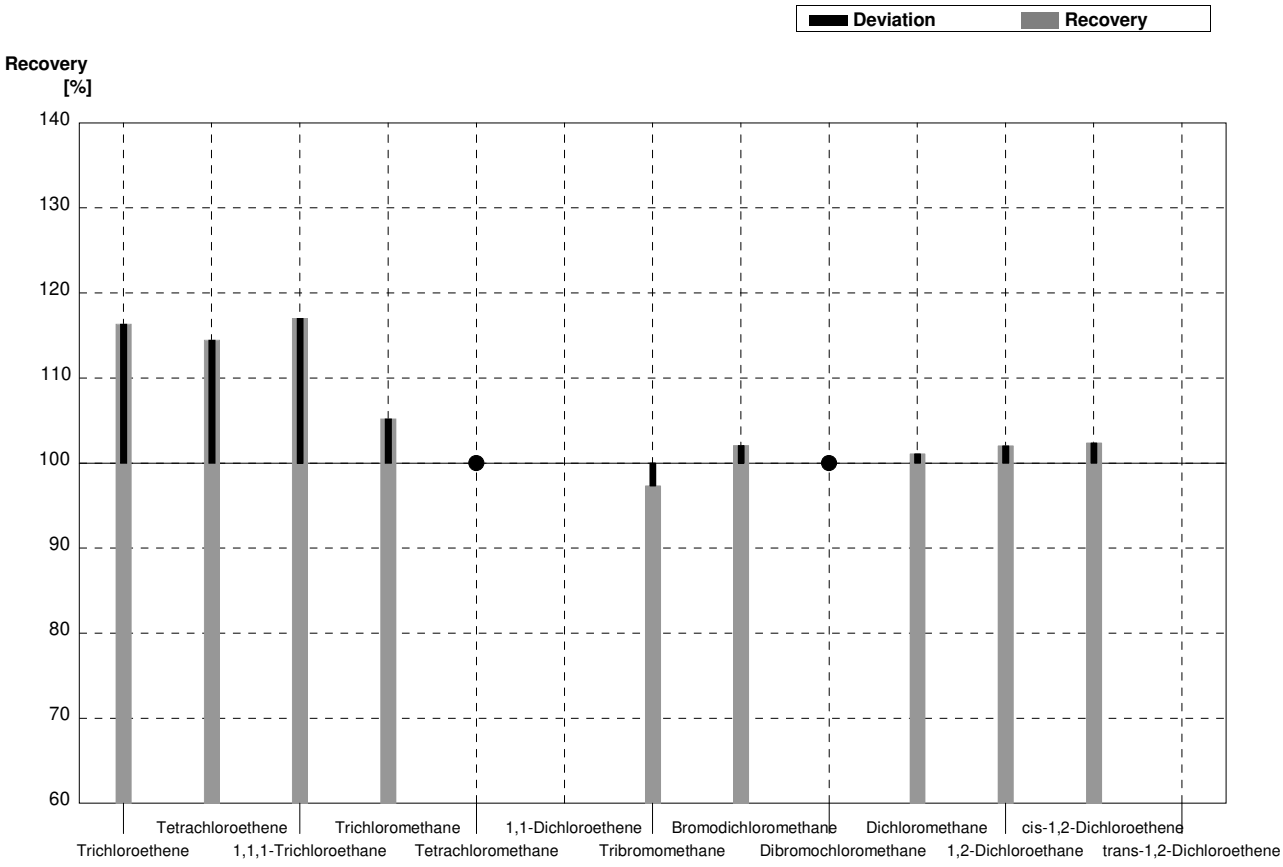
Sample C69A
Laboratory C

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	1,00	0,06	1,05	0,12	µg/l	105%
Tetrachloroethene	2,28	0,12	2,31	0,37	µg/l	101%
1,1,1-Trichloroethane	1,33	0,07	1,41	0,18	µg/l	106%
Trichloromethane	<0,1		<0,100		µg/l	•
Tetrachloromethane	1,10	0,06	1,18	0,15	µg/l	107%
1,1-Dichloroethene	0,268	0,045			µg/l	
Tribromomethane	1,78	0,10	1,71	0,17	µg/l	96%
Bromodichloromethane	0,52	0,05	0,54	0,07	µg/l	104%
Dibromochloromethane	0,84	0,07	0,82	0,15	µg/l	98%
Dichloromethane	1,67	0,12	1,70	0,27	µg/l	102%
1,2-Dichloroethane	0,97	0,14	1,00	0,11	µg/l	103%
cis-1,2-Dichloroethene	0,419	0,031	0,437	0,041	µg/l	104%
trans-1,2-Dichloroethene	0,192	0,021			µg/l	



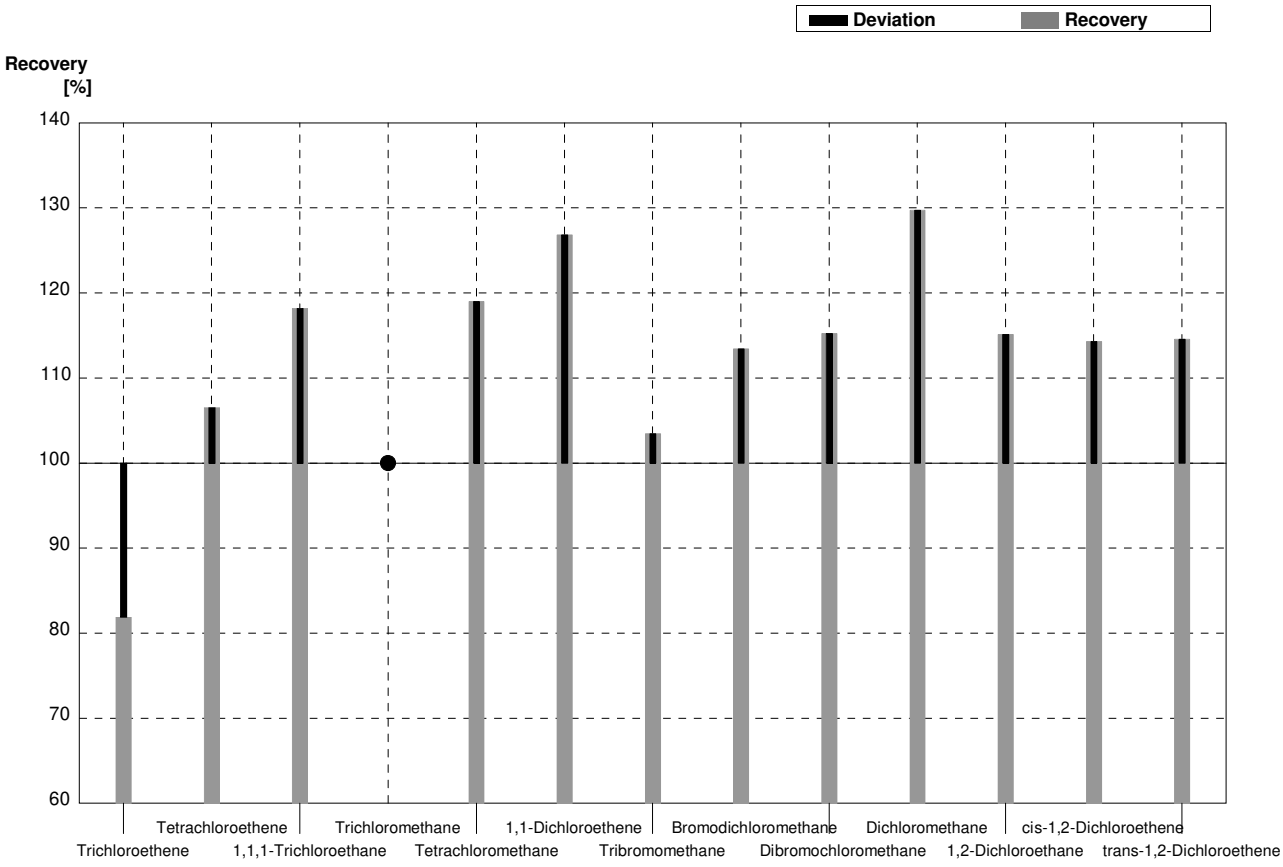
Sample C69B
Laboratory C

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	0,318	0,031	0,370	0,042	µg/l	116%
Tetrachloroethene	0,332	0,022	0,380	0,060	µg/l	114%
1,1,1-Trichloroethane	0,276	0,020	0,323	0,042	µg/l	117%
Trichloromethane	1,34	0,10	1,41	0,20	µg/l	105%
Tetrachloromethane	<0,1		<0,100		µg/l	•
1,1-Dichloroethene	1,19	0,07			µg/l	
Tribromomethane	0,75	0,07	0,73	0,07	µg/l	97%
Bromodichloromethane	0,95	0,06	0,97	0,13	µg/l	102%
Dibromochloromethane	<0,1		<0,100		µg/l	•
Dichloromethane	2,70	0,16	2,73	0,43	µg/l	101%
1,2-Dichloroethane	1,47	0,15	1,50	0,16	µg/l	102%
cis-1,2-Dichloroethene	0,84	0,05	0,86	0,081	µg/l	102%
trans-1,2-Dichloroethene	1,57	0,08			µg/l	



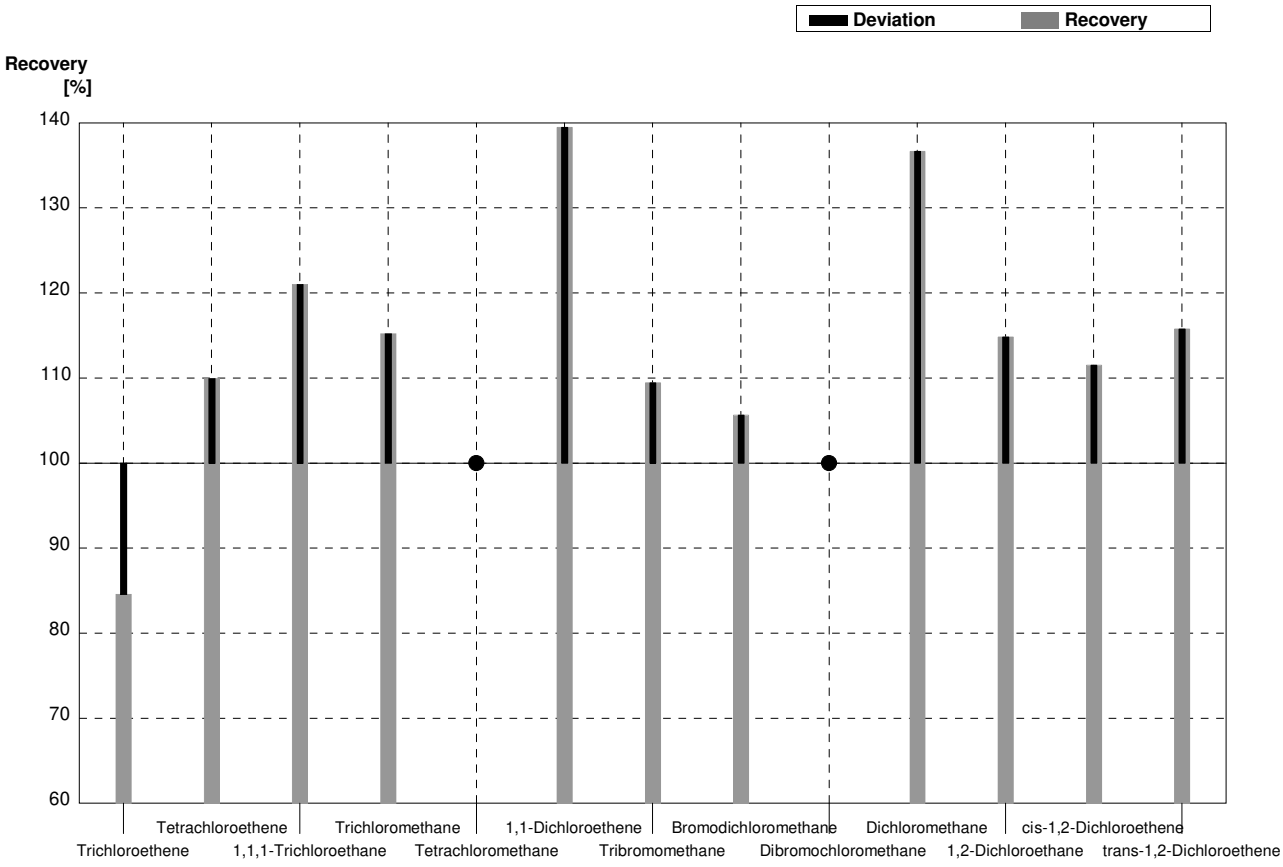
Sample C69A
Laboratory D

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	1,00	0,06	0,819	0,0910	µg/l	82%
Tetrachloroethene	2,28	0,12	2,429	0,3107	µg/l	107%
1,1,1-Trichloroethane	1,33	0,07	1,572	0,1839	µg/l	118%
Trichloromethane	<0,1		<0,05		µg/l	•
Tetrachloromethane	1,10	0,06	1,309	0,1684	µg/l	119%
1,1-Dichloroethene	0,268	0,045	0,340	0,0501	µg/l	127%
Tribromomethane	1,78	0,10	1,842	0,1890	µg/l	103%
Bromodichloromethane	0,52	0,05	0,590	0,0668	µg/l	113%
Dibromochloromethane	0,84	0,07	0,968	0,1026	µg/l	115%
Dichloromethane	1,67	0,12	2,167	0,2628	µg/l	130%
1,2-Dichloroethane	0,97	0,14	1,117	0,1255	µg/l	115%
cis-1,2-Dichloroethene	0,419	0,031	0,479	0,0571	µg/l	114%
trans-1,2-Dichloroethene	0,192	0,021	0,220	0,0236	µg/l	115%



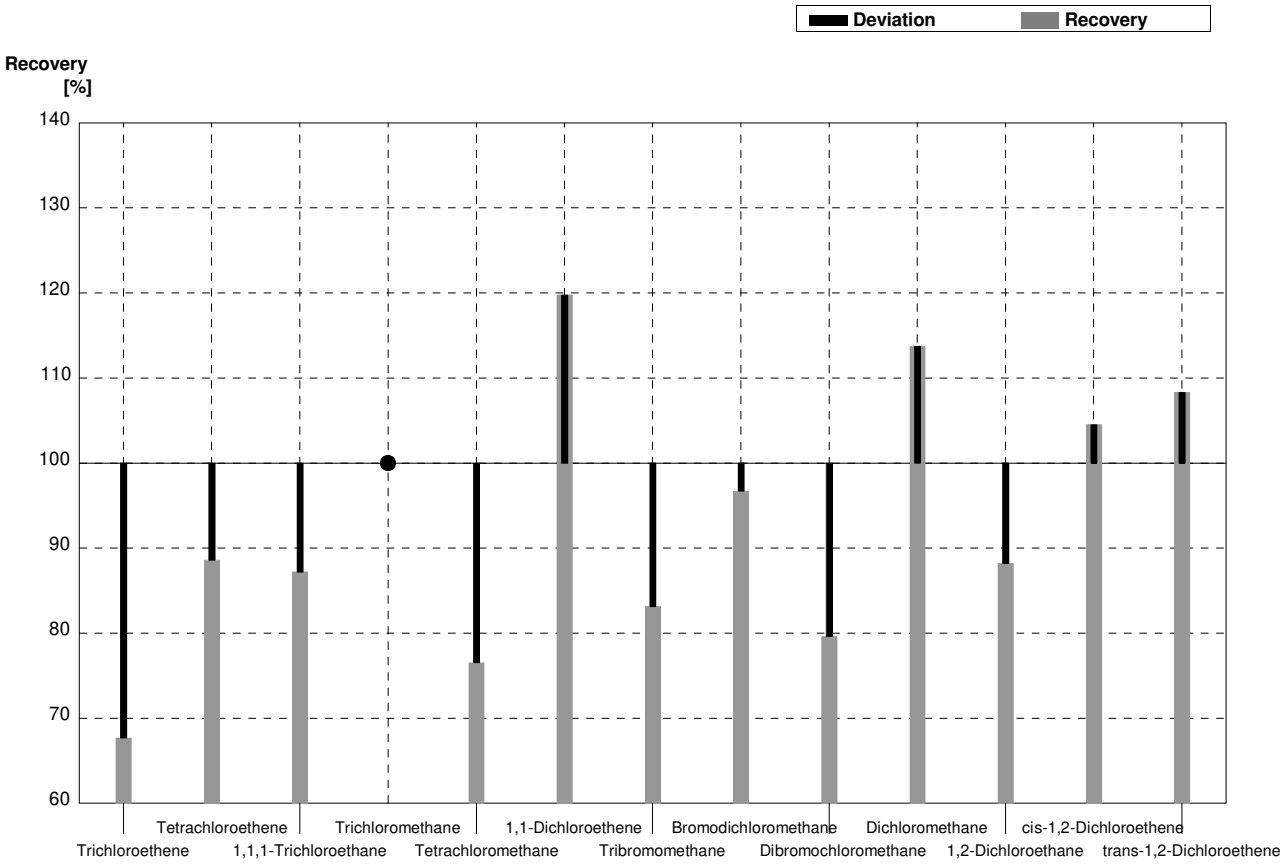
Sample C69B
Laboratory D

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	0,318	0,031	0,269	0,0299	µg/l	85%
Tetrachloroethene	0,332	0,022	0,365	0,0466	µg/l	110%
1,1,1-Trichloroethane	0,276	0,020	0,334	0,0391	µg/l	121%
Trichloromethane	1,34	0,10	1,544	0,1653	µg/l	115%
Tetrachloromethane	<0,1		<0,05		µg/l	•
1,1-Dichloroethene	1,19	0,07	1,660	0,2444	µg/l	139%
Tribromomethane	0,75	0,07	0,821	0,0843	µg/l	109%
Bromodichloromethane	0,95	0,06	1,004	0,1135	µg/l	106%
Dibromochloromethane	<0,1		<0,05		µg/l	•
Dichloromethane	2,70	0,16	3,690	0,4476	µg/l	137%
1,2-Dichloroethane	1,47	0,15	1,688	0,1895	µg/l	115%
cis-1,2-Dichloroethene	0,84	0,05	0,937	0,1116	µg/l	112%
trans-1,2-Dichloroethene	1,57	0,08	1,818	0,1949	µg/l	116%



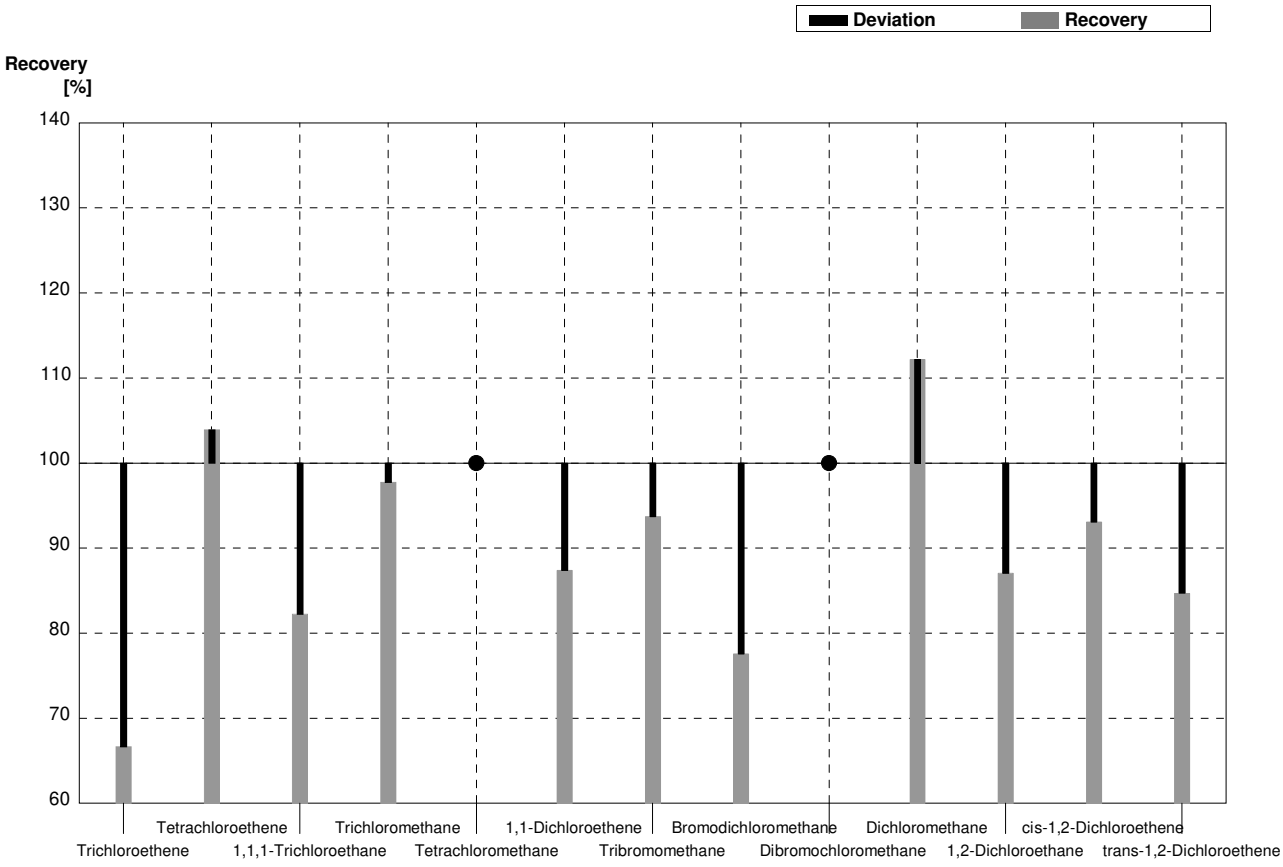
Sample C69A
Laboratory E

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	1,00	0,06	0,677	0,136	µg/l	68%
Tetrachloroethene	2,28	0,12	2,02	0,444	µg/l	89%
1,1,1-Trichloroethane	1,33	0,07	1,16	0,355	µg/l	87%
Trichloromethane	<0,1		<0,25		µg/l	•
Tetrachloromethane	1,10	0,06	0,842	0,276	µg/l	77%
1,1-Dichloroethene	0,268	0,045	0,321	0,102	µg/l	120%
Tribromomethane	1,78	0,10	1,48	0,338	µg/l	83%
Bromodichloromethane	0,52	0,05	0,503	0,219	µg/l	97%
Dibromochloromethane	0,84	0,07	0,669	0,172	µg/l	80%
Dichloromethane	1,67	0,12	1,90	0,251	µg/l	114%
1,2-Dichloroethane	0,97	0,14	0,856	0,146	µg/l	88%
cis-1,2-Dichloroethene	0,419	0,031	0,438	0,114	µg/l	105%
trans-1,2-Dichloroethene	0,192	0,021	0,208	0,036	µg/l	108%



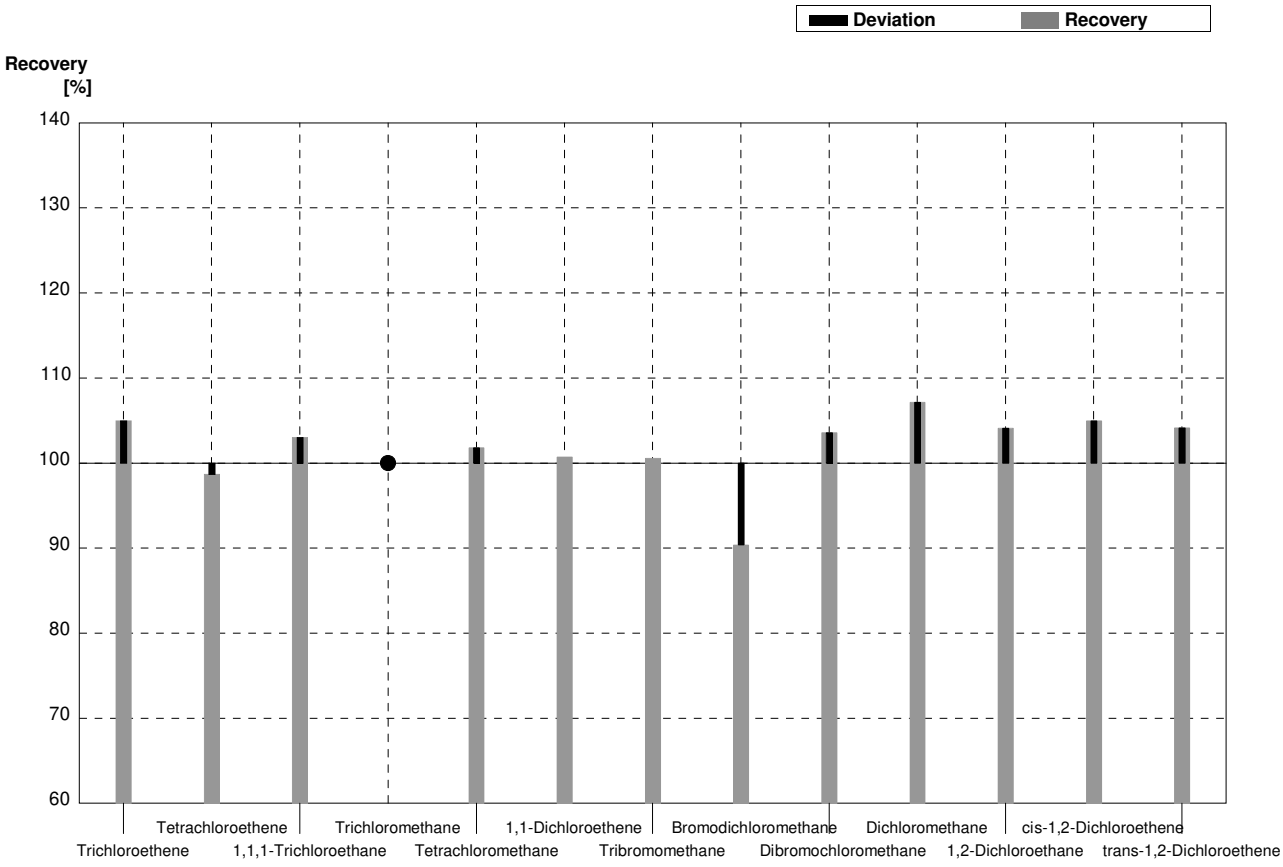
Sample C69B
Laboratory E

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	0,318	0,031	0,212	0,063	µg/l	67%
Tetrachloroethene	0,332	0,022	0,345	0,109	µg/l	104%
1,1,1-Trichloroethane	0,276	0,020	0,227	0,041	µg/l	82%
Trichloromethane	1,34	0,10	1,31	0,345	µg/l	98%
Tetrachloromethane	<0,1		<0,15		µg/l	•
1,1-Dichloroethene	1,19	0,07	1,04	0,208	µg/l	87%
Tribromomethane	0,75	0,07	0,703	0,225	µg/l	94%
Bromodichloromethane	0,95	0,06	0,737	0,217	µg/l	78%
Dibromochloromethane	<0,1		<0,2		µg/l	•
Dichloromethane	2,70	0,16	3,03	0,246	µg/l	112%
1,2-Dichloroethane	1,47	0,15	1,28	0,284	µg/l	87%
cis-1,2-Dichloroethene	0,84	0,05	0,782	0,113	µg/l	93%
trans-1,2-Dichloroethene	1,57	0,08	1,33	0,268	µg/l	85%



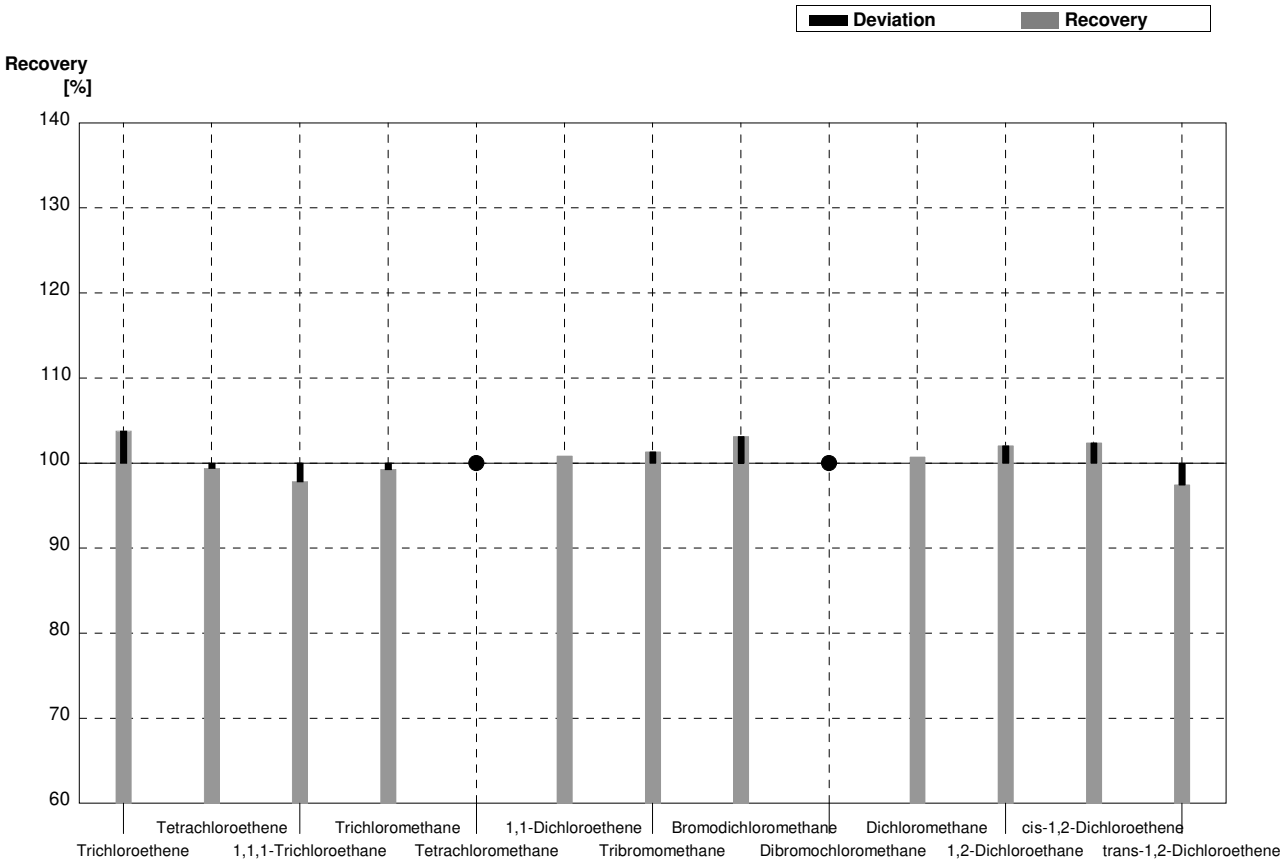
Sample C69A
Laboratory F

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	1,00	0,06	1,050	0,210	µg/l	105%
Tetrachloroethene	2,28	0,12	2,250	0,450	µg/l	99%
1,1,1-Trichloroethane	1,33	0,07	1,370	0,274	µg/l	103%
Trichloromethane	<0,1		<0,030		µg/l	•
Tetrachloromethane	1,10	0,06	1,120	0,224	µg/l	102%
1,1-Dichloroethene	0,268	0,045	0,270	0,054	µg/l	101%
Tribromomethane	1,78	0,10	1,790	0,358	µg/l	101%
Bromodichloromethane	0,52	0,05	0,470	0,094	µg/l	90%
Dibromochloromethane	0,84	0,07	0,870	0,174	µg/l	104%
Dichloromethane	1,67	0,12	1,790	0,358	µg/l	107%
1,2-Dichloroethane	0,97	0,14	1,010	0,202	µg/l	104%
cis-1,2-Dichloroethene	0,419	0,031	0,440	0,088	µg/l	105%
trans-1,2-Dichloroethene	0,192	0,021	0,200	0,040	µg/l	104%



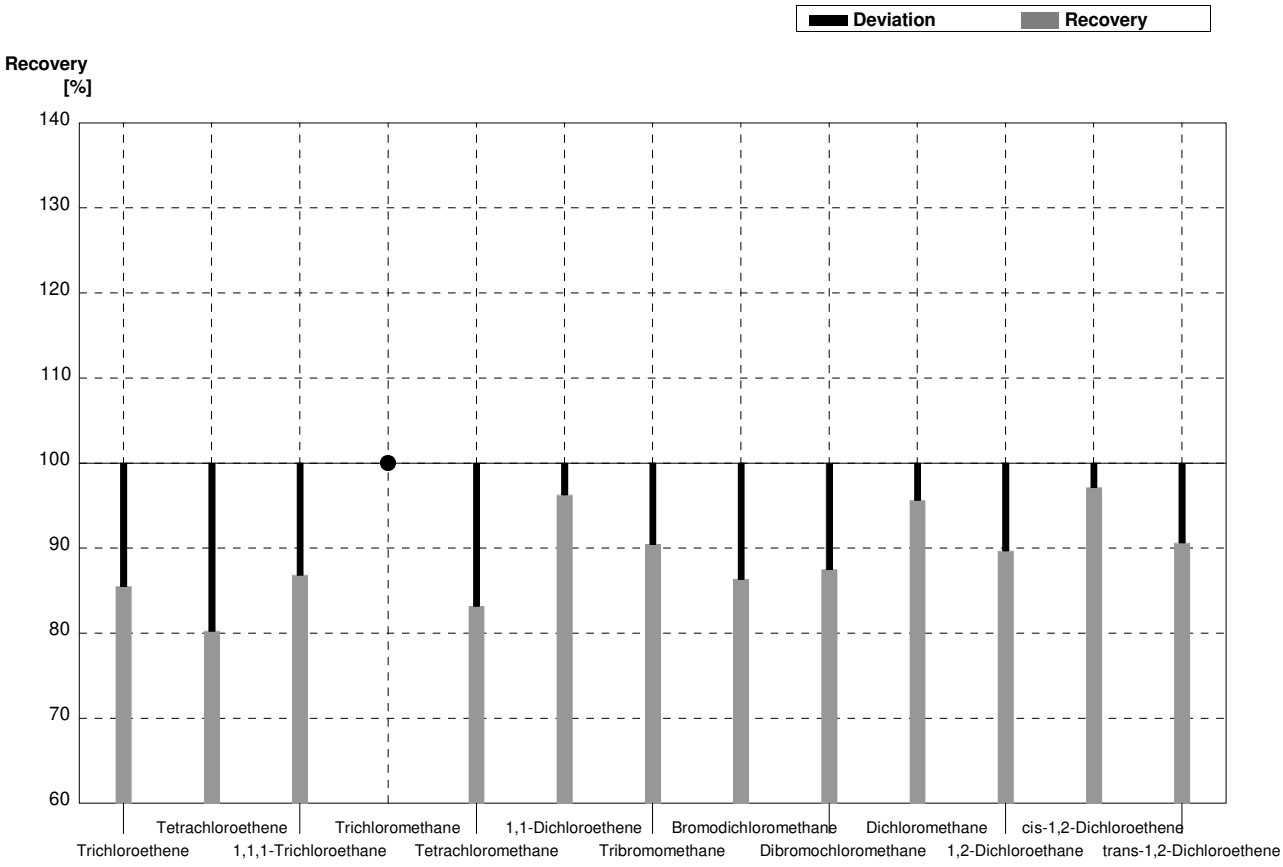
Sample C69B
Laboratory F

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	0,318	0,031	0,330	0,066	µg/l	104%
Tetrachloroethene	0,332	0,022	0,330	0,066	µg/l	99%
1,1,1-Trichloroethane	0,276	0,020	0,270	0,054	µg/l	98%
Trichloromethane	1,34	0,10	1,330	0,266	µg/l	99%
Tetrachloromethane	<0,1		<0,090		µg/l	•
1,1-Dichloroethene	1,19	0,07	1,200	0,240	µg/l	101%
Tribromomethane	0,75	0,07	0,760	0,152	µg/l	101%
Bromodichloromethane	0,95	0,06	0,980	0,196	µg/l	103%
Dibromochloromethane	<0,1		<0,040		µg/l	•
Dichloromethane	2,70	0,16	2,720	0,544	µg/l	101%
1,2-Dichloroethane	1,47	0,15	1,500	0,300	µg/l	102%
cis-1,2-Dichloroethene	0,84	0,05	0,860	0,172	µg/l	102%
trans-1,2-Dichloroethene	1,57	0,08	1,530	0,306	µg/l	97%



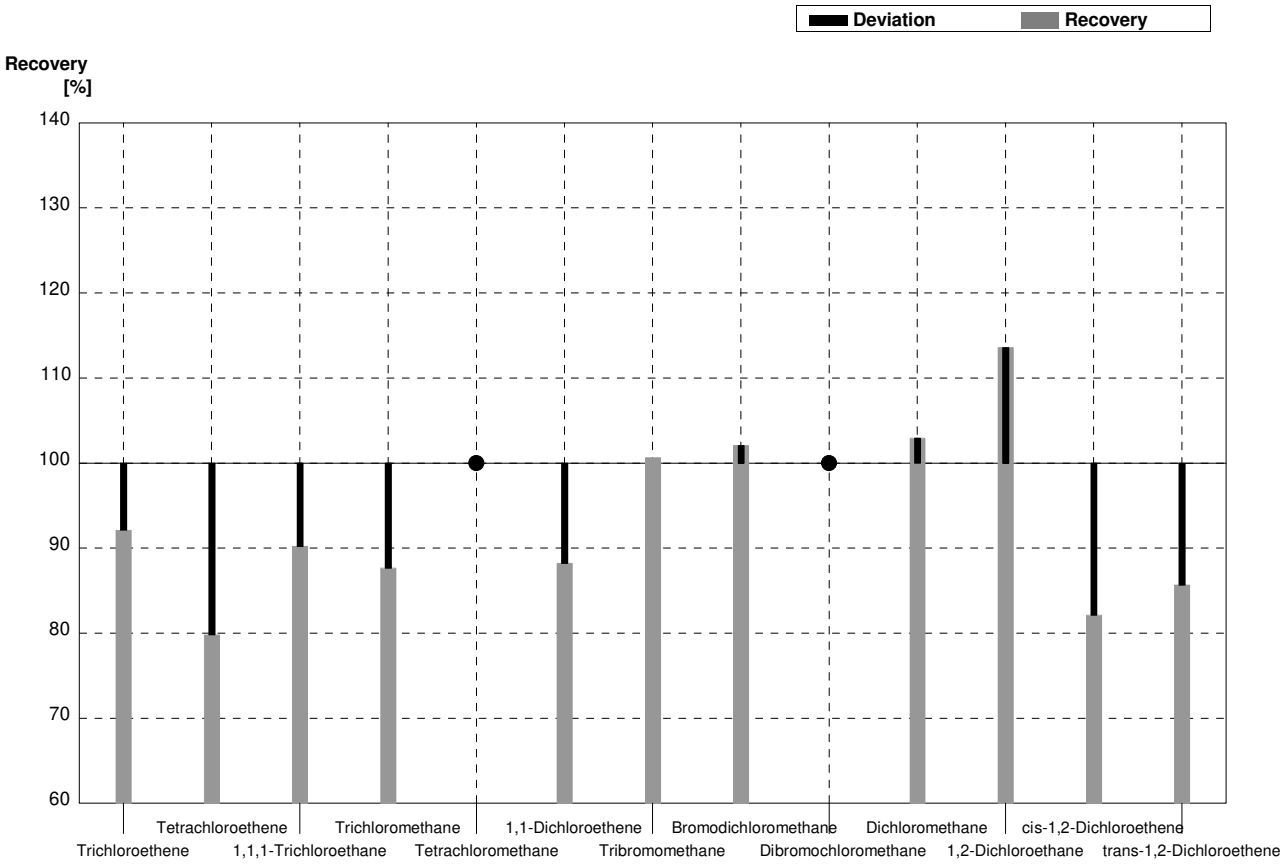
Sample C69A
Laboratory G

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	1,00	0,06	0,855	0,282	µg/l	86%
Tetrachloroethene	2,28	0,12	1,830	0,604	µg/l	80%
1,1,1-Trichloroethane	1,33	0,07	1,155	0,254	µg/l	87%
Trichloromethane	<0,1		<0,05	0,014	µg/l	•
Tetrachloromethane	1,10	0,06	0,915	0,174	µg/l	83%
1,1-Dichloroethene	0,268	0,045	0,258	0,041	µg/l	96%
Tribromomethane	1,78	0,10	1,610	0,483	µg/l	90%
Bromodichloromethane	0,52	0,05	0,449	0,112	µg/l	86%
Dibromochloromethane	0,84	0,07	0,735	0,191	µg/l	88%
Dichloromethane	1,67	0,12	1,597	0,463	µg/l	96%
1,2-Dichloroethane	0,97	0,14	0,870	0,296	µg/l	90%
cis-1,2-Dichloroethene	0,419	0,031	0,407	0,094	µg/l	97%
trans-1,2-Dichloroethene	0,192	0,021	0,174	0,045	µg/l	91%



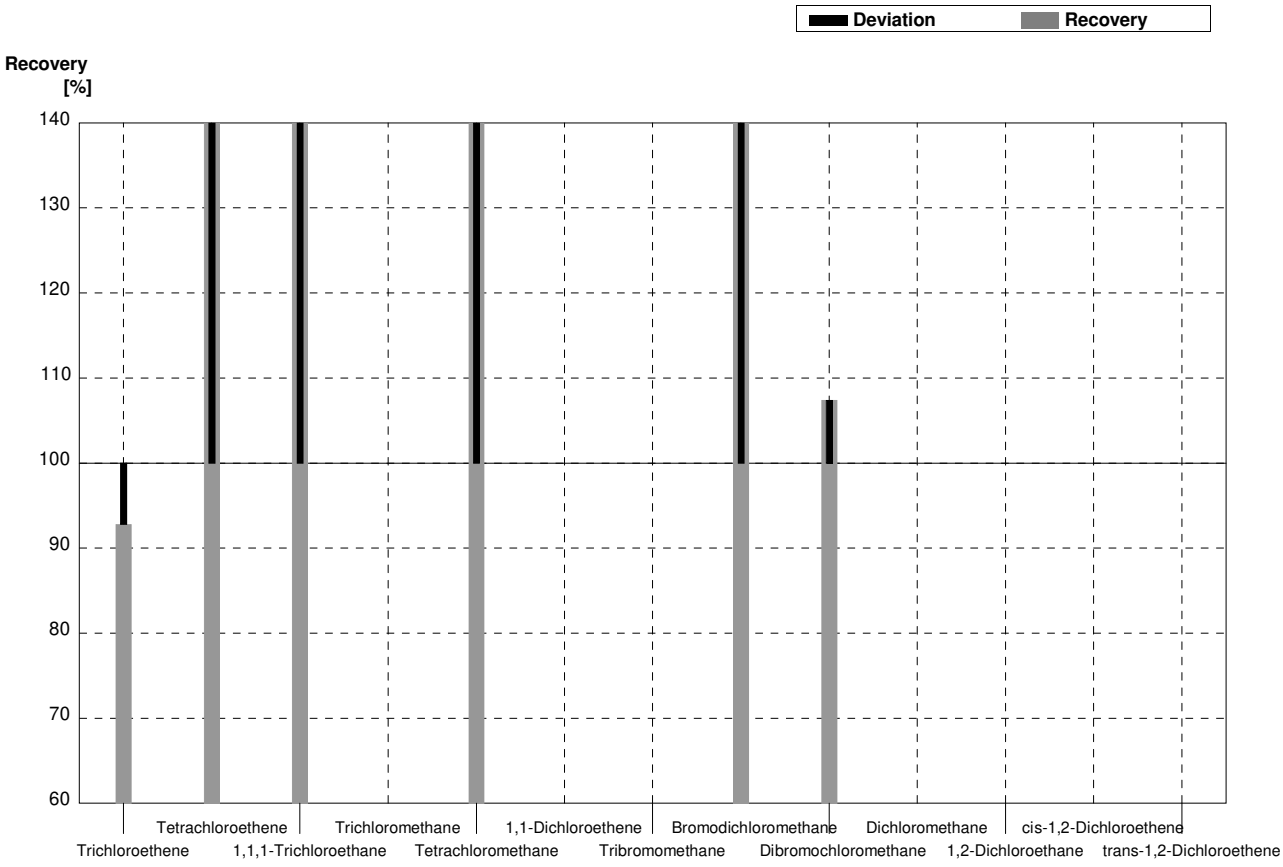
Sample C69B
Laboratory G

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	0,318	0,031	0,293	0,097	µg/l	92%
Tetrachloroethene	0,332	0,022	0,265	0,087	µg/l	80%
1,1,1-Trichloroethane	0,276	0,020	0,249	0,055	µg/l	90%
Trichloromethane	1,34	0,10	1,175	0,317	µg/l	88%
Tetrachloromethane	<0,1		<0,05	0,010	µg/l	•
1,1-Dichloroethene	1,19	0,07	1,050	0,168	µg/l	88%
Tribromomethane	0,75	0,07	0,755	0,227	µg/l	101%
Bromodichloromethane	0,95	0,06	0,970	0,243	µg/l	102%
Dibromochloromethane	<0,1		<0,05	0,013	µg/l	•
Dichloromethane	2,70	0,16	2,780	0,806	µg/l	103%
1,2-Dichloroethane	1,47	0,15	1,670	0,568	µg/l	114%
cis-1,2-Dichloroethene	0,84	0,05	0,690	0,159	µg/l	82%
trans-1,2-Dichloroethene	1,57	0,08	1,345	0,350	µg/l	86%



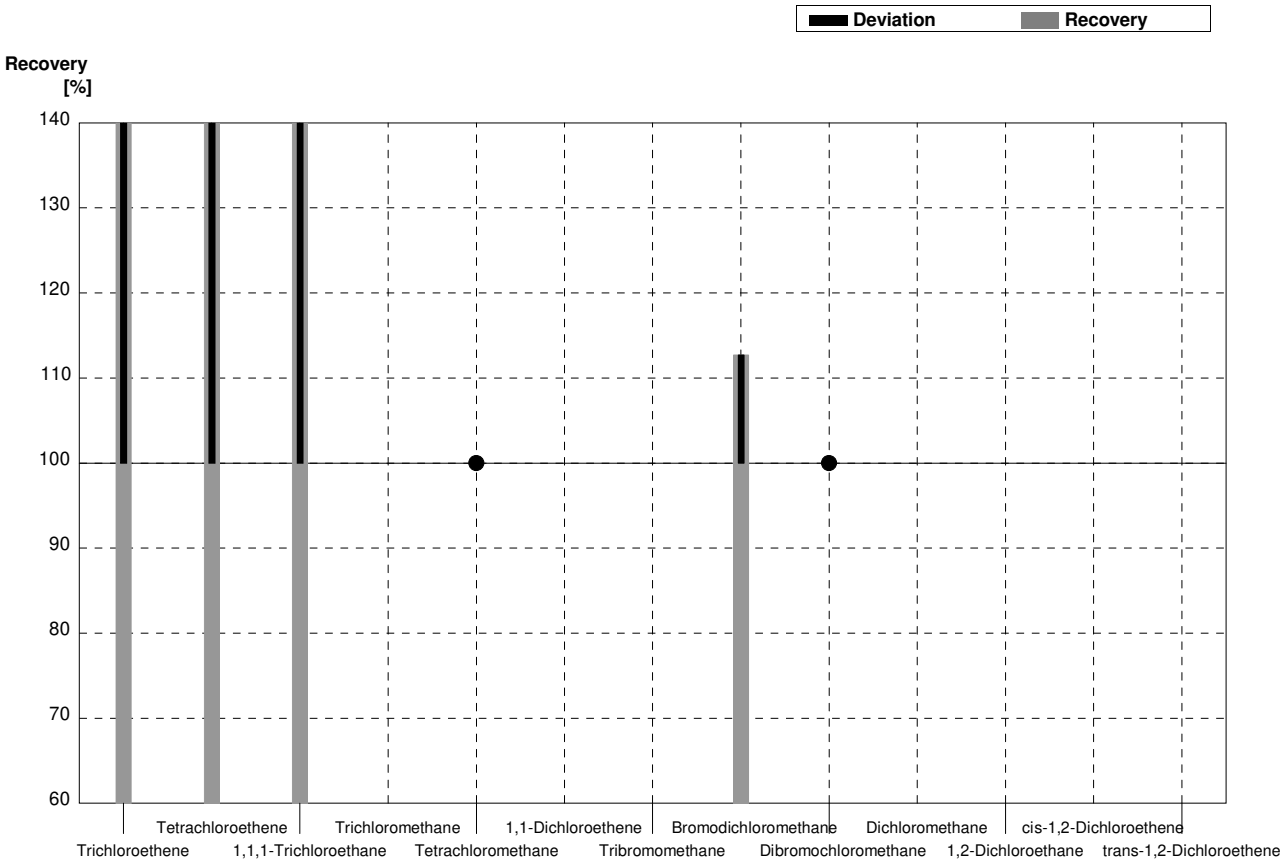
Sample C69A
Laboratory H

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	1,00	0,06	0,928		µg/l	93%
Tetrachloroethene	2,28	0,12	3,59		µg/l	157%
1,1,1-Trichloroethane	1,33	0,07	1,96		µg/l	147%
Trichloromethane	<0,1				µg/l	
Tetrachloromethane	1,10	0,06	1,82		µg/l	165%
1,1-Dichloroethene	0,268	0,045			µg/l	
Tribromomethane	1,78	0,10			µg/l	
Bromodichloromethane	0,52	0,05	5,11		µg/l	983%
Dibromochloromethane	0,84	0,07	0,902		µg/l	107%
Dichloromethane	1,67	0,12			µg/l	
1,2-Dichloroethane	0,97	0,14			µg/l	
cis-1,2-Dichloroethene	0,419	0,031			µg/l	
trans-1,2-Dichloroethene	0,192	0,021			µg/l	



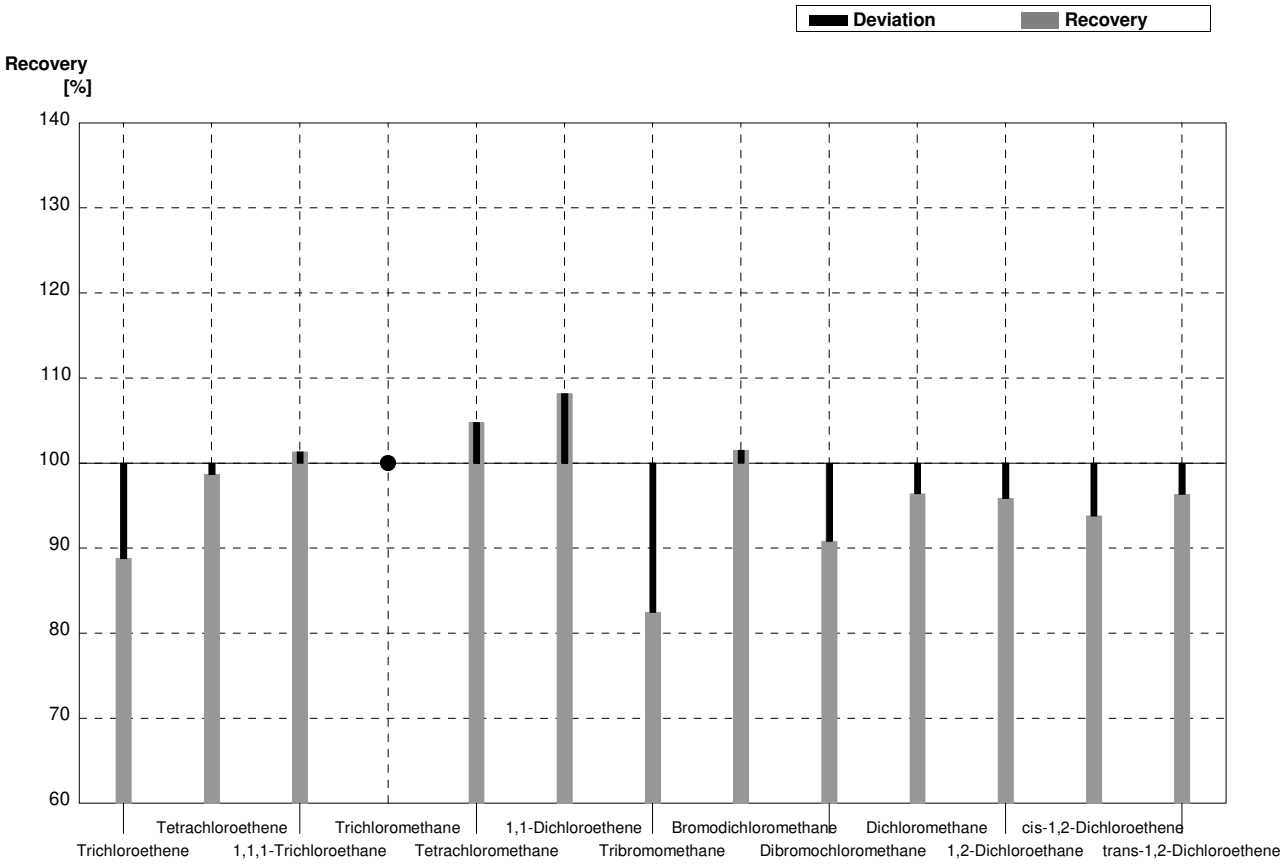
Sample C69B
Laboratory H

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	0,318	0,031	0,449		µg/l	141%
Tetrachloroethene	0,332	0,022	0,489		µg/l	147%
1,1,1-Trichloroethane	0,276	0,020	0,486		µg/l	176%
Trichloromethane	1,34	0,10			µg/l	
Tetrachloromethane	<0,1		<0,2		µg/l	•
1,1-Dichloroethene	1,19	0,07			µg/l	
Tribromomethane	0,75	0,07			µg/l	
Bromodichloromethane	0,95	0,06	1,071		µg/l	113%
Dibromochloromethane	<0,1		<0,2		µg/l	•
Dichloromethane	2,70	0,16			µg/l	
1,2-Dichloroethane	1,47	0,15			µg/l	
cis-1,2-Dichloroethene	0,84	0,05			µg/l	
trans-1,2-Dichloroethene	1,57	0,08			µg/l	



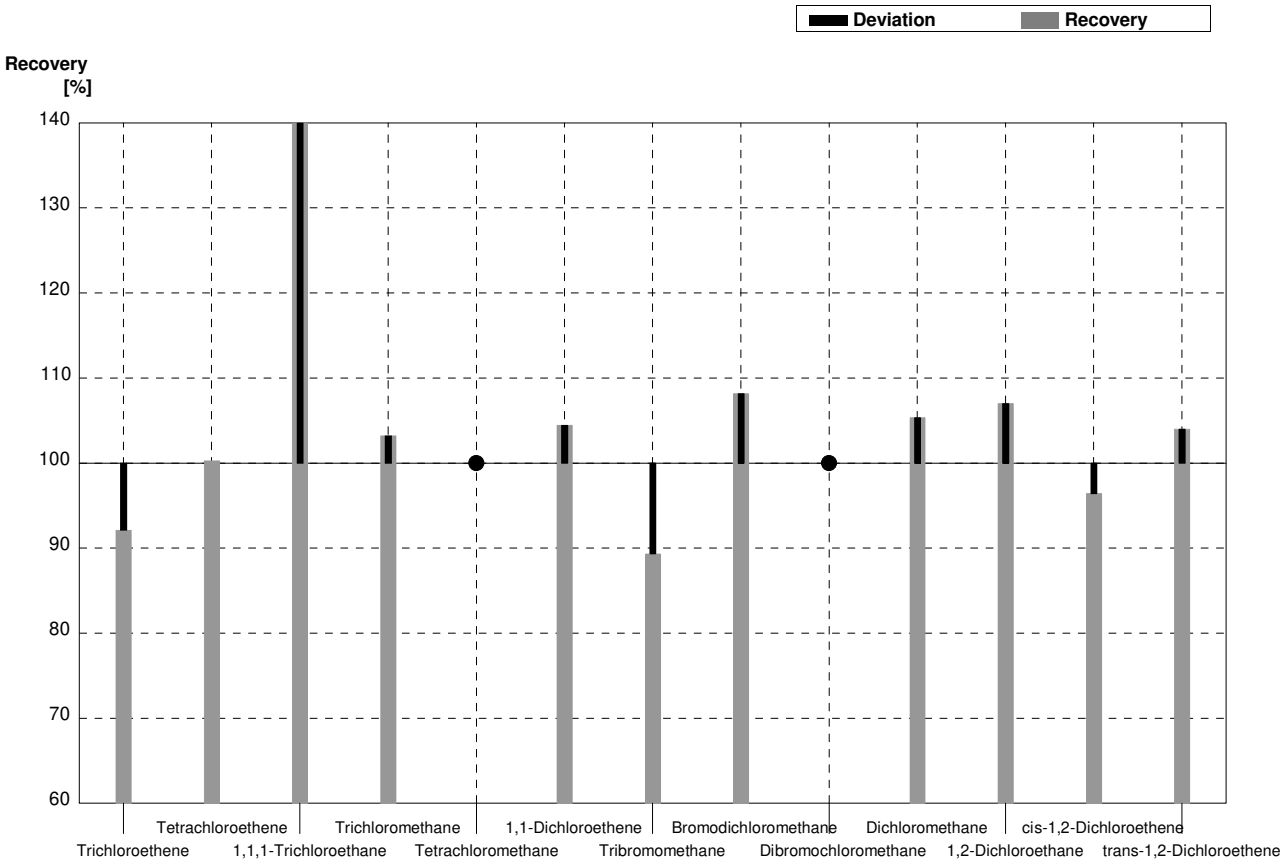
Sample C69A
Laboratory I

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	1,00	0,06	0,888	0,29	µg/l	89%
Tetrachloroethene	2,28	0,12	2,250	1,00	µg/l	99%
1,1,1-Trichloroethane	1,33	0,07	1,348	0,10	µg/l	101%
Trichloromethane	<0,1		<0,1		µg/l	•
Tetrachloromethane	1,10	0,06	1,153	0,05	µg/l	105%
1,1-Dichloroethene	0,268	0,045	0,290	0,01	µg/l	108%
Tribromomethane	1,78	0,10	1,468	0,43	µg/l	82%
Bromodichloromethane	0,52	0,05	0,528	0,08	µg/l	102%
Dibromochloromethane	0,84	0,07	0,763	0,33	µg/l	91%
Dichloromethane	1,67	0,12	1,610	0,36	µg/l	96%
1,2-Dichloroethane	0,97	0,14	0,930	0,08	µg/l	96%
cis-1,2-Dichloroethene	0,419	0,031	0,393	0,03	µg/l	94%
trans-1,2-Dichloroethene	0,192	0,021	0,185	0,01	µg/l	96%



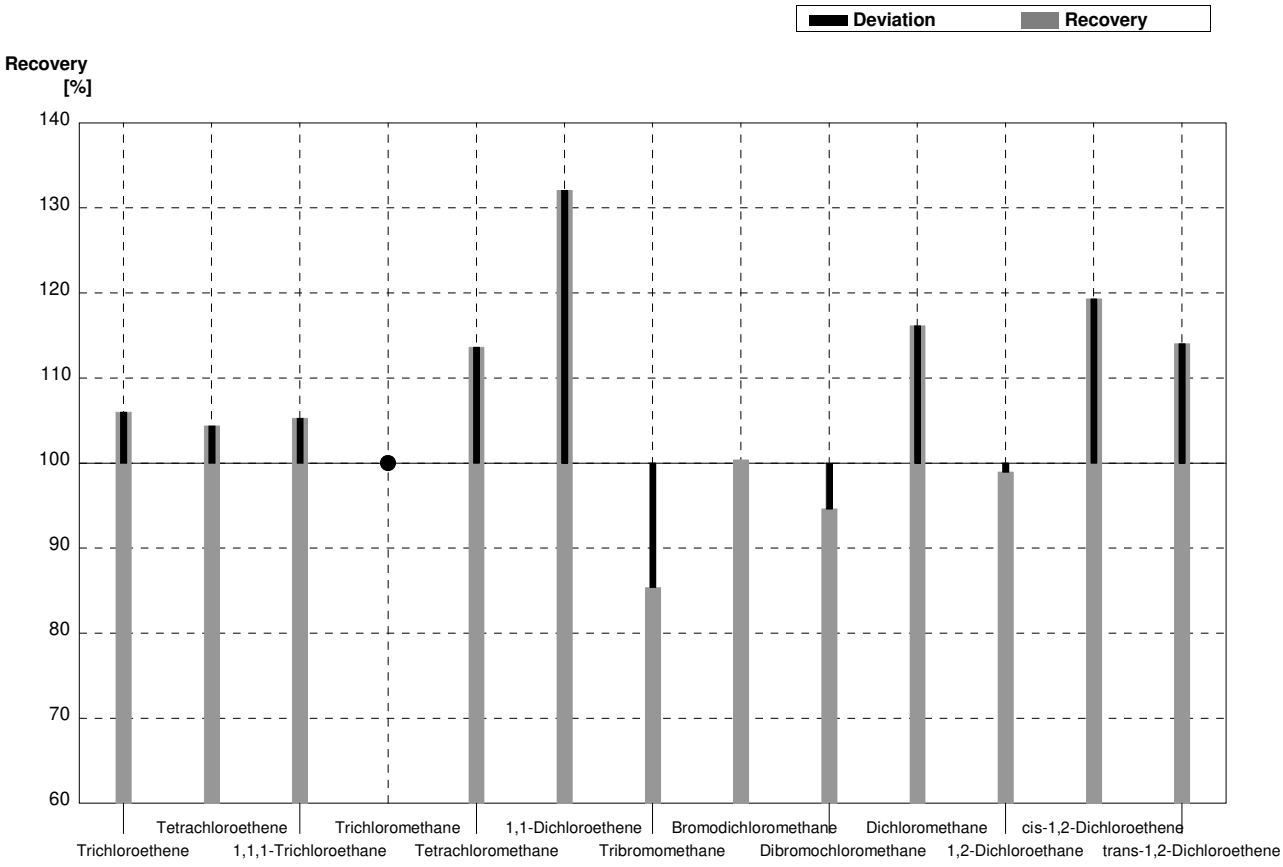
Sample C69B
Laboratory I

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	0,318	0,031	0,293	0,10	µg/l	92%
Tetrachloroethene	0,332	0,022	0,333	0,15	µg/l	100%
1,1,1-Trichloroethane	0,276	0,020	2,900	0,02	µg/l	1051%
Trichloromethane	1,34	0,10	1,383	0,12	µg/l	103%
Tetrachloromethane	<0,1		<0,1		µg/l	•
1,1-Dichloroethene	1,19	0,07	1,243	0,06	µg/l	104%
Tribromomethane	0,75	0,07	0,670	0,19	µg/l	89%
Bromodichloromethane	0,95	0,06	1,028	0,17	µg/l	108%
Dibromochloromethane	<0,1		<0,1		µg/l	•
Dichloromethane	2,70	0,16	2,845	0,63	µg/l	105%
1,2-Dichloroethane	1,47	0,15	1,573	0,14	µg/l	107%
cis-1,2-Dichloroethene	0,84	0,05	0,810	0,06	µg/l	96%
trans-1,2-Dichloroethene	1,57	0,08	1,633	0,06	µg/l	104%



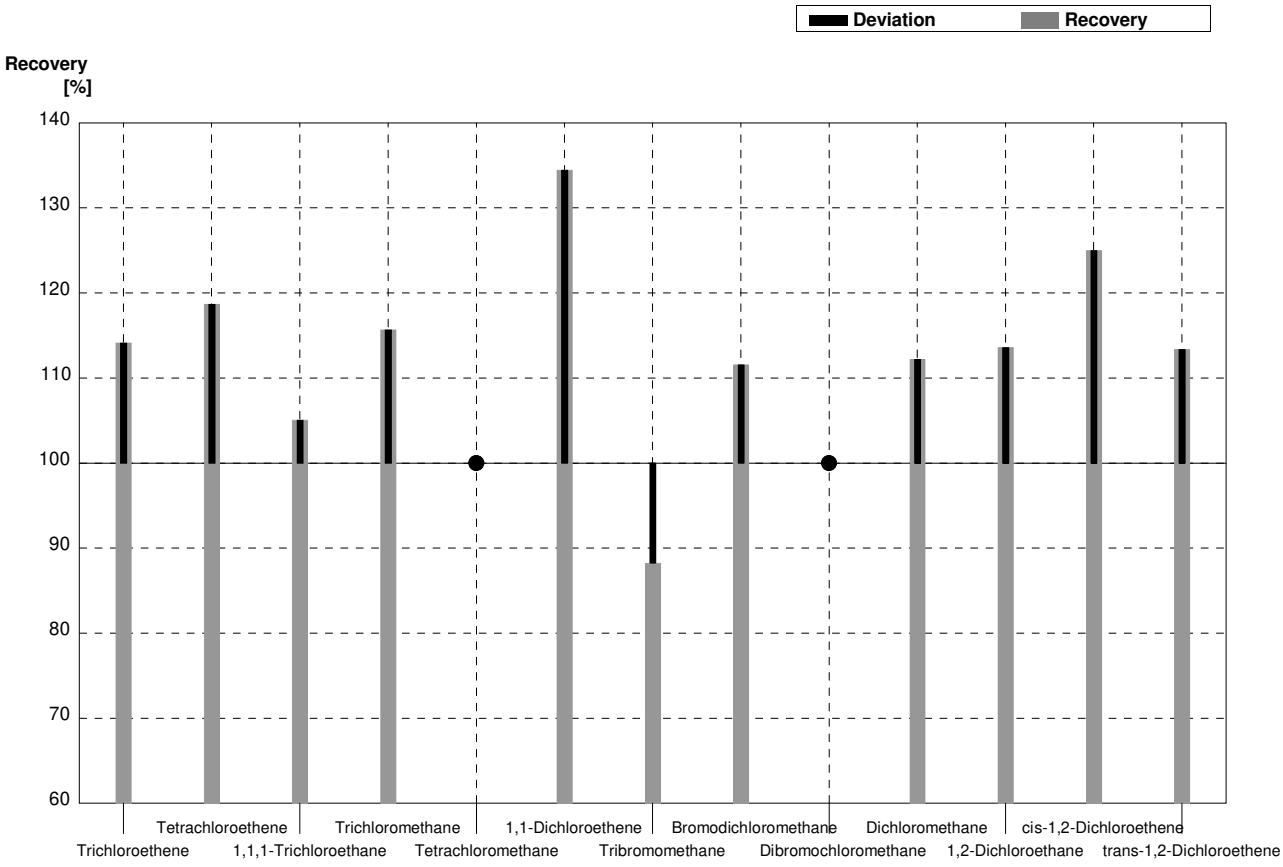
Sample C69A
Laboratory J

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	1,00	0,06	1,06	0,30	µg/l	106%
Tetrachloroethene	2,28	0,12	2,38	0,62	µg/l	104%
1,1,1-Trichloroethane	1,33	0,07	1,40	0,37	µg/l	105%
Trichloromethane	<0,1		<0,1	0,03	µg/l	•
Tetrachloromethane	1,10	0,06	1,25	0,32	µg/l	114%
1,1-Dichloroethene	0,268	0,045	0,354	0,09	µg/l	132%
Tribromomethane	1,78	0,10	1,52	0,40	µg/l	85%
Bromodichloromethane	0,52	0,05	0,522	0,14	µg/l	100%
Dibromochloromethane	0,84	0,07	0,795	0,21	µg/l	95%
Dichloromethane	1,67	0,12	1,94	0,51	µg/l	116%
1,2-Dichloroethane	0,97	0,14	0,960	0,25	µg/l	99%
cis-1,2-Dichloroethene	0,419	0,031	0,500	0,13	µg/l	119%
trans-1,2-Dichloroethene	0,192	0,021	0,219	0,06	µg/l	114%



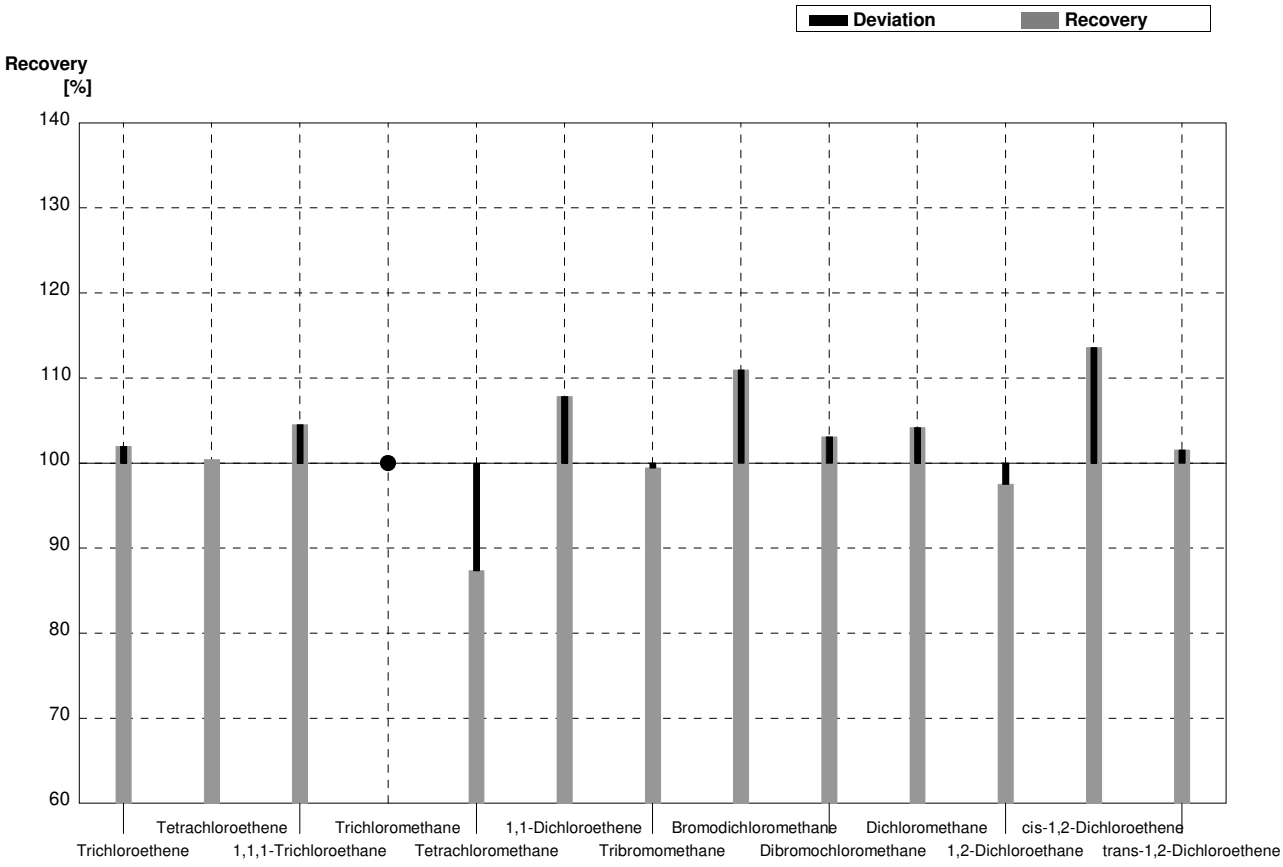
Sample C69B
Laboratory J

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	0,318	0,031	0,363	0,09	µg/l	114%
Tetrachloroethene	0,332	0,022	0,394	0,10	µg/l	119%
1,1,1-Trichloroethane	0,276	0,020	0,290	0,08	µg/l	105%
Trichloromethane	1,34	0,10	1,55	0,40	µg/l	116%
Tetrachloromethane	<0,1		<0,1	0,03	µg/l	•
1,1-Dichloroethene	1,19	0,07	1,60	0,41	µg/l	134%
Tribromomethane	0,75	0,07	0,662	0,17	µg/l	88%
Bromodichloromethane	0,95	0,06	1,06	0,27	µg/l	112%
Dibromochloromethane	<0,1		<0,1	0,03	µg/l	•
Dichloromethane	2,70	0,16	3,03	0,79	µg/l	112%
1,2-Dichloroethane	1,47	0,15	1,67	0,43	µg/l	114%
cis-1,2-Dichloroethene	0,84	0,05	1,05	0,27	µg/l	125%
trans-1,2-Dichloroethene	1,57	0,08	1,78	0,46	µg/l	113%



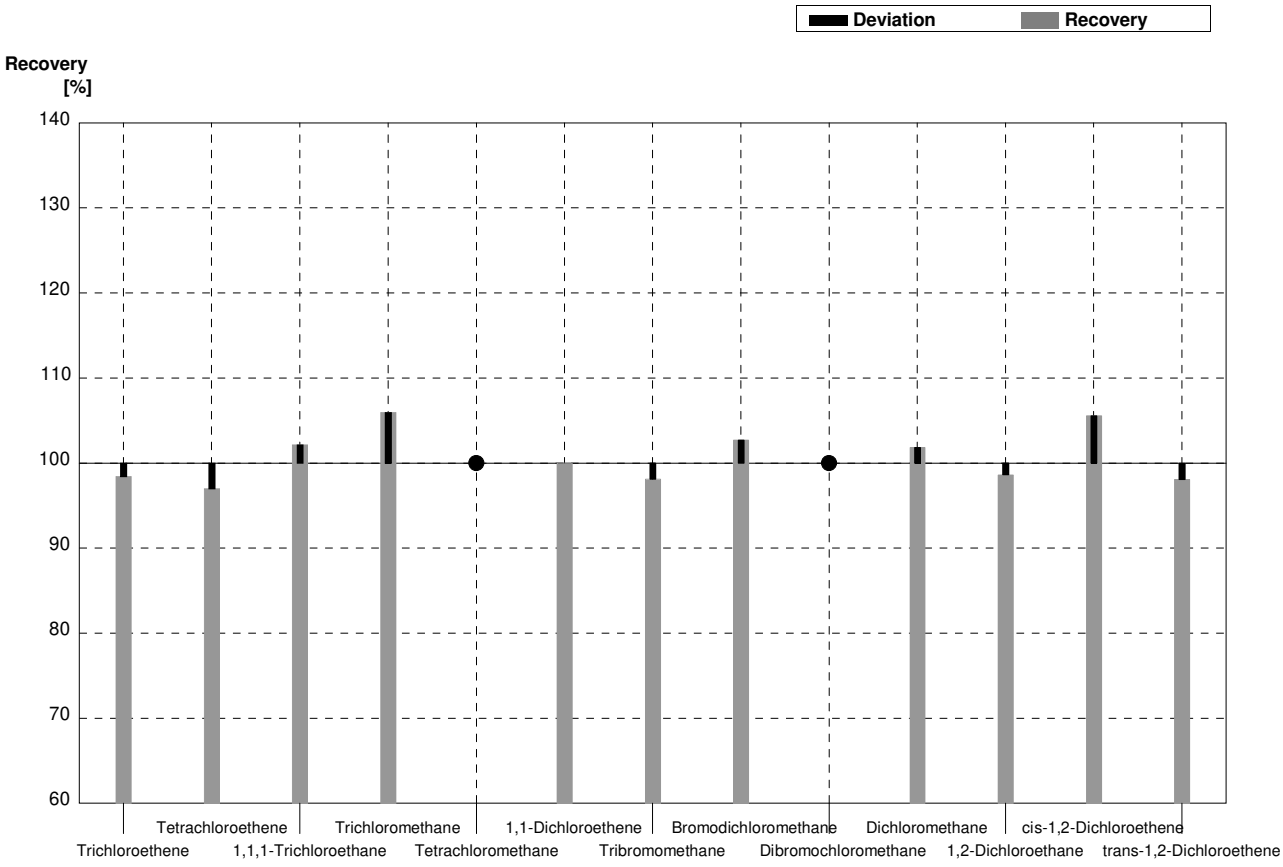
Sample C69A
Laboratory K

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	1,00	0,06	1,02	0,103	µg/l	102%
Tetrachloroethene	2,28	0,12	2,29	0,057	µg/l	100%
1,1,1-Trichloroethane	1,33	0,07	1,39	0,115	µg/l	105%
Trichloromethane	<0,1		<0,05		µg/l	•
Tetrachloromethane	1,10	0,06	0,961	0,069	µg/l	87%
1,1-Dichloroethene	0,268	0,045	0,289	0,013	µg/l	108%
Tribromomethane	1,78	0,10	1,77	0,101	µg/l	99%
Bromodichloromethane	0,52	0,05	0,577	0,093	µg/l	111%
Dibromochloromethane	0,84	0,07	0,866	0,104	µg/l	103%
Dichloromethane	1,67	0,12	1,74	0,057	µg/l	104%
1,2-Dichloroethane	0,97	0,14	0,946	0,048	µg/l	98%
cis-1,2-Dichloroethene	0,419	0,031	0,476	0,025	µg/l	114%
trans-1,2-Dichloroethene	0,192	0,021	0,195	0,008	µg/l	102%



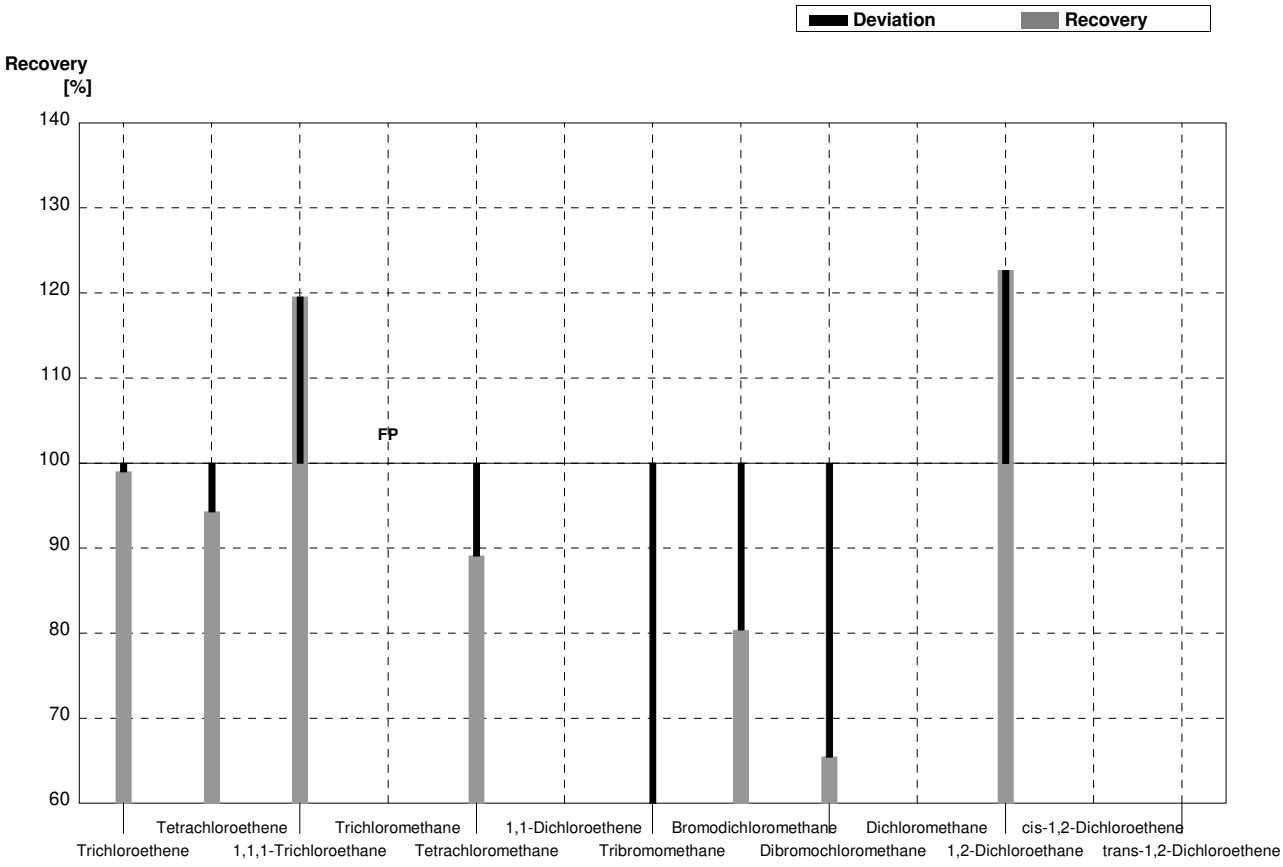
Sample **C69B**
Laboratory **K**

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	0,318	0,031	0,313	0,009	µg/l	98%
Tetrachloroethene	0,332	0,022	0,322	0,018	µg/l	97%
1,1,1-Trichloroethane	0,276	0,020	0,282	0,017	µg/l	102%
Trichloromethane	1,34	0,10	1,42	0,058	µg/l	106%
Tetrachloromethane	<0,1		<0,05		µg/l	•
1,1-Dichloroethene	1,19	0,07	1,19	0,070	µg/l	100%
Tribromomethane	0,75	0,07	0,736	0,108	µg/l	98%
Bromodichloromethane	0,95	0,06	0,976	0,182	µg/l	103%
Dibromochloromethane	<0,1		<0,05		µg/l	•
Dichloromethane	2,70	0,16	2,75	0,067	µg/l	102%
1,2-Dichloroethane	1,47	0,15	1,45	0,053	µg/l	99%
cis-1,2-Dichloroethene	0,84	0,05	0,887	0,065	µg/l	106%
trans-1,2-Dichloroethene	1,57	0,08	1,54	0,115	µg/l	98%



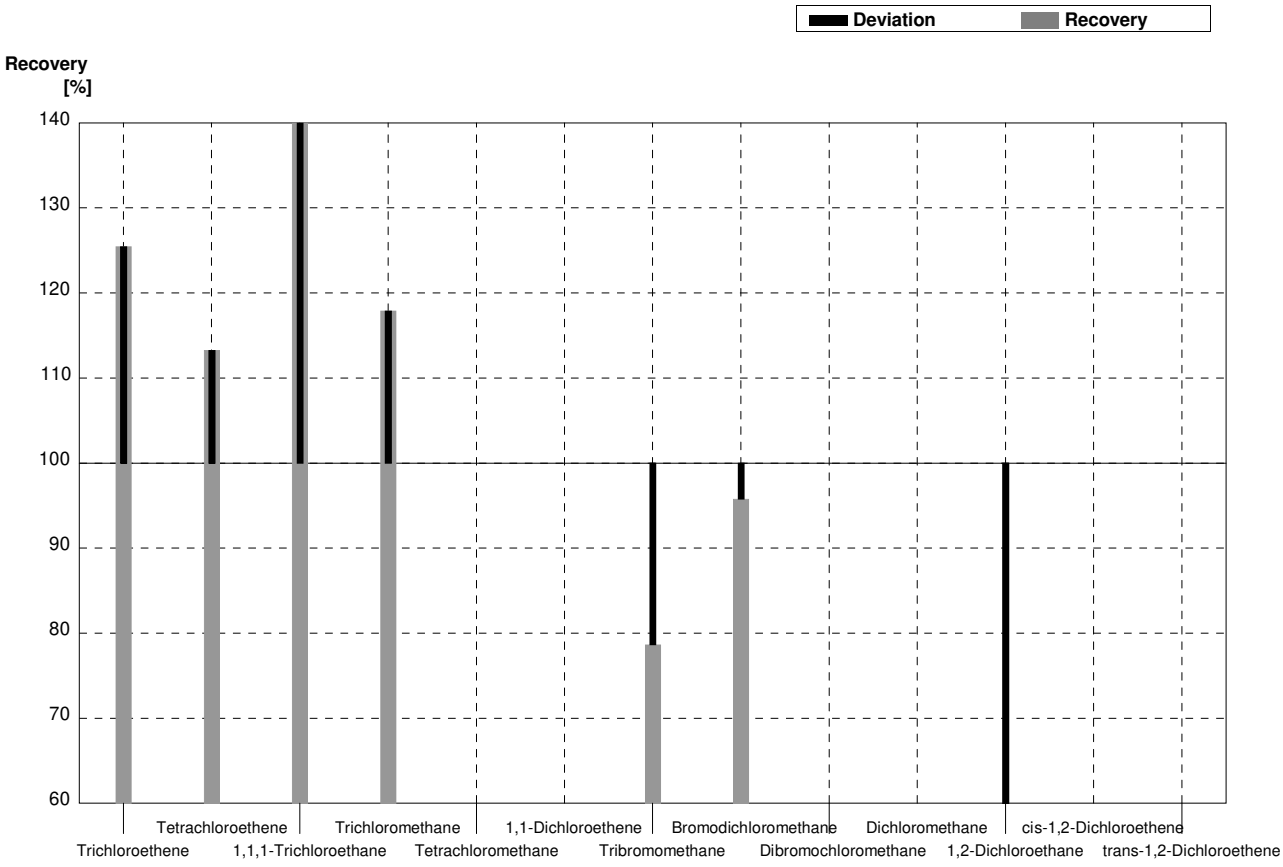
Sample C69A
Laboratory L

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	1,00	0,06	0,99	0,43	µg/l	99%
Tetrachloroethene	2,28	0,12	2,15	0,94	µg/l	94%
1,1,1-Trichloroethane	1,33	0,07	1,59	0,70	µg/l	120%
Trichloromethane	<0,1		0,201	0,09	µg/l	FP
Tetrachloromethane	1,10	0,06	0,98	0,43	µg/l	89%
1,1-Dichloroethene	0,268	0,045			µg/l	
Tribromomethane	1,78	0,10	0,92	0,41	µg/l	52%
Bromodichloromethane	0,52	0,05	0,418	0,18	µg/l	80%
Dibromochloromethane	0,84	0,07	0,55	0,24	µg/l	65%
Dichloromethane	1,67	0,12			µg/l	
1,2-Dichloroethane	0,97	0,14	1,19	0,52	µg/l	123%
cis-1,2-Dichloroethene	0,419	0,031			µg/l	
trans-1,2-Dichloroethene	0,192	0,021			µg/l	



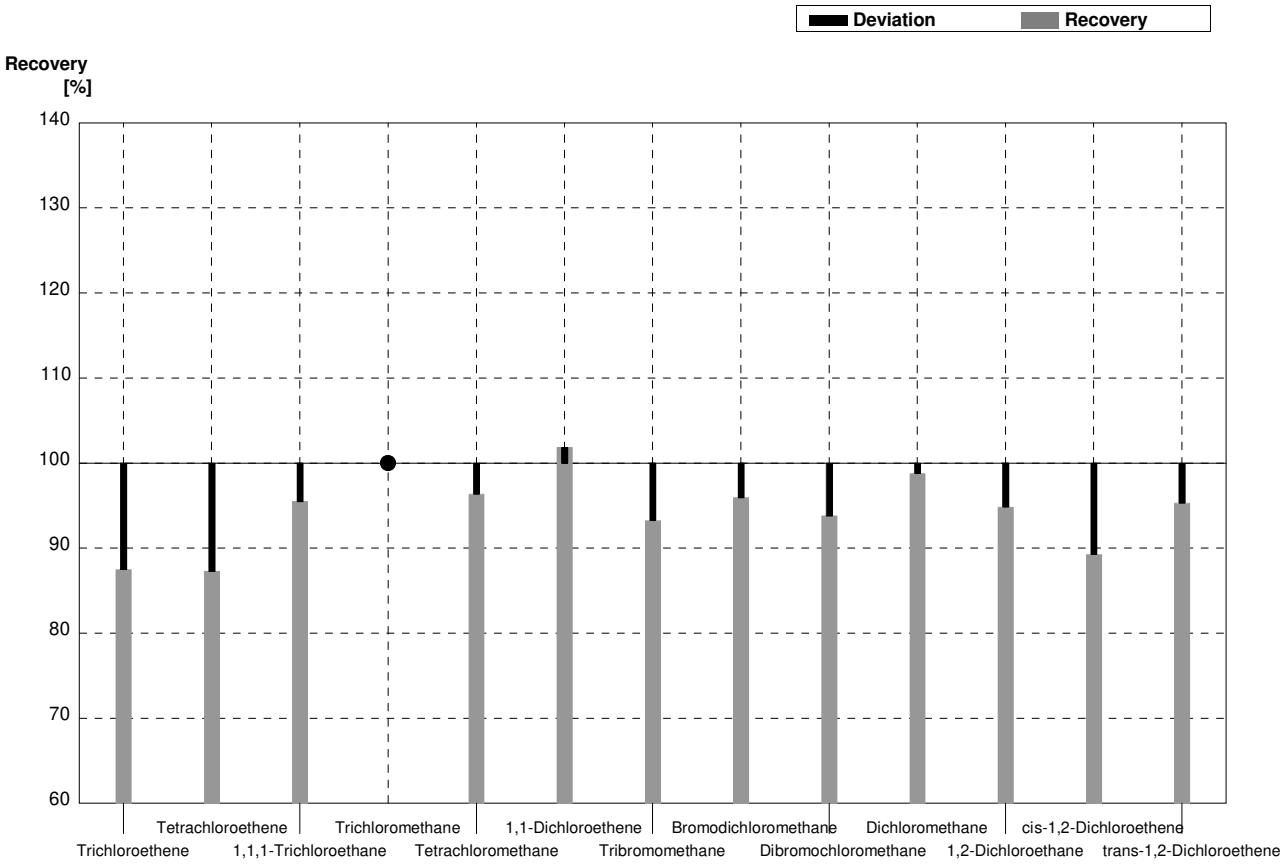
Sample C69B
Laboratory L

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	0,318	0,031	0,399	0,18	µg/l	125%
Tetrachloroethene	0,332	0,022	0,376	0,17	µg/l	113%
1,1,1-Trichloroethane	0,276	0,020	3,23	1,42	µg/l	1170%
Trichloromethane	1,34	0,10	1,58	0,70	µg/l	118%
Tetrachloromethane	<0,1		<BG		µg/l	
1,1-Dichloroethene	1,19	0,07			µg/l	
Tribromomethane	0,75	0,07	0,59	0,26	µg/l	79%
Bromodichloromethane	0,95	0,06	0,91	0,40	µg/l	96%
Dibromochloromethane	<0,1		<BG		µg/l	
Dichloromethane	2,70	0,16			µg/l	
1,2-Dichloroethane	1,47	0,15	0,340	0,15	µg/l	23%
cis-1,2-Dichloroethene	0,84	0,05			µg/l	
trans-1,2-Dichloroethene	1,57	0,08			µg/l	



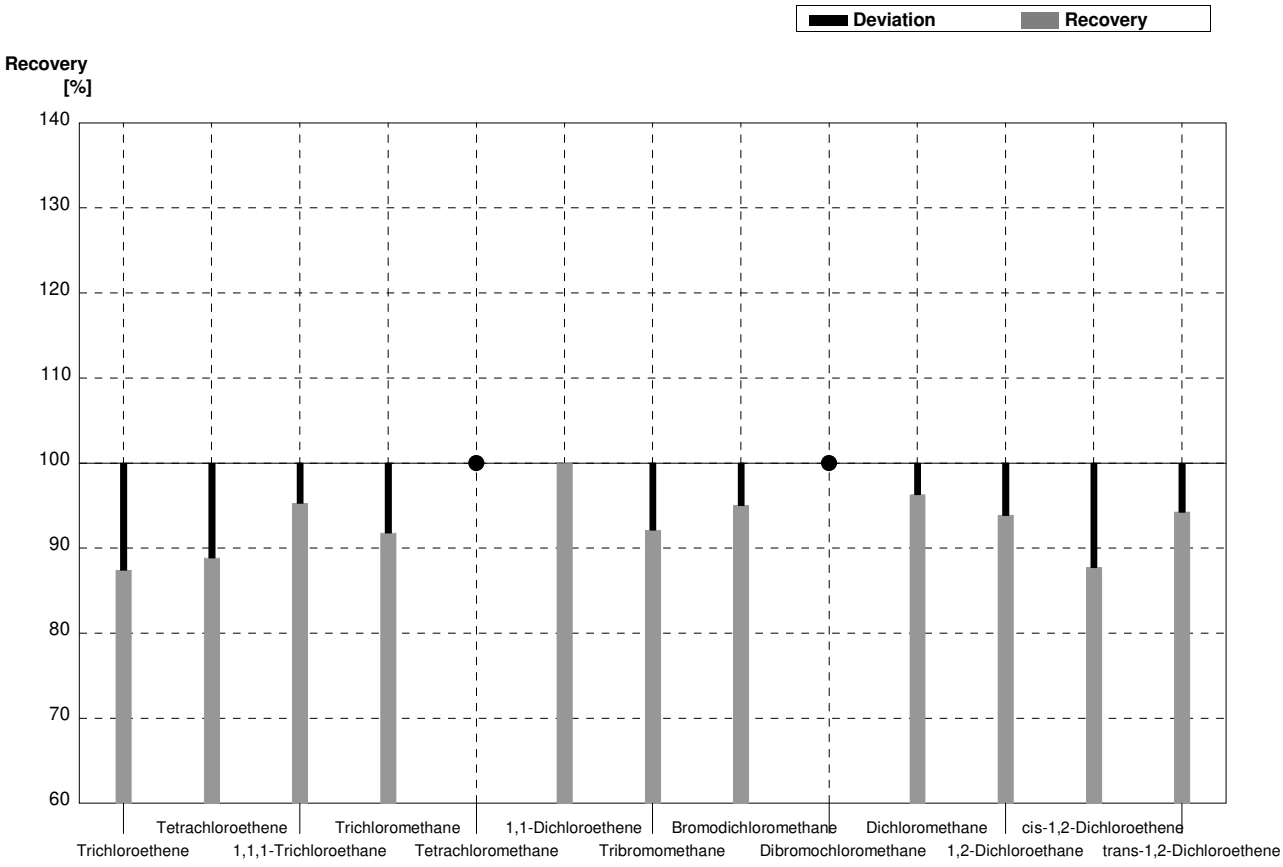
Sample C69A
Laboratory M

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	1,00	0,06	0,875	0,149	µg/l	88%
Tetrachloroethene	2,28	0,12	1,99	0,338	µg/l	87%
1,1,1-Trichloroethane	1,33	0,07	1,27	0,216	µg/l	95%
Trichloromethane	<0,1		<0,10		µg/l	•
Tetrachloromethane	1,10	0,06	1,06	0,180	µg/l	96%
1,1-Dichloroethene	0,268	0,045	0,273	0,046	µg/l	102%
Tribromomethane	1,78	0,10	1,66	0,282	µg/l	93%
Bromodichloromethane	0,52	0,05	0,499	0,085	µg/l	96%
Dibromochloromethane	0,84	0,07	0,788	0,134	µg/l	94%
Dichloromethane	1,67	0,12	1,65	0,281	µg/l	99%
1,2-Dichloroethane	0,97	0,14	0,920	0,156	µg/l	95%
cis-1,2-Dichloroethene	0,419	0,031	0,374	0,064	µg/l	89%
trans-1,2-Dichloroethene	0,192	0,021	0,183	0,031	µg/l	95%



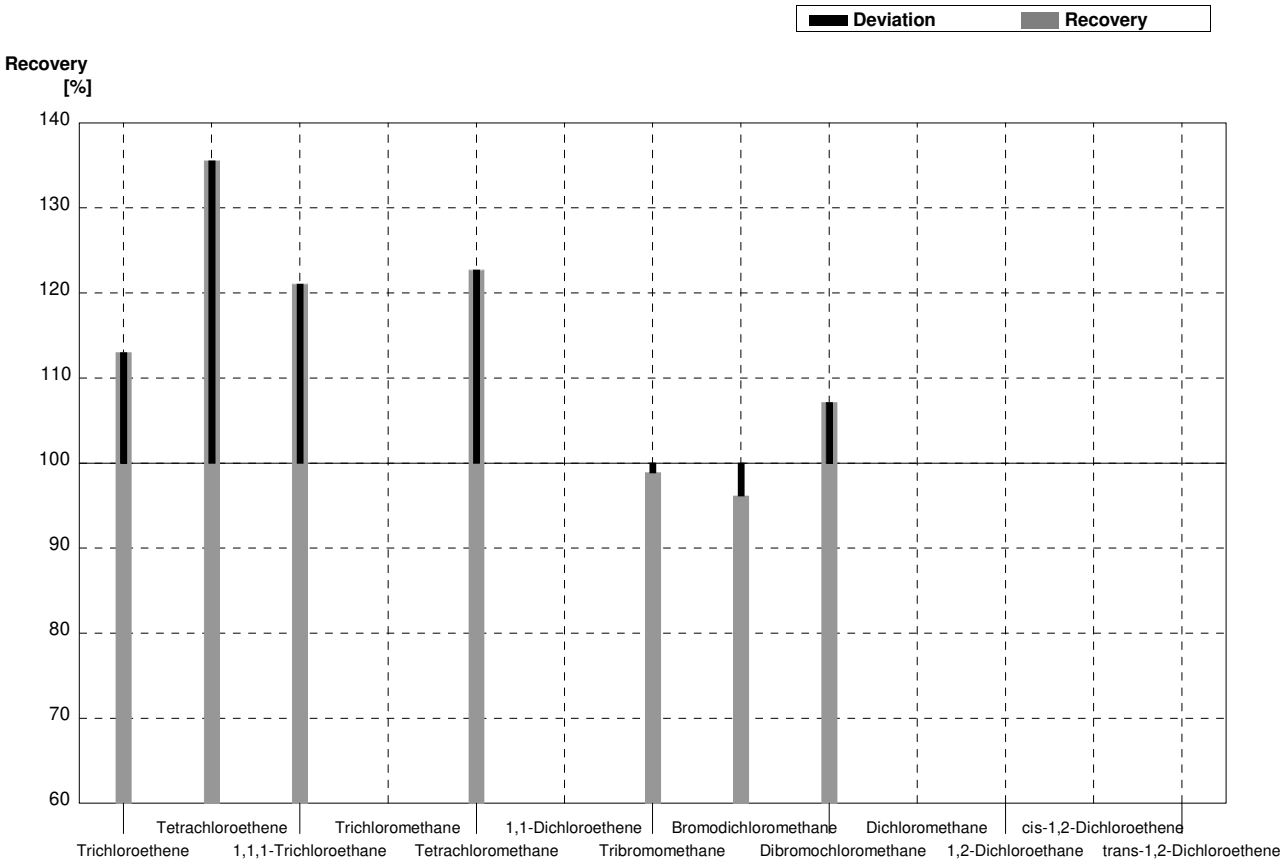
Sample C69B
Laboratory M

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	0,318	0,031	0,278	0,047	µg/l	87%
Tetrachloroethene	0,332	0,022	0,295	0,050	µg/l	89%
1,1,1-Trichloroethane	0,276	0,020	0,263	0,045	µg/l	95%
Trichloromethane	1,34	0,10	1,23	0,209	µg/l	92%
Tetrachloromethane	<0,1		<0,10		µg/l	•
1,1-Dichloroethene	1,19	0,07	1,19	0,202	µg/l	100%
Tribromomethane	0,75	0,07	0,691	0,117	µg/l	92%
Bromodichloromethane	0,95	0,06	0,903	0,154	µg/l	95%
Dibromochloromethane	<0,1		<0,10		µg/l	•
Dichloromethane	2,70	0,16	2,60	0,442	µg/l	96%
1,2-Dichloroethane	1,47	0,15	1,38	0,235	µg/l	94%
cis-1,2-Dichloroethene	0,84	0,05	0,737	0,125	µg/l	88%
trans-1,2-Dichloroethene	1,57	0,08	1,48	0,252	µg/l	94%



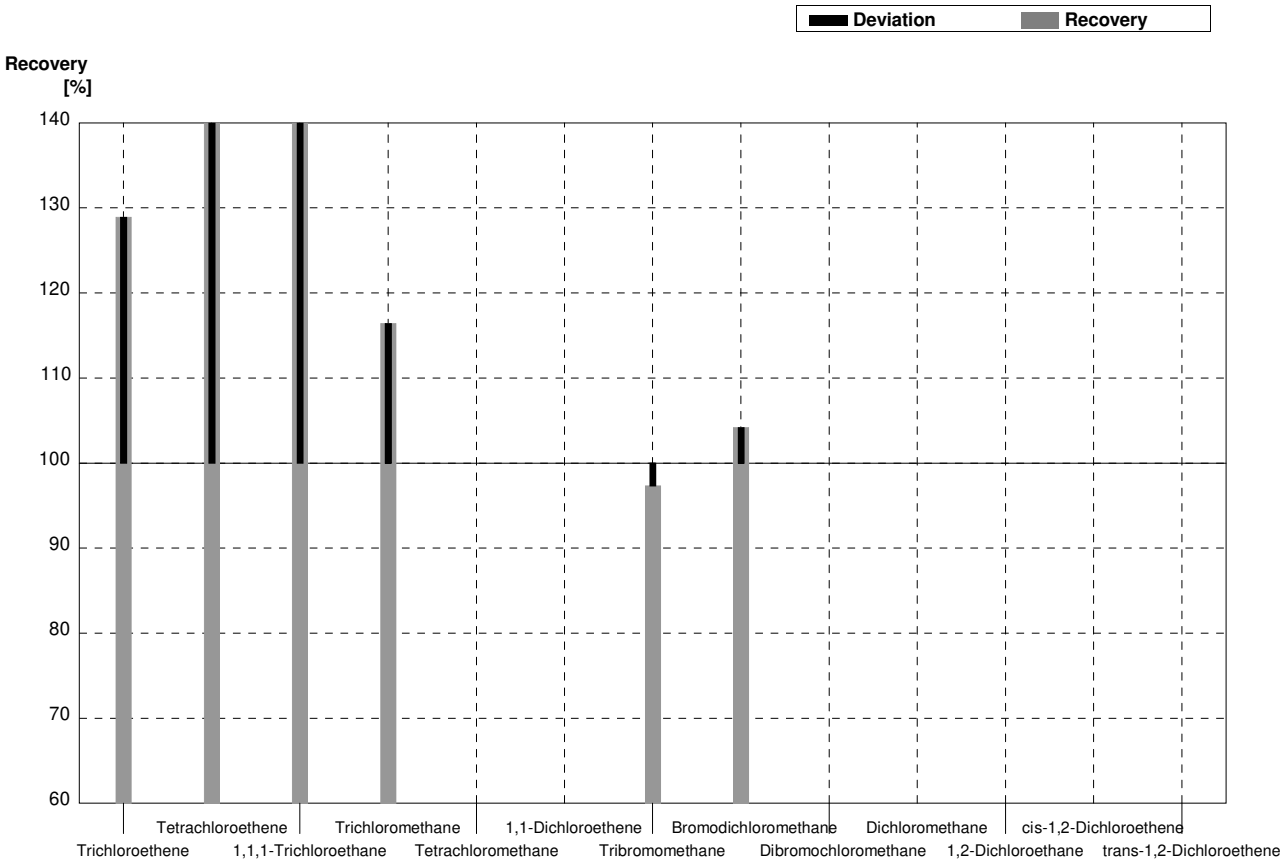
Sample C69A
Laboratory N

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	1,00	0,06	1,13	0,2	µg/l	113%
Tetrachloroethene	2,28	0,12	3,09	0,2	µg/l	136%
1,1,1-Trichloroethane	1,33	0,07	1,61	0,2	µg/l	121%
Trichloromethane	<0,1				µg/l	
Tetrachloromethane	1,10	0,06	1,35	0,1	µg/l	123%
1,1-Dichloroethene	0,268	0,045			µg/l	
Tribromomethane	1,78	0,10	1,76	0,6	µg/l	99%
Bromodichloromethane	0,52	0,05	0,50	0,2	µg/l	96%
Dibromochloromethane	0,84	0,07	0,90	0,5	µg/l	107%
Dichloromethane	1,67	0,12			µg/l	
1,2-Dichloroethane	0,97	0,14			µg/l	
cis-1,2-Dichloroethene	0,419	0,031			µg/l	
trans-1,2-Dichloroethene	0,192	0,021			µg/l	



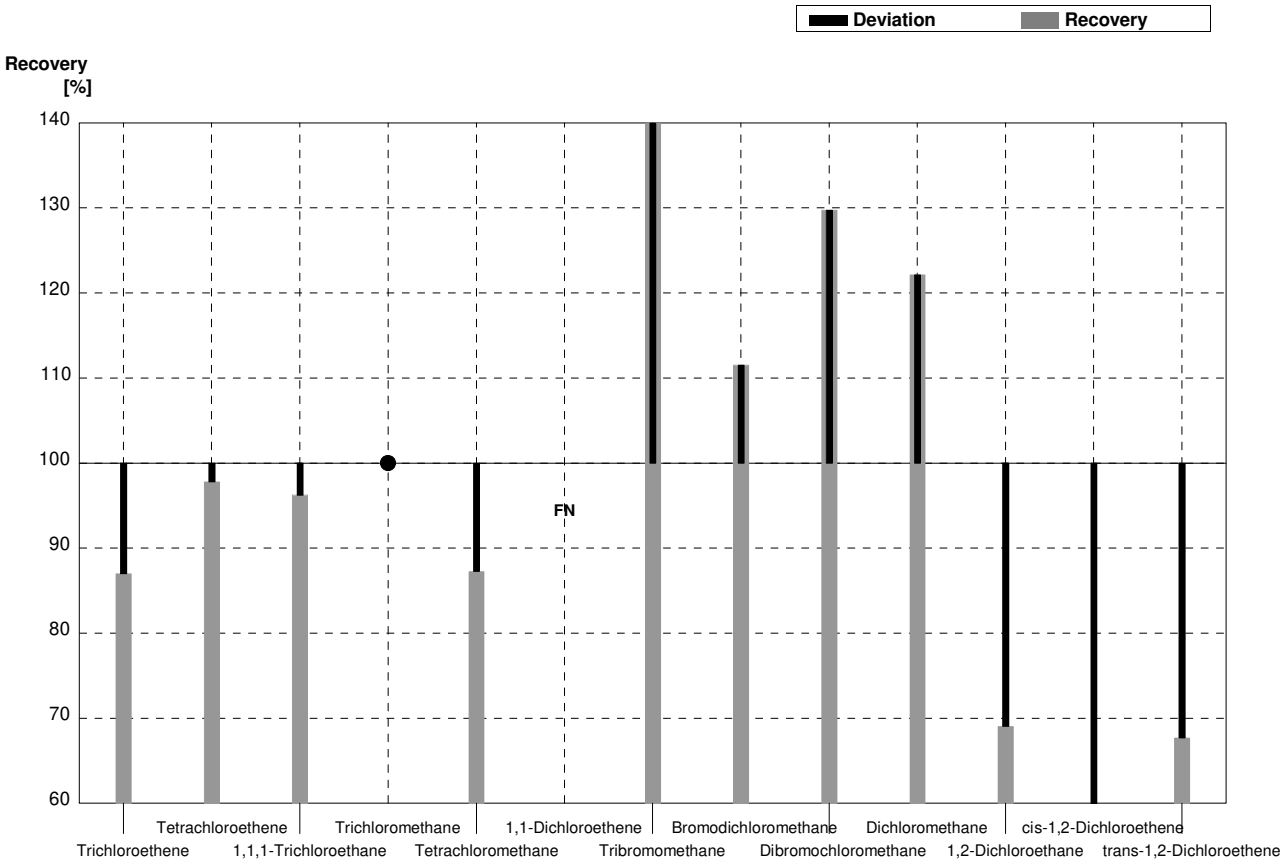
Sample C69B
Laboratory N

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	0,318	0,031	0,410	0,2	µg/l	129%
Tetrachloroethene	0,332	0,022	0,56	0,2	µg/l	169%
1,1,1-Trichloroethane	0,276	0,020	0,390	0,2	µg/l	141%
Trichloromethane	1,34	0,10	1,56	0,4	µg/l	116%
Tetrachloromethane	<0,1				µg/l	
1,1-Dichloroethene	1,19	0,07			µg/l	
Tribromomethane	0,75	0,07	0,73	0,6	µg/l	97%
Bromodichloromethane	0,95	0,06	0,99	0,2	µg/l	104%
Dibromochloromethane	<0,1				µg/l	
Dichloromethane	2,70	0,16			µg/l	
1,2-Dichloroethane	1,47	0,15			µg/l	
cis-1,2-Dichloroethene	0,84	0,05			µg/l	
trans-1,2-Dichloroethene	1,57	0,08			µg/l	



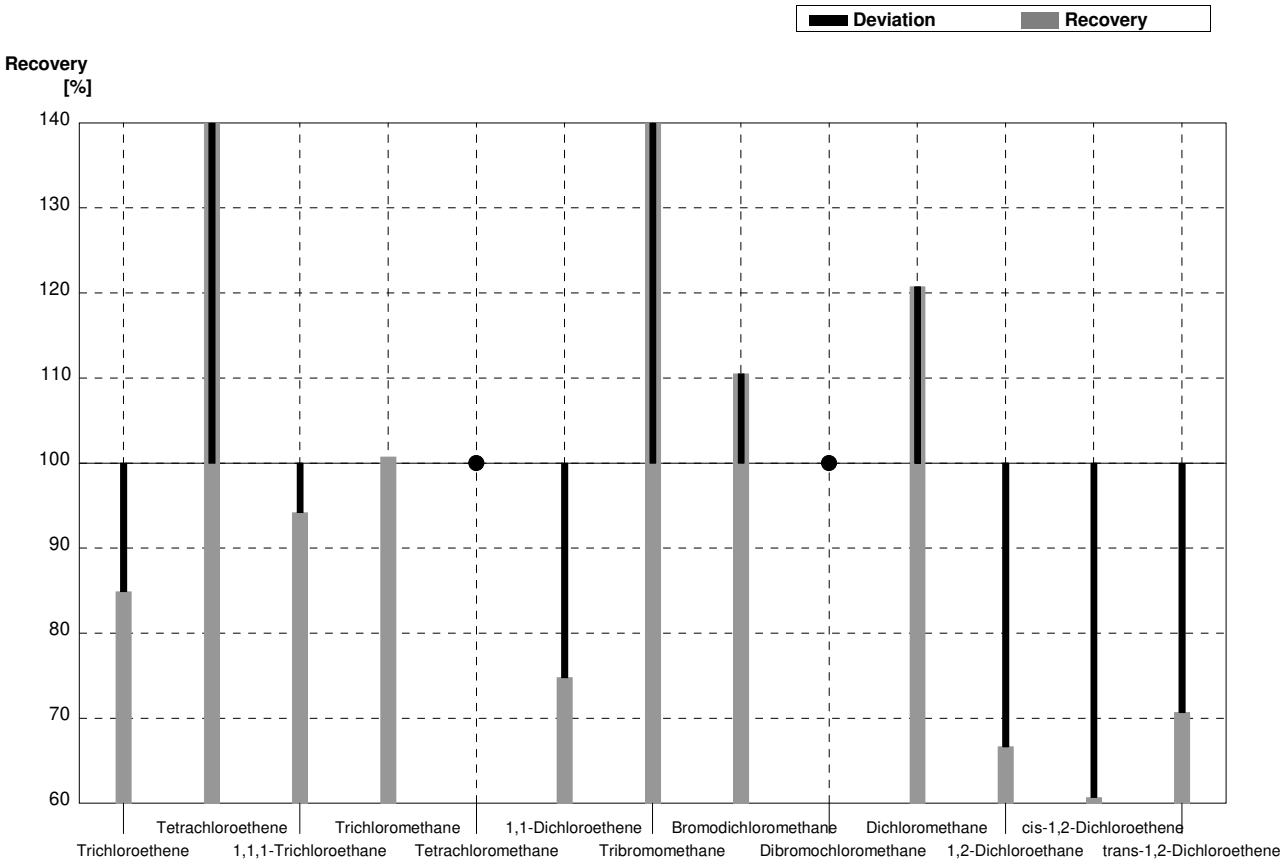
Sample C69A
Laboratory O

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	1,00	0,06	0,87	0,38	µg/l	87%
Tetrachloroethene	2,28	0,12	2,23	0,98	µg/l	98%
1,1,1-Trichloroethane	1,33	0,07	1,28	0,56	µg/l	96%
Trichloromethane	<0,1		<0,10		µg/l	•
Tetrachloromethane	1,10	0,06	0,96	0,42	µg/l	87%
1,1-Dichloroethene	0,268	0,045	<0,05		µg/l	FN
Tribromomethane	1,78	0,10	2,70	1,18	µg/l	152%
Bromodichloromethane	0,52	0,05	0,58	0,26	µg/l	112%
Dibromochloromethane	0,84	0,07	1,09	0,48	µg/l	130%
Dichloromethane	1,67	0,12	2,04	0,90	µg/l	122%
1,2-Dichloroethane	0,97	0,14	0,67	0,29	µg/l	69%
cis-1,2-Dichloroethene	0,419	0,031	0,250	0,11	µg/l	60%
trans-1,2-Dichloroethene	0,192	0,021	0,130	0,06	µg/l	68%



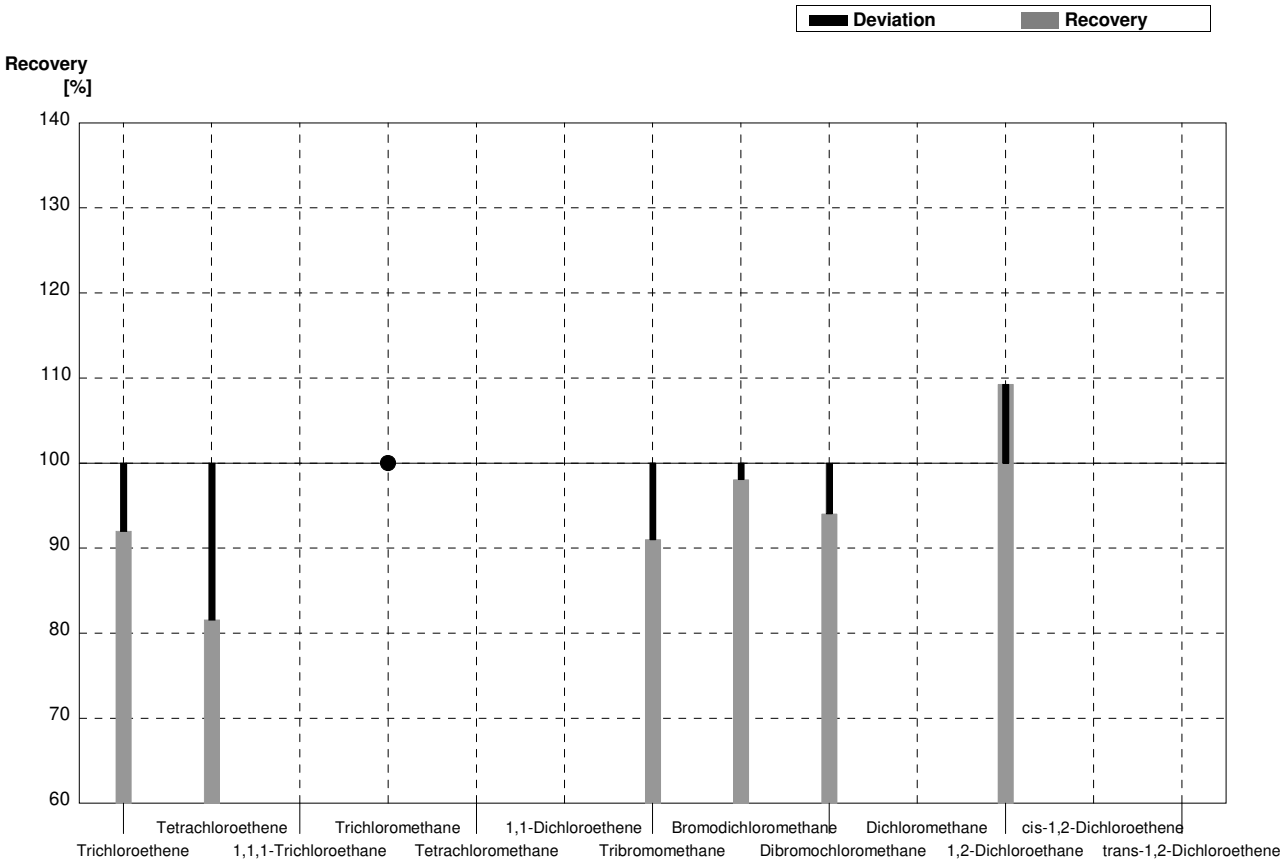
Sample C69B
Laboratory O

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	0,318	0,031	0,270	0,12	µg/l	85%
Tetrachloroethene	0,332	0,022	0,65	0,29	µg/l	196%
1,1,1-Trichloroethane	0,276	0,020	0,260	0,11	µg/l	94%
Trichloromethane	1,34	0,10	1,35	0,59	µg/l	101%
Tetrachloromethane	<0,1		<0,10		µg/l	•
1,1-Dichloroethene	1,19	0,07	0,89	0,39	µg/l	75%
Tribromomethane	0,75	0,07	1,06	0,47	µg/l	141%
Bromodichloromethane	0,95	0,06	1,05	0,46	µg/l	111%
Dibromochloromethane	<0,1		<0,10		µg/l	•
Dichloromethane	2,70	0,16	3,26	1,43	µg/l	121%
1,2-Dichloroethane	1,47	0,15	0,98	0,43	µg/l	67%
cis-1,2-Dichloroethene	0,84	0,05	0,51	0,22	µg/l	61%
trans-1,2-Dichloroethene	1,57	0,08	1,11	0,49	µg/l	71%



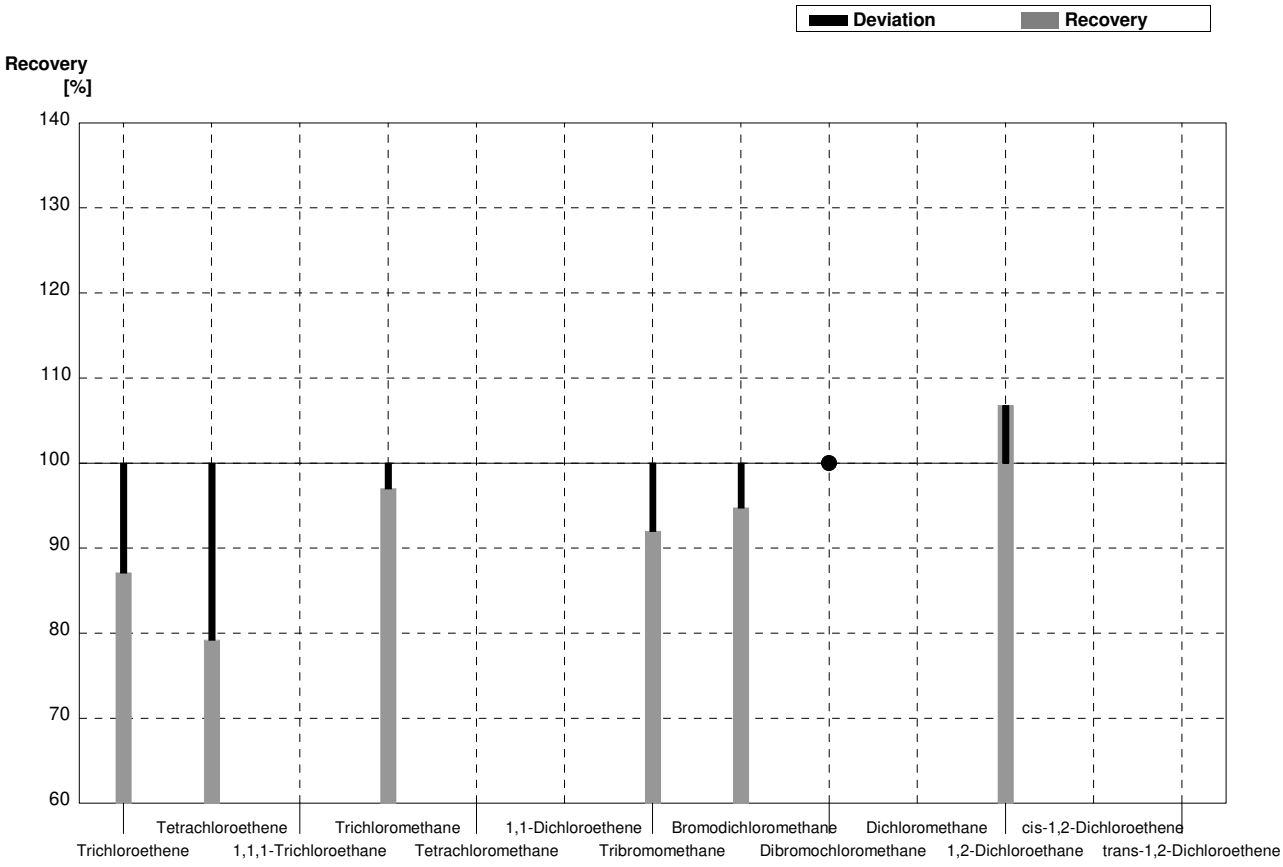
Sample C69A
Laboratory P

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	1,00	0,06	0,92	0,28	µg/l	92%
Tetrachloroethene	2,28	0,12	1,86	0,56	µg/l	82%
1,1,1-Trichloroethane	1,33	0,07			µg/l	
Trichloromethane	<0,1		<0,1		µg/l	•
Tetrachloromethane	1,10	0,06			µg/l	
1,1-Dichloroethene	0,268	0,045			µg/l	
Tribromomethane	1,78	0,10	1,62	0,49	µg/l	91%
Bromodichloromethane	0,52	0,05	0,51	0,15	µg/l	98%
Dibromochloromethane	0,84	0,07	0,79	0,24	µg/l	94%
Dichloromethane	1,67	0,12			µg/l	
1,2-Dichloroethane	0,97	0,14	1,06	0,32	µg/l	109%
cis-1,2-Dichloroethene	0,419	0,031			µg/l	
trans-1,2-Dichloroethene	0,192	0,021			µg/l	



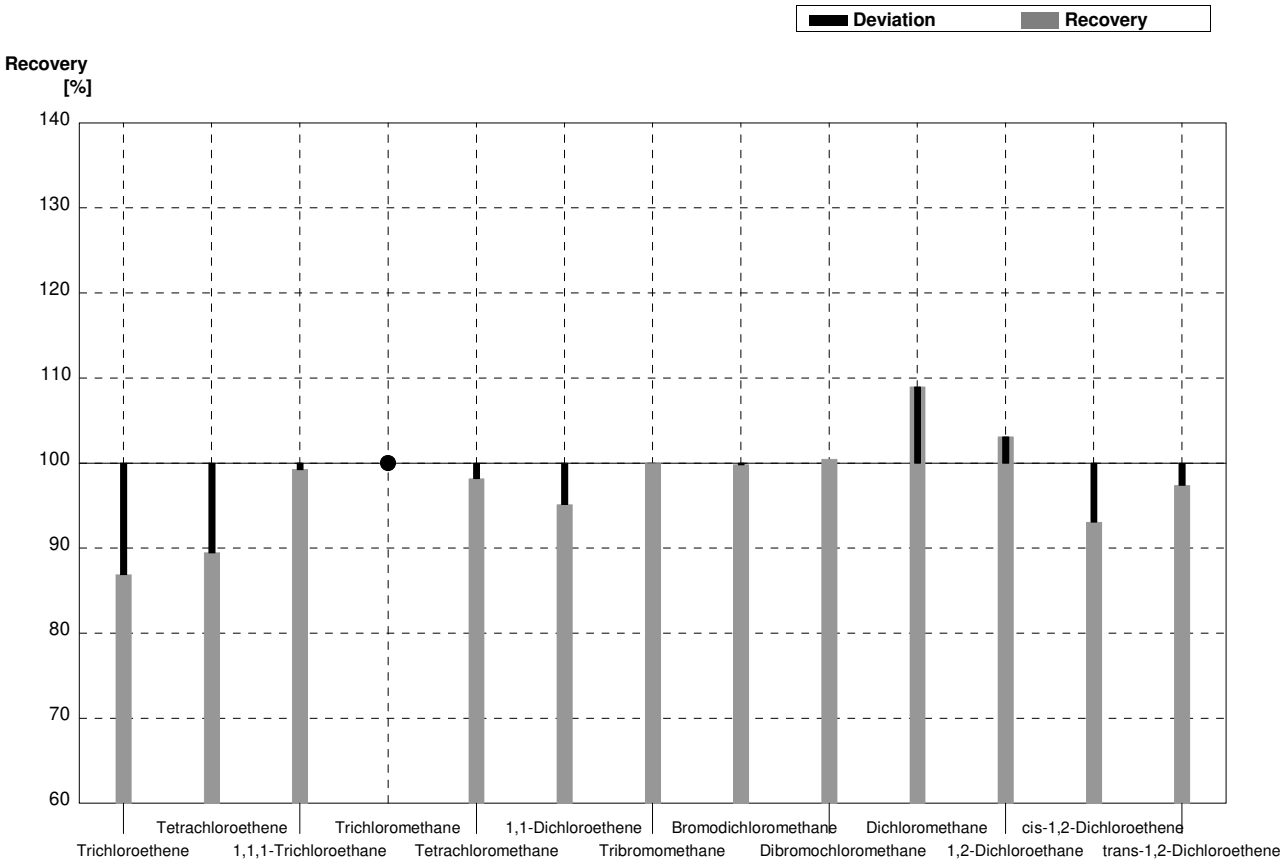
Sample C69B
Laboratory P

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	0,318	0,031	0,277	0,083	µg/l	87%
Tetrachloroethene	0,332	0,022	0,263	0,079	µg/l	79%
1,1,1-Trichloroethane	0,276	0,020			µg/l	
Trichloromethane	1,34	0,10	1,30	0,39	µg/l	97%
Tetrachloromethane	<0,1				µg/l	
1,1-Dichloroethene	1,19	0,07			µg/l	
Tribromomethane	0,75	0,07	0,69	0,21	µg/l	92%
Bromodichloromethane	0,95	0,06	0,90	0,27	µg/l	95%
Dibromochloromethane	<0,1		<0,1		µg/l	•
Dichloromethane	2,70	0,16			µg/l	
1,2-Dichloroethane	1,47	0,15	1,57	0,47	µg/l	107%
cis-1,2-Dichloroethene	0,84	0,05			µg/l	
trans-1,2-Dichloroethene	1,57	0,08			µg/l	



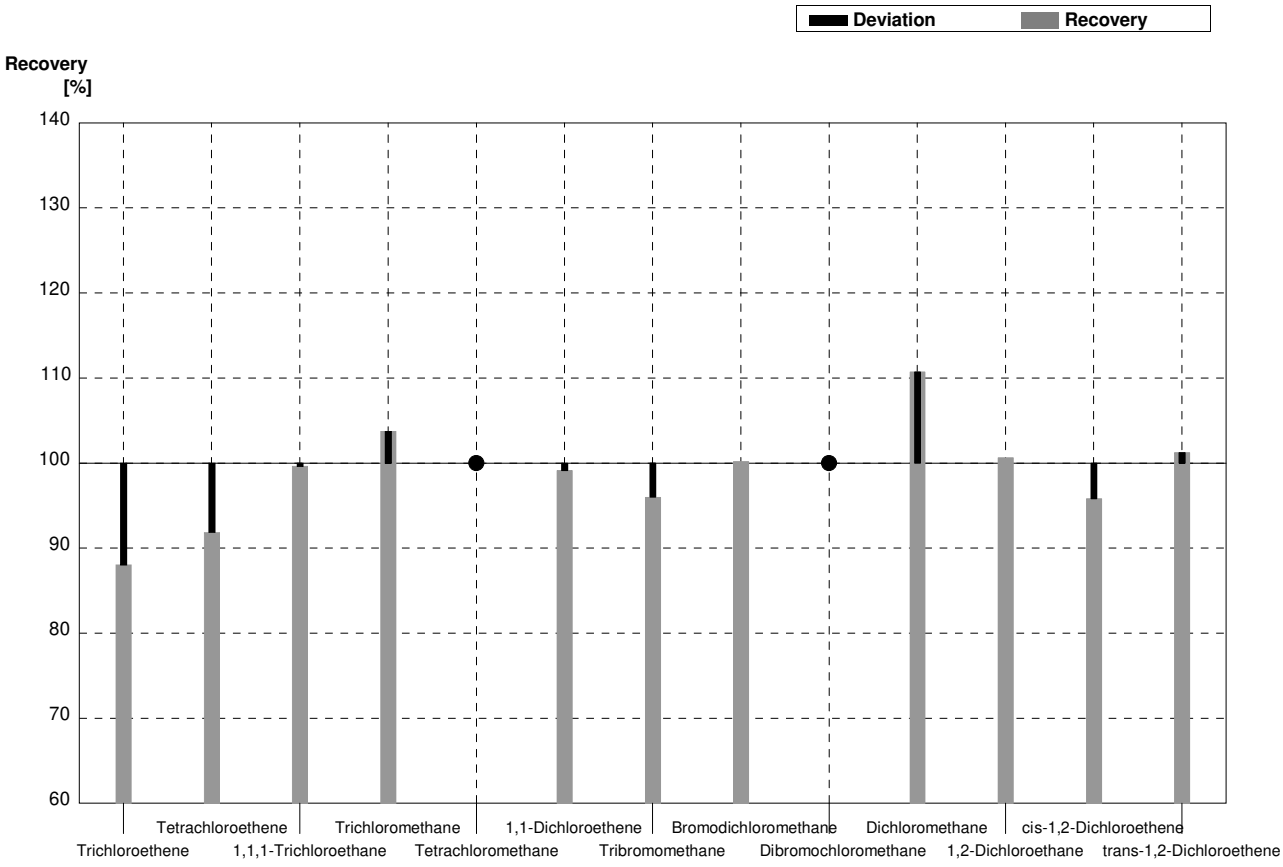
Sample C69A
Laboratory Q

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	1,00	0,06	0,869	0,269	µg/l	87%
Tetrachloroethene	2,28	0,12	2,04	0,57	µg/l	89%
1,1,1-Trichloroethane	1,33	0,07	1,32	0,18	µg/l	99%
Trichloromethane	<0,1		<0,2		µg/l	•
Tetrachloromethane	1,10	0,06	1,08	0,17	µg/l	98%
1,1-Dichloroethene	0,268	0,045	0,255	0,033	µg/l	95%
Tribromomethane	1,78	0,10	1,78	0,25	µg/l	100%
Bromodichloromethane	0,52	0,05	0,519	0,114	µg/l	100%
Dibromochloromethane	0,84	0,07	0,844	0,228	µg/l	100%
Dichloromethane	1,67	0,12	1,82	0,51	µg/l	109%
1,2-Dichloroethane	0,97	0,14	1,00	0,26	µg/l	103%
cis-1,2-Dichloroethene	0,419	0,031	0,390	0,179	µg/l	93%
trans-1,2-Dichloroethene	0,192	0,021	0,187	0,062	µg/l	97%



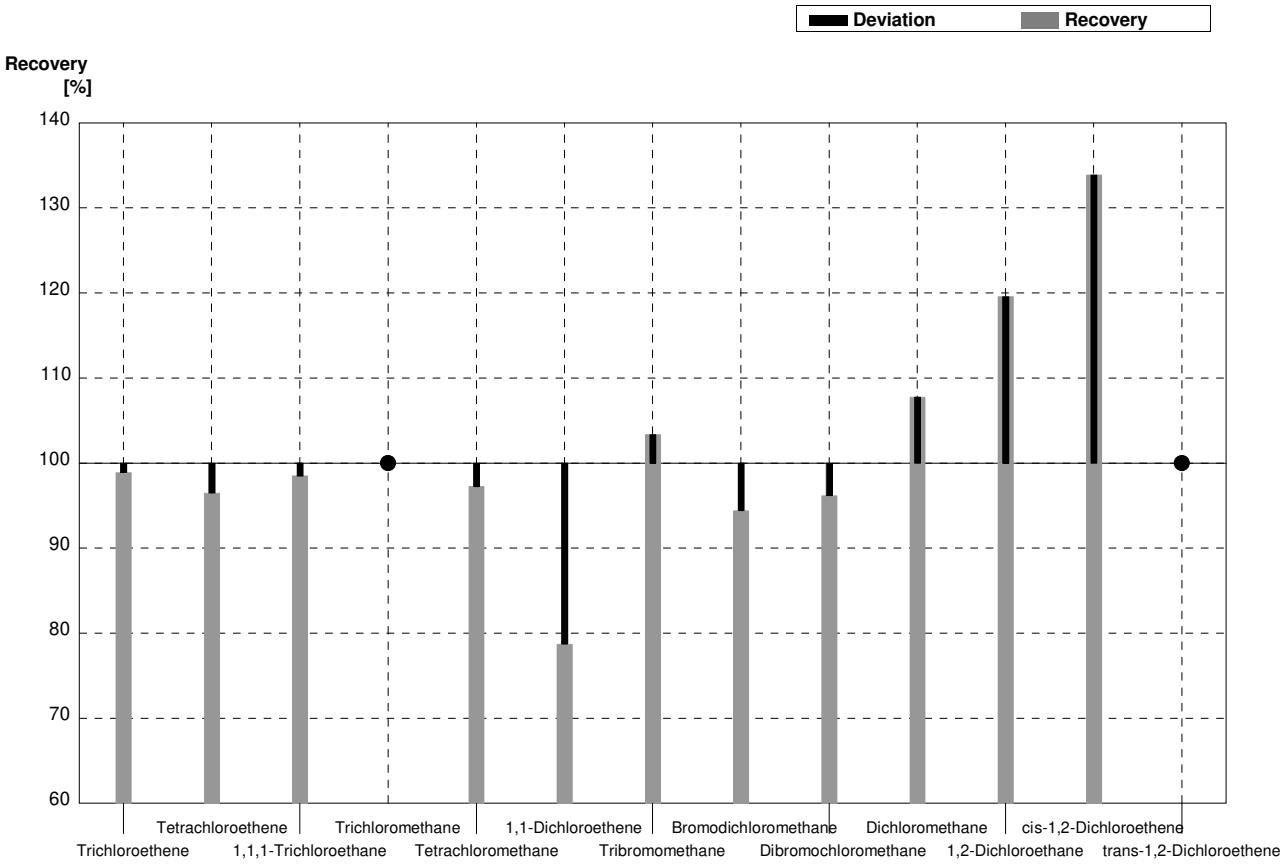
Sample C69B
Laboratory Q

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	0,318	0,031	0,280	0,087	µg/l	88%
Tetrachloroethene	0,332	0,022	0,305	0,085	µg/l	92%
1,1,1-Trichloroethane	0,276	0,020	0,275	0,039	µg/l	100%
Trichloromethane	1,34	0,10	1,39	0,19	µg/l	104%
Tetrachloromethane	<0,1		<0,2		µg/l	•
1,1-Dichloroethene	1,19	0,07	1,18	0,15	µg/l	99%
Tribromomethane	0,75	0,07	0,720	0,101	µg/l	96%
Bromodichloromethane	0,95	0,06	0,952	0,209	µg/l	100%
Dibromochloromethane	<0,1		<0,2		µg/l	•
Dichloromethane	2,70	0,16	2,99	0,84	µg/l	111%
1,2-Dichloroethane	1,47	0,15	1,48	0,38	µg/l	101%
cis-1,2-Dichloroethene	0,84	0,05	0,805	0,370	µg/l	96%
trans-1,2-Dichloroethene	1,57	0,08	1,59	0,52	µg/l	101%



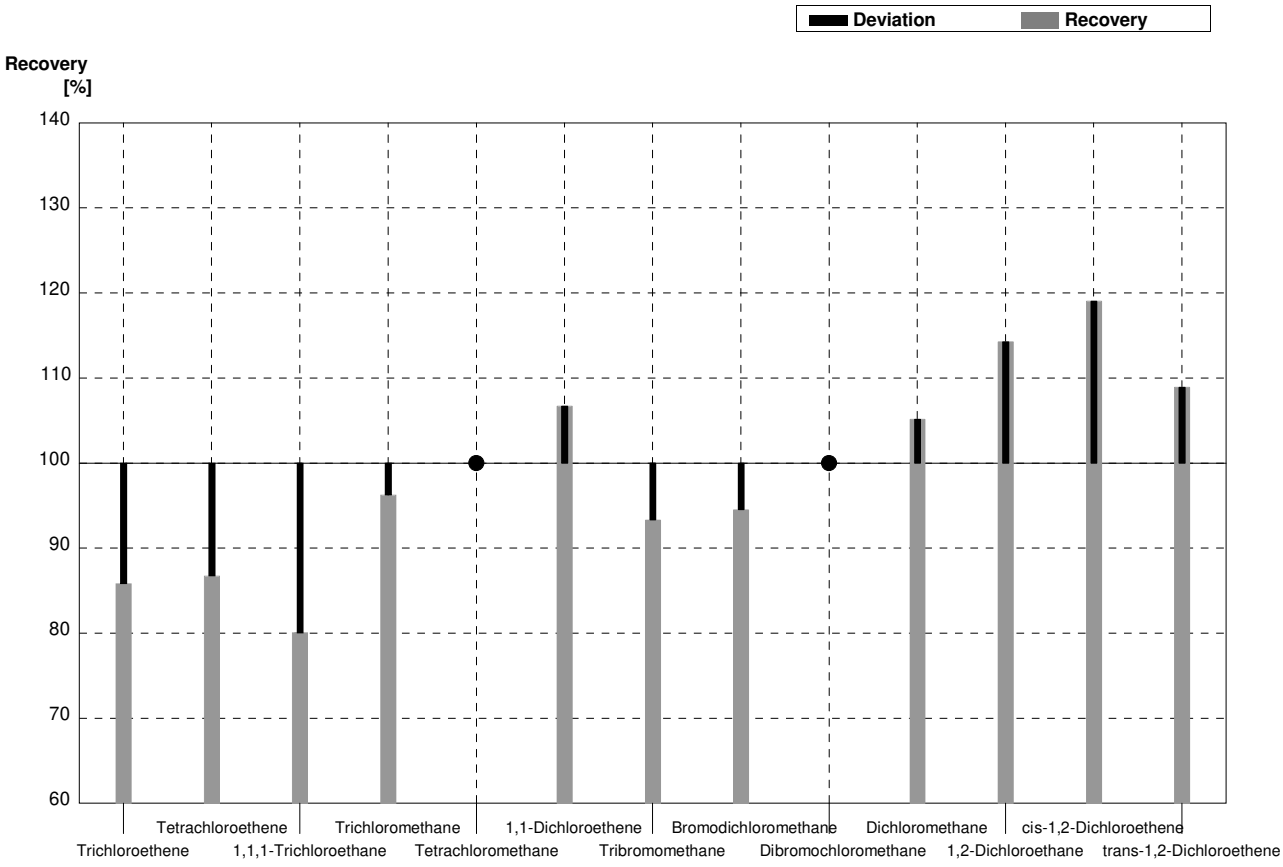
Sample C69A
Laboratory R

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	1,00	0,06	0,989	0,148	µg/l	99%
Tetrachloroethene	2,28	0,12	2,20	0,33	µg/l	96%
1,1,1-Trichloroethane	1,33	0,07	1,31	0,20	µg/l	98%
Trichloromethane	<0,1		<0,1		µg/l	•
Tetrachloromethane	1,10	0,06	1,07	0,16	µg/l	97%
1,1-Dichloroethene	0,268	0,045	0,211	0,032	µg/l	79%
Tribromomethane	1,78	0,10	1,84	0,28	µg/l	103%
Bromodichloromethane	0,52	0,05	0,491	0,074	µg/l	94%
Dibromochloromethane	0,84	0,07	0,808	0,121	µg/l	96%
Dichloromethane	1,67	0,12	1,80	0,27	µg/l	108%
1,2-Dichloroethane	0,97	0,14	1,16	0,17	µg/l	120%
cis-1,2-Dichloroethene	0,419	0,031	0,561	0,084	µg/l	134%
trans-1,2-Dichloroethene	0,192	0,021	<0,5		µg/l	•



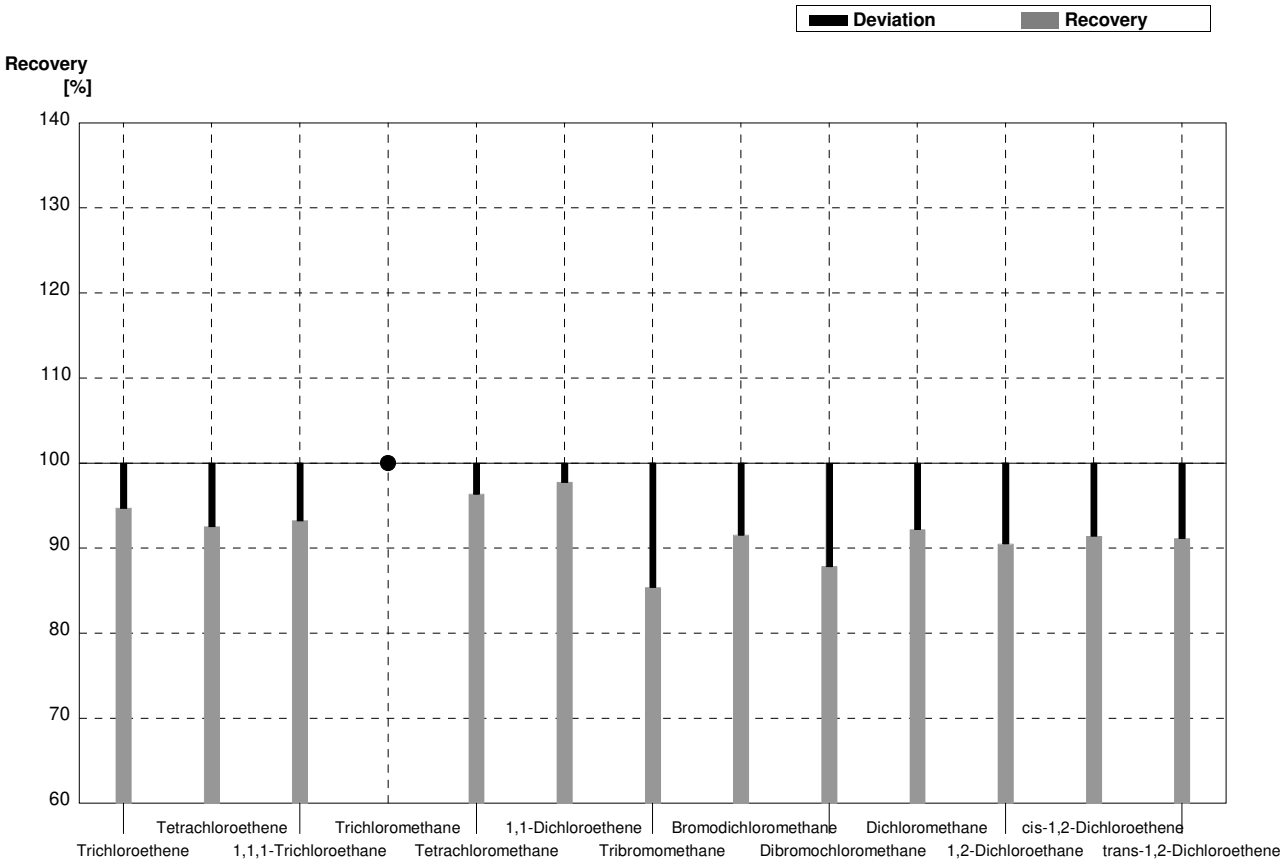
Sample C69B
Laboratory R

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	0,318	0,031	0,273	0,041	µg/l	86%
Tetrachloroethene	0,332	0,022	0,288	0,043	µg/l	87%
1,1,1-Trichloroethane	0,276	0,020	0,221	0,033	µg/l	80%
Trichloromethane	1,34	0,10	1,29	0,19	µg/l	96%
Tetrachloromethane	<0,1		<0,1	0,105	µg/l	•
1,1-Dichloroethene	1,19	0,07	1,27	0,19	µg/l	107%
Tribromomethane	0,75	0,07	0,700		µg/l	93%
Bromodichloromethane	0,95	0,06	0,898	0,135	µg/l	95%
Dibromochloromethane	<0,1		<0,1		µg/l	•
Dichloromethane	2,70	0,16	2,84	0,43	µg/l	105%
1,2-Dichloroethane	1,47	0,15	1,68	0,25	µg/l	114%
cis-1,2-Dichloroethene	0,84	0,05	1,00	0,15	µg/l	119%
trans-1,2-Dichloroethene	1,57	0,08	1,71	0,26	µg/l	109%



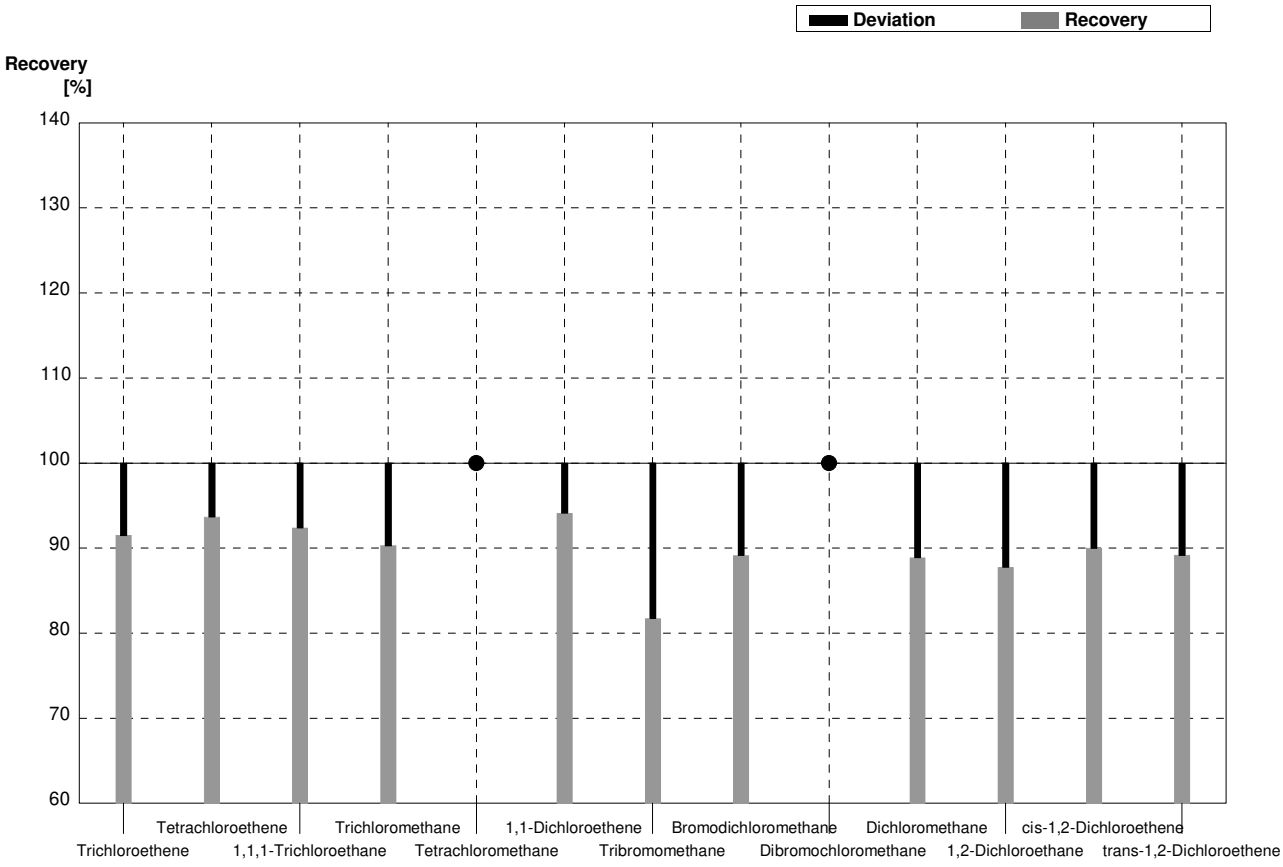
Sample C69A
Laboratory S

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	1,00	0,06	0,947	0,2	µg/l	95%
Tetrachloroethene	2,28	0,12	2,11	0,5	µg/l	93%
1,1,1-Trichloroethane	1,33	0,07	1,24	0,3	µg/l	93%
Trichloromethane	<0,1		<0,05	0,01	µg/l	•
Tetrachloromethane	1,10	0,06	1,06	0,3	µg/l	96%
1,1-Dichloroethene	0,268	0,045	0,262	0,1	µg/l	98%
Tribromomethane	1,78	0,10	1,52	0,4	µg/l	85%
Bromodichloromethane	0,52	0,05	0,476	0,1	µg/l	92%
Dibromochloromethane	0,84	0,07	0,738	0,2	µg/l	88%
Dichloromethane	1,67	0,12	1,54	0,4	µg/l	92%
1,2-Dichloroethane	0,97	0,14	0,878	0,2	µg/l	91%
cis-1,2-Dichloroethene	0,419	0,031	0,383	0,1	µg/l	91%
trans-1,2-Dichloroethene	0,192	0,021	0,175	0,04	µg/l	91%



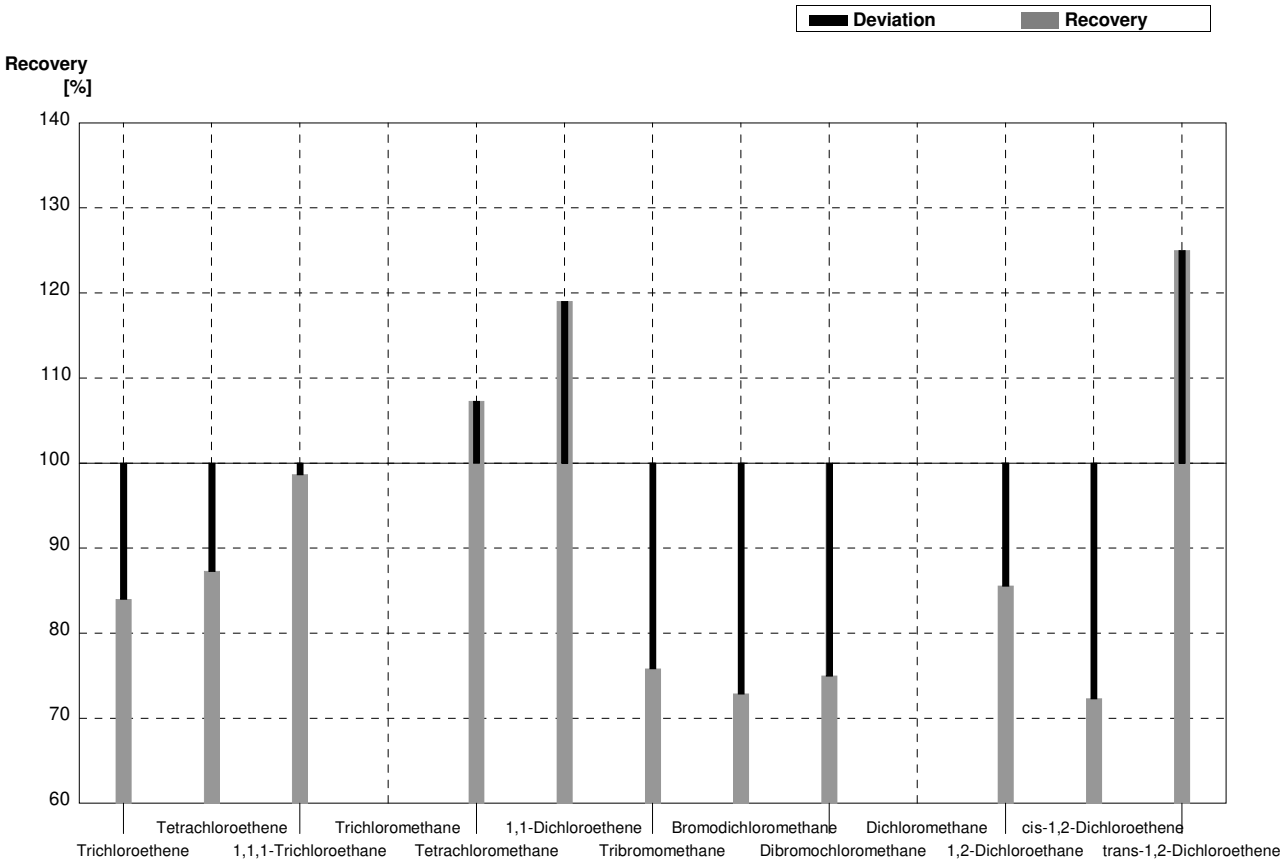
Sample C69B
Laboratory S

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	0,318	0,031	0,291	0,1	µg/l	92%
Tetrachloroethene	0,332	0,022	0,311	0,1	µg/l	94%
1,1,1-Trichloroethane	0,276	0,020	0,255	0,1	µg/l	92%
Trichloromethane	1,34	0,10	1,21	0,3	µg/l	90%
Tetrachloromethane	<0,1		<0,05	0,01	µg/l	•
1,1-Dichloroethene	1,19	0,07	1,12	0,3	µg/l	94%
Tribromomethane	0,75	0,07	0,613	0,2	µg/l	82%
Bromodichloromethane	0,95	0,06	0,847	0,2	µg/l	89%
Dibromochloromethane	<0,1		<0,05	0,01	µg/l	•
Dichloromethane	2,70	0,16	2,40	0,6	µg/l	89%
1,2-Dichloroethane	1,47	0,15	1,29	0,3	µg/l	88%
cis-1,2-Dichloroethene	0,84	0,05	0,756	0,2	µg/l	90%
trans-1,2-Dichloroethene	1,57	0,08	1,40	0,4	µg/l	89%



Sample C69A
Laboratory T

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	1,00	0,06	0,84	0,17	µg/l	84%
Tetrachloroethene	2,28	0,12	1,99	0,40	µg/l	87%
1,1,1-Trichloroethane	1,33	0,07	1,312	0,26	µg/l	99%
Trichloromethane	<0,1		<bg		µg/l	
Tetrachloromethane	1,10	0,06	1,18	0,236	µg/l	107%
1,1-Dichloroethene	0,268	0,045	0,319	0,064	µg/l	119%
Tribromomethane	1,78	0,10	1,35	0,270	µg/l	76%
Bromodichloromethane	0,52	0,05	0,379	0,076	µg/l	73%
Dibromochloromethane	0,84	0,07	0,63	0,127	µg/l	75%
Dichloromethane	1,67	0,12	<bg		µg/l	
1,2-Dichloroethane	0,97	0,14	0,83	0,17	µg/l	86%
cis-1,2-Dichloroethene	0,419	0,031	0,303	0,061	µg/l	72%
trans-1,2-Dichloroethene	0,192	0,021	0,240	0,048	µg/l	125%



Sample C69B
Laboratory T

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Trichloroethene	0,318	0,031	0,255	0,051	µg/l	80%
Tetrachloroethene	0,332	0,022	0,276	0,055	µg/l	83%
1,1,1-Trichloroethane	0,276	0,020	0,267	0,053	µg/l	97%
Trichloromethane	1,34	0,10	1,14	0,227	µg/l	85%
Tetrachloromethane	<0,1		<bg		µg/l	
1,1-Dichloroethene	1,19	0,07	1,31	0,26	µg/l	110%
Tribromomethane	0,75	0,07	0,55	0,11	µg/l	73%
Bromodichloromethane	0,95	0,06	0,69	0,14	µg/l	73%
Dibromochloromethane	<0,1		<bg		µg/l	
Dichloromethane	2,70	0,16	2,16	0,43	µg/l	80%
1,2-Dichloroethane	1,47	0,15	1,23	0,25	µg/l	84%
cis-1,2-Dichloroethene	0,84	0,05	0,59	0,12	µg/l	70%
trans-1,2-Dichloroethene	1,57	0,08	1,85	0,37	µg/l	118%