

# **IFA-Proficiency Testing Scheme for Water Analysis**

**Round N157  
Major Ions**

**Sample Dispatch: 17 May 2021**



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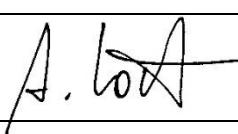
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141 pages

This report summarises the results of round N157 (major ions) within the IFA-Proficiency Testing Scheme for Water Analysis. The samples N157A and N157B were distributed to 43 participants on Monday, 17 May 2021. Each participant received two samples of 1000 mL, each filled into two 500 mL PET bottles.

Closing date for reporting results to the IFA-Tulln was Friday, 11 June 2021. All participants submitted results. To make the participants anonymous, each laboratory obtained a letter code by random.

## Samples

The samples consisted of artificial ground water. For sample preparation, ultrapure water was spiked with solutions of salts and standards in order to simulate the ionic composition of natural Austrian ground water. The following substances were added to the samples: CaCO<sub>3</sub>, CaCl<sub>2</sub>, Ca(NO<sub>3</sub>)<sub>2</sub>, MgSO<sub>4</sub>, Mg(NO<sub>3</sub>)<sub>2</sub>, NaCl, NaHCO<sub>3</sub>, KHCO<sub>3</sub>, K<sub>2</sub>SO<sub>4</sub>, diethyl ethylphosphonate (C<sub>6</sub>H<sub>15</sub>PO<sub>3</sub>, for total-P), potassium hydrogen phthalate (for DOC), sodium salicylate (for KMnO<sub>4</sub>-Index) and certified standard solutions of NaNO<sub>2</sub>, NH<sub>4</sub>Cl, KH<sub>2</sub>PO<sub>4</sub> and H<sub>3</sub>BO<sub>3</sub>. Both samples, N157A and N157B, contained free CO<sub>2</sub>, which was used for dissolution of CaCO<sub>3</sub>. No other substances (e.g. preservatives) were added. The samples were stabilised by sterile filtration and low temperature.

No phosphorus compounds were added to sample N157B in order to check the analytical blank values.

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

The samples were checked for homogeneity and accuracy at the IFA-Tulln before dispatch. The results of the measurements are listed in the result tables and the parameter oriented part of the report ("IFA result").

To verify stability, the parameters DOC, NH<sub>4</sub><sup>+</sup>, NO<sub>2</sub><sup>-</sup>, o-PO<sub>4</sub><sup>3-</sup> and KMnO<sub>4</sub>-Index of samples N157A and N157B were determined in several samples four weeks after shipment. The results are listed in the result tables ("Stability test") and the parameter oriented part of the report ("IFA result"). Stability tests for all other parameters will be carried out together with the accuracy tests of the following round (N158).

According to our experience, the samples remain stable up to 18 months for the parameters conductivity, total hardness, alkalinity, Ca<sup>2+</sup>, Mg<sup>2+</sup>, Na<sup>+</sup>, K<sup>+</sup>, NO<sub>3</sub><sup>-</sup>, Cl<sup>-</sup>, SO<sub>4</sub><sup>2-</sup>, boron and HCO<sub>3</sub><sup>-</sup> when stored at 4°C in the dark. For the parameters NH<sub>4</sub><sup>+</sup>, NO<sub>2</sub><sup>-</sup>, o-PO<sub>4</sub><sup>3-</sup>, total-P and DOC the samples remain stable several weeks, whereas the first changes normally are observed for NH<sub>4</sub><sup>+</sup>.

## Results

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

The target value of the electrical conductivity was set to the laboratory mean (conventional value). When calculated from more than 20 results with a standard deviation between the laboratories of about 1 %, the conventional value has a confidence interval that is smaller than the uncertainty of our estimate calculated from the target concentrations by Debye-Hückel's theory: 2.4 % (p = 95 %). However, the calculated electrical conductivity was 657 µS/cm in sample N157A and 356 µS/cm in sample N157B.

For the pH no target values can be assigned. The results can be compared on the tables. In this kind of samples containing CO<sub>2</sub>, the pH tends to increase slowly over time.

Total phosphorus after digestion had to be determined according to DIN EN ISO 6878. Diethyl ethylphosphonate ( $C_6H_{15}PO_3$ ), which can be determined as phosphate only after oxidative digestion and potassium dihydrogen phosphate ( $KH_2PO_4$ ), were used for preparation. The target values of total-P were calculated from the weights of the two substances. The results were given in mg/L o- $PO_4^{3-}$ .

The concentration of sodium salicylate, which was used as standard substance for the KMnO<sub>4</sub>-Index, was 4.29 mg/L in sample N157A and 2.18 mg/L in sample N157B. Assuming complete oxidation to carbon dioxide, nitrate and water (considering nitrite), the theoretical values were 6.02 mg/L O<sub>2</sub> (N157A) and 3.05 mg/L O<sub>2</sub> (N157B). However, the laboratory mean values were taken as reference values in this report: 5.64 mg/L O<sub>2</sub> for N157A and 3.04 mg/L O<sub>2</sub> for N157B.

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

In order to check the analytical blank values, target concentrations were set to <0.009 mg/L o- $PO_4^{3-}$  and <0.009 mg/L total-P (as  $PO_4^{3-}$ ) in N157B, 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.

No ammonium was added to sample N157A. The laboratory measurements, however, resulted in a theoretical value of  $0.0149 \pm 0.0013$  mg/L NH<sub>4</sub><sup>+</sup>, calculated using the laboratory mean values, which is thus above the minimum determination limit of 0.01 mg/L set by the GZÜV.

The reason for this is likely to be the exceptionally high salt concentration in this sample used for the production. The ammonium impurities contained in the calcium salts could be detected and measured. The measurement of the ammonium impurities in the magnesium salts could not be carried out due to problems with the photometric determination, so that the calculation is only possible using the information from the certificates, whereby a very high measurement uncertainty would have to be taken into account.

Since no reliably assigned value can be determined for ammonium in sample N157A. For this reason, no performance scores can be provided, see also DIN ISO 13528, section 9.2.2, last paragraph. As a guidance value ammonium in sample N157A is given as <0.02 mg/L in the report.

The recoveries of the target concentrations, calculated from outlier-corrected data mean values ranged between 95.0 % (boron in sample N157A) and 110.0 % (ammonium in sample N157B and o- $PO_4^{3-}$  in sample N157A).

The between laboratory CVs covered the range between 1.3 % (el. conductivity in sample N157A) and 13.3 % (ammonium in sample N157B).

All confidence intervals of the outlier-corrected laboratory mean values except for alkalinity K<sub>S 4.3</sub> in sample N157A ( $97.7\% \pm 0.8\%$ ) and DOC in sample N157B ( $105.2\% \pm 2.4\%$ ) encompass the corresponding target values with their uncertainties. For all other parameters, statistically, no difference could be detected between theoretical target concentrations and outlier corrected laboratory means.

## **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“)

$\sigma_{pt}$  standard deviation for proficiency assessment

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

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

### Calculation example:

A laboratory found 7.00 mg/L for the parameter DOC (recovery of 116 %). The target value for the DOC was 6.02 mg/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](http://www.ifatest.eu)) by 5.9 %, which is 0.36 mg/L DOC, when based on the target value.

$$z = \frac{x_i - X}{\sigma_{pt}} = \frac{7.00 \text{ mg/L} - 6.02 \text{ mg/L}}{0.36 \text{ mg/L}} \quad 2.7 \qquad \text{or} \qquad \frac{116\% - 100\%}{5.9\%} \quad 2.7$$

$z$  z-score

$x_i$  7.00 mg/L equivalent to 116 % (value of the laboratory)

$X$  6.02 mg/L equivalent to 100 % (target value)

$\sigma_{pt}$  0.36 mg/L equivalent to 5.9 % (standard deviation for proficiency assessment, see table below)

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

The following table lists the z-score criteria as relative standard deviation and their limits of applicability. Z-scores were only calculated, if the target values were higher than these limits.

Parameter	standard deviation for proficiency assessment	Lower limit
Alkalinity K <sub>S4.3</sub>	2.0 %	0.2 mmol/L
Ammonium	12 %	0.01 mg/L
Boron	7.8 %	0.012 mg/L
Calcium	3.3 %	9 mg/L
Chloride	3.0 %	2 mg/L
el. Conductivity	1.3 %	50 µS/cm
DOC	5.9 %	1 mg/L
Hydrogen carbonate	2.4 %	20 mg/L
KMnO <sub>4</sub> -Index	10 %	1 mg/L
Magnesium	3.7 %	1 mg/L
Nitrate	3.3 %	2 mg/L
Nitrite	6.1 %	0.01 mg/L
Orthophosphate	10 %	0.015 mg/L
Potassium	4.5 %	0.5 mg/L
Sodium	3.4 %	1 mg/L
Sulphate	3.1 %	3 mg/L
Total hardness	2.9 %	0.1 mmol/L
Total-P (as PO <sub>4</sub> <sup>3-</sup> )	10 %	0.015 mg/L

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

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

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

## Illustration of results

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

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

In the **parameter oriented part** the reported results and corresponding uncertainties are illustrated together with recoveries of the target values and the z-scores for each parameter and all laboratories. This information is presented in graphical and tabular form.

Results, which were identified as outliers by the Hampel test are marked with an asterisk (\*). These values were not considered for the calculation of statistical parameters (mean values, standard deviations and confidence intervals). Moreover, the parameter oriented part contains the uncertainties of the target values. The uncertainty intervals correspond to the expanded uncertainty (coverage factor  $k = 2$ ) as described in the EURACHEM / CITAC Guide "Quantifying Uncertainty in Analytical Measurement", 3<sup>rd</sup> Edition (2012)". The uncertainty interval of the reference concentration is illustrated in the graphs as a grey band around the 100 % recovery line.

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

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

Tulln, 23 June 2021

## EXPLANATION

### Sample M106A

#### Parameter Copper

Target value  $\pm U$  ( $k=2$ )  $4,79 \mu\text{g/l} \pm 0,13 \mu\text{g/l}$

IFA result  $\pm U$  ( $k=2$ )  $4,79 \mu\text{g/l} \pm 0,38 \mu\text{g/l}$

Stability test  $\pm U$  ( $k=2$ )  $4,69 \mu\text{g/l} \pm 0,38 \mu\text{g/l}$

Obtained from sample preparation,  $U$ =uncertainty

Determined at IFA prior to shipment of samples

Determined at IFA 3 weeks after sample dispatch

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A	5.16	0.4128	$\mu\text{g/l}$	108%	0.90
B	4.22	0.42	$\mu\text{g/l}$	88%	-1.38
C	4.45	0.13	$\mu\text{g/l}$	93%	-0.83
D			$\mu\text{g/l}$		
E			$\mu\text{g/l}$		
F	4.10	0.08	$\mu\text{g/l}$	86%	-1.68
G			$\mu\text{g/l}$		
H			$\mu\text{g/l}$		
I	4.75	0.74	$\mu\text{g/l}$	99%	-0.10
J	<5		$\mu\text{g/l}$	*	
K	4.76		$\mu\text{g/l}$	99%	-0.07
L	<10		$\mu\text{g/l}$	*	
M	4.8	0.5	$\mu\text{g/l}$	100%	0.02
N	3.7	0.4	$\mu\text{g/l}$	77%	-2.65
O	4.47	0.447	$\mu\text{g/l}$	93%	-0.78
P	6.0		$\mu\text{g/l}$	125%	2.94
Q	4.17	0.2	$\mu\text{g/l}$	87%	-1.51
R	4.6	0.8	$\mu\text{g/l}$	96%	-0.46
S	4.44	0.67	$\mu\text{g/l}$	93%	-0.85
T			$\mu\text{g/l}$		
U	4.675	0.935	$\mu\text{g/l}$	98%	-0.28
V	5.0	0.50	$\mu\text{g/l}$	104%	0.51
W	3.54	0.3	$\mu\text{g/l}$	74%	-3.03
X	7.108	*	$\mu\text{g/l}$	148%	5.63
Y	<10		$\mu\text{g/l}$	*	
Z			$\mu\text{g/l}$		
AA	<3.0		$\mu\text{g/l}$	FN	
AB	3.775	0.107	$\mu\text{g/l}$	79%	-2.46
AC	<10.0		$\mu\text{g/l}$	*	

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 $\pm$ CI(99%)	$4,65 \pm 0,57$	$4,51 \pm 0,42$	$\mu\text{g/l}$
Recov. $\pm$ CI(99%)	$97,1 \pm 12,0$	$94,1 \pm 8,8$	%
SD between labs	0.84	0.59	$\mu\text{g/l}$
RSD between labs	18.1	13.2	%
n for calculation	18	17	

Between laboratory standard deviation

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

Number of results used for calculation of statistic parameters

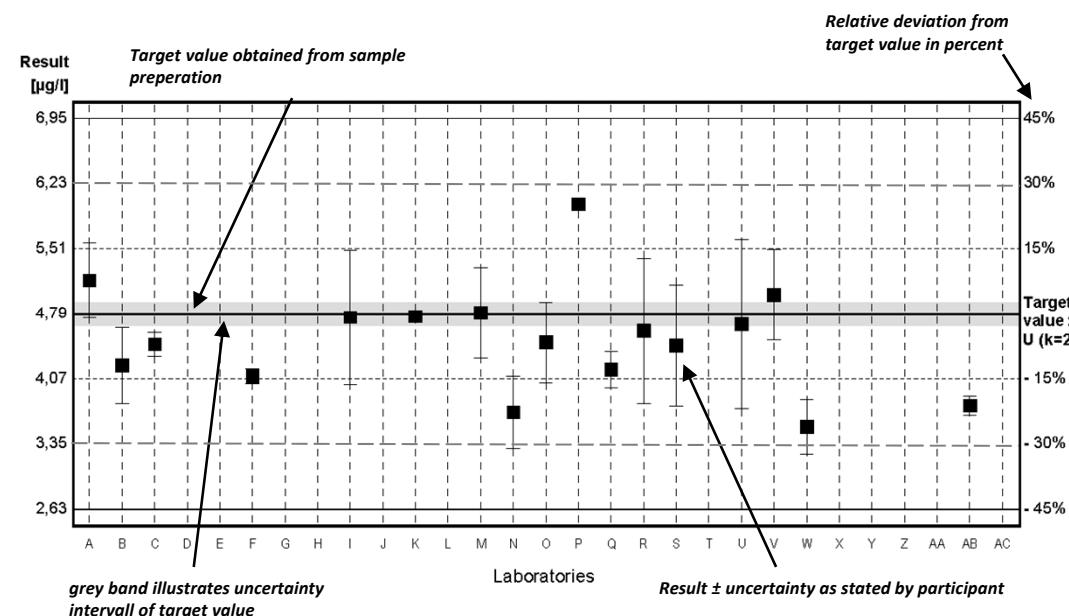


Diagram 1: Measurement results and their uncertainties

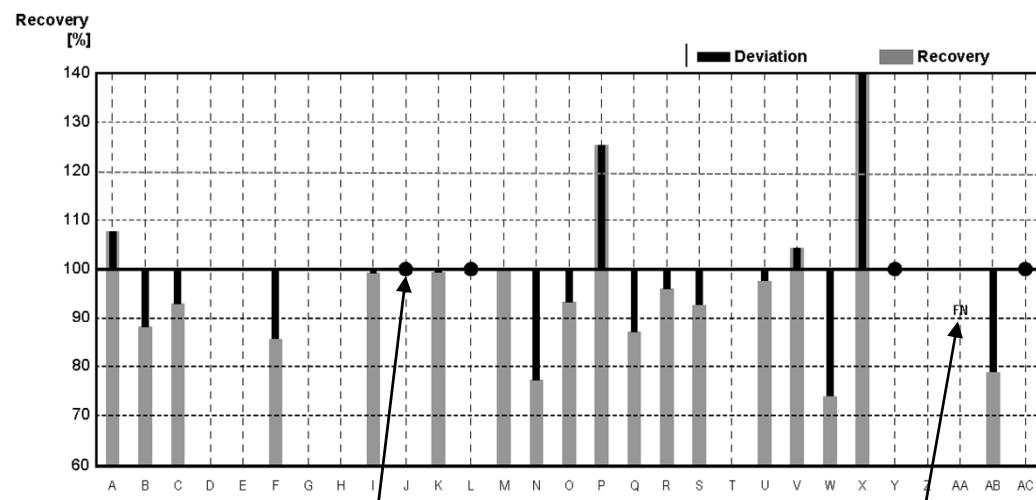


Diagram 2: Recoveries and deviations from target values

# **Illustration of Results Tables and Parameter Oriented Part**

Round N157  
Major Ions

Sample Dispatch: 17 May 2021



## Results Sample N157A

	pH	Cond.	total-Hardn.	K <sub>S 4.3</sub>	HCO <sub>3</sub> <sup>-</sup>	Ca <sup>2+</sup>	Mg <sup>2+</sup>	Na <sup>+</sup>	K <sup>+</sup>	NO <sub>3</sub> <sup>-</sup>
Unit		μS/cm	mmol/L	mmol/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Target value		657	2.83	3.03	182	76.6	22.3	19.6	5.90	12.9
IFA result	6.18	660	3.00	2.95	177	82.4	22.9	19.7	5.99	12.9
Stability test										
A	-				74.375					
B	6.00	662	2.88	3.10	189	78	22.6	19.7	5.8	12.7
C	6.14	643	3.04	2.94	176	85.4	22.3	17.5	6.26	13.6
D	6.19	660	2.836	2.99		76.54	22.52	19.47	5.04	12.96
E	6.12	664	2.83	2.99	181.8	77.6	21.7	19.65	5.92	11.80
F	5.78	868				96.2	28.8	20.2	5.61	12.9
G	7.00	654	2.81	2.86	171	77.1	21.3	18.8	5.4	13.5
H	6.15	666	2.83	2.84	174	75.8	22.7	18.8	5.85	12.5
I	6.5	645	2.90	3.05	186	76.7	22.9	19.9	6.15	12.5
J	6.2	660	2.81	3.00	181	76	22.0	19.8	5.80	13.14
K	-									
L	6.07	597	2.74	3.00	183	72	22.7	19.3	6.2	13.2
M	6.60	661	3.07	2.98	178.75	83.04	24.32	20.00	6.29	13.29
N	n.u.	653.7	2.842	3.01	180.7	76.5	22.7	19.3	5.80	13.04
O	6.26	649	2.82	2.96	181	76.9	21.8	18.7	5.82	12.6
P	6.2	660.7	2.536	3.028	181.7	66.1	21.6	17.3	5.0	10.7
Q	6.46	643	2.77	3.01	186	73.6	22.7	19.4	5.76	13.2
R	-									
S	6.43	649	2.701	2.84	173	72.8	21.5	18.5	5.56	12.28
T	-	656	2.79	2.80	169.6	70.26	21.48	18.50	5.75	12.46
U	6.2	665	2.86	2.95		75.7	22.2	19.6	5.78	13.0
V	6.8	662	2.65	2.94	179.4	71.95	20.76	18.39	5.72	57.575
W	6.26	669	2.74	2.94	177	74.1	21.5	19.3	6.22	12.7
X	6.2	661	2.83	2.96	177	76.4	22.5	19.5	5.97	12.8
Y	6.2	664	2.85	2.95	180.0	76.0	23.1	20.2	6.09	12.8
Z	6.14	651	2.71	2.93						13.2
AA	6.21	652	2.85	2.96	177	77.5	22.3	20.3	5.70	13.8
AB	6.15	661		3.02	181					13.8
AC	6.16	662	2.81	2.97	178	76.8	21.7	19.7	5.72	12.1
AD	6.75	669	2.71	2.93	180	73.2	21.4	20.5	6.34	12.0
AE	6.21	639	2.87	3.00	180	77.5	22.8	19.6	5.49	13.3
AF	6.11	653	2.98	2.96	178	80.3	23.7	20.4	5.88	14.2
AG	6.1	641	3.67	2.87	175	72.9	20.6	18.0	6.1	13.0
AH	-	669	2.84	2.95	177	76.8	22.2	19.6	5.89	12.9
AI	6.39	652	2.82			76.2	22.5	19.3	5.9	11.7
AJ	6.1	660	2.79	2.92	178	75	22.3			14.2
AK	6.1	655	2.90	2.97	178	76.7	24.6	20.3	6.08	12.5
AL	6.5	661	2.81	2.944	176.5	75.8	22.2	19.0	5.82	12.5
AM	-									12.67
AN	-		2.80	3.18	194					
AO	-			2.98	182					
AP	6.94	649.5	2.98	3.003		77.97	25.11			12.8
AQ	-					70.1	21.1	18.4	5.56	12.7

### Measurement Uncertainties Sample N157A

	pH ±	Cond. ±	total- Hardn. ±	K <sub>S 4.3</sub> ±	HCO <sub>3</sub> ±	Ca <sup>2+</sup> ±	Mg <sup>2+</sup> ±	Na <sup>+</sup> ±	K <sup>+</sup> ±	NO <sub>3</sub> ±
Unit		µS/cm	mmol/L	mmol/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Target value		3	0.03	0.04	3	1.0	0.2	0.5	0.05	0.2
IFA result	0.20	9	0.12	0.12	7	3.3	1.1	1.2	0.30	0.6
Stability test										
A	-					5.11				
B	0.04	12	0.09	0.09	6	3	0.5	0.9	0.3	0.9
C	0.61	64.3	0.9	0.88	53	25.6	6.70	5.24	1.88	4.09
D	0.02	30	0.05	0.02		0.6	0.6	0.3	0.06	0.5
E	-									
F	-									
G	0.2	15	0.11	0.05	3	4	1.1	1	0.3	0.7
H	0.10	15.3	0.23	0.14	8.7	6.97	1.66	1.54	0.63	0.57
I	0.33	32	0.29	0.153	9.3	7.7	2.3	2	0.62	0.63
J	0.1	13	0.28	0.20	15	3	0.9	0.6	0.46	0.92
K	-									
L	0.06	13	0.22	0.13	8.2	3.7	1.4	1.5	0.22	0.64
M	0.1	4.51		0.3		8.3	2.4	2.0	0.6	1.3
N	-	32.7		0.15	9.0	4.6	1.4	1.2	0.3	1.30
O	-									
P	-		0.337			8.82	2.86	3.06	0.82	0.9
Q	0.19	64	0.28	0.30	19	7.4	2.3	1.9	0.58	1.3
R	-									
S	0.14	7	0.007	0.05	3	0.4	0.2	0.2	0.04	0.03
T	-	18	0.31	0.35	21.2	2.81	2.26	1.91	0.48	1.01
U	0.1	33	0.20	0.10		2.3	0.7	0.6	0.17	0.3
V	0.41	26.5		0.441	26.91	7.195	2.076	1.839	0.572	2.303
W	0.03	20	0.22	0.14	8.5	3.4	1.8	1.4	0.45	0.42
X	0.3	27	0.1	0.2	8	7	3	3	0.8	1.1
Y	0.05	5	0.57	0.3	18	15.2	4.62	3.10	1.22	1.3
Z	0.07	35	0.35	0.15						1.33
AA	0.20	12.00	0.01	0.01	0.58	0.50	0.52	0.42	0.02	0.12
AB	0.04	4.68		0.09	2.61					0.95
AC	0.25	20	0.23	0.12	7	3.9	1.3	0.8	0.46	0.8
AD	-					5.6	1.6	0.8	0.35	2.7
AE	0.1	12.8	0.345	0.060	3.60	9.30	2.74	2.35	0.659	1.33
AF	0.18	0.6		0.02	1.5	0.5	0.2	0.4	0.07	0.1
AG	0.3	32	0.53	0.14	9	15	4.1	3.6	1.2	2.0
AH	-	0.160	0.0357	0.110	3.54	0.757	0.733	0.620	0.439	0.610
AI	0.2	15	0.1			7.6	2.4	1.9	0.6	1.8
AJ	0.2	33	0.3	0.3	18	7.5	2.2			1.5
AK	0.15	16.4	0.29	0.30	17.8	7.7	2.5	2.03	0.61	1.25
AL	0.1	26	0.15	0.211	12.9	3.6	1.4	1.0	0.25	0.8
AM	-									3.21
AN	-									
AO	-			0.298	18.2					
AP	0.05	0.3	0.06	0.06		0.82	1.53			0.5
AQ	-					1.4	0.4	0.3	0.05	0.1

## Results Sample N157A

	<b>NO<sub>2</sub><sup>-</sup></b>	<b>NH<sub>4</sub><sup>+</sup></b>	<b>Cl<sup>-</sup></b>	<b>SO<sub>4</sub><sup>2-</sup></b>	<b>o-PO<sub>4</sub><sup>3-</sup></b>	<b>Boron</b>	<b>DOC</b>	<b>total-P (as PO<sub>4</sub><sup>3-</sup>)</b>	<b>KMnO<sub>4</sub>- Index</b>
Unit	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Target value	0.058	<0.02*	61.1	79.6	0.065	0.052	8.93	0.117	5.64
IFA result	0.057	0.0119	60.6	80.4	0.066	0.049	8.85	0.131	5.76
Stability test	0.057	0.0126			0.065		9.06		5.53
A					0.0430			0.304	
B	0.058	<0.02	62	80	0.063		9.1	0.117	7.4
C	<	<	61.41	79.03	0.0366	0.0359	39.09	0.126	6.55
D	0.0550	<0.023	62.49	80.50			8.77		
E	0.057	0.0100	60.57	79.20	0.055		9.25	0.101	5.68
F	0.057		62.1	82.1	0.054				
G	0.0629	<0.04	56.1	80					
H	0.056	0.0239	59.6	77.4	0.0603	0.0516	9.25	0.120	5.98
I	0.061	0.0170	61.6	83.2	0.066	0.0490	9.45	0.117	5.96
J	0.056	0.0190	63	81	0.074	0.0493	8.7	0.115	5.5
K								0.147	
L	0.077	0.0290	60	80	0.0221		25.0	0.058	5.2
M	0.059	0.0148	63.77	82.51	0.062	0.0574	8.974	0.109	
N	0.056	<0.02	61.83	81.27	0.06201	n.u	n.u	0.1121	n.u
O	0.058	<0.042	62.7	84.0	<0.040	0.0360	9.44		5.2
P	0.059	<0.03	56.9	72.0	0.071	0.054	9.3	0.110	5.8
Q	0.0556	0.0128	55.0	73.6	0.0554	0.0480	8.98	0.105	5.81
R			55.82	75.14					
S	0.0588	0.0164	60.6	80.7	0.0514	0.0471			
T	0.058	<0.040	60.3	77.8	0.061	0.0271		0.109	5.37
U	0.058	0.0141	61.1	79.6	0.0204	0.0475		0.0372	
V	0.059	<0.0005	57.33	83.58	0.052	0.056	9.0	0.1134	5.77
W	0.0553	0.0165	62.5	83.7	0.0678	0.0519	8.84	0.117	5.52
X	0.059	0.0129	61.4	80.0	0.061		9.05	0.116	
Y	0.0571	0.0170	60.4	81.8	0.063	0.0483	8.65	0.108	
Z	0.062	<0.05	62.2	78.8	0.063		8.99	0.090	6.18
AA	0.0630	0.0155	63.9	86.9	0.0711	0.0485	9.23	0.108	5.29
AB	0.0577	0.0081	61.8		0.0644			0.112	
AC	0.060	0.0141	60.2	76.5	0.067	0.055	9.11	0.119	
AD	0.0591	0.0180	59.3	77.5	0.057	54.0	9.84		5.54
AE	0.057		64.0	81.7		0.053	9.88	0.124	5.26
AF	0.061	0.0163	62	88.4	0.059	0.050	8.88	0.128	5.4
AG	0.050	0.0200	59.8	77.5	<0.5	0.0450	8.9	0.107	5.2
AH	0.0554	0.0150	62.0	81.2	0.0618	0.0532	8.97	0.1165	6.03
AI			62.8	81.5					
AJ	0.056	0.0130	63	86.5					5.4
AK	0.064	0.0140	62.9	80.2	0.060	0.059	9.15	0.120	5.34
AL	0.0579	0.0152	60.6	79.5	0.069	0.0497	8.32	0.106	
AM		0.0137			0.0782		>4	0.1303	
AN					0.0654			0.1163	
AO					0.084	0.0410		0.102	
AP			65.5	75.7					6.039
AQ			60.7	79.9					

\*guidance value, see also report page 4

### Measurement Uncertainties Sample N157A

	$\text{NO}_2^-$ ±	$\text{NH}_4^+$ ±	$\text{Cl}^-$ ±	$\text{SO}_4^{2-}$ ±	$\text{o-PO}_4^{3-}$ ±	Boron ±	DOC ±	total-P (as $\text{PO}_4^{3-}$ ) ±	KMnO <sub>4</sub> - Index ±
Unit	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Target value	0.001		0.9	0.9	0.001	0.001	0.04	0.001	0.17
IFA result	0.003	0.0020	2.4	1.6	0.001	0.004	0.09	0.020	0.86
Stability test	0.003	0.0021			0.001		0.09		0.83
A					0.0027			0.018	
B	0.004		5	4	0.004		0.7	0.018	0.7
C			18.42	23.7	0.01	0.0108	11.73	0.04	1.97
D	0.015	0.080	0.25	3.0			0.03		
E									
F									
G	0.003		3	4					
H	0.0024	0.00241	4.11	3.64	0.0060	0.0051	1.45	0.021	0.29
I	0.006	0.007	3.08	4.16	0.006	0.005	1.0	0.012	0.86
J	0.006	0.0060	5	5	0.011	0.0035	1.2	0.015	0.6
K								0.026	
L	0.011	0.0021	4.8	4.9	0.0019		4.2	0.008	0.32
M	0.006	0.0015	6.3	8.2	0.006	0.006	0.9	0.001	
N	0.006		6.2	8.1	0.0093			0.0168	
O									
P	0.006		4.75	4.64	0.020		1.74	0.018	
Q	0.0056	0.0013	5.5	7.4	0.0055	0.0048	0.898	0.021	1.16
R			5.6	7.5					
S	0.0019	0.0034	1.4	1.1	0.0111	0.0027			
T	0.005	0.004	7.12	8.77	0.006	0.003		0.010	0.67
U	0.003	0.0027	1.8	2.2	0.0010	0.0189		0.0019	
V	0.0047		2.867	4.179	0.0063	0.0067	0.72	0.0172	0.923
W	0.0056	0.0012	4.2	2.8	0.0047	0.006	1.4	0.0081	0.83
X	0.005	0.0018	4	6	0.006		1.3	0.02	
Y	0.0137	0.0030	6.1	8.2	0.013	0.012	0.87	0.022	
Z	0.006	0.007	2.72	9.1	0.006		1.92	0.009	1.03
AA	0.0003	0.001	0.59	1.20	0.0009	0.0012	0.12	0.012	0.04
AB	0.0058	0.0012	0.63		0.0076			0.015	
AC	0.005	0.004	3.0	4.6	0.004	0.006	0.80	0.008	
AD	0.0045	0.0019	15.9	19.2		2.1	5.5		
AE	0.004		6.40	8.17		0.011	0.99	0.025	0.26
AF	0.003	0.002	0.4	0.4	0.003	0.002	0.01	0.004	0.7
AG	0.010	0.0100	9.0	11.6		0.009	1.8	0.02	0.5
AH	0.00186	0.00233	0.710	0.860	0.00166	0.00117	0.0436	0.00303	
AI			6.3	8.2					
AJ	0.006	0.0015	6	8.6					0.6
AK	0.006	0.0014	6.29	8.02	0.006	0.006	0.92	0.012	0.534
AL	0.0061	0.0050	4.8	7.3	0.009	0.0054	1.48	0.018	
AM		0.00150			0.00430			0.00430	
AN									
AO					0.006	0.004		0.0102	
AP			1.1	7.4					0.588
AQ			0.6	0.1					

## Results Sample N157B

	pH	Cond.	total-Hardn.	K <sub>S 4.3</sub>	HCO <sub>3</sub> <sup>-</sup>	Ca <sup>2+</sup>	Mg <sup>2+</sup>	Na <sup>+</sup>	K <sup>+</sup>	NO <sub>3</sub> <sup>-</sup>
Unit		µS/cm	mmol/L	mmol/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Target value		361	1.23	1.58	93.2	34.8	8.84	20.3	2.77	21.3
IFA result	6.56	362	1.31	1.55	91.6	37.6	9.04	20.3	2.78	20.6
Stability test										
A	-				34.750					
B	6.37	360	1.30	1.559	95.1	37.3	9.0	20.3	2.74	22.6
C	6.39	355	1.27	1.56	91.9	36.0	9.09	21.2	2.86	21.7
D	6.50	362	1.269	1.58		35.37	9.14	20.01	2.96	21.37
E	6.51	364	1.27	1.59	94.8	35.0	9.6	20.28	2.76	20.14
F	6.19	477				44.6	10.7	21.0	2.63	21.7
G	8.03	360	1.247	1.49	88	35.4	8.9	19.6	2.44	21.03
H	6.49	362	1.21	1.50	91.4	34.2	8.77	19.7	2.79	20.5
I	7.3	354	1.30	1.606	98	34.8	9.5	21.0	2.91	21.0
J	6.5	362	1.23	1.60	96	35.0	8.6	20.5	2.72	22.0
K	-									
L	6.47	327	1.16	1.56	95	32.2	8.9	19.9	2.98	21.0
M	6.97	378	1.36	1.56	92.125	38.56	9.78	20.84	2.93	21.56
N	n.u.	359.3	1.219	1.60	94.6	34.3	8.82	19.9	2.77	21.69
O	6.71	355	1.23	1.60	97.4	35.0	8.66	19.3	2.53	21.3
P	6.5	361.6	1.478	1.600	94.6	40.5	11.4	19.5	3.30	21.0
Q	6.74	349	1.27	1.58	96.4	35.9	9.10	20.1	2.75	21.8
R	-									
S	6.59	357	1.215	1.49	90.9	34.0	8.90	19.6	2.70	20.65
T	-	363	1.19	1.50	88.5	34.50	8.61	19.23	2.72	21.79
U	6.6	367	1.27	1.56		34.5	8.79	20.3	2.80	21.3
V	6.6	362	1.25	1.52	92.7	35.26	8.89	20.26	2.80	94.902
W	6.63	367	1.20	1.49	90.9	33.8	8.53	19.3	2.82	21.2
X	6.6	362	1.23	1.56	91.8	34.9	8.86	20.4	2.78	21.2
Y	6.6	364	1.25	1.55	91.5	34.6	9.34	21.2	2.96	21.0
Z	6.50	359	1.18	1.55						21.9
AA	6.49	358	1.26	1.55	92.8	35.8	8.99	20.5	2.68	22.0
AB	6.45	363		1.60	94.7					22.5
AC	6.51	362	1.24	1.56	92.1	35.7	8.53	20.3	2.65	20.5
AD	7.22	370	1.20	1.52	93	33.7	8.69	20.4	3.01	20.5
AE	6.53	350	1.27	1.59	94.0	35.8	9.23	20.4	2.53	24.8
AF	6.41	352	1.28	1.56	92	36.3	8.98	20.4	2.75	21.0
AG	6.4	325	1.18	1.53	93.0	33.5	8.4	18.8	2.72	21.5
AH	-	366	1.24	1.54	90.9	34.9	8.85	20.2	2.85	21.2
AI	6.69	362	1.22			34.6	8.9	20.0	2.79	20.1
AJ	6.3	358	1.12	1.55	95	30.0	9.0			22.9
AK	6.4	360	1.30	1.56	92	35.0	9.76	21.1	2.89	21.0
AL	6.9	381	1.23	1.562	92.2	34.6	8.9	19.9	2.76	20.7
AM	-									23.16
AN	-		1.24	1.58	96.4					
AO	-			1.58	96					
AP	7.29	356.5	1.24	1.588		35.93	8.35			21.1
AQ	-					33.4	8.83	19.9	2.45	20.9

### Measurement Uncertainties Sample N157B

	pH ±	Cond. ±	total- Hardn.±	K <sub>S 4.3</sub> ±	HCO <sub>3</sub> <sup>-</sup> ±	Ca <sup>2+</sup> ±	Mg <sup>2+</sup> ±	Na <sup>+</sup> ±	K <sup>+</sup> ±	NO <sub>3</sub> <sup>-</sup> ±
Unit		µS/cm	mmol/L	mmol/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Target value		2	0.01	0.01	0.7	0.4	0.09	0.2	0.03	0.4
IFA result	0.20	5	0.05	0.06	3.7	1.9	0.45	1.2	0.19	1.0
Stability test										
A	-				2.387					
B	0.05	7	0.04	0.044	2.7	1.1	0.4	1.0	0.13	1.5
C	0.64	35.5	0.42	0.47	27.6	10.8	2.73	6.35	0.86	6.5
D	0.02	30	0.05	0.02		0.6	0.6	0.3	0.06	0.5
E	-									
F	-									
G	0.2	8	0.06	0.04	3	2	0.5	1	0.17	1.1
H	0.11	8.3	0.10	0.075	4.6	3.15	0.64	1.62	0.30	0.94
I	0.37	18	0.13	0.080	4.9	3.5	1.0	2.1	0.3	1.05
J	0.1	7	0.12	0.1	8	1.4	0.5	0.8	0.22	0.9
K	-									
L	0.06	7.1	0.09	0.07	4.3	1.7	0.56	1.5	0.10	1.0
M	0.1	4.51		0.16		3.9	0.9	2.0	0.3	2.1
N	-	18.0		0.08	4.73	2.1	0.5	1.2	0.2	2.17
O	-									
P	-		0.197			5.40	1.51	3.45	0.54	1.77
Q	0.20	35	0.13	0.16	9.6	3.6	0.91	2.0	0.28	2.2
R	-									
S	0.07	6	0.005	0.02	1.4	0.3	0.11	0.1	0.02	0.71
T	-	10	0.13	0.19	11.06	1.38	0.91	1.98	1.29	1.76
U	0.1	18	0.06	0.08		1.04	0.26	0.61	0.08	0.5
V	0.4	14.5		0.228	13.91	3.526	0.889	2.026	0.280	3.7961
W	0.033	11	0.10	0.072	4.4	1.5	0.70	1.4	0.20	0.70
X	0.3	15	0.1	0.1	4	3	1.1	4	0.4	2
Y	0.05	5	0.25	0.16	9.2	6.92	1.87	3.20	0.60	2.1
Z	0.08	20	0.15	0.08						2.21
AA	0.20	7.00	0.02	0.01	0.29	0.25	0.26	0.45	0.01	0.20
AB	0.04	2.57		0.05	1.37					1.54
AC	0.25	11	0.10	0.07	3.7	1.8	0.51	0.8	0.21	1.2
AD	-					2.6	0.66	0.8	0.17	4.6
AE	0.1	7.00	0.153	0.032	1.88	4.30	1.11	2.45	0.304	2.48
AF	0.25	1.0		0.01	0.6	0.3	0.12	0.4	0.05	0.7
AG	0.3	18	0.24	0.08	4.7	6.7	1.7	3.8	0.54	3.2
AH	-	0.260	0.0196	0.0800	1.82	0.751	0.147	0.619	0.0245	0.520
AI	0.2	15	0.1			3.5	0.9	2.0	0.3	2.0
AJ	0.2	18	0.11	0.16	9.5	3	0.9			2.3
AK	0.16	9.0	0.13	0.16	9.2	3.5	0.98	2.11	0.29	2.1
AL	0.1	15	0.07	0.125	7.6	1.7	0.6	1.0	0.15	1.3
AM	-									1.72
AN	-									
AO	-			0.158	9.6					
AP	0.05	0.3	0.06	0.06		0.82	1.53			0.5
AQ	-					0.1	0.04	0.3	0.02	0.2

## Results Sample N157B

	<b>NO<sub>2</sub><sup>-</sup></b>	<b>NH<sub>4</sub><sup>+</sup></b>	<b>Cl<sup>-</sup></b>	<b>SO<sub>4</sub><sup>2-</sup></b>	<b>o-PO<sub>4</sub><sup>3-</sup></b>	<b>Boron</b>	<b>DOC</b>	<b>total-P (as PO<sub>4</sub><sup>3-</sup>)</b>	<b>KMnO<sub>4</sub>- Index</b>
Unit	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Target value	0.0278	0.0303	33.9	26.7	<0.009	0.082	3.28	<0.009	3.04
IFA result	0.0277	0.0309	33.7	26.9	<0.009	0.077	3.27	<0.009	2.98
Stability test	0.0278	0.0310			<0.009		3.31		2.96
A					<0.01			<0.01	
B	0.0280	0.0347	35.7	27.1	<0.01		3.37	<0.003	3.78
C	<	<	33.70	26.08	<	0.0602	19.68	0.0606	4.04
D	0.0283	0.0438	34.75	27.25			3.61		
E	0.0270	0.0290	33.75	26.56	<0.009		3.51	<0.009	2.84
F			34.8	27.3					
G	0.0300	<0.04	31.65	25.81					
H	<0.03	0.0560	33.2	26.2	<0.02	0.0800	3.56	<0.020	3.16
I	0.0310	0.0320	34.2	26.8	<0.01	0.0774	3.68	<0.01	3.73
J	0.0270	0.0310	35.0	27.6	<0.009	0.079	3.25	<0.009	3.00
K								<0.110	
L	0.0430	0.0440	32.8	26.3	<0.010		10.3	<0.010	2.74
M	0.0287	0.0330	35.47	26.21	<0.0055	0.0913	3.54	<0.0010	
N	0.0280	0.0340	34.58	27.38	<0.0153	n.u	n.u	<0.0306	n.u
O	0.0300	<0.042	34.9	27.3	<0.040	0.056	3.45		3.00
P	0.0280	0.0410	43.8	38.5	<0.03	0.083	3.54	<0.005	3.01
Q	0.0265	0.0272	34.3	27.2	<0.008	0.077	3.26	<0.015	3.16
R			31.85	25.44					
S	0.0289	0.0359	33.9	26.5	<0.01	0.0760			
T	0.0290	<0.040	33.4	26.7	0.0170	0.0618		0.0300	2.73
U	0.0278	0.0364	34.1	26.7	<0.0010	0.075		<0.0010	
V	0.0300	0.0280	34.50	28.35	0.00900	0.091	3.50	<0.0061	3.00
W	0.0263	0.0315	34.8	26.4	<0.015	0.0809	3.30	<0.015	2.86
X	0.0280	0.0310	33.9	26.8	<0.01		3.46	<0.013	
Y	0.0281	0.0338	33.3	26.7		0.0745	3.16		
Z	<0.059	<0.05	34.5	28.9	<0.018		3.57	<0.018	3.40
AA	0.0305	0.0304	34.3	27.3	<0.015	0.0780	3.56	<0.015	2.63
AB	0.0282	0.0337	34.1		<0.006			<0.006	
AC	0.0292	0.0321	33.7	26.3	<0.006	0.088	3.51	<0.006	
AD	0.0296	0.0374	33.1	25.5	0.0261	89.3	4.02		3.12
AE	0.0300	0.0270	34.3	27.4		0.083	4.23	0.0080	2.68
AF	0.0323	0.051	35.1	26.7	0.0154	0.070	3.41	0.061	2.94
AG	0.0240	0.0300	34.5	27.5	<0.5	0.0720	3.45	<0.031	2.90
AH	0.0279	0.0311	34.5	27.2	[0.002]	0.0826	3.28	[0.004]	3.43
AI			34.1	25.8					
AJ	0.0290	0.0330	34.4	25.6					2.66
AK	0.0310	0.0293	34.7	26.9	<0.006	0.094	3.46	<0.050	2.81
AL	0.0276	0.0327	34.1	26.2	<0.010	0.0787	3.51	<0.010	
AM		0.0369			<0.019		2.63	<0.02	
AN					<0.009			<0.009	
AO					<0.05	0.065		<0.020	
AP			36.9	23.0					3.362
AQ			33.7	26.7					

### Measurement Uncertainties Sample N157B

	$\text{NO}_2^-$ ±	$\text{NH}_4^+$ ±	$\text{Cl}^-$ ±	$\text{SO}_4^{2-}$ ±	$\text{o-PO}_4^{3-}$ ±	Boron ±	DOC ±	total-P (as $\text{PO}_4^{3-}$ ) ±	KMnO <sub>4</sub> - Index ±
Unit	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Target value	0.0004	0.0031	0.6	0.3		0.001	0.02		0.14
IFA result	0.0014	0.0022	1.3	0.8		0.006	0.09		0.45
Stability test	0.0014	0.0022					0.09		0.44
A									
B	0.0015	0.0042	2.9	1.4			0.24		0.14
C			10.11	7.82		0.0181	5.91	0.02	1.21
D	0.015	0.080	0.25	3.0			0.03		
E									
F									
G	0.005		1.6	1.4					
H		0.0057	2.29	1.23		0.0081	0.56		0.15
I	0.003	0.003	1.71	1.34		0.008	0.40		0.54
J	0.0030	0.0090	2.8	1.7		0.005	0.5		0.30
K								0.019	
L	0.0063	0.0032	2.6	1.6			1.7		0.17
M	0.003	0.003	3.5	2.6		0.009	0.4		
N	0.005	0.010	3.5	2.7					
O									
P	0.003	0.009	3.65	2.48			0.66		
Q	0.0027	0.0027	3.4	2.7		0.008	0.33		0.63
R			3.2	2.6					
S	0.0007	0.0088	0.2	1.4		0.0046			
T	0.002	0.004	3.94	3.01	0.002	0.007		0.003	0.34
U	0.0013	0.0071	1.0	0.7		0.030			
V	0.0024	0.0028	1.725	1.418	0.0011	0.0109	0.28		0.48
W	0.0027	0.0022	2.3	0.87		0.010	0.53		0.43
X	0.002	0.005	3	2			0.5		
Y	0.0067	0.0060	3.3	2.7		0.019	0.32		
Z	0.006	0.007	1.51	3.34	0.002		0.76	0.002	0.57
AA	0.0002	0.001	0.15	0.40		0.0004	0.05		0.04
AB	0.0028	0.0051	0.35		0			0	
AC	0.003	0.004	1.7	1.6		0.009	0.32		
AD	0.0023	0.0040	8.9	6.3		3.4	2.25		
AE	0.002	0.002	3.43	2.74		0.017	0.42	0.002	0.13
AF	0.0028	0.002	0.5	1.3	0.0034	0.002	0.04	0.004	0.1
AG	0.004	0.015	5.2	4.1		0.0140	0.70		0.29
AH	0.00185	0.00227	0.360	0.370		0.00112	0.0334		
AI			3.8	2.6					
AJ	0.003	0.003	3.5	2.6					0.3
AK	0.0031	0.0029	3.47	2.69		0.0094	0.35		0.281
AL	0.0040	0.0074	2.8	2.5		0.0080	0.71		
AM		0.0079					0.0443		
AN									
AO					0.005	0.006		0.002	
AP			1.1	7.4					0.588
AQ			0.1	0.1					

## Sample N157A

### Parameter Conductivity

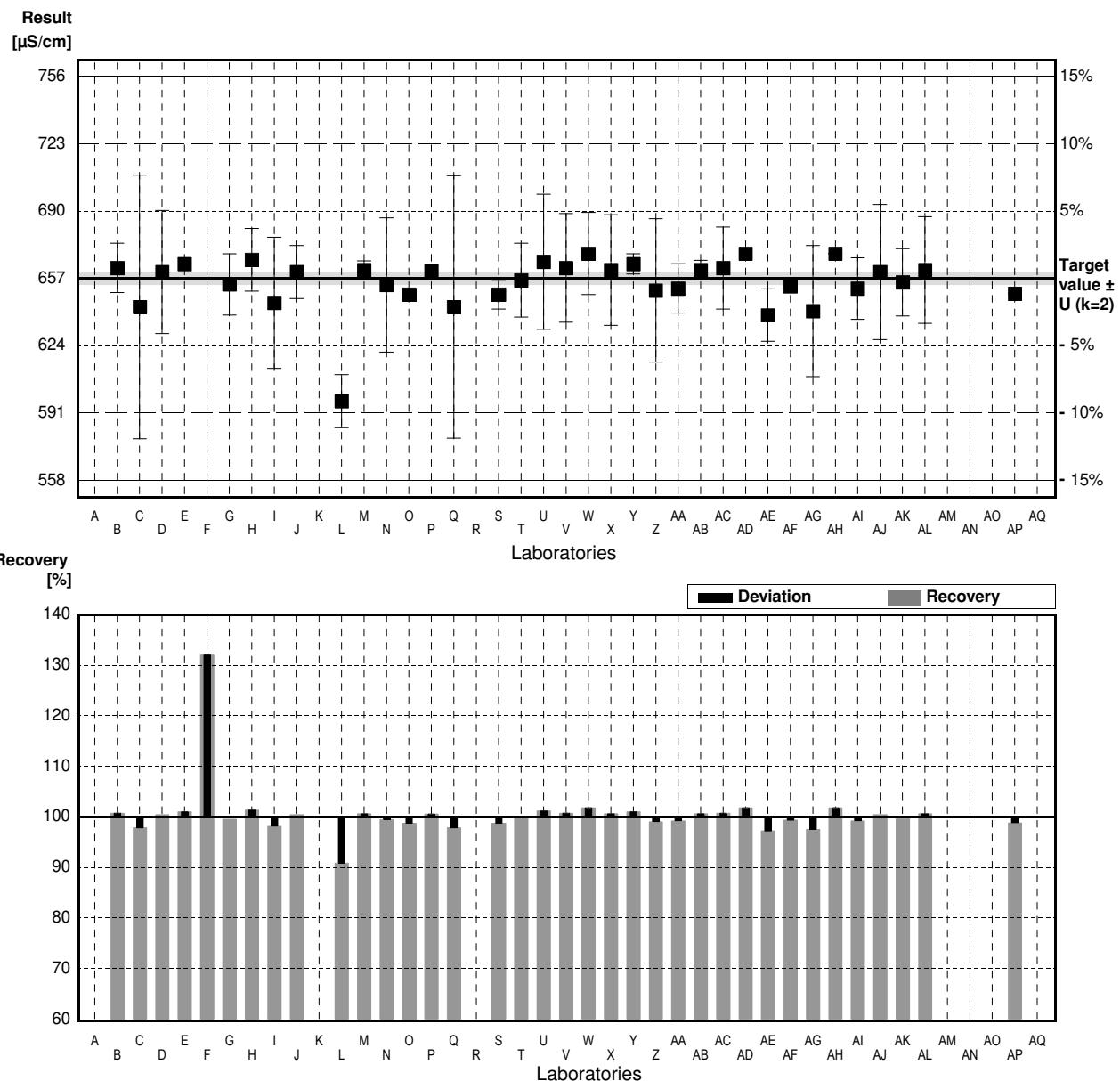
Target value  $\pm U$  ( $k=2$ ) 657  $\mu\text{S}/\text{cm}$   $\pm$  3  $\mu\text{S}/\text{cm}$

IFA result  $\pm U$  ( $k=2$ ) 660  $\mu\text{S}/\text{cm}$   $\pm$  9  $\mu\text{S}/\text{cm}$

#### Stability test $\mu\text{S}/\text{cm}$

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			$\mu\text{S}/\text{cm}$		
B	662	12	$\mu\text{S}/\text{cm}$	101%	0.59
C	643	64.3	$\mu\text{S}/\text{cm}$	98%	-1.64
D	660	30	$\mu\text{S}/\text{cm}$	100%	0.35
E	664		$\mu\text{S}/\text{cm}$	101%	0.82
F	868 *		$\mu\text{S}/\text{cm}$	132%	24.70
G	654	15	$\mu\text{S}/\text{cm}$	100%	-0.35
H	666	15.3	$\mu\text{S}/\text{cm}$	101%	1.05
I	645	32	$\mu\text{S}/\text{cm}$	98%	-1.40
J	660	13	$\mu\text{S}/\text{cm}$	100%	0.35
K			$\mu\text{S}/\text{cm}$		
L	597 *	13	$\mu\text{S}/\text{cm}$	91%	-7.02
M	661	4.51	$\mu\text{S}/\text{cm}$	101%	0.47
N	653.7	32.7	$\mu\text{S}/\text{cm}$	99%	-0.39
O	649		$\mu\text{S}/\text{cm}$	99%	-0.94
P	660.7		$\mu\text{S}/\text{cm}$	101%	0.43
Q	643	64	$\mu\text{S}/\text{cm}$	98%	-1.64
R			$\mu\text{S}/\text{cm}$		
S	649	7	$\mu\text{S}/\text{cm}$	99%	-0.94
T	656	18	$\mu\text{S}/\text{cm}$	100%	-0.12
U	665	33	$\mu\text{S}/\text{cm}$	101%	0.94
V	662	26.5	$\mu\text{S}/\text{cm}$	101%	0.59
W	669	20	$\mu\text{S}/\text{cm}$	102%	1.40
X	661	27	$\mu\text{S}/\text{cm}$	101%	0.47
Y	664	5	$\mu\text{S}/\text{cm}$	101%	0.82
Z	651	35	$\mu\text{S}/\text{cm}$	99%	-0.70
AA	652	12.00	$\mu\text{S}/\text{cm}$	99%	-0.59
AB	661	4.68	$\mu\text{S}/\text{cm}$	101%	0.47
AC	662	20	$\mu\text{S}/\text{cm}$	101%	0.59
AD	669		$\mu\text{S}/\text{cm}$	102%	1.40
AE	639	12.8	$\mu\text{S}/\text{cm}$	97%	-2.11
AF	653	0.6	$\mu\text{S}/\text{cm}$	99%	-0.47
AG	641	32	$\mu\text{S}/\text{cm}$	98%	-1.87
AH	669	0.160	$\mu\text{S}/\text{cm}$	102%	1.40
AI	652	15	$\mu\text{S}/\text{cm}$	99%	-0.59
AJ	660	33	$\mu\text{S}/\text{cm}$	100%	0.35
AK	655	16.4	$\mu\text{S}/\text{cm}$	100%	-0.23
AL	661	26	$\mu\text{S}/\text{cm}$	101%	0.47
AM			$\mu\text{S}/\text{cm}$		
AN			$\mu\text{S}/\text{cm}$		
AO			$\mu\text{S}/\text{cm}$		
AP	649.5	0.3	$\mu\text{S}/\text{cm}$	99%	-0.88
AQ			$\mu\text{S}/\text{cm}$		

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	661 $\pm$ 17	657 $\pm$ 4	$\mu\text{S}/\text{cm}$
Recov. $\pm$ CI(99%)	100.6 $\pm$ 2.6	99.9 $\pm$ 0.6	%
SD between labs	38	8	$\mu\text{S}/\text{cm}$
RSD between labs	5.7	1.3	%
n for calculation	36	34	



# Sample N157B

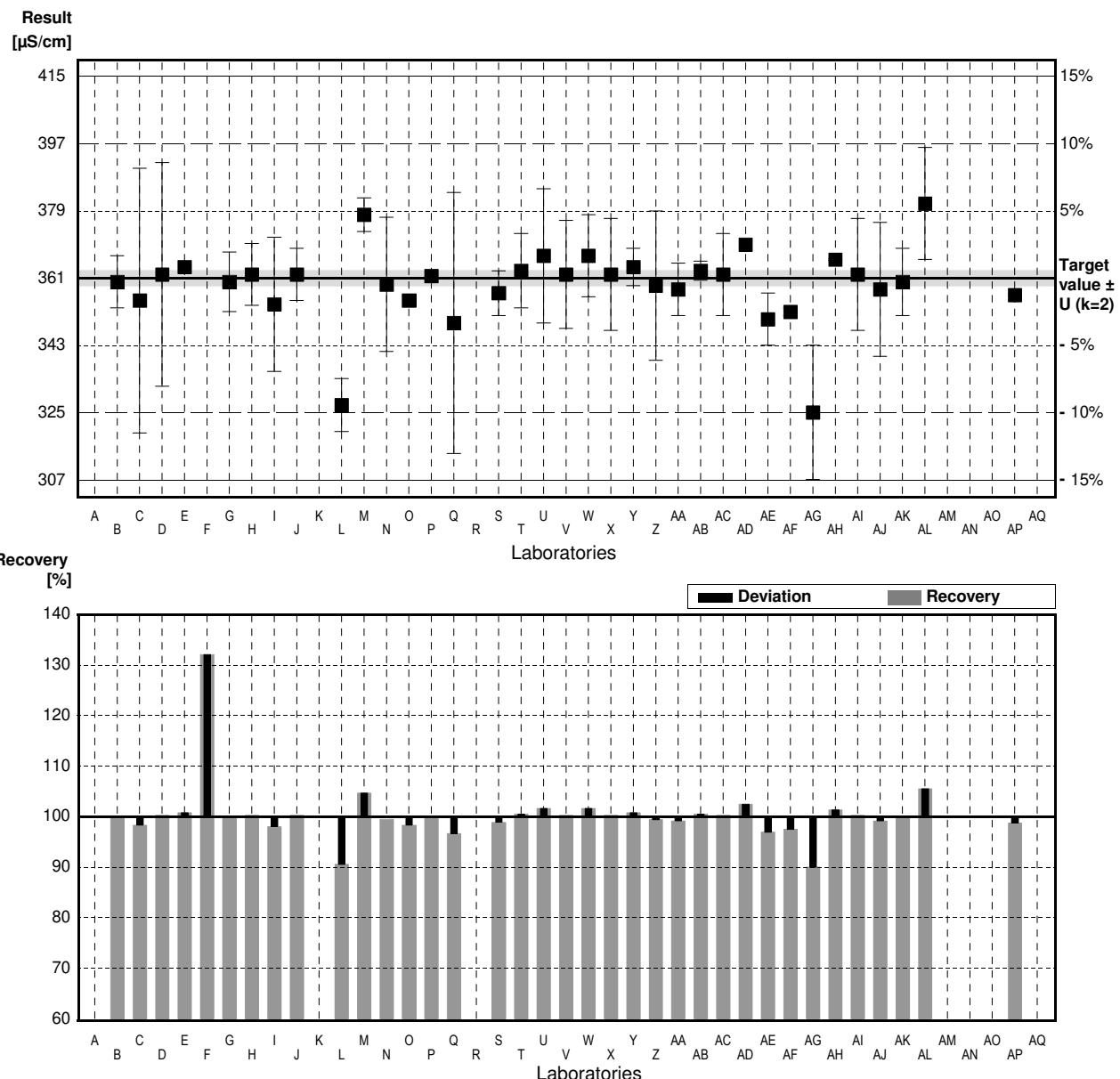
## Parameter Conductivity

Target value  $\pm U$  ( $k=2$ )      361  $\mu\text{S}/\text{cm}$   $\pm$       2  $\mu\text{S}/\text{cm}$   
 IFA result  $\pm U$  ( $k=2$ )      362  $\mu\text{S}/\text{cm}$   $\pm$       5  $\mu\text{S}/\text{cm}$

### Stability test $\mu\text{S}/\text{cm}$

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			$\mu\text{S}/\text{cm}$		
B	360	7	$\mu\text{S}/\text{cm}$	100%	-0.21
C	355	35.5	$\mu\text{S}/\text{cm}$	98%	-1.28
D	362	30	$\mu\text{S}/\text{cm}$	100%	0.21
E	364		$\mu\text{S}/\text{cm}$	101%	0.64
F	477 *		$\mu\text{S}/\text{cm}$	132%	24.72
G	360	8	$\mu\text{S}/\text{cm}$	100%	-0.21
H	362	8.3	$\mu\text{S}/\text{cm}$	100%	0.21
I	354	18	$\mu\text{S}/\text{cm}$	98%	-1.49
J	362	7	$\mu\text{S}/\text{cm}$	100%	0.21
K			$\mu\text{S}/\text{cm}$		
L	327 *	7.1	$\mu\text{S}/\text{cm}$	91%	-7.24
M	378	4.51	$\mu\text{S}/\text{cm}$	105%	3.62
N	359.3	18.0	$\mu\text{S}/\text{cm}$	100%	-0.36
O	355		$\mu\text{S}/\text{cm}$	98%	-1.28
P	361.6		$\mu\text{S}/\text{cm}$	100%	0.13
Q	349	35	$\mu\text{S}/\text{cm}$	97%	-2.56
R			$\mu\text{S}/\text{cm}$		
S	357	6	$\mu\text{S}/\text{cm}$	99%	-0.85
T	363	10	$\mu\text{S}/\text{cm}$	101%	0.43
U	367	18	$\mu\text{S}/\text{cm}$	102%	1.28
V	362	14.5	$\mu\text{S}/\text{cm}$	100%	0.21
W	367	11	$\mu\text{S}/\text{cm}$	102%	1.28
X	362	15	$\mu\text{S}/\text{cm}$	100%	0.21
Y	364	5	$\mu\text{S}/\text{cm}$	101%	0.64
Z	359	20	$\mu\text{S}/\text{cm}$	99%	-0.43
AA	358	7.00	$\mu\text{S}/\text{cm}$	99%	-0.64
AB	363	2.57	$\mu\text{S}/\text{cm}$	101%	0.43
AC	362	11	$\mu\text{S}/\text{cm}$	100%	0.21
AD	370		$\mu\text{S}/\text{cm}$	102%	1.92
AE	350	7.00	$\mu\text{S}/\text{cm}$	97%	-2.34
AF	352	1.0	$\mu\text{S}/\text{cm}$	98%	-1.92
AG	325 *	18	$\mu\text{S}/\text{cm}$	90%	-7.67
AH	366	0.260	$\mu\text{S}/\text{cm}$	101%	1.07
AI	362	15	$\mu\text{S}/\text{cm}$	100%	0.21
AJ	358	18	$\mu\text{S}/\text{cm}$	99%	-0.64
AK	360	9.0	$\mu\text{S}/\text{cm}$	100%	-0.21
AL	381 *	15	$\mu\text{S}/\text{cm}$	106%	4.26
AM			$\mu\text{S}/\text{cm}$		
AN			$\mu\text{S}/\text{cm}$		
AO			$\mu\text{S}/\text{cm}$		
AP	356.5	0.3	$\mu\text{S}/\text{cm}$	99%	-0.96
AQ			$\mu\text{S}/\text{cm}$		

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	363 $\pm$ 10	361 $\pm$ 3	$\mu\text{S}/\text{cm}$
Recov. $\pm$ CI(99%)	100.4 $\pm$ 2.8	99.9 $\pm$ 0.8	%
SD between labs	22	6	$\mu\text{S}/\text{cm}$
RSD between labs	6.1	1.6	%
n for calculation	36	32	



# Sample N157A

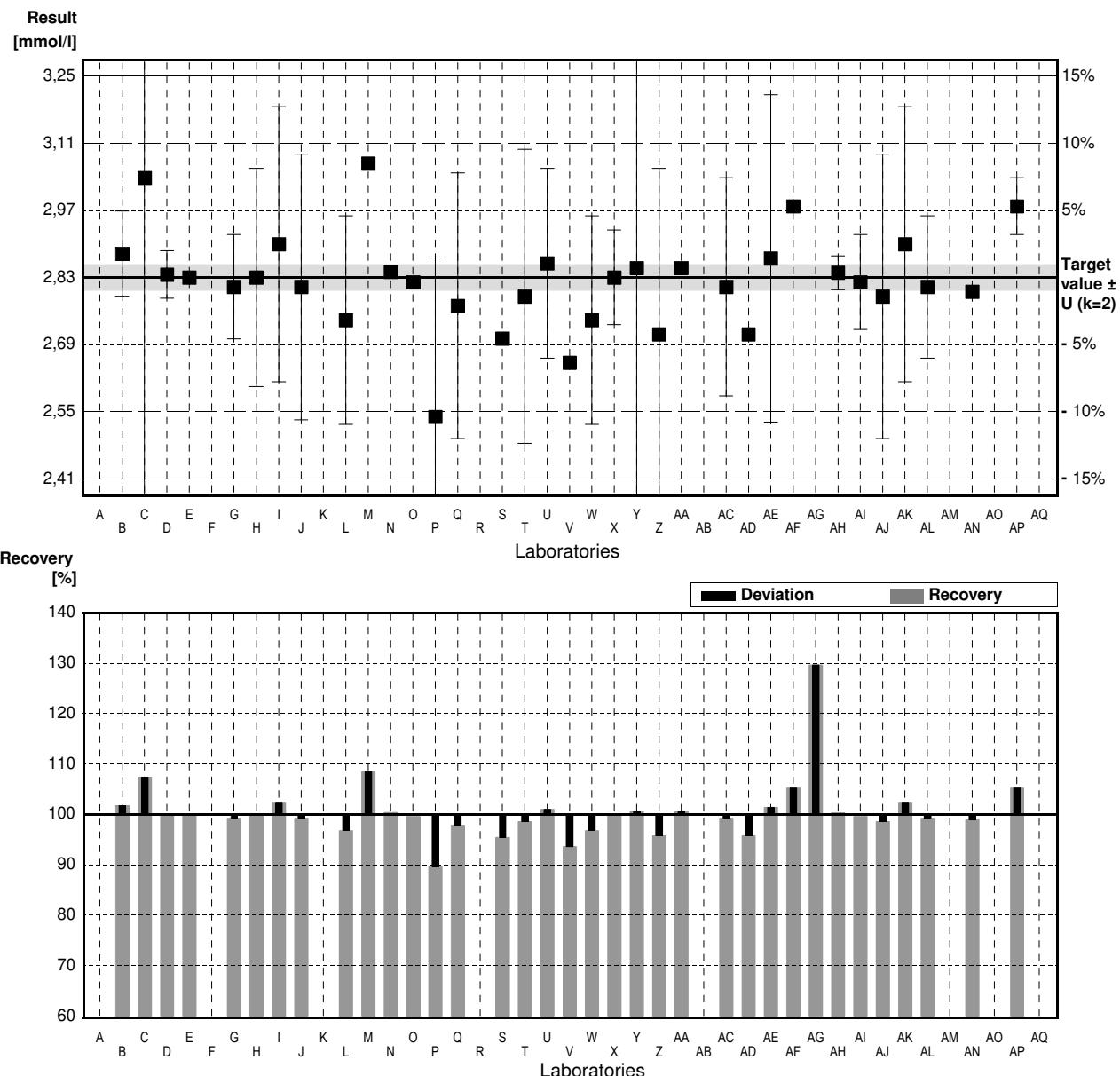
## Parameter Total hardness

Target value  $\pm U$  ( $k=2$ ) 2,83 mmol/l  $\pm$  0,03 mmol/l  
 IFA result  $\pm U$  ( $k=2$ ) 3,00 mmol/l  $\pm$  0,12 mmol/l

### Stability test mmol/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			mmol/l		
B	2,88	0,09	mmol/l	102%	0,61
C	3,04 *	0,9	mmol/l	107%	2,56
D	2,836	0,05	mmol/l	100%	0,07
E	2,83		mmol/l	100%	0,00
F			mmol/l		
G	2,81	0,11	mmol/l	99%	-0,24
H	2,83	0,23	mmol/l	100%	0,00
I	2,90	0,29	mmol/l	102%	0,85
J	2,81	0,28	mmol/l	99%	-0,24
K			mmol/l		
L	2,74	0,22	mmol/l	97%	-1,10
M	3,07 *		mmol/l	108%	2,92
N	2,842		mmol/l	100%	0,15
O	2,82		mmol/l	100%	-0,12
P	2,536 *	0,337	mmol/l	90%	-3,58
Q	2,77	0,28	mmol/l	98%	-0,73
R			mmol/l		
S	2,701	0,007	mmol/l	95%	-1,57
T	2,79	0,31	mmol/l	99%	-0,49
U	2,86	0,20	mmol/l	101%	0,37
V	2,65		mmol/l	94%	-2,19
W	2,74	0,22	mmol/l	97%	-1,10
X	2,83	0,1	mmol/l	100%	0,00
Y	2,85	0,57	mmol/l	101%	0,24
Z	2,71	0,35	mmol/l	96%	-1,46
AA	2,85	0,01	mmol/l	101%	0,24
AB			mmol/l		
AC	2,81	0,23	mmol/l	99%	-0,24
AD	2,71		mmol/l	96%	-1,46
AE	2,87	0,345	mmol/l	101%	0,49
AF	2,98		mmol/l	105%	1,83
AG	3,67 *	0,53	mmol/l	130%	10,24
AH	2,84	0,0357	mmol/l	100%	0,12
AI	2,82	0,1	mmol/l	100%	-0,12
AJ	2,79	0,3	mmol/l	99%	-0,49
AK	2,90	0,29	mmol/l	102%	0,85
AL	2,81	0,15	mmol/l	99%	-0,24
AM			mmol/l		
AN	2,80		mmol/l	99%	-0,37
AO			mmol/l		
AP	2,98	0,06	mmol/l	105%	1,83
AQ			mmol/l		

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	2,85 $\pm$ 0,08	2,82 $\pm$ 0,04	mmol/l
Recov. $\pm$ CI(99%)	100,6 $\pm$ 2,9	99,6 $\pm$ 1,3	%
SD between labs	0,18	0,07	mmol/l
RSD between labs	6,2	2,6	%
n for calculation	35	31	



## Sample N157B

### Parameter Total hardness

Target value  $\pm U$  ( $k=2$ ) 1,23 mmol/l  $\pm$  0,01 mmol/l

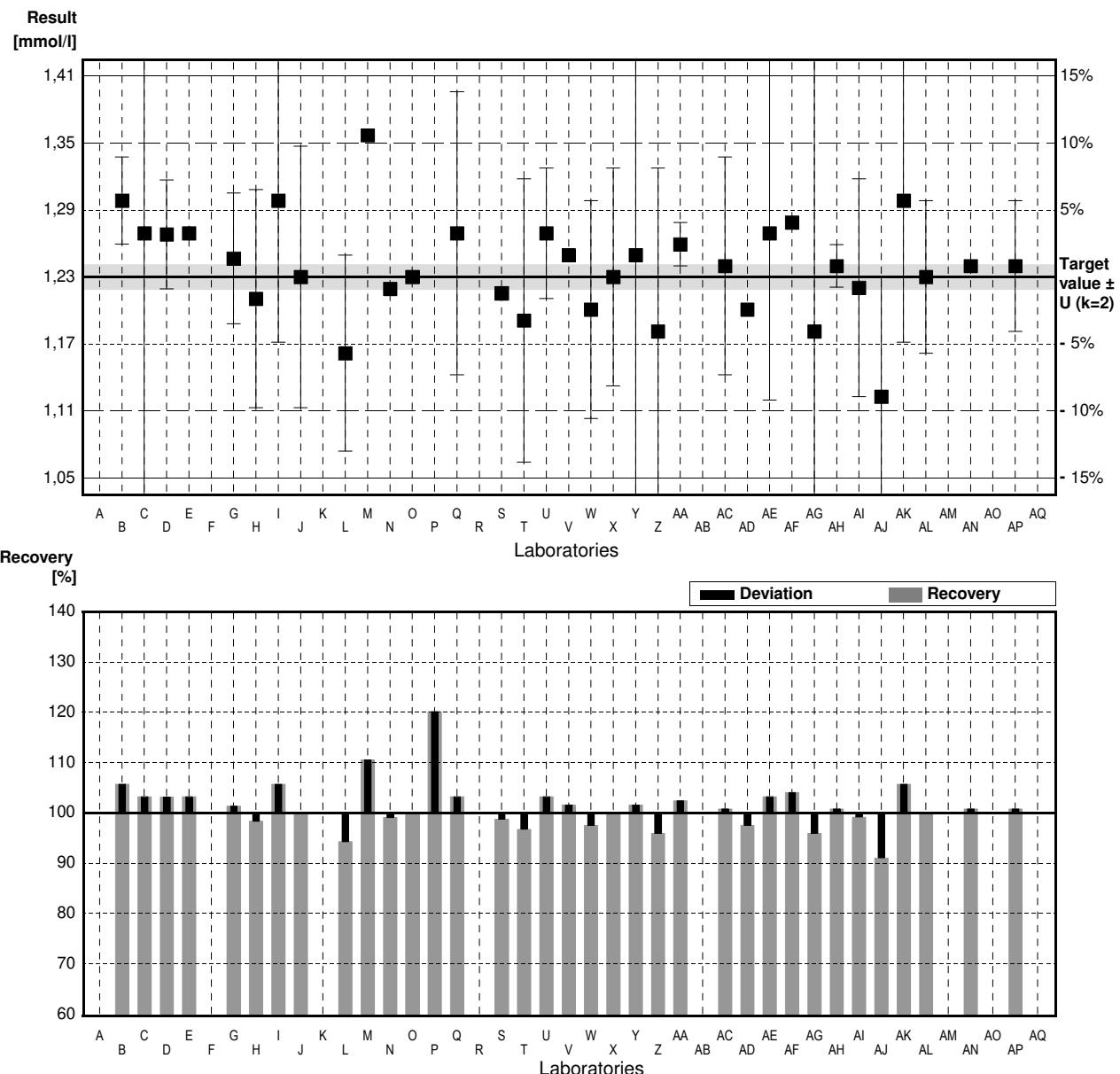
IFA result  $\pm U$  ( $k=2$ ) 1,31 mmol/l  $\pm$  0,05 mmol/l

#### Stability test

mmol/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			mmol/l		
B	1.30	0.04	mmol/l	106%	1.96
C	1.27	0.42	mmol/l	103%	1.12
D	1.269	0.05	mmol/l	103%	1.09
E	1.27		mmol/l	103%	1.12
F			mmol/l		
G	1.247	0.06	mmol/l	101%	0.48
H	1.21	0.10	mmol/l	98%	-0.56
I	1.30	0.13	mmol/l	106%	1.96
J	1.23	0.12	mmol/l	100%	0.00
K			mmol/l		
L	1.16	0.09	mmol/l	94%	-1.96
M	1.36		mmol/l	111%	3.64
N	1.219		mmol/l	99%	-0.31
O	1.23		mmol/l	100%	0.00
P	1.478 *	0.197	mmol/l	120%	6.95
Q	1.27	0.13	mmol/l	103%	1.12
R			mmol/l		
S	1.215	0.005	mmol/l	99%	-0.42
T	1.19	0.13	mmol/l	97%	-1.12
U	1.27	0.06	mmol/l	103%	1.12
V	1.25		mmol/l	102%	0.56
W	1.20	0.10	mmol/l	98%	-0.84
X	1.23	0.1	mmol/l	100%	0.00
Y	1.25	0.25	mmol/l	102%	0.56
Z	1.18	0.15	mmol/l	96%	-1.40
AA	1.26	0.02	mmol/l	102%	0.84
AB			mmol/l		
AC	1.24	0.10	mmol/l	101%	0.28
AD	1.20		mmol/l	98%	-0.84
AE	1.27	0.153	mmol/l	103%	1.12
AF	1.28		mmol/l	104%	1.40
AG	1.18	0.24	mmol/l	96%	-1.40
AH	1.24	0.0196	mmol/l	101%	0.28
AI	1.22	0.1	mmol/l	99%	-0.28
AJ	1.12	0.11	mmol/l	91%	-3.08
AK	1.30	0.13	mmol/l	106%	1.96
AL	1.23	0.07	mmol/l	100%	0.00
AM			mmol/l		
AN	1.24		mmol/l	101%	0.28
AO			mmol/l		
AP	1.24	0.06	mmol/l	101%	0.28
AQ			mmol/l		

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	1,25 $\pm$ 0,03	1,24 $\pm$ 0,02	mmol/l
Recov. $\pm$ CI(99%)	101,3 $\pm$ 2,3	100,8 $\pm$ 1,8	%
SD between labs	0,06	0,05	mmol/l
RSD between labs	4,9	3,7	%
n for calculation	35	34	



## Sample N157A

### Parameter Alkalinity

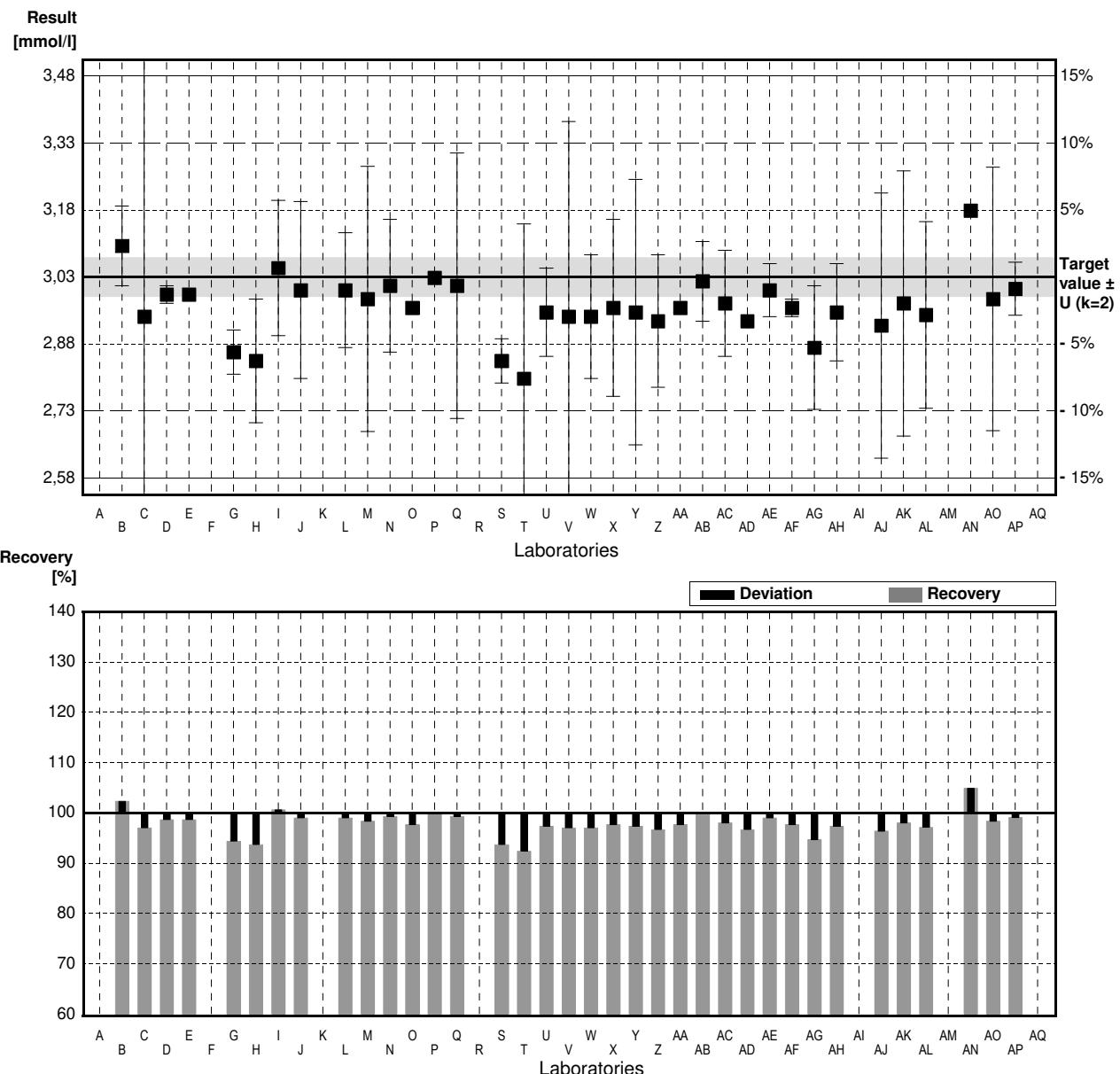
Target value  $\pm U$  ( $k=2$ ) 3,03 mmol/l  $\pm$  0,04 mmol/l  
 IFA result  $\pm U$  ( $k=2$ ) 2,95 mmol/l  $\pm$  0,12 mmol/l

#### Stability test

mmol/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			mmol/l		
B	3,10 *	0,09	mmol/l	102%	1,16
C	2,94	0,88	mmol/l	97%	-1,49
D	2,99	0,02	mmol/l	99%	-0,66
E	2,99		mmol/l	99%	-0,66
F			mmol/l		
G	2,86	0,05	mmol/l	94%	-2,81
H	2,84	0,14	mmol/l	94%	-3,14
I	3,05	0,153	mmol/l	101%	0,33
J	3,00	0,20	mmol/l	99%	-0,50
K			mmol/l		
L	3,00	0,13	mmol/l	99%	-0,50
M	2,98	0,3	mmol/l	98%	-0,83
N	3,01	0,15	mmol/l	99%	-0,33
O	2,96		mmol/l	98%	-1,16
P	3,028		mmol/l	100%	-0,03
Q	3,01	0,30	mmol/l	99%	-0,33
R			mmol/l		
S	2,84	0,05	mmol/l	94%	-3,14
T	2,80 *	0,35	mmol/l	92%	-3,80
U	2,95	0,10	mmol/l	97%	-1,32
V	2,94	0,441	mmol/l	97%	-1,49
W	2,94	0,14	mmol/l	97%	-1,49
X	2,96	0,2	mmol/l	98%	-1,16
Y	2,95	0,3	mmol/l	97%	-1,32
Z	2,93	0,15	mmol/l	97%	-1,65
AA	2,96	0,01	mmol/l	98%	-1,16
AB	3,02	0,09	mmol/l	100%	-0,17
AC	2,97	0,12	mmol/l	98%	-0,99
AD	2,93		mmol/l	97%	-1,65
AE	3,00	0,060	mmol/l	99%	-0,50
AF	2,96	0,02	mmol/l	98%	-1,16
AG	2,87	0,14	mmol/l	95%	-2,64
AH	2,95	0,110	mmol/l	97%	-1,32
AI			mmol/l		
AJ	2,92	0,3	mmol/l	96%	-1,82
AK	2,97	0,30	mmol/l	98%	-0,99
AL	2,944	0,211	mmol/l	97%	-1,42
AM			mmol/l		
AN	3,18 *		mmol/l	105%	2,48
AO	2,98	0,298	mmol/l	98%	-0,83
AP	3,003	0,06	mmol/l	99%	-0,45
AQ			mmol/l		

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	2,96 $\pm$ 0,03	2,96 $\pm$ 0,02	mmol/l
Recov. $\pm$ CI(99%)	97,8 $\pm$ 1,1	97,7 $\pm$ 0,8	%
SD between labs	0,07	0,05	mmol/l
RSD between labs	2,4	1,7	%
n for calculation	36	33	



# Sample N157B

## Parameter Alkalinity

Target value  $\pm U$  ( $k=2$ ) 1,58 mmol/l  $\pm$  0,01 mmol/l

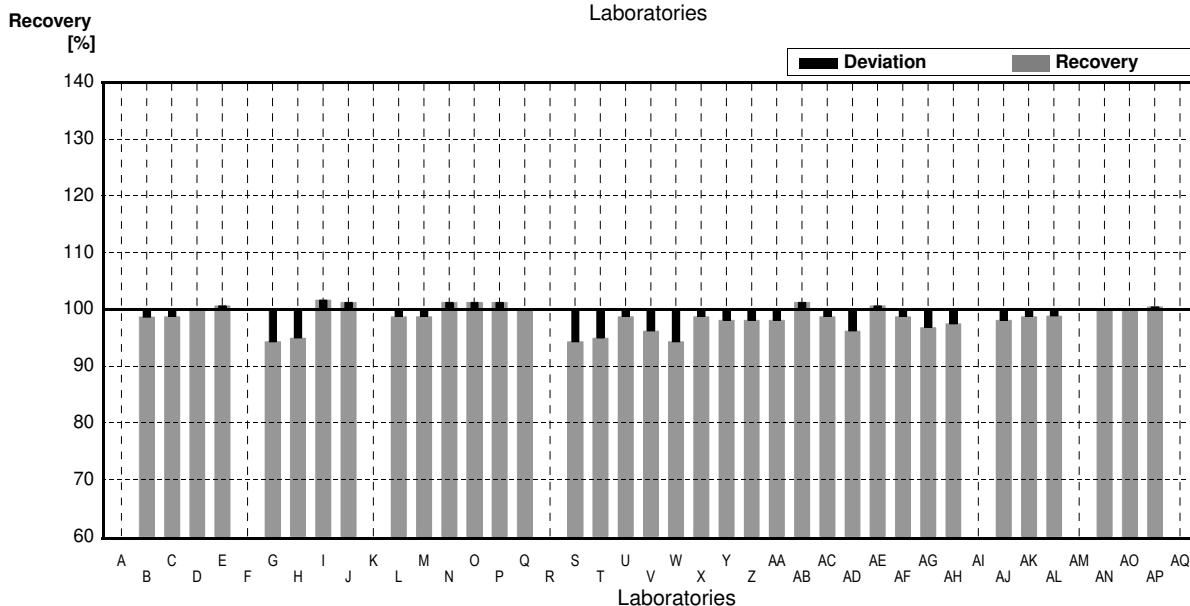
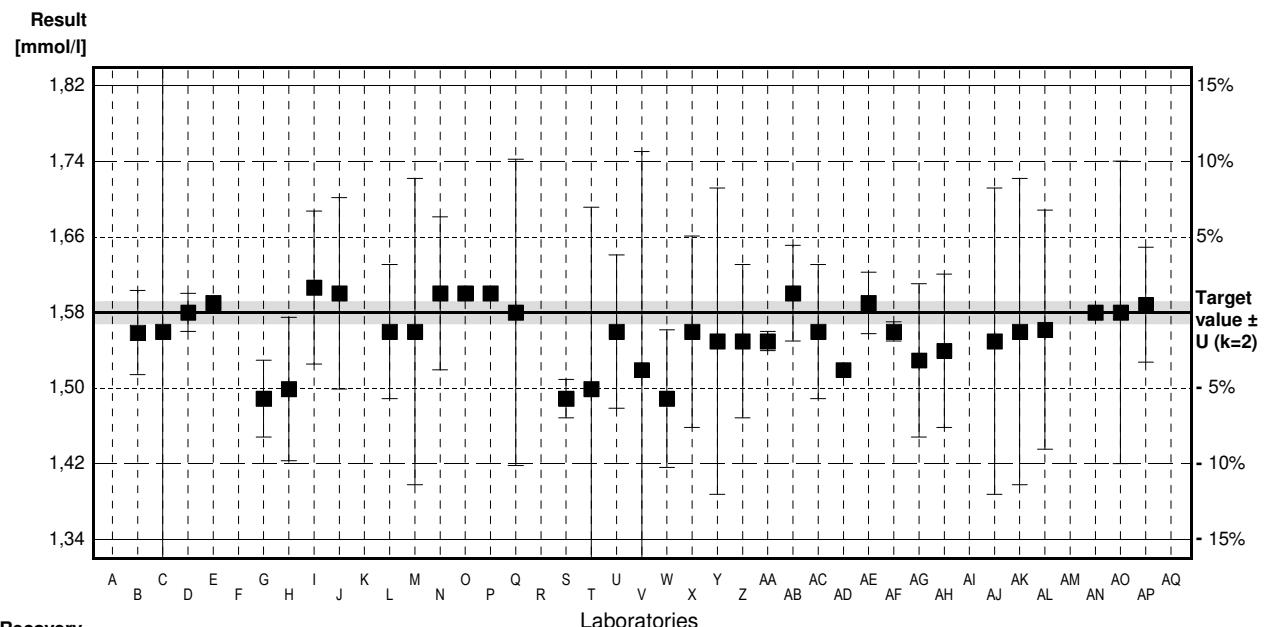
IFA result  $\pm U$  ( $k=2$ ) 1,55 mmol/l  $\pm$  0,06 mmol/l

### Stability test

mmol/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			mmol/l		
B	1,559	0,044	mmol/l	99%	-0,66
C	1,56	0,47	mmol/l	99%	-0,63
D	1,58	0,02	mmol/l	100%	0,00
E	1,59		mmol/l	101%	0,32
F			mmol/l		
G	1,49	0,04	mmol/l	94%	-2,85
H	1,50	0,075	mmol/l	95%	-2,53
I	1,606	0,080	mmol/l	102%	0,82
J	1,60	0,1	mmol/l	101%	0,63
K			mmol/l		
L	1,56	0,07	mmol/l	99%	-0,63
M	1,56	0,16	mmol/l	99%	-0,63
N	1,60	0,08	mmol/l	101%	0,63
O	1,60		mmol/l	101%	0,63
P	1,600		mmol/l	101%	0,63
Q	1,58	0,16	mmol/l	100%	0,00
R			mmol/l		
S	1,49	0,02	mmol/l	94%	-2,85
T	1,50	0,19	mmol/l	95%	-2,53
U	1,56	0,08	mmol/l	99%	-0,63
V	1,52	0,228	mmol/l	96%	-1,90
W	1,49	0,072	mmol/l	94%	-2,85
X	1,56	0,1	mmol/l	99%	-0,63
Y	1,55	0,16	mmol/l	98%	-0,95
Z	1,55	0,08	mmol/l	98%	-0,95
AA	1,55	0,01	mmol/l	98%	-0,95
AB	1,60	0,05	mmol/l	101%	0,63
AC	1,56	0,07	mmol/l	99%	-0,63
AD	1,52		mmol/l	96%	-1,90
AE	1,59	0,032	mmol/l	101%	0,32
AF	1,56	0,01	mmol/l	99%	-0,63
AG	1,53	0,08	mmol/l	97%	-1,58
AH	1,54	0,0800	mmol/l	97%	-1,27
AI			mmol/l		
AJ	1,55	0,16	mmol/l	98%	-0,95
AK	1,56	0,16	mmol/l	99%	-0,63
AL	1,562	0,125	mmol/l	99%	-0,57
AM			mmol/l		
AN	1,58		mmol/l	100%	0,00
AO	1,58	0,158	mmol/l	100%	0,00
AP	1,588	0,06	mmol/l	101%	0,25
AQ			mmol/l		

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	1,56 $\pm$ 0,02	1,56 $\pm$ 0,02	mmol/l
Recov. $\pm$ CI(99%)	98,6 $\pm$ 1,0	98,6 $\pm$ 1,0	%
SD between labs	0,03	0,03	mmol/l
RSD between labs	2,2	2,2	%
n for calculation	36	36	



## Sample N157A

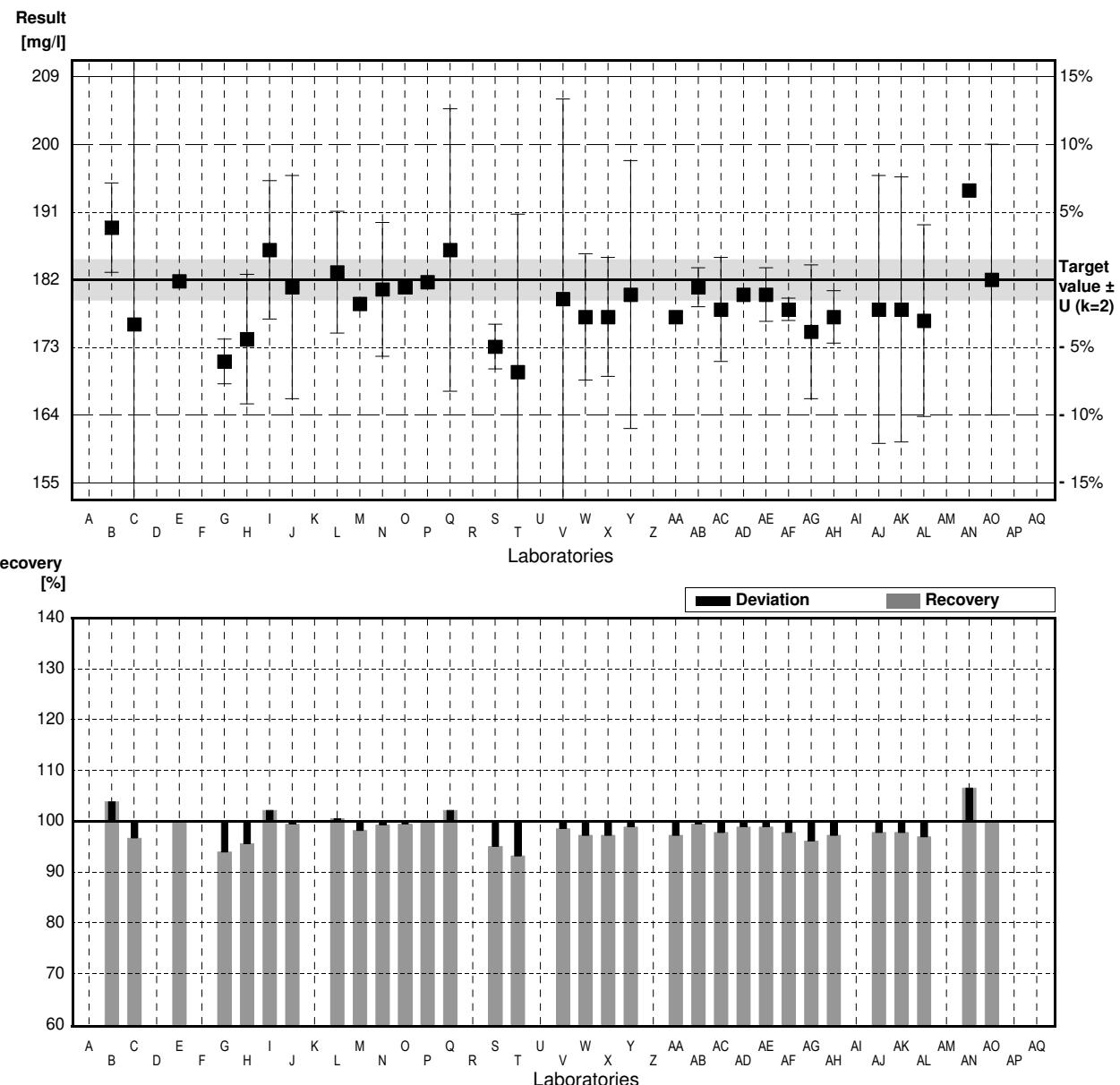
### Parameter Hydrogen carbonate

Target value  $\pm U$  ( $k=2$ ) 182 mg/l  $\pm$  3 mg/l  
 IFA result  $\pm U$  ( $k=2$ ) 177 mg/l  $\pm$  7 mg/l

#### Stability test mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			mg/l		
B	189 *	6	mg/l	104%	1.60
C	176	53	mg/l	97%	-1.37
D			mg/l		
E	181.8		mg/l	100%	-0.05
F			mg/l		
G	171	3	mg/l	94%	-2.52
H	174	8.7	mg/l	96%	-1.83
I	186	9.3	mg/l	102%	0.92
J	181	15	mg/l	99%	-0.23
K			mg/l		
L	183	8.2	mg/l	101%	0.23
M	178.759		mg/l	98%	-0.74
N	180.7	9.0	mg/l	99%	-0.30
O	181		mg/l	99%	-0.23
P	181.7		mg/l	100%	-0.07
Q	186	19	mg/l	102%	0.92
R			mg/l		
S	173	3	mg/l	95%	-2.06
T	169.6	21.2	mg/l	93%	-2.84
U			mg/l		
V	179.4	26.91	mg/l	99%	-0.60
W	177	8.5	mg/l	97%	-1.14
X	177	8	mg/l	97%	-1.14
Y	180.0	18	mg/l	99%	-0.46
Z			mg/l		
AA	177	0.58	mg/l	97%	-1.14
AB	181	2.61	mg/l	99%	-0.23
AC	178	7	mg/l	98%	-0.92
AD	180		mg/l	99%	-0.46
AE	180	3.60	mg/l	99%	-0.46
AF	178	1.5	mg/l	98%	-0.92
AG	175	9	mg/l	96%	-1.60
AH	177	3.54	mg/l	97%	-1.14
AI			mg/l		
AJ	178	18	mg/l	98%	-0.92
AK	178	17.8	mg/l	98%	-0.92
AL	176.5	12.9	mg/l	97%	-1.26
AM			mg/l		
AN	194 *		mg/l	107%	2.75
AO	182	18.2	mg/l	100%	0.00
AP			mg/l		
AQ			mg/l		

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	179 $\pm$ 2	179 $\pm$ 2	mg/l
Recov. $\pm$ CI(99%)	98.6 $\pm$ 1.3	98.1 $\pm$ 1.0	%
SD between labs	5	4	mg/l
RSD between labs	2.7	2.1	%
n for calculation	32	30	



## Sample N157B

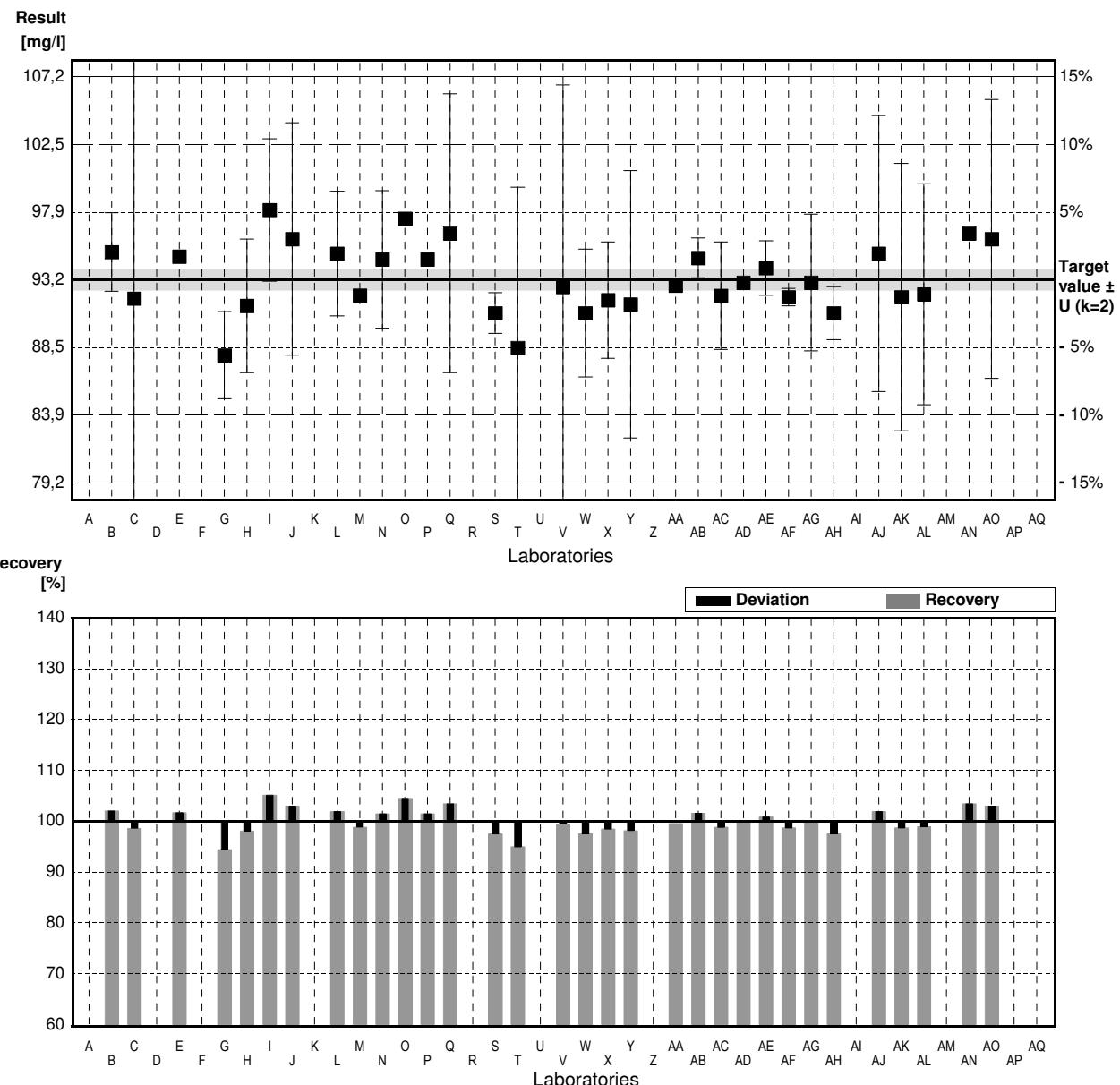
### Parameter Hydrogen carbonate

Target value  $\pm U$  ( $k=2$ ) 93,2 mg/l  $\pm$  0,7 mg/l  
 IFA result  $\pm U$  ( $k=2$ ) 91,6 mg/l  $\pm$  3,7 mg/l

#### Stability test mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			mg/l		
B	95,1	2,7	mg/l	102%	0,85
C	91,9	27,6	mg/l	99%	-0,58
D			mg/l		
E	94,8		mg/l	102%	0,72
F			mg/l		
G	88	3	mg/l	94%	-2,32
H	91,4	4,6	mg/l	98%	-0,80
I	98	4,9	mg/l	105%	2,15
J	96	8	mg/l	103%	1,25
K			mg/l		
L	95	4,3	mg/l	102%	0,80
M	92,125		mg/l	99%	-0,48
N	94,6	4,73	mg/l	102%	0,63
O	97,4		mg/l	105%	1,88
P	94,6		mg/l	102%	0,63
Q	96,4	9,6	mg/l	103%	1,43
R			mg/l		
S	90,9	1,4	mg/l	98%	-1,03
T	88,5	11,06	mg/l	95%	-2,10
U			mg/l		
V	92,7	13,91	mg/l	99%	-0,22
W	90,9	4,4	mg/l	98%	-1,03
X	91,8	4	mg/l	98%	-0,63
Y	91,5	9,2	mg/l	98%	-0,76
Z			mg/l		
AA	92,8	0,29	mg/l	100%	-0,18
AB	94,7	1,37	mg/l	102%	0,67
AC	92,1	3,7	mg/l	99%	-0,49
AD	93		mg/l	100%	-0,09
AE	94,0	1,88	mg/l	101%	0,36
AF	92	0,6	mg/l	99%	-0,54
AG	93,0	4,7	mg/l	100%	-0,09
AH	90,9	1,82	mg/l	98%	-1,03
AI			mg/l		
AJ	95	9,5	mg/l	102%	0,80
AK	92	9,2	mg/l	99%	-0,54
AL	92,2	7,6	mg/l	99%	-0,45
AM			mg/l		
AN	96,4		mg/l	103%	1,43
AO	96	9,6	mg/l	103%	1,25
AP			mg/l		
AQ			mg/l		

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	93,3 $\pm$ 1,2	93,3 $\pm$ 1,2	mg/l
Recov. $\pm$ CI(99%)	100,1 $\pm$ 1,2	100,1 $\pm$ 1,2	%
SD between labs	2,4	2,4	mg/l
RSD between labs	2,6	2,6	%
n for calculation	32	32	



## Sample N157A

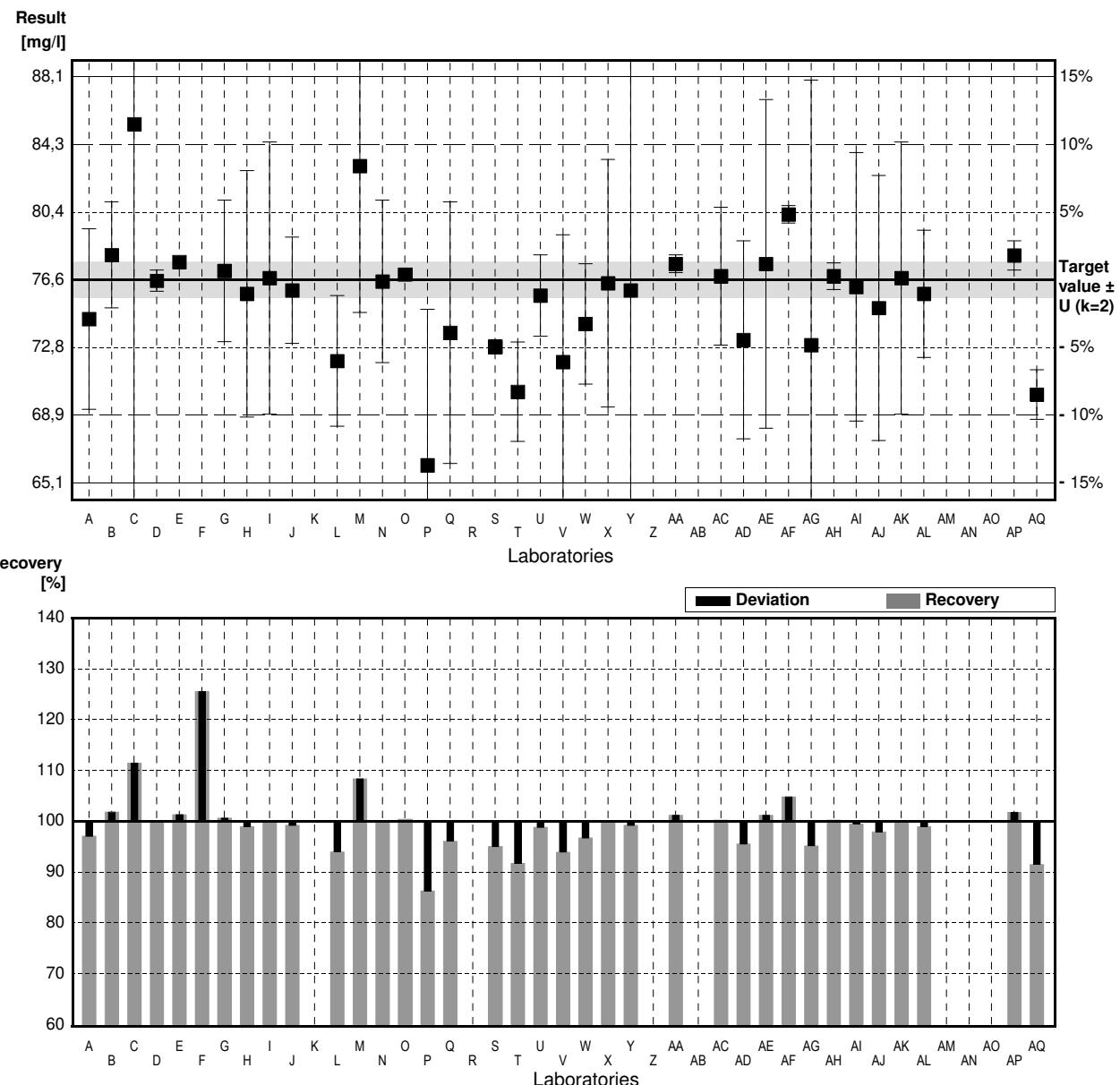
### Parameter Calcium

Target value  $\pm U$  ( $k=2$ ) 76,6 mg/l  $\pm$  1,0 mg/l  
 IFA result  $\pm U$  ( $k=2$ ) 82,4 mg/l  $\pm$  3,3 mg/l

#### Stability test mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A	74,375	5,11	mg/l	97%	-0,88
B	78	3	mg/l	102%	0,55
C	85,4 *	25,6	mg/l	111%	3,48
D	76,54	0,6	mg/l	100%	-0,02
E	77,6		mg/l	101%	0,40
F	96,2 *		mg/l	126%	7,75
G	77,1	4	mg/l	101%	0,20
H	75,8	6,97	mg/l	99%	-0,32
I	76,7	7,7	mg/l	100%	0,04
J	76	3	mg/l	99%	-0,24
K			mg/l		
L	72	3,7	mg/l	94%	-1,82
M	83,04 *	8,3	mg/l	108%	2,55
N	76,5	4,6	mg/l	100%	-0,04
O	76,9		mg/l	100%	0,12
P	66,1 *	8,82	mg/l	86%	-4,15
Q	73,6	7,4	mg/l	96%	-1,19
R			mg/l		
S	72,8	0,4	mg/l	95%	-1,50
T	70,26 *	2,81	mg/l	92%	-2,51
U	75,7	2,3	mg/l	99%	-0,36
V	71,95	7,195	mg/l	94%	-1,84
W	74,1	3,4	mg/l	97%	-0,99
X	76,4	7	mg/l	100%	-0,08
Y	76,0	15,2	mg/l	99%	-0,24
Z			mg/l		
AA	77,5	0,50	mg/l	101%	0,36
AB			mg/l		
AC	76,8	3,9	mg/l	100%	0,08
AD	73,2	5,6	mg/l	96%	-1,35
AE	77,5	9,30	mg/l	101%	0,36
AF	80,3	0,5	mg/l	105%	1,46
AG	72,9	15	mg/l	95%	-1,46
AH	76,8	0,757	mg/l	100%	0,08
AI	76,2	7,6	mg/l	99%	-0,16
AJ	75	7,5	mg/l	98%	-0,63
AK	76,7	7,7	mg/l	100%	0,04
AL	75,8	3,6	mg/l	99%	-0,32
AM			mg/l		
AN			mg/l		
AO			mg/l		
AP	77,97	0,82	mg/l	102%	0,54
AQ	70,1 *	1,4	mg/l	92%	-2,57

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	76,3 $\pm$ 2,2	75,8 $\pm$ 1,0	mg/l
Recov. $\pm$ CI(99%)	99,6 $\pm$ 2,9	99,0 $\pm$ 1,3	%
SD between labs	4,8	2,0	mg/l
RSD between labs	6,3	2,6	%
n for calculation	36	30	



## Sample N157B

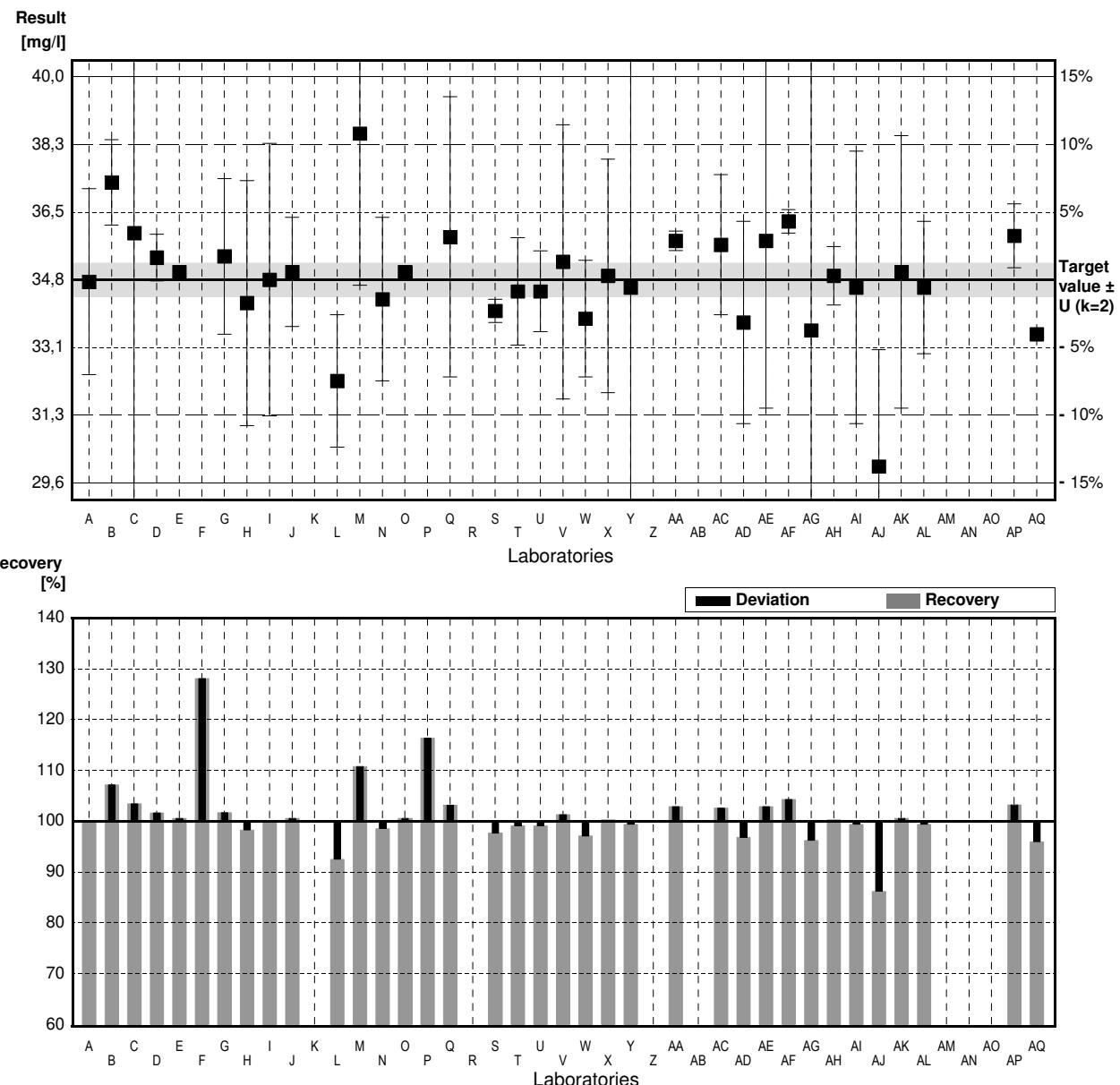
### Parameter Calcium

Target value  $\pm U$  ( $k=2$ ) 34,8 mg/l  $\pm$  0,4 mg/l  
 IFA result  $\pm U$  ( $k=2$ ) 37,6 mg/l  $\pm$  1,9 mg/l

Stability test mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A	34.750	2,387	mg/l	100%	-0,04
B	37,3	1,1	mg/l	107%	2,18
C	36,0	10,8	mg/l	103%	1,04
D	35,37	0,6	mg/l	102%	0,50
E	35,0		mg/l	101%	0,17
F	44,6 *		mg/l	128%	8,53
G	35,4	2	mg/l	102%	0,52
H	34,2	3,15	mg/l	98%	-0,52
I	34,8	3,5	mg/l	100%	0,00
J	35,0	1,4	mg/l	101%	0,17
K			mg/l		
L	32,2	1,7	mg/l	93%	-2,26
M	38,56 *	3,9	mg/l	111%	3,27
N	34,3	2,1	mg/l	99%	-0,44
O	35,0		mg/l	101%	0,17
P	40,5 *	5,40	mg/l	116%	4,96
Q	35,9	3,6	mg/l	103%	0,96
R			mg/l		
S	34,0	0,3	mg/l	98%	-0,70
T	34,50	1,38	mg/l	99%	-0,26
U	34,5	1,04	mg/l	99%	-0,26
V	35,26	3,526	mg/l	101%	0,40
W	33,8	1,5	mg/l	97%	-0,87
X	34,9	3	mg/l	100%	0,09
Y	34,6	6,92	mg/l	99%	-0,17
Z			mg/l		
AA	35,8	0,25	mg/l	103%	0,87
AB			mg/l		
AC	35,7	1,8	mg/l	103%	0,78
AD	33,7	2,6	mg/l	97%	-0,96
AE	35,8	4,30	mg/l	103%	0,87
AF	36,3	0,3	mg/l	104%	1,31
AG	33,5	6,7	mg/l	96%	-1,13
AH	34,9	0,751	mg/l	100%	0,09
AI	34,6	3,5	mg/l	99%	-0,17
AJ	30,0 *	3	mg/l	86%	-4,18
AK	35,0	3,5	mg/l	101%	0,17
AL	34,6	1,7	mg/l	99%	-0,17
AM			mg/l		
AN			mg/l		
AO			mg/l		
AP	35,93	0,82	mg/l	103%	0,98
AQ	33,4	0,1	mg/l	96%	-1,22

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	$35,3 \pm 1,1$	$34,9 \pm 0,5$	mg/l
Recov. $\pm$ CI(99%)	$101,3 \pm 3,0$	$100,2 \pm 1,4$	%
SD between labs	2,3	1,0	mg/l
RSD between labs	6,6	2,8	%
n for calculation	36	32	



# Sample N157A

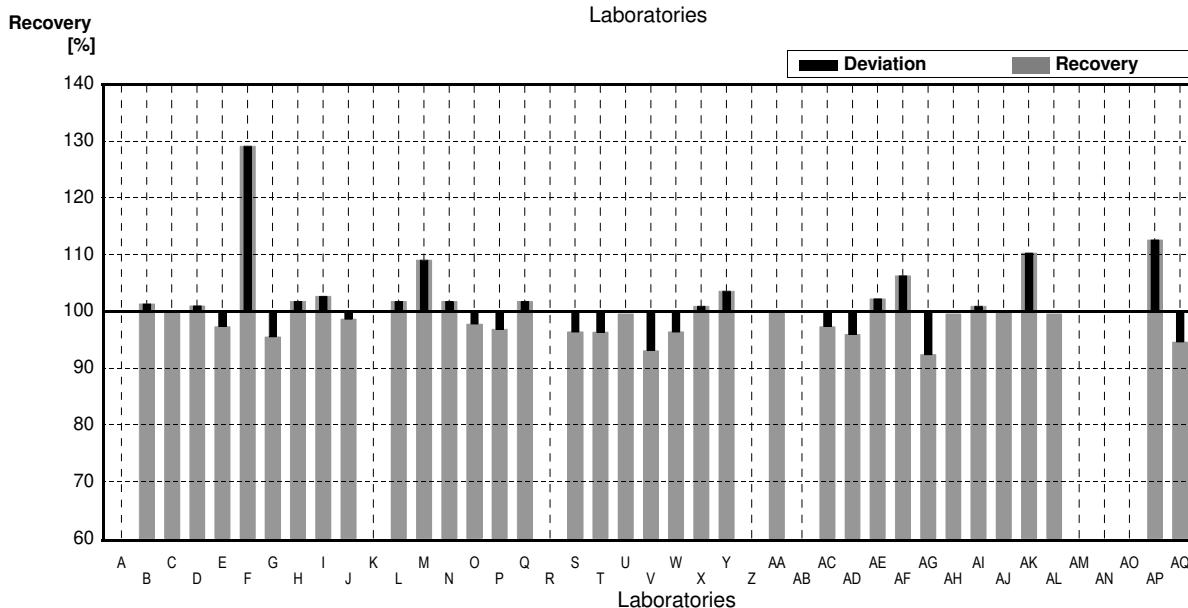
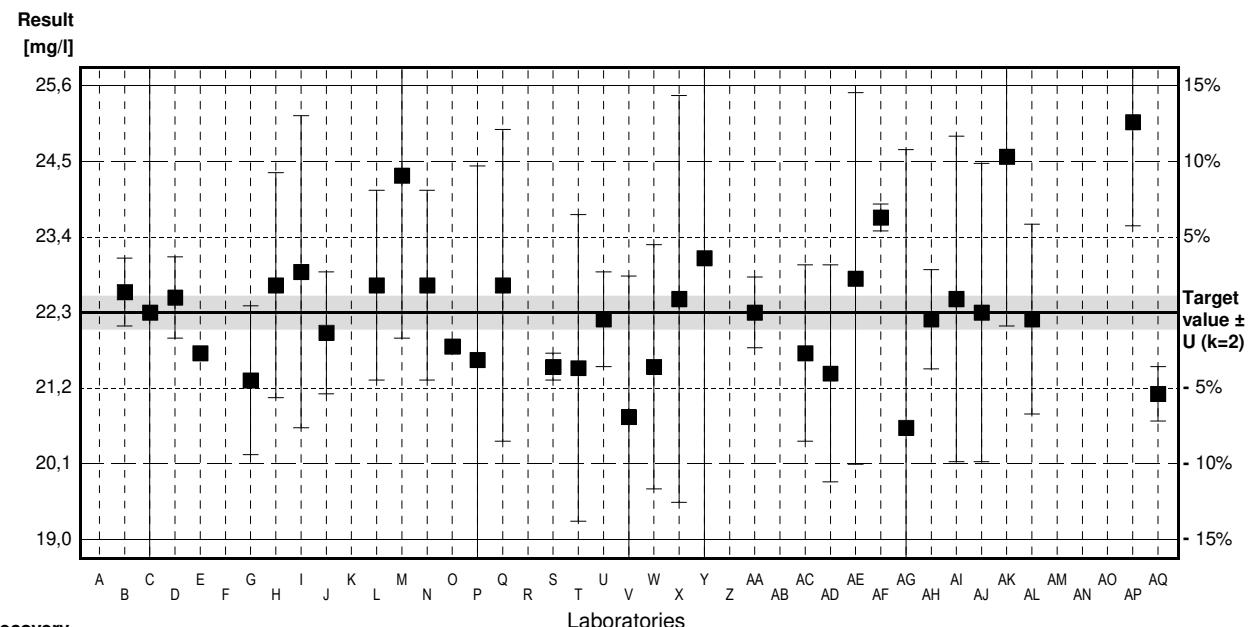
## Parameter Magnesium

Target value  $\pm U$  ( $k=2$ ) 22,3 mg/l  $\pm$  0,2 mg/l  
 IFA result  $\pm U$  ( $k=2$ ) 22,9 mg/l  $\pm$  1,1 mg/l

### Stability test mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			mg/l		
B	22,6	0,5	mg/l	101%	0,36
C	22,3	6,70	mg/l	100%	0,00
D	22,52	0,6	mg/l	101%	0,27
E	21,7		mg/l	97%	-0,73
F	28,8 *		mg/l	129%	7,88
G	21,3	1,1	mg/l	96%	-1,21
H	22,7	1,66	mg/l	102%	0,48
I	22,9	2,3	mg/l	103%	0,73
J	22,0	0,9	mg/l	99%	-0,36
K			mg/l		
L	22,7	1,4	mg/l	102%	0,48
M	24,32	2,4	mg/l	109%	2,45
N	22,7	1,4	mg/l	102%	0,48
O	21,8		mg/l	98%	-0,61
P	21,6	2,86	mg/l	97%	-0,85
Q	22,7	2,3	mg/l	102%	0,48
R			mg/l		
S	21,5	0,2	mg/l	96%	-0,97
T	21,48	2,26	mg/l	96%	-0,99
U	22,2	0,7	mg/l	100%	-0,12
V	20,76	2,076	mg/l	93%	-1,87
W	21,5	1,8	mg/l	96%	-0,97
X	22,5	3	mg/l	101%	0,24
Y	23,1	4,62	mg/l	104%	0,97
Z			mg/l		
AA	22,3	0,52	mg/l	100%	0,00
AB			mg/l		
AC	21,7	1,3	mg/l	97%	-0,73
AD	21,4	1,6	mg/l	96%	-1,09
AE	22,8	2,74	mg/l	102%	0,61
AF	23,7	0,2	mg/l	106%	1,70
AG	20,6	4,1	mg/l	92%	-2,06
AH	22,2	0,733	mg/l	100%	-0,12
AI	22,5	2,4	mg/l	101%	0,24
AJ	22,3	2,2	mg/l	100%	0,00
AK	24,6	2,5	mg/l	110%	2,79
AL	22,2	1,4	mg/l	100%	-0,12
AM			mg/l		
AN			mg/l		
AO			mg/l		
AP	25,11 *	1,53	mg/l	113%	3,41
AQ	21,1	0,4	mg/l	95%	-1,45

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	22,5 $\pm$ 0,7	22,3 $\pm$ 0,4	mg/l
Recov. $\pm$ CI(99%)	101,0 $\pm$ 3,1	99,8 $\pm$ 1,9	%
SD between labs	1,5	0,9	mg/l
RSD between labs	6,5	4,0	%
n for calculation	35	33	



## Sample N157B

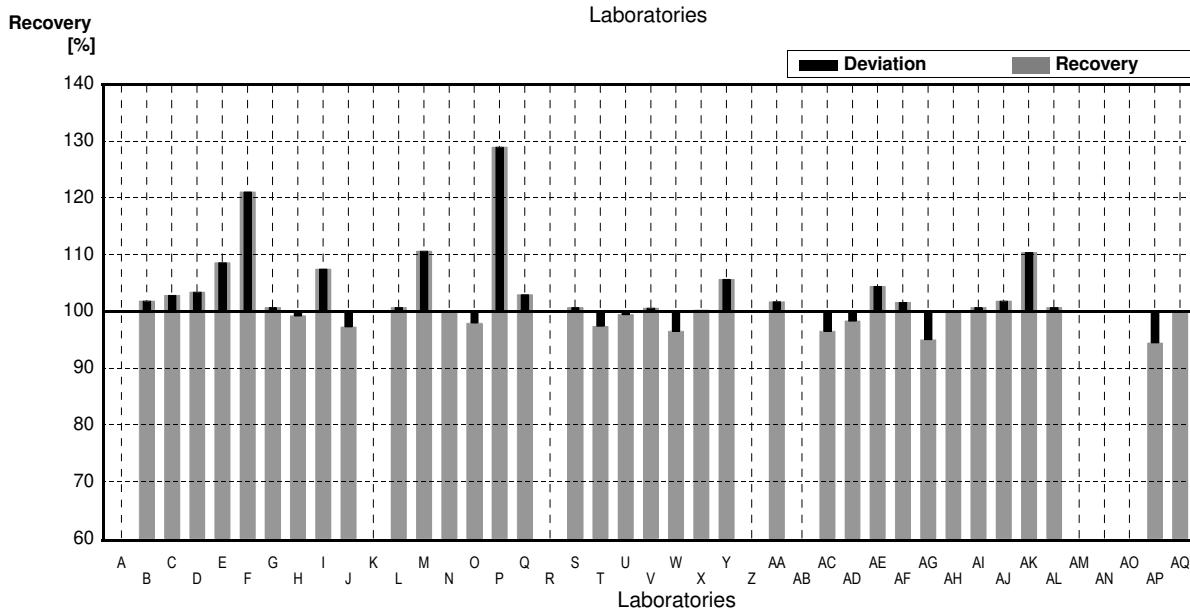
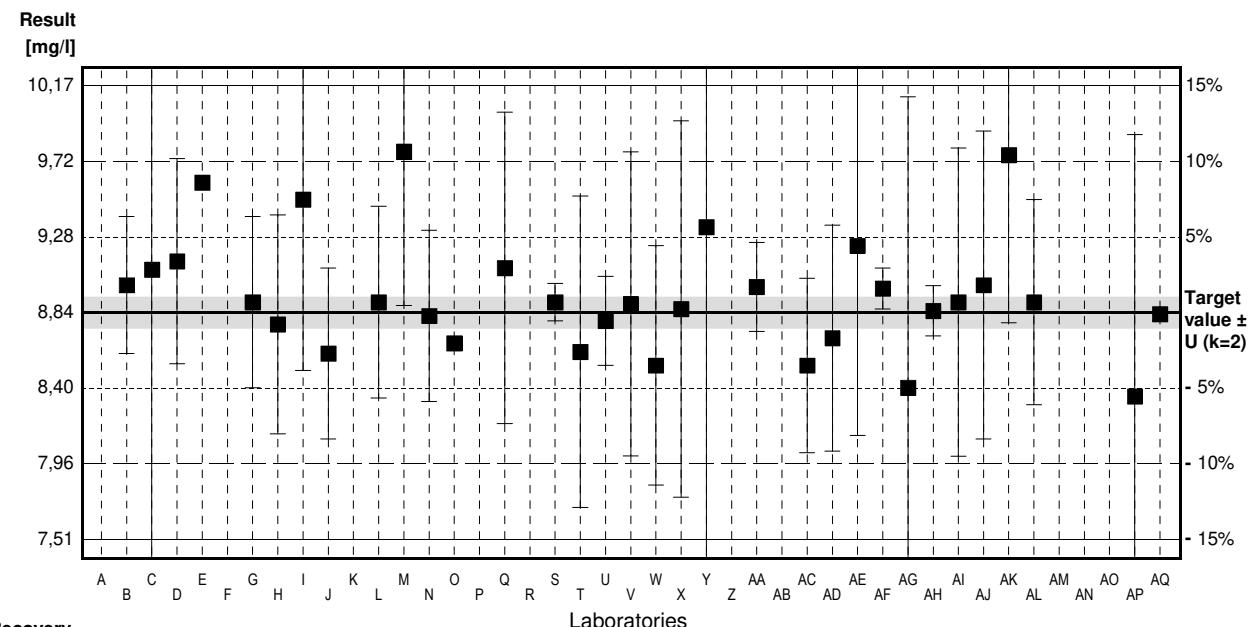
### Parameter Magnesium

Target value  $\pm U$  ( $k=2$ ) 8,84 mg/l  $\pm$  0,09 mg/l  
 IFA result  $\pm U$  ( $k=2$ ) 9,04 mg/l  $\pm$  0,45 mg/l

Stability test mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			mg/l		
B	9,0	0,4	mg/l	102%	0,49
C	9,09	2,73	mg/l	103%	0,76
D	9,14	0,6	mg/l	103%	0,92
E	9,6		mg/l	109%	2,32
F	10,7 *		mg/l	121%	5,69
G	8,9	0,5	mg/l	101%	0,18
H	8,77	0,64	mg/l	99%	-0,21
I	9,5	1,0	mg/l	107%	2,02
J	8,6	0,5	mg/l	97%	-0,73
K			mg/l		
L	8,9	0,56	mg/l	101%	0,18
M	9,78	0,9	mg/l	111%	2,87
N	8,82	0,5	mg/l	100%	-0,06
O	8,66		mg/l	98%	-0,55
P	11,4 *	1,51	mg/l	129%	7,83
Q	9,10	0,91	mg/l	103%	0,79
R			mg/l		
S	8,90	0,11	mg/l	101%	0,18
T	8,61	0,91	mg/l	97%	-0,70
U	8,79	0,26	mg/l	99%	-0,15
V	8,89	0,889	mg/l	101%	0,15
W	8,53	0,70	mg/l	96%	-0,95
X	8,86	1,1	mg/l	100%	0,06
Y	9,34	1,87	mg/l	106%	1,53
Z			mg/l		
AA	8,99	0,26	mg/l	102%	0,46
AB			mg/l		
AC	8,53	0,51	mg/l	96%	-0,95
AD	8,69	0,66	mg/l	98%	-0,46
AE	9,23	1,11	mg/l	104%	1,19
AF	8,98	0,12	mg/l	102%	0,43
AG	8,4	1,7	mg/l	95%	-1,35
AH	8,85	0,147	mg/l	100%	0,03
AI	8,9	0,9	mg/l	101%	0,18
AJ	9,0	0,9	mg/l	102%	0,49
AK	9,76	0,98	mg/l	110%	2,81
AL	8,9	0,6	mg/l	101%	0,18
AM			mg/l		
AN			mg/l		
AO			mg/l		
AP	8,35	1,53	mg/l	94%	-1,50
AQ	8,83	0,04	mg/l	100%	-0,03

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	9,07 $\pm$ 0,28	8,95 $\pm$ 0,17	mg/l
Recov. $\pm$ CI(99%)	102,6 $\pm$ 3,2	101,2 $\pm$ 1,9	%
SD between labs	0,61	0,35	mg/l
RSD between labs	6,7	3,9	%
n for calculation	35	33	



## Sample N157A

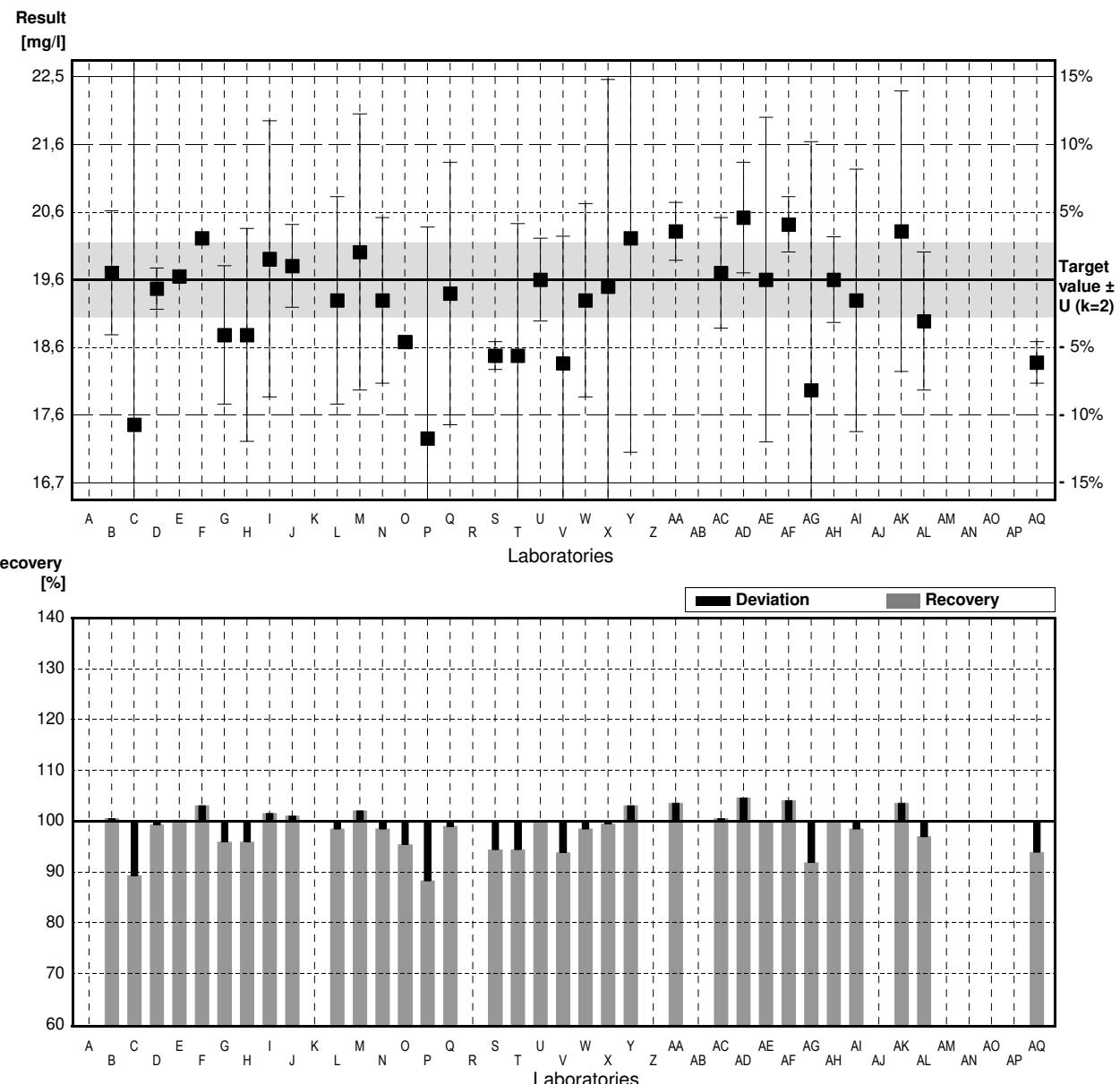
### Parameter Sodium

Target value  $\pm U$  ( $k=2$ ) 19,6 mg/l  $\pm$  0,5 mg/l  
 IFA result  $\pm U$  ( $k=2$ ) 19,7 mg/l  $\pm$  1,2 mg/l

Stability test mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			mg/l		
B	19,7	0,9	mg/l	101%	0,15
C	17,5	5,24	mg/l	89%	-3,15
D	19,47	0,3	mg/l	99%	-0,20
E	19,65		mg/l	100%	0,08
F	20,2		mg/l	103%	0,90
G	18,8	1	mg/l	96%	-1,20
H	18,8	1,54	mg/l	96%	-1,20
I	19,9	2	mg/l	102%	0,45
J	19,8	0,6	mg/l	101%	0,30
K			mg/l		
L	19,3	1,5	mg/l	98%	-0,45
M	20,00	2,0	mg/l	102%	0,60
N	19,3	1,2	mg/l	98%	-0,45
O	18,7		mg/l	95%	-1,35
P	17,3	3,06	mg/l	88%	-3,45
Q	19,4	1,9	mg/l	99%	-0,30
R			mg/l		
S	18,5	0,2	mg/l	94%	-1,65
T	18,50	1,91	mg/l	94%	-1,65
U	19,6	0,6	mg/l	100%	0,00
V	18,39	1,839	mg/l	94%	-1,82
W	19,3	1,4	mg/l	98%	-0,45
X	19,5	3	mg/l	99%	-0,15
Y	20,2	3,10	mg/l	103%	0,90
Z			mg/l		
AA	20,3	0,42	mg/l	104%	1,05
AB			mg/l		
AC	19,7	0,8	mg/l	101%	0,15
AD	20,5	0,8	mg/l	105%	1,35
AE	19,6	2,35	mg/l	100%	0,00
AF	20,4	0,4	mg/l	104%	1,20
AG	18,0	3,6	mg/l	92%	-2,40
AH	19,6	0,620	mg/l	100%	0,00
AI	19,3	1,9	mg/l	98%	-0,45
AJ			mg/l		
AK	20,3	2,03	mg/l	104%	1,05
AL	19,0	1,0	mg/l	97%	-0,90
AM			mg/l		
AN			mg/l		
AO			mg/l		
AP			mg/l		
AQ	18,4	0,3	mg/l	94%	-1,80

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	19,3 $\pm$ 0,4	19,3 $\pm$ 0,4	mg/l
Recov. $\pm$ CI(99%)	98,5 $\pm$ 2,0	98,5 $\pm$ 2,0	%
SD between labs	0,8	0,8	mg/l
RSD between labs	4,2	4,2	%
n for calculation	33	33	



## Sample N157B

### Parameter Sodium

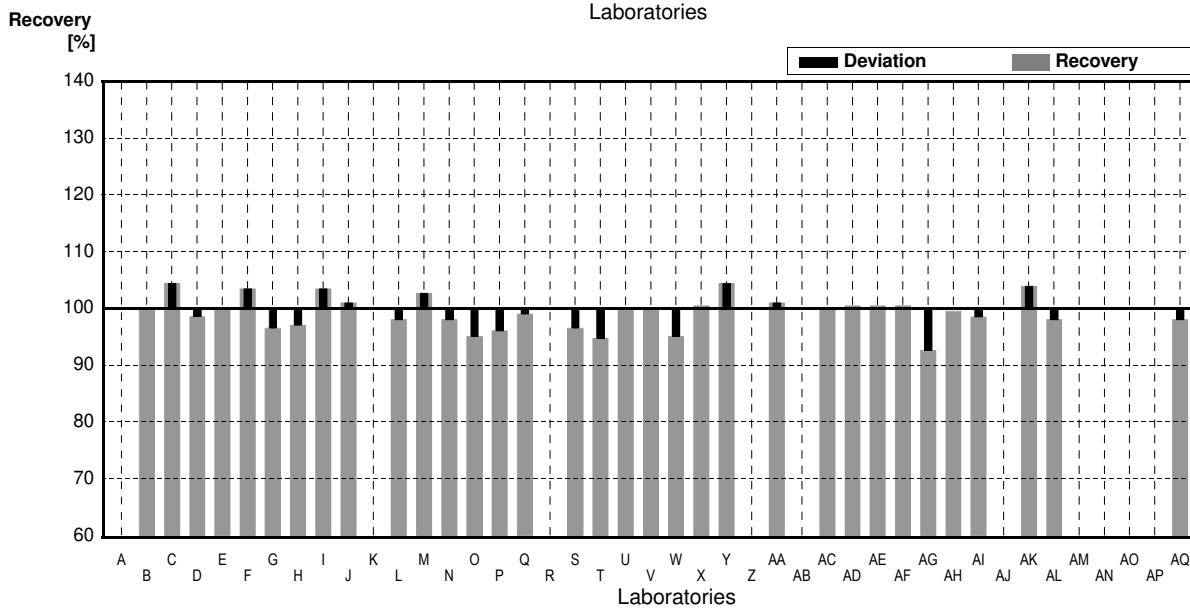
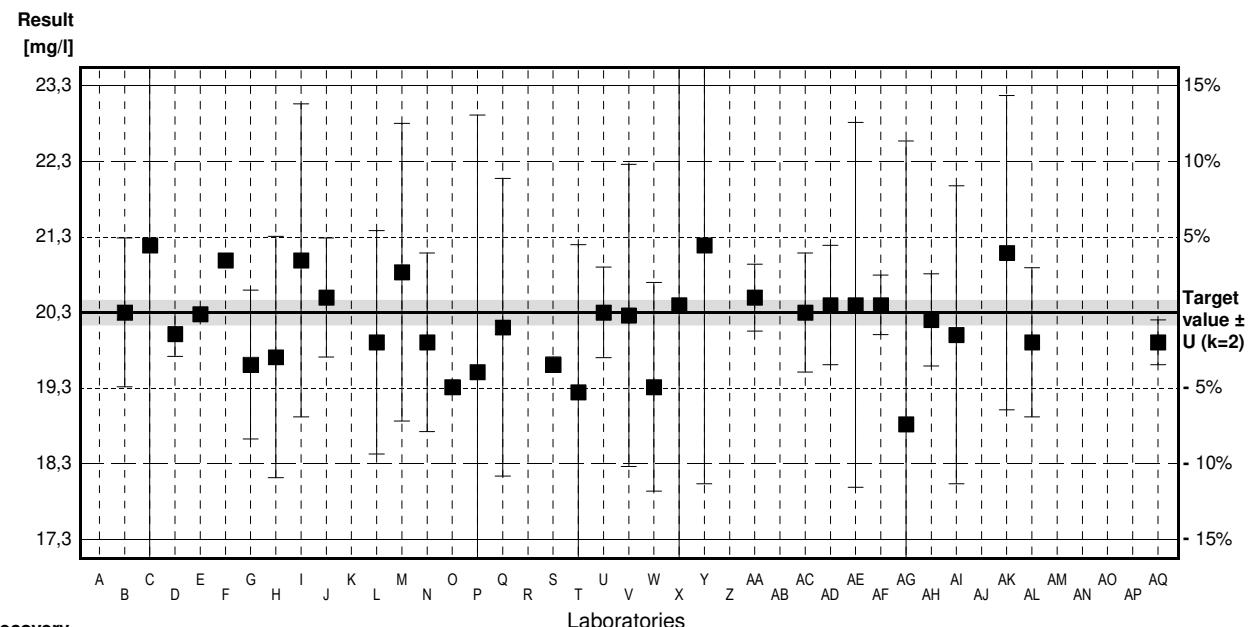
Target value  $\pm U$  ( $k=2$ ) 20,3 mg/l  $\pm$  0,2 mg/l

IFA result  $\pm U$  ( $k=2$ ) 20,3 mg/l  $\pm$  1,2 mg/l

#### Stability test mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			mg/l		
B	20,3	1,0	mg/l	100%	0,00
C	21,2	6,35	mg/l	104%	1,30
D	20,01	0,3	mg/l	99%	-0,42
E	20,28		mg/l	100%	-0,03
F	21,0		mg/l	103%	1,01
G	19,6	1	mg/l	97%	-1,01
H	19,7	1,62	mg/l	97%	-0,87
I	21,0	2,1	mg/l	103%	1,01
J	20,5	0,8	mg/l	101%	0,29
K			mg/l		
L	19,9	1,5	mg/l	98%	-0,58
M	20,84	2,0	mg/l	103%	0,78
N	19,9	1,2	mg/l	98%	-0,58
O	19,3		mg/l	95%	-1,45
P	19,5	3,45	mg/l	96%	-1,16
Q	20,1	2,0	mg/l	99%	-0,29
R			mg/l		
S	19,6	0,1	mg/l	97%	-1,01
T	19,23	1,98	mg/l	95%	-1,55
U	20,3	0,61	mg/l	100%	0,00
V	20,26	2,026	mg/l	100%	-0,06
W	19,3	1,4	mg/l	95%	-1,45
X	20,4	4	mg/l	100%	0,14
Y	21,2	3,20	mg/l	104%	1,30
Z			mg/l		
AA	20,5	0,45	mg/l	101%	0,29
AB			mg/l		
AC	20,3	0,8	mg/l	100%	0,00
AD	20,4	0,8	mg/l	100%	0,14
AE	20,4	2,45	mg/l	100%	0,14
AF	20,4	0,4	mg/l	100%	0,14
AG	18,8	3,8	mg/l	93%	-2,17
AH	20,2	0,619	mg/l	100%	-0,14
AI	20,0	2,0	mg/l	99%	-0,43
AJ			mg/l		
AK	21,1	2,11	mg/l	104%	1,16
AL	19,9	1,0	mg/l	98%	-0,58
AM			mg/l		
AN			mg/l		
AO			mg/l		
AP			mg/l		
AQ	19,9	0,3	mg/l	98%	-0,58

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	20,2 $\pm$ 0,3	20,2 $\pm$ 0,3	mg/l
Recov. $\pm$ CI(99%)	99,3 $\pm$ 1,4	99,3 $\pm$ 1,4	%
SD between labs	0,6	0,6	mg/l
RSD between labs	2,9	2,9	%
n for calculation	33	33	



## Sample N157A

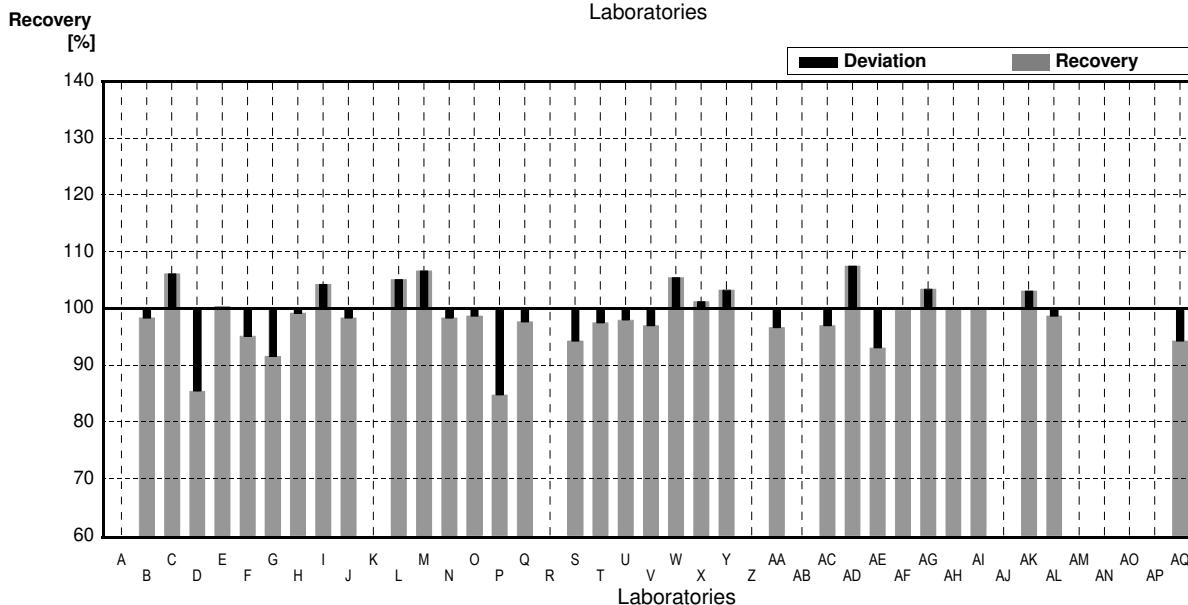
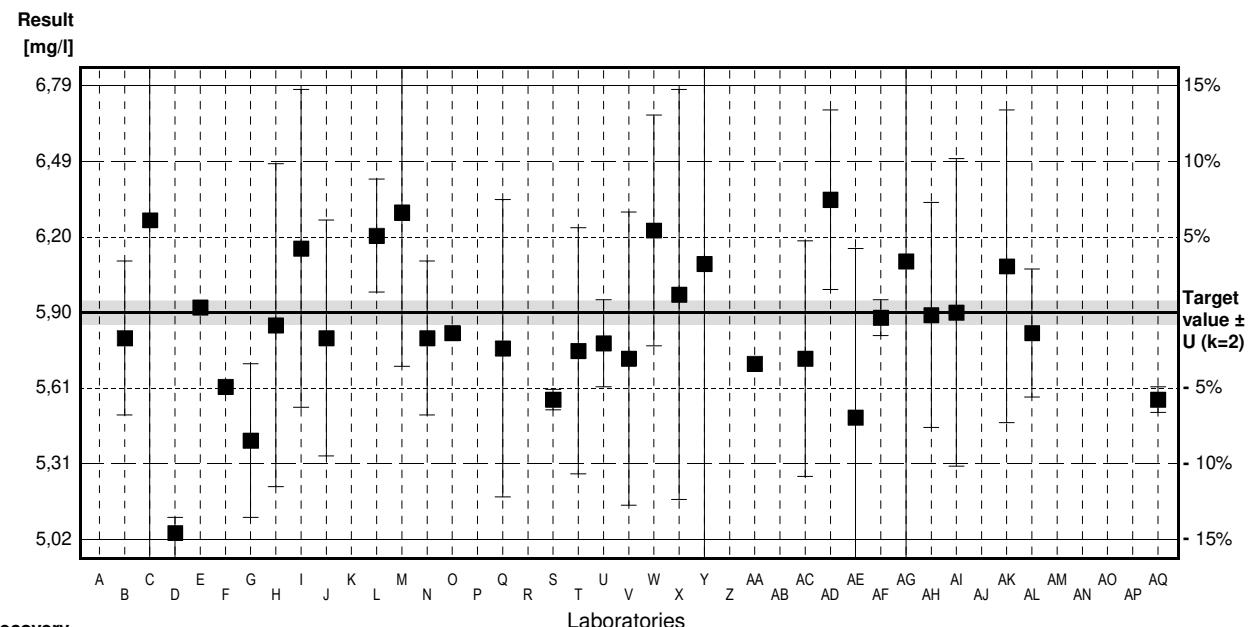
### Parameter Potassium

Target value  $\pm U$  ( $k=2$ ) 5,90 mg/l  $\pm$  0,05 mg/l  
 IFA result  $\pm U$  ( $k=2$ ) 5,99 mg/l  $\pm$  0,30 mg/l

Stability test mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			mg/l		
B	5,8	0,3	mg/l	98%	-0,38
C	6,26	1,88	mg/l	106%	1,36
D	5,04 *	0,06	mg/l	85%	-3,24
E	5,92		mg/l	100%	0,08
F	5,61		mg/l	95%	-1,09
G	5,4	0,3	mg/l	92%	-1,88
H	5,85	0,63	mg/l	99%	-0,19
I	6,15	0,62	mg/l	104%	0,94
J	5,80	0,46	mg/l	98%	-0,38
K			mg/l		
L	6,2	0,22	mg/l	105%	1,13
M	6,29	0,6	mg/l	107%	1,47
N	5,80	0,3	mg/l	98%	-0,38
O	5,82		mg/l	99%	-0,30
P	5,0 *	0,82	mg/l	85%	-3,39
Q	5,76	0,58	mg/l	98%	-0,53
R			mg/l		
S	5,56	0,04	mg/l	94%	-1,28
T	5,75	0,48	mg/l	97%	-0,56
U	5,78	0,17	mg/l	98%	-0,45
V	5,72	0,572	mg/l	97%	-0,68
W	6,22	0,45	mg/l	105%	1,21
X	5,97	0,8	mg/l	101%	0,26
Y	6,09	1,22	mg/l	103%	0,72
Z			mg/l		
AA	5,70	0,02	mg/l	97%	-0,75
AB			mg/l		
AC	5,72	0,46	mg/l	97%	-0,68
AD	6,34	0,35	mg/l	107%	1,66
AE	5,49	0,659	mg/l	93%	-1,54
AF	5,88	0,07	mg/l	100%	-0,08
AG	6,1	1,2	mg/l	103%	0,75
AH	5,89	0,439	mg/l	100%	-0,04
AI	5,9	0,6	mg/l	100%	0,00
AJ			mg/l		
AK	6,08	0,61	mg/l	103%	0,68
AL	5,82	0,25	mg/l	99%	-0,30
AM			mg/l		
AN			mg/l		
AO			mg/l		
AP			mg/l		
AQ	5,56	0,05	mg/l	94%	-1,28

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	5,83 $\pm$ 0,15	5,88 $\pm$ 0,12	mg/l
Recov. $\pm$ CI(99%)	98,8 $\pm$ 2,5	99,6 $\pm$ 2,0	%
SD between labs	0,31	0,24	mg/l
RSD between labs	5,4	4,1	%
n for calculation	33	31	



## Sample N157B

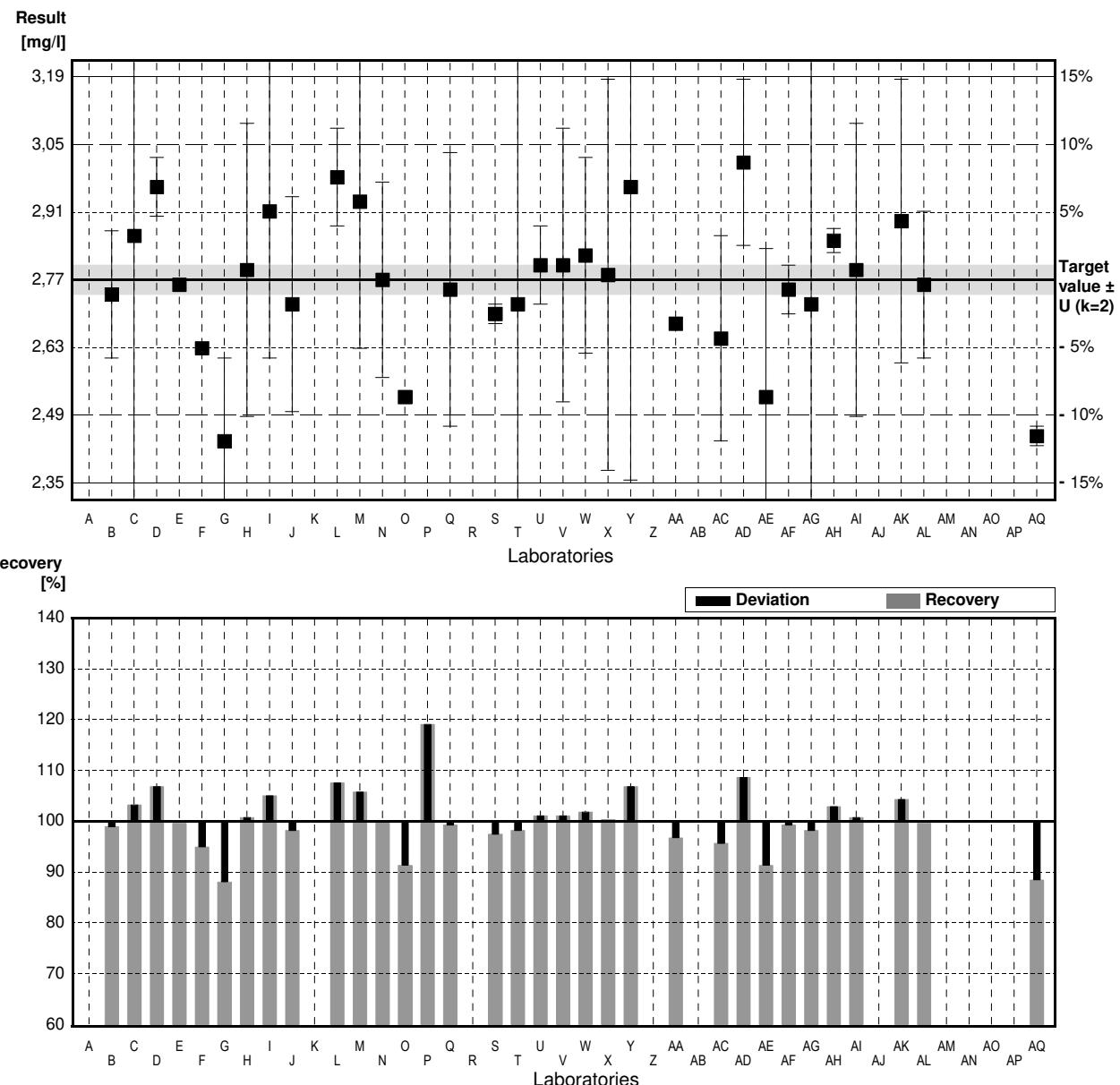
### Parameter Potassium

Target value  $\pm U$  ( $k=2$ ) 2,77 mg/l  $\pm$  0,03 mg/l  
 IFA result  $\pm U$  ( $k=2$ ) 2,78 mg/l  $\pm$  0,19 mg/l

Stability test mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			mg/l		
B	2,74	0,13	mg/l	99%	-0,24
C	2,86	0,86	mg/l	103%	0,72
D	2,96	0,06	mg/l	107%	1,52
E	2,76		mg/l	100%	-0,08
F	2,63		mg/l	95%	-1,12
G	2,44	0,17	mg/l	88%	-2,65
H	2,79	0,30	mg/l	101%	0,16
I	2,91	0,3	mg/l	105%	1,12
J	2,72	0,22	mg/l	98%	-0,40
K			mg/l		
L	2,98	0,10	mg/l	108%	1,68
M	2,93	0,3	mg/l	106%	1,28
N	2,77	0,2	mg/l	100%	0,00
O	2,53		mg/l	91%	-1,93
P	3,30 *	0,54	mg/l	119%	4,25
Q	2,75	0,28	mg/l	99%	-0,16
R			mg/l		
S	2,70	0,02	mg/l	97%	-0,56
T	2,72	1,29	mg/l	98%	-0,40
U	2,80	0,08	mg/l	101%	0,24
V	2,80	0,280	mg/l	101%	0,24
W	2,82	0,20	mg/l	102%	0,40
X	2,78	0,4	mg/l	100%	0,08
Y	2,96	0,60	mg/l	107%	1,52
Z			mg/l		
AA	2,68	0,01	mg/l	97%	-0,72
AB			mg/l		
AC	2,65	0,21	mg/l	96%	-0,96
AD	3,01	0,17	mg/l	109%	1,93
AE	2,53	0,304	mg/l	91%	-1,93
AF	2,75	0,05	mg/l	99%	-0,16
AG	2,72	0,54	mg/l	98%	-0,40
AH	2,85	0,0245	mg/l	103%	0,64
AI	2,79	0,3	mg/l	101%	0,16
AJ			mg/l		
AK	2,89	0,29	mg/l	104%	0,96
AL	2,76	0,15	mg/l	100%	-0,08
AM			mg/l		
AN			mg/l		
AO			mg/l		
AP			mg/l		
AQ	2,45	0,02	mg/l	88%	-2,57

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	2,78 $\pm$ 0,08	2,76 $\pm$ 0,07	mg/l
Recov. $\pm$ CI(99%)	100,4 $\pm$ 2,9	99,8 $\pm$ 2,5	%
SD between labs	0,17	0,14	mg/l
RSD between labs	6,1	5,2	%
n for calculation	33	32	



## Sample N157A

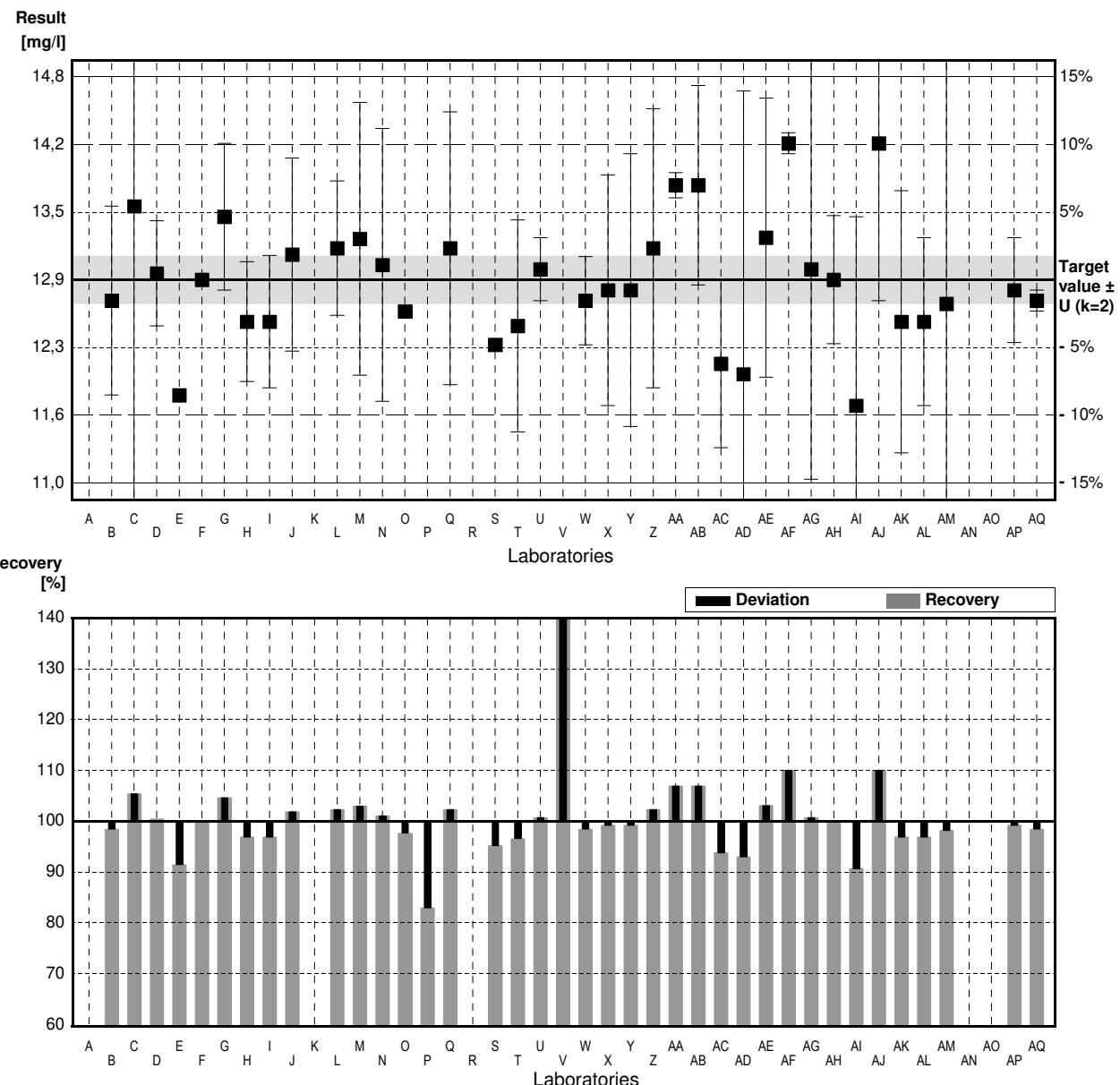
### Parameter Nitrate

Target value  $\pm U$  ( $k=2$ ) 12,9 mg/l  $\pm$  0,2 mg/l  
 IFA result  $\pm U$  ( $k=2$ ) 12,9 mg/l  $\pm$  0,6 mg/l

#### Stability test mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			mg/l		
B	12,7	0,9	mg/l	98%	-0,47
C	13,6	4,09	mg/l	105%	1,64
D	12,96	0,5	mg/l	100%	0,14
E	11,80		mg/l	91%	-2,58
F	12,9		mg/l	100%	0,00
G	13,5	0,7	mg/l	105%	1,41
H	12,5	0,57	mg/l	97%	-0,94
I	12,5	0,63	mg/l	97%	-0,94
J	13,14	0,92	mg/l	102%	0,56
K			mg/l		
L	13,2	0,64	mg/l	102%	0,70
M	13,29	1,3	mg/l	103%	0,92
N	13,04	1,30	mg/l	101%	0,33
O	12,6		mg/l	98%	-0,70
P	10,7	*	mg/l	83%	-5,17
Q	13,2	1,3	mg/l	102%	0,70
R			mg/l		
S	12,28	0,03	mg/l	95%	-1,46
T	12,46	1,01	mg/l	97%	-1,03
U	13,0	0,3	mg/l	101%	0,23
V	57,575	*	2,303	mg/l	446% 104,94
W	12,7	0,42	mg/l	98%	-0,47
X	12,8	1,1	mg/l	99%	-0,23
Y	12,8	1,3	mg/l	99%	-0,23
Z	13,2	1,33	mg/l	102%	0,70
AA	13,8	0,12	mg/l	107%	2,11
AB	13,8	0,95	mg/l	107%	2,11
AC	12,1	0,8	mg/l	94%	-1,88
AD	12,0	2,7	mg/l	93%	-2,11
AE	13,3	1,33	mg/l	103%	0,94
AF	14,2	0,1	mg/l	110%	3,05
AG	13,0	2,0	mg/l	101%	0,23
AH	12,9	0,610	mg/l	100%	0,00
AI	11,7	1,8	mg/l	91%	-2,82
AJ	14,2	1,5	mg/l	110%	3,05
AK	12,5	1,25	mg/l	97%	-0,94
AL	12,5	0,8	mg/l	97%	-0,94
AM	12,67	3,21	mg/l	98%	-0,54
AN			mg/l		
AO			mg/l		
AP	12,8	0,5	mg/l	99%	-0,23
AQ	12,7	0,1	mg/l	98%	-0,47

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	14,0 $\pm$ 3,2	12,9 $\pm$ 0,3	mg/l
Recov. $\pm$ CI(99%)	108,7 $\pm$ 24,9	100,0 $\pm$ 2,1	%
SD between labs	7,3	0,6	mg/l
RSD between labs	52,0	4,6	%
n for calculation	38	36	



## Sample N157B

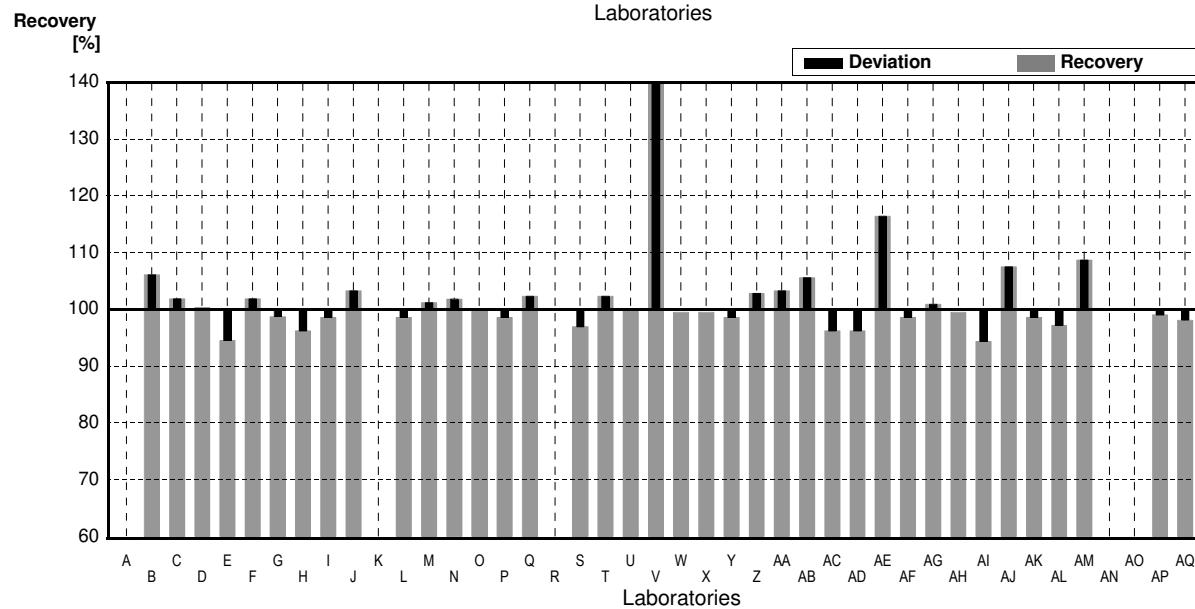
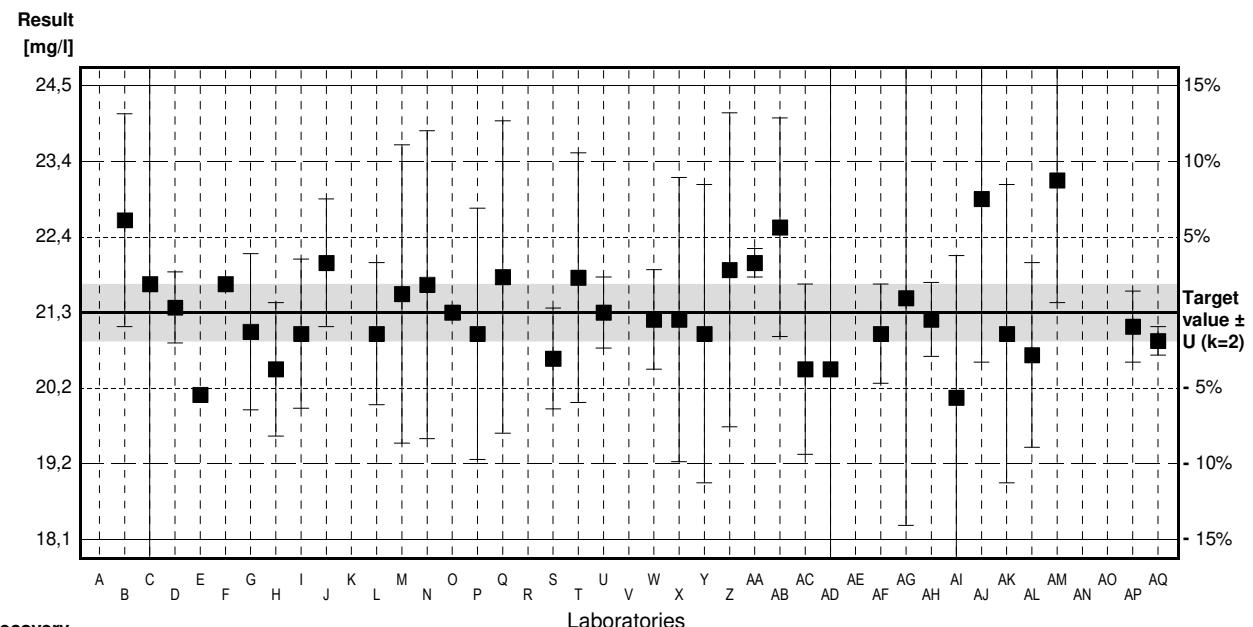
### Parameter Nitrate

Target value  $\pm U$  ( $k=2$ ) 21,3 mg/l  $\pm$  0,4 mg/l  
 IFA result  $\pm U$  ( $k=2$ ) 20,6 mg/l  $\pm$  1,0 mg/l

#### Stability test mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			mg/l		
B	22,6	1,5	mg/l	106%	1,85
C	21,7	6,5	mg/l	102%	0,57
D	21,37	0,5	mg/l	100%	0,10
E	20,14		mg/l	95%	-1,65
F	21,7		mg/l	102%	0,57
G	21,03	1,1	mg/l	99%	-0,38
H	20,5	0,94	mg/l	96%	-1,14
I	21,0	1,05	mg/l	99%	-0,43
J	22,0	0,9	mg/l	103%	1,00
K			mg/l		
L	21,0	1,0	mg/l	99%	-0,43
M	21,56	2,1	mg/l	101%	0,37
N	21,69	2,17	mg/l	102%	0,55
O	21,3		mg/l	100%	0,00
P	21,0	1,77	mg/l	99%	-0,43
Q	21,8	2,2	mg/l	102%	0,71
R			mg/l		
S	20,65	0,71	mg/l	97%	-0,92
T	21,79	1,76	mg/l	102%	0,70
U	21,3	0,5	mg/l	100%	0,00
V	94,902 *	3,7961	mg/l	446%	104,71
W	21,2	0,70	mg/l	100%	-0,14
X	21,2	2	mg/l	100%	-0,14
Y	21,0	2,1	mg/l	99%	-0,43
Z	21,9	2,21	mg/l	103%	0,85
AA	22,0	0,20	mg/l	103%	1,00
AB	22,5	1,54	mg/l	106%	1,71
AC	20,5	1,2	mg/l	96%	-1,14
AD	20,5	4,6	mg/l	96%	-1,14
AE	24,8 *	2,48	mg/l	116%	4,98
AF	21,0	0,7	mg/l	99%	-0,43
AG	21,5	3,2	mg/l	101%	0,28
AH	21,2	0,520	mg/l	100%	-0,14
AI	20,1	2,0	mg/l	94%	-1,71
AJ	22,9	2,3	mg/l	108%	2,28
AK	21,0	2,1	mg/l	99%	-0,43
AL	20,7	1,3	mg/l	97%	-0,85
AM	23,16	1,72	mg/l	109%	2,65
AN			mg/l		
AO			mg/l		
AP	21,1	0,5	mg/l	99%	-0,28
AQ	20,9	0,2	mg/l	98%	-0,57

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	23,4 $\pm$ 5,3	21,3 $\pm$ 0,3	mg/l
Recov. $\pm$ CI(99%)	109,7 $\pm$ 24,8	100,2 $\pm$ 1,5	%
SD between labs	12,0	0,7	mg/l
RSD between labs	51,1	3,3	%
n for calculation	38	36	



## Sample N157A

### Parameter Nitrite

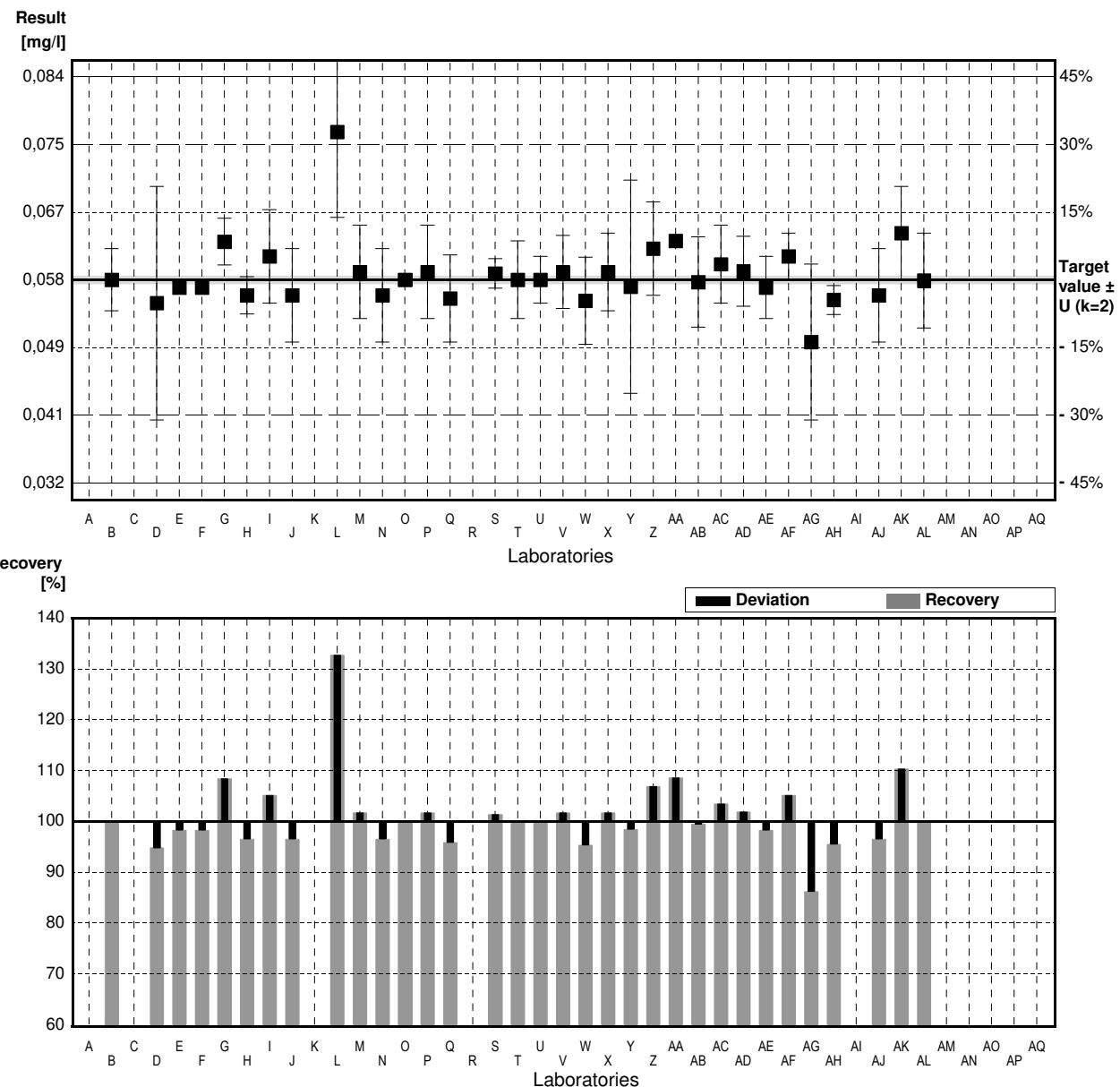
Target value  $\pm U$  ( $k=2$ ) 0,058 mg/l  $\pm$  0,001 mg/l

IFA result  $\pm U$  ( $k=2$ ) 0,057 mg/l  $\pm$  0,003 mg/l

Stability test  $\pm U$  ( $k=2$ ) 0,057 mg/l  $\pm$  0,003 mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			mg/l		
B	0,058	0,004	mg/l	100%	0,00
C	<		mg/l		
D	0,0550	0,015	mg/l	95%	-0,85
E	0,057		mg/l	98%	-0,28
F	0,057		mg/l	98%	-0,28
G	0,0629	0,003	mg/l	108%	1,38
H	0,056	0,0024	mg/l	97%	-0,57
I	0,061	0,006	mg/l	105%	0,85
J	0,056	0,006	mg/l	97%	-0,57
K			mg/l		
L	0,077 *	0,011	mg/l	133%	5,37
M	0,059	0,006	mg/l	102%	0,28
N	0,056	0,006	mg/l	97%	-0,57
O	0,058		mg/l	100%	0,00
P	0,059	0,006	mg/l	102%	0,28
Q	0,0556	0,0056	mg/l	96%	-0,68
R			mg/l		
S	0,0588	0,0019	mg/l	101%	0,23
T	0,058	0,005	mg/l	100%	0,00
U	0,058	0,003	mg/l	100%	0,00
V	0,059	0,0047	mg/l	102%	0,28
W	0,0553	0,0056	mg/l	95%	-0,76
X	0,059	0,005	mg/l	102%	0,28
Y	0,0571	0,0137	mg/l	98%	-0,25
Z	0,062	0,006	mg/l	107%	1,13
AA	0,0630	0,0003	mg/l	109%	1,41
AB	0,0577	0,0058	mg/l	99%	-0,08
AC	0,060	0,005	mg/l	103%	0,57
AD	0,0591	0,0045	mg/l	102%	0,31
AE	0,057	0,004	mg/l	98%	-0,28
AF	0,061	0,003	mg/l	105%	0,85
AG	0,050	0,010	mg/l	86%	-2,26
AH	0,0554	0,00186	mg/l	96%	-0,73
AI			mg/l		
AJ	0,056	0,006	mg/l	97%	-0,57
AK	0,064	0,006	mg/l	110%	1,70
AL	0,0579	0,0061	mg/l	100%	-0,03
AM			mg/l		
AN			mg/l		
AO			mg/l		
AP			mg/l		
AQ			mg/l		

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	0,059 $\pm$ 0,002	0,058 $\pm$ 0,001	mg/l
Recov. $\pm$ CI(99%)	101,1 $\pm$ 3,5	100,2 $\pm$ 2,3	%
SD between labs	0,004	0,003	mg/l
RSD between labs	7,3	4,8	%
n for calculation	33	32	



## Sample N157B

### Parameter Nitrite

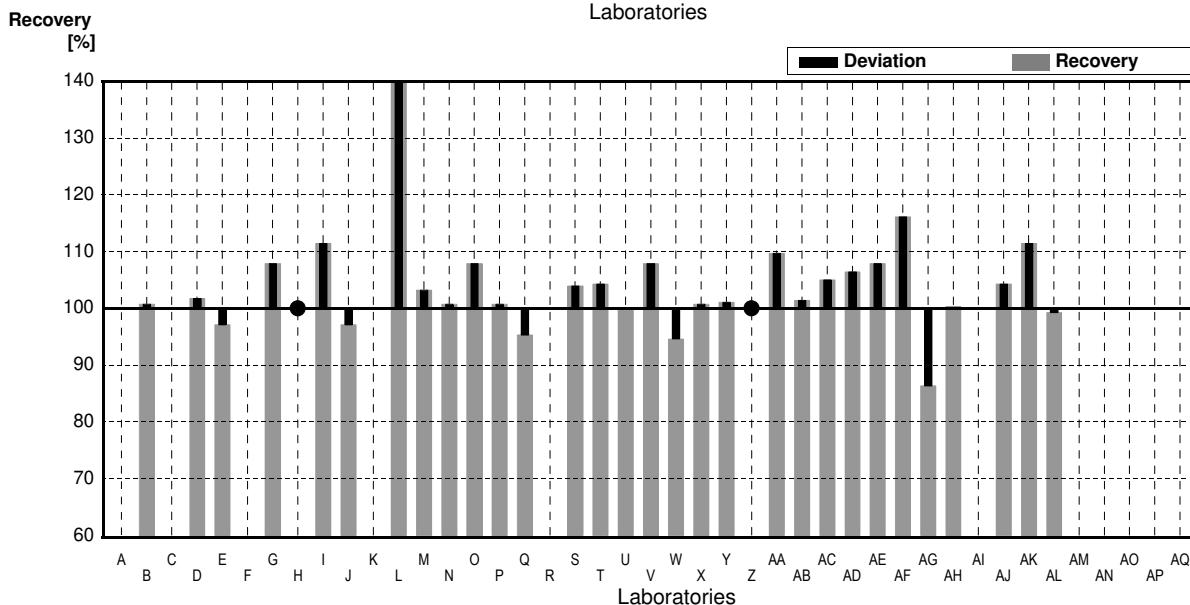
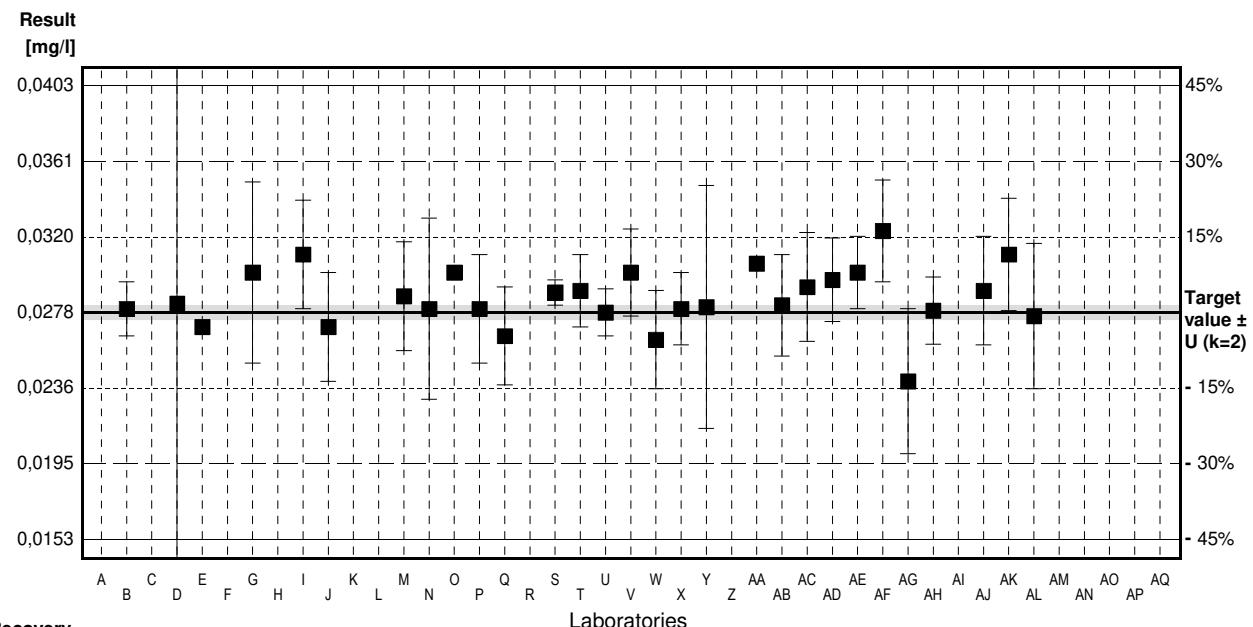
Target value  $\pm U$  ( $k=2$ ) 0,0278 mg/l  $\pm$  0,0004 mg/l

IFA result  $\pm U$  ( $k=2$ ) 0,0277 mg/l  $\pm$  0,0014 mg/l

Stability test  $\pm U$  ( $k=2$ ) 0,0278 mg/l  $\pm$  0,0014 mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			mg/l		
B	0,0280	0,0015	mg/l	101%	0,12
C	<		mg/l		
D	0,0283	0,015	mg/l	102%	0,29
E	0,0270		mg/l	97%	-0,47
F			mg/l		
G	0,0300	0,005	mg/l	108%	1,30
H	<0,03		mg/l	*	
I	0,0310	0,003	mg/l	112%	1,89
J	0,0270	0,0030	mg/l	97%	-0,47
K			mg/l		
L	0,0430 *	0,0063	mg/l	155%	8,96
M	0,0287	0,003	mg/l	103%	0,53
N	0,0280	0,005	mg/l	101%	0,12
O	0,0300		mg/l	108%	1,30
P	0,0280	0,003	mg/l	101%	0,12
Q	0,0265	0,0027	mg/l	95%	-0,77
R			mg/l		
S	0,0289	0,0007	mg/l	104%	0,65
T	0,0290	0,002	mg/l	104%	0,71
U	0,0278	0,0013	mg/l	100%	0,00
V	0,0300	0,0024	mg/l	108%	1,30
W	0,0263	0,0027	mg/l	95%	-0,88
X	0,0280	0,002	mg/l	101%	0,12
Y	0,0281	0,0067	mg/l	101%	0,18
Z	<0,059	0,006	mg/l	*	
AA	0,0305	0,0002	mg/l	110%	1,59
AB	0,0282	0,0028	mg/l	101%	0,24
AC	0,0292	0,003	mg/l	105%	0,83
AD	0,0296	0,0023	mg/l	106%	1,06
AE	0,0300	0,002	mg/l	108%	1,30
AF	0,0323	0,0028	mg/l	116%	2,65
AG	0,0240	0,004	mg/l	86%	-2,24
AH	0,0279	0,00185	mg/l	100%	0,06
AI			mg/l		
AJ	0,0290	0,003	mg/l	104%	0,71
AK	0,0310	0,0031	mg/l	112%	1,89
AL	0,0276	0,0040	mg/l	99%	-0,12
AM			mg/l		
AN			mg/l		
AO			mg/l		
AP			mg/l		
AQ			mg/l		

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	0,0291 $\pm$ 0,0016	0,0286 $\pm$ 0,0009	mg/l
Recov. $\pm$ CI(99%)	104,7 $\pm$ 5,6	102,9 $\pm$ 3,1	%
SD between labs	0,0031	0,0017	mg/l
RSD between labs	10,6	5,9	%
n for calculation	30	29	



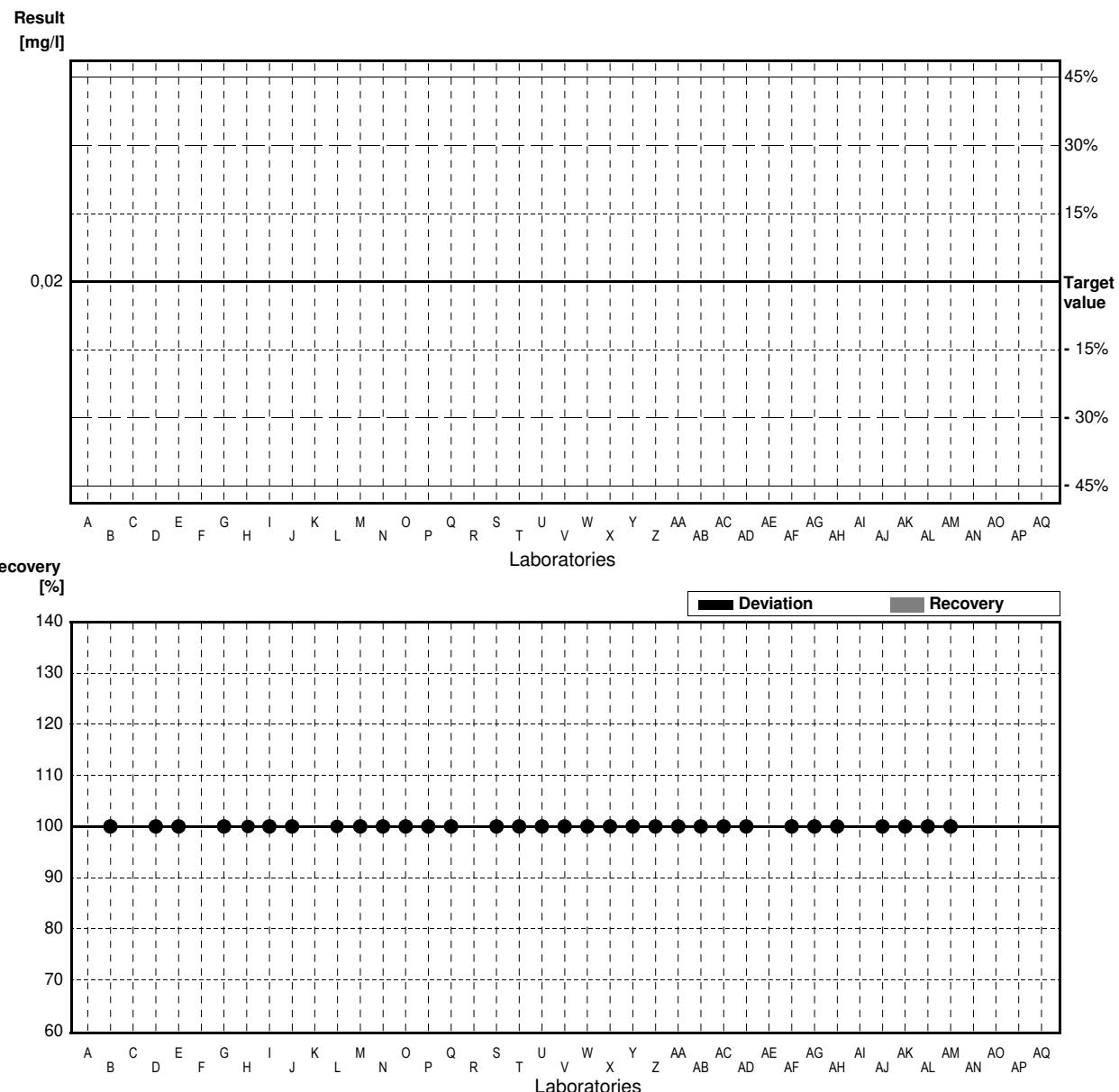
## Sample N157A

### Parameter Ammonium

* Guidance value	<0,02 mg/l				
IFA result $\pm$ U (k=2)	0,0119 mg/l $\pm$ 0,0020 mg/l				
Stability test $\pm$ U (k=2)	0,0126 mg/l $\pm$ 0,0021 mg/l				
Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			mg/l		
B	<0,02		mg/l	•	
C	<		mg/l		
D	<0,023	0,080	mg/l	•	
E	0,0100		mg/l	•	
F			mg/l		
G	<0,04		mg/l	•	
H	0,0239	0,00241	mg/l	•	
I	0,0170	0,007	mg/l	•	
J	0,0190	0,0060	mg/l	•	
K			mg/l		
L	0,0290	0,0021	mg/l	•	
M	0,0148	0,0015	mg/l	•	
N	<0,02		mg/l	•	
O	<0,042		mg/l	•	
P	<0,03		mg/l	•	
Q	0,0128	0,0013	mg/l	•	
R			mg/l		
S	0,0164	0,0034	mg/l	•	
T	<0,040	0,004	mg/l	•	
U	0,0141	0,0027	mg/l	•	
V	<0,0005		mg/l	•	
W	0,0165	0,0012	mg/l	•	
X	0,0129	0,0018	mg/l	•	
Y	0,0170	0,0030	mg/l	•	
Z	<0,05	0,007	mg/l	•	
AA	0,0155	0,001	mg/l	•	
AB	0,0081	0,0012	mg/l	•	
AC	0,0141	0,004	mg/l	•	
AD	0,0180	0,0019	mg/l	•	
AE			mg/l		
AF	0,0163	0,002	mg/l	•	
AG	0,0200	0,0100	mg/l	•	
AH	0,0150	0,00233	mg/l	•	
AI			mg/l		
AJ	0,0130	0,0015	mg/l	•	
AK	0,0140	0,0014	mg/l	•	
AL	0,0152	0,0050	mg/l	•	
AM	0,0137	0,00150	mg/l	•	
AN			mg/l		
AO			mg/l		
AP			mg/l		
AQ			mg/l		

\* guidance value, see also report, page 4

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)			mg/l
Recov. $\pm$ CI(99%)			%
SD between labs			mg/l
RSD between labs			%
n for calculation			



## Sample N157B

### Parameter Ammonium

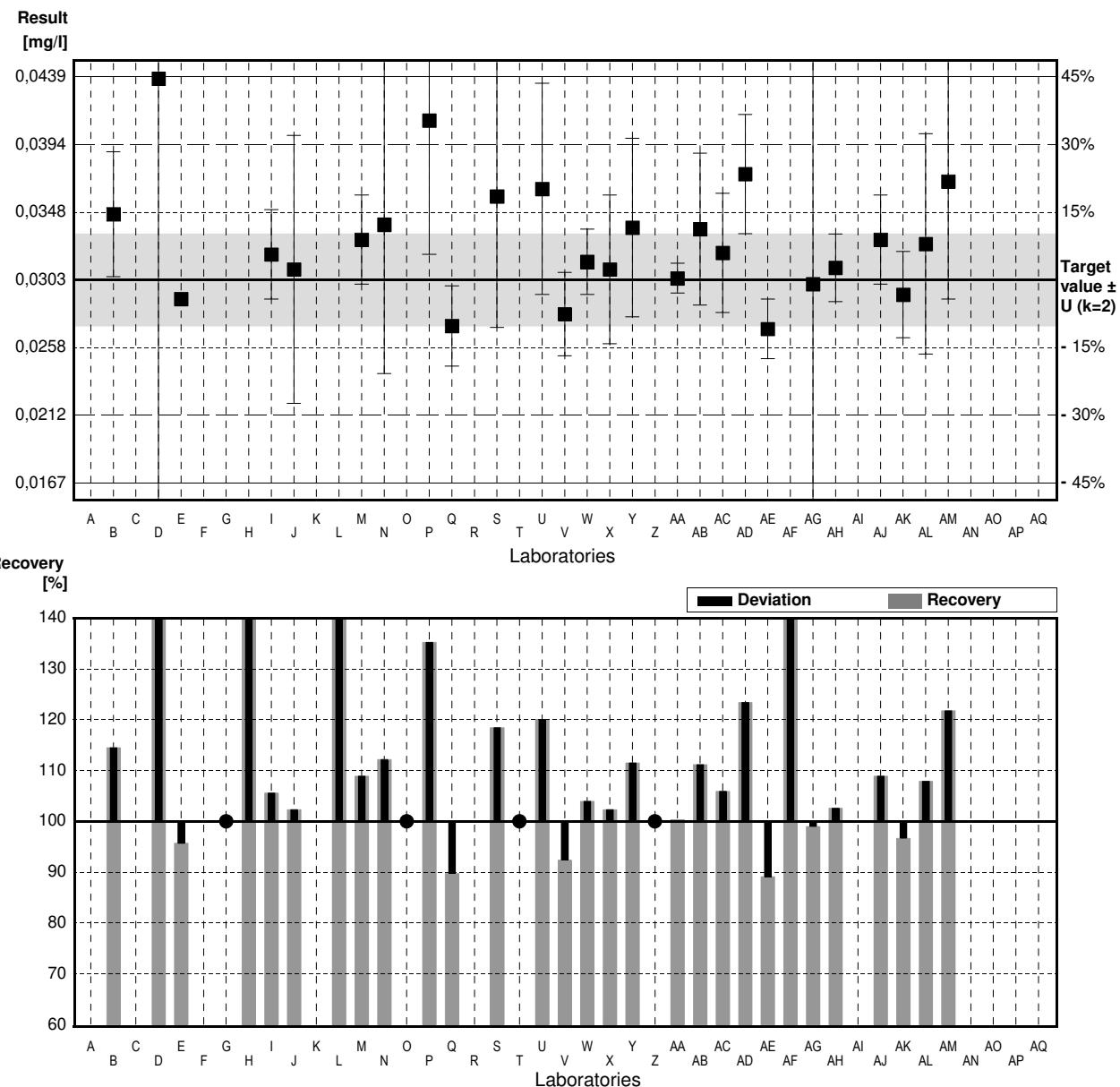
Target value  $\pm U$  ( $k=2$ ) 0,0303 mg/l  $\pm$  0,0031 mg/l

IFA result  $\pm U$  ( $k=2$ ) 0,0309 mg/l  $\pm$  0,0022 mg/l

Stability test  $\pm U$  ( $k=2$ ) 0,0310 mg/l  $\pm$  0,0022 mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			mg/l		
B	0,0347	0,0042	mg/l	115%	1,21
C	<		mg/l		
D	0,0438	0,080	mg/l	145%	3,71
E	0,0290		mg/l	96%	-0,36
F			mg/l		
G	<0,04		mg/l	*	
H	0,0560 *	0,0057	mg/l	185%	7,07
I	0,0320	0,003	mg/l	106%	0,47
J	0,0310	0,0090	mg/l	102%	0,19
K			mg/l		
L	0,0440	0,0032	mg/l	145%	3,77
M	0,0330	0,003	mg/l	109%	0,74
N	0,0340	0,010	mg/l	112%	1,02
O	<0,042		mg/l	*	
P	0,0410	0,009	mg/l	135%	2,94
Q	0,0272	0,0027	mg/l	90%	-0,85
R			mg/l		
S	0,0359	0,0088	mg/l	118%	1,54
T	<0,040	0,004	mg/l	*	
U	0,0364	0,0071	mg/l	120%	1,68
V	0,0280	0,0028	mg/l	92%	-0,63
W	0,0315	0,0022	mg/l	104%	0,33
X	0,0310	0,005	mg/l	102%	0,19
Y	0,0338	0,0060	mg/l	112%	0,96
Z	<0,05	0,007	mg/l	*	
AA	0,0304	0,001	mg/l	100%	0,03
AB	0,0337	0,0051	mg/l	111%	0,94
AC	0,0321	0,004	mg/l	106%	0,50
AD	0,0374	0,0040	mg/l	123%	1,95
AE	0,0270	0,002	mg/l	89%	-0,91
AF	0,051 *	0,002	mg/l	168%	5,69
AG	0,0300	0,015	mg/l	99%	-0,08
AH	0,0311	0,00227	mg/l	103%	0,22
AI			mg/l		
AJ	0,0330	0,003	mg/l	109%	0,74
AK	0,0293	0,0029	mg/l	97%	-0,28
AL	0,0327	0,0074	mg/l	108%	0,66
AM	0,0369	0,0079	mg/l	122%	1,82
AN			mg/l		
AO			mg/l		
AP			mg/l		
AQ			mg/l		

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	0,0347 $\pm$ 0,0035	0,0333 $\pm$ 0,0024	mg/l
Recov. $\pm$ CI(99%)	114,6 $\pm$ 11,5	110,0 $\pm$ 7,9	%
SD between labs	0,0068	0,0044	mg/l
RSD between labs	19,5	13,3	%
n for calculation	29	27	



# Sample N157A

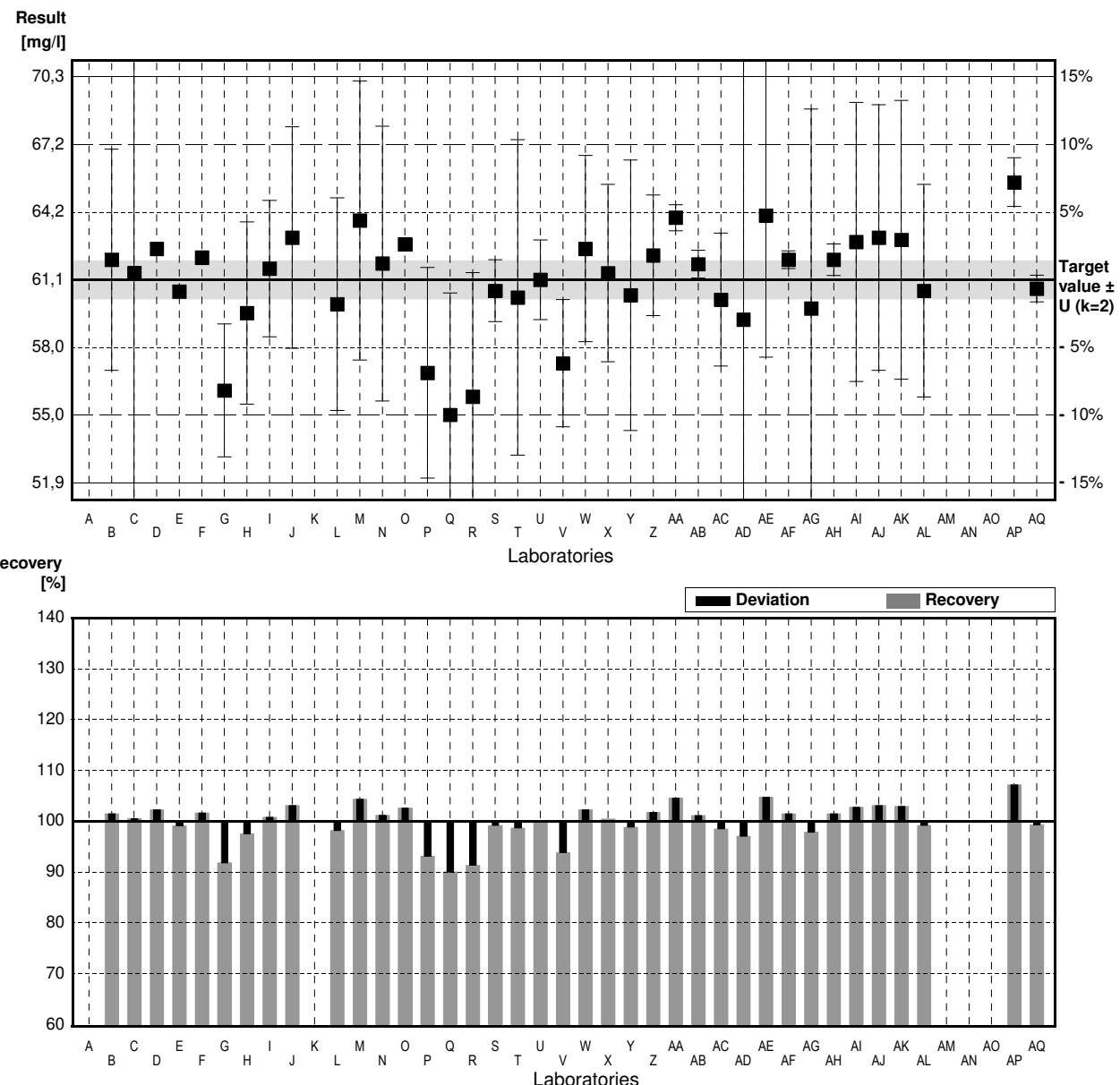
## Parameter Chloride

Target value  $\pm U$  ( $k=2$ ) 61,1 mg/l  $\pm$  0,9 mg/l  
 IFA result  $\pm U$  ( $k=2$ ) 60,6 mg/l  $\pm$  2,4 mg/l

### Stability test mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			mg/l		
B	62	5	mg/l	101%	0.49
C	61,41	18,42	mg/l	101%	0.17
D	62,49	0,25	mg/l	102%	0.76
E	60,57		mg/l	99%	-0.29
F	62,1		mg/l	102%	0.55
G	56,1	3	mg/l	92%	-2.73
H	59,6	4,11	mg/l	98%	-0.82
I	61,6	3,08	mg/l	101%	0.27
J	63	5	mg/l	103%	1.04
K			mg/l		
L	60	4,8	mg/l	98%	-0.60
M	63,77	6,3	mg/l	104%	1.46
N	61,83	6,2	mg/l	101%	0.40
O	62,7		mg/l	103%	0.87
P	56,9	4,75	mg/l	93%	-2.29
Q	55,0 *	5,5	mg/l	90%	-3.33
R	55,82 *	5,6	mg/l	91%	-2.88
S	60,6	1,4	mg/l	99%	-0.27
T	60,3	7,12	mg/l	99%	-0.44
U	61,1	1,8	mg/l	100%	0.00
V	57,33	2,867	mg/l	94%	-2.06
W	62,5	4,2	mg/l	102%	0.76
X	61,4	4	mg/l	100%	0.16
Y	60,4	6,1	mg/l	99%	-0.38
Z	62,2	2,72	mg/l	102%	0.60
AA	63,9	0,59	mg/l	105%	1.53
AB	61,8	0,63	mg/l	101%	0.38
AC	60,2	3,0	mg/l	99%	-0.49
AD	59,3	15,9	mg/l	97%	-0.98
AE	64,0	6,40	mg/l	105%	1.58
AF	62	0,4	mg/l	101%	0.49
AG	59,8	9,0	mg/l	98%	-0.71
AH	62,0	0,710	mg/l	101%	0.49
AI	62,8	6,3	mg/l	103%	0.93
AJ	63	6	mg/l	103%	1.04
AK	62,9	6,29	mg/l	103%	0.98
AL	60,6	4,8	mg/l	99%	-0.27
AM			mg/l		
AN			mg/l		
AO			mg/l		
AP	65,5	1,1	mg/l	107%	2.40
AQ	60,7	0,6	mg/l	99%	-0.22

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	61,0 $\pm$ 1,0	61,3 $\pm$ 0,9	mg/l
Recov. $\pm$ CI(99%)	99,9 $\pm$ 1,7	100,4 $\pm$ 1,5	%
SD between labs	2,3	2,0	mg/l
RSD between labs	3,8	3,2	%
n for calculation	38	36	



## Sample N157B

### Parameter Chloride

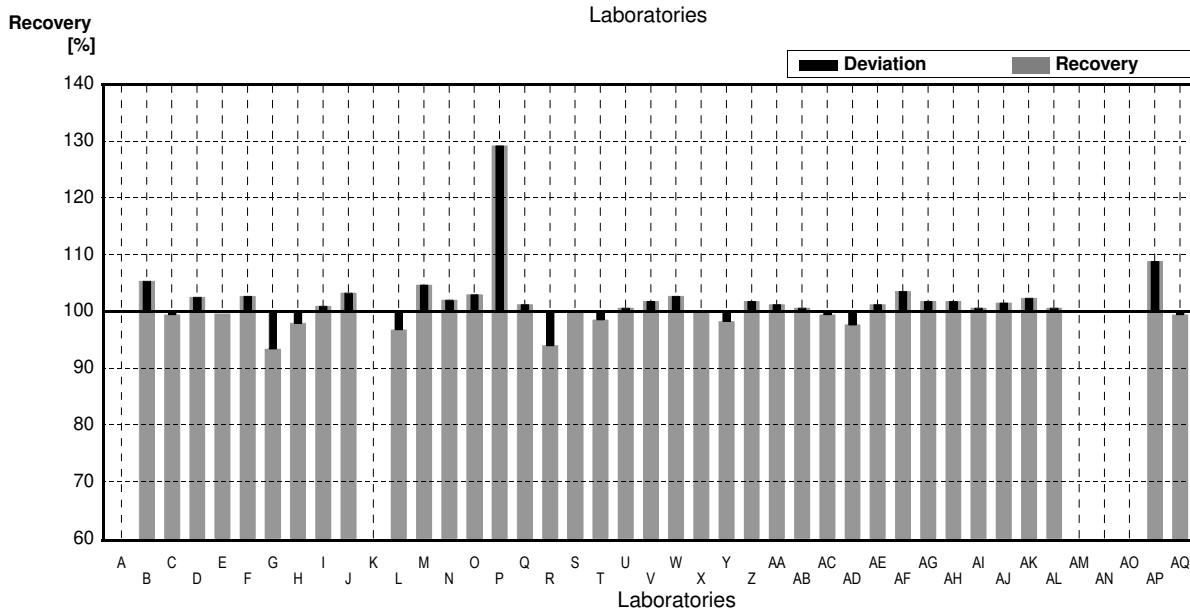
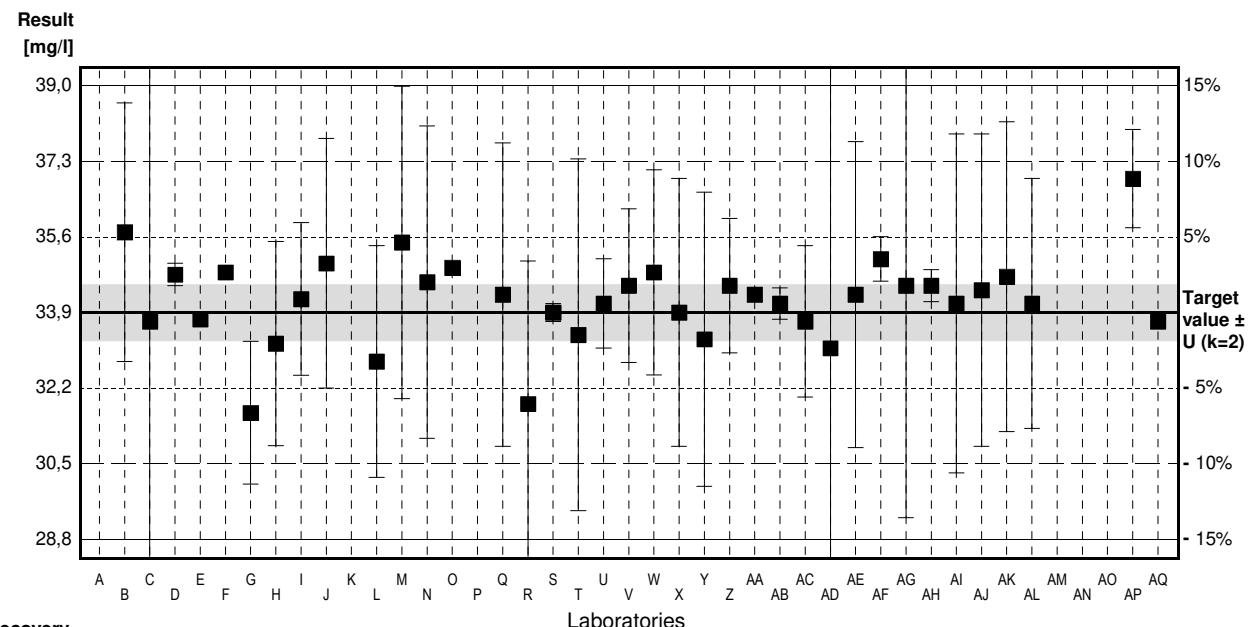
Target value  $\pm U$  ( $k=2$ ) 33,9 mg/l  $\pm$  0,6 mg/l

IFA result  $\pm U$  ( $k=2$ ) 33,7 mg/l  $\pm$  1,3 mg/l

#### Stability test mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			mg/l		
B	35,7	2,9	mg/l	105%	1,77
C	33,70	10,11	mg/l	99%	-0,20
D	34,75	0,25	mg/l	103%	0,84
E	33,75		mg/l	100%	-0,15
F	34,8		mg/l	103%	0,88
G	31,65 *	1,6	mg/l	93%	-2,21
H	33,2	2,29	mg/l	98%	-0,69
I	34,2	1,71	mg/l	101%	0,29
J	35,0	2,8	mg/l	103%	1,08
K			mg/l		
L	32,8	2,6	mg/l	97%	-1,08
M	35,47	3,5	mg/l	105%	1,54
N	34,58	3,5	mg/l	102%	0,67
O	34,9		mg/l	103%	0,98
P	43,8 *	3,65	mg/l	129%	9,73
Q	34,3	3,4	mg/l	101%	0,39
R	31,85 *	3,2	mg/l	94%	-2,02
S	33,9	0,2	mg/l	100%	0,00
T	33,4	3,94	mg/l	99%	-0,49
U	34,1	1,0	mg/l	101%	0,20
V	34,50	1,725	mg/l	102%	0,59
W	34,8	2,3	mg/l	103%	0,88
X	33,9	3	mg/l	100%	0,00
Y	33,3	3,3	mg/l	98%	-0,59
Z	34,5	1,51	mg/l	102%	0,59
AA	34,3	0,15	mg/l	101%	0,39
AB	34,1	0,35	mg/l	101%	0,20
AC	33,7	1,7	mg/l	99%	-0,20
AD	33,1	8,9	mg/l	98%	-0,79
AE	34,3	3,43	mg/l	101%	0,39
AF	35,1	0,5	mg/l	104%	1,18
AG	34,5	5,2	mg/l	102%	0,59
AH	34,5	0,360	mg/l	102%	0,59
AI	34,1	3,8	mg/l	101%	0,20
AJ	34,4	3,5	mg/l	101%	0,49
AK	34,7	3,47	mg/l	102%	0,79
AL	34,1	2,8	mg/l	101%	0,20
AM			mg/l		
AN			mg/l		
AO			mg/l		
AP	36,9 *	1,1	mg/l	109%	2,95
AQ	33,7	0,1	mg/l	99%	-0,20

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	34,4 $\pm$ 0,8	34,2 $\pm$ 0,3	mg/l
Recov. $\pm$ CI(99%)	101,6 $\pm$ 2,4	101,0 $\pm$ 0,9	%
SD between labs	1,8	0,7	mg/l
RSD between labs	5,3	1,9	%
n for calculation	38	34	



## Sample N157A

### Parameter Sulphate

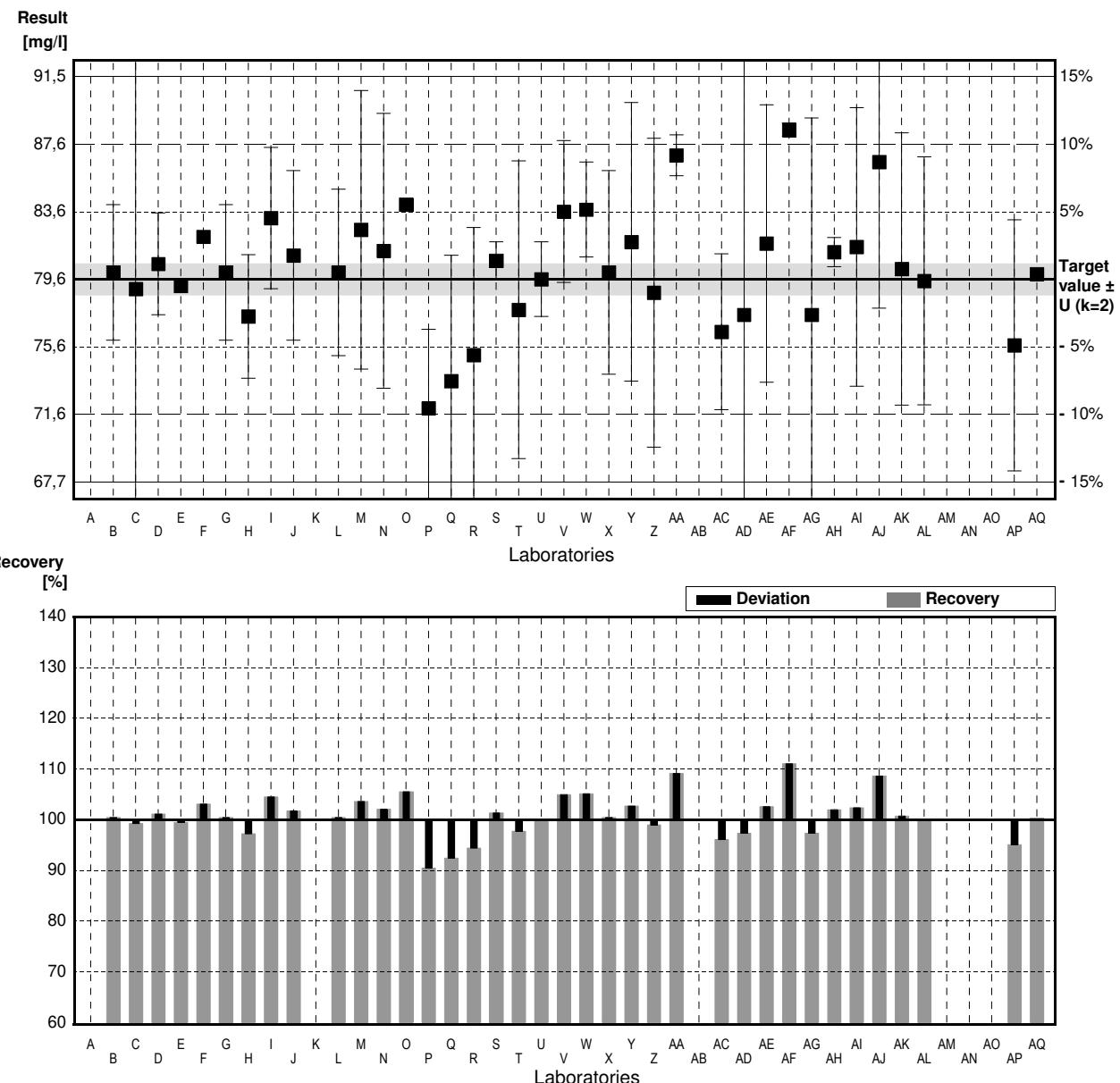
Target value  $\pm U$  ( $k=2$ ) 79,6 mg/l  $\pm$  0,9 mg/l

IFA result  $\pm U$  ( $k=2$ ) 80,4 mg/l  $\pm$  1,6 mg/l

Stability test mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			mg/l		
B	80	4	mg/l	101%	0.16
C	79,03	23,7	mg/l	99%	-0.23
D	80,50	3,0	mg/l	101%	0.36
E	79,20		mg/l	99%	-0.16
F	82,1		mg/l	103%	1.01
G	80	4	mg/l	101%	0.16
H	77,4	3,64	mg/l	97%	-0.89
I	83,2	4,16	mg/l	105%	1.46
J	81	5	mg/l	102%	0.57
K			mg/l		
L	80	4,9	mg/l	101%	0.16
M	82,51	8,2	mg/l	104%	1.18
N	81,27	8,1	mg/l	102%	0.68
O	84,0		mg/l	106%	1.78
P	72,0	4,64	mg/l	90%	-3.08
Q	73,6	7,4	mg/l	92%	-2.43
R	75,14	7,5	mg/l	94%	-1.81
S	80,7	1,1	mg/l	101%	0.45
T	77,8	8,77	mg/l	98%	-0.73
U	79,6	2,2	mg/l	100%	0.00
V	83,58	4,179	mg/l	105%	1.61
W	83,7	2,8	mg/l	105%	1.66
X	80,0	6	mg/l	101%	0.16
Y	81,8	8,2	mg/l	103%	0.89
Z	78,8	9,1	mg/l	99%	-0.32
AA	86,9	1,20	mg/l	109%	2.96
AB			mg/l		
AC	76,5	4,6	mg/l	96%	-1.26
AD	77,5	19,2	mg/l	97%	-0.85
AE	81,7	8,17	mg/l	103%	0.85
AF	88,4 *	0,4	mg/l	111%	3.57
AG	77,5	11,6	mg/l	97%	-0.85
AH	81,2	0,860	mg/l	102%	0.65
AI	81,5	8,2	mg/l	102%	0.77
AJ	86,5	8,6	mg/l	109%	2.80
AK	80,2	8,02	mg/l	101%	0.24
AL	79,5	7,3	mg/l	100%	-0.04
AM			mg/l		
AN			mg/l		
AO			mg/l		
AP	75,7	7,4	mg/l	95%	-1.58
AQ	79,9	0,1	mg/l	100%	0.12

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	80,3 $\pm$ 1,5	80,0 $\pm$ 1,4	mg/l
Recov. $\pm$ CI(99%)	100,8 $\pm$ 1,9	100,6 $\pm$ 1,8	%
SD between labs	3,4	3,2	mg/l
RSD between labs	4,3	4,0	%
n for calculation	37	36	



## Sample N157B

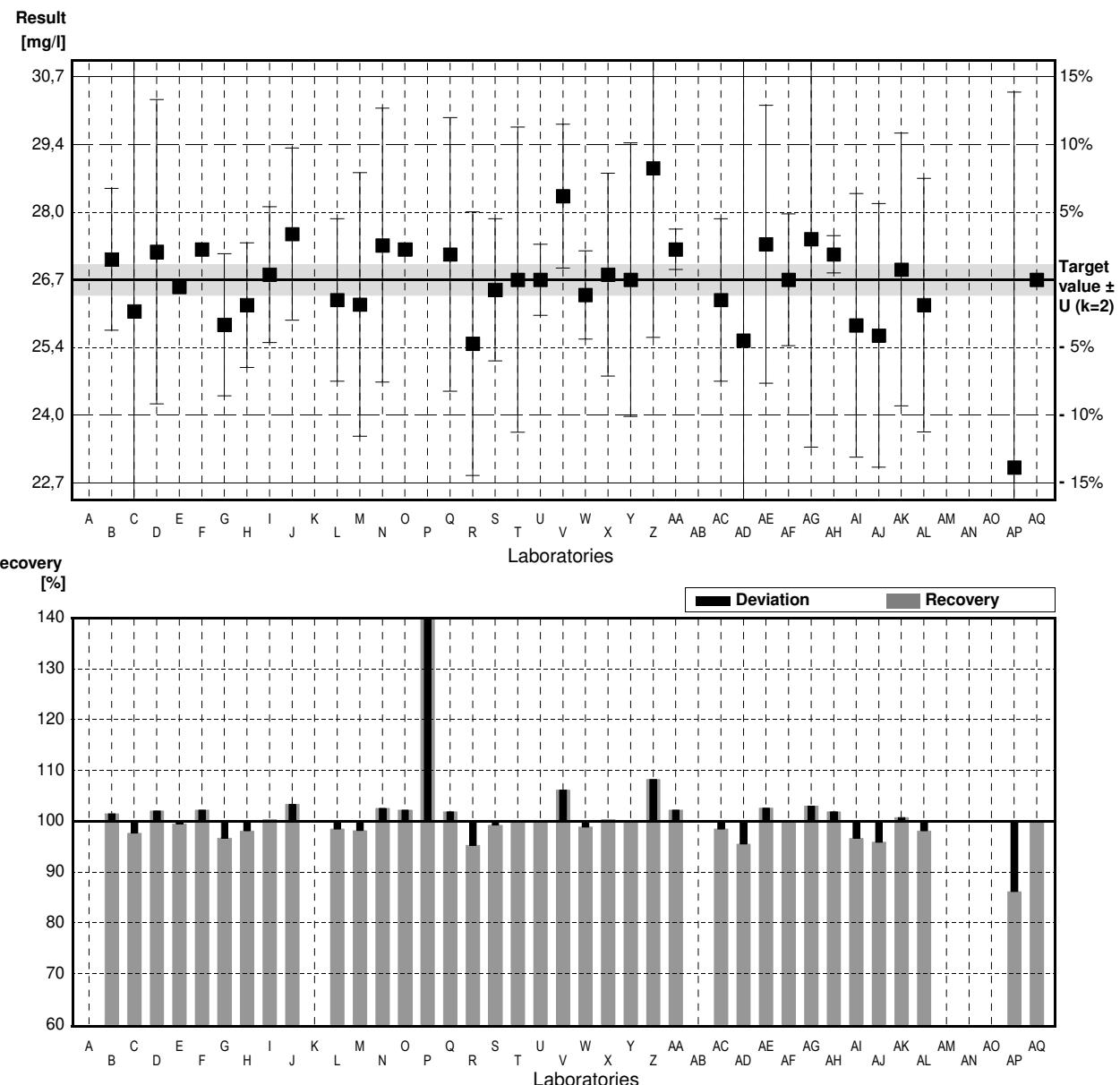
### Parameter Sulphate

Target value  $\pm U$  ( $k=2$ ) 26,7 mg/l  $\pm$  0,3 mg/l  
 IFA result  $\pm U$  ( $k=2$ ) 26,9 mg/l  $\pm$  0,8 mg/l

Stability test mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			mg/l		
B	27,1	1,4	mg/l	101%	0,48
C	26,08	7,82	mg/l	98%	-0,75
D	27,25	3,0	mg/l	102%	0,66
E	26,56		mg/l	99%	-0,17
F	27,3		mg/l	102%	0,72
G	25,81	1,4	mg/l	97%	-1,08
H	26,2	1,23	mg/l	98%	-0,60
I	26,8	1,34	mg/l	100%	0,12
J	27,6	1,7	mg/l	103%	1,09
K			mg/l		
L	26,3	1,6	mg/l	99%	-0,48
M	26,21	2,6	mg/l	98%	-0,59
N	27,38	2,7	mg/l	103%	0,82
O	27,3		mg/l	102%	0,72
P	38,5 *	2,48	mg/l	144%	14,26
Q	27,2	2,7	mg/l	102%	0,60
R	25,44	2,6	mg/l	95%	-1,52
S	26,5	1,4	mg/l	99%	-0,24
T	26,7	3,01	mg/l	100%	0,00
U	26,7	0,7	mg/l	100%	0,00
V	28,35	1,418	mg/l	106%	1,99
W	26,4	0,87	mg/l	99%	-0,36
X	26,8	2	mg/l	100%	0,12
Y	26,7	2,7	mg/l	100%	0,00
Z	28,9	3,34	mg/l	108%	2,66
AA	27,3	0,40	mg/l	102%	0,72
AB			mg/l		
AC	26,3	1,6	mg/l	99%	-0,48
AD	25,5	6,3	mg/l	96%	-1,45
AE	27,4	2,74	mg/l	103%	0,85
AF	26,7	1,3	mg/l	100%	0,00
AG	27,5	4,1	mg/l	103%	0,97
AH	27,2	0,370	mg/l	102%	0,60
AI	25,8	2,6	mg/l	97%	-1,09
AJ	25,6	2,6	mg/l	96%	-1,33
AK	26,9	2,69	mg/l	101%	0,24
AL	26,2	2,5	mg/l	98%	-0,60
AM			mg/l		
AN			mg/l		
AO			mg/l		
AP	23,0 *	7,4	mg/l	86%	-4,47
AQ	26,7	0,1	mg/l	100%	0,00

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	27,0 $\pm$ 1,0	26,8 $\pm$ 0,3	mg/l
Recov. $\pm$ CI(99%)	101,0 $\pm$ 3,6	100,2 $\pm$ 1,3	%
SD between labs	2,2	0,8	mg/l
RSD between labs	8,0	2,8	%
n for calculation	37	35	



## Sample N157A

### Parameter Orthophosphate

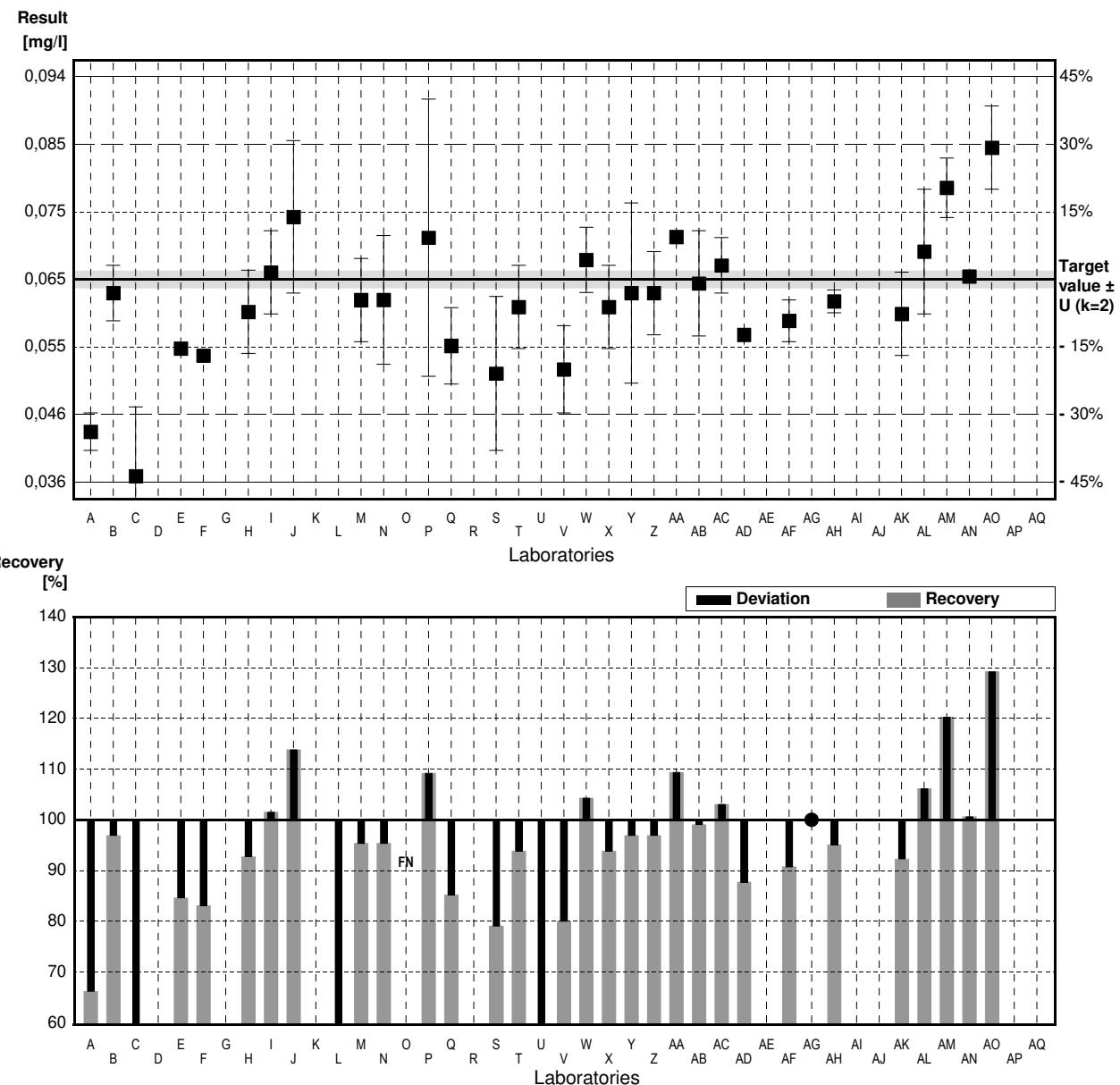
Target value  $\pm U$  ( $k=2$ ) 0.065 mg/l  $\pm$  0.001 mg/l

IFA result  $\pm U$  ( $k=2$ ) 0.066 mg/l  $\pm$  0.001 mg/l

Stability test  $\pm U$  ( $k=2$ ) 0.065 mg/l  $\pm$  0.001 mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A	0.0430	0.0027	mg/l	66%	-3.38
B	0.063	0.004	mg/l	97%	-0.31
C	0.0366 *	0.01	mg/l	56%	-4.37
D			mg/l		
E	0.055		mg/l	85%	-1.54
F	0.054		mg/l	83%	-1.69
G			mg/l		
H	0.0603	0.0060	mg/l	93%	-0.72
I	0.066	0.006	mg/l	102%	0.15
J	0.074	0.011	mg/l	114%	1.38
K			mg/l		
L	0.0221 *	0.0019	mg/l	34%	-6.60
M	0.062	0.006	mg/l	95%	-0.46
N	0.06201	0.0093	mg/l	95%	-0.46
O	<0.40		mg/l	FN	
P	0.071	0.020	mg/l	109%	0.92
Q	0.0554	0.0055	mg/l	85%	-1.48
R			mg/l		
S	0.0514	0.0111	mg/l	79%	-2.09
T	0.061	0.006	mg/l	94%	-0.62
U	0.0204 *	0.0010	mg/l	31%	-6.86
V	0.052	0.0063	mg/l	80%	-2.00
W	0.0678	0.0047	mg/l	104%	0.43
X	0.061	0.006	mg/l	94%	-0.62
Y	0.063	0.013	mg/l	97%	-0.31
Z	0.063	0.006	mg/l	97%	-0.31
AA	0.0711	0.0009	mg/l	109%	0.94
AB	0.0644	0.0076	mg/l	99%	-0.09
AC	0.067	0.004	mg/l	103%	0.31
AD	0.057		mg/l	88%	-1.23
AE			mg/l		
AF	0.059	0.003	mg/l	91%	-0.92
AG	<0.5		mg/l	*	
AH	0.0618	0.00166	mg/l	95%	-0.49
AI			mg/l		
AJ			mg/l		
AK	0.060	0.006	mg/l	92%	-0.77
AL	0.069	0.009	mg/l	106%	0.62
AM	0.0782	0.00430	mg/l	120%	2.03
AN	0.0654		mg/l	101%	0.06
AO	0.084	0.006	mg/l	129%	2.92
AP			mg/l		
AQ			mg/l		

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	0.059 $\pm$ 0.007	0.063 $\pm$ 0.004	mg/l
Recov. $\pm$ CI(99%)	91.4 $\pm$ 10.2	96.6 $\pm$ 6.6	%
SD between labs	0.014	0.008	mg/l
RSD between labs	22.9	13.3	%
n for calculation	32	29	



## Sample N157B

### Parameter Orthophosphate

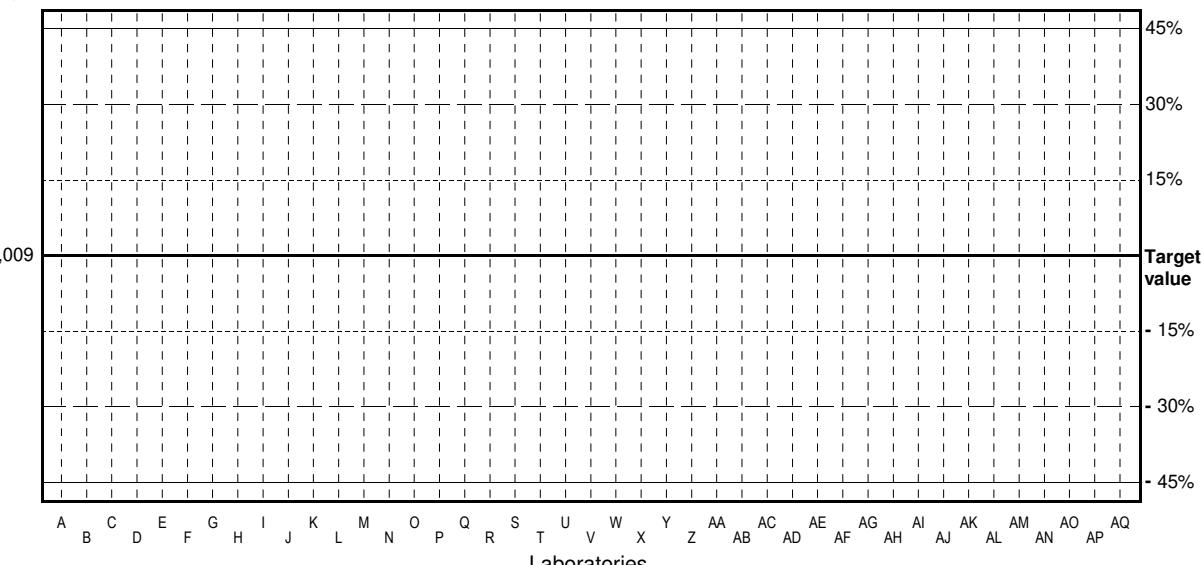
Target value <0,009 mg/l

IFA result <0,009 mg/l

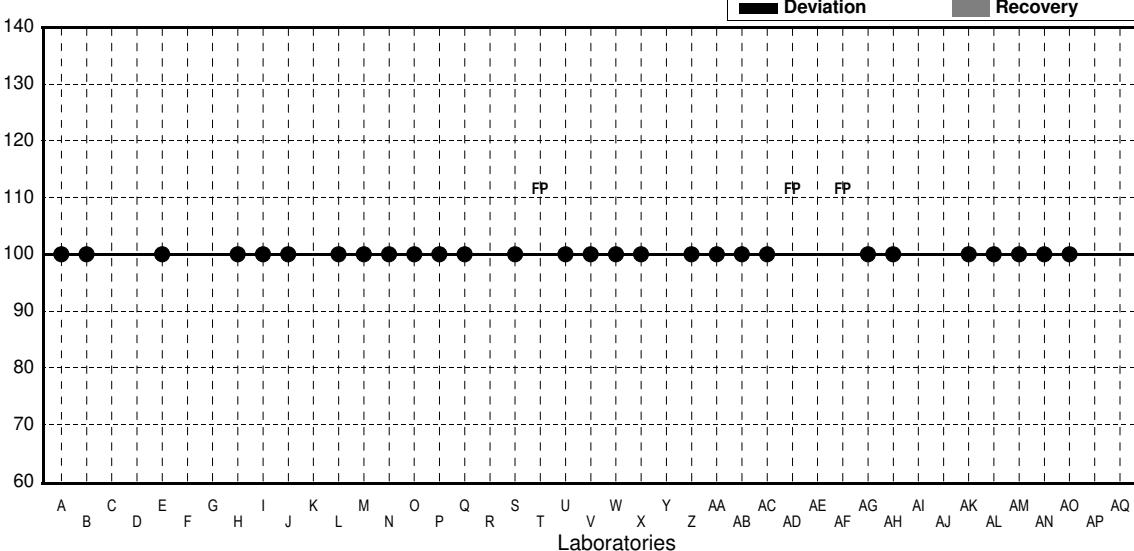
Stability test <0,009 mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A	<0,01		mg/l	.	
B	<0,01		mg/l	.	
C	<		mg/l		
D			mg/l		
E	<0,009		mg/l	.	
F			mg/l		
G			mg/l		
H	<0,02		mg/l	.	
I	<0,01		mg/l	.	
J	<0,009		mg/l	.	
K			mg/l		
L	<0,010		mg/l	.	
M	<0,0055		mg/l	.	
N	<0,0153		mg/l	.	
O	<0,040		mg/l	.	
P	<0,03		mg/l	.	
Q	<0,008		mg/l	.	
R			mg/l		
S	<0,01		mg/l	.	
T	0,0170	0,002	mg/l	FP	
U	<0,0010		mg/l	.	
V	0,00900	0,0011	mg/l	.	
W	<0,015		mg/l	.	
X	<0,01		mg/l	.	
Y			mg/l		
Z	<0,018	0,002	mg/l	.	
AA	<0,015		mg/l	.	
AB	<0,006	0	mg/l	.	
AC	<0,006		mg/l	.	
AD	0,0261		mg/l	FP	
AE			mg/l		
AF	0,0154	0,0034	mg/l	FP	
AG	<0,5		mg/l	.	
AH	[0,0021]		mg/l	.	
AI			mg/l		
AJ			mg/l		
AK	<0,006		mg/l	.	
AL	<0,010		mg/l	.	
AM	<0,019		mg/l	.	
AN	<0,009		mg/l	.	
AO	<0,05	0,005	mg/l	.	
AP			mg/l		
AQ			mg/l		

Result  
[mg/l]



Recovery  
[%]



	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)			mg/l
Recov. $\pm$ CI(99%)			%
SD between labs			mg/l
RSD between labs			%
n for calculation			

## Sample N157A

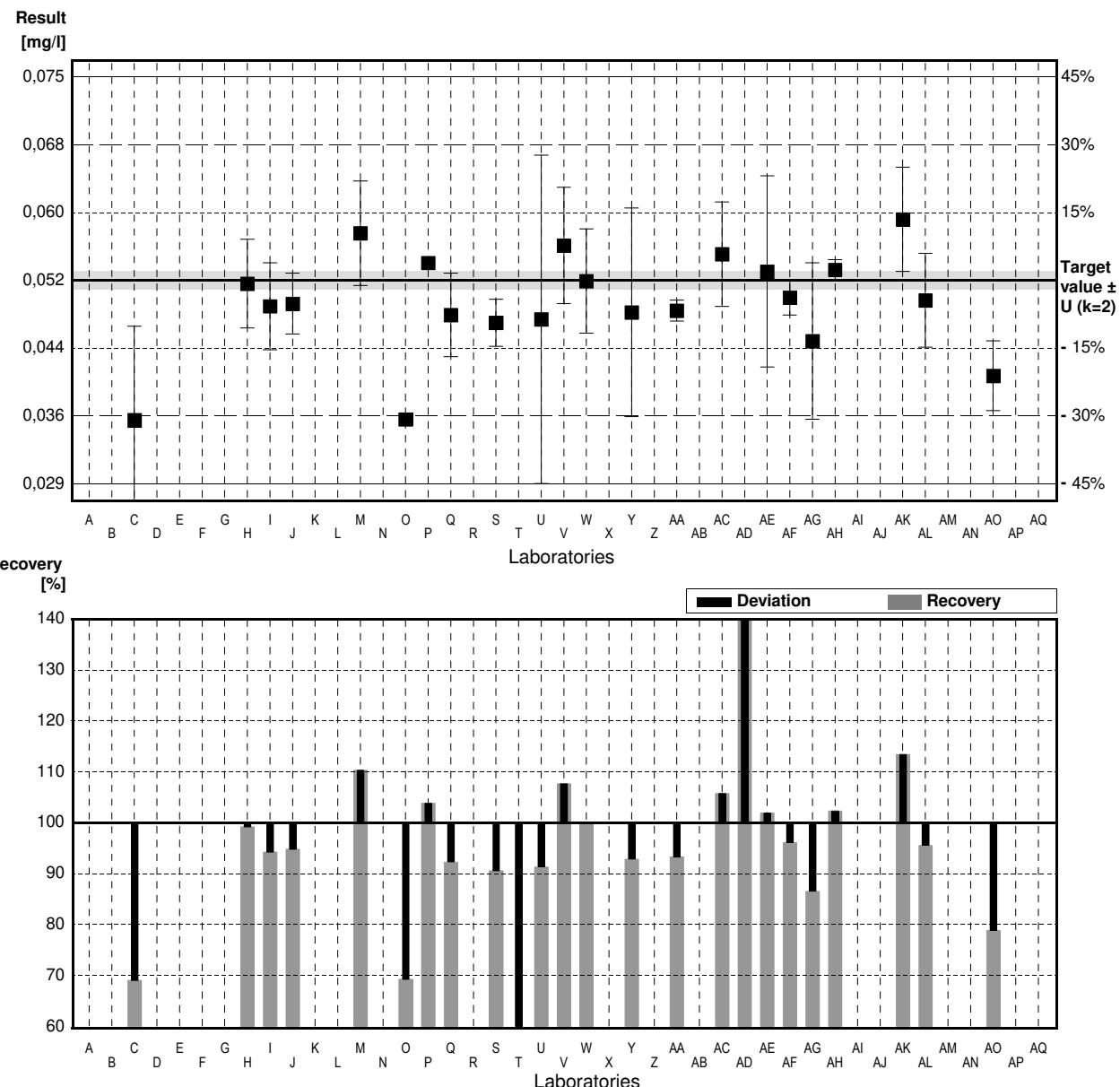
### Parameter Boron

Target value  $\pm U$  ( $k=2$ ) 0,052 mg/l  $\pm$  0,001 mg/l  
 IFA result  $\pm U$  ( $k=2$ ) 0,049 mg/l  $\pm$  0,004 mg/l

Stability test mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			mg/l		
B			mg/l		
C	0,0359	0,0108	mg/l	69%	-3,97
D			mg/l		
E			mg/l		
F			mg/l		
G			mg/l		
H	0,0516	0,0051	mg/l	99%	-0,10
I	0,0490	0,005	mg/l	94%	-0,74
J	0,0493	0,0035	mg/l	95%	-0,67
K			mg/l		
L			mg/l		
M	0,0574	0,006	mg/l	110%	1,33
N	n.u.		mg/l		
O	0,0360		mg/l	69%	-3,94
P	0,054		mg/l	104%	0,49
Q	0,0480	0,0048	mg/l	92%	-0,99
R			mg/l		
S	0,0471	0,0027	mg/l	91%	-1,21
T	0,0271 *	0,003	mg/l	52%	-6,14
U	0,0475	0,0189	mg/l	91%	-1,11
V	0,056	0,0067	mg/l	108%	0,99
W	0,0519	0,006	mg/l	100%	-0,02
X			mg/l		
Y	0,0483	0,012	mg/l	93%	-0,91
Z			mg/l		
AA	0,0485	0,0012	mg/l	93%	-0,86
AB			mg/l		
AC	0,055	0,006	mg/l	106%	0,74
AD	54,0 *	2,1	mg/l	103846%	13300,79
AE	0,053	0,011	mg/l	102%	0,25
AF	0,050	0,002	mg/l	96%	-0,49
AG	0,0450	0,009	mg/l	87%	-1,73
AH	0,0532	0,00117	mg/l	102%	0,30
AI			mg/l		
AJ			mg/l		
AK	0,059	0,006	mg/l	113%	1,73
AL	0,0497	0,0054	mg/l	96%	-0,57
AM			mg/l		
AN			mg/l		
AO	0,0410	0,004	mg/l	79%	-2,71
AP			mg/l		
AQ			mg/l		

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	2,296 $\pm$ 6,317	0,049 $\pm$ 0,004	mg/l
Recov. $\pm$ CI(99%)	4416,1 $\pm$ 12147,	95,0 $\pm$ 7,0	%
SD between labs	11,013	0,006	mg/l
RSD between labs	479,6	12,1	%
n for calculation	24	22	



## Sample N157B

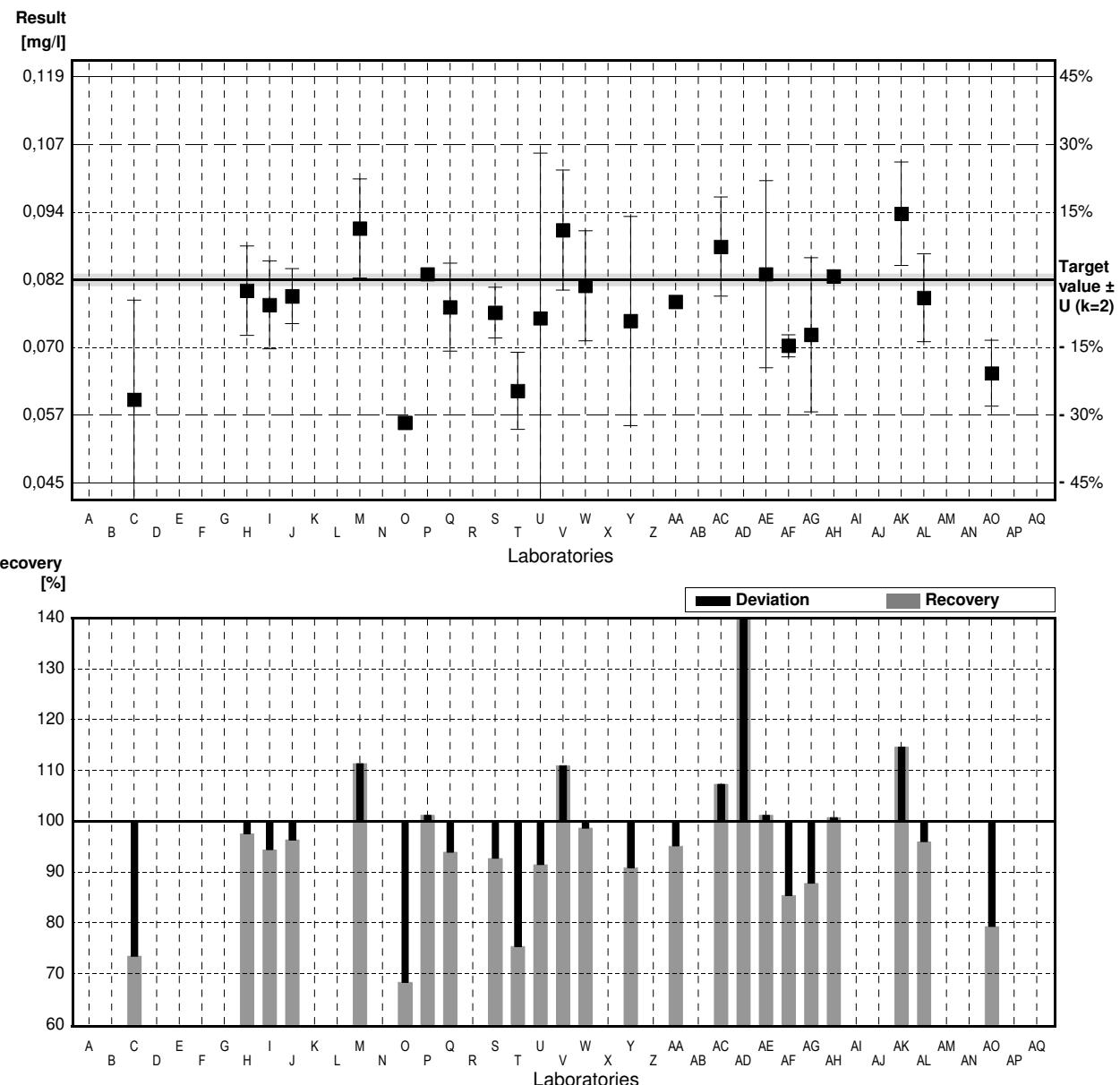
### Parameter Boron

Target value  $\pm U$  ( $k=2$ ) 0,082 mg/l  $\pm$  0,001 mg/l  
 IFA result  $\pm U$  ( $k=2$ ) 0,077 mg/l  $\pm$  0,006 mg/l

Stability test mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			mg/l		
B			mg/l		
C	0,0602	0,0181	mg/l	73%	-3,41
D			mg/l		
E			mg/l		
F			mg/l		
G			mg/l		
H	0,0800	0,0081	mg/l	98%	-0,31
I	0,0774	0,008	mg/l	94%	-0,72
J	0,079	0,005	mg/l	96%	-0,47
K			mg/l		
L			mg/l		
M	0,0913	0,009	mg/l	111%	1,45
N	n.u.		mg/l		
O	0,056 *		mg/l	68%	-4,07
P	0,083		mg/l	101%	0,16
Q	0,077	0,008	mg/l	94%	-0,78
R			mg/l		
S	0,0760	0,0046	mg/l	93%	-0,94
T	0,0618	0,007	mg/l	75%	-3,16
U	0,075	0,030	mg/l	91%	-1,09
V	0,091	0,0109	mg/l	111%	1,41
W	0,0809	0,010	mg/l	99%	-0,17
X			mg/l		
Y	0,0745	0,019	mg/l	91%	-1,17
Z			mg/l		
AA	0,0780	0,0004	mg/l	95%	-0,63
AB			mg/l		
AC	0,088	0,009	mg/l	107%	0,94
AD	89,3 *	3,4	mg/l	108902%	13949,03
AE	0,083	0,017	mg/l	101%	0,16
AF	0,070	0,002	mg/l	85%	-1,88
AG	0,0720	0,0140	mg/l	88%	-1,56
AH	0,0826	0,00112	mg/l	101%	0,09
AI			mg/l		
AJ			mg/l		
AK	0,094	0,0094	mg/l	115%	1,88
AL	0,0787	0,0080	mg/l	96%	-0,52
AM			mg/l		
AN			mg/l		
AO	0,065	0,006	mg/l	79%	-2,66
AP			mg/l		
AQ			mg/l		

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	$3,795 \pm 10,447$	$0,078 \pm 0,005$	mg/l
Recov. $\pm$ CI(99%)	$4627,8 \pm 12739,$	$95,3 \pm 6,5$	%
SD between labs	18,213	0,009	mg/l
RSD between labs	479,9	11,4	%
n for calculation	24	22	



## Sample N157A

### Parameter DOC

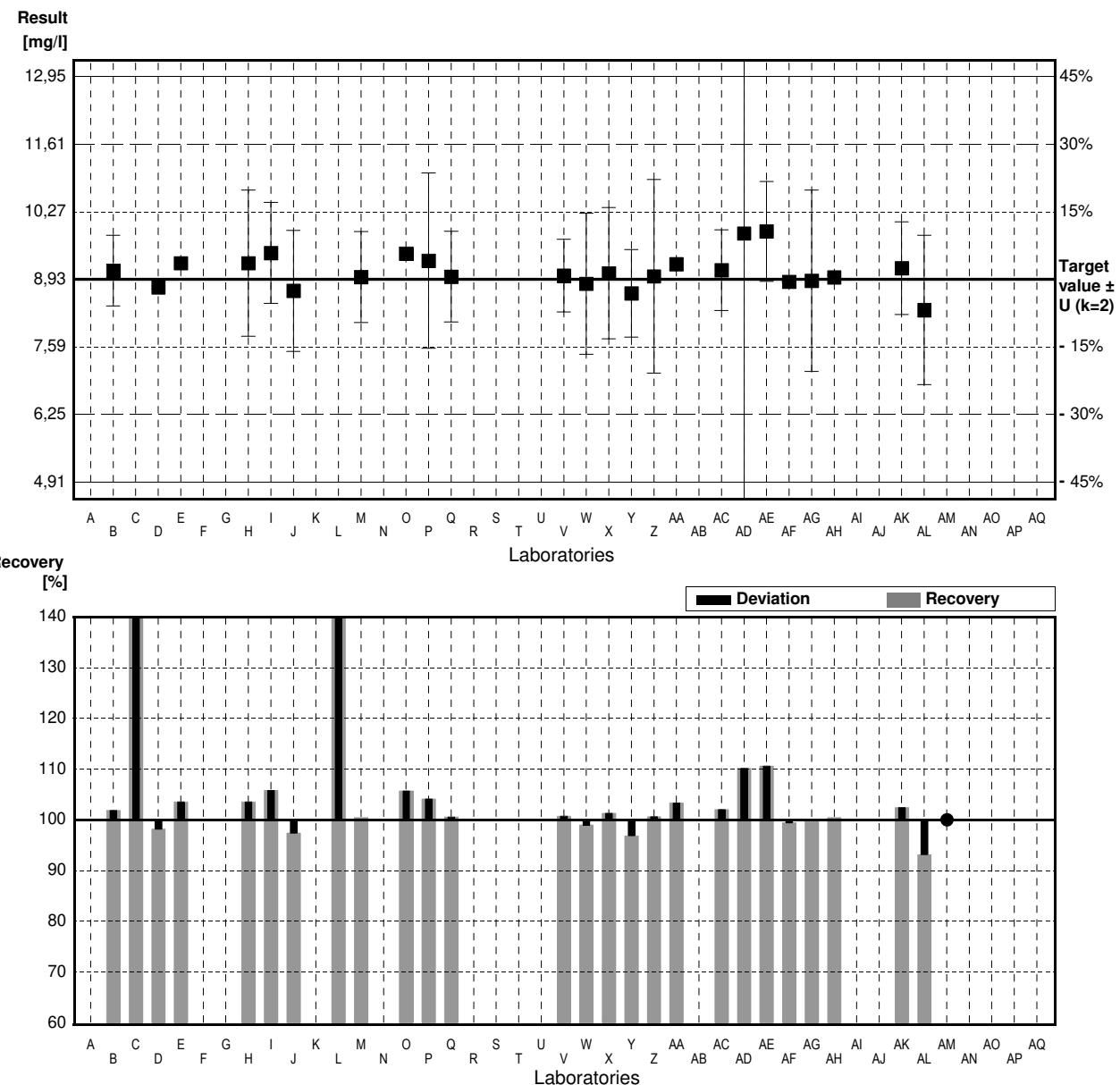
Target value  $\pm U$  ( $k=2$ ) 8,93 mg/l  $\pm$  0,04 mg/l

IFA result  $\pm U$  ( $k=2$ ) 8,85 mg/l  $\pm$  0,09 mg/l

Stability test  $\pm U$  ( $k=2$ ) 9,06 mg/l  $\pm$  0,09 mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			mg/l		
B	9,1	0,7	mg/l	102%	0,32
C	39,09 *	11,73	mg/l	438%	57,24
D	8,77	0,03	mg/l	98%	-0,30
E	9,25		mg/l	104%	0,61
F			mg/l		
G			mg/l		
H	9,25	1,45	mg/l	104%	0,61
I	9,45	1,0	mg/l	106%	0,99
J	8,7	1,2	mg/l	97%	-0,44
K			mg/l		
L	25,0 *	4,2	mg/l	280%	30,50
M	8,974	0,9	mg/l	100%	0,08
N	n.u.		mg/l		
O	9,44		mg/l	106%	0,97
P	9,3	1,74	mg/l	104%	0,70
Q	8,98	0,898	mg/l	101%	0,09
R			mg/l		
S			mg/l		
T			mg/l		
U			mg/l		
V	9,0	0,72	mg/l	101%	0,13
W	8,84	1,4	mg/l	99%	-0,17
X	9,05	1,3	mg/l	101%	0,23
Y	8,65	0,87	mg/l	97%	-0,53
Z	8,99	1,92	mg/l	101%	0,11
AA	9,23	0,12	mg/l	103%	0,57
AB			mg/l		
AC	9,11	0,80	mg/l	102%	0,34
AD	9,84	5,5	mg/l	110%	1,73
AE	9,88	0,99	mg/l	111%	1,80
AF	8,88	0,01	mg/l	99%	-0,09
AG	8,9	1,8	mg/l	100%	-0,06
AH	8,97	0,0436	mg/l	100%	0,08
AI			mg/l		
AJ			mg/l		
AK	9,15	0,92	mg/l	102%	0,42
AL	8,32	1,48	mg/l	93%	-1,16
AM	>4		mg/l		*
AN			mg/l		
AO			mg/l		
AP			mg/l		
AQ			mg/l		

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	$10,85 \pm 3,59$	$9,08 \pm 0,20$	mg/l
Recov. $\pm$ CI(99%)	$121,5 \pm 40,2$	$101,7 \pm 2,2$	%
SD between labs	6,56	0,35	mg/l
RSD between labs	60,4	3,8	%
n for calculation	26	24	



## Sample N157B

### Parameter DOC

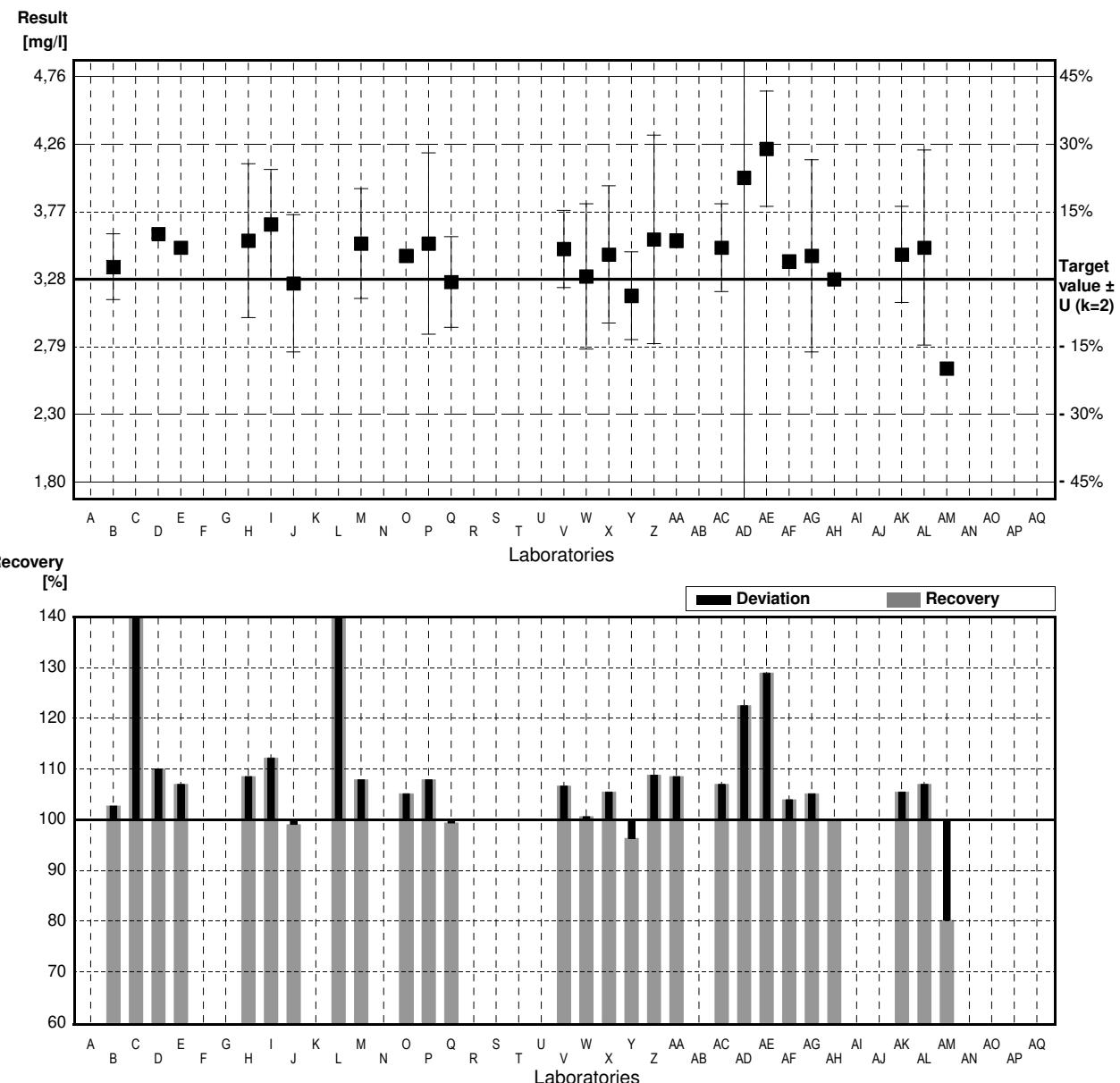
Target value  $\pm U$  ( $k=2$ ) 3,28 mg/l  $\pm$  0,02 mg/l

IFA result  $\pm U$  ( $k=2$ ) 3,27 mg/l  $\pm$  0,09 mg/l

Stability test  $\pm U$  ( $k=2$ ) 3,31 mg/l  $\pm$  0,09 mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			mg/l		
B	3,37	0,24	mg/l	103%	0,47
C	19,68 *	5,91	mg/l	600%	84,75
D	3,61	0,03	mg/l	110%	1,71
E	3,51		mg/l	107%	1,19
F			mg/l		
G			mg/l		
H	3,56	0,56	mg/l	109%	1,45
I	3,68	0,40	mg/l	112%	2,07
J	3,25	0,5	mg/l	99%	-0,16
K			mg/l		
L	10,3 *	1,7	mg/l	314%	36,28
M	3,54	0,4	mg/l	108%	1,34
N	n.u.		mg/l		
O	3,45		mg/l	105%	0,88
P	3,54	0,66	mg/l	108%	1,34
Q	3,26	0,33	mg/l	99%	-0,10
R			mg/l		
S			mg/l		
T			mg/l		
U			mg/l		
V	3,50	0,28	mg/l	107%	1,14
W	3,30	0,53	mg/l	101%	0,10
X	3,46	0,5	mg/l	105%	0,93
Y	3,16	0,32	mg/l	96%	-0,62
Z	3,57	0,76	mg/l	109%	1,50
AA	3,56	0,05	mg/l	109%	1,45
AB			mg/l		
AC	3,51	0,32	mg/l	107%	1,19
AD	4,02 *	2,25	mg/l	123%	3,82
AE	4,23 *	0,42	mg/l	129%	4,91
AF	3,41	0,04	mg/l	104%	0,67
AG	3,45	0,70	mg/l	105%	0,88
AH	3,28	0,0334	mg/l	100%	0,00
AI			mg/l		
AJ			mg/l		
AK	3,46	0,35	mg/l	105%	0,93
AL	3,51	0,71	mg/l	107%	1,19
AM	2,63 *	0,0443	mg/l	80%	-3,36
AN			mg/l		
AO			mg/l		
AP			mg/l		
AQ			mg/l		

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	4,33 $\pm$ 1,79	3,45 $\pm$ 0,08	mg/l
Recov. $\pm$ CI(99%)	131,9 $\pm$ 54,6	105,2 $\pm$ 2,4	%
SD between labs	3,35	0,13	mg/l
RSD between labs	77,4	3,8	%
n for calculation	27	22	



## Sample N157A

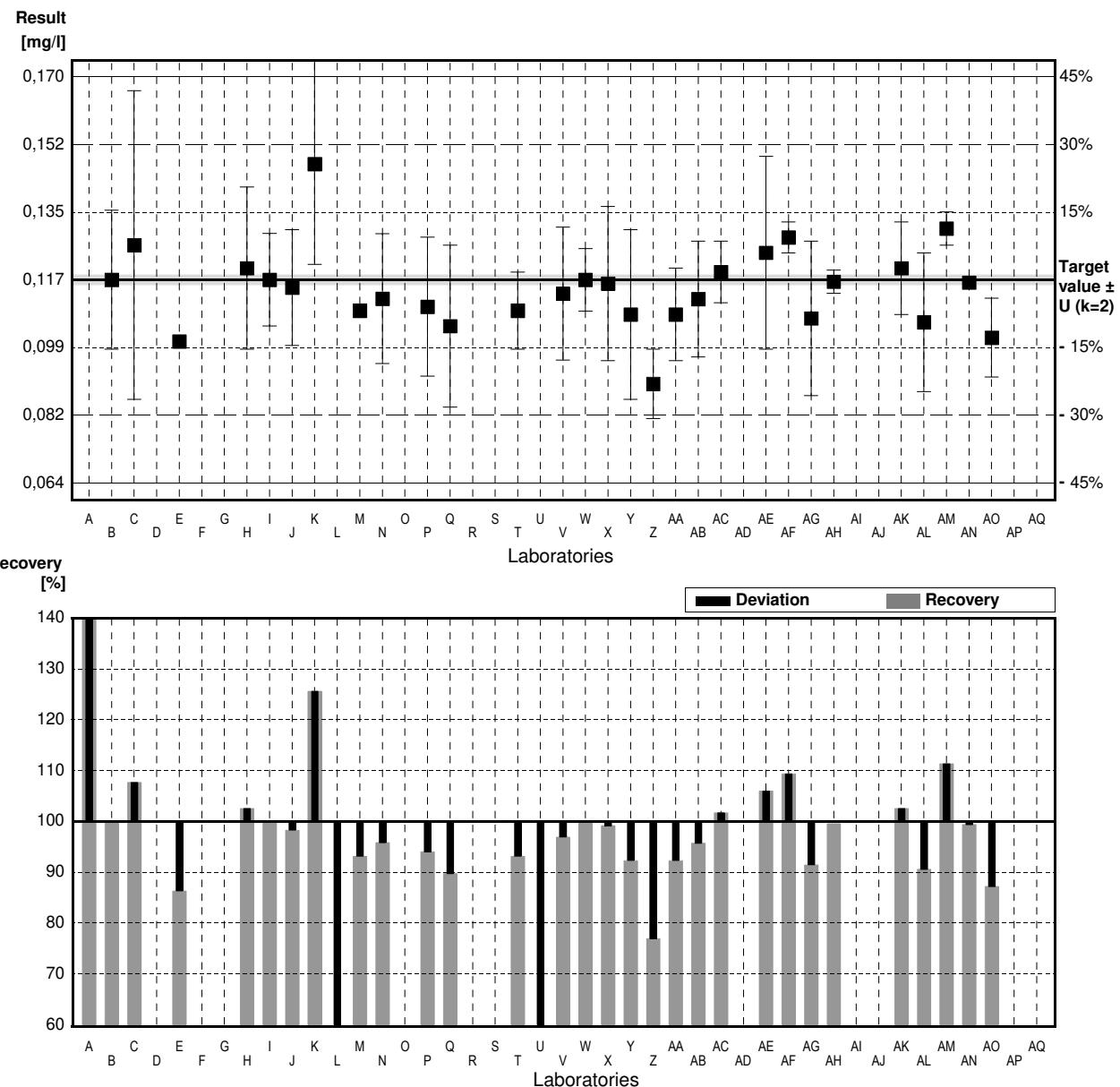
### Parameter Total P (as PO4)

Target value  $\pm U$  ( $k=2$ ) 0,117 mg/l  $\pm$  0,001 mg/l  
 IFA result  $\pm U$  ( $k=2$ ) 0,131 mg/l  $\pm$  0,020 mg/l

Stability test mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A	0,304 *	0,018	mg/l	260%	15,98
B	0,117	0,018	mg/l	100%	0,00
C	0,126	0,04	mg/l	108%	0,77
D			mg/l		
E	0,101		mg/l	86%	-1,37
F			mg/l		
G			mg/l		
H	0,120	0,021	mg/l	103%	0,26
I	0,117	0,012	mg/l	100%	0,00
J	0,115	0,015	mg/l	98%	-0,17
K	0,147 *	0,026	mg/l	126%	2,56
L	0,058 *	0,008	mg/l	50%	-5,04
M	0,109	0,001	mg/l	93%	-0,68
N	0,1121	0,0168	mg/l	96%	-0,42
O			mg/l		
P	0,110	0,018	mg/l	94%	-0,60
Q	0,105	0,021	mg/l	90%	-1,03
R			mg/l		
S			mg/l		
T	0,109	0,010	mg/l	93%	-0,68
U	0,0372 *	0,0019	mg/l	32%	-6,82
V	0,1134	0,0172	mg/l	97%	-0,31
W	0,117	0,0081	mg/l	100%	0,00
X	0,116	0,02	mg/l	99%	-0,09
Y	0,108	0,022	mg/l	92%	-0,77
Z	0,090	0,009	mg/l	77%	-2,31
AA	0,108	0,012	mg/l	92%	-0,77
AB	0,112	0,015	mg/l	96%	-0,43
AC	0,119	0,008	mg/l	102%	0,17
AD			mg/l		
AE	0,124	0,025	mg/l	106%	0,60
AF	0,128	0,004	mg/l	109%	0,94
AG	0,107	0,02	mg/l	91%	-0,85
AH	0,1165	0,00303	mg/l	100%	-0,04
AI			mg/l		
AJ			mg/l		
AK	0,120	0,012	mg/l	103%	0,26
AL	0,106	0,018	mg/l	91%	-0,94
AM	0,1303	0,00430	mg/l	111%	1,14
AN	0,1163		mg/l	99%	-0,06
AO	0,102	0,0102	mg/l	87%	-1,28
AP			mg/l		
AQ			mg/l		

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	0,116 $\pm$ 0,019	0,113 $\pm$ 0,005	mg/l
Recov. $\pm$ CI(99%)	99,4 $\pm$ 16,4	96,9 $\pm$ 3,9	%
SD between labs	0,039	0,009	mg/l
RSD between labs	33,9	7,7	%
n for calculation	32	28	



## Sample N157B

### Parameter Total P (as PO<sub>4</sub>)

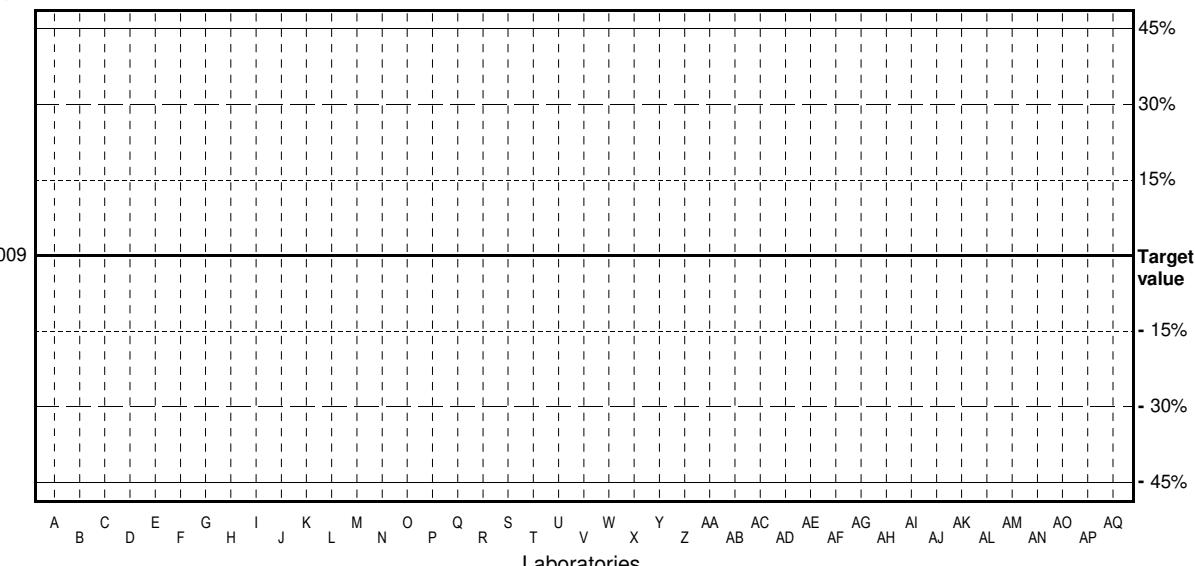
Target value <0,009 mg/l

IFA result <0,009 mg/l

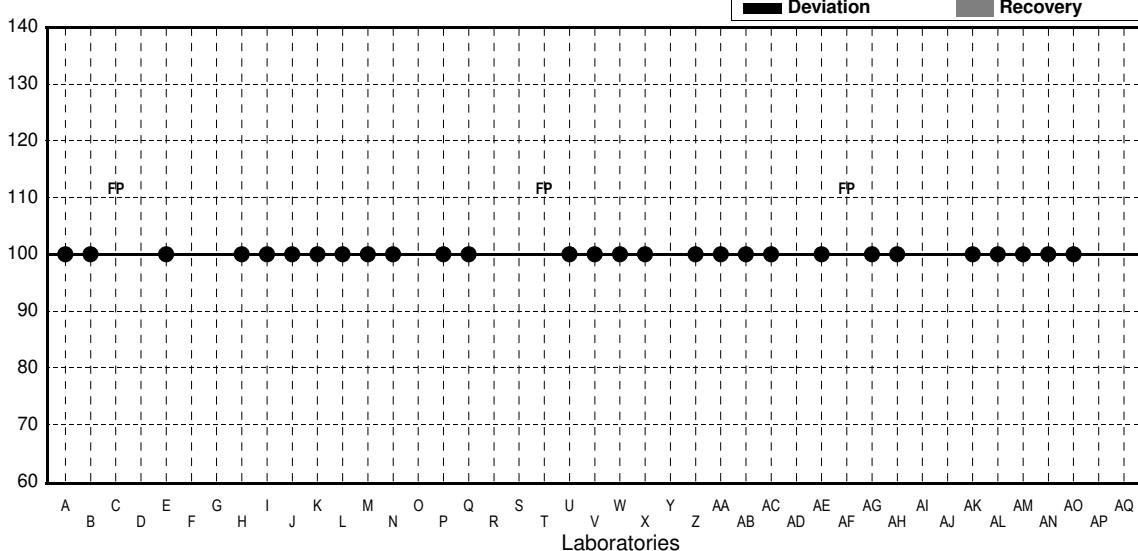
Stability test mg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	<0,01		mg/l	.	
B	<0,003		mg/l	.	
C	0,0606	0,02	mg/l	FP	
D			mg/l		
E	<0,009		mg/l	.	
F			mg/l		
G			mg/l		
H	<0,020		mg/l	.	
I	<0,01		mg/l	.	
J	<0,009		mg/l	.	
K	<0,110	0,019	mg/l	.	
L	<0,010		mg/l	.	
M	<0,0010		mg/l	.	
N	<0,0306		mg/l	.	
O			mg/l		
P	<0,005		mg/l	.	
Q	<0,015		mg/l	.	
R			mg/l		
S			mg/l		
T	0,0300	0,003	mg/l	FP	
U	<0,0010		mg/l	.	
V	<0,0061		mg/l	.	
W	<0,015		mg/l	.	
X	<0,013		mg/l	.	
Y			mg/l		
Z	<0,018	0,002	mg/l	.	
AA	<0,015		mg/l	.	
AB	<0,006	0	mg/l	.	
AC	<0,006		mg/l	.	
AD			mg/l		
AE	0,0080	0,002	mg/l	.	
AF	0,061	0,004	mg/l	FP	
AG	<0,031		mg/l	.	
AH	[0,0041]		mg/l	.	
AI			mg/l		
AJ			mg/l		
AK	<0,050		mg/l	.	
AL	<0,010		mg/l	.	
AM	<0,02		mg/l	.	
AN	<0,009		mg/l	.	
AO	<0,020	0,002	mg/l	.	
AP			mg/l		
AQ			mg/l		

Result  
[mg/l]



Recovery  
[%]



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

## Sample N157A

### Parameter KMnO<sub>4</sub>-Index

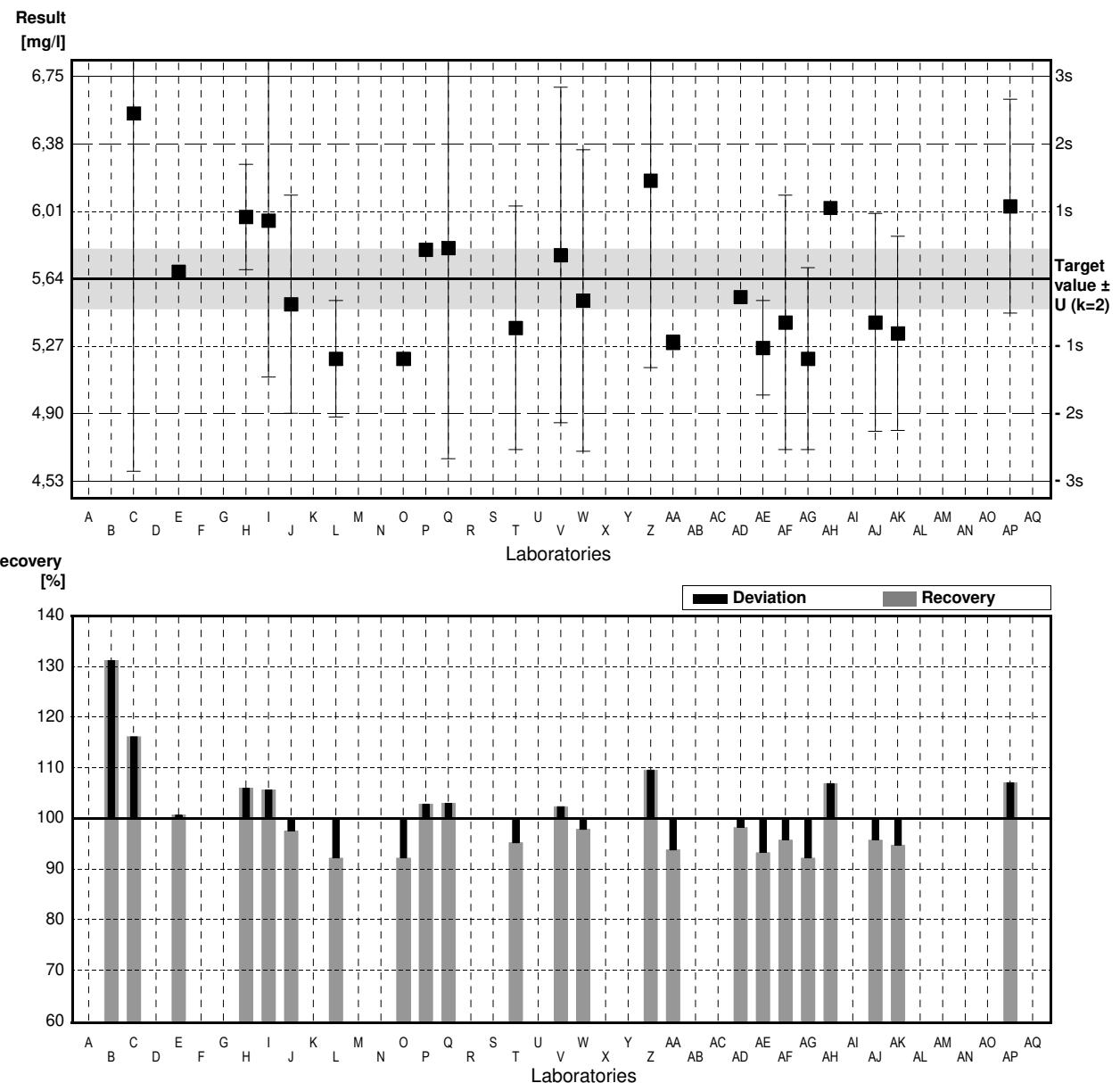
Target value  $\pm U$  ( $k=2$ ) 5,64 mg/l  $\pm$  0,17 mg/l

IFA result  $\pm U$  ( $k=2$ ) 5,76 mg/l  $\pm$  0,86 mg/l

Stability test  $\pm U$  ( $k=2$ ) 5,53 mg/l  $\pm$  0,83 mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			mg/l		
B	7,4 *	0,7	mg/l	131%	3,12
C	6,55	1,97	mg/l	116%	1,61
D			mg/l		
E	5,68		mg/l	101%	0,07
F			mg/l		
G			mg/l		
H	5,98	0,29	mg/l	106%	0,60
I	5,96	0,86	mg/l	106%	0,57
J	5,5	0,6	mg/l	98%	-0,25
K			mg/l		
L	5,2	0,32	mg/l	92%	-0,78
M			mg/l		
N	n.u		mg/l		
O	5,2		mg/l	92%	-0,78
P	5,8		mg/l	103%	0,28
Q	5,81	1,16	mg/l	103%	0,30
R			mg/l		
S			mg/l		
T	5,37	0,67	mg/l	95%	-0,48
U			mg/l		
V	5,77	0,923	mg/l	102%	0,23
W	5,52	0,83	mg/l	98%	-0,21
X			mg/l		
Y			mg/l		
Z	6,18	1,03	mg/l	110%	0,96
AA	5,29	0,04	mg/l	94%	-0,62
AB			mg/l		
AC			mg/l		
AD	5,54		mg/l	98%	-0,18
AE	5,26	0,26	mg/l	93%	-0,67
AF	5,4	0,7	mg/l	96%	-0,43
AG	5,2	0,5	mg/l	92%	-0,78
AH	6,03		mg/l	107%	0,69
AI			mg/l		
AJ	5,4	0,6	mg/l	96%	-0,43
AK	5,34	0,534	mg/l	95%	-0,53
AL			mg/l		
AM			mg/l		
AN			mg/l		
AO			mg/l		
AP	6,039	0,588	mg/l	107%	0,71
AQ			mg/l		

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	5,71 $\pm$ 0,30	5,64 $\pm$ 0,22	mg/l
Recov. $\pm$ CI(99%)	101,3 $\pm$ 5,4	100,0 $\pm$ 4,0	%
SD between labs	0,52	0,37	mg/l
RSD between labs	9,0	6,6	%
n for calculation	23	22	



## Sample N157B

### Parameter KMnO<sub>4</sub>-Index

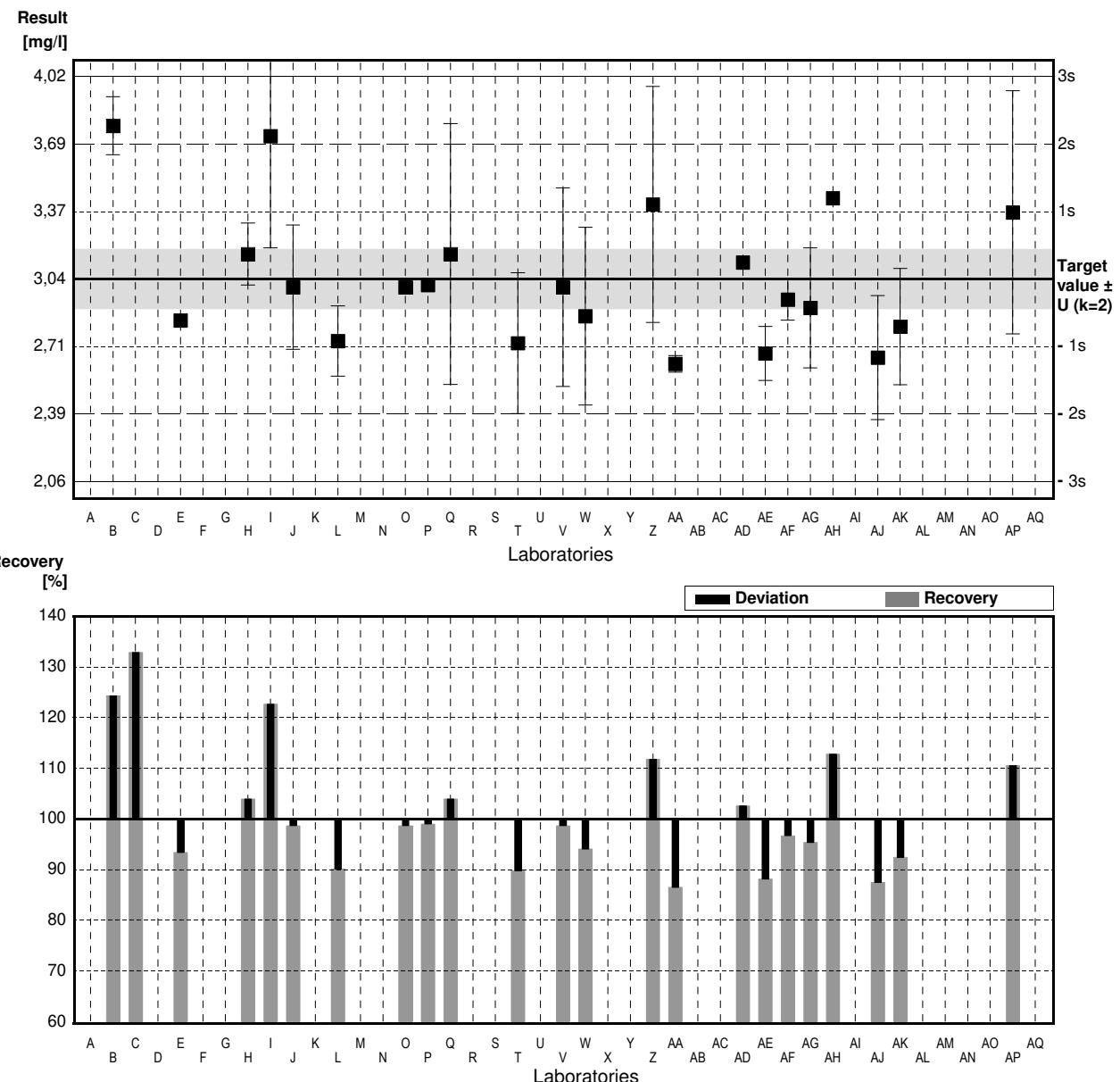
Target value  $\pm U$  ( $k=2$ ) 3,04 mg/l  $\pm$  0,14 mg/l

IFA result  $\pm U$  ( $k=2$ ) 2,98 mg/l  $\pm$  0,45 mg/l

Stability test  $\pm U$  ( $k=2$ ) 2,96 mg/l  $\pm$  0,44 mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A			mg/l		
B	3,78	0,14	mg/l	124%	2,43
C	4,04 *	1,21	mg/l	133%	3,29
D			mg/l		
E	2,84		mg/l	93%	-0,66
F			mg/l		
G			mg/l		
H	3,16	0,15	mg/l	104%	0,39
I	3,73	0,54	mg/l	123%	2,27
J	3,00	0,30	mg/l	99%	-0,13
K			mg/l		
L	2,74	0,17	mg/l	90%	-0,99
M			mg/l		
N	n.u.		mg/l		
O	3,00		mg/l	99%	-0,13
P	3,01		mg/l	99%	-0,10
Q	3,16	0,63	mg/l	104%	0,39
R			mg/l		
S			mg/l		
T	2,73	0,34	mg/l	90%	-1,02
U			mg/l		
V	3,00	0,48	mg/l	99%	-0,13
W	2,86	0,43	mg/l	94%	-0,59
X			mg/l		
Y			mg/l		
Z	3,40	0,57	mg/l	112%	1,18
AA	2,63	0,04	mg/l	87%	-1,35
AB			mg/l		
AC			mg/l		
AD	3,12		mg/l	103%	0,26
AE	2,68	0,13	mg/l	88%	-1,18
AF	2,94	0,1	mg/l	97%	-0,33
AG	2,90	0,29	mg/l	95%	-0,46
AH	3,43		mg/l	113%	1,28
AI			mg/l		
AJ	2,66	0,3	mg/l	88%	-1,25
AK	2,81	0,281	mg/l	92%	-0,76
AL			mg/l		
AM			mg/l		
AN			mg/l		
AO			mg/l		
AP	3,362	0,588	mg/l	111%	1,06
AQ			mg/l		

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	3,09 $\pm$ 0,22	3,04 $\pm$ 0,20	mg/l
Recov. $\pm$ CI(99%)	101,5 $\pm$ 7,4	100,1 $\pm$ 6,5	%
SD between labs	0,38	0,33	mg/l
RSD between labs	12,3	10,7	%
n for calculation	23	22	





# **Illustration of Results Laboratory Oriented Part**

**Round N157  
Major Ions**

**Sample Dispatch: 17 May 2021**

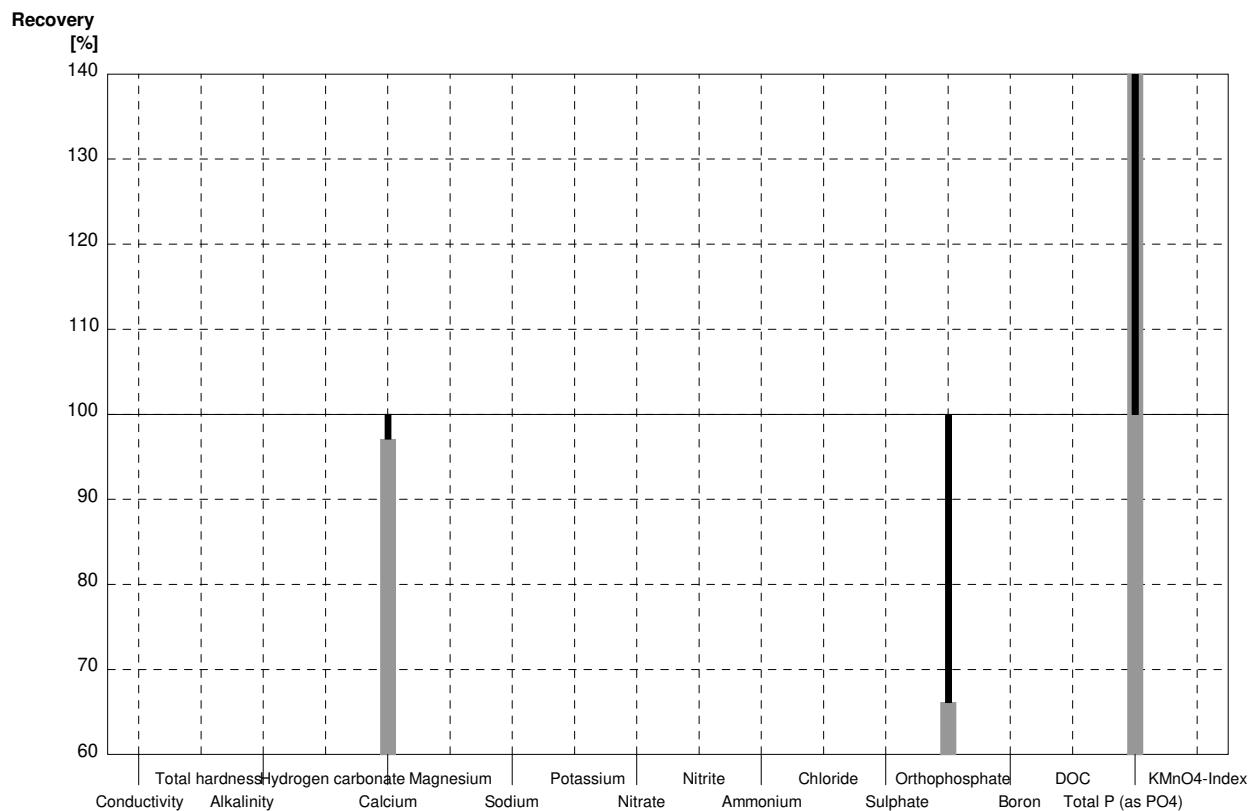


**Sample N157A****Laboratory A**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3			$\mu\text{S}/\text{cm}$	
Total hardness	2,83	0,03			$\text{mmol}/\text{l}$	
Alkalinity	3,03	0,04			$\text{mmol}/\text{l}$	
Hydrogen carbonate	182	3			$\text{mg}/\text{l}$	
Calcium	76,6	1,0	74,375	5,11	$\text{mg}/\text{l}$	97%
Magnesium	22,3	0,2			$\text{mg}/\text{l}$	
Sodium	19,6	0,5			$\text{mg}/\text{l}$	
Potassium	5,90	0,05			$\text{mg}/\text{l}$	
Nitrate	12,9	0,2			$\text{mg}/\text{l}$	
Nitrite	0,058	0,001			$\text{mg}/\text{l}$	
Ammonium	<0,02*				$\text{mg}/\text{l}$	
Chloride	61,1	0,9			$\text{mg}/\text{l}$	
Sulphate	79,6	0,9			$\text{mg}/\text{l}$	
Orthophosphate	0,065	0,001	0,0430	0,0027	$\text{mg}/\text{l}$	66%
Boron	0,052	0,001			$\text{mg}/\text{l}$	
DOC	8,93	0,04			$\text{mg}/\text{l}$	
Total P (as PO <sub>4</sub> )	0,117	0,001	0,304	0,018	$\text{mg}/\text{l}$	260%
KMnO <sub>4</sub> -Index	5,64	0,17			$\text{mg}/\text{l}$	

\* guidance value, see also report, page 4

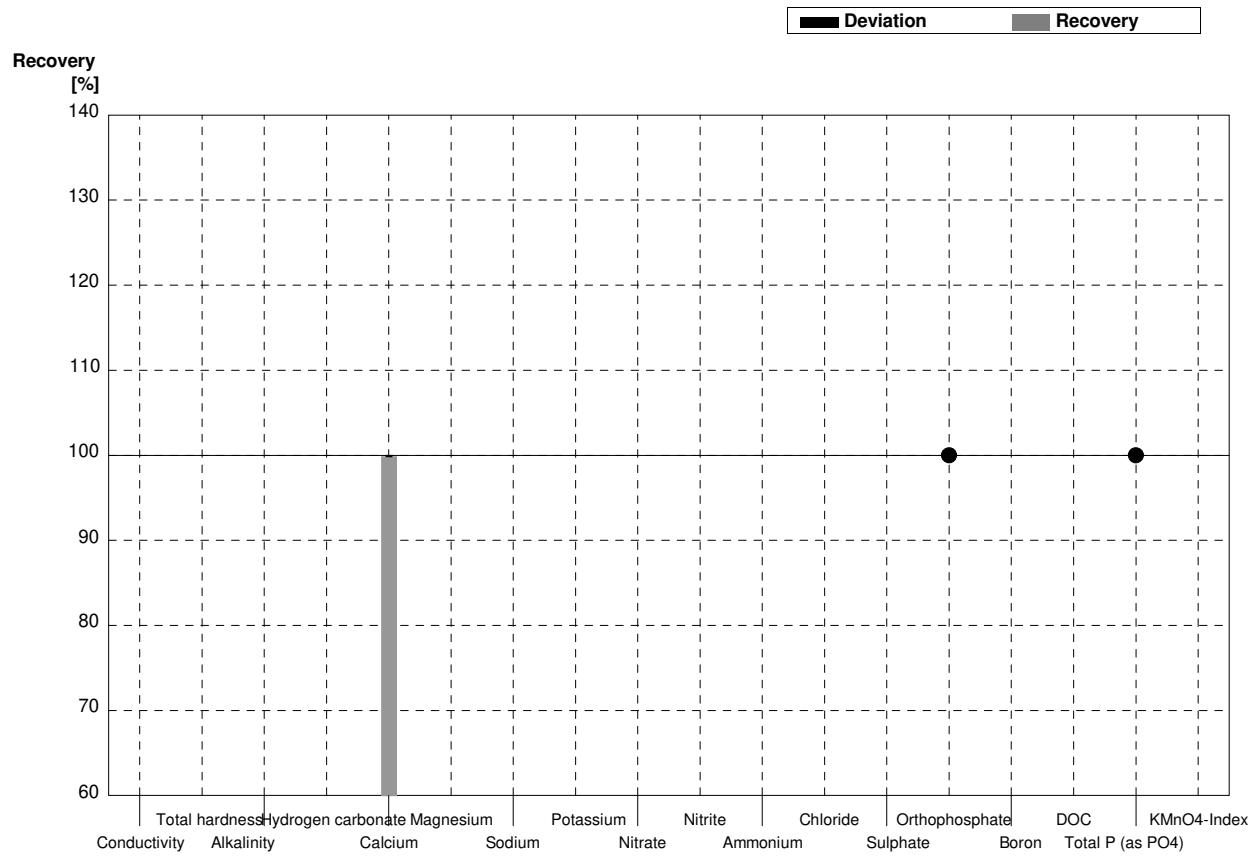
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory A**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2			$\mu\text{S}/\text{cm}$	
Total hardness	1,23	0,01			$\text{mmol/l}$	
Alkalinity	1,58	0,01			$\text{mmol/l}$	
Hydrogen carbonate	93,2	0,7			$\text{mg/l}$	
Calcium	34,8	0,4	34,750	2,387	$\text{mg/l}$	100%
Magnesium	8,84	0,09			$\text{mg/l}$	
Sodium	20,3	0,2			$\text{mg/l}$	
Potassium	2,77	0,03			$\text{mg/l}$	
Nitrate	21,3	0,4			$\text{mg/l}$	
Nitrite	0,0278	0,0004			$\text{mg/l}$	
Ammonium	0,0303	0,0031			$\text{mg/l}$	
Chloride	33,9	0,6			$\text{mg/l}$	
Sulphate	26,7	0,3			$\text{mg/l}$	
Orthophosphate	<0,009		<0,01		$\text{mg/l}$	•
Boron	0,082	0,001			$\text{mg/l}$	
DOC	3,28	0,02			$\text{mg/l}$	
Total P (as PO <sub>4</sub> )	<0,009		<0,01		$\text{mg/l}$	•
KMnO <sub>4</sub> -Index	3,04	0,14			$\text{mg/l}$	



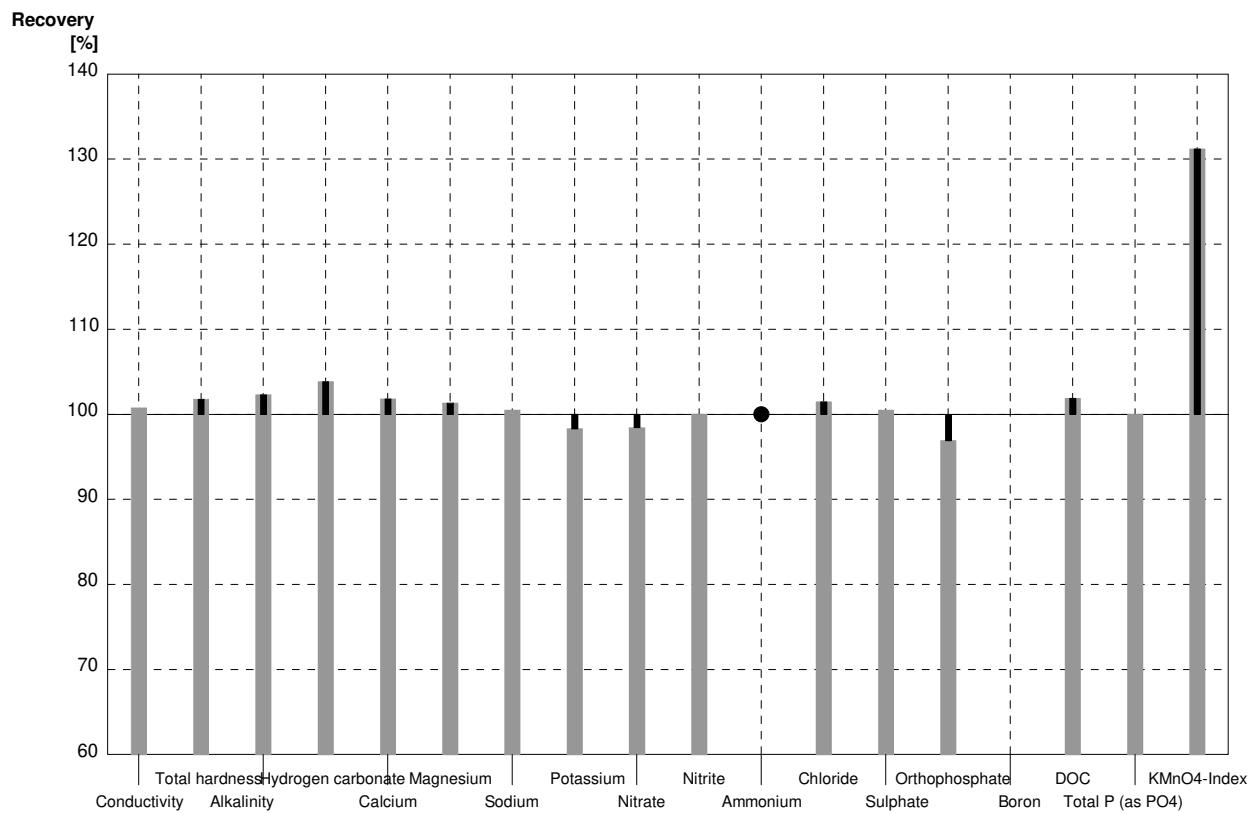
**Sample N157A**

**Laboratory B**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	662	12	$\mu\text{S}/\text{cm}$	101%
Total hardness	2,83	0,03	2,88	0,09	$\text{mmol/l}$	102%
Alkalinity	3,03	0,04	3,10	0,09	$\text{mmol/l}$	102%
Hydrogen carbonate	182	3	189	6	$\text{mg/l}$	104%
Calcium	76,6	1,0	78	3	$\text{mg/l}$	102%
Magnesium	22,3	0,2	22,6	0,5	$\text{mg/l}$	101%
Sodium	19,6	0,5	19,7	0,9	$\text{mg/l}$	101%
Potassium	5,90	0,05	5,8	0,3	$\text{mg/l}$	98%
Nitrate	12,9	0,2	12,7	0,9	$\text{mg/l}$	98%
Nitrite	0,058	0,001	0,058	0,004	$\text{mg/l}$	100%
Ammonium	<0,02*		<0,02		$\text{mg/l}$	•
Chloride	61,1	0,9	62	5	$\text{mg/l}$	101%
Sulphate	79,6	0,9	80	4	$\text{mg/l}$	101%
Orthophosphate	0,065	0,001	0,063	0,004	$\text{mg/l}$	97%
Boron	0,052	0,001			$\text{mg/l}$	
DOC	8,93	0,04	9,1	0,7	$\text{mg/l}$	102%
Total P (as PO4)	0,117	0,001	0,117	0,018	$\text{mg/l}$	100%
KMnO4-Index	5,64	0,17	7,4	0,7	$\text{mg/l}$	131%

\* guidance value, see also report, page 4

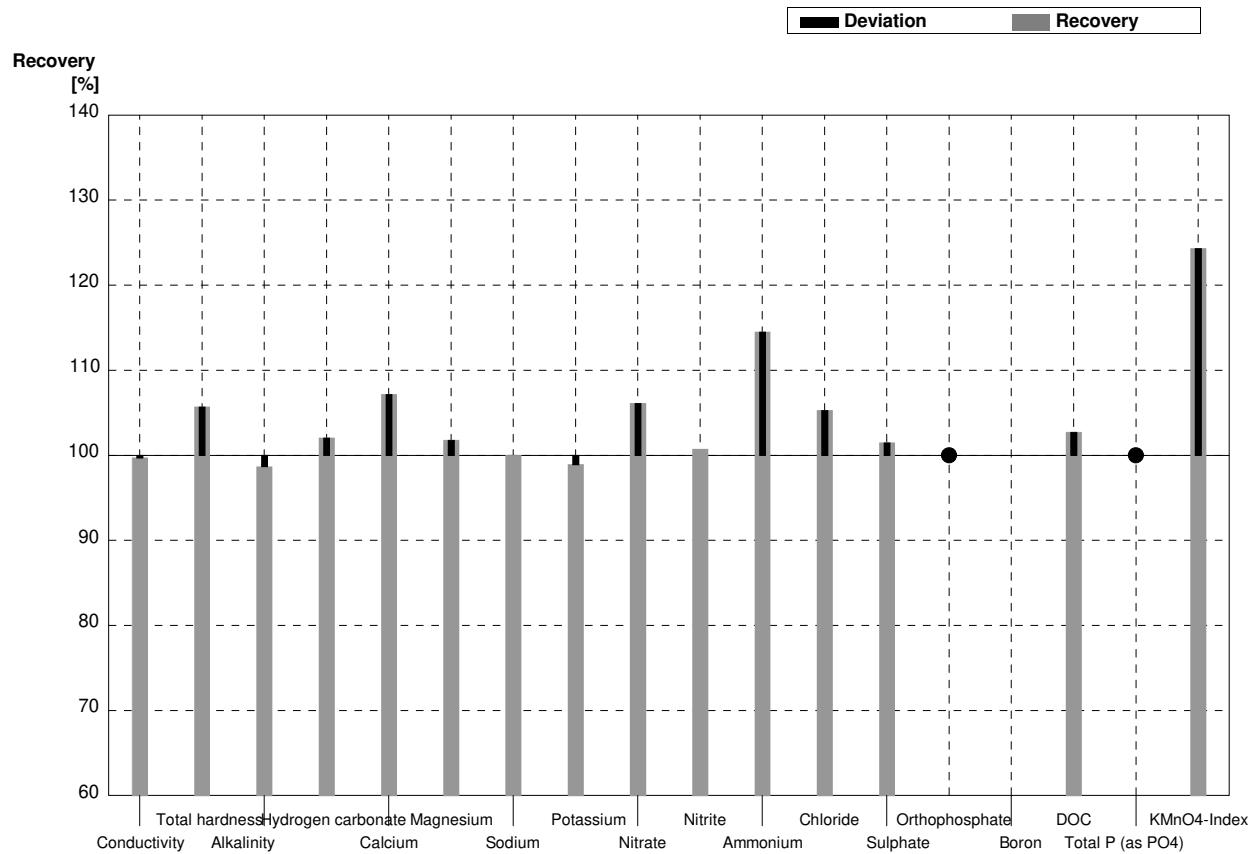
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory B**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	360	7	$\mu\text{S}/\text{cm}$	100%
Total hardness	1,23	0,01	1,30	0,04	mmol/l	106%
Alkalinity	1,58	0,01	1,559	0,044	mmol/l	99%
Hydrogen carbonate	93,2	0,7	95,1	2,7	mg/l	102%
Calcium	34,8	0,4	37,3	1,1	mg/l	107%
Magnesium	8,84	0,09	9,0	0,4	mg/l	102%
Sodium	20,3	0,2	20,3	1,0	mg/l	100%
Potassium	2,77	0,03	2,74	0,13	mg/l	99%
Nitrate	21,3	0,4	22,6	1,5	mg/l	106%
Nitrite	0,0278	0,0004	0,0280	0,0015	mg/l	101%
Ammonium	0,0303	0,0031	0,0347	0,0042	mg/l	115%
Chloride	33,9	0,6	35,7	2,9	mg/l	105%
Sulphate	26,7	0,3	27,1	1,4	mg/l	101%
Orthophosphate	<0,009		<0,01		mg/l	•
Boron	0,082	0,001			mg/l	
DOC	3,28	0,02	3,37	0,24	mg/l	103%
Total P (as PO4)	<0,009		<0,003		mg/l	•
KMnO4-Index	3,04	0,14	3,78	0,14	mg/l	124%

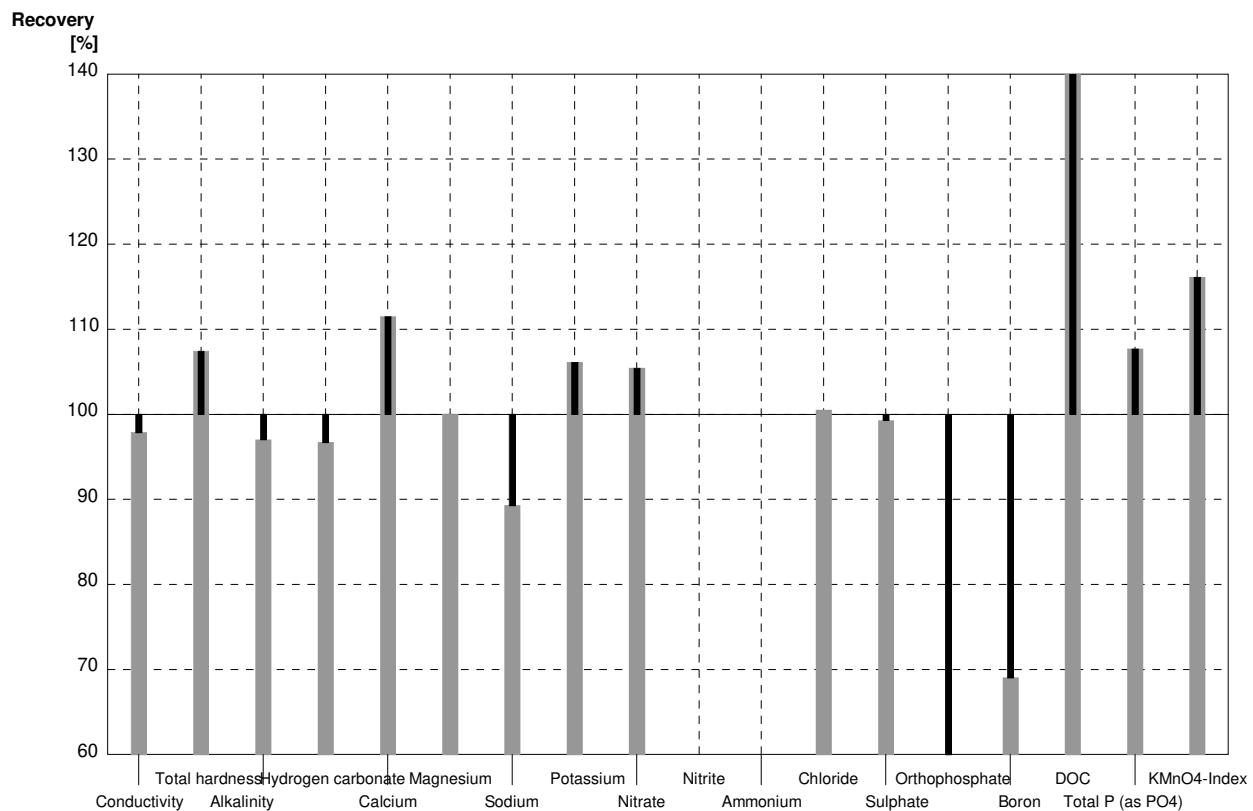


**Sample N157A**  
**Laboratory C**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	643	64,3	$\mu\text{S}/\text{cm}$	98%
Total hardness	2,83	0,03	3,04	0,9	mmol/l	107%
Alkalinity	3,03	0,04	2,94	0,88	mmol/l	97%
Hydrogen carbonate	182	3	176	53	mg/l	97%
Calcium	76,6	1,0	85,4	25,6	mg/l	111%
Magnesium	22,3	0,2	22,3	6,70	mg/l	100%
Sodium	19,6	0,5	17,5	5,24	mg/l	89%
Potassium	5,90	0,05	6,26	1,88	mg/l	106%
Nitrate	12,9	0,2	13,6	4,09	mg/l	105%
Nitrite	0,058	0,001	<		mg/l	
Ammonium	<0,02*		<		mg/l	
Chloride	61,1	0,9	61,41	18,42	mg/l	101%
Sulphate	79,6	0,9	79,03	23,7	mg/l	99%
Orthophosphate	0,065	0,001	0,0366	0,01	mg/l	56%
Boron	0,052	0,001	0,0359	0,0108	mg/l	69%
DOC	8,93	0,04	39,09	11,73	mg/l	438%
Total P (as PO4)	0,117	0,001	0,126	0,04	mg/l	108%
KMnO4-Index	5,64	0,17	6,55	1,97	mg/l	116%

\* guidance value, see also report, page 4

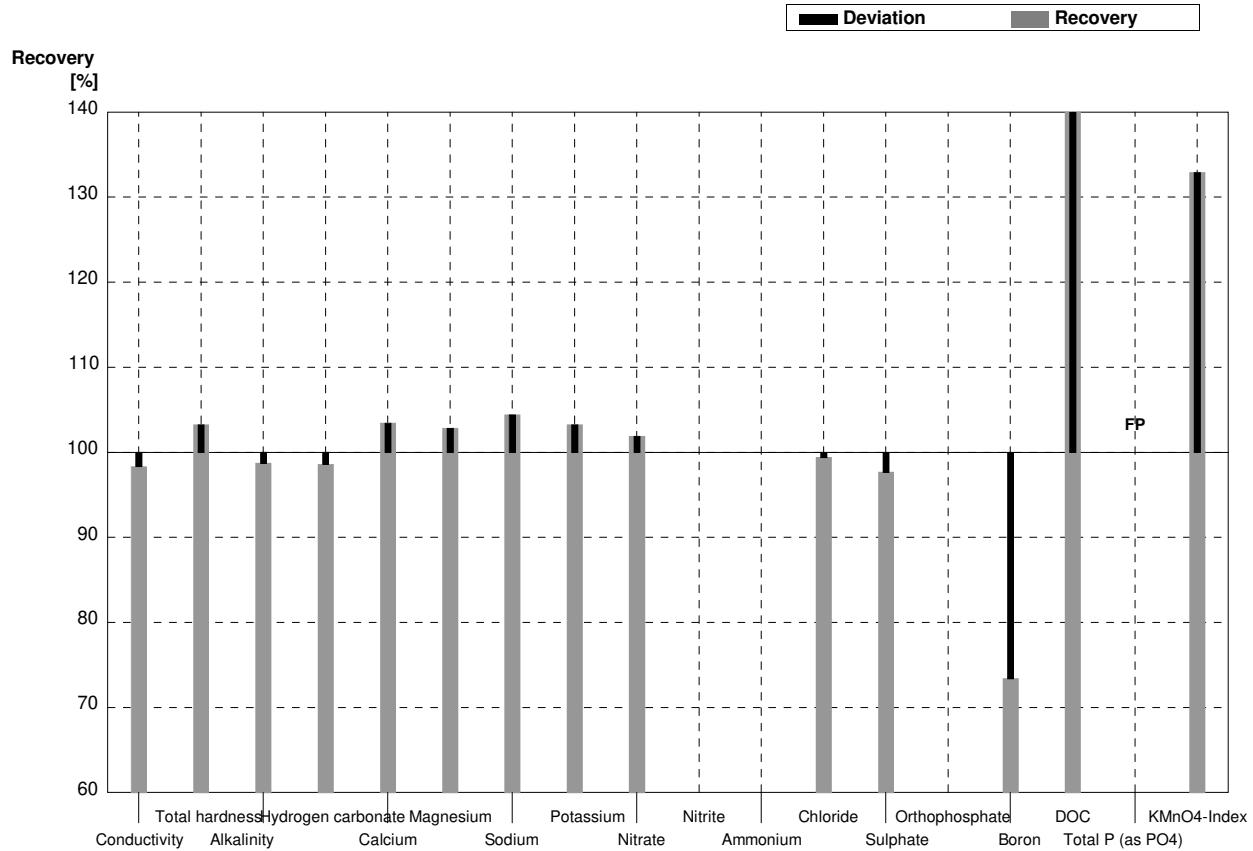
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory C**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	355	35,5	$\mu\text{S}/\text{cm}$	98%
Total hardness	1,23	0,01	1,27	0,42	$\text{mmol/l}$	103%
Alkalinity	1,58	0,01	1,56	0,47	$\text{mmol/l}$	99%
Hydrogen carbonate	93,2	0,7	91,9	27,6	$\text{mg/l}$	99%
Calcium	34,8	0,4	36,0	10,8	$\text{mg/l}$	103%
Magnesium	8,84	0,09	9,09	2,73	$\text{mg/l}$	103%
Sodium	20,3	0,2	21,2	6,35	$\text{mg/l}$	104%
Potassium	2,77	0,03	2,86	0,86	$\text{mg/l}$	103%
Nitrate	21,3	0,4	21,7	6,5	$\text{mg/l}$	102%
Nitrite	0,0278	0,0004	<		$\text{mg/l}$	
Ammonium	0,0303	0,0031	<		$\text{mg/l}$	
Chloride	33,9	0,6	33,70	10,11	$\text{mg/l}$	99%
Sulphate	26,7	0,3	26,08	7,82	$\text{mg/l}$	98%
Orthophosphate	<0,009		<		$\text{mg/l}$	
Boron	0,082	0,001	0,0602	0,0181	$\text{mg/l}$	73%
DOC	3,28	0,02	19,68	5,91	$\text{mg/l}$	600%
Total P (as PO4)	<0,009		0,0606	0,02	$\text{mg/l}$	FP
KMnO4-Index	3,04	0,14	4,04	1,21	$\text{mg/l}$	133%

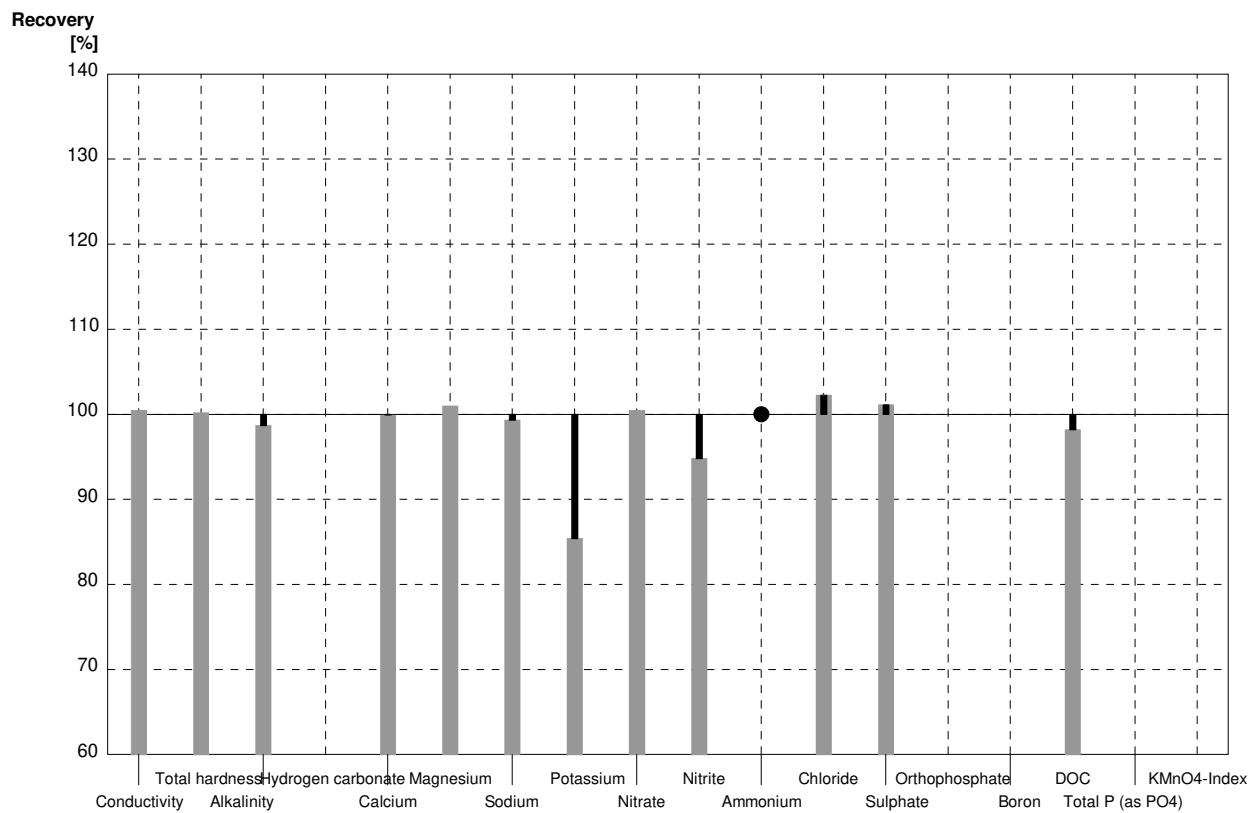


**Sample N157A****Laboratory D**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	660	30	$\mu\text{S}/\text{cm}$	100%
Total hardness	2,83	0,03	2,836	0,05	mmol/l	100%
Alkalinity	3,03	0,04	2,99	0,02	mmol/l	99%
Hydrogen carbonate	182	3			mg/l	
Calcium	76,6	1,0	76,54	0,6	mg/l	100%
Magnesium	22,3	0,2	22,52	0,6	mg/l	101%
Sodium	19,6	0,5	19,47	0,3	mg/l	99%
Potassium	5,90	0,05	5,04	0,06	mg/l	85%
Nitrate	12,9	0,2	12,96	0,5	mg/l	100%
Nitrite	0,058	0,001	0,0550	0,015	mg/l	95%
Ammonium	<0,02*		<0,023	0,080	mg/l	•
Chloride	61,1	0,9	62,49	0,25	mg/l	102%
Sulphate	79,6	0,9	80,50	3,0	mg/l	101%
Orthophosphate	0,065	0,001			mg/l	
Boron	0,052	0,001			mg/l	
DOC	8,93	0,04	8,77	0,03	mg/l	98%
Total P (as PO4)	0,117	0,001			mg/l	
KMnO4-Index	5,64	0,17			mg/l	

\* guidance value, see also report, page 4

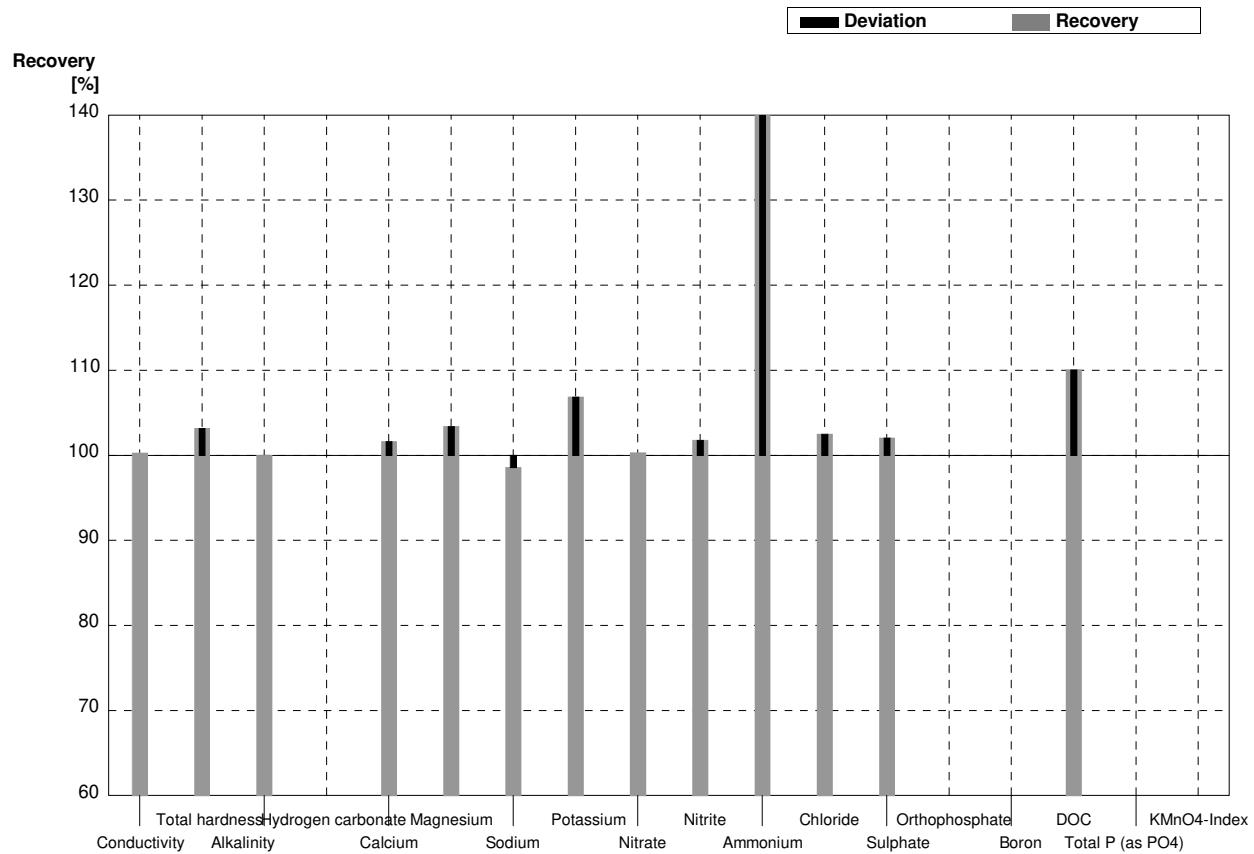
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory D**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	362	30	$\mu\text{S}/\text{cm}$	100%
Total hardness	1,23	0,01	1,269	0,05	$\text{mmol/l}$	103%
Alkalinity	1,58	0,01	1,58	0,02	$\text{mmol/l}$	100%
Hydrogen carbonate	93,2	0,7			$\text{mg/l}$	
Calcium	34,8	0,4	35,37	0,6	$\text{mg/l}$	102%
Magnesium	8,84	0,09	9,14	0,6	$\text{mg/l}$	103%
Sodium	20,3	0,2	20,01	0,3	$\text{mg/l}$	99%
Potassium	2,77	0,03	2,96	0,06	$\text{mg/l}$	107%
Nitrate	21,3	0,4	21,37	0,5	$\text{mg/l}$	100%
Nitrite	0,0278	0,0004	0,0283	0,015	$\text{mg/l}$	102%
Ammonium	0,0303	0,0031	0,0438	0,080	$\text{mg/l}$	145%
Chloride	33,9	0,6	34,75	0,25	$\text{mg/l}$	103%
Sulphate	26,7	0,3	27,25	3,0	$\text{mg/l}$	102%
Orthophosphate	<0,009				$\text{mg/l}$	
Boron	0,082	0,001			$\text{mg/l}$	
DOC	3,28	0,02	3,61	0,03	$\text{mg/l}$	110%
Total P (as PO4)	<0,009				$\text{mg/l}$	
KMnO4-Index	3,04	0,14			$\text{mg/l}$	



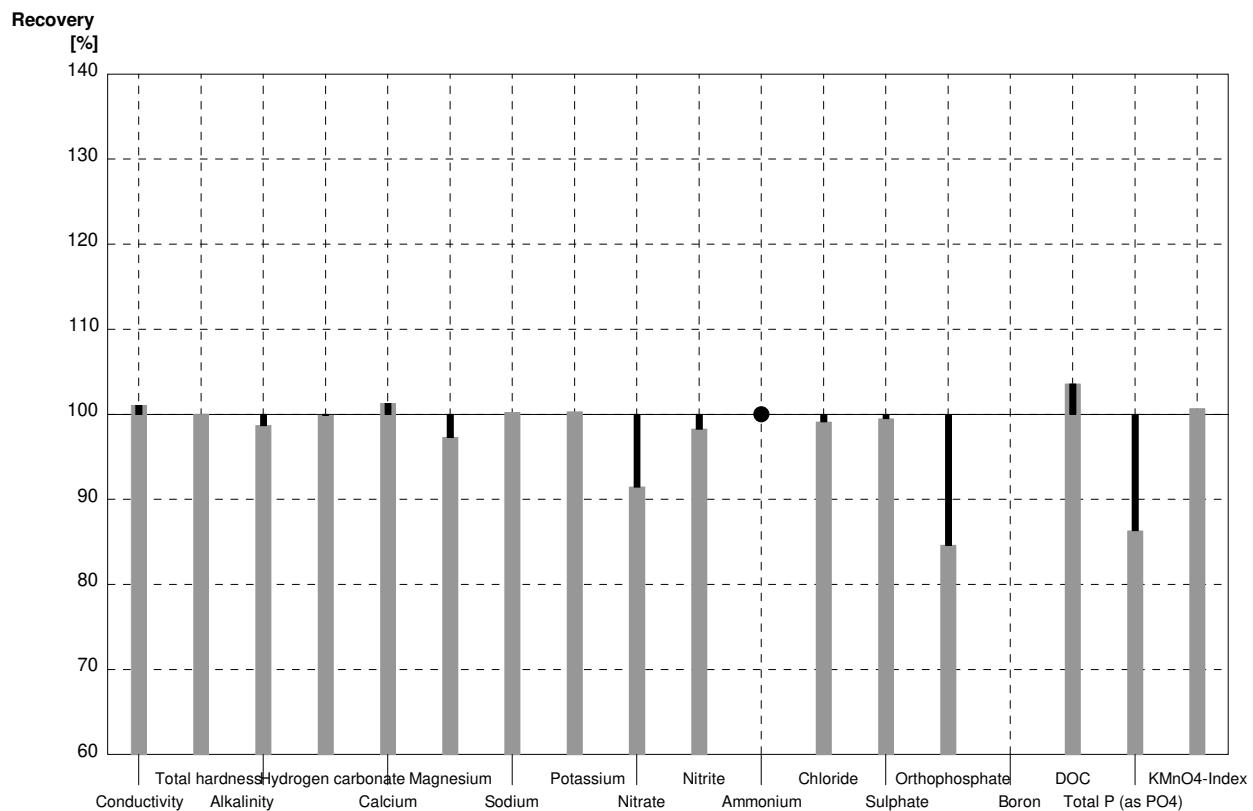
**Sample N157A**

**Laboratory E**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	664		$\mu\text{S}/\text{cm}$	101%
Total hardness	2,83	0,03	2,83		$\text{mmol/l}$	100%
Alkalinity	3,03	0,04	2,99		$\text{mmol/l}$	99%
Hydrogen carbonate	182	3	181,8		$\text{mg/l}$	100%
Calcium	76,6	1,0	77,6		$\text{mg/l}$	101%
Magnesium	22,3	0,2	21,7		$\text{mg/l}$	97%
Sodium	19,6	0,5	19,65		$\text{mg/l}$	100%
Potassium	5,90	0,05	5,92		$\text{mg/l}$	100%
Nitrate	12,9	0,2	11,80		$\text{mg/l}$	91%
Nitrite	0,058	0,001	0,057		$\text{mg/l}$	98%
Ammonium	<0,02*		0,0100		$\text{mg/l}$	•
Chloride	61,1	0,9	60,57		$\text{mg/l}$	99%
Sulphate	79,6	0,9	79,20		$\text{mg/l}$	99%
Orthophosphate	0,065	0,001	0,055		$\text{mg/l}$	85%
Boron	0,052	0,001			$\text{mg/l}$	
DOC	8,93	0,04	9,25		$\text{mg/l}$	104%
Total P (as PO4)	0,117	0,001	0,101		$\text{mg/l}$	86%
KMnO4-Index	5,64	0,17	5,68		$\text{mg/l}$	101%

\* guidance value, see also report, page 4

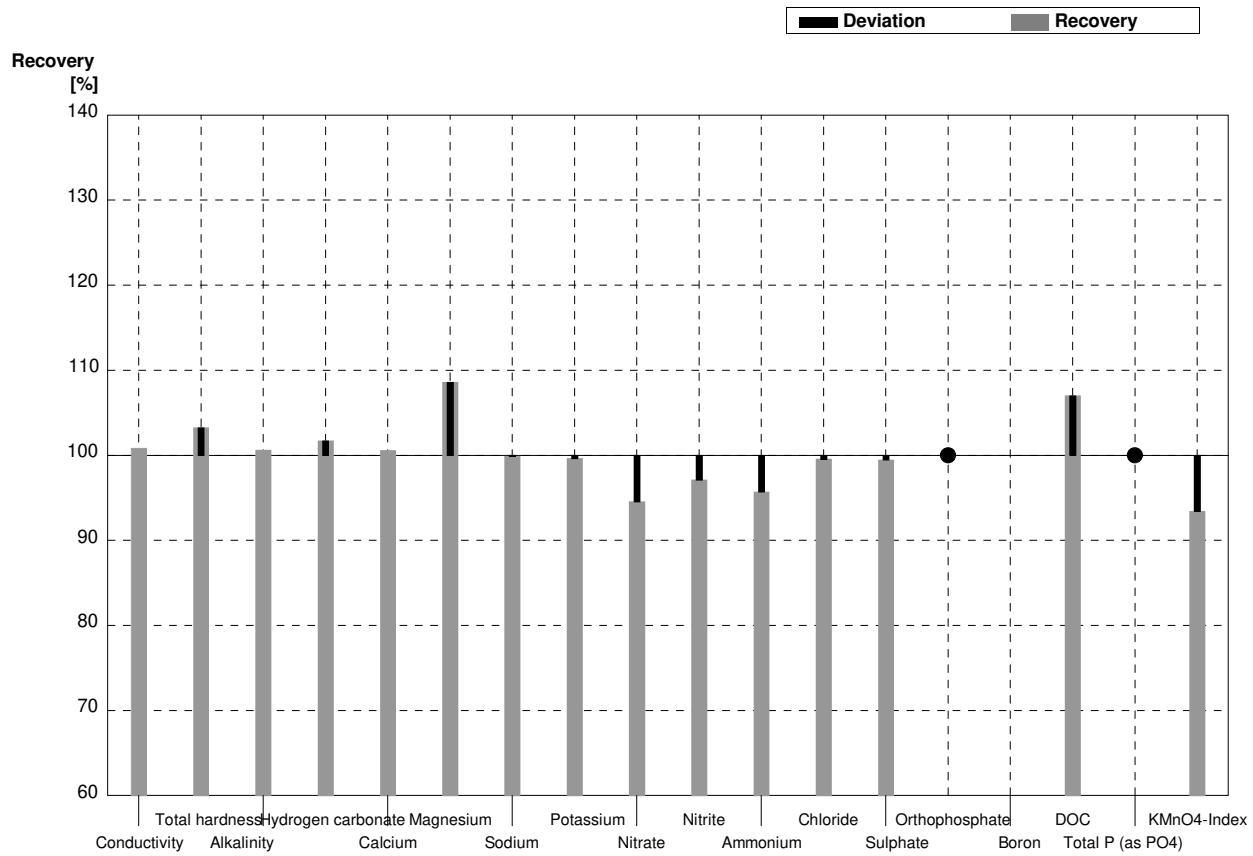
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory E**

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Conductivity	361	2	364		µS/cm	101%
Total hardness	1,23	0,01	1,27		mmol/l	103%
Alkalinity	1,58	0,01	1,59		mmol/l	101%
Hydrogen carbonate	93,2	0,7	94,8		mg/l	102%
Calcium	34,8	0,4	35,0		mg/l	101%
Magnesium	8,84	0,09	9,6		mg/l	109%
Sodium	20,3	0,2	20,28		mg/l	100%
Potassium	2,77	0,03	2,76		mg/l	100%
Nitrate	21,3	0,4	20,14		mg/l	95%
Nitrite	0,0278	0,0004	0,0270		mg/l	97%
Ammonium	0,0303	0,0031	0,0290		mg/l	96%
Chloride	33,9	0,6	33,75		mg/l	100%
Sulphate	26,7	0,3	26,56		mg/l	99%
Orthophosphate	<0,009		<0,009		mg/l	•
Boron	0,082	0,001			mg/l	
DOC	3,28	0,02	3,51		mg/l	107%
Total P (as PO4)	<0,009		<0,009		mg/l	•
KMnO4-Index	3,04	0,14	2,84		mg/l	93%

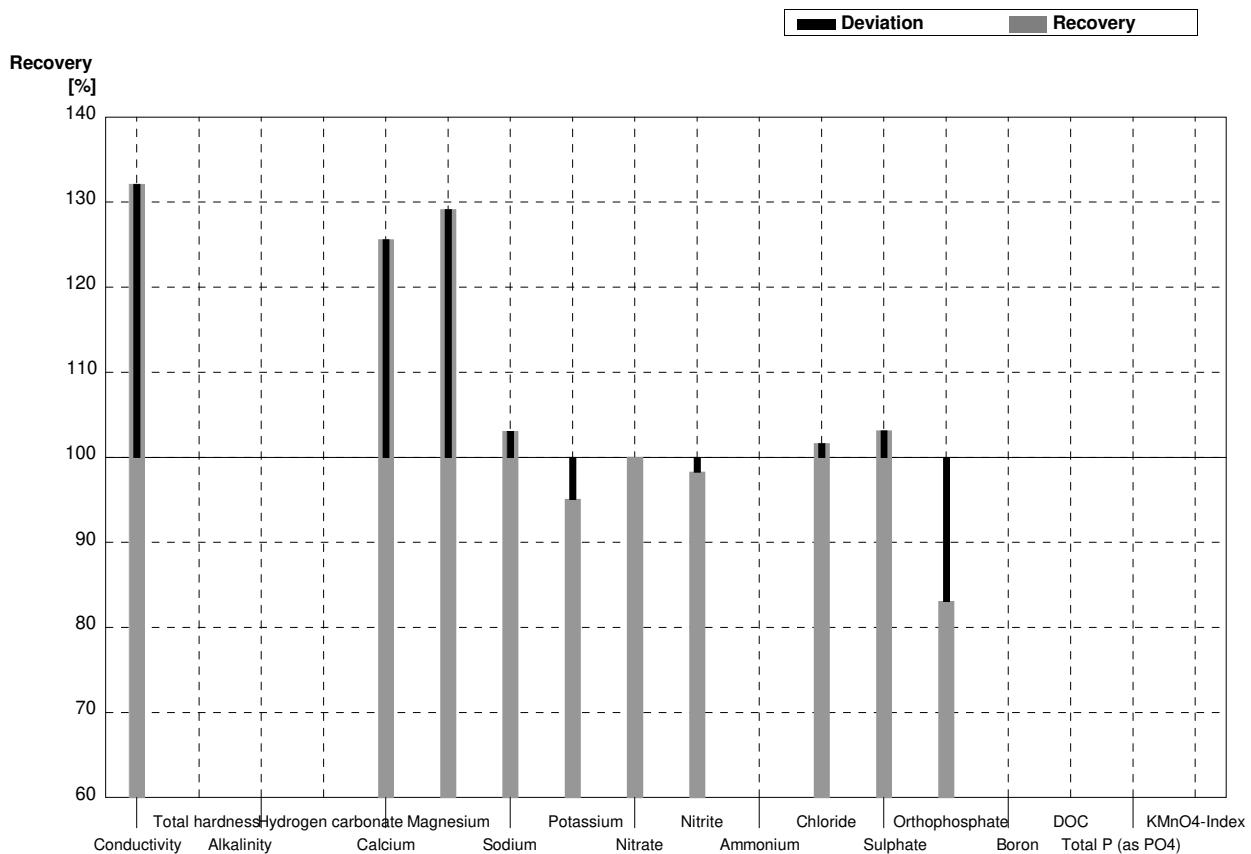


**Sample N157A**

**Laboratory F**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	868		$\mu\text{S}/\text{cm}$	132%
Total hardness	2,83	0,03			$\text{mmol/l}$	
Alkalinity	3,03	0,04			$\text{mmol/l}$	
Hydrogen carbonate	182	3			$\text{mg/l}$	
Calcium	76,6	1,0	96,2		$\text{mg/l}$	126%
Magnesium	22,3	0,2	28,8		$\text{mg/l}$	129%
Sodium	19,6	0,5	20,2		$\text{mg/l}$	103%
Potassium	5,90	0,05	5,61		$\text{mg/l}$	95%
Nitrate	12,9	0,2	12,9		$\text{mg/l}$	100%
Nitrite	0,058	0,001	0,057		$\text{mg/l}$	98%
Ammonium	<0,02*				$\text{mg/l}$	
Chloride	61,1	0,9	62,1		$\text{mg/l}$	102%
Sulphate	79,6	0,9	82,1		$\text{mg/l}$	103%
Orthophosphate	0,065	0,001	0,054		$\text{mg/l}$	83%
Boron	0,052	0,001			$\text{mg/l}$	
DOC	8,93	0,04			$\text{mg/l}$	
Total P (as PO4)	0,117	0,001			$\text{mg/l}$	
KMnO4-Index	5,64	0,17			$\text{mg/l}$	

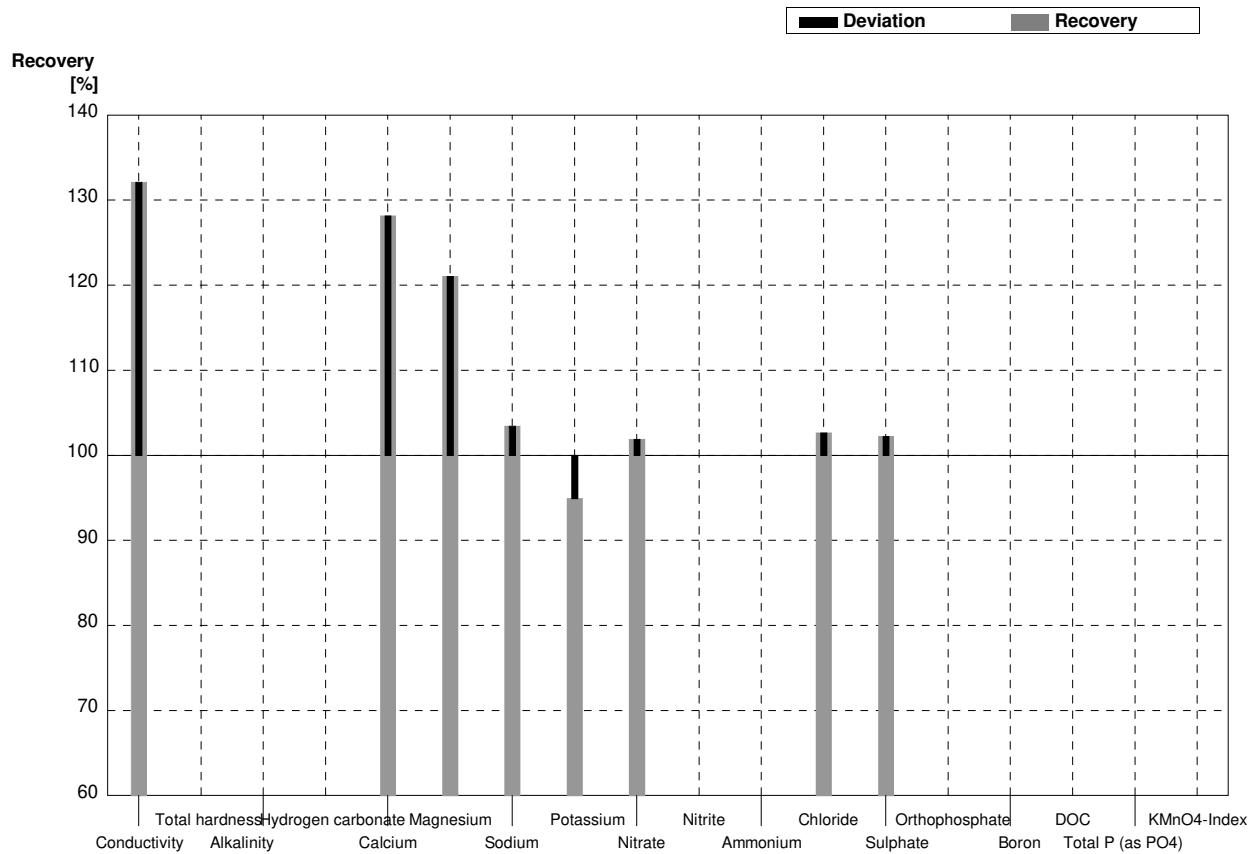
\* guidance value, see also report, page 4



**Sample N157B**

**Laboratory F**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	477		$\mu\text{S}/\text{cm}$	132%
Total hardness	1,23	0,01			$\text{mmol/l}$	
Alkalinity	1,58	0,01			$\text{mmol/l}$	
Hydrogen carbonate	93,2	0,7			$\text{mg/l}$	
Calcium	34,8	0,4	44,6		$\text{mg/l}$	128%
Magnesium	8,84	0,09	10,7		$\text{mg/l}$	121%
Sodium	20,3	0,2	21,0		$\text{mg/l}$	103%
Potassium	2,77	0,03	2,63		$\text{mg/l}$	95%
Nitrate	21,3	0,4	21,7		$\text{mg/l}$	102%
Nitrite	0,0278	0,0004			$\text{mg/l}$	
Ammonium	0,0303	0,0031			$\text{mg/l}$	
Chloride	33,9	0,6	34,8		$\text{mg/l}$	103%
Sulphate	26,7	0,3	27,3		$\text{mg/l}$	102%
Orthophosphate	<0,009				$\text{mg/l}$	
Boron	0,082	0,001			$\text{mg/l}$	
DOC	3,28	0,02			$\text{mg/l}$	
Total P (as PO <sub>4</sub> )	<0,009				$\text{mg/l}$	
KMnO <sub>4</sub> -Index	3,04	0,14			$\text{mg/l}$	



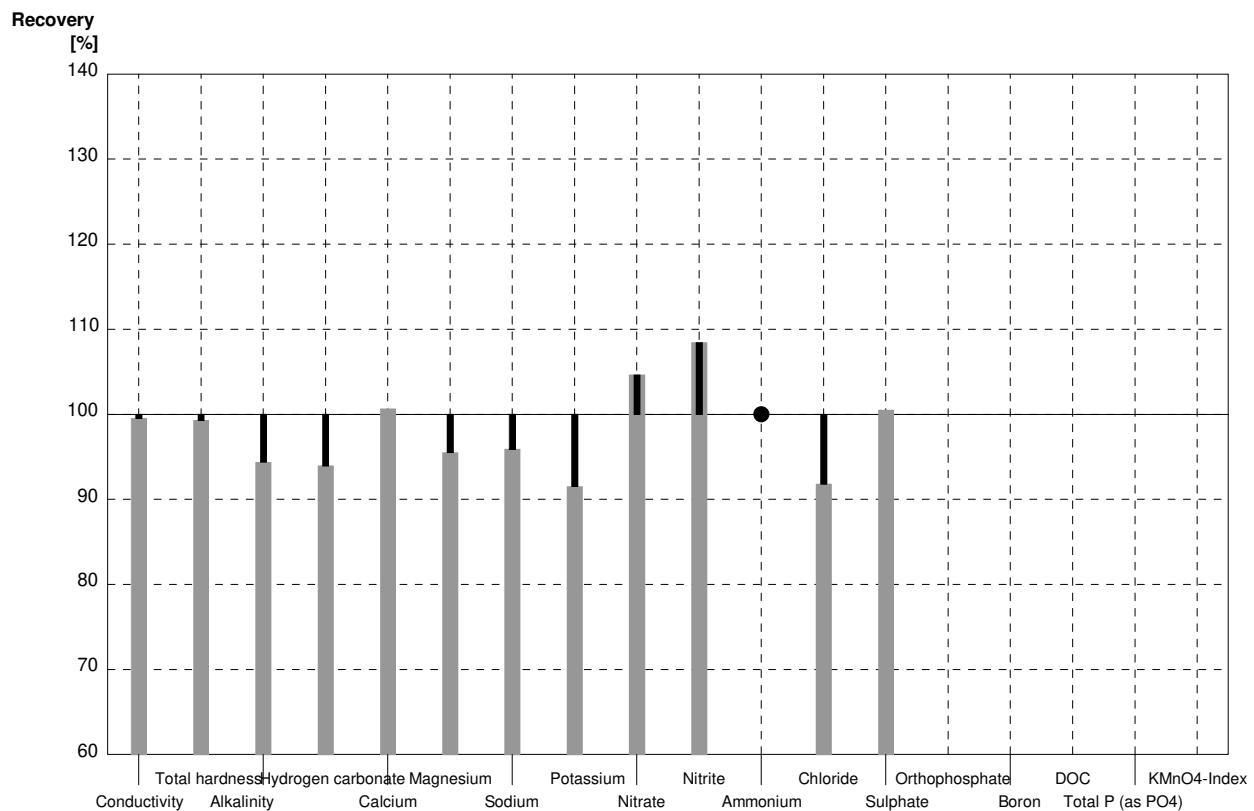
**Sample N157A**

**Laboratory G**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	654	15	$\mu\text{S}/\text{cm}$	100%
Total hardness	2,83	0,03	2,81	0,11	$\text{mmol/l}$	99%
Alkalinity	3,03	0,04	2,86	0,05	$\text{mmol/l}$	94%
Hydrogen carbonate	182	3	171	3	$\text{mg/l}$	94%
Calcium	76,6	1,0	77,1	4	$\text{mg/l}$	101%
Magnesium	22,3	0,2	21,3	1,1	$\text{mg/l}$	96%
Sodium	19,6	0,5	18,8	1	$\text{mg/l}$	96%
Potassium	5,90	0,05	5,4	0,3	$\text{mg/l}$	92%
Nitrate	12,9	0,2	13,5	0,7	$\text{mg/l}$	105%
Nitrite	0,058	0,001	0,0629	0,003	$\text{mg/l}$	108%
Ammonium	<0,02*		<0,04		$\text{mg/l}$	•
Chloride	61,1	0,9	56,1	3	$\text{mg/l}$	92%
Sulphate	79,6	0,9	80	4	$\text{mg/l}$	101%
Orthophosphate	0,065	0,001			$\text{mg/l}$	
Boron	0,052	0,001			$\text{mg/l}$	
DOC	8,93	0,04			$\text{mg/l}$	
Total P (as PO <sub>4</sub> )	0,117	0,001			$\text{mg/l}$	
KMnO <sub>4</sub> -Index	5,64	0,17			$\text{mg/l}$	

\* guidance value, see also report, page 4

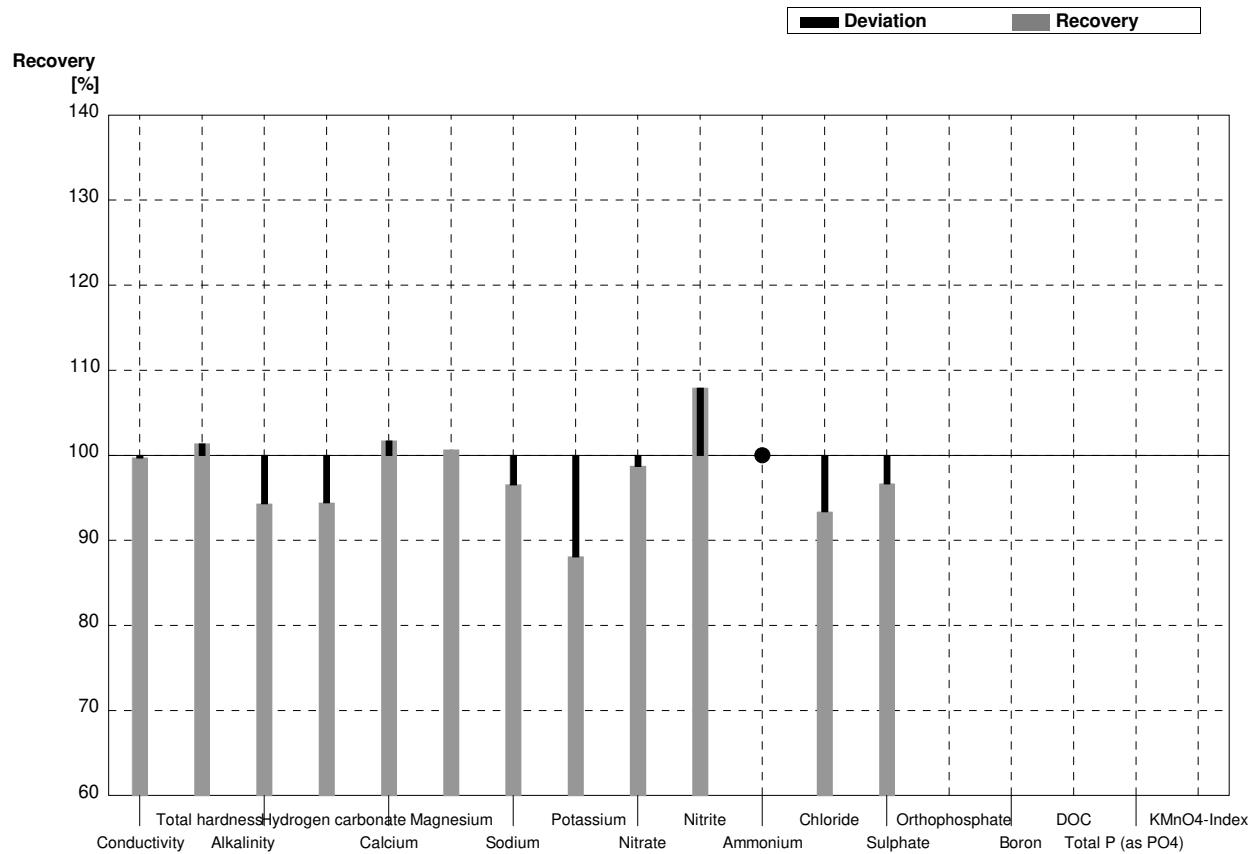
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory G**

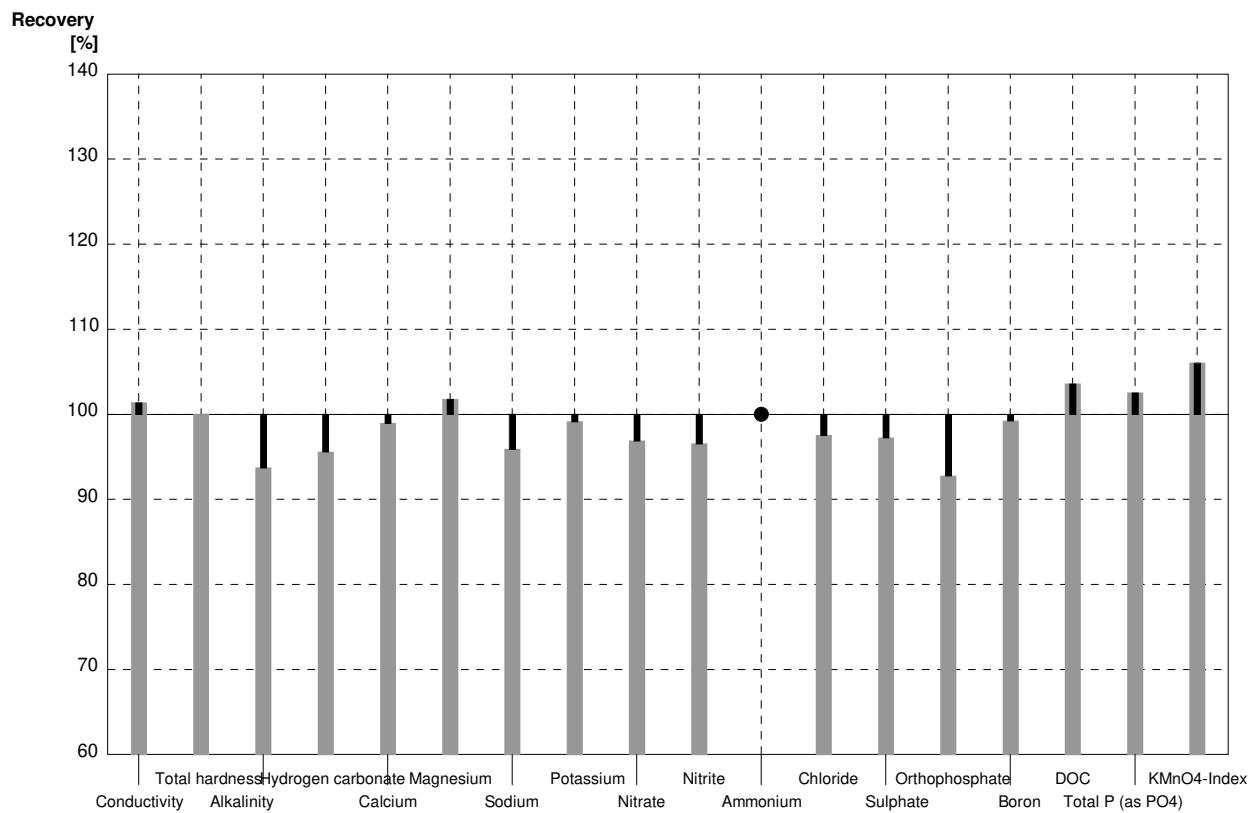
Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	360	8	$\mu\text{S}/\text{cm}$	100%
Total hardness	1,23	0,01	1,247	0,06	$\text{mmol/l}$	101%
Alkalinity	1,58	0,01	1,49	0,04	$\text{mmol/l}$	94%
Hydrogen carbonate	93,2	0,7	88	3	$\text{mg/l}$	94%
Calcium	34,8	0,4	35,4	2	$\text{mg/l}$	102%
Magnesium	8,84	0,09	8,9	0,5	$\text{mg/l}$	101%
Sodium	20,3	0,2	19,6	1	$\text{mg/l}$	97%
Potassium	2,77	0,03	2,44	0,17	$\text{mg/l}$	88%
Nitrate	21,3	0,4	21,03	1,1	$\text{mg/l}$	99%
Nitrite	0,0278	0,0004	0,0300	0,005	$\text{mg/l}$	108%
Ammonium	0,0303	0,0031	<0,04		$\text{mg/l}$	•
Chloride	33,9	0,6	31,65	1,6	$\text{mg/l}$	93%
Sulphate	26,7	0,3	25,81	1,4	$\text{mg/l}$	97%
Orthophosphate	<0,009				$\text{mg/l}$	
Boron	0,082	0,001			$\text{mg/l}$	
DOC	3,28	0,02			$\text{mg/l}$	
Total P (as PO <sub>4</sub> )	<0,009				$\text{mg/l}$	
KMnO <sub>4</sub> -Index	3,04	0,14			$\text{mg/l}$	



**Sample N157A****Laboratory H**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	666	15,3	$\mu\text{S}/\text{cm}$	101%
Total hardness	2,83	0,03	2,83	0,23	$\text{mmol/l}$	100%
Alkalinity	3,03	0,04	2,84	0,14	$\text{mmol/l}$	94%
Hydrogen carbonate	182	3	174	8,7	$\text{mg/l}$	96%
Calcium	76,6	1,0	75,8	6,97	$\text{mg/l}$	99%
Magnesium	22,3	0,2	22,7	1,66	$\text{mg/l}$	102%
Sodium	19,6	0,5	18,8	1,54	$\text{mg/l}$	96%
Potassium	5,90	0,05	5,85	0,63	$\text{mg/l}$	99%
Nitrate	12,9	0,2	12,5	0,57	$\text{mg/l}$	97%
Nitrite	0,058	0,001	0,056	0,0024	$\text{mg/l}$	97%
Ammonium	<0,02*		0,0239	0,00241	$\text{mg/l}$	•
Chloride	61,1	0,9	59,6	4,11	$\text{mg/l}$	98%
Sulphate	79,6	0,9	77,4	3,64	$\text{mg/l}$	97%
Orthophosphate	0,065	0,001	0,0603	0,0060	$\text{mg/l}$	93%
Boron	0,052	0,001	0,0516	0,0051	$\text{mg/l}$	99%
DOC	8,93	0,04	9,25	1,45	$\text{mg/l}$	104%
Total P (as PO <sub>4</sub> )	0,117	0,001	0,120	0,021	$\text{mg/l}$	103%
KMnO <sub>4</sub> -Index	5,64	0,17	5,98	0,29	$\text{mg/l}$	106%

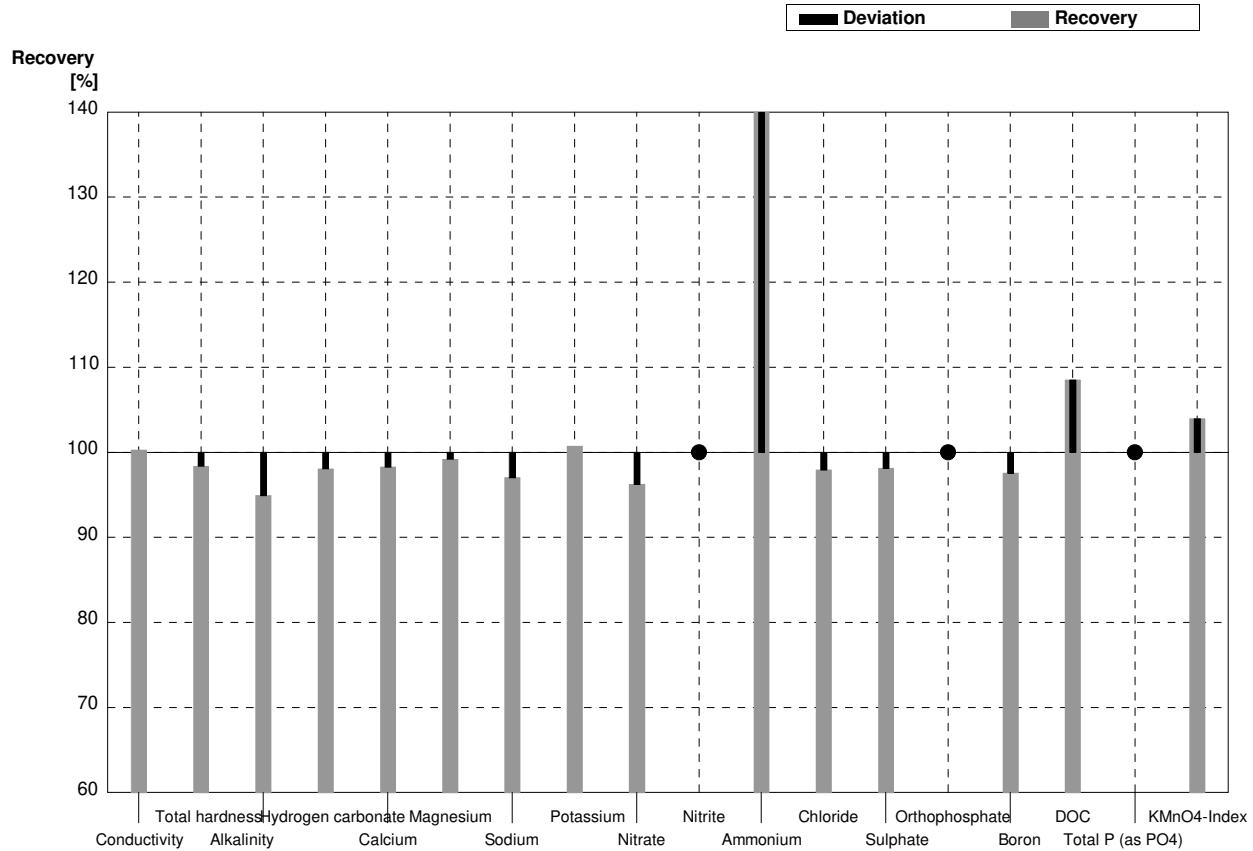
\* guidance value, see also report, page 4



**Sample N157B**

**Laboratory H**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	362	8,3	$\mu\text{S}/\text{cm}$	100%
Total hardness	1,23	0,01	1,21	0,10	$\text{mmol/l}$	98%
Alkalinity	1,58	0,01	1,50	0,075	$\text{mmol/l}$	95%
Hydrogen carbonate	93,2	0,7	91,4	4,6	$\text{mg/l}$	98%
Calcium	34,8	0,4	34,2	3,15	$\text{mg/l}$	98%
Magnesium	8,84	0,09	8,77	0,64	$\text{mg/l}$	99%
Sodium	20,3	0,2	19,7	1,62	$\text{mg/l}$	97%
Potassium	2,77	0,03	2,79	0,30	$\text{mg/l}$	101%
Nitrate	21,3	0,4	20,5	0,94	$\text{mg/l}$	96%
Nitrite	0,0278	0,0004	<0,03		$\text{mg/l}$	•
Ammonium	0,0303	0,0031	0,0560	0,0057	$\text{mg/l}$	185%
Chloride	33,9	0,6	33,2	2,29	$\text{mg/l}$	98%
Sulphate	26,7	0,3	26,2	1,23	$\text{mg/l}$	98%
Orthophosphate	<0,009		<0,02		$\text{mg/l}$	•
Boron	0,082	0,001	0,0800	0,0081	$\text{mg/l}$	98%
DOC	3,28	0,02	3,56	0,56	$\text{mg/l}$	109%
Total P (as PO4)	<0,009		<0,020		$\text{mg/l}$	•
KMnO4-Index	3,04	0,14	3,16	0,15	$\text{mg/l}$	104%

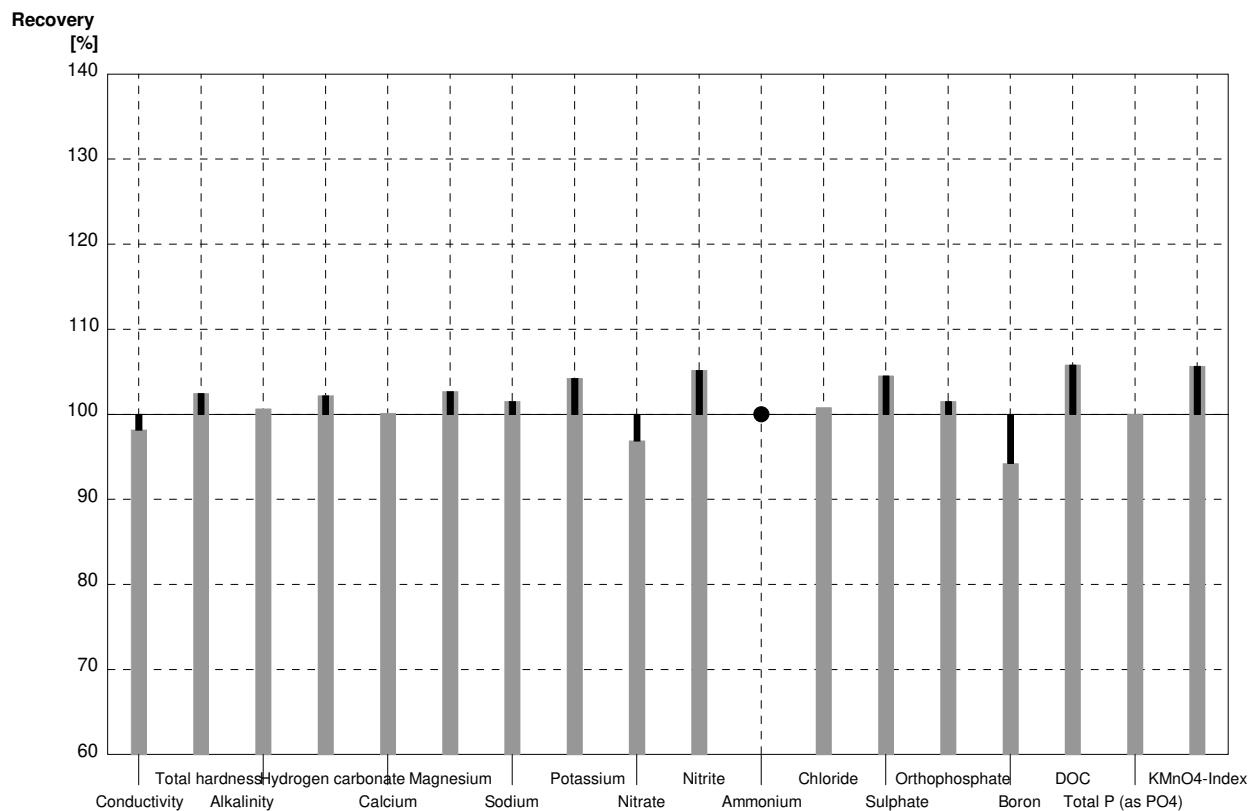


**Sample N157A****Laboratory I**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	645	32	$\mu\text{S}/\text{cm}$	98%
Total hardness	2,83	0,03	2,90	0,29	mmol/l	102%
Alkalinity	3,03	0,04	3,05	0,153	mmol/l	101%
Hydrogen carbonate	182	3	186	9,3	mg/l	102%
Calcium	76,6	1,0	76,7	7,7	mg/l	100%
Magnesium	22,3	0,2	22,9	2,3	mg/l	103%
Sodium	19,6	0,5	19,9	2	mg/l	102%
Potassium	5,90	0,05	6,15	0,62	mg/l	104%
Nitrate	12,9	0,2	12,5	0,63	mg/l	97%
Nitrite	0,058	0,001	0,061	0,006	mg/l	105%
Ammonium	<0,02*		0,0170	0,007	mg/l	•
Chloride	61,1	0,9	61,6	3,08	mg/l	101%
Sulphate	79,6	0,9	83,2	4,16	mg/l	105%
Orthophosphate	0,065	0,001	0,066	0,006	mg/l	102%
Boron	0,052	0,001	0,0490	0,005	mg/l	94%
DOC	8,93	0,04	9,45	1,0	mg/l	106%
Total P (as PO4)	0,117	0,001	0,117	0,012	mg/l	100%
KMnO4-Index	5,64	0,17	5,96	0,86	mg/l	106%

\* guidance value, see also report, page 4

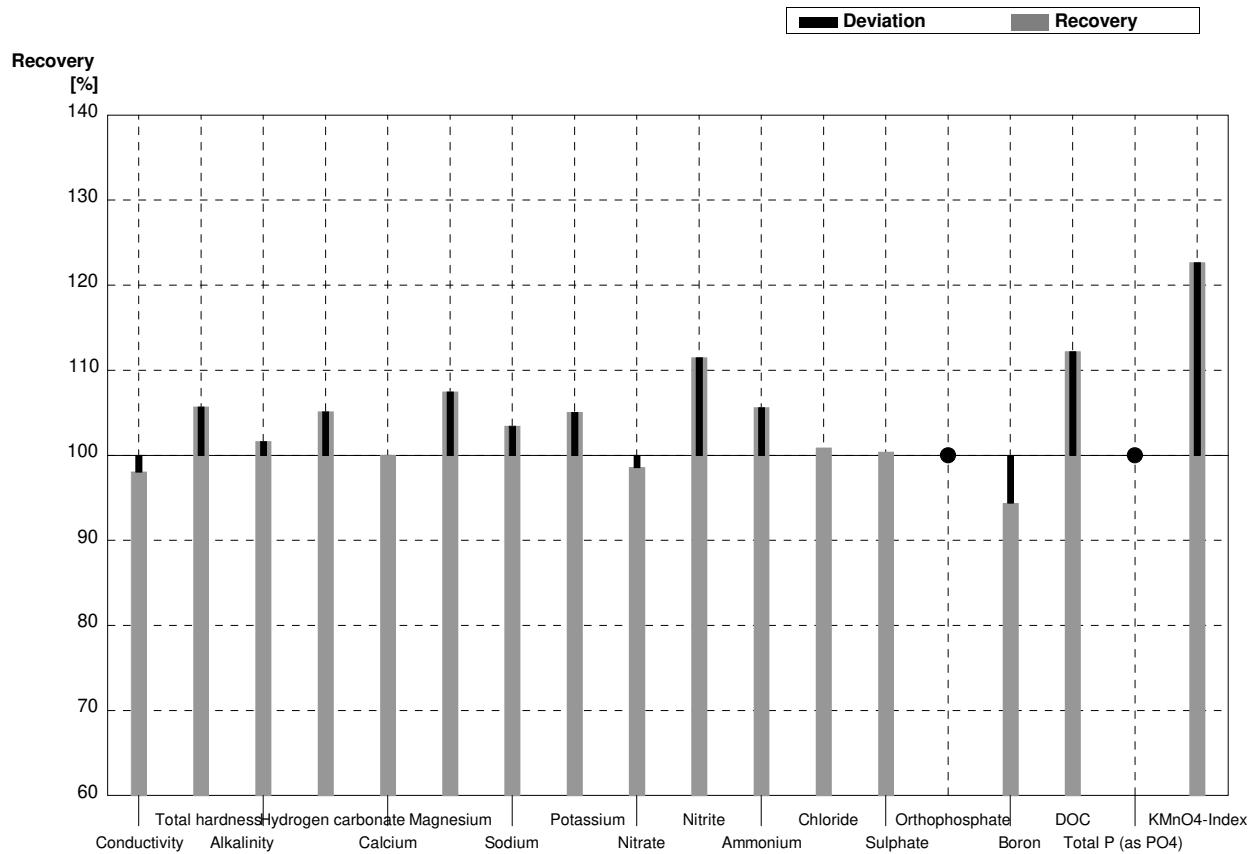
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory I**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	354	18	$\mu\text{S}/\text{cm}$	98%
Total hardness	1,23	0,01	1,30	0,13	mmol/l	106%
Alkalinity	1,58	0,01	1,606	0,080	mmol/l	102%
Hydrogen carbonate	93,2	0,7	98	4,9	mg/l	105%
Calcium	34,8	0,4	34,8	3,5	mg/l	100%
Magnesium	8,84	0,09	9,5	1,0	mg/l	107%
Sodium	20,3	0,2	21,0	2,1	mg/l	103%
Potassium	2,77	0,03	2,91	0,3	mg/l	105%
Nitrate	21,3	0,4	21,0	1,05	mg/l	99%
Nitrite	0,0278	0,0004	0,0310	0,003	mg/l	112%
Ammonium	0,0303	0,0031	0,0320	0,003	mg/l	106%
Chloride	33,9	0,6	34,2	1,71	mg/l	101%
Sulphate	26,7	0,3	26,8	1,34	mg/l	100%
Orthophosphate	<0,009		<0,01		mg/l	•
Boron	0,082	0,001	0,0774	0,008	mg/l	94%
DOC	3,28	0,02	3,68	0,40	mg/l	112%
Total P (as PO4)	<0,009		<0,01		mg/l	•
KMnO4-Index	3,04	0,14	3,73	0,54	mg/l	123%



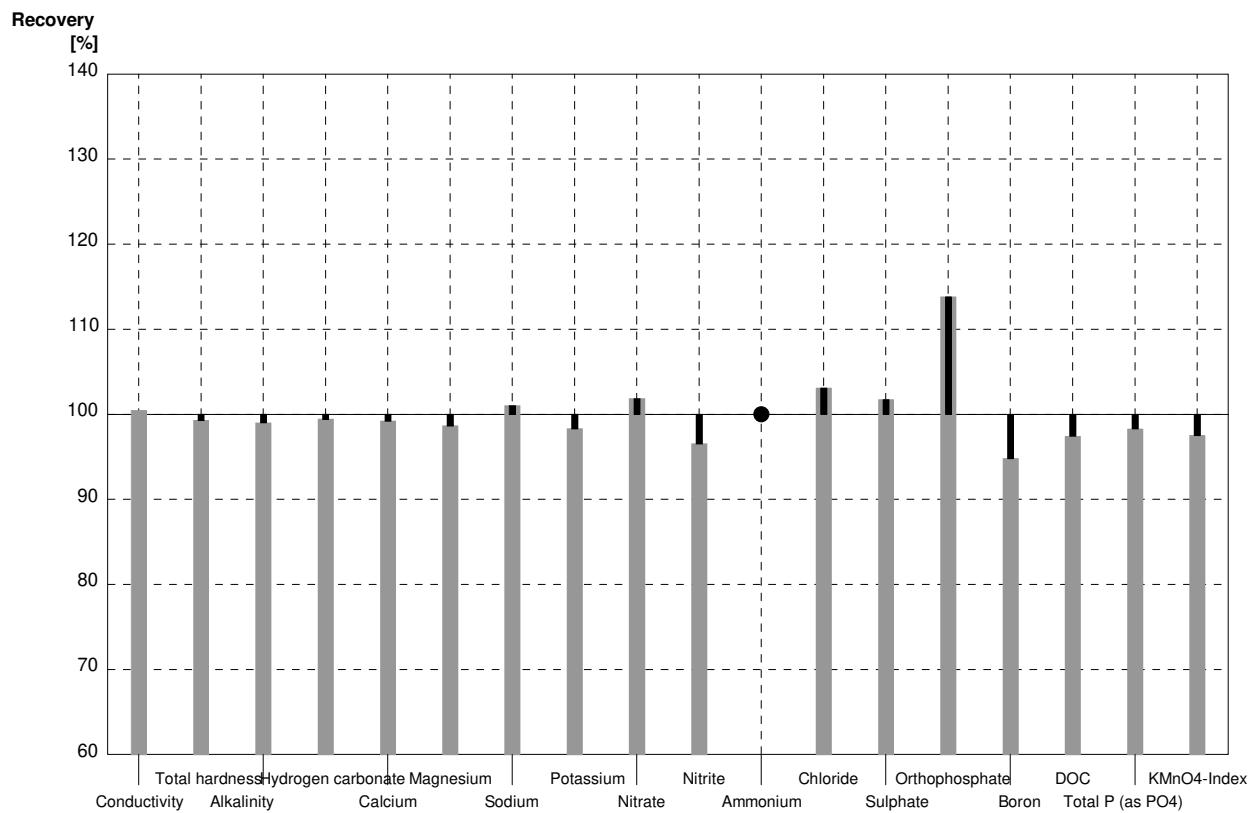
**Sample N157A**

**Laboratory J**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	660	13	$\mu\text{S}/\text{cm}$	100%
Total hardness	2,83	0,03	2,81	0,28	$\text{mmol/l}$	99%
Alkalinity	3,03	0,04	3,00	0,20	$\text{mmol/l}$	99%
Hydrogen carbonate	182	3	181	15	$\text{mg/l}$	99%
Calcium	76,6	1,0	76	3	$\text{mg/l}$	99%
Magnesium	22,3	0,2	22,0	0,9	$\text{mg/l}$	99%
Sodium	19,6	0,5	19,8	0,6	$\text{mg/l}$	101%
Potassium	5,90	0,05	5,80	0,46	$\text{mg/l}$	98%
Nitrate	12,9	0,2	13,14	0,92	$\text{mg/l}$	102%
Nitrite	0,058	0,001	0,056	0,006	$\text{mg/l}$	97%
Ammonium	<0,02*		0,0190	0,0060	$\text{mg/l}$	•
Chloride	61,1	0,9	63	5	$\text{mg/l}$	103%
Sulphate	79,6	0,9	81	5	$\text{mg/l}$	102%
Orthophosphate	0,065	0,001	0,074	0,011	$\text{mg/l}$	114%
Boron	0,052	0,001	0,0493	0,0035	$\text{mg/l}$	95%
DOC	8,93	0,04	8,7	1,2	$\text{mg/l}$	97%
Total P (as PO4)	0,117	0,001	0,115	0,015	$\text{mg/l}$	98%
KMnO4-Index	5,64	0,17	5,5	0,6	$\text{mg/l}$	98%

\* guidance value, see also report, page 4

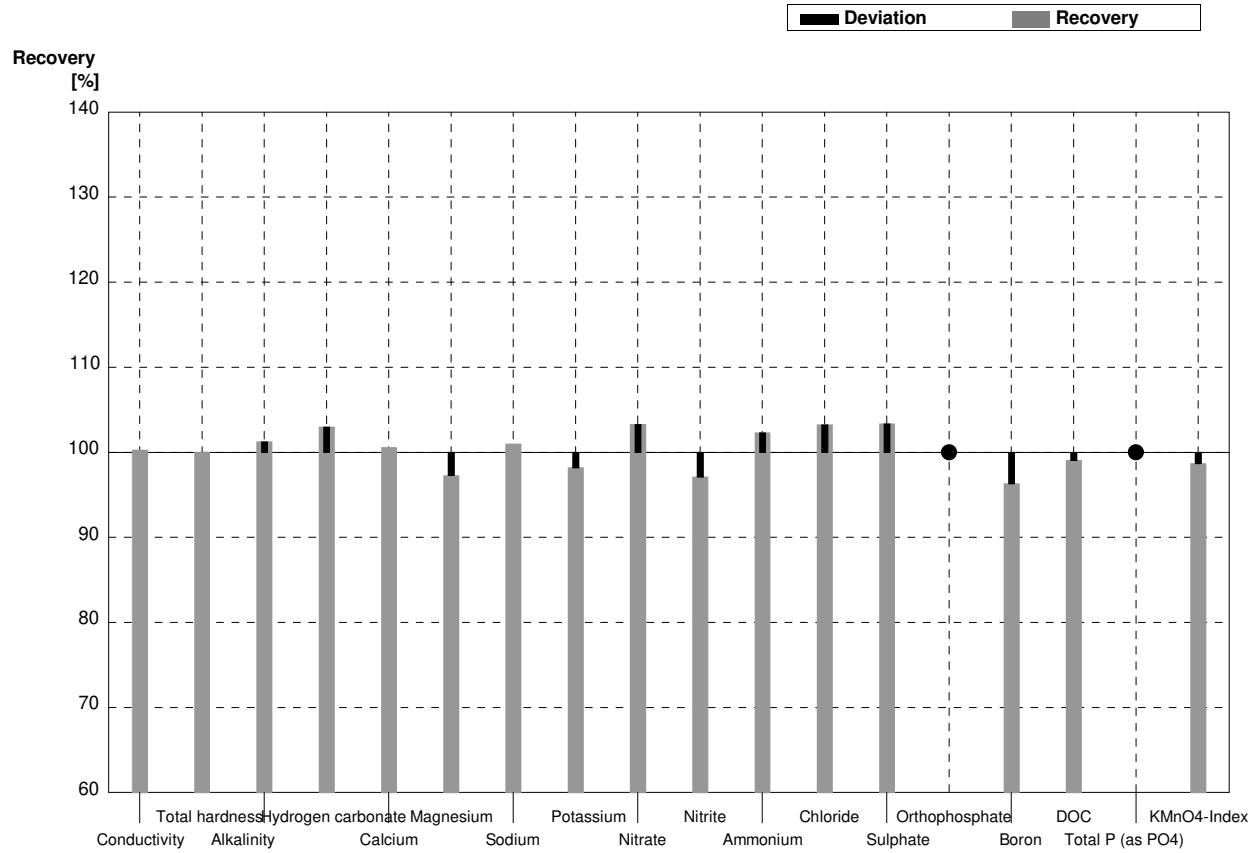
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory J**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	362	7	$\mu\text{S}/\text{cm}$	100%
Total hardness	1,23	0,01	1,23	0,12	$\text{mmol/l}$	100%
Alkalinity	1,58	0,01	1,60	0,1	$\text{mmol/l}$	101%
Hydrogen carbonate	93,2	0,7	96	8	$\text{mg/l}$	103%
Calcium	34,8	0,4	35,0	1,4	$\text{mg/l}$	101%
Magnesium	8,84	0,09	8,6	0,5	$\text{mg/l}$	97%
Sodium	20,3	0,2	20,5	0,8	$\text{mg/l}$	101%
Potassium	2,77	0,03	2,72	0,22	$\text{mg/l}$	98%
Nitrate	21,3	0,4	22,0	0,9	$\text{mg/l}$	103%
Nitrite	0,0278	0,0004	0,0270	0,0030	$\text{mg/l}$	97%
Ammonium	0,0303	0,0031	0,0310	0,0090	$\text{mg/l}$	102%
Chloride	33,9	0,6	35,0	2,8	$\text{mg/l}$	103%
Sulphate	26,7	0,3	27,6	1,7	$\text{mg/l}$	103%
Orthophosphate	<0,009		<0,009		$\text{mg/l}$	•
Boron	0,082	0,001	0,079	0,005	$\text{mg/l}$	96%
DOC	3,28	0,02	3,25	0,5	$\text{mg/l}$	99%
Total P (as PO <sub>4</sub> )	<0,009		<0,009		$\text{mg/l}$	•
KMnO <sub>4</sub> -Index	3,04	0,14	3,00	0,30	$\text{mg/l}$	99%



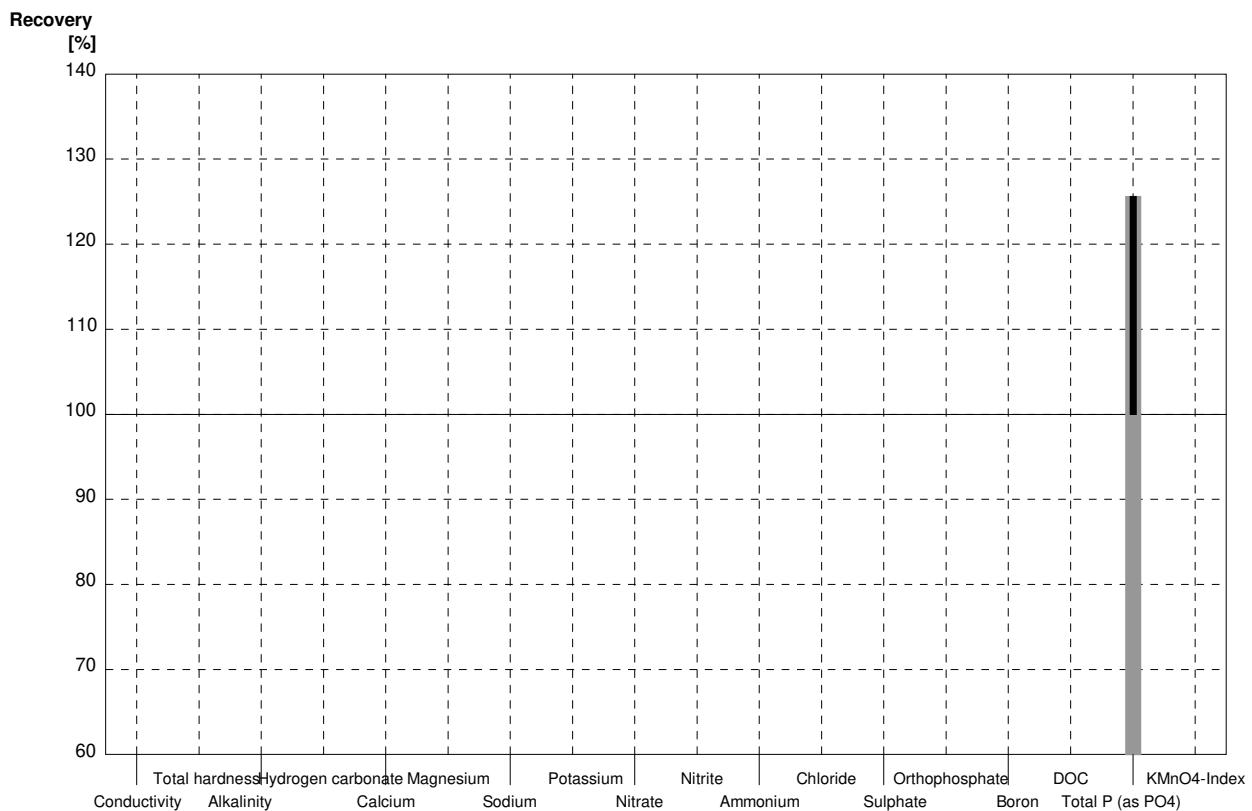
**Sample N157A**

**Laboratory K**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3			$\mu\text{S}/\text{cm}$	
Total hardness	2,83	0,03			$\text{mmol}/\text{l}$	
Alkalinity	3,03	0,04			$\text{mmol}/\text{l}$	
Hydrogen carbonate	182	3			$\text{mg}/\text{l}$	
Calcium	76,6	1,0			$\text{mg}/\text{l}$	
Magnesium	22,3	0,2			$\text{mg}/\text{l}$	
Sodium	19,6	0,5			$\text{mg}/\text{l}$	
Potassium	5,90	0,05			$\text{mg}/\text{l}$	
Nitrate	12,9	0,2			$\text{mg}/\text{l}$	
Nitrite	0,058	0,001			$\text{mg}/\text{l}$	
Ammonium	<0,02*				$\text{mg}/\text{l}$	
Chloride	61,1	0,9			$\text{mg}/\text{l}$	
Sulphate	79,6	0,9			$\text{mg}/\text{l}$	
Orthophosphate	0,065	0,001			$\text{mg}/\text{l}$	
Boron	0,052	0,001			$\text{mg}/\text{l}$	
DOC	8,93	0,04			$\text{mg}/\text{l}$	
Total P (as PO <sub>4</sub> )	0,117	0,001	0,147	0,026	$\text{mg}/\text{l}$	126%
KMnO <sub>4</sub> -Index	5,64	0,17			$\text{mg}/\text{l}$	

\* guidance value, see also report, page 4

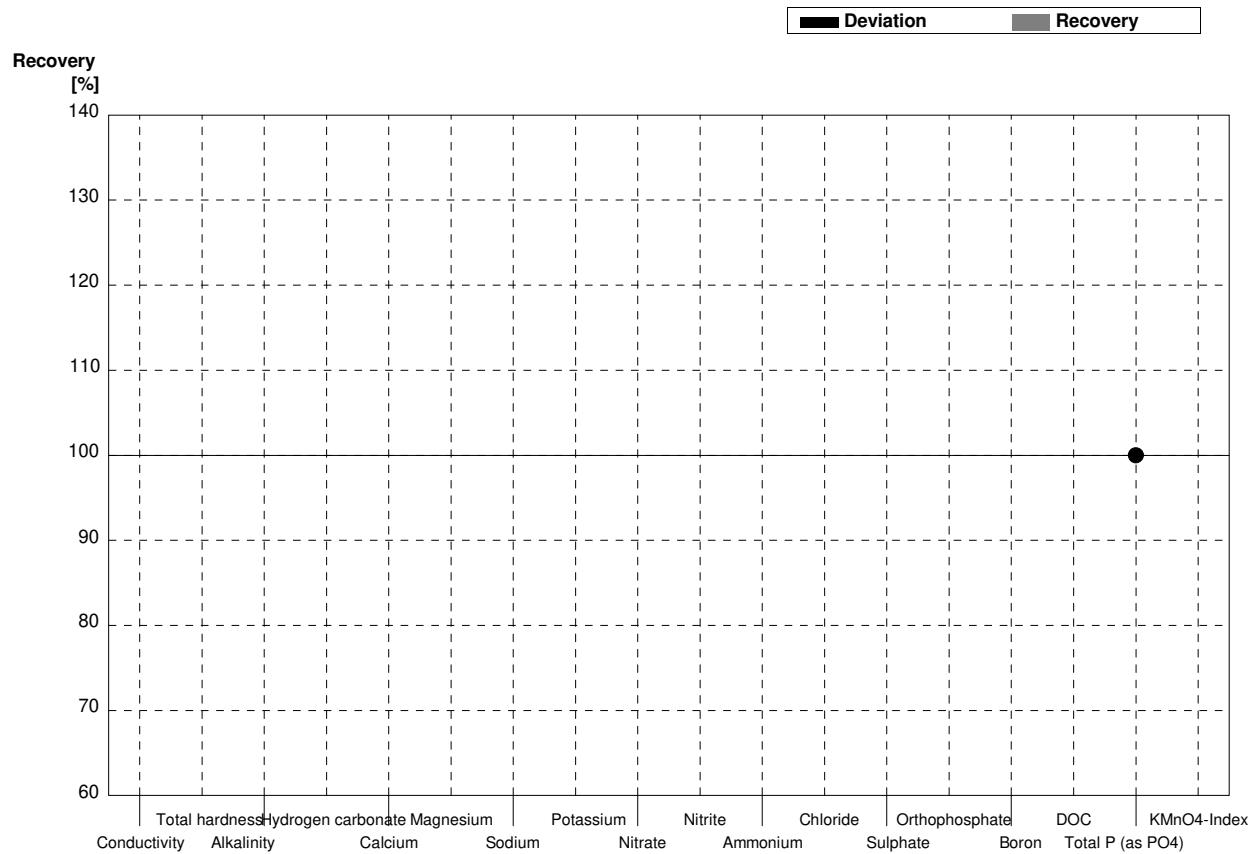
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory K**

Parameter	Target value	$\pm U$ (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2			$\mu\text{S}/\text{cm}$	
Total hardness	1,23	0,01			$\text{mmol/l}$	
Alkalinity	1,58	0,01			$\text{mmol/l}$	
Hydrogen carbonate	93,2	0,7			$\text{mg/l}$	
Calcium	34,8	0,4			$\text{mg/l}$	
Magnesium	8,84	0,09			$\text{mg/l}$	
Sodium	20,3	0,2			$\text{mg/l}$	
Potassium	2,77	0,03			$\text{mg/l}$	
Nitrate	21,3	0,4			$\text{mg/l}$	
Nitrite	0,0278	0,0004			$\text{mg/l}$	
Ammonium	0,0303	0,0031			$\text{mg/l}$	
Chloride	33,9	0,6			$\text{mg/l}$	
Sulphate	26,7	0,3			$\text{mg/l}$	
Orthophosphate	<0,009				$\text{mg/l}$	
Boron	0,082	0,001			$\text{mg/l}$	
DOC	3,28	0,02			$\text{mg/l}$	
Total P (as PO <sub>4</sub> )	<0,009		<0,110	0,019	$\text{mg/l}$	•
KMnO <sub>4</sub> -Index	3,04	0,14			$\text{mg/l}$	



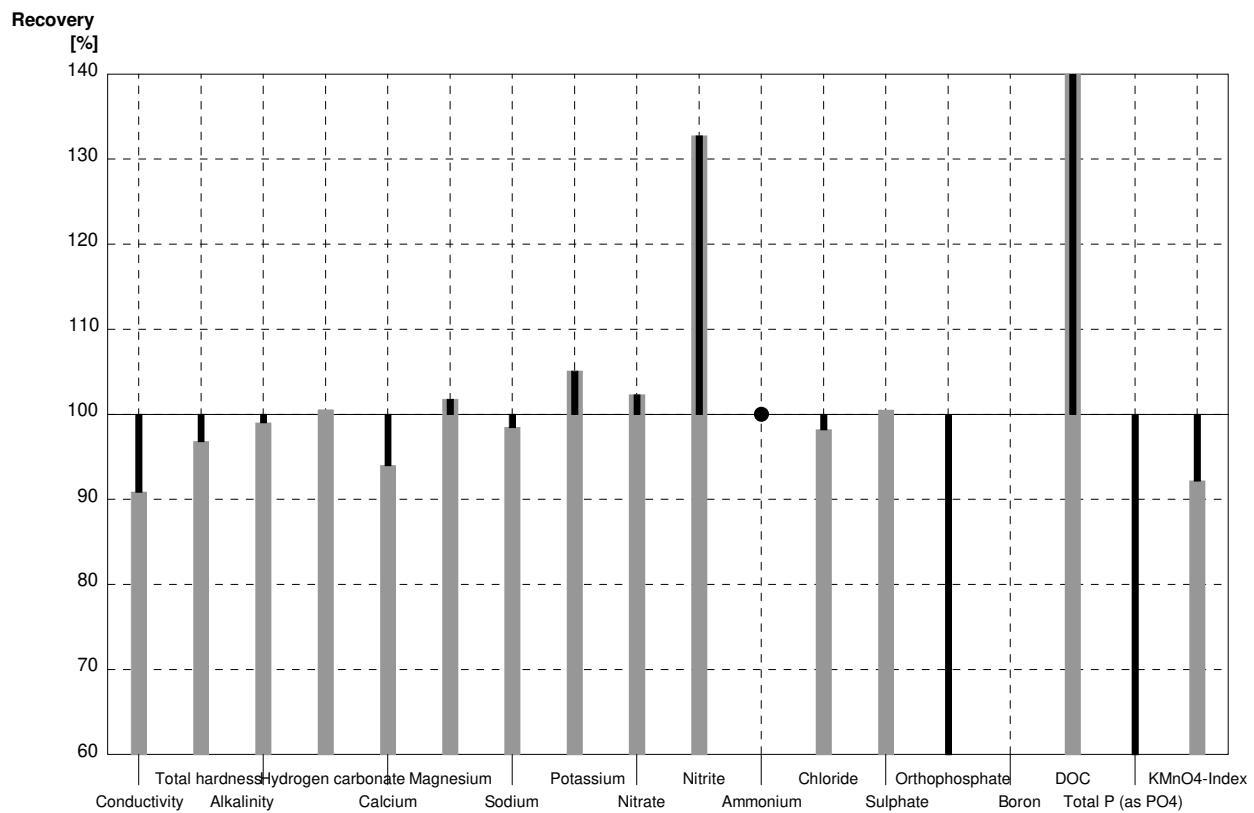
**Sample N157A**

**Laboratory L**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	597	13	$\mu\text{S}/\text{cm}$	91%
Total hardness	2,83	0,03	2,74	0,22	$\text{mmol/l}$	97%
Alkalinity	3,03	0,04	3,00	0,13	$\text{mmol/l}$	99%
Hydrogen carbonate	182	3	183	8,2	$\text{mg/l}$	101%
Calcium	76,6	1,0	72	3,7	$\text{mg/l}$	94%
Magnesium	22,3	0,2	22,7	1,4	$\text{mg/l}$	102%
Sodium	19,6	0,5	19,3	1,5	$\text{mg/l}$	98%
Potassium	5,90	0,05	6,2	0,22	$\text{mg/l}$	105%
Nitrate	12,9	0,2	13,2	0,64	$\text{mg/l}$	102%
Nitrite	0,058	0,001	0,077	0,011	$\text{mg/l}$	133%
Ammonium	<0,02*		0,0290	0,0021	$\text{mg/l}$	•
Chloride	61,1	0,9	60	4,8	$\text{mg/l}$	98%
Sulphate	79,6	0,9	80	4,9	$\text{mg/l}$	101%
Orthophosphate	0,065	0,001	0,0221	0,0019	$\text{mg/l}$	34%
Boron	0,052	0,001			$\text{mg/l}$	
DOC	8,93	0,04	25,0	4,2	$\text{mg/l}$	280%
Total P (as PO4)	0,117	0,001	0,058	0,008	$\text{mg/l}$	50%
KMnO4-Index	5,64	0,17	5,2	0,32	$\text{mg/l}$	92%

\* guidance value, see also report, page 4

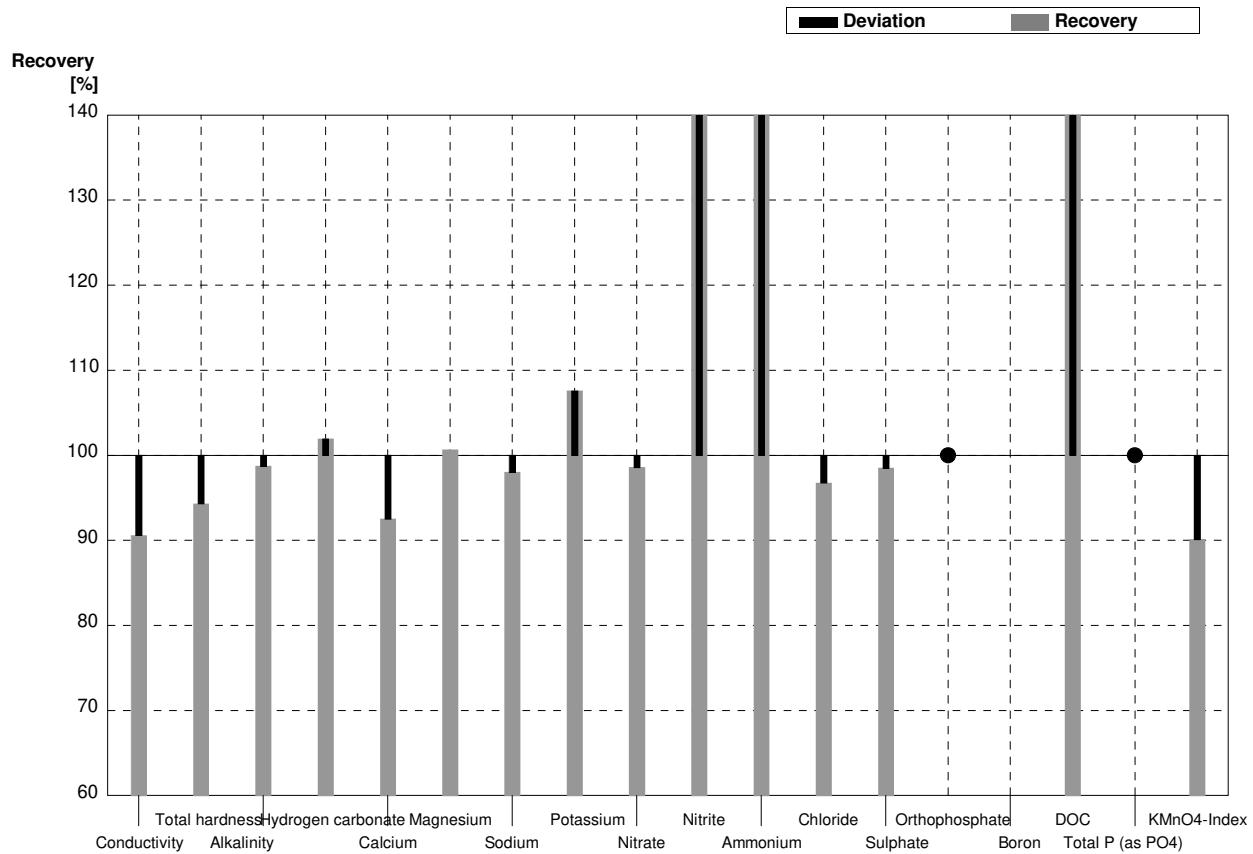
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory L**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	327	7,1	$\mu\text{S}/\text{cm}$	91%
Total hardness	1,23	0,01	1,16	0,09	$\text{mmol/l}$	94%
Alkalinity	1,58	0,01	1,56	0,07	$\text{mmol/l}$	99%
Hydrogen carbonate	93,2	0,7	95	4,3	$\text{mg/l}$	102%
Calcium	34,8	0,4	32,2	1,7	$\text{mg/l}$	93%
Magnesium	8,84	0,09	8,9	0,56	$\text{mg/l}$	101%
Sodium	20,3	0,2	19,9	1,5	$\text{mg/l}$	98%
Potassium	2,77	0,03	2,98	0,10	$\text{mg/l}$	108%
Nitrate	21,3	0,4	21,0	1,0	$\text{mg/l}$	99%
Nitrite	0,0278	0,0004	0,0430	0,0063	$\text{mg/l}$	155%
Ammonium	0,0303	0,0031	0,0440	0,0032	$\text{mg/l}$	145%
Chloride	33,9	0,6	32,8	2,6	$\text{mg/l}$	97%
Sulphate	26,7	0,3	26,3	1,6	$\text{mg/l}$	99%
Orthophosphate	<0,009		<0,010		$\text{mg/l}$	•
Boron	0,082	0,001			$\text{mg/l}$	
DOC	3,28	0,02	10,3	1,7	$\text{mg/l}$	314%
Total P (as PO <sub>4</sub> )	<0,009		<0,010		$\text{mg/l}$	•
KMnO <sub>4</sub> -Index	3,04	0,14	2,74	0,17	$\text{mg/l}$	90%



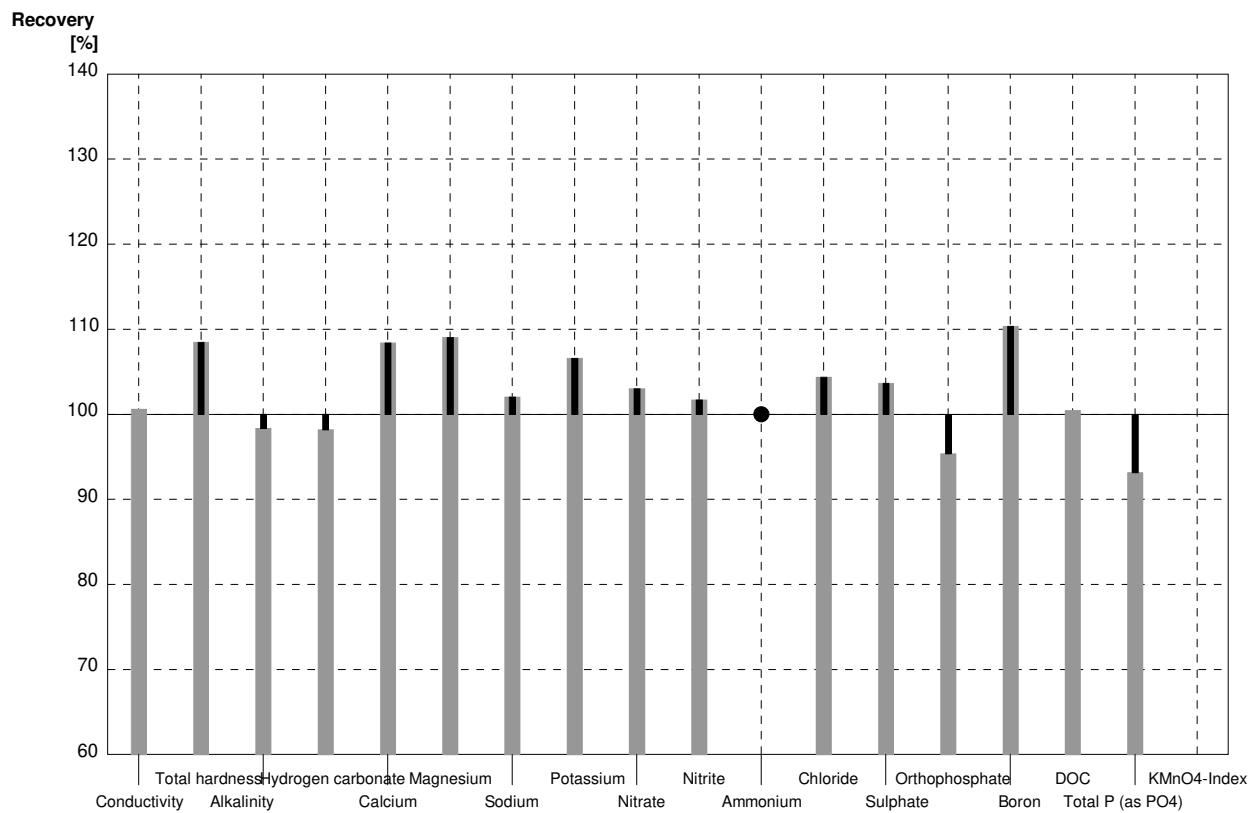
**Sample N157A**

**Laboratory M**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	661	4,51	$\mu\text{S}/\text{cm}$	101%
Total hardness	2,83	0,03	3,07		$\text{mmol/l}$	108%
Alkalinity	3,03	0,04	2,98	0,3	$\text{mmol/l}$	98%
Hydrogen carbonate	182	3	178,759		$\text{mg/l}$	98%
Calcium	76,6	1,0	83,04	8,3	$\text{mg/l}$	108%
Magnesium	22,3	0,2	24,32	2,4	$\text{mg/l}$	109%
Sodium	19,6	0,5	20,00	2,0	$\text{mg/l}$	102%
Potassium	5,90	0,05	6,29	0,6	$\text{mg/l}$	107%
Nitrate	12,9	0,2	13,29	1,3	$\text{mg/l}$	103%
Nitrite	0,058	0,001	0,059	0,006	$\text{mg/l}$	102%
Ammonium	<0,02*		0,0148	0,0015	$\text{mg/l}$	•
Chloride	61,1	0,9	63,77	6,3	$\text{mg/l}$	104%
Sulphate	79,6	0,9	82,51	8,2	$\text{mg/l}$	104%
Orthophosphate	0,065	0,001	0,062	0,006	$\text{mg/l}$	95%
Boron	0,052	0,001	0,0574	0,006	$\text{mg/l}$	110%
DOC	8,93	0,04	8,974	0,9	$\text{mg/l}$	100%
Total P (as PO4)	0,117	0,001	0,109	0,001	$\text{mg/l}$	93%
KMnO4-Index	5,64	0,17			$\text{mg/l}$	

\* guidance value, see also report, page 4

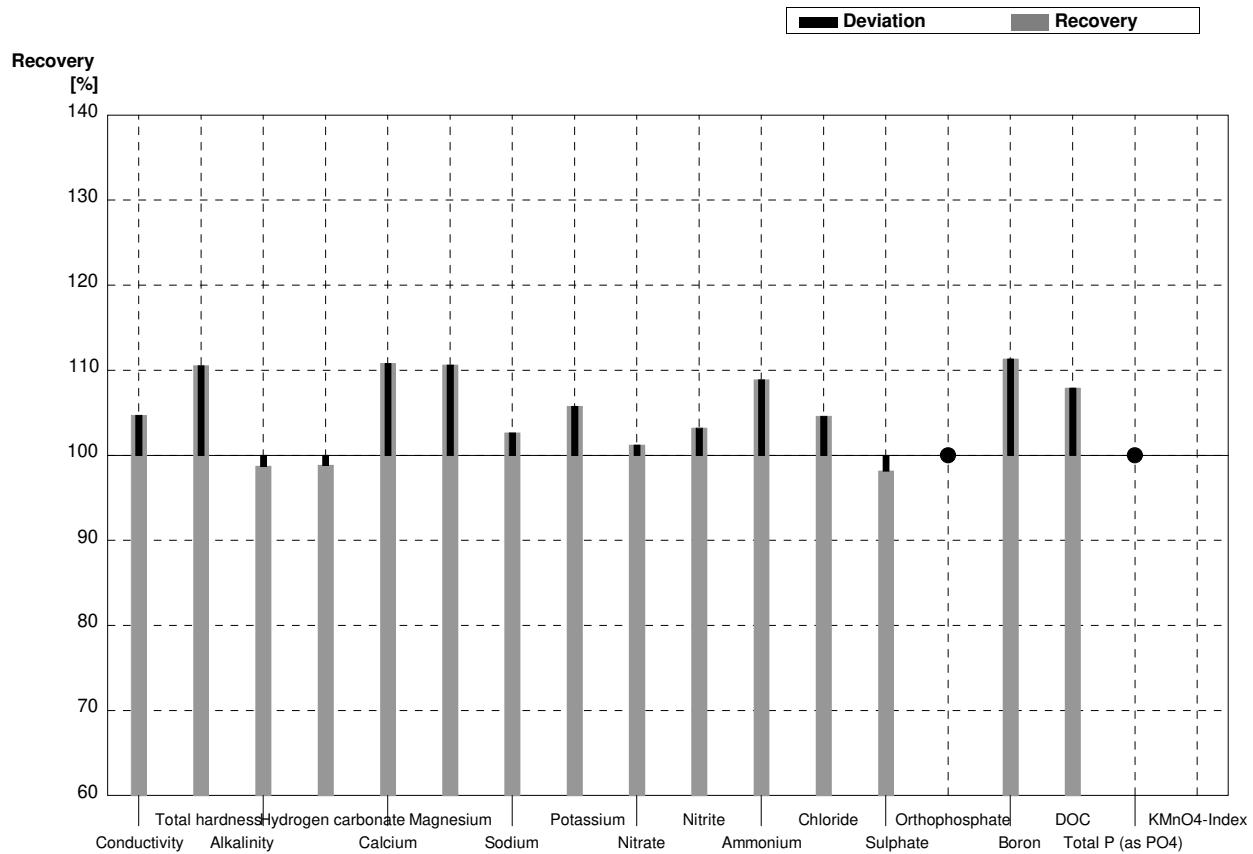
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory M**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	378	4,51	$\mu\text{S}/\text{cm}$	105%
Total hardness	1,23	0,01	1,36		$\text{mmol/l}$	111%
Alkalinity	1,58	0,01	1,56	0,16	$\text{mmol/l}$	99%
Hydrogen carbonate	93,2	0,7	92,125		$\text{mg/l}$	99%
Calcium	34,8	0,4	38,56	3,9	$\text{mg/l}$	111%
Magnesium	8,84	0,09	9,78	0,9	$\text{mg/l}$	111%
Sodium	20,3	0,2	20,84	2,0	$\text{mg/l}$	103%
Potassium	2,77	0,03	2,93	0,3	$\text{mg/l}$	106%
Nitrate	21,3	0,4	21,56	2,1	$\text{mg/l}$	101%
Nitrite	0,0278	0,0004	0,0287	0,003	$\text{mg/l}$	103%
Ammonium	0,0303	0,0031	0,0330	0,003	$\text{mg/l}$	109%
Chloride	33,9	0,6	35,47	3,5	$\text{mg/l}$	105%
Sulphate	26,7	0,3	26,21	2,6	$\text{mg/l}$	98%
Orthophosphate	<0,009		<0,0055		$\text{mg/l}$	•
Boron	0,082	0,001	0,0913	0,009	$\text{mg/l}$	111%
DOC	3,28	0,02	3,54	0,4	$\text{mg/l}$	108%
Total P (as PO4)	<0,009		<0,0010		$\text{mg/l}$	•
KMnO4-Index	3,04	0,14			$\text{mg/l}$	



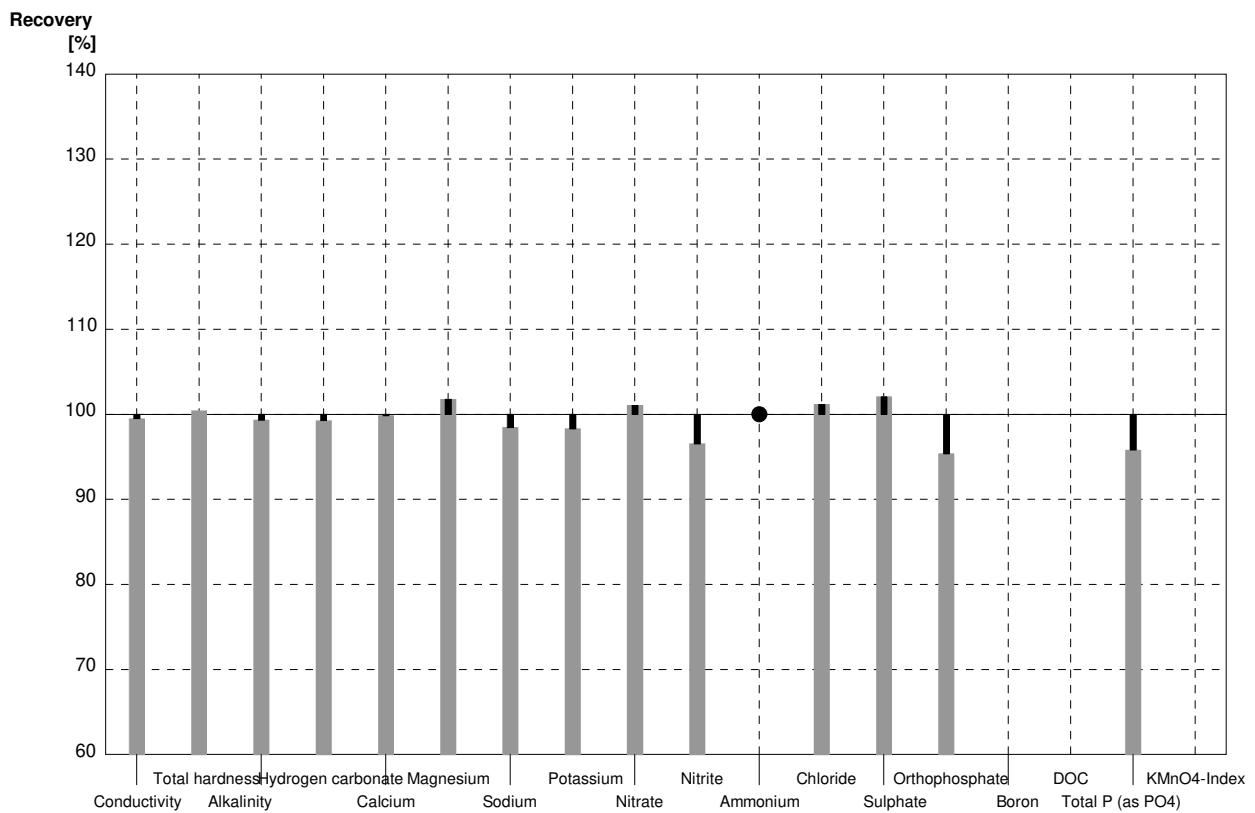
**Sample N157A**

**Laboratory N**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	653,7	32,7	$\mu\text{S}/\text{cm}$	99%
Total hardness	2,83	0,03	2,842		$\text{mmol/l}$	100%
Alkalinity	3,03	0,04	3,01	0,15	$\text{mmol/l}$	99%
Hydrogen carbonate	182	3	180,7	9,0	$\text{mg/l}$	99%
Calcium	76,6	1,0	76,5	4,6	$\text{mg/l}$	100%
Magnesium	22,3	0,2	22,7	1,4	$\text{mg/l}$	102%
Sodium	19,6	0,5	19,3	1,2	$\text{mg/l}$	98%
Potassium	5,90	0,05	5,80	0,3	$\text{mg/l}$	98%
Nitrate	12,9	0,2	13,04	1,30	$\text{mg/l}$	101%
Nitrite	0,058	0,001	0,056	0,006	$\text{mg/l}$	97%
Ammonium	<0,02*		<0,02		$\text{mg/l}$	•
Chloride	61,1	0,9	61,83	6,2	$\text{mg/l}$	101%
Sulphate	79,6	0,9	81,27	8,1	$\text{mg/l}$	102%
Orthophosphate	0,065	0,001	0,06201	0,0093	$\text{mg/l}$	95%
Boron	0,052	0,001	n,u		$\text{mg/l}$	
DOC	8,93	0,04	n,u		$\text{mg/l}$	
Total P (as PO <sub>4</sub> )	0,117	0,001	0,1121	0,0168	$\text{mg/l}$	96%
KMnO <sub>4</sub> -Index	5,64	0,17	n,u		$\text{mg/l}$	

\* guidance value, see also report, page 4

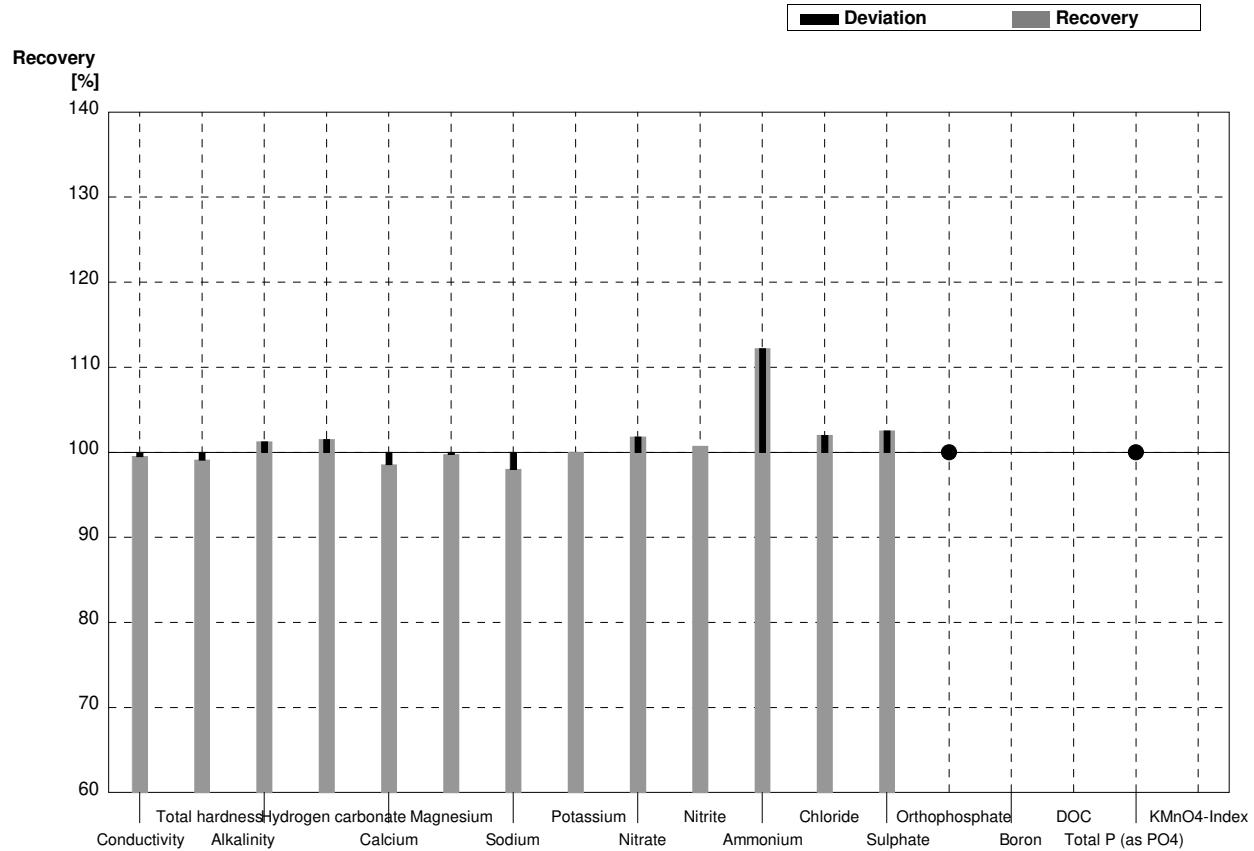
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory N**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	359,3	18,0	$\mu\text{S}/\text{cm}$	100%
Total hardness	1,23	0,01	1,219		$\text{mmol/l}$	99%
Alkalinity	1,58	0,01	1,60	0,08	$\text{mmol/l}$	101%
Hydrogen carbonate	93,2	0,7	94,6	4,73	$\text{mg/l}$	102%
Calcium	34,8	0,4	34,3	2,1	$\text{mg/l}$	99%
Magnesium	8,84	0,09	8,82	0,5	$\text{mg/l}$	100%
Sodium	20,3	0,2	19,9	1,2	$\text{mg/l}$	98%
Potassium	2,77	0,03	2,77	0,2	$\text{mg/l}$	100%
Nitrate	21,3	0,4	21,69	2,17	$\text{mg/l}$	102%
Nitrite	0,0278	0,0004	0,0280	0,005	$\text{mg/l}$	101%
Ammonium	0,0303	0,0031	0,0340	0,010	$\text{mg/l}$	112%
Chloride	33,9	0,6	34,58	3,5	$\text{mg/l}$	102%
Sulphate	26,7	0,3	27,38	2,7	$\text{mg/l}$	103%
Orthophosphate	<0,009		<0,0153		$\text{mg/l}$	•
Boron	0,082	0,001	n,u		$\text{mg/l}$	
DOC	3,28	0,02	n,u		$\text{mg/l}$	
Total P (as PO4)	<0,009		<0,0306		$\text{mg/l}$	•
KMnO4-Index	3,04	0,14	n,u		$\text{mg/l}$	



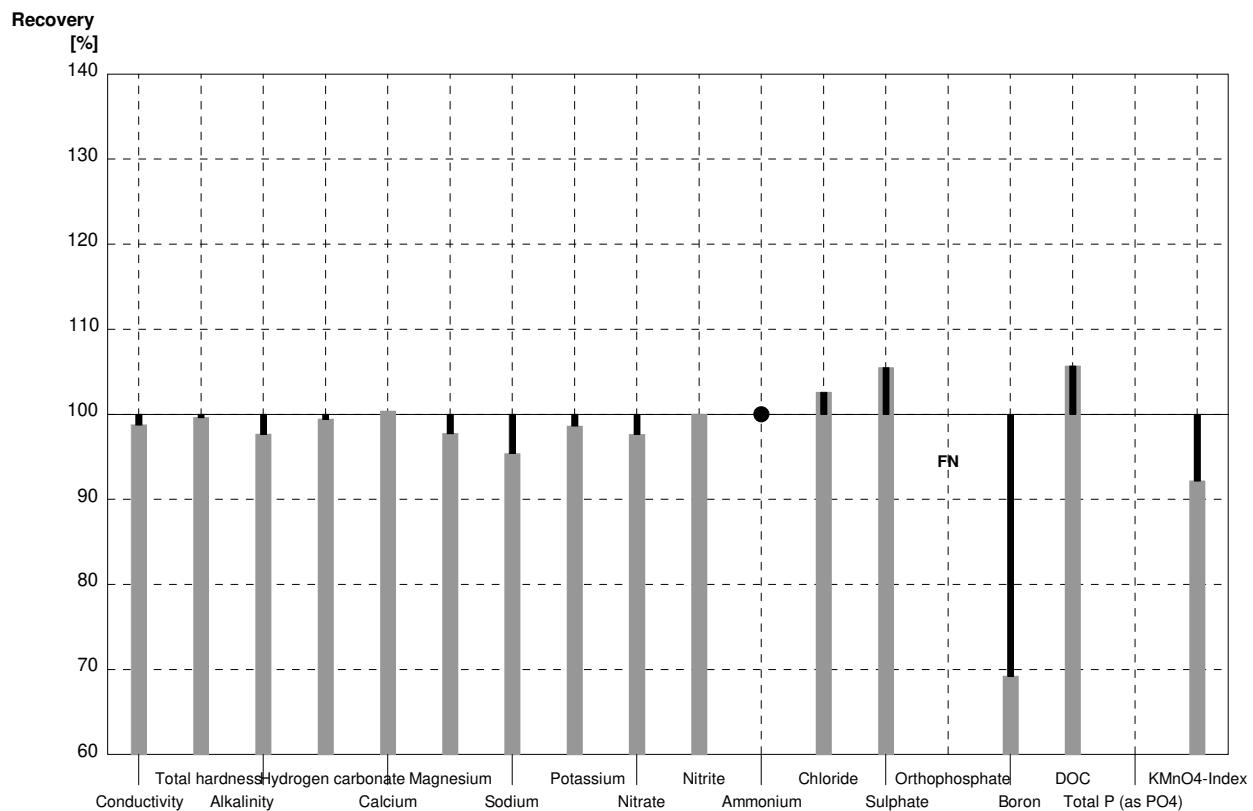
**Sample N157A**

**Laboratory O**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	649		$\mu\text{S}/\text{cm}$	99%
Total hardness	2,83	0,03	2,82		$\text{mmol/l}$	100%
Alkalinity	3,03	0,04	2,96		$\text{mmol/l}$	98%
Hydrogen carbonate	182	3	181		$\text{mg/l}$	99%
Calcium	76,6	1,0	76,9		$\text{mg/l}$	100%
Magnesium	22,3	0,2	21,8		$\text{mg/l}$	98%
Sodium	19,6	0,5	18,7		$\text{mg/l}$	95%
Potassium	5,90	0,05	5,82		$\text{mg/l}$	99%
Nitrate	12,9	0,2	12,6		$\text{mg/l}$	98%
Nitrite	0,058	0,001	0,058		$\text{mg/l}$	100%
Ammonium	<0,02*		<0,042		$\text{mg/l}$	•
Chloride	61,1	0,9	62,7		$\text{mg/l}$	103%
Sulphate	79,6	0,9	84,0		$\text{mg/l}$	106%
Orthophosphate	0,065	0,001	<0,040		$\text{mg/l}$	FN
Boron	0,052	0,001	0,0360		$\text{mg/l}$	69%
DOC	8,93	0,04	9,44		$\text{mg/l}$	106%
Total P (as PO <sub>4</sub> )	0,117	0,001			$\text{mg/l}$	
KMnO <sub>4</sub> -Index	5,64	0,17	5,2		$\text{mg/l}$	92%

\* guidance value, see also report, page 4

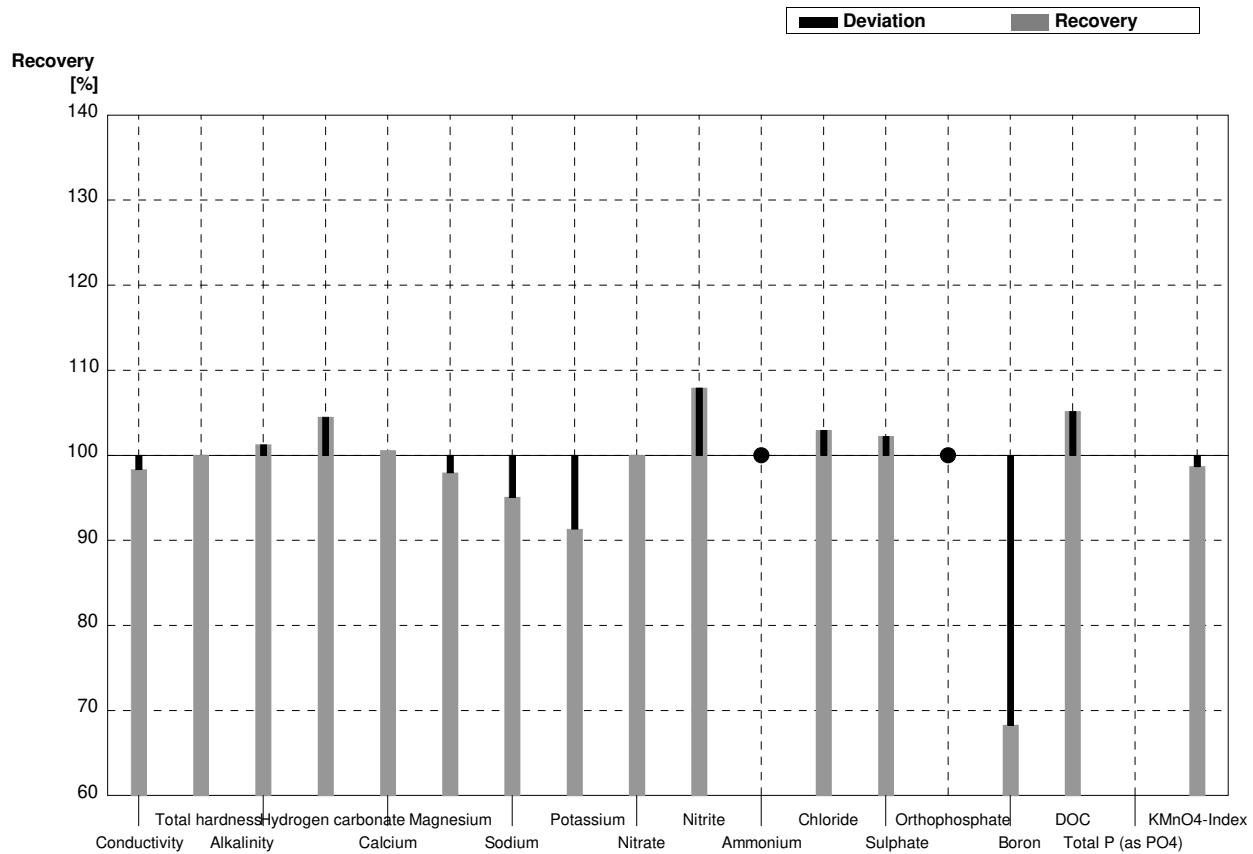
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory O**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	355		$\mu\text{S}/\text{cm}$	98%
Total hardness	1,23	0,01	1,23		$\text{mmol/l}$	100%
Alkalinity	1,58	0,01	1,60		$\text{mmol/l}$	101%
Hydrogen carbonate	93,2	0,7	97,4		$\text{mg/l}$	105%
Calcium	34,8	0,4	35,0		$\text{mg/l}$	101%
Magnesium	8,84	0,09	8,66		$\text{mg/l}$	98%
Sodium	20,3	0,2	19,3		$\text{mg/l}$	95%
Potassium	2,77	0,03	2,53		$\text{mg/l}$	91%
Nitrate	21,3	0,4	21,3		$\text{mg/l}$	100%
Nitrite	0,0278	0,0004	0,0300		$\text{mg/l}$	108%
Ammonium	0,0303	0,0031	<0,042		$\text{mg/l}$	•
Chloride	33,9	0,6	34,9		$\text{mg/l}$	103%
Sulphate	26,7	0,3	27,3		$\text{mg/l}$	102%
Orthophosphate	<0,009		<0,040		$\text{mg/l}$	•
Boron	0,082	0,001	0,056		$\text{mg/l}$	68%
DOC	3,28	0,02	3,45		$\text{mg/l}$	105%
Total P (as PO <sub>4</sub> )	<0,009				$\text{mg/l}$	
KMnO <sub>4</sub> -Index	3,04	0,14	3,00		$\text{mg/l}$	99%



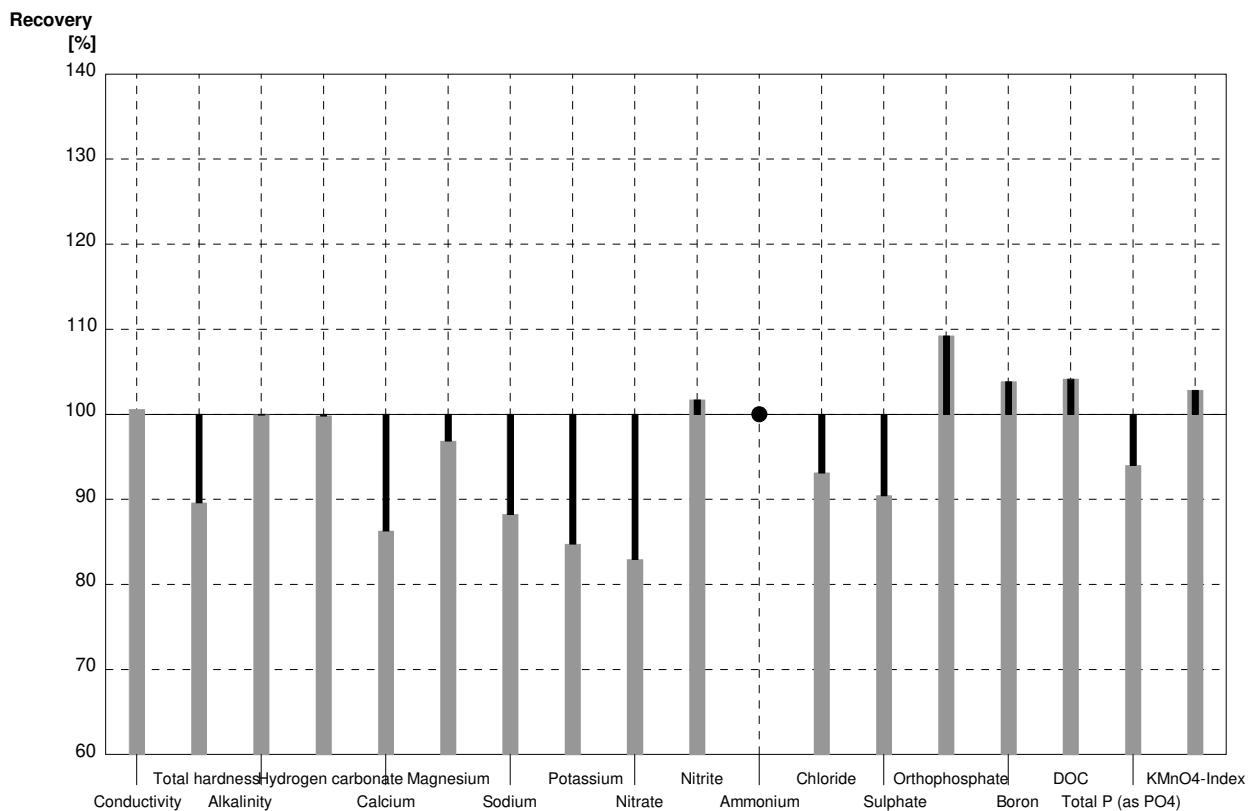
**Sample N157A**

**Laboratory P**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	660,7		$\mu\text{S}/\text{cm}$	101%
Total hardness	2,83	0,03	2,536	0,337	mmol/l	90%
Alkalinity	3,03	0,04	3,028		mmol/l	100%
Hydrogen carbonate	182	3	181,7		mg/l	100%
Calcium	76,6	1,0	66,1	8,82	mg/l	86%
Magnesium	22,3	0,2	21,6	2,86	mg/l	97%
Sodium	19,6	0,5	17,3	3,06	mg/l	88%
Potassium	5,90	0,05	5,0	0,82	mg/l	85%
Nitrate	12,9	0,2	10,7	0,9	mg/l	83%
Nitrite	0,058	0,001	0,059	0,006	mg/l	102%
Ammonium	<0,02*		<0,03		mg/l	•
Chloride	61,1	0,9	56,9	4,75	mg/l	93%
Sulphate	79,6	0,9	72,0	4,64	mg/l	90%
Orthophosphate	0,065	0,001	0,071	0,020	mg/l	109%
Boron	0,052	0,001	0,054		mg/l	104%
DOC	8,93	0,04	9,3	1,74	mg/l	104%
Total P (as PO4)	0,117	0,001	0,110	0,018	mg/l	94%
KMnO4-Index	5,64	0,17	5,8		mg/l	103%

\* guidance value, see also report, page 4

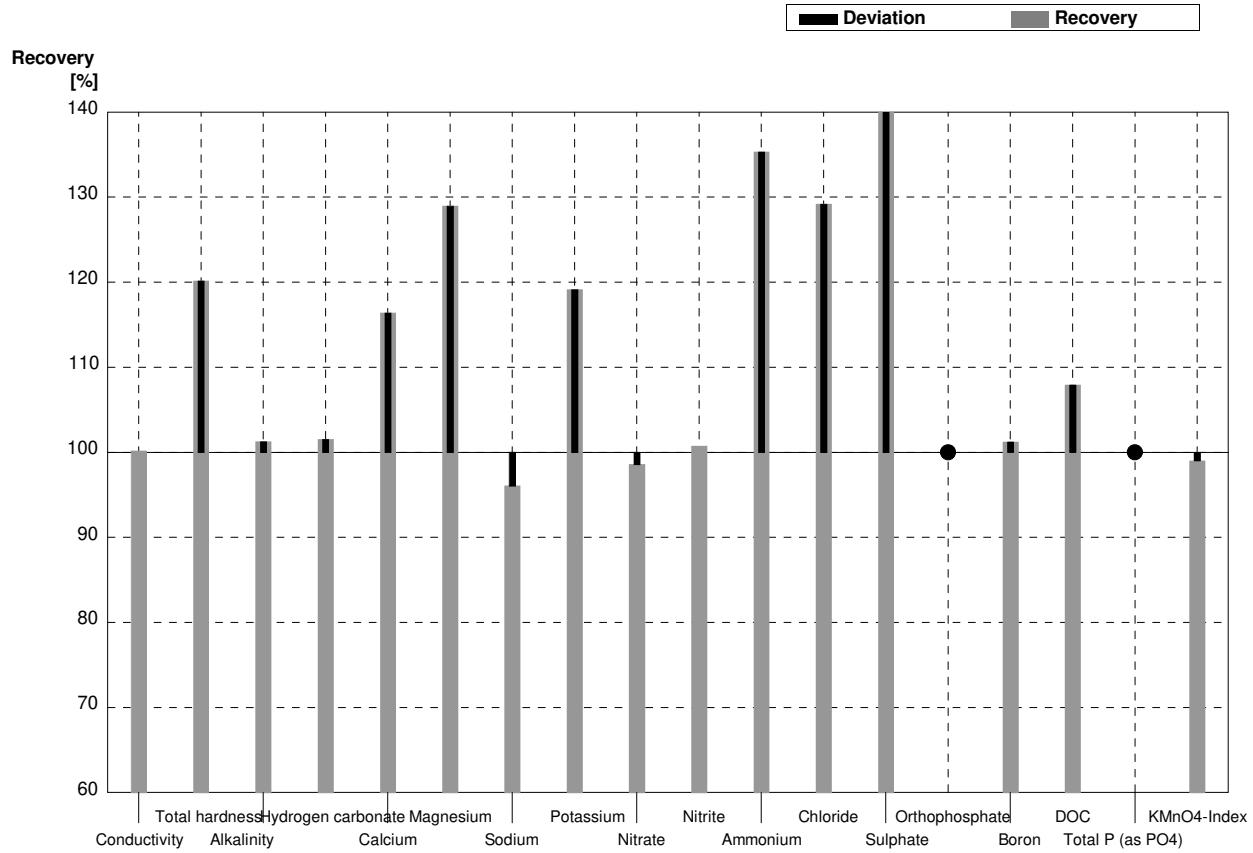
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory P**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	361,6		$\mu\text{S}/\text{cm}$	100%
Total hardness	1,23	0,01	1,478	0,197	$\text{mmol}/\text{l}$	120%
Alkalinity	1,58	0,01	1,600		$\text{mmol}/\text{l}$	101%
Hydrogen carbonate	93,2	0,7	94,6		$\text{mg}/\text{l}$	102%
Calcium	34,8	0,4	40,5	5,40	$\text{mg}/\text{l}$	116%
Magnesium	8,84	0,09	11,4	1,51	$\text{mg}/\text{l}$	129%
Sodium	20,3	0,2	19,5	3,45	$\text{mg}/\text{l}$	96%
Potassium	2,77	0,03	3,30	0,54	$\text{mg}/\text{l}$	119%
Nitrate	21,3	0,4	21,0	1,77	$\text{mg}/\text{l}$	99%
Nitrite	0,0278	0,0004	0,0280	0,003	$\text{mg}/\text{l}$	101%
Ammonium	0,0303	0,0031	0,0410	0,009	$\text{mg}/\text{l}$	135%
Chloride	33,9	0,6	43,8	3,65	$\text{mg}/\text{l}$	129%
Sulphate	26,7	0,3	38,5	2,48	$\text{mg}/\text{l}$	144%
Orthophosphate	<0,009		<0,03		$\text{mg}/\text{l}$	•
Boron	0,082	0,001	0,083		$\text{mg}/\text{l}$	101%
DOC	3,28	0,02	3,54	0,66	$\text{mg}/\text{l}$	108%
Total P (as PO4)	<0,009		<0,005		$\text{mg}/\text{l}$	•
KMnO4-Index	3,04	0,14	3,01		$\text{mg}/\text{l}$	99%



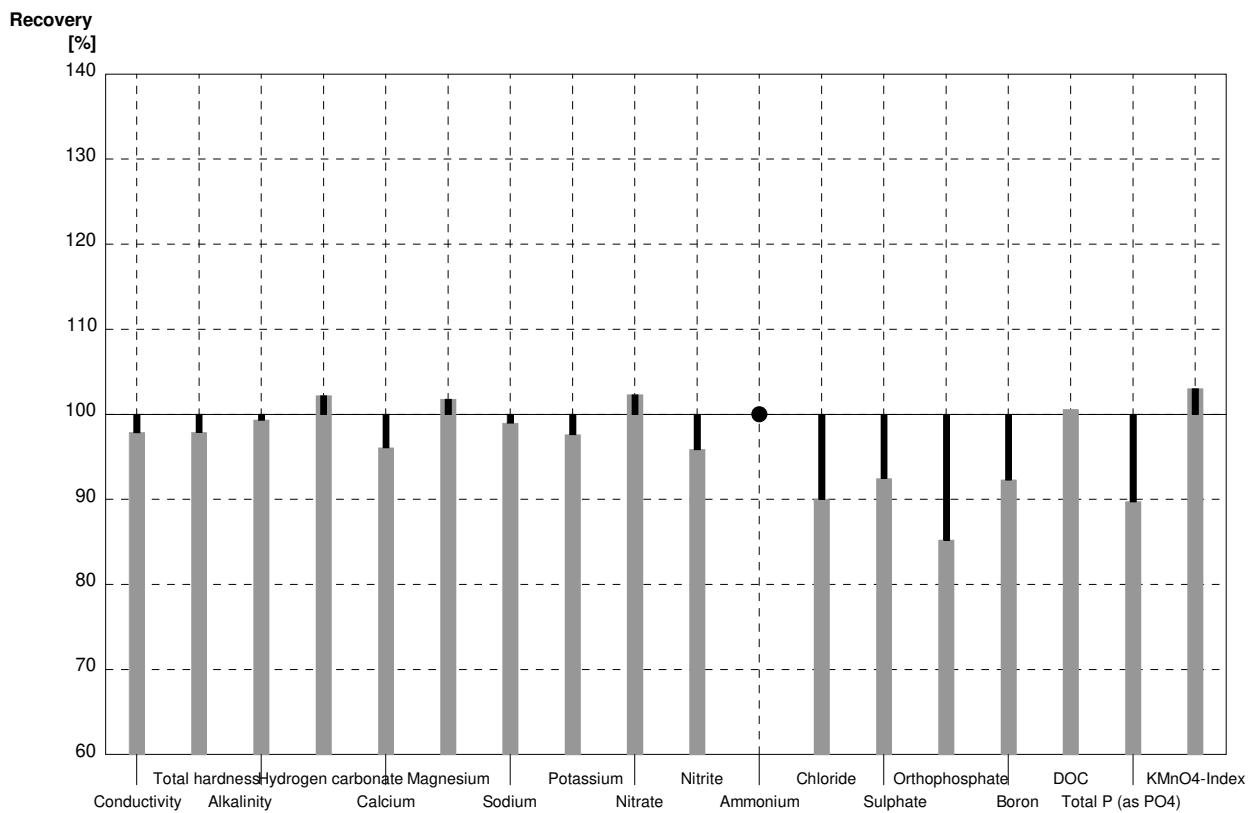
**Sample N157A**

**Laboratory Q**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	643	64	$\mu\text{S}/\text{cm}$	98%
Total hardness	2,83	0,03	2,77	0,28	$\text{mmol/l}$	98%
Alkalinity	3,03	0,04	3,01	0,30	$\text{mmol/l}$	99%
Hydrogen carbonate	182	3	186	19	$\text{mg/l}$	102%
Calcium	76,6	1,0	73,6	7,4	$\text{mg/l}$	96%
Magnesium	22,3	0,2	22,7	2,3	$\text{mg/l}$	102%
Sodium	19,6	0,5	19,4	1,9	$\text{mg/l}$	99%
Potassium	5,90	0,05	5,76	0,58	$\text{mg/l}$	98%
Nitrate	12,9	0,2	13,2	1,3	$\text{mg/l}$	102%
Nitrite	0,058	0,001	0,0556	0,0056	$\text{mg/l}$	96%
Ammonium	<0,02*		0,0128	0,0013	$\text{mg/l}$	•
Chloride	61,1	0,9	55,0	5,5	$\text{mg/l}$	90%
Sulphate	79,6	0,9	73,6	7,4	$\text{mg/l}$	92%
Orthophosphate	0,065	0,001	0,0554	0,0055	$\text{mg/l}$	85%
Boron	0,052	0,001	0,0480	0,0048	$\text{mg/l}$	92%
DOC	8,93	0,04	8,98	0,898	$\text{mg/l}$	101%
Total P (as PO <sub>4</sub> )	0,117	0,001	0,105	0,021	$\text{mg/l}$	90%
KMnO <sub>4</sub> -Index	5,64	0,17	5,81	1,16	$\text{mg/l}$	103%

\* guidance value, see also report, page 4

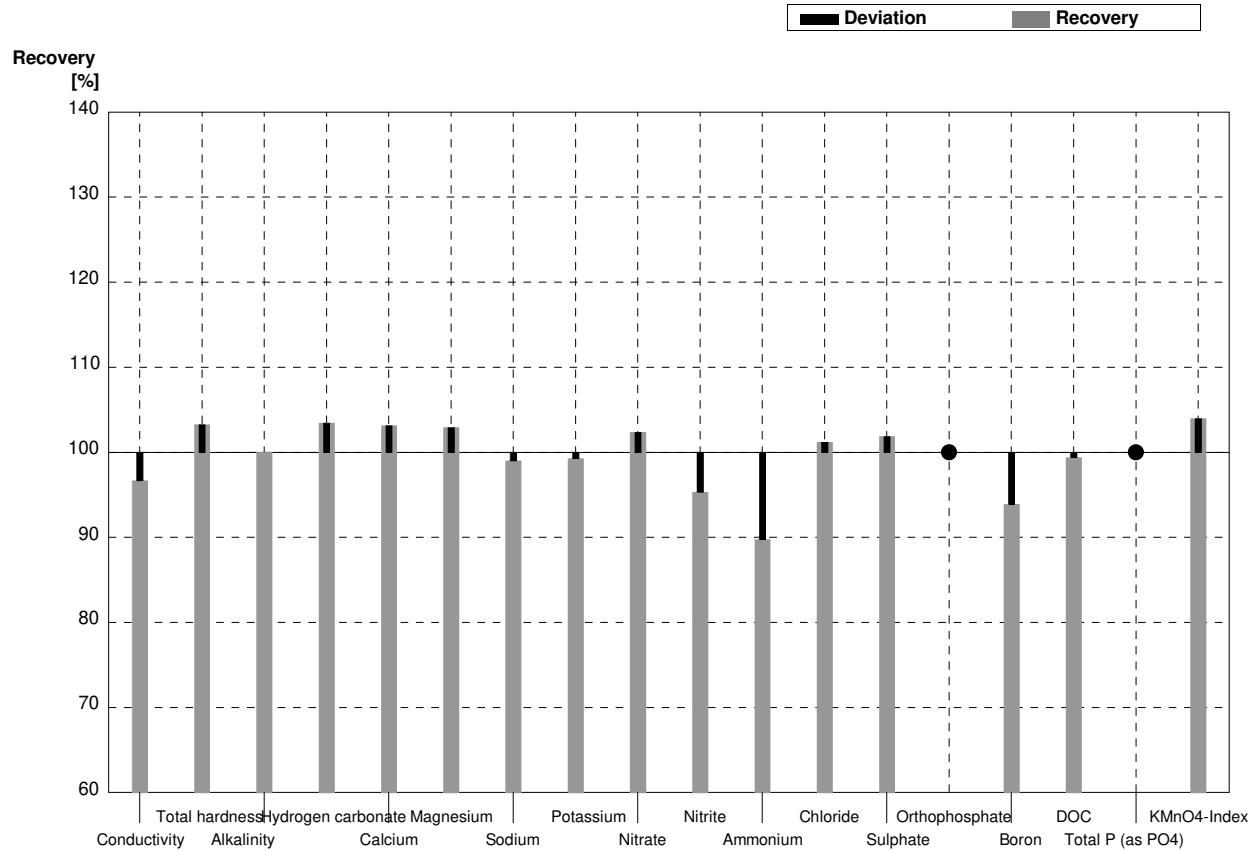
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory Q**

Parameter	Target value	$\pm U$ (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	349	35	$\mu\text{S}/\text{cm}$	97%
Total hardness	1,23	0,01	1,27	0,13	$\text{mmol/l}$	103%
Alkalinity	1,58	0,01	1,58	0,16	$\text{mmol/l}$	100%
Hydrogen carbonate	93,2	0,7	96,4	9,6	$\text{mg/l}$	103%
Calcium	34,8	0,4	35,9	3,6	$\text{mg/l}$	103%
Magnesium	8,84	0,09	9,10	0,91	$\text{mg/l}$	103%
Sodium	20,3	0,2	20,1	2,0	$\text{mg/l}$	99%
Potassium	2,77	0,03	2,75	0,28	$\text{mg/l}$	99%
Nitrate	21,3	0,4	21,8	2,2	$\text{mg/l}$	102%
Nitrite	0,0278	0,0004	0,0265	0,0027	$\text{mg/l}$	95%
Ammonium	0,0303	0,0031	0,0272	0,0027	$\text{mg/l}$	90%
Chloride	33,9	0,6	34,3	3,4	$\text{mg/l}$	101%
Sulphate	26,7	0,3	27,2	2,7	$\text{mg/l}$	102%
Orthophosphate	<0,009		<0,008		$\text{mg/l}$	•
Boron	0,082	0,001	0,077	0,008	$\text{mg/l}$	94%
DOC	3,28	0,02	3,26	0,33	$\text{mg/l}$	99%
Total P (as PO <sub>4</sub> )	<0,009		<0,015		$\text{mg/l}$	•
KMnO <sub>4</sub> -Index	3,04	0,14	3,16	0,63	$\text{mg/l}$	104%



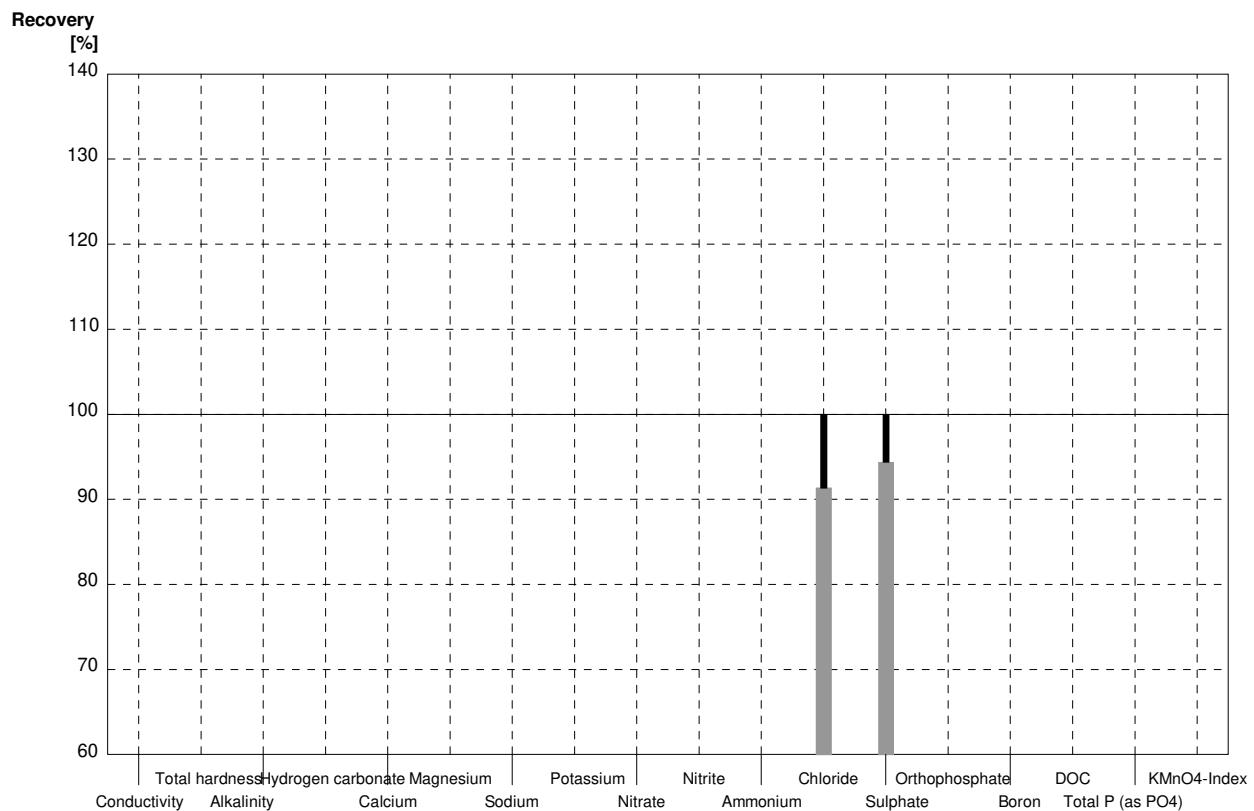
**Sample N157A**

**Laboratory R**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3			$\mu\text{S}/\text{cm}$	
Total hardness	2,83	0,03			$\text{mmol/l}$	
Alkalinity	3,03	0,04			$\text{mmol/l}$	
Hydrogen carbonate	182	3			$\text{mg/l}$	
Calcium	76,6	1,0			$\text{mg/l}$	
Magnesium	22,3	0,2			$\text{mg/l}$	
Sodium	19,6	0,5			$\text{mg/l}$	
Potassium	5,90	0,05			$\text{mg/l}$	
Nitrate	12,9	0,2			$\text{mg/l}$	
Nitrite	0,058	0,001			$\text{mg/l}$	
Ammonium	<0,02*				$\text{mg/l}$	
Chloride	61,1	0,9	55,82	5,6	$\text{mg/l}$	91%
Sulphate	79,6	0,9	75,14	7,5	$\text{mg/l}$	94%
Orthophosphate	0,065	0,001			$\text{mg/l}$	
Boron	0,052	0,001			$\text{mg/l}$	
DOC	8,93	0,04			$\text{mg/l}$	
Total P (as PO <sub>4</sub> )	0,117	0,001			$\text{mg/l}$	
KMnO <sub>4</sub> -Index	5,64	0,17			$\text{mg/l}$	

\* guidance value, see also report, page 4

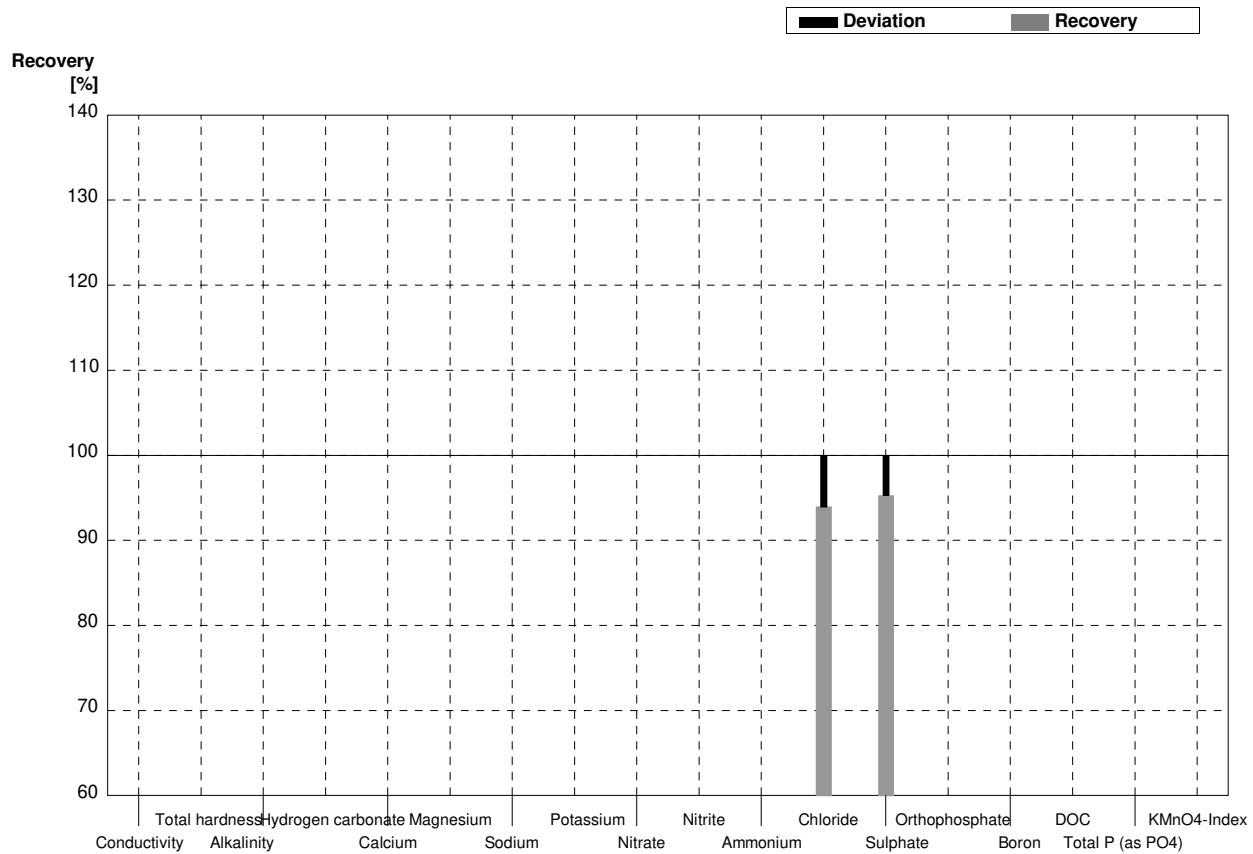
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory R**

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Conductivity	361	2			µS/cm	
Total hardness	1,23	0,01			mmol/l	
Alkalinity	1,58	0,01			mmol/l	
Hydrogen carbonate	93,2	0,7			mg/l	
Calcium	34,8	0,4			mg/l	
Magnesium	8,84	0,09			mg/l	
Sodium	20,3	0,2			mg/l	
Potassium	2,77	0,03			mg/l	
Nitrate	21,3	0,4			mg/l	
Nitrite	0,0278	0,0004			mg/l	
Ammonium	0,0303	0,0031			mg/l	
Chloride	33,9	0,6	31,85	3,2	mg/l	94%
Sulphate	26,7	0,3	25,44	2,6	mg/l	95%
Orthophosphate	<0,009				mg/l	
Boron	0,082	0,001			mg/l	
DOC	3,28	0,02			mg/l	
Total P (as PO4)	<0,009				mg/l	
KMnO4-Index	3,04	0,14			mg/l	



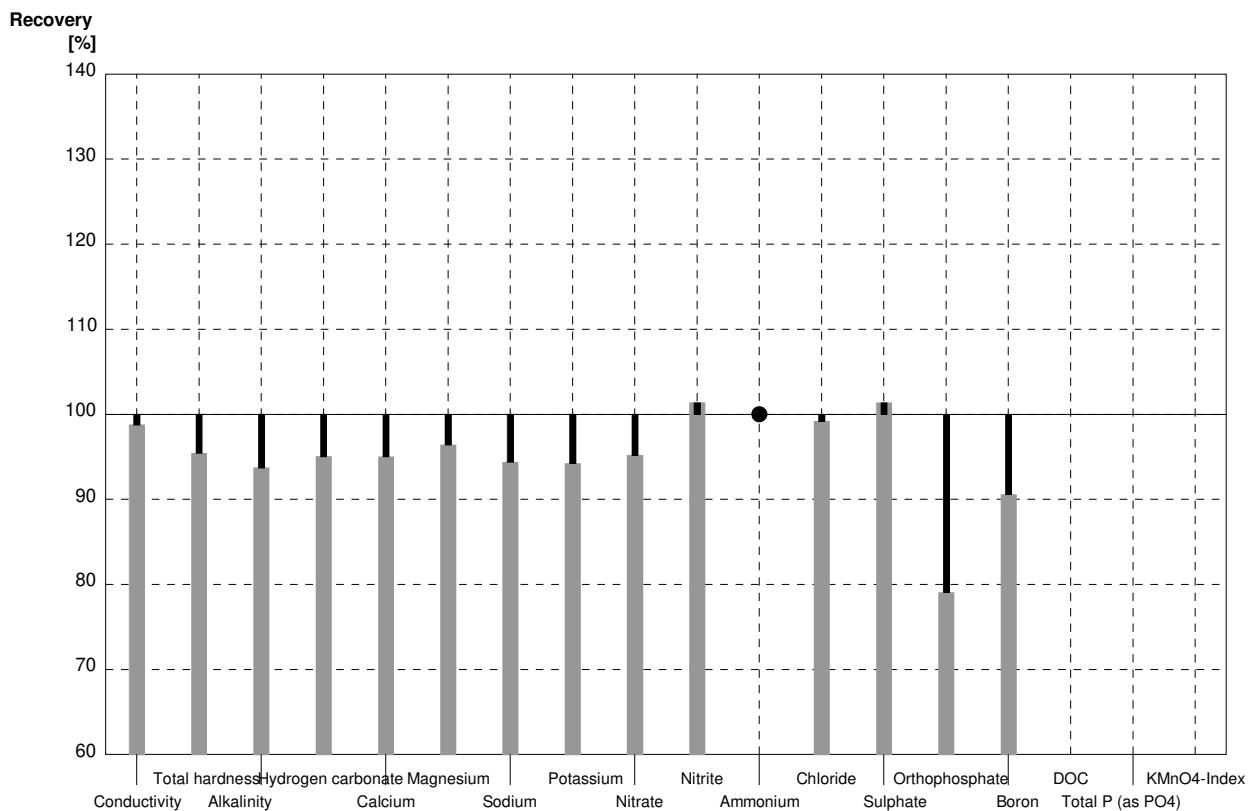
**Sample N157A**

**Laboratory S**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	649	7	$\mu\text{S}/\text{cm}$	99%
Total hardness	2,83	0,03	2,701	0,007	$\text{mmol/l}$	95%
Alkalinity	3,03	0,04	2,84	0,05	$\text{mmol/l}$	94%
Hydrogen carbonate	182	3	173	3	$\text{mg/l}$	95%
Calcium	76,6	1,0	72,8	0,4	$\text{mg/l}$	95%
Magnesium	22,3	0,2	21,5	0,2	$\text{mg/l}$	96%
Sodium	19,6	0,5	18,5	0,2	$\text{mg/l}$	94%
Potassium	5,90	0,05	5,56	0,04	$\text{mg/l}$	94%
Nitrate	12,9	0,2	12,28	0,03	$\text{mg/l}$	95%
Nitrite	0,058	0,001	0,0588	0,0019	$\text{mg/l}$	101%
Ammonium	<0,02*		0,0164	0,0034	$\text{mg/l}$	•
Chloride	61,1	0,9	60,6	1,4	$\text{mg/l}$	99%
Sulphate	79,6	0,9	80,7	1,1	$\text{mg/l}$	101%
Orthophosphate	0,065	0,001	0,0514	0,0111	$\text{mg/l}$	79%
Boron	0,052	0,001	0,0471	0,0027	$\text{mg/l}$	91%
DOC	8,93	0,04			$\text{mg/l}$	
Total P (as PO <sub>4</sub> )	0,117	0,001			$\text{mg/l}$	
KMnO <sub>4</sub> -Index	5,64	0,17			$\text{mg/l}$	

\* guidance value, see also report, page 4

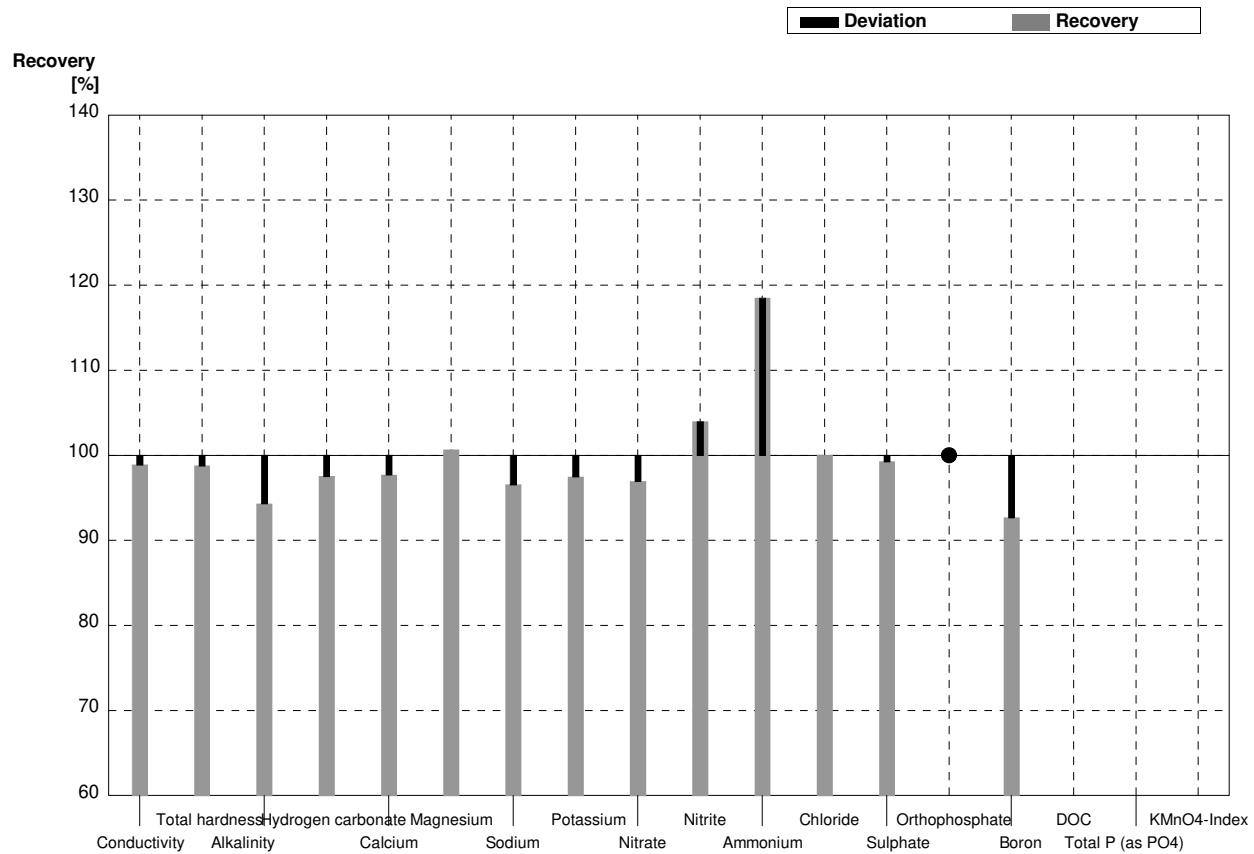
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory S**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	357	6	$\mu\text{S}/\text{cm}$	99%
Total hardness	1,23	0,01	1,215	0,005	$\text{mmol/l}$	99%
Alkalinity	1,58	0,01	1,49	0,02	$\text{mmol/l}$	94%
Hydrogen carbonate	93,2	0,7	90,9	1,4	$\text{mg/l}$	98%
Calcium	34,8	0,4	34,0	0,3	$\text{mg/l}$	98%
Magnesium	8,84	0,09	8,90	0,11	$\text{mg/l}$	101%
Sodium	20,3	0,2	19,6	0,1	$\text{mg/l}$	97%
Potassium	2,77	0,03	2,70	0,02	$\text{mg/l}$	97%
Nitrate	21,3	0,4	20,65	0,71	$\text{mg/l}$	97%
Nitrite	0,0278	0,0004	0,0289	0,0007	$\text{mg/l}$	104%
Ammonium	0,0303	0,0031	0,0359	0,0088	$\text{mg/l}$	118%
Chloride	33,9	0,6	33,9	0,2	$\text{mg/l}$	100%
Sulphate	26,7	0,3	26,5	1,4	$\text{mg/l}$	99%
Orthophosphate	<0,009		<0,01		$\text{mg/l}$	•
Boron	0,082	0,001	0,0760	0,0046	$\text{mg/l}$	93%
DOC	3,28	0,02			$\text{mg/l}$	
Total P (as PO <sub>4</sub> )	<0,009				$\text{mg/l}$	
KMnO <sub>4</sub> -Index	3,04	0,14			$\text{mg/l}$	

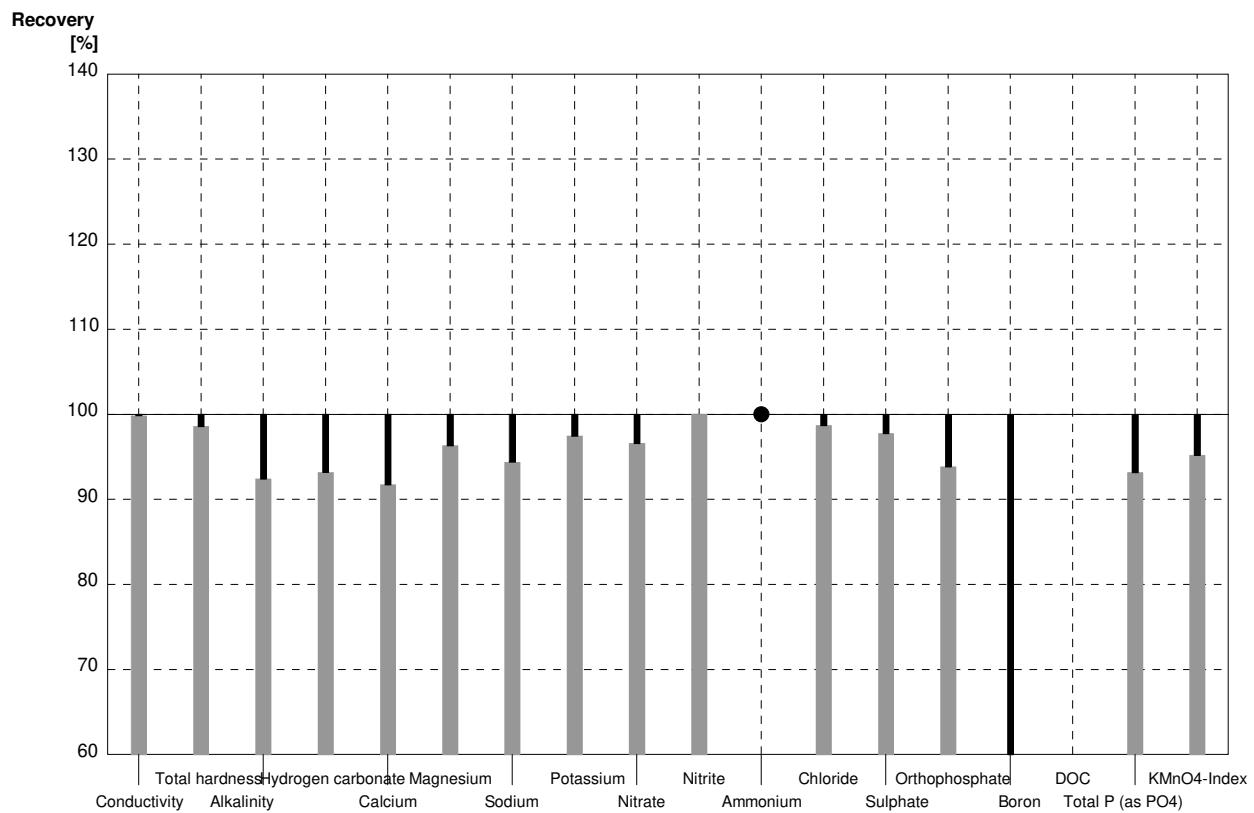


**Sample N157A**

**Laboratory T**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	656	18	$\mu\text{S}/\text{cm}$	100%
Total hardness	2,83	0,03	2,79	0,31	$\text{mmol/l}$	99%
Alkalinity	3,03	0,04	2,80	0,35	$\text{mmol/l}$	92%
Hydrogen carbonate	182	3	169,6	21,2	$\text{mg/l}$	93%
Calcium	76,6	1,0	70,26	2,81	$\text{mg/l}$	92%
Magnesium	22,3	0,2	21,48	2,26	$\text{mg/l}$	96%
Sodium	19,6	0,5	18,50	1,91	$\text{mg/l}$	94%
Potassium	5,90	0,05	5,75	0,48	$\text{mg/l}$	97%
Nitrate	12,9	0,2	12,46	1,01	$\text{mg/l}$	97%
Nitrite	0,058	0,001	0,058	0,005	$\text{mg/l}$	100%
Ammonium	<0,02*		<0,040	0,004	$\text{mg/l}$	•
Chloride	61,1	0,9	60,3	7,12	$\text{mg/l}$	99%
Sulphate	79,6	0,9	77,8	8,77	$\text{mg/l}$	98%
Orthophosphate	0,065	0,001	0,061	0,006	$\text{mg/l}$	94%
Boron	0,052	0,001	0,0271	0,003	$\text{mg/l}$	52%
DOC	8,93	0,04			$\text{mg/l}$	
Total P (as PO4)	0,117	0,001	0,109	0,010	$\text{mg/l}$	93%
KMnO4-Index	5,64	0,17	5,37	0,67	$\text{mg/l}$	95%

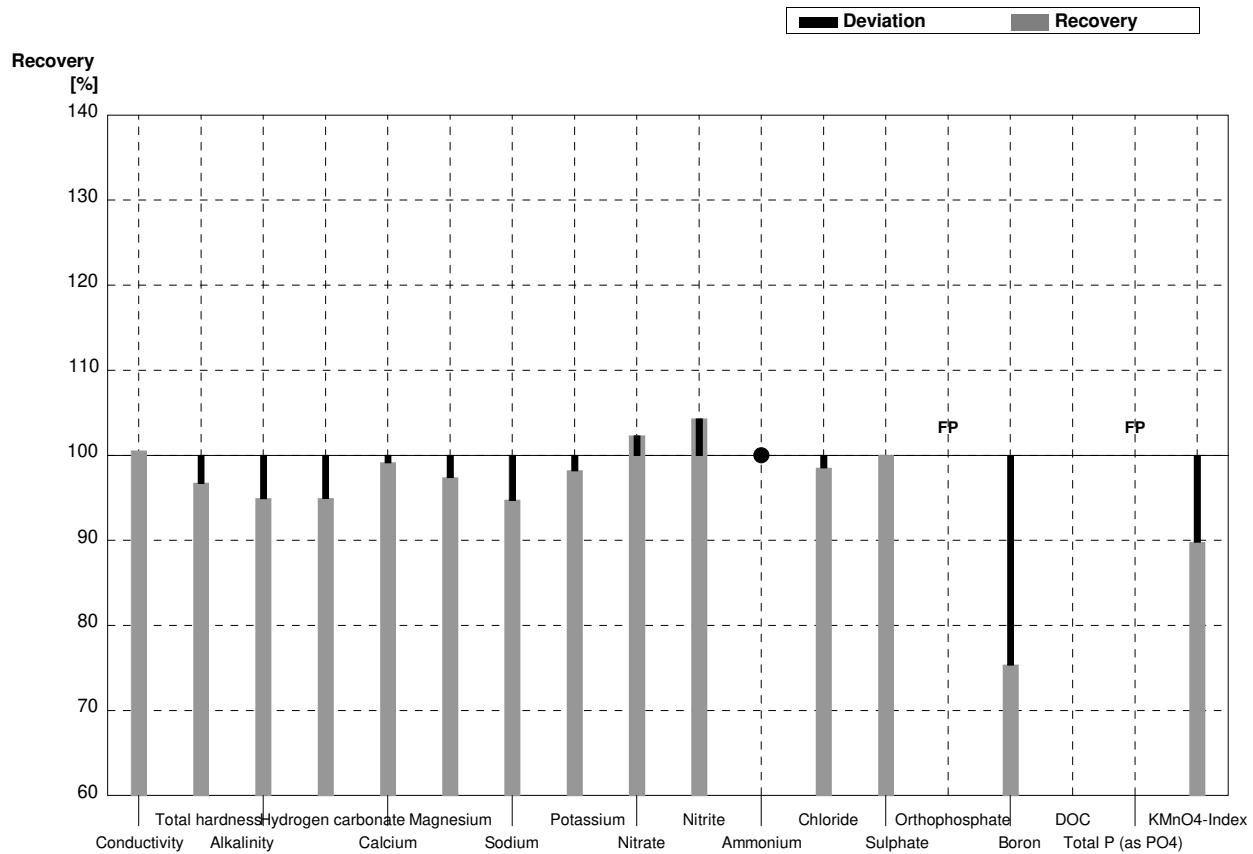
\* guidance value, see also report, page 4



**Sample N157B**

**Laboratory T**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	363	10	$\mu\text{S}/\text{cm}$	101%
Total hardness	1,23	0,01	1,19	0,13	$\text{mmol/l}$	97%
Alkalinity	1,58	0,01	1,50	0,19	$\text{mmol/l}$	95%
Hydrogen carbonate	93,2	0,7	88,5	11,06	$\text{mg/l}$	95%
Calcium	34,8	0,4	34,50	1,38	$\text{mg/l}$	99%
Magnesium	8,84	0,09	8,61	0,91	$\text{mg/l}$	97%
Sodium	20,3	0,2	19,23	1,98	$\text{mg/l}$	95%
Potassium	2,77	0,03	2,72	1,29	$\text{mg/l}$	98%
Nitrate	21,3	0,4	21,79	1,76	$\text{mg/l}$	102%
Nitrite	0,0278	0,0004	0,0290	0,002	$\text{mg/l}$	104%
Ammonium	0,0303	0,0031	<0,040	0,004	$\text{mg/l}$	•
Chloride	33,9	0,6	33,4	3,94	$\text{mg/l}$	99%
Sulphate	26,7	0,3	26,7	3,01	$\text{mg/l}$	100%
Orthophosphate	<0,009		0,0170	0,002	$\text{mg/l}$	FP
Boron	0,082	0,001	0,0618	0,007	$\text{mg/l}$	75%
DOC	3,28	0,02			$\text{mg/l}$	
Total P (as PO4)	<0,009		0,0300	0,003	$\text{mg/l}$	FP
KMnO4-Index	3,04	0,14	2,73	0,34	$\text{mg/l}$	90%



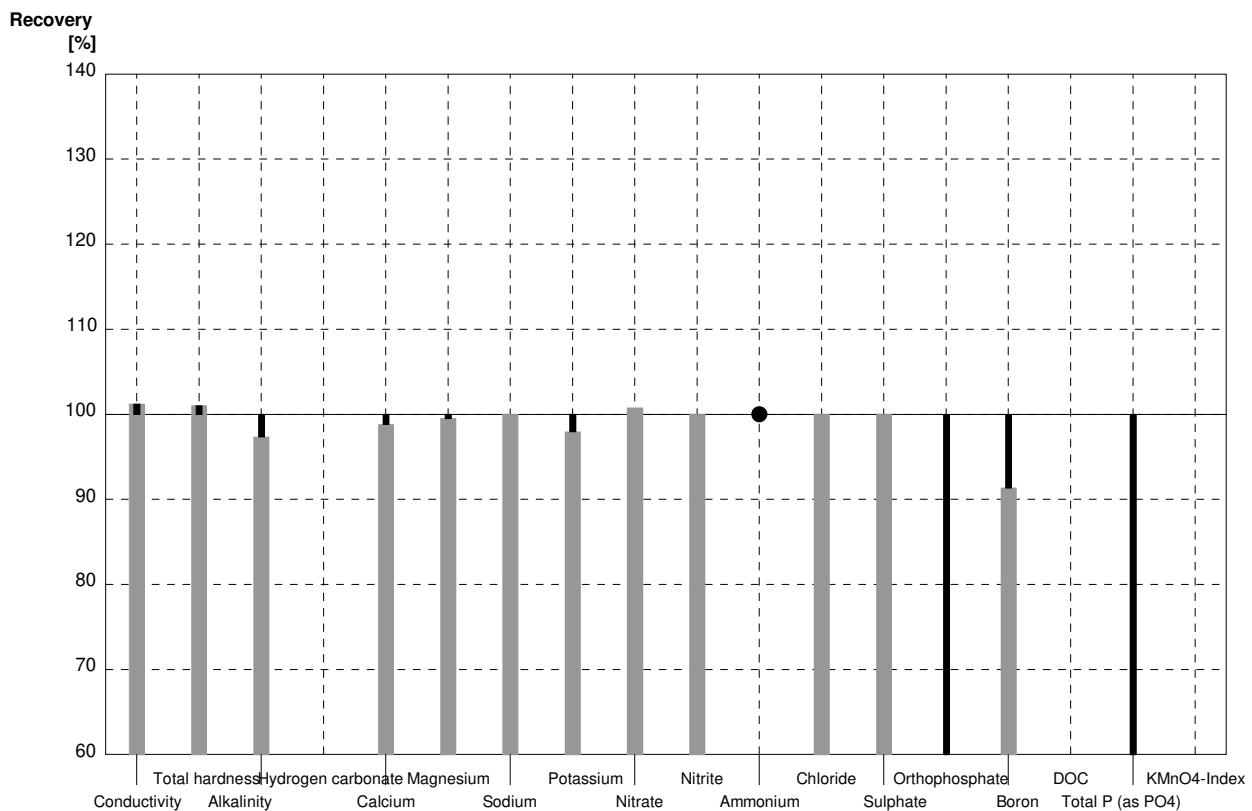
**Sample N157A**

**Laboratory U**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	665	33	$\mu\text{S}/\text{cm}$	101%
Total hardness	2,83	0,03	2,86	0,20	$\text{mmol/l}$	101%
Alkalinity	3,03	0,04	2,95	0,10	$\text{mmol/l}$	97%
Hydrogen carbonate	182	3			$\text{mg/l}$	
Calcium	76,6	1,0	75,7	2,3	$\text{mg/l}$	99%
Magnesium	22,3	0,2	22,2	0,7	$\text{mg/l}$	100%
Sodium	19,6	0,5	19,6	0,6	$\text{mg/l}$	100%
Potassium	5,90	0,05	5,78	0,17	$\text{mg/l}$	98%
Nitrate	12,9	0,2	13,0	0,3	$\text{mg/l}$	101%
Nitrite	0,058	0,001	0,058	0,003	$\text{mg/l}$	100%
Ammonium	<0,02*		0,0141	0,0027	$\text{mg/l}$	•
Chloride	61,1	0,9	61,1	1,8	$\text{mg/l}$	100%
Sulphate	79,6	0,9	79,6	2,2	$\text{mg/l}$	100%
Orthophosphate	0,065	0,001	0,0204	0,0010	$\text{mg/l}$	31%
Boron	0,052	0,001	0,0475	0,0189	$\text{mg/l}$	91%
DOC	8,93	0,04			$\text{mg/l}$	
Total P (as PO <sub>4</sub> )	0,117	0,001	0,0372	0,0019	$\text{mg/l}$	32%
KMnO <sub>4</sub> -Index	5,64	0,17			$\text{mg/l}$	

\* guidance value, see also report, page 4

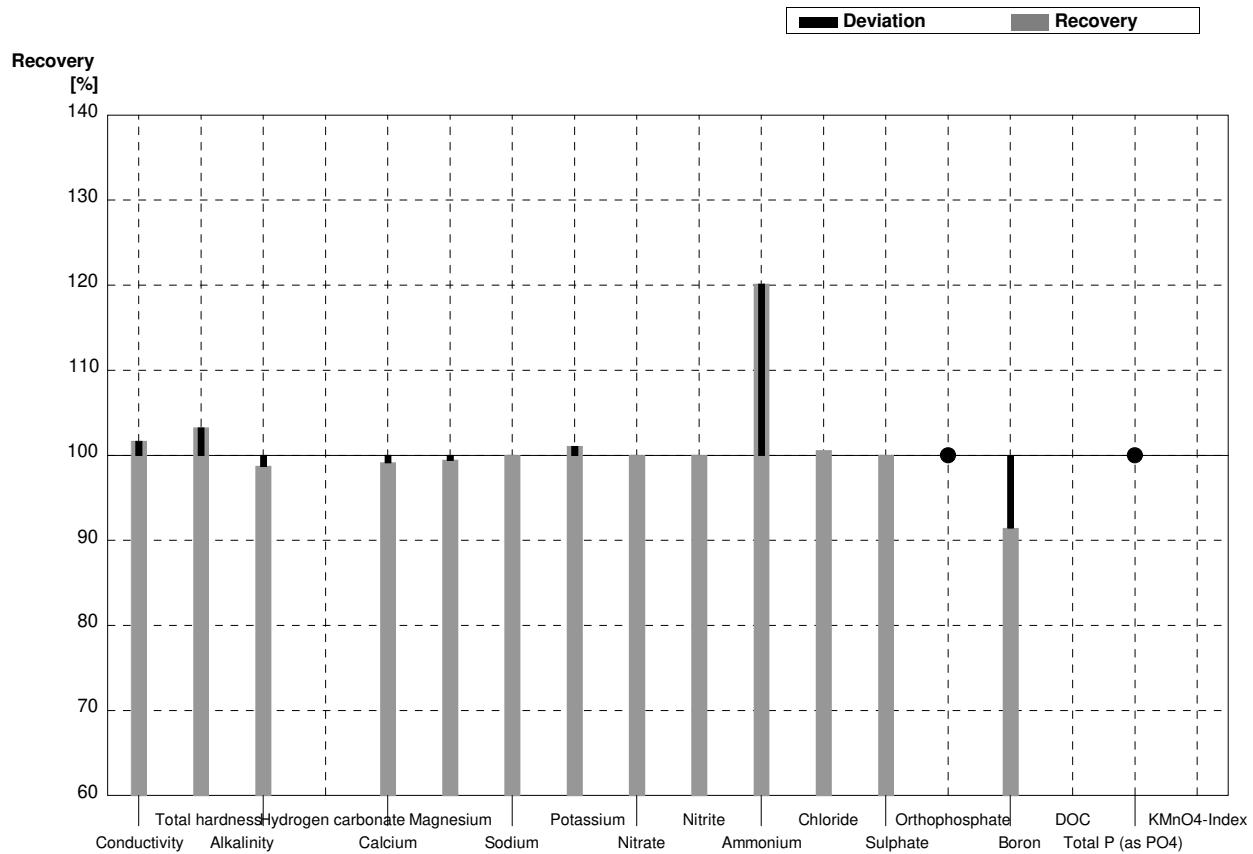
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory U**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	367	18	$\mu\text{S}/\text{cm}$	102%
Total hardness	1,23	0,01	1,27	0,06	$\text{mmol/l}$	103%
Alkalinity	1,58	0,01	1,56	0,08	$\text{mmol/l}$	99%
Hydrogen carbonate	93,2	0,7			$\text{mg/l}$	
Calcium	34,8	0,4	34,5	1,04	$\text{mg/l}$	99%
Magnesium	8,84	0,09	8,79	0,26	$\text{mg/l}$	99%
Sodium	20,3	0,2	20,3	0,61	$\text{mg/l}$	100%
Potassium	2,77	0,03	2,80	0,08	$\text{mg/l}$	101%
Nitrate	21,3	0,4	21,3	0,5	$\text{mg/l}$	100%
Nitrite	0,0278	0,0004	0,0278	0,0013	$\text{mg/l}$	100%
Ammonium	0,0303	0,0031	0,0364	0,0071	$\text{mg/l}$	120%
Chloride	33,9	0,6	34,1	1,0	$\text{mg/l}$	101%
Sulphate	26,7	0,3	26,7	0,7	$\text{mg/l}$	100%
Orthophosphate	<0,009		<0,0010		$\text{mg/l}$	•
Boron	0,082	0,001	0,075	0,030	$\text{mg/l}$	91%
DOC	3,28	0,02			$\text{mg/l}$	
Total P (as PO4)	<0,009		<0,0010		$\text{mg/l}$	•
KMnO4-Index	3,04	0,14			$\text{mg/l}$	



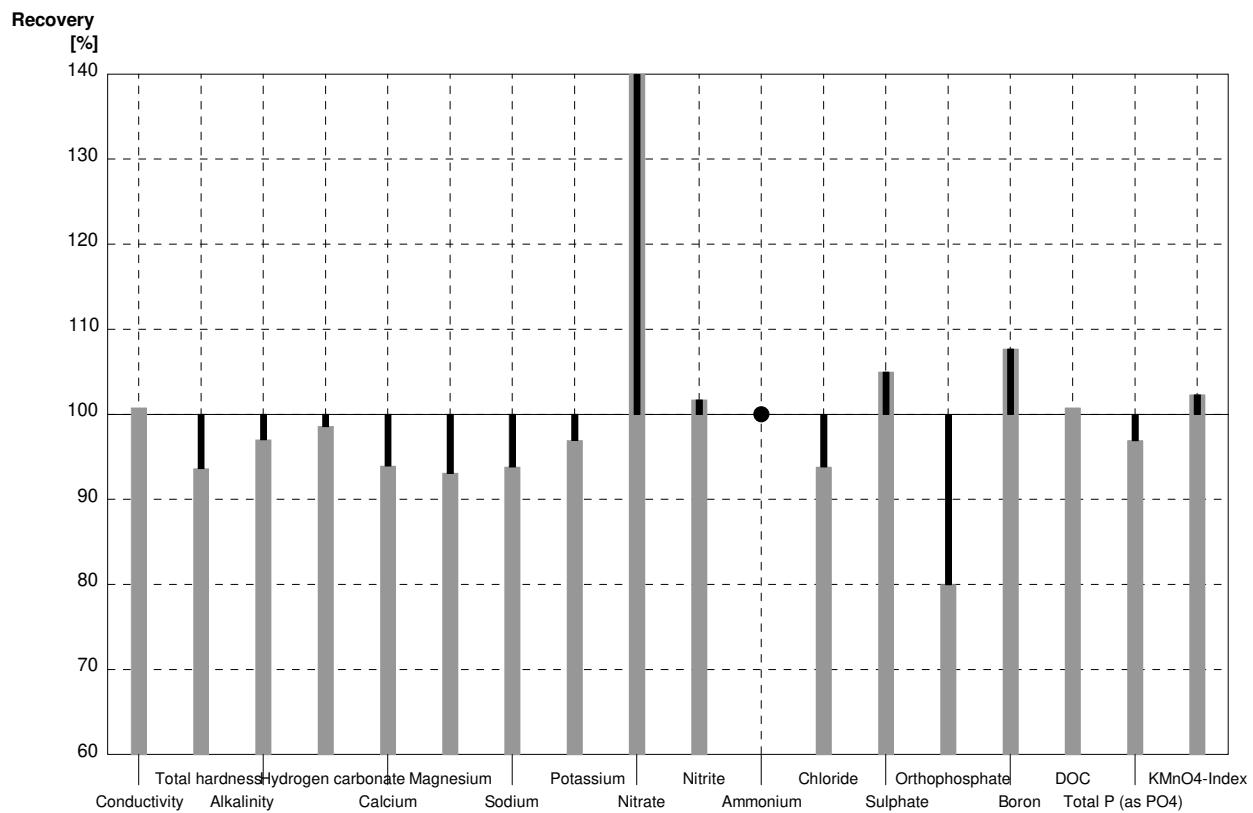
**Sample N157A**

**Laboratory V**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	662	26,5	$\mu\text{S}/\text{cm}$	101%
Total hardness	2,83	0,03	2,65		$\text{mmol/l}$	94%
Alkalinity	3,03	0,04	2,94	0,441	$\text{mmol/l}$	97%
Hydrogen carbonate	182	3	179,4	26,91	$\text{mg/l}$	99%
Calcium	76,6	1,0	71,95	7,195	$\text{mg/l}$	94%
Magnesium	22,3	0,2	20,76	2,076	$\text{mg/l}$	93%
Sodium	19,6	0,5	18,39	1,839	$\text{mg/l}$	94%
Potassium	5,90	0,05	5,72	0,572	$\text{mg/l}$	97%
Nitrate	12,9	0,2	57,575	2,303	$\text{mg/l}$	446%
Nitrite	0,058	0,001	0,059	0,0047	$\text{mg/l}$	102%
Ammonium	<0,02*		<0,0005		$\text{mg/l}$	•
Chloride	61,1	0,9	57,33	2,867	$\text{mg/l}$	94%
Sulphate	79,6	0,9	83,58	4,179	$\text{mg/l}$	105%
Orthophosphate	0,065	0,001	0,052	0,0063	$\text{mg/l}$	80%
Boron	0,052	0,001	0,056	0,0067	$\text{mg/l}$	108%
DOC	8,93	0,04	9,0	0,72	$\text{mg/l}$	101%
Total P (as PO <sub>4</sub> )	0,117	0,001	0,1134	0,0172	$\text{mg/l}$	97%
KMnO <sub>4</sub> -Index	5,64	0,17	5,77	0,923	$\text{mg/l}$	102%

\* guidance value, see also report, page 4

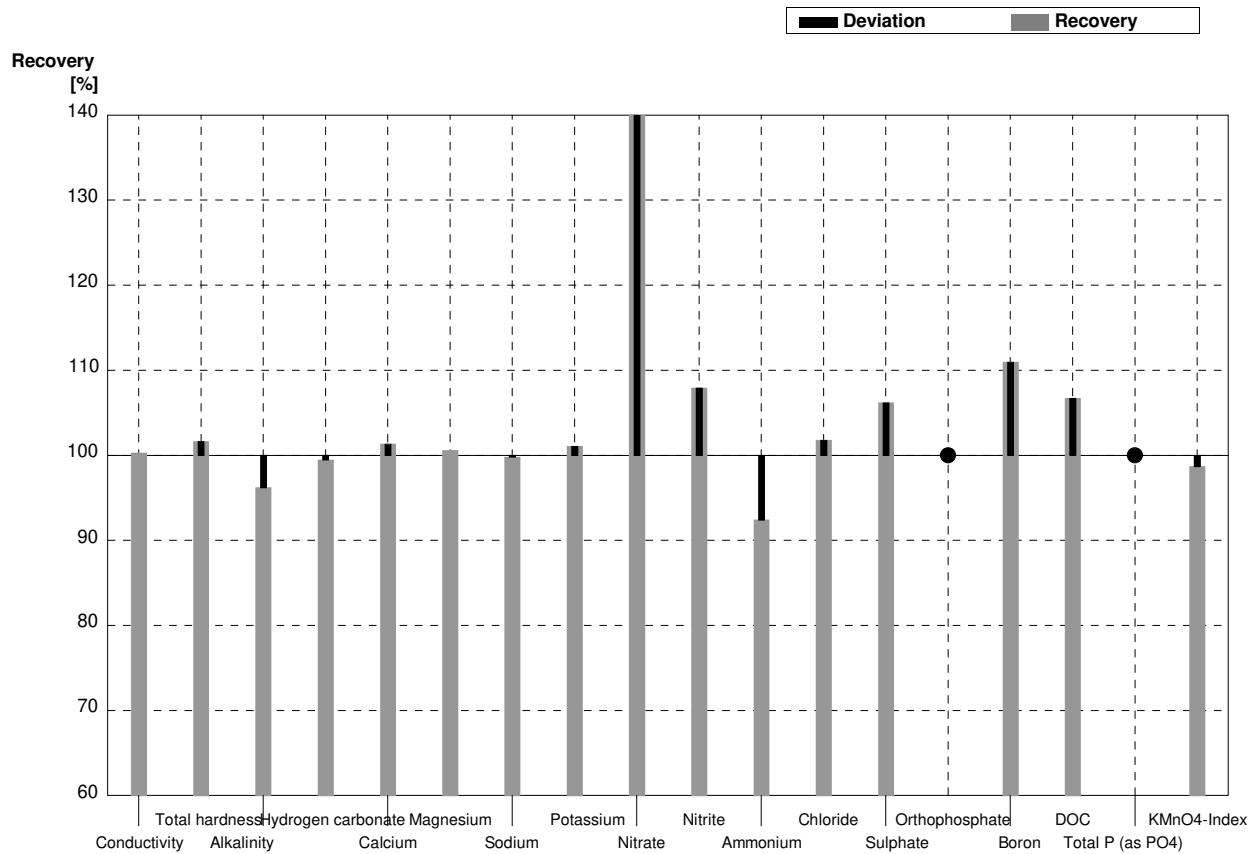
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory V**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	362	14,5	$\mu\text{S}/\text{cm}$	100%
Total hardness	1,23	0,01	1,25		$\text{mmol/l}$	102%
Alkalinity	1,58	0,01	1,52	0,228	$\text{mmol/l}$	96%
Hydrogen carbonate	93,2	0,7	92,7	13,91	$\text{mg/l}$	99%
Calcium	34,8	0,4	35,26	3,526	$\text{mg/l}$	101%
Magnesium	8,84	0,09	8,89	0,889	$\text{mg/l}$	101%
Sodium	20,3	0,2	20,26	2,026	$\text{mg/l}$	100%
Potassium	2,77	0,03	2,80	0,280	$\text{mg/l}$	101%
Nitrate	21,3	0,4	94,902	3,7961	$\text{mg/l}$	446%
Nitrite	0,0278	0,0004	0,0300	0,0024	$\text{mg/l}$	108%
Ammonium	0,0303	0,0031	0,0280	0,0028	$\text{mg/l}$	92%
Chloride	33,9	0,6	34,50	1,725	$\text{mg/l}$	102%
Sulphate	26,7	0,3	28,35	1,418	$\text{mg/l}$	106%
Orthophosphate	<0,009		0,00900	0,0011	$\text{mg/l}$	•
Boron	0,082	0,001	0,091	0,0109	$\text{mg/l}$	111%
DOC	3,28	0,02	3,50	0,28	$\text{mg/l}$	107%
Total P (as PO4)	<0,009		<0,0061		$\text{mg/l}$	•
KMnO4-Index	3,04	0,14	3,00	0,48	$\text{mg/l}$	99%



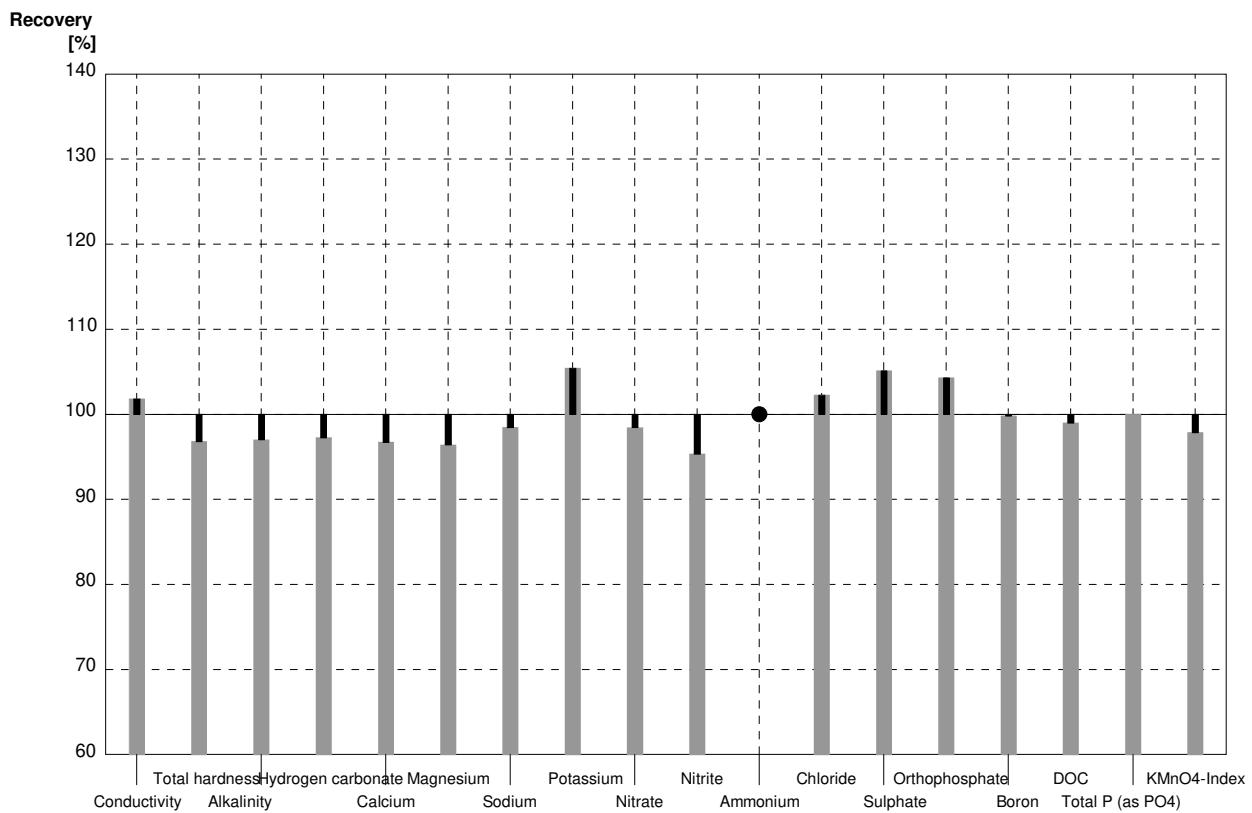
**Sample N157A**

**Laboratory W**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	669	20	$\mu\text{S}/\text{cm}$	102%
Total hardness	2,83	0,03	2,74	0,22	$\text{mmol/l}$	97%
Alkalinity	3,03	0,04	2,94	0,14	$\text{mmol/l}$	97%
Hydrogen carbonate	182	3	177	8,5	$\text{mg/l}$	97%
Calcium	76,6	1,0	74,1	3,4	$\text{mg/l}$	97%
Magnesium	22,3	0,2	21,5	1,8	$\text{mg/l}$	96%
Sodium	19,6	0,5	19,3	1,4	$\text{mg/l}$	98%
Potassium	5,90	0,05	6,22	0,45	$\text{mg/l}$	105%
Nitrate	12,9	0,2	12,7	0,42	$\text{mg/l}$	98%
Nitrite	0,058	0,001	0,0553	0,0056	$\text{mg/l}$	95%
Ammonium	<0,02*		0,0165	0,0012	$\text{mg/l}$	•
Chloride	61,1	0,9	62,5	4,2	$\text{mg/l}$	102%
Sulphate	79,6	0,9	83,7	2,8	$\text{mg/l}$	105%
Orthophosphate	0,065	0,001	0,0678	0,0047	$\text{mg/l}$	104%
Boron	0,052	0,001	0,0519	0,006	$\text{mg/l}$	100%
DOC	8,93	0,04	8,84	1,4	$\text{mg/l}$	99%
Total P (as PO <sub>4</sub> )	0,117	0,001	0,117	0,0081	$\text{mg/l}$	100%
KMnO <sub>4</sub> -Index	5,64	0,17	5,52	0,83	$\text{mg/l}$	98%

\* guidance value, see also report, page 4

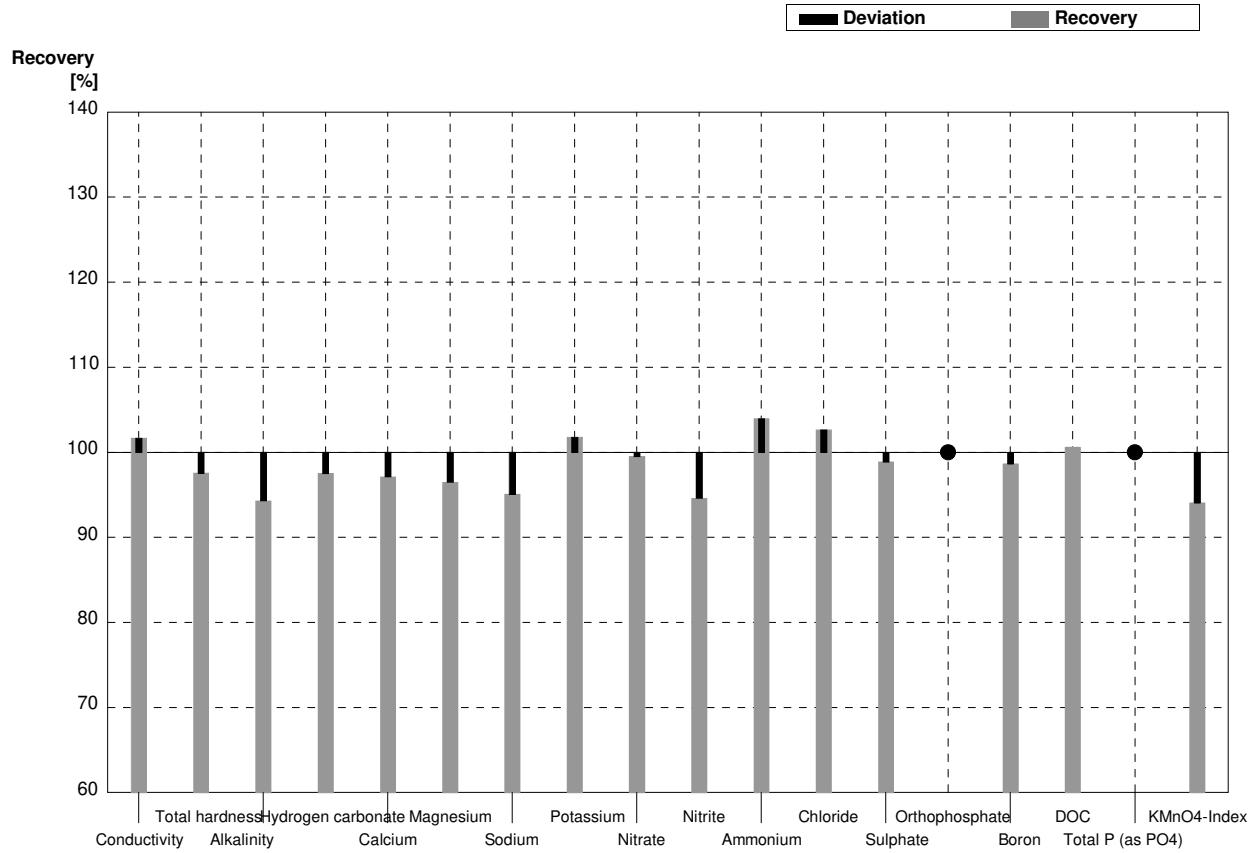
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory W**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	367	11	$\mu\text{S}/\text{cm}$	102%
Total hardness	1,23	0,01	1,20	0,10	$\text{mmol/l}$	98%
Alkalinity	1,58	0,01	1,49	0,072	$\text{mmol/l}$	94%
Hydrogen carbonate	93,2	0,7	90,9	4,4	$\text{mg/l}$	98%
Calcium	34,8	0,4	33,8	1,5	$\text{mg/l}$	97%
Magnesium	8,84	0,09	8,53	0,70	$\text{mg/l}$	96%
Sodium	20,3	0,2	19,3	1,4	$\text{mg/l}$	95%
Potassium	2,77	0,03	2,82	0,20	$\text{mg/l}$	102%
Nitrate	21,3	0,4	21,2	0,70	$\text{mg/l}$	100%
Nitrite	0,0278	0,0004	0,0263	0,0027	$\text{mg/l}$	95%
Ammonium	0,0303	0,0031	0,0315	0,0022	$\text{mg/l}$	104%
Chloride	33,9	0,6	34,8	2,3	$\text{mg/l}$	103%
Sulphate	26,7	0,3	26,4	0,87	$\text{mg/l}$	99%
Orthophosphate	<0,009		<0,015		$\text{mg/l}$	•
Boron	0,082	0,001	0,0809	0,010	$\text{mg/l}$	99%
DOC	3,28	0,02	3,30	0,53	$\text{mg/l}$	101%
Total P (as PO4)	<0,009		<0,015		$\text{mg/l}$	•
KMnO4-Index	3,04	0,14	2,86	0,43	$\text{mg/l}$	94%



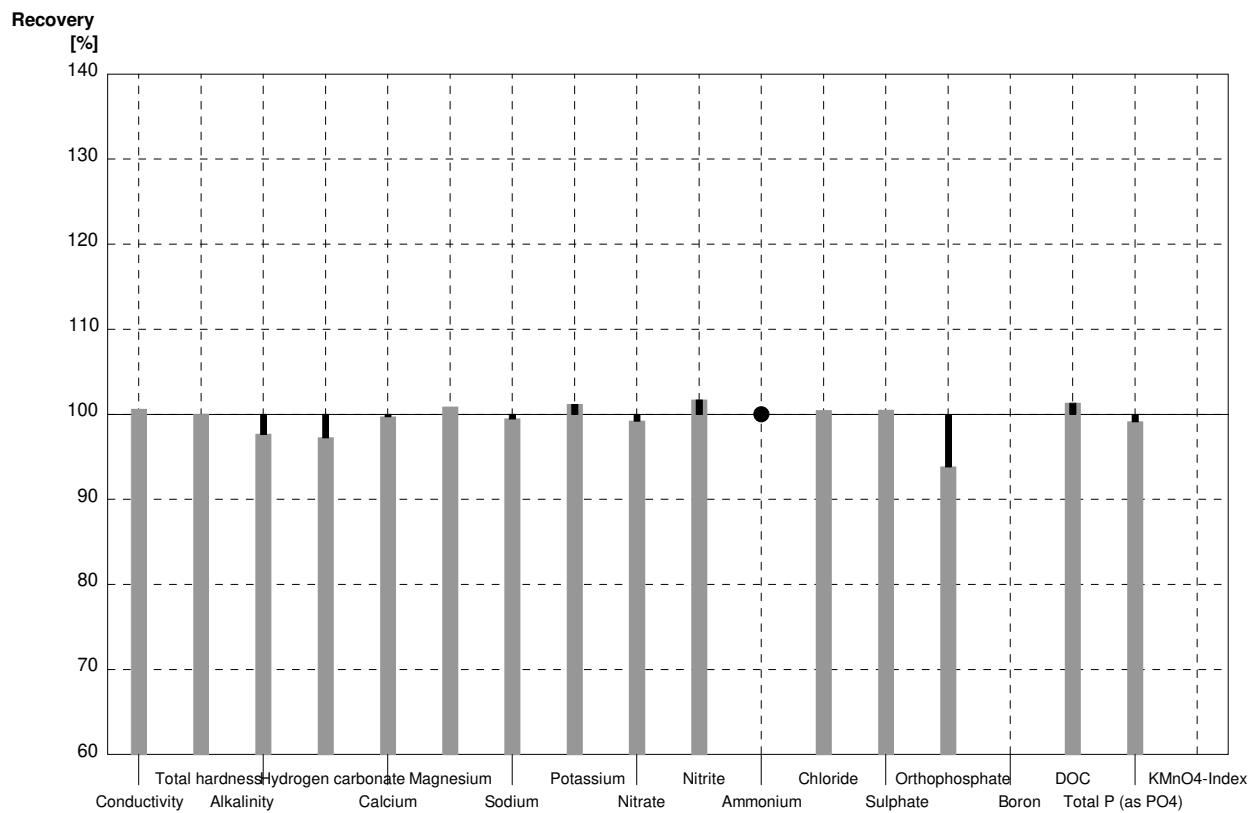
**Sample N157A**

**Laboratory X**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	661	27	$\mu\text{S}/\text{cm}$	101%
Total hardness	2,83	0,03	2,83	0,1	mmol/l	100%
Alkalinity	3,03	0,04	2,96	0,2	mmol/l	98%
Hydrogen carbonate	182	3	177	8	mg/l	97%
Calcium	76,6	1,0	76,4	7	mg/l	100%
Magnesium	22,3	0,2	22,5	3	mg/l	101%
Sodium	19,6	0,5	19,5	3	mg/l	99%
Potassium	5,90	0,05	5,97	0,8	mg/l	101%
Nitrate	12,9	0,2	12,8	1,1	mg/l	99%
Nitrite	0,058	0,001	0,059	0,005	mg/l	102%
Ammonium	<0,02*		0,0129	0,0018	mg/l	•
Chloride	61,1	0,9	61,4	4	mg/l	100%
Sulphate	79,6	0,9	80,0	6	mg/l	101%
Orthophosphate	0,065	0,001	0,061	0,006	mg/l	94%
Boron	0,052	0,001			mg/l	
DOC	8,93	0,04	9,05	1,3	mg/l	101%
Total P (as PO4)	0,117	0,001	0,116	0,02	mg/l	99%
KMnO4-Index	5,64	0,17			mg/l	

\* guidance value, see also report, page 4

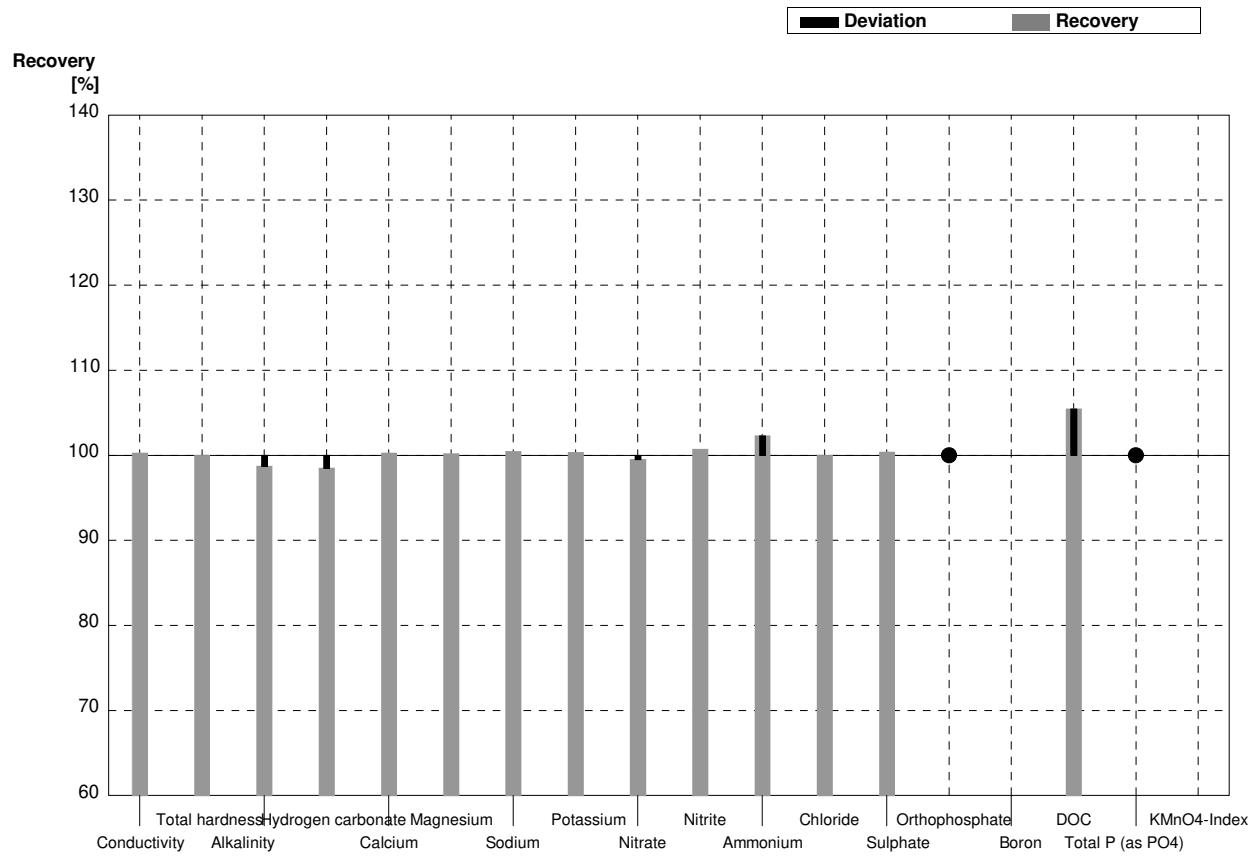
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory X**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	362	15	$\mu\text{S}/\text{cm}$	100%
Total hardness	1,23	0,01	1,23	0,1	$\text{mmol/l}$	100%
Alkalinity	1,58	0,01	1,56	0,1	$\text{mmol/l}$	99%
Hydrogen carbonate	93,2	0,7	91,8	4	$\text{mg/l}$	98%
Calcium	34,8	0,4	34,9	3	$\text{mg/l}$	100%
Magnesium	8,84	0,09	8,86	1,1	$\text{mg/l}$	100%
Sodium	20,3	0,2	20,4	4	$\text{mg/l}$	100%
Potassium	2,77	0,03	2,78	0,4	$\text{mg/l}$	100%
Nitrate	21,3	0,4	21,2	2	$\text{mg/l}$	100%
Nitrite	0,0278	0,0004	0,0280	0,002	$\text{mg/l}$	101%
Ammonium	0,0303	0,0031	0,0310	0,005	$\text{mg/l}$	102%
Chloride	33,9	0,6	33,9	3	$\text{mg/l}$	100%
Sulphate	26,7	0,3	26,8	2	$\text{mg/l}$	100%
Orthophosphate	<0,009		<0,01		$\text{mg/l}$	•
Boron	0,082	0,001			$\text{mg/l}$	
DOC	3,28	0,02	3,46	0,5	$\text{mg/l}$	105%
Total P (as PO <sub>4</sub> )	<0,009		<0,013		$\text{mg/l}$	•
KMnO <sub>4</sub> -Index	3,04	0,14			$\text{mg/l}$	



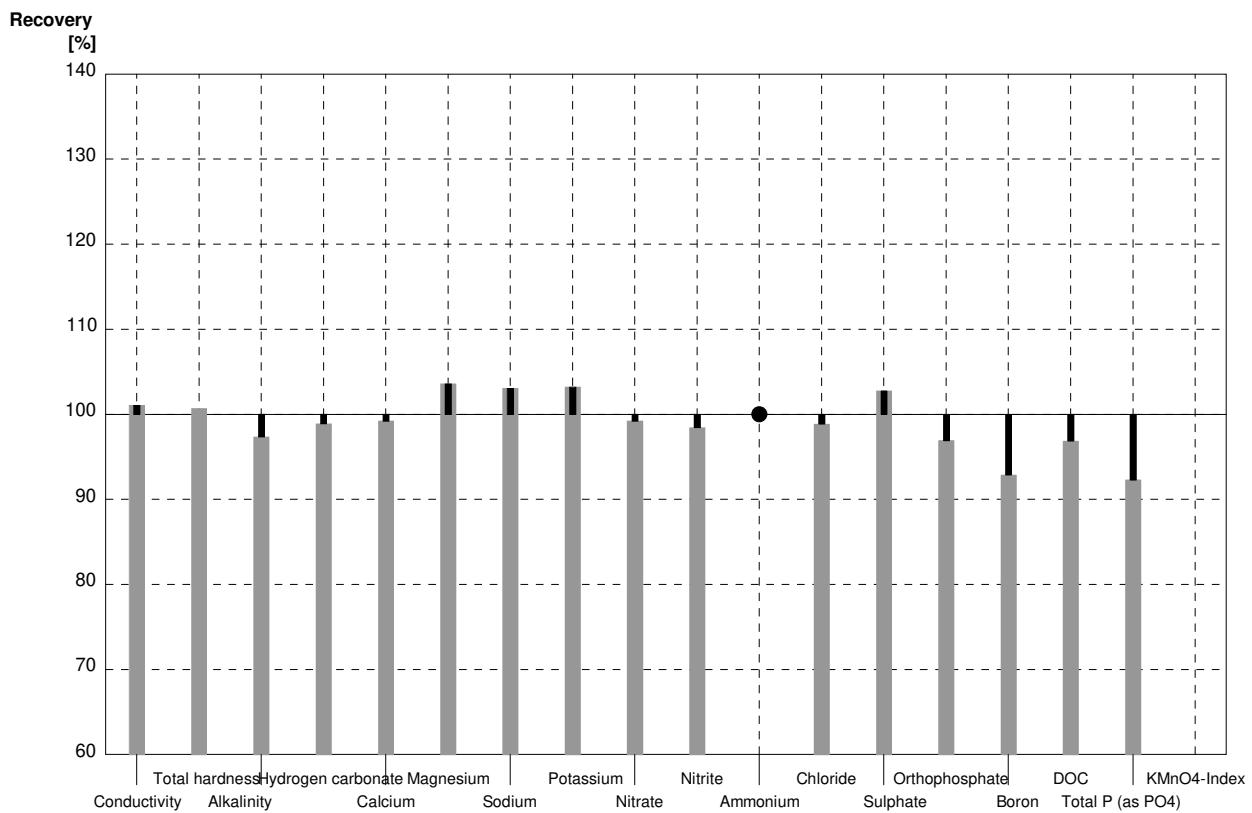
**Sample N157A**

**Laboratory Y**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	664	5	$\mu\text{S}/\text{cm}$	101%
Total hardness	2,83	0,03	2,85	0,57	mmol/l	101%
Alkalinity	3,03	0,04	2,95	0,3	mmol/l	97%
Hydrogen carbonate	182	3	180,0	18	mg/l	99%
Calcium	76,6	1,0	76,0	15,2	mg/l	99%
Magnesium	22,3	0,2	23,1	4,62	mg/l	104%
Sodium	19,6	0,5	20,2	3,10	mg/l	103%
Potassium	5,90	0,05	6,09	1,22	mg/l	103%
Nitrate	12,9	0,2	12,8	1,3	mg/l	99%
Nitrite	0,058	0,001	0,0571	0,0137	mg/l	98%
Ammonium	<0,02*		0,0170	0,0030	mg/l	•
Chloride	61,1	0,9	60,4	6,1	mg/l	99%
Sulphate	79,6	0,9	81,8	8,2	mg/l	103%
Orthophosphate	0,065	0,001	0,063	0,013	mg/l	97%
Boron	0,052	0,001	0,0483	0,012	mg/l	93%
DOC	8,93	0,04	8,65	0,87	mg/l	97%
Total P (as PO4)	0,117	0,001	0,108	0,022	mg/l	92%
KMnO4-Index	5,64	0,17			mg/l	

\* guidance value, see also report, page 4

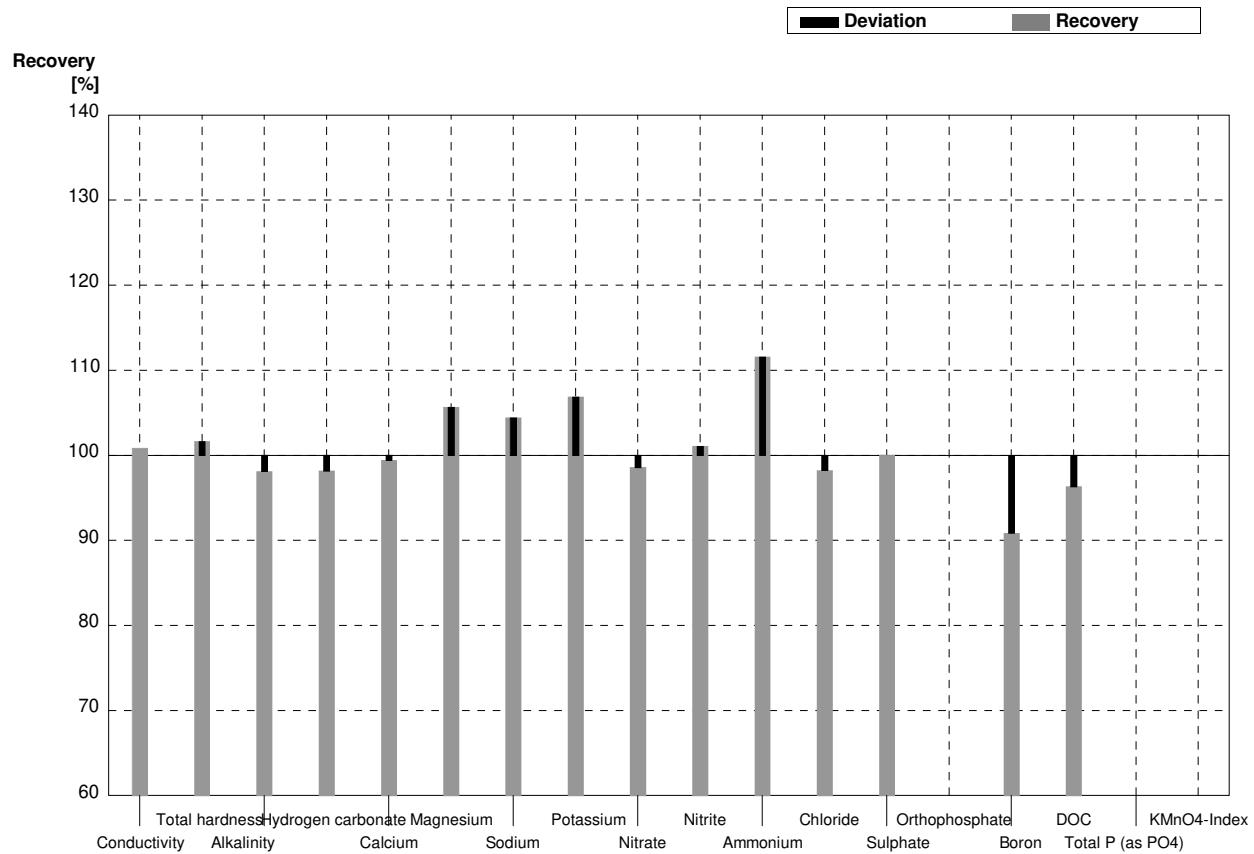
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory Y**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	364	5	$\mu\text{S}/\text{cm}$	101%
Total hardness	1,23	0,01	1,25	0,25	mmol/l	102%
Alkalinity	1,58	0,01	1,55	0,16	mmol/l	98%
Hydrogen carbonate	93,2	0,7	91,5	9,2	mg/l	98%
Calcium	34,8	0,4	34,6	6,92	mg/l	99%
Magnesium	8,84	0,09	9,34	1,87	mg/l	106%
Sodium	20,3	0,2	21,2	3,20	mg/l	104%
Potassium	2,77	0,03	2,96	0,60	mg/l	107%
Nitrate	21,3	0,4	21,0	2,1	mg/l	99%
Nitrite	0,0278	0,0004	0,0281	0,0067	mg/l	101%
Ammonium	0,0303	0,0031	0,0338	0,0060	mg/l	112%
Chloride	33,9	0,6	33,3	3,3	mg/l	98%
Sulphate	26,7	0,3	26,7	2,7	mg/l	100%
Orthophosphate	<0,009				mg/l	
Boron	0,082	0,001	0,0745	0,019	mg/l	91%
DOC	3,28	0,02	3,16	0,32	mg/l	96%
Total P (as PO4)	<0,009				mg/l	
KMnO4-Index	3,04	0,14			mg/l	

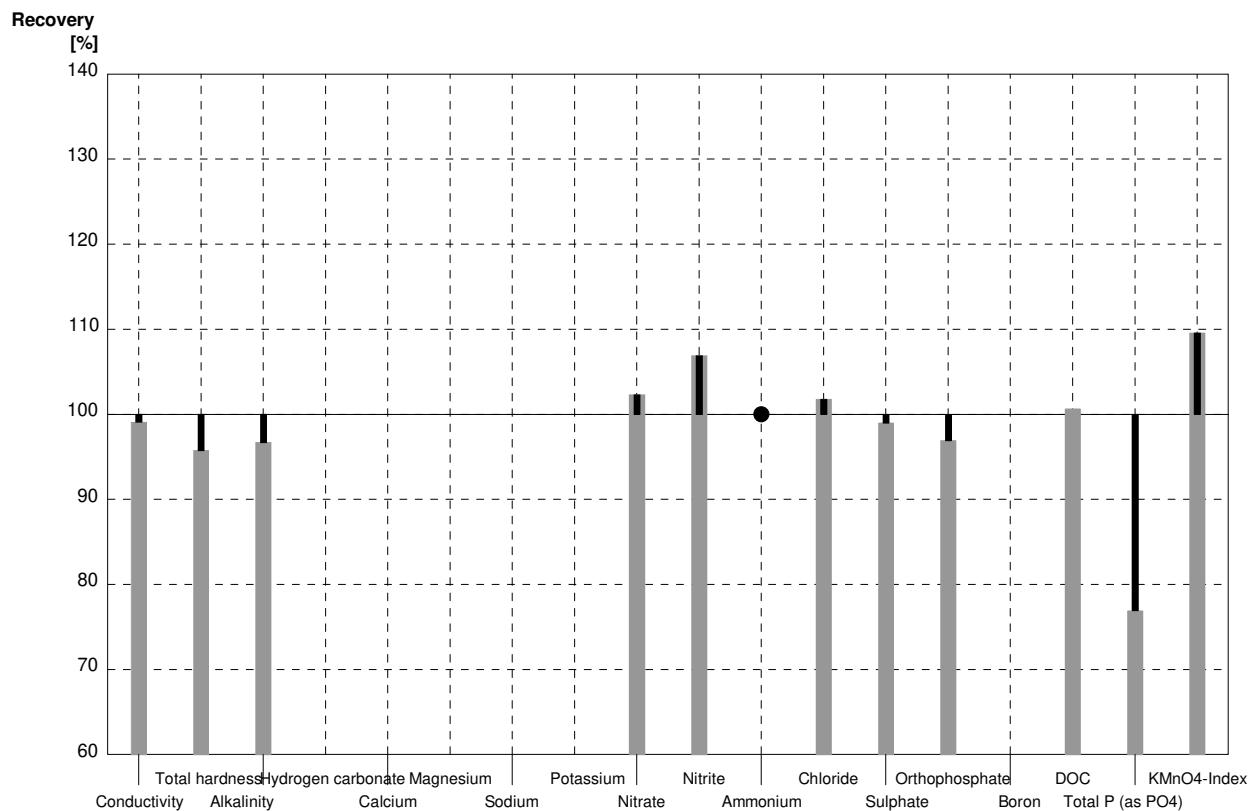


**Sample N157A****Laboratory Z**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	651	35	$\mu\text{S}/\text{cm}$	99%
Total hardness	2,83	0,03	2,71	0,35	mmol/l	96%
Alkalinity	3,03	0,04	2,93	0,15	mmol/l	97%
Hydrogen carbonate	182	3			mg/l	
Calcium	76,6	1,0			mg/l	
Magnesium	22,3	0,2			mg/l	
Sodium	19,6	0,5			mg/l	
Potassium	5,90	0,05			mg/l	
Nitrate	12,9	0,2	13,2	1,33	mg/l	102%
Nitrite	0,058	0,001	0,062	0,006	mg/l	107%
Ammonium	<0,02*		<0,05	0,007	mg/l	•
Chloride	61,1	0,9	62,2	2,72	mg/l	102%
Sulphate	79,6	0,9	78,8	9,1	mg/l	99%
Orthophosphate	0,065	0,001	0,063	0,006	mg/l	97%
Boron	0,052	0,001			mg/l	
DOC	8,93	0,04	8,99	1,92	mg/l	101%
Total P (as PO4)	0,117	0,001	0,090	0,009	mg/l	77%
KMnO4-Index	5,64	0,17	6,18	1,03	mg/l	110%

\* guidance value, see also report, page 4

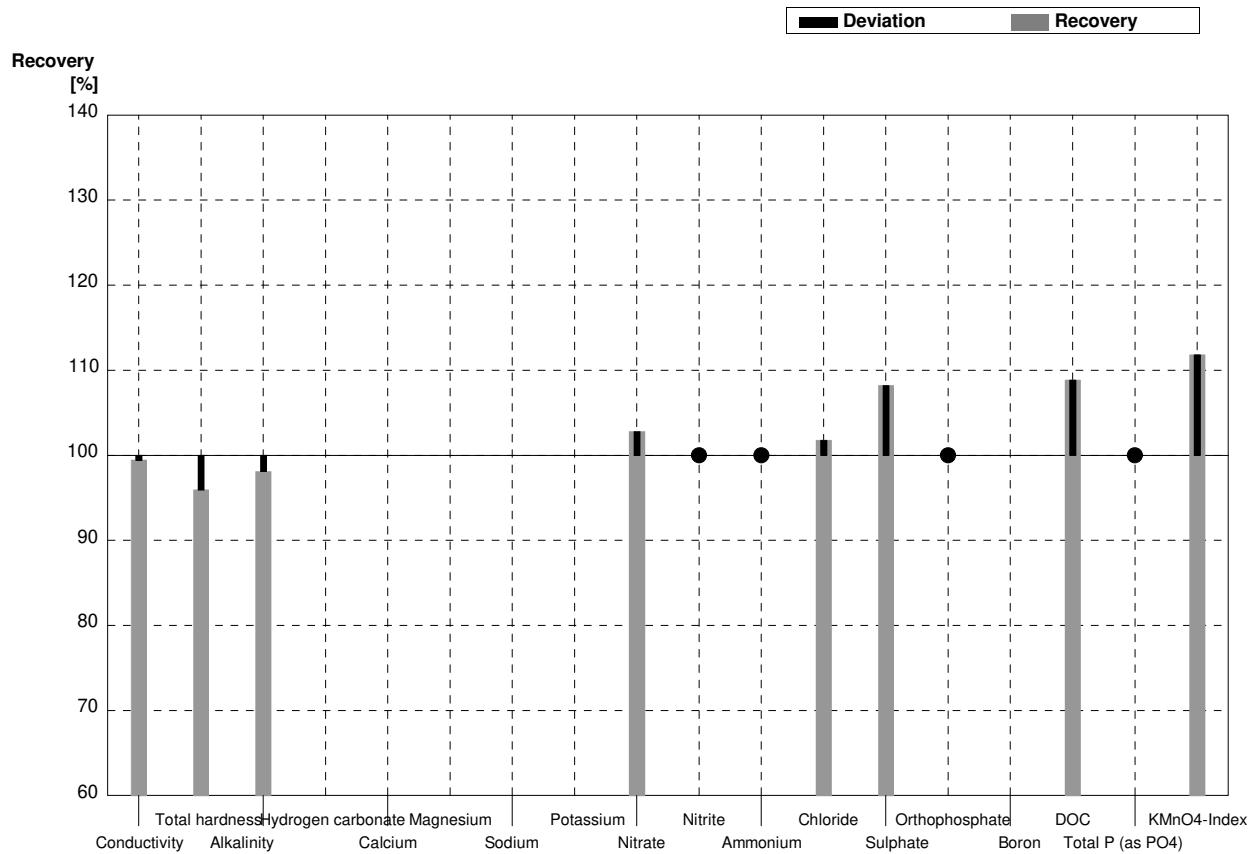
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory Z**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	359	20	$\mu\text{S}/\text{cm}$	99%
Total hardness	1,23	0,01	1,18	0,15	mmol/l	96%
Alkalinity	1,58	0,01	1,55	0,08	mmol/l	98%
Hydrogen carbonate	93,2	0,7			mg/l	
Calcium	34,8	0,4			mg/l	
Magnesium	8,84	0,09			mg/l	
Sodium	20,3	0,2			mg/l	
Potassium	2,77	0,03			mg/l	
Nitrate	21,3	0,4	21,9	2,21	mg/l	103%
Nitrite	0,0278	0,0004	<0,059	0,006	mg/l	•
Ammonium	0,0303	0,0031	<0,05	0,007	mg/l	•
Chloride	33,9	0,6	34,5	1,51	mg/l	102%
Sulphate	26,7	0,3	28,9	3,34	mg/l	108%
Orthophosphate	<0,009		<0,018	0,002	mg/l	•
Boron	0,082	0,001			mg/l	
DOC	3,28	0,02	3,57	0,76	mg/l	109%
Total P (as PO4)	<0,009		<0,018	0,002	mg/l	•
KMnO4-Index	3,04	0,14	3,40	0,57	mg/l	112%



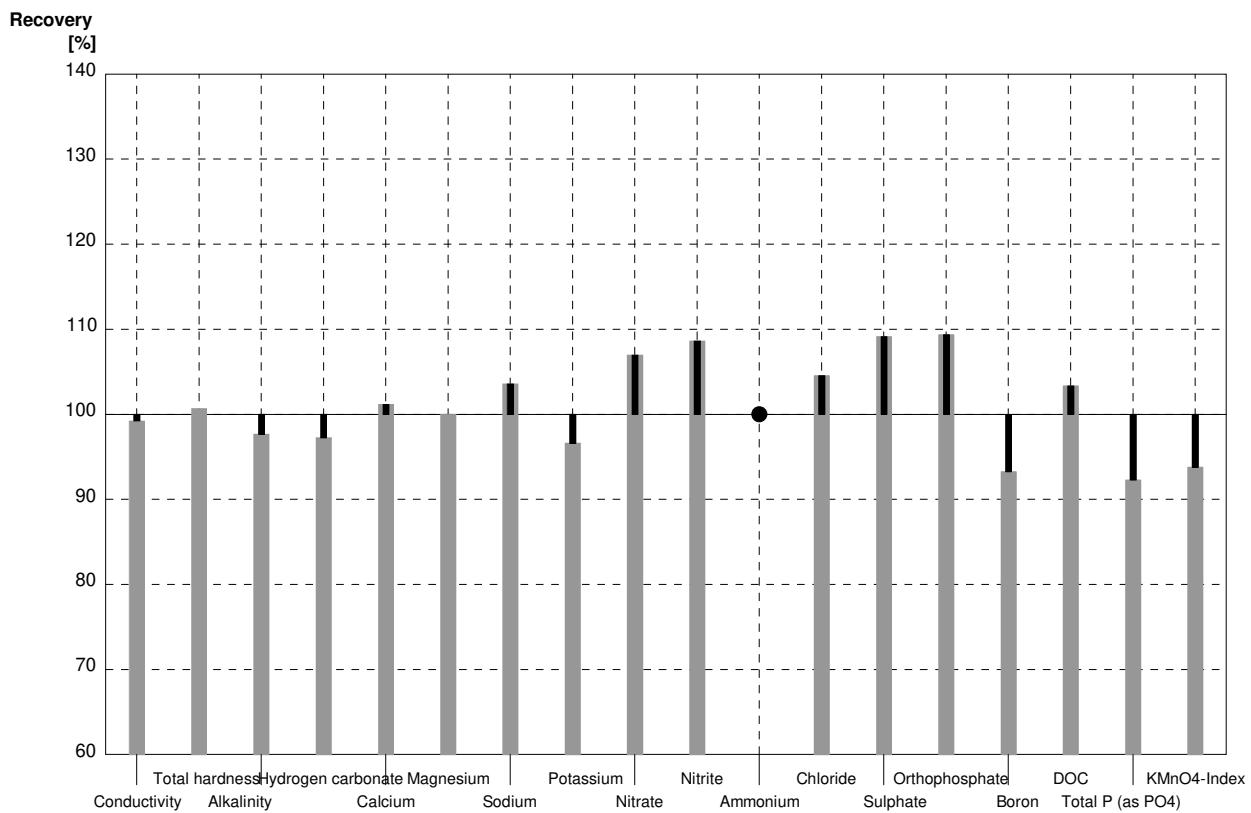
**Sample N157A**

**Laboratory AA**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	652	12,00	$\mu\text{S}/\text{cm}$	99%
Total hardness	2,83	0,03	2,85	0,01	$\text{mmol/l}$	101%
Alkalinity	3,03	0,04	2,96	0,01	$\text{mmol/l}$	98%
Hydrogen carbonate	182	3	177	0,58	$\text{mg/l}$	97%
Calcium	76,6	1,0	77,5	0,50	$\text{mg/l}$	101%
Magnesium	22,3	0,2	22,3	0,52	$\text{mg/l}$	100%
Sodium	19,6	0,5	20,3	0,42	$\text{mg/l}$	104%
Potassium	5,90	0,05	5,70	0,02	$\text{mg/l}$	97%
Nitrate	12,9	0,2	13,8	0,12	$\text{mg/l}$	107%
Nitrite	0,058	0,001	0,0630	0,0003	$\text{mg/l}$	109%
Ammonium	<0,02*		0,0155	0,001	$\text{mg/l}$	•
Chloride	61,1	0,9	63,9	0,59	$\text{mg/l}$	105%
Sulphate	79,6	0,9	86,9	1,20	$\text{mg/l}$	109%
Orthophosphate	0,065	0,001	0,0711	0,0009	$\text{mg/l}$	109%
Boron	0,052	0,001	0,0485	0,0012	$\text{mg/l}$	93%
DOC	8,93	0,04	9,23	0,12	$\text{mg/l}$	103%
Total P (as PO4)	0,117	0,001	0,108	0,012	$\text{mg/l}$	92%
KMnO4-Index	5,64	0,17	5,29	0,04	$\text{mg/l}$	94%

\* guidance value, see also report, page 4

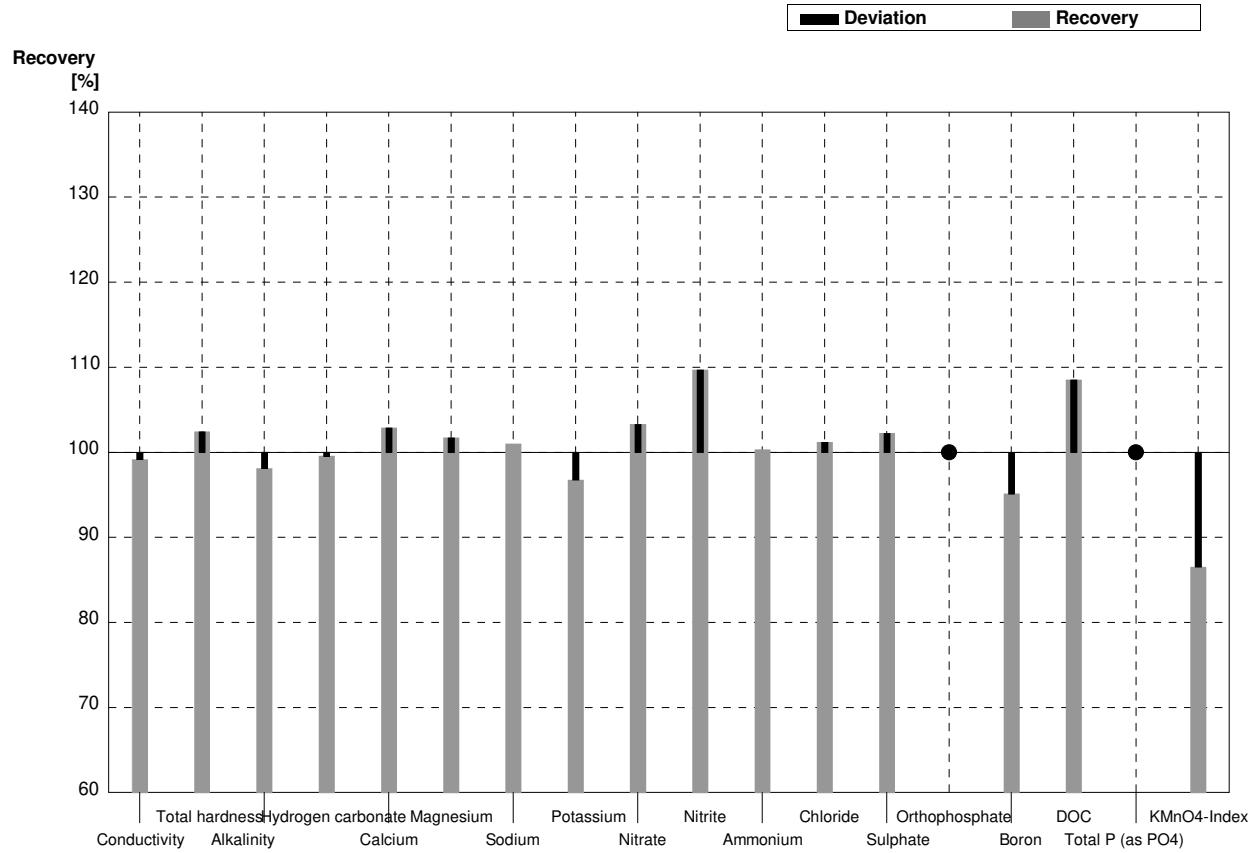
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory AA**

Parameter	Target value	$\pm U$ (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	358	7,00	$\mu\text{S}/\text{cm}$	99%
Total hardness	1,23	0,01	1,26	0,02	$\text{mmol/l}$	102%
Alkalinity	1,58	0,01	1,55	0,01	$\text{mmol/l}$	98%
Hydrogen carbonate	93,2	0,7	92,8	0,29	$\text{mg/l}$	100%
Calcium	34,8	0,4	35,8	0,25	$\text{mg/l}$	103%
Magnesium	8,84	0,09	8,99	0,26	$\text{mg/l}$	102%
Sodium	20,3	0,2	20,5	0,45	$\text{mg/l}$	101%
Potassium	2,77	0,03	2,68	0,01	$\text{mg/l}$	97%
Nitrate	21,3	0,4	22,0	0,20	$\text{mg/l}$	103%
Nitrite	0,0278	0,0004	0,0305	0,0002	$\text{mg/l}$	110%
Ammonium	0,0303	0,0031	0,0304	0,001	$\text{mg/l}$	100%
Chloride	33,9	0,6	34,3	0,15	$\text{mg/l}$	101%
Sulphate	26,7	0,3	27,3	0,40	$\text{mg/l}$	102%
Orthophosphate	<0,009		<0,015		$\text{mg/l}$	•
Boron	0,082	0,001	0,0780	0,0004	$\text{mg/l}$	95%
DOC	3,28	0,02	3,56	0,05	$\text{mg/l}$	109%
Total P (as PO <sub>4</sub> )	<0,009		<0,015		$\text{mg/l}$	•
KMnO <sub>4</sub> -Index	3,04	0,14	2,63	0,04	$\text{mg/l}$	87%



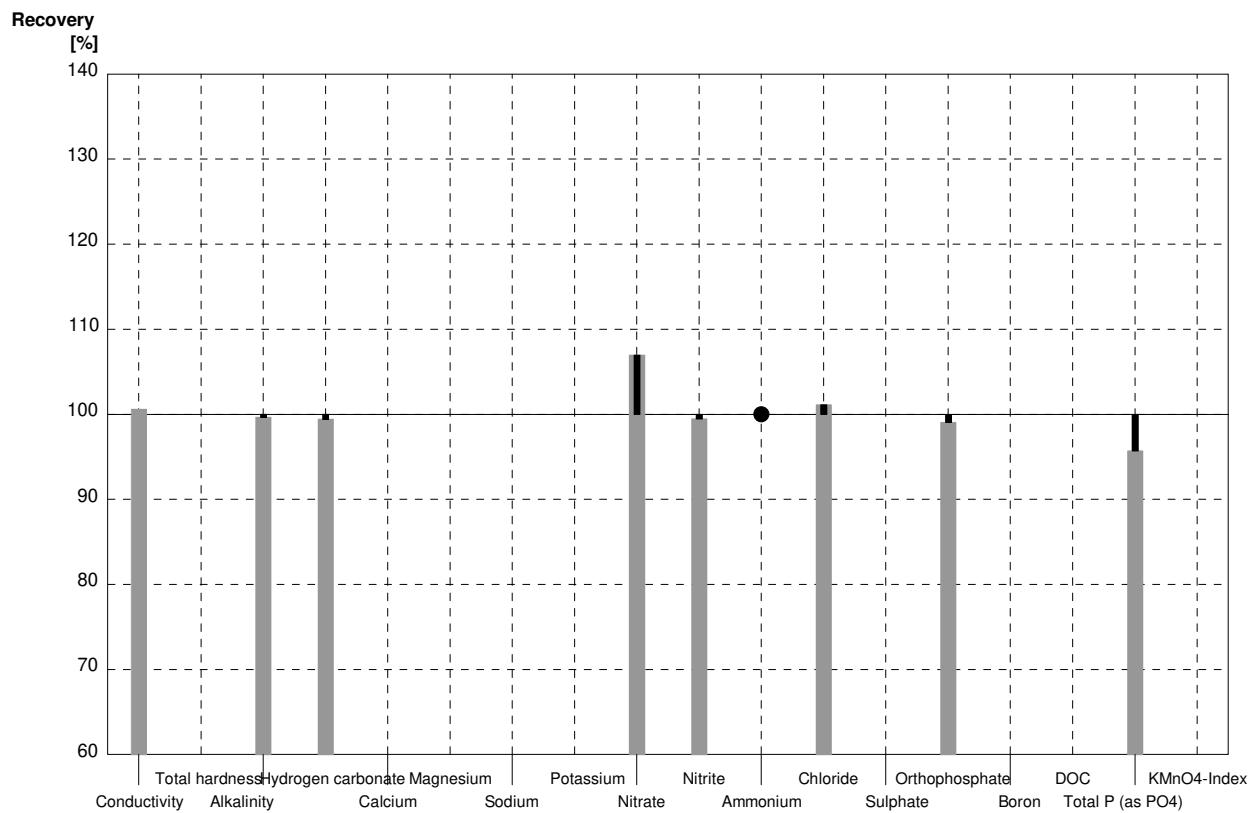
**Sample N157A**

**Laboratory AB**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	661	4,68	$\mu\text{S}/\text{cm}$	101%
Total hardness	2,83	0,03			$\text{mmol/l}$	
Alkalinity	3,03	0,04	3,02	0,09	$\text{mmol/l}$	100%
Hydrogen carbonate	182	3	181	2,61	$\text{mg/l}$	99%
Calcium	76,6	1,0			$\text{mg/l}$	
Magnesium	22,3	0,2			$\text{mg/l}$	
Sodium	19,6	0,5			$\text{mg/l}$	
Potassium	5,90	0,05			$\text{mg/l}$	
Nitrate	12,9	0,2	13,8	0,95	$\text{mg/l}$	107%
Nitrite	0,058	0,001	0,0577	0,0058	$\text{mg/l}$	99%
Ammonium	<0,02*		0,0081	0,0012	$\text{mg/l}$	•
Chloride	61,1	0,9	61,8	0,63	$\text{mg/l}$	101%
Sulphate	79,6	0,9			$\text{mg/l}$	
Orthophosphate	0,065	0,001	0,0644	0,0076	$\text{mg/l}$	99%
Boron	0,052	0,001			$\text{mg/l}$	
DOC	8,93	0,04			$\text{mg/l}$	
Total P (as PO4)	0,117	0,001	0,112	0,015	$\text{mg/l}$	96%
KMnO4-Index	5,64	0,17			$\text{mg/l}$	

\* guidance value, see also report, page 4

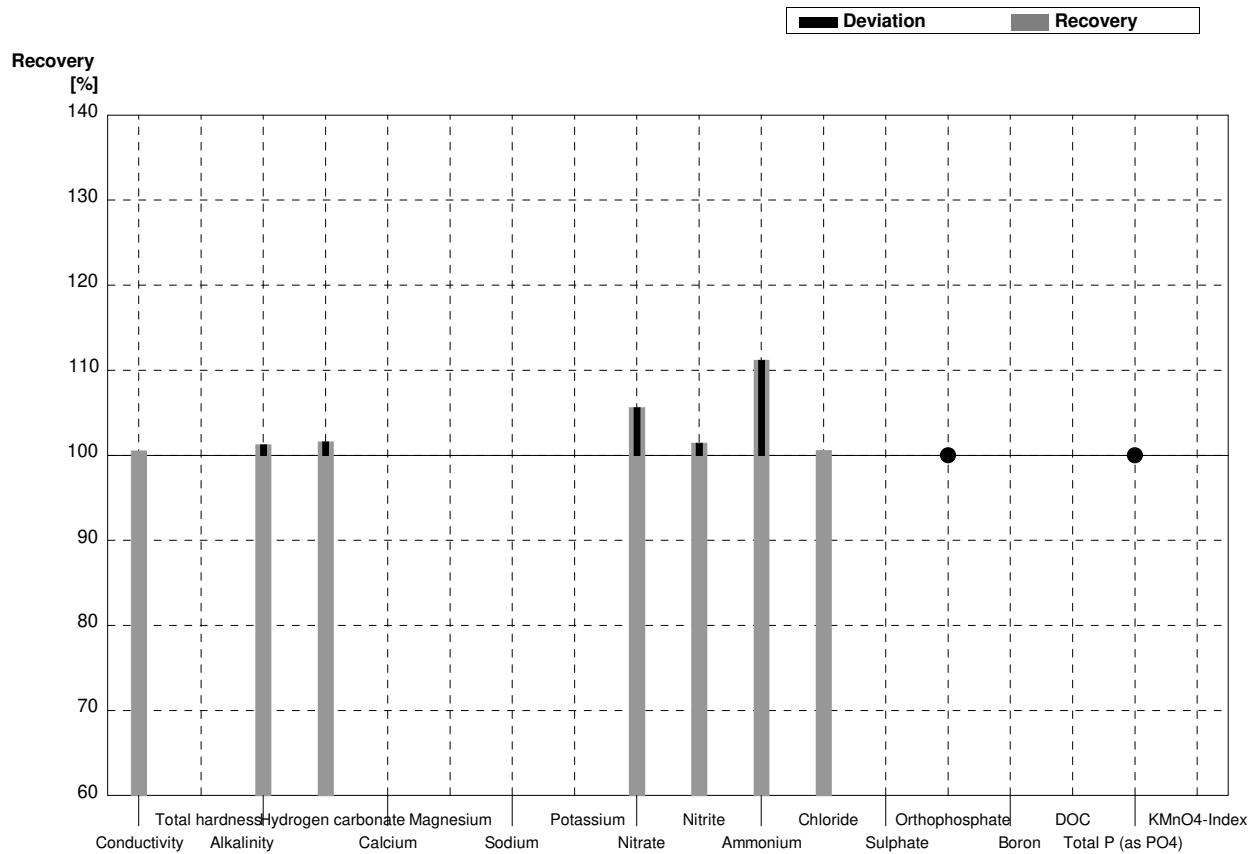
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory AB**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	363	2,57	$\mu\text{S}/\text{cm}$	101%
Total hardness	1,23	0,01			mmol/l	
Alkalinity	1,58	0,01	1,60	0,05	mmol/l	101%
Hydrogen carbonate	93,2	0,7	94,7	1,37	mg/l	102%
Calcium	34,8	0,4			mg/l	
Magnesium	8,84	0,09			mg/l	
Sodium	20,3	0,2			mg/l	
Potassium	2,77	0,03			mg/l	
Nitrate	21,3	0,4	22,5	1,54	mg/l	106%
Nitrite	0,0278	0,0004	0,0282	0,0028	mg/l	101%
Ammonium	0,0303	0,0031	0,0337	0,0051	mg/l	111%
Chloride	33,9	0,6	34,1	0,35	mg/l	101%
Sulphate	26,7	0,3			mg/l	
Orthophosphate	<0,009		<0,006	0	mg/l	•
Boron	0,082	0,001			mg/l	
DOC	3,28	0,02			mg/l	
Total P (as PO4)	<0,009		<0,006	0	mg/l	•
KMnO4-Index	3,04	0,14			mg/l	



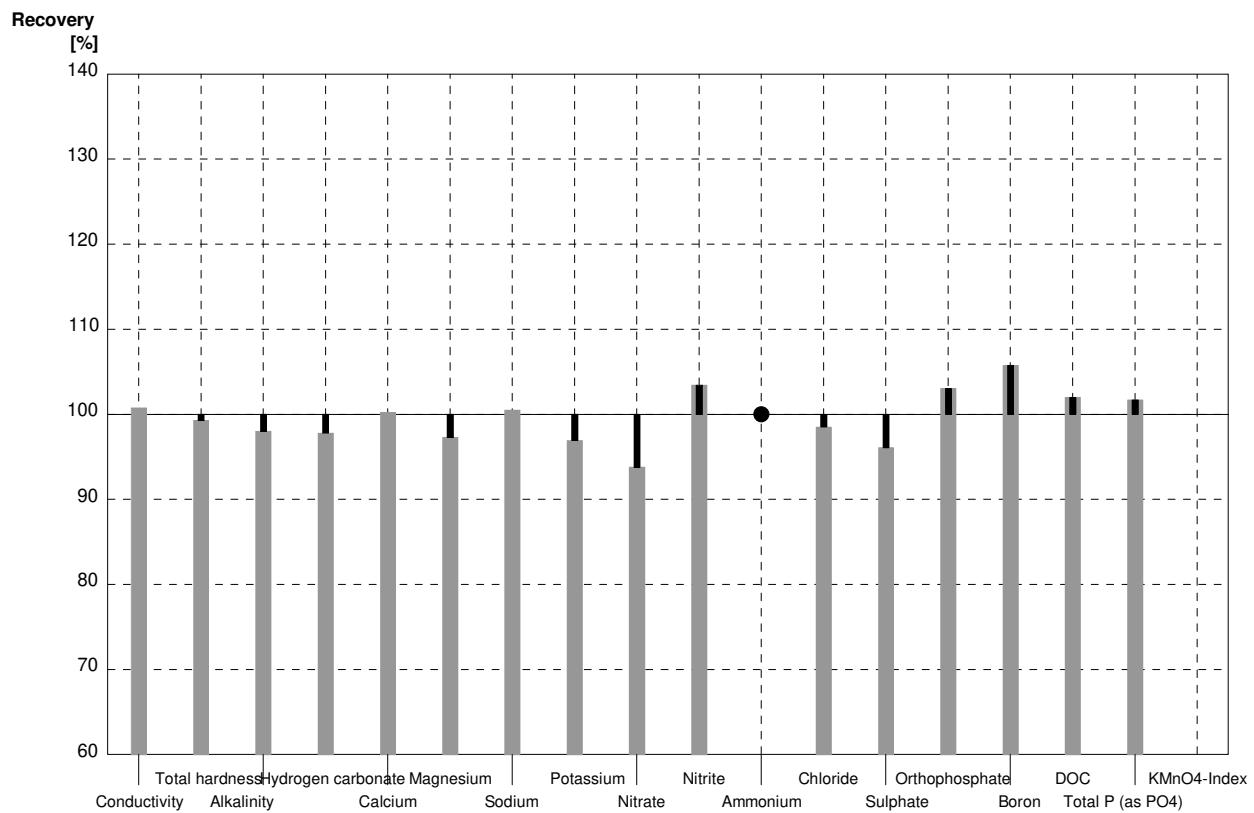
**Sample N157A**

**Laboratory AC**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	662	20	$\mu\text{S}/\text{cm}$	101%
Total hardness	2,83	0,03	2,81	0,23	$\text{mmol/l}$	99%
Alkalinity	3,03	0,04	2,97	0,12	$\text{mmol/l}$	98%
Hydrogen carbonate	182	3	178	7	$\text{mg/l}$	98%
Calcium	76,6	1,0	76,8	3,9	$\text{mg/l}$	100%
Magnesium	22,3	0,2	21,7	1,3	$\text{mg/l}$	97%
Sodium	19,6	0,5	19,7	0,8	$\text{mg/l}$	101%
Potassium	5,90	0,05	5,72	0,46	$\text{mg/l}$	97%
Nitrate	12,9	0,2	12,1	0,8	$\text{mg/l}$	94%
Nitrite	0,058	0,001	0,060	0,005	$\text{mg/l}$	103%
Ammonium	<0,02*		0,0141	0,004	$\text{mg/l}$	•
Chloride	61,1	0,9	60,2	3,0	$\text{mg/l}$	99%
Sulphate	79,6	0,9	76,5	4,6	$\text{mg/l}$	96%
Orthophosphate	0,065	0,001	0,067	0,004	$\text{mg/l}$	103%
Boron	0,052	0,001	0,055	0,006	$\text{mg/l}$	106%
DOC	8,93	0,04	9,11	0,80	$\text{mg/l}$	102%
Total P (as PO <sub>4</sub> )	0,117	0,001	0,119	0,008	$\text{mg/l}$	102%
KMnO <sub>4</sub> -Index	5,64	0,17			$\text{mg/l}$	

\* guidance value, see also report, page 4

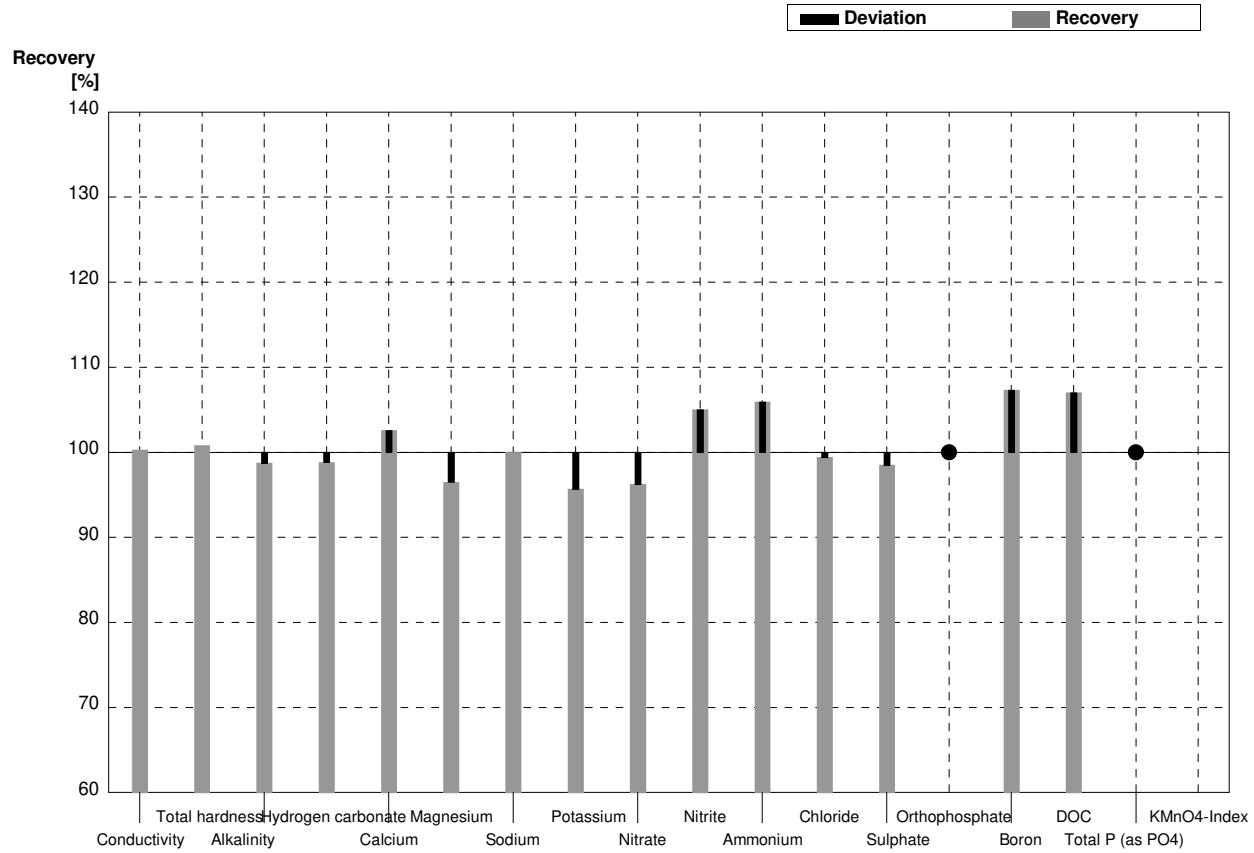
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory AC**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	362	11	$\mu\text{S}/\text{cm}$	100%
Total hardness	1,23	0,01	1,24	0,10	$\text{mmol/l}$	101%
Alkalinity	1,58	0,01	1,56	0,07	$\text{mmol/l}$	99%
Hydrogen carbonate	93,2	0,7	92,1	3,7	$\text{mg/l}$	99%
Calcium	34,8	0,4	35,7	1,8	$\text{mg/l}$	103%
Magnesium	8,84	0,09	8,53	0,51	$\text{mg/l}$	96%
Sodium	20,3	0,2	20,3	0,8	$\text{mg/l}$	100%
Potassium	2,77	0,03	2,65	0,21	$\text{mg/l}$	96%
Nitrate	21,3	0,4	20,5	1,2	$\text{mg/l}$	96%
Nitrite	0,0278	0,0004	0,0292	0,003	$\text{mg/l}$	105%
Ammonium	0,0303	0,0031	0,0321	0,004	$\text{mg/l}$	106%
Chloride	33,9	0,6	33,7	1,7	$\text{mg/l}$	99%
Sulphate	26,7	0,3	26,3	1,6	$\text{mg/l}$	99%
Orthophosphate	<0,009		<0,006		$\text{mg/l}$	•
Boron	0,082	0,001	0,088	0,009	$\text{mg/l}$	107%
DOC	3,28	0,02	3,51	0,32	$\text{mg/l}$	107%
Total P (as PO <sub>4</sub> )	<0,009		<0,006		$\text{mg/l}$	•
KMnO <sub>4</sub> -Index	3,04	0,14			$\text{mg/l}$	



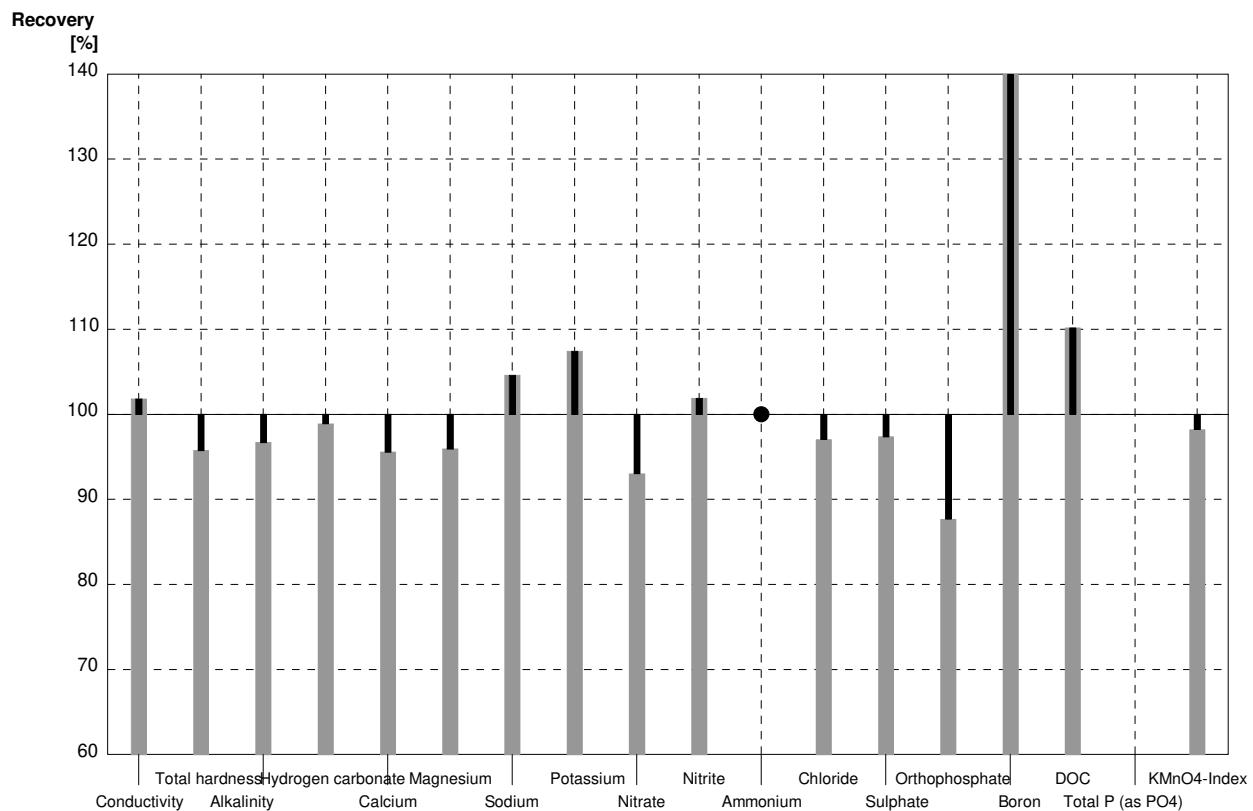
**Sample N157A**

**Laboratory AD**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	669		$\mu\text{S}/\text{cm}$	102%
Total hardness	2,83	0,03	2,71		$\text{mmol/l}$	96%
Alkalinity	3,03	0,04	2,93		$\text{mmol/l}$	97%
Hydrogen carbonate	182	3	180		$\text{mg/l}$	99%
Calcium	76,6	1,0	73,2	5,6	$\text{mg/l}$	96%
Magnesium	22,3	0,2	21,4	1,6	$\text{mg/l}$	96%
Sodium	19,6	0,5	20,5	0,8	$\text{mg/l}$	105%
Potassium	5,90	0,05	6,34	0,35	$\text{mg/l}$	107%
Nitrate	12,9	0,2	12,0	2,7	$\text{mg/l}$	93%
Nitrite	0,058	0,001	0,0591	0,0045	$\text{mg/l}$	102%
Ammonium	<0,02*		0,0180	0,0019	$\text{mg/l}$	•
Chloride	61,1	0,9	59,3	15,9	$\text{mg/l}$	97%
Sulphate	79,6	0,9	77,5	19,2	$\text{mg/l}$	97%
Orthophosphate	0,065	0,001	0,057		$\text{mg/l}$	88%
Boron	0,052	0,001	54,0	2,1	$\text{mg/l}$	103846%
DOC	8,93	0,04	9,84	5,5	$\text{mg/l}$	110%
Total P (as PO <sub>4</sub> )	0,117	0,001			$\text{mg/l}$	
KMnO <sub>4</sub> -Index	5,64	0,17	5,54		$\text{mg/l}$	98%

\* guidance value, see also report, page 4

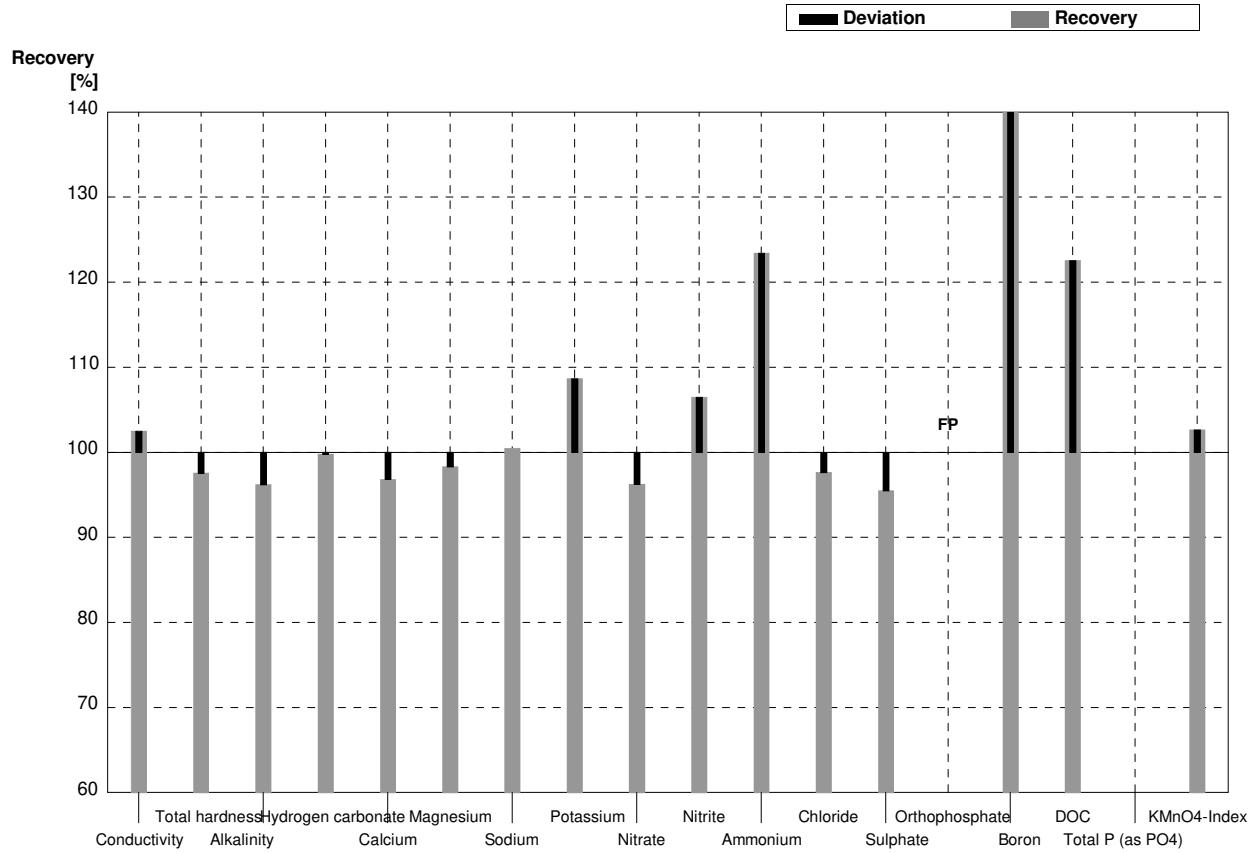
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory AD**

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Conductivity	361	2	370		µS/cm	102%
Total hardness	1,23	0,01	1,20		mmol/l	98%
Alkalinity	1,58	0,01	1,52		mmol/l	96%
Hydrogen carbonate	93,2	0,7	93		mg/l	100%
Calcium	34,8	0,4	33,7	2,6	mg/l	97%
Magnesium	8,84	0,09	8,69	0,66	mg/l	98%
Sodium	20,3	0,2	20,4	0,8	mg/l	100%
Potassium	2,77	0,03	3,01	0,17	mg/l	109%
Nitrate	21,3	0,4	20,5	4,6	mg/l	96%
Nitrite	0,0278	0,0004	0,0296	0,0023	mg/l	106%
Ammonium	0,0303	0,0031	0,0374	0,0040	mg/l	123%
Chloride	33,9	0,6	33,1	8,9	mg/l	98%
Sulphate	26,7	0,3	25,5	6,3	mg/l	96%
Orthophosphate	<0,009		0,0261		mg/l	FP
Boron	0,082	0,001	89,3	3,4	mg/l	108902%
DOC	3,28	0,02	4,02	2,25	mg/l	123%
Total P (as PO4)	<0,009				mg/l	
KMnO4-Index	3,04	0,14	3,12		mg/l	103%



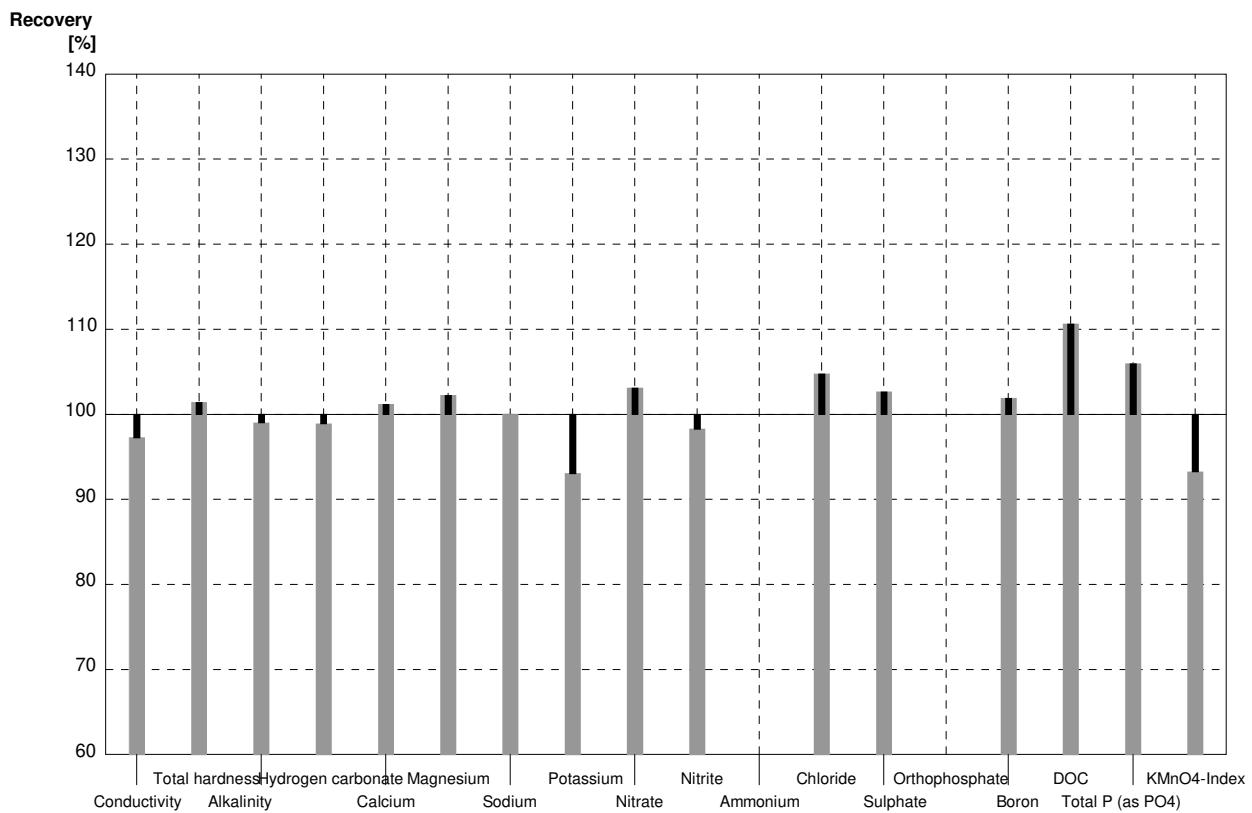
**Sample N157A**

**Laboratory AE**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	639	12,8	$\mu\text{S}/\text{cm}$	97%
Total hardness	2,83	0,03	2,87	0,345	$\text{mmol/l}$	101%
Alkalinity	3,03	0,04	3,00	0,060	$\text{mmol/l}$	99%
Hydrogen carbonate	182	3	180	3,60	$\text{mg/l}$	99%
Calcium	76,6	1,0	77,5	9,30	$\text{mg/l}$	101%
Magnesium	22,3	0,2	22,8	2,74	$\text{mg/l}$	102%
Sodium	19,6	0,5	19,6	2,35	$\text{mg/l}$	100%
Potassium	5,90	0,05	5,49	0,659	$\text{mg/l}$	93%
Nitrate	12,9	0,2	13,3	1,33	$\text{mg/l}$	103%
Nitrite	0,058	0,001	0,057	0,004	$\text{mg/l}$	98%
Ammonium	<0,02*				$\text{mg/l}$	
Chloride	61,1	0,9	64,0	6,40	$\text{mg/l}$	105%
Sulphate	79,6	0,9	81,7	8,17	$\text{mg/l}$	103%
Orthophosphate	0,065	0,001			$\text{mg/l}$	
Boron	0,052	0,001	0,053	0,011	$\text{mg/l}$	102%
DOC	8,93	0,04	9,88	0,99	$\text{mg/l}$	111%
Total P (as PO <sub>4</sub> )	0,117	0,001	0,124	0,025	$\text{mg/l}$	106%
KMnO <sub>4</sub> -Index	5,64	0,17	5,26	0,26	$\text{mg/l}$	93%

\* guidance value, see also report, page 4

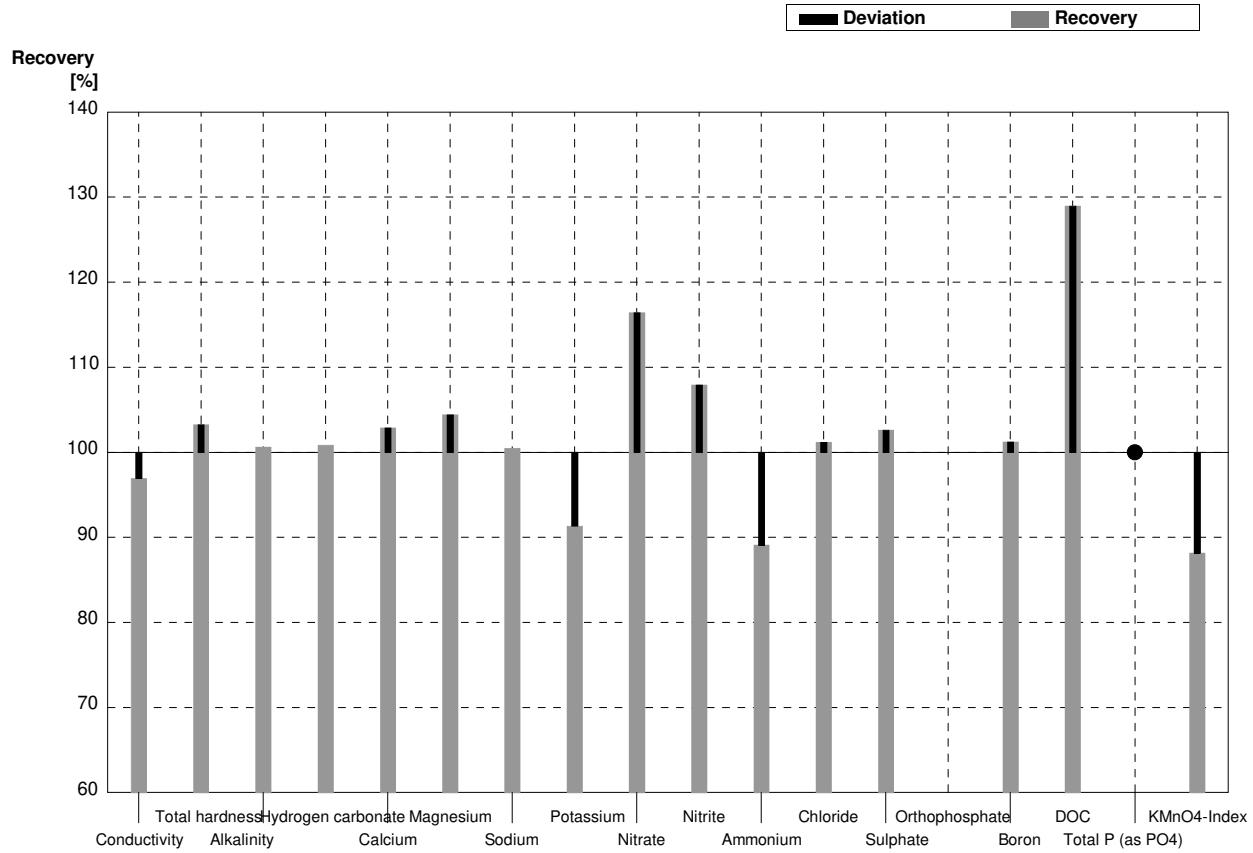
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory AE**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	350	7,00	$\mu\text{S}/\text{cm}$	97%
Total hardness	1,23	0,01	1,27	0,153	$\text{mmol/l}$	103%
Alkalinity	1,58	0,01	1,59	0,032	$\text{mmol/l}$	101%
Hydrogen carbonate	93,2	0,7	94,0	1,88	$\text{mg/l}$	101%
Calcium	34,8	0,4	35,8	4,30	$\text{mg/l}$	103%
Magnesium	8,84	0,09	9,23	1,11	$\text{mg/l}$	104%
Sodium	20,3	0,2	20,4	2,45	$\text{mg/l}$	100%
Potassium	2,77	0,03	2,53	0,304	$\text{mg/l}$	91%
Nitrate	21,3	0,4	24,8	2,48	$\text{mg/l}$	116%
Nitrite	0,0278	0,0004	0,0300	0,002	$\text{mg/l}$	108%
Ammonium	0,0303	0,0031	0,0270	0,002	$\text{mg/l}$	89%
Chloride	33,9	0,6	34,3	3,43	$\text{mg/l}$	101%
Sulphate	26,7	0,3	27,4	2,74	$\text{mg/l}$	103%
Orthophosphate	<0,009				$\text{mg/l}$	
Boron	0,082	0,001	0,083	0,017	$\text{mg/l}$	101%
DOC	3,28	0,02	4,23	0,42	$\text{mg/l}$	129%
Total P (as PO <sub>4</sub> )	<0,009		0,0080	0,002	$\text{mg/l}$	•
KMnO <sub>4</sub> -Index	3,04	0,14	2,68	0,13	$\text{mg/l}$	88%



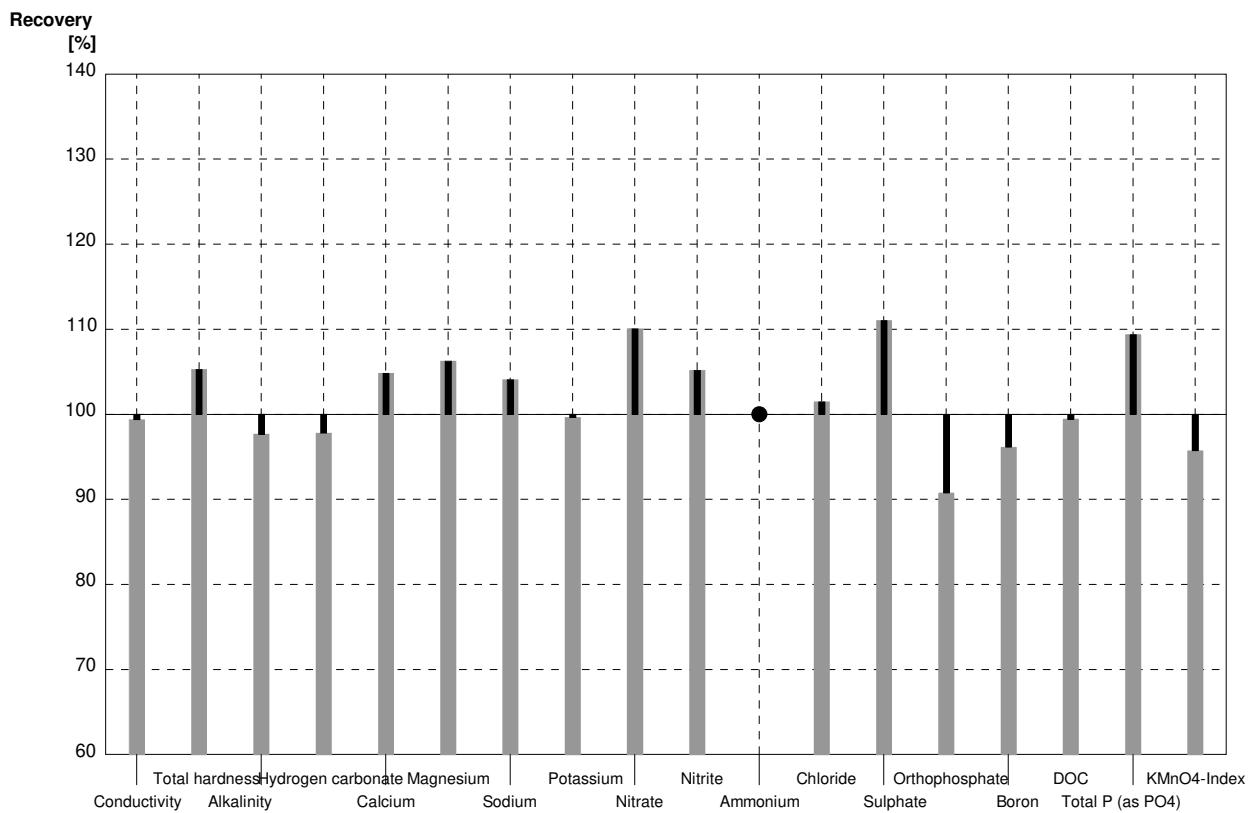
**Sample N157A**

**Laboratory AF**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	653	0,6	$\mu\text{S}/\text{cm}$	99%
Total hardness	2,83	0,03	2,98		$\text{mmol/l}$	105%
Alkalinity	3,03	0,04	2,96	0,02	$\text{mmol/l}$	98%
Hydrogen carbonate	182	3	178	1,5	$\text{mg/l}$	98%
Calcium	76,6	1,0	80,3	0,5	$\text{mg/l}$	105%
Magnesium	22,3	0,2	23,7	0,2	$\text{mg/l}$	106%
Sodium	19,6	0,5	20,4	0,4	$\text{mg/l}$	104%
Potassium	5,90	0,05	5,88	0,07	$\text{mg/l}$	100%
Nitrate	12,9	0,2	14,2	0,1	$\text{mg/l}$	110%
Nitrite	0,058	0,001	0,061	0,003	$\text{mg/l}$	105%
Ammonium	<0,02*		0,0163	0,002	$\text{mg/l}$	•
Chloride	61,1	0,9	62	0,4	$\text{mg/l}$	101%
Sulphate	79,6	0,9	88,4	0,4	$\text{mg/l}$	111%
Orthophosphate	0,065	0,001	0,059	0,003	$\text{mg/l}$	91%
Boron	0,052	0,001	0,050	0,002	$\text{mg/l}$	96%
DOC	8,93	0,04	8,88	0,01	$\text{mg/l}$	99%
Total P (as PO4)	0,117	0,001	0,128	0,004	$\text{mg/l}$	109%
KMnO4-Index	5,64	0,17	5,4	0,7	$\text{mg/l}$	96%

\* guidance value, see also report, page 4

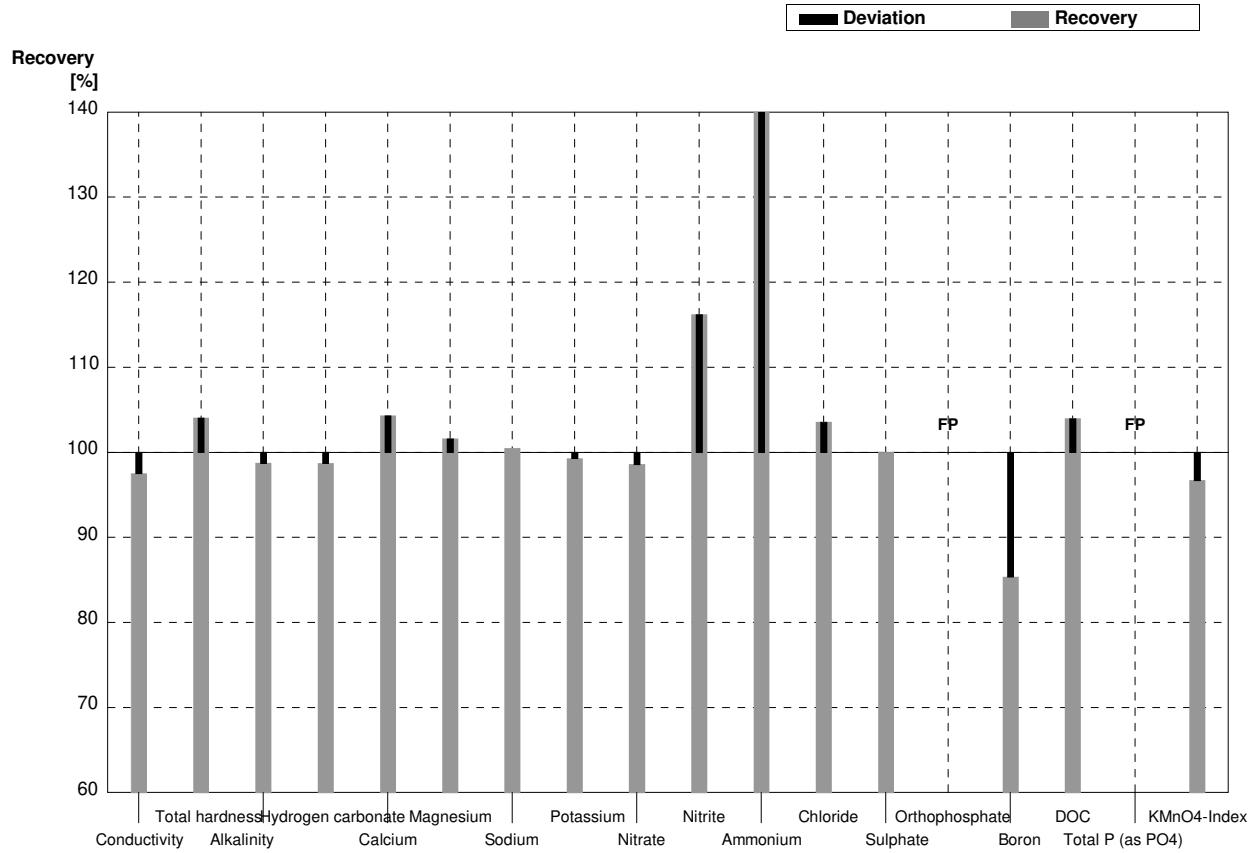
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory AF**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	352	1,0	$\mu\text{S}/\text{cm}$	98%
Total hardness	1,23	0,01	1,28		$\text{mmol/l}$	104%
Alkalinity	1,58	0,01	1,56	0,01	$\text{mmol/l}$	99%
Hydrogen carbonate	93,2	0,7	92	0,6	$\text{mg/l}$	99%
Calcium	34,8	0,4	36,3	0,3	$\text{mg/l}$	104%
Magnesium	8,84	0,09	8,98	0,12	$\text{mg/l}$	102%
Sodium	20,3	0,2	20,4	0,4	$\text{mg/l}$	100%
Potassium	2,77	0,03	2,75	0,05	$\text{mg/l}$	99%
Nitrate	21,3	0,4	21,0	0,7	$\text{mg/l}$	99%
Nitrite	0,0278	0,0004	0,0323	0,0028	$\text{mg/l}$	116%
Ammonium	0,0303	0,0031	0,051	0,002	$\text{mg/l}$	168%
Chloride	33,9	0,6	35,1	0,5	$\text{mg/l}$	104%
Sulphate	26,7	0,3	26,7	1,3	$\text{mg/l}$	100%
Orthophosphate	<0,009		0,0154	0,0034	$\text{mg/l}$	FP
Boron	0,082	0,001	0,070	0,002	$\text{mg/l}$	85%
DOC	3,28	0,02	3,41	0,04	$\text{mg/l}$	104%
Total P (as PO <sub>4</sub> )	<0,009		0,061	0,004	$\text{mg/l}$	FP
KMnO <sub>4</sub> -Index	3,04	0,14	2,94	0,1	$\text{mg/l}$	97%



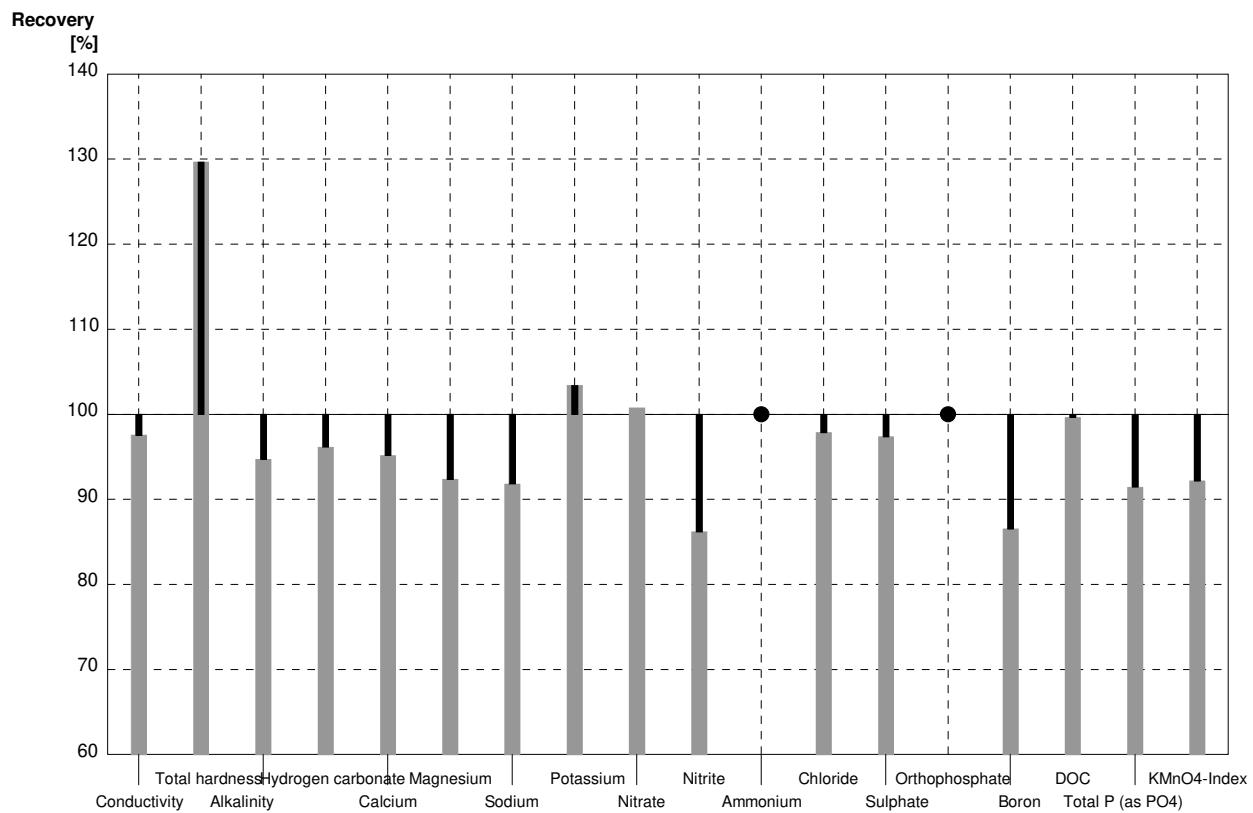
**Sample N157A**

**Laboratory AG**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	641	32	$\mu\text{S}/\text{cm}$	98%
Total hardness	2,83	0,03	3,67	0,53	mmol/l	130%
Alkalinity	3,03	0,04	2,87	0,14	mmol/l	95%
Hydrogen carbonate	182	3	175	9	mg/l	96%
Calcium	76,6	1,0	72,9	15	mg/l	95%
Magnesium	22,3	0,2	20,6	4,1	mg/l	92%
Sodium	19,6	0,5	18,0	3,6	mg/l	92%
Potassium	5,90	0,05	6,1	1,2	mg/l	103%
Nitrate	12,9	0,2	13,0	2,0	mg/l	101%
Nitrite	0,058	0,001	0,050	0,010	mg/l	86%
Ammonium	<0,02*		0,0200	0,0100	mg/l	•
Chloride	61,1	0,9	59,8	9,0	mg/l	98%
Sulphate	79,6	0,9	77,5	11,6	mg/l	97%
Orthophosphate	0,065	0,001	<0,5		mg/l	•
Boron	0,052	0,001	0,0450	0,009	mg/l	87%
DOC	8,93	0,04	8,9	1,8	mg/l	100%
Total P (as PO <sub>4</sub> )	0,117	0,001	0,107	0,02	mg/l	91%
KMnO <sub>4</sub> -Index	5,64	0,17	5,2	0,5	mg/l	92%

\* guidance value, see also report, page 4

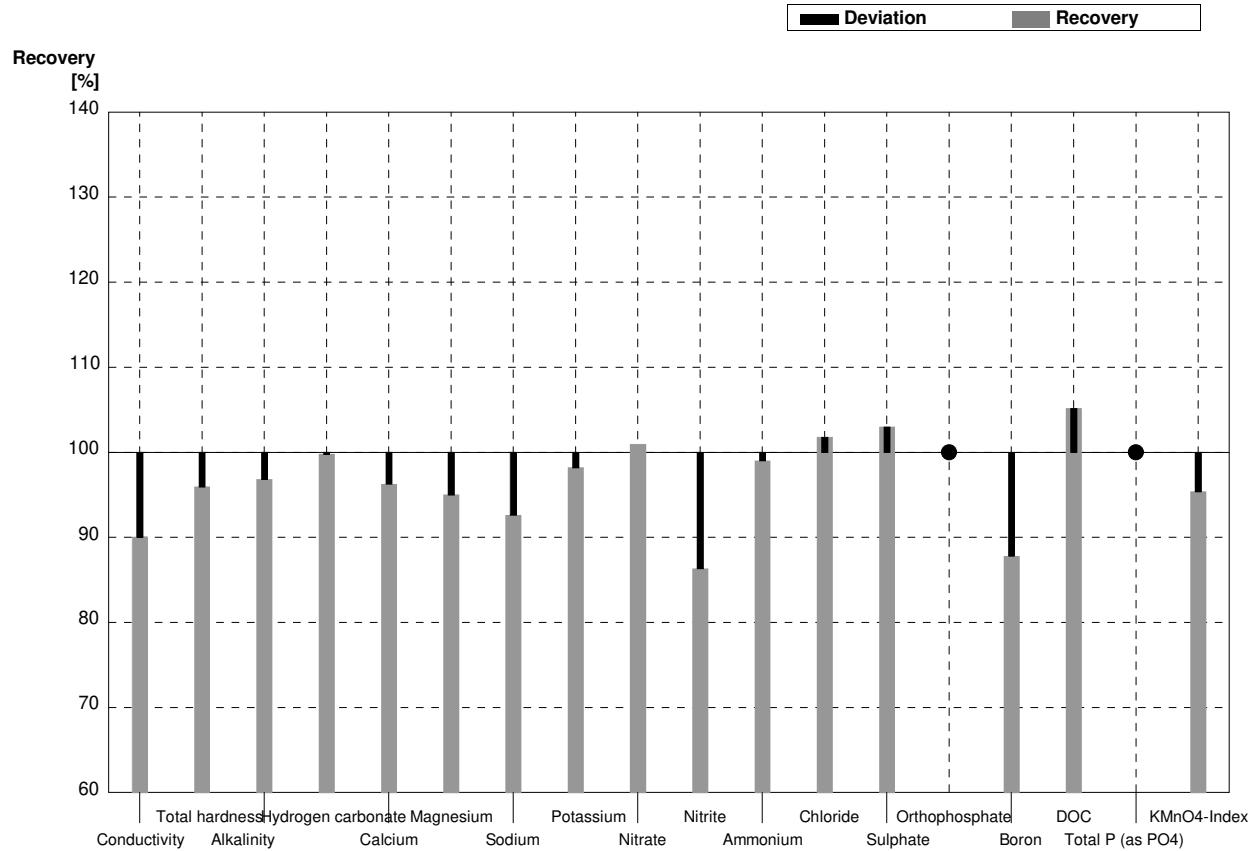
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory AG**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	325	18	$\mu\text{S}/\text{cm}$	90%
Total hardness	1,23	0,01	1,18	0,24	$\text{mmol/l}$	96%
Alkalinity	1,58	0,01	1,53	0,08	$\text{mmol/l}$	97%
Hydrogen carbonate	93,2	0,7	93,0	4,7	$\text{mg/l}$	100%
Calcium	34,8	0,4	33,5	6,7	$\text{mg/l}$	96%
Magnesium	8,84	0,09	8,4	1,7	$\text{mg/l}$	95%
Sodium	20,3	0,2	18,8	3,8	$\text{mg/l}$	93%
Potassium	2,77	0,03	2,72	0,54	$\text{mg/l}$	98%
Nitrate	21,3	0,4	21,5	3,2	$\text{mg/l}$	101%
Nitrite	0,0278	0,0004	0,0240	0,004	$\text{mg/l}$	86%
Ammonium	0,0303	0,0031	0,0300	0,015	$\text{mg/l}$	99%
Chloride	33,9	0,6	34,5	5,2	$\text{mg/l}$	102%
Sulphate	26,7	0,3	27,5	4,1	$\text{mg/l}$	103%
Orthophosphate	<0,009		<0,5		$\text{mg/l}$	•
Boron	0,082	0,001	0,0720	0,0140	$\text{mg/l}$	88%
DOC	3,28	0,02	3,45	0,70	$\text{mg/l}$	105%
Total P (as PO4)	<0,009		<0,031		$\text{mg/l}$	•
KMnO4-Index	3,04	0,14	2,90	0,29	$\text{mg/l}$	95%



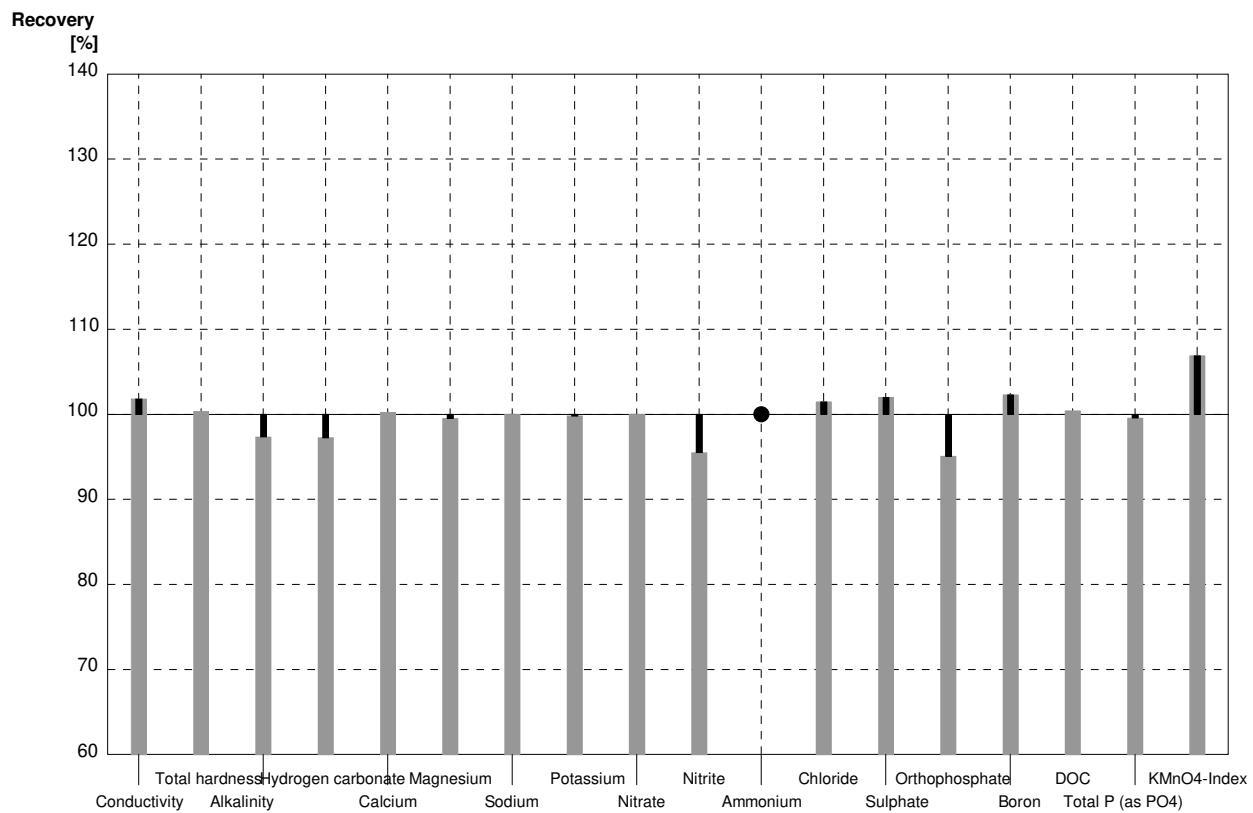
**Sample N157A**

**Laboratory AH**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	669	0,160	$\mu\text{S}/\text{cm}$	102%
Total hardness	2,83	0,03	2,84	0,0357	mmol/l	100%
Alkalinity	3,03	0,04	2,95	0,110	mmol/l	97%
Hydrogen carbonate	182	3	177	3,54	mg/l	97%
Calcium	76,6	1,0	76,8	0,757	mg/l	100%
Magnesium	22,3	0,2	22,2	0,733	mg/l	100%
Sodium	19,6	0,5	19,6	0,620	mg/l	100%
Potassium	5,90	0,05	5,89	0,439	mg/l	100%
Nitrate	12,9	0,2	12,9	0,610	mg/l	100%
Nitrite	0,058	0,001	0,0554	0,00186	mg/l	96%
Ammonium	<0,02*		0,0150	0,00233	mg/l	•
Chloride	61,1	0,9	62,0	0,710	mg/l	101%
Sulphate	79,6	0,9	81,2	0,860	mg/l	102%
Orthophosphate	0,065	0,001	0,0618	0,00166	mg/l	95%
Boron	0,052	0,001	0,0532	0,00117	mg/l	102%
DOC	8,93	0,04	8,97	0,0436	mg/l	100%
Total P (as PO4)	0,117	0,001	0,1165	0,00303	mg/l	100%
KMnO4-Index	5,64	0,17	6,03		mg/l	107%

\* guidance value, see also report, page 4

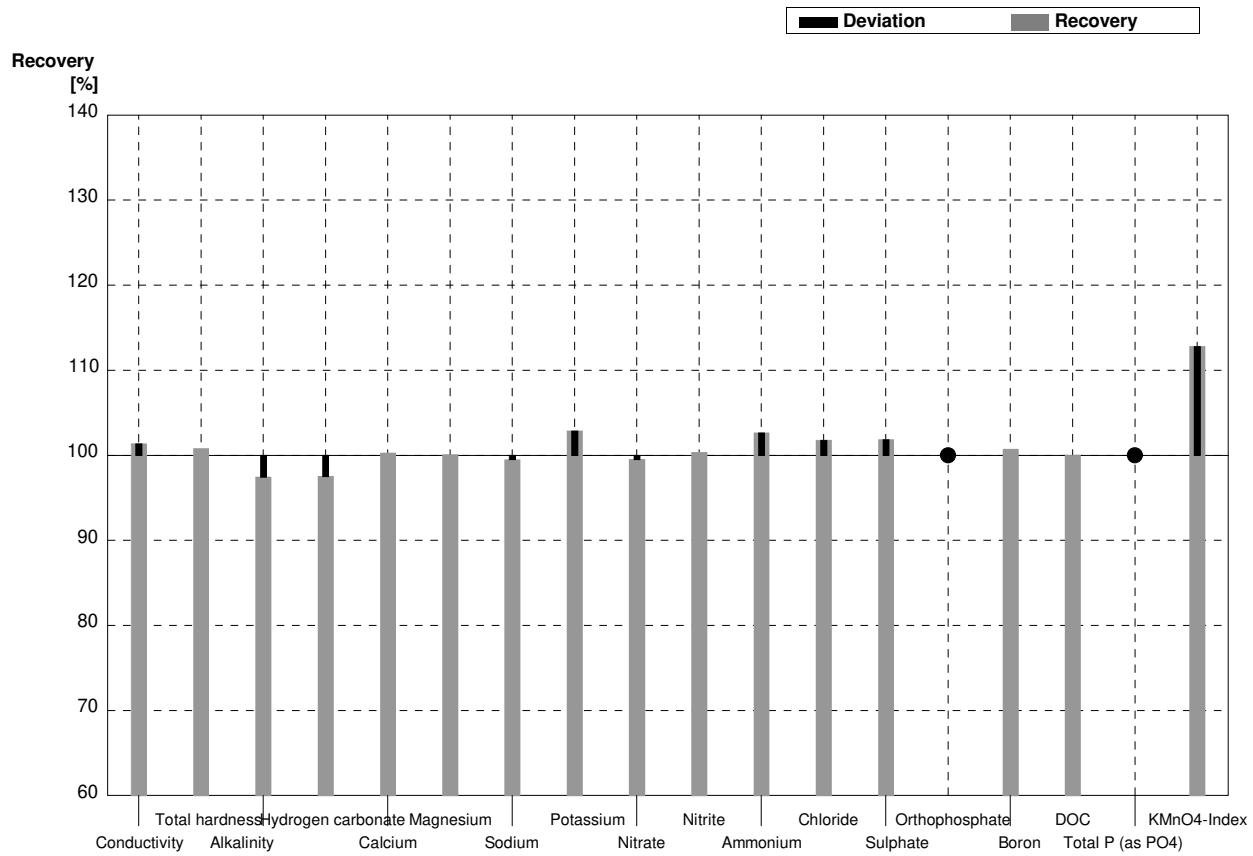
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory AH**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	366	0,260	$\mu\text{S}/\text{cm}$	101%
Total hardness	1,23	0,01	1,24	0,0196	$\text{mmol/l}$	101%
Alkalinity	1,58	0,01	1,54	0,0800	$\text{mmol/l}$	97%
Hydrogen carbonate	93,2	0,7	90,9	1,82	$\text{mg/l}$	98%
Calcium	34,8	0,4	34,9	0,751	$\text{mg/l}$	100%
Magnesium	8,84	0,09	8,85	0,147	$\text{mg/l}$	100%
Sodium	20,3	0,2	20,2	0,619	$\text{mg/l}$	100%
Potassium	2,77	0,03	2,85	0,0245	$\text{mg/l}$	103%
Nitrate	21,3	0,4	21,2	0,520	$\text{mg/l}$	100%
Nitrite	0,0278	0,0004	0,0279	0,00185	$\text{mg/l}$	100%
Ammonium	0,0303	0,0031	0,0311	0,00227	$\text{mg/l}$	103%
Chloride	33,9	0,6	34,5	0,360	$\text{mg/l}$	102%
Sulphate	26,7	0,3	27,2	0,370	$\text{mg/l}$	102%
Orthophosphate	<0,009		[0,002]		$\text{mg/l}$	•
Boron	0,082	0,001	0,0826	0,00112	$\text{mg/l}$	101%
DOC	3,28	0,02	3,28	0,0334	$\text{mg/l}$	100%
Total P (as PO4)	<0,009		[0,004]		$\text{mg/l}$	•
KMnO4-Index	3,04	0,14	3,43		$\text{mg/l}$	113%



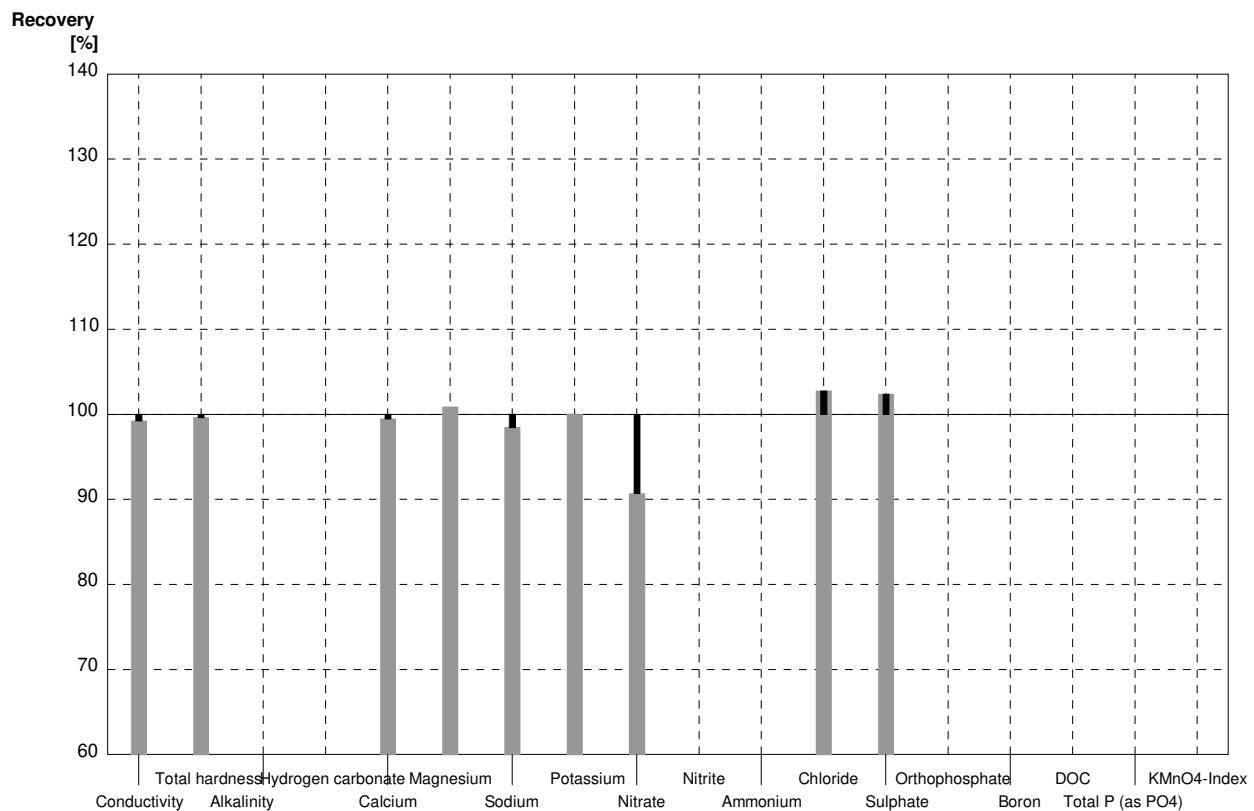
**Sample N157A**

**Laboratory AI**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	652	15	$\mu\text{S}/\text{cm}$	99%
Total hardness	2,83	0,03	2,82	0,1	mmol/l	100%
Alkalinity	3,03	0,04			mmol/l	
Hydrogen carbonate	182	3			mg/l	
Calcium	76,6	1,0	76,2	7,6	mg/l	99%
Magnesium	22,3	0,2	22,5	2,4	mg/l	101%
Sodium	19,6	0,5	19,3	1,9	mg/l	98%
Potassium	5,90	0,05	5,9	0,6	mg/l	100%
Nitrate	12,9	0,2	11,7	1,8	mg/l	91%
Nitrite	0,058	0,001			mg/l	
Ammonium	<0,02*				mg/l	
Chloride	61,1	0,9	62,8	6,3	mg/l	103%
Sulphate	79,6	0,9	81,5	8,2	mg/l	102%
Orthophosphate	0,065	0,001			mg/l	
Boron	0,052	0,001			mg/l	
DOC	8,93	0,04			mg/l	
Total P (as PO <sub>4</sub> )	0,117	0,001			mg/l	
KMnO <sub>4</sub> -Index	5,64	0,17			mg/l	

\* guidance value, see also report, page 4

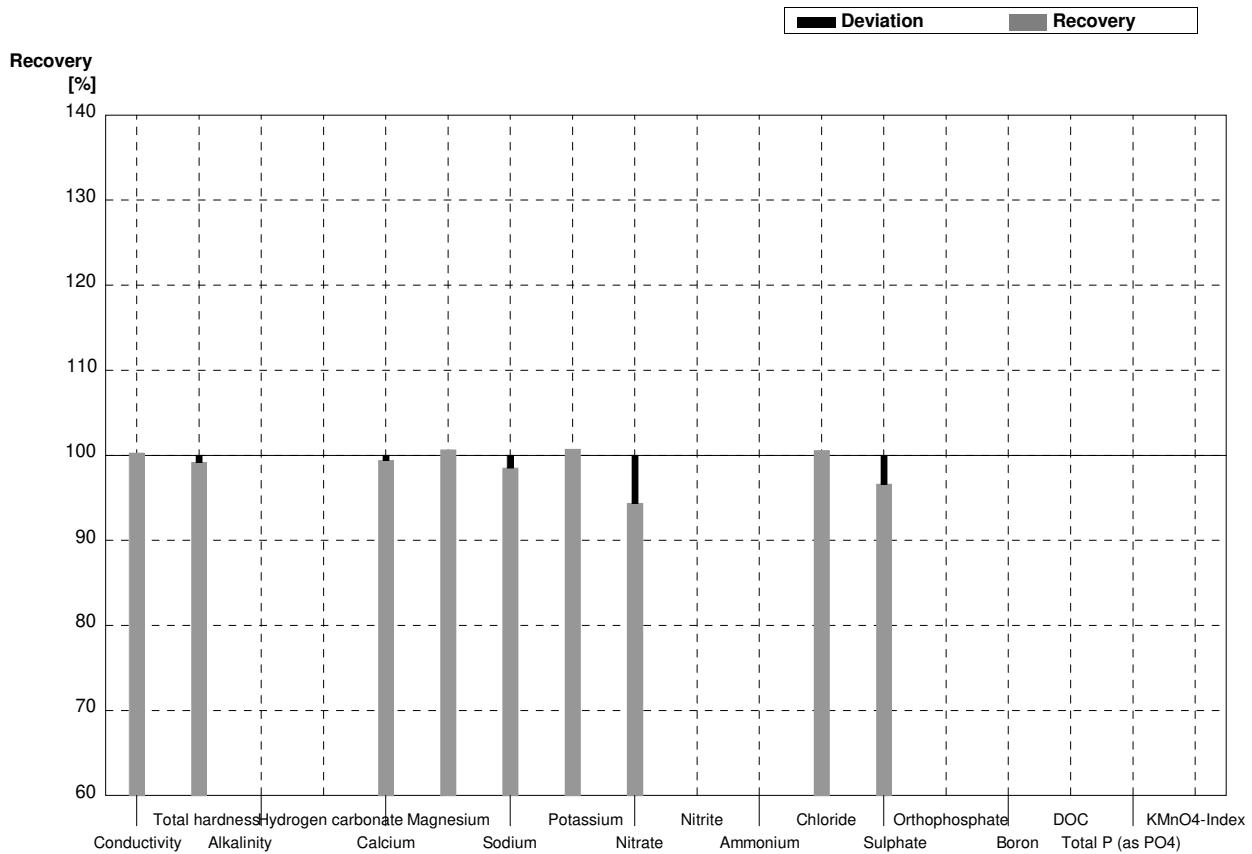
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory AI**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	362	15	$\mu\text{S}/\text{cm}$	100%
Total hardness	1,23	0,01	1,22	0,1	mmol/l	99%
Alkalinity	1,58	0,01			mmol/l	
Hydrogen carbonate	93,2	0,7			mg/l	
Calcium	34,8	0,4	34,6	3,5	mg/l	99%
Magnesium	8,84	0,09	8,9	0,9	mg/l	101%
Sodium	20,3	0,2	20,0	2,0	mg/l	99%
Potassium	2,77	0,03	2,79	0,3	mg/l	101%
Nitrate	21,3	0,4	20,1	2,0	mg/l	94%
Nitrite	0,0278	0,0004			mg/l	
Ammonium	0,0303	0,0031			mg/l	
Chloride	33,9	0,6	34,1	3,8	mg/l	101%
Sulphate	26,7	0,3	25,8	2,6	mg/l	97%
Orthophosphate	<0,009				mg/l	
Boron	0,082	0,001			mg/l	
DOC	3,28	0,02			mg/l	
Total P (as PO <sub>4</sub> )	<0,009				mg/l	
KMnO <sub>4</sub> -Index	3,04	0,14			mg/l	



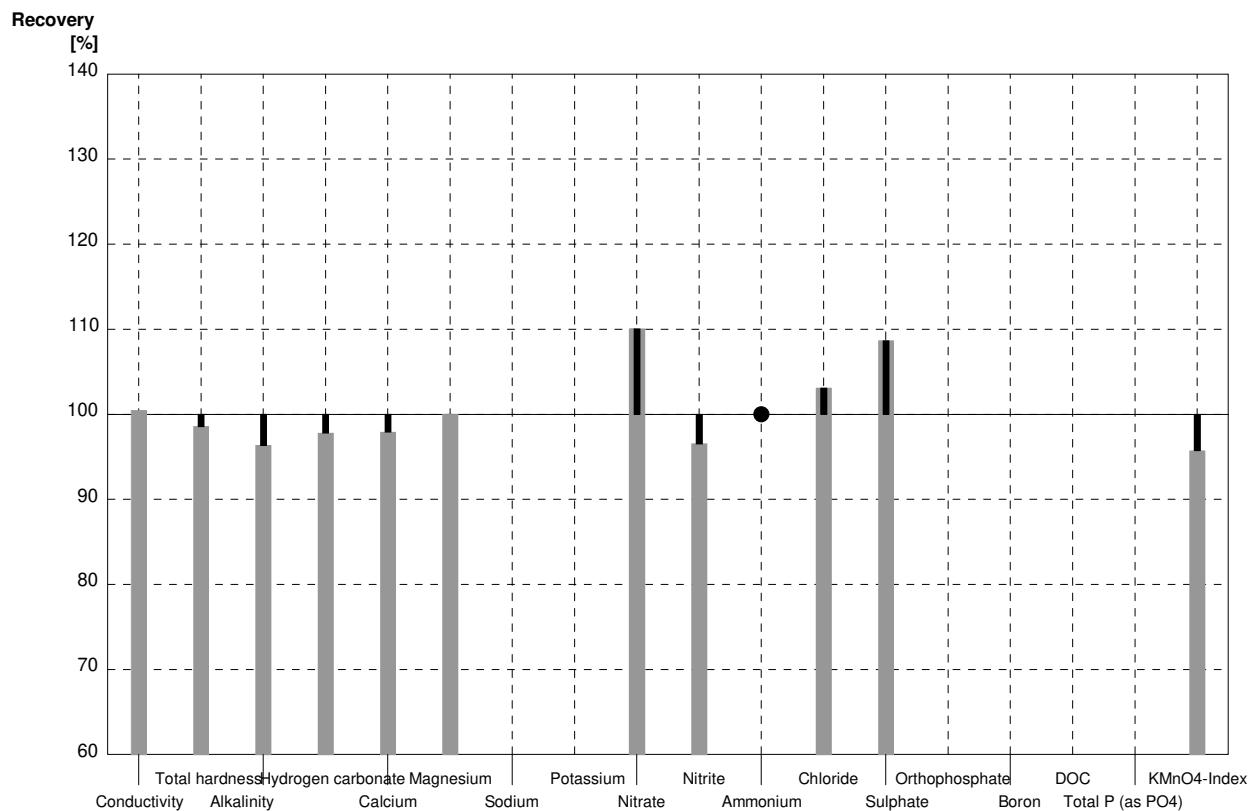
**Sample N157A**

**Laboratory AJ**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	660	33	$\mu\text{S}/\text{cm}$	100%
Total hardness	2,83	0,03	2,79	0,3	$\text{mmol/l}$	99%
Alkalinity	3,03	0,04	2,92	0,3	$\text{mmol/l}$	96%
Hydrogen carbonate	182	3	178	18	$\text{mg/l}$	98%
Calcium	76,6	1,0	75	7,5	$\text{mg/l}$	98%
Magnesium	22,3	0,2	22,3	2,2	$\text{mg/l}$	100%
Sodium	19,6	0,5			$\text{mg/l}$	
Potassium	5,90	0,05			$\text{mg/l}$	
Nitrate	12,9	0,2	14,2	1,5	$\text{mg/l}$	110%
Nitrite	0,058	0,001	0,056	0,006	$\text{mg/l}$	97%
Ammonium	<0,02*		0,0130	0,0015	$\text{mg/l}$	•
Chloride	61,1	0,9	63	6	$\text{mg/l}$	103%
Sulphate	79,6	0,9	86,5	8,6	$\text{mg/l}$	109%
Orthophosphate	0,065	0,001			$\text{mg/l}$	
Boron	0,052	0,001			$\text{mg/l}$	
DOC	8,93	0,04			$\text{mg/l}$	
Total P (as PO <sub>4</sub> )	0,117	0,001			$\text{mg/l}$	
KMnO <sub>4</sub> -Index	5,64	0,17	5,4	0,6	$\text{mg/l}$	96%

\* guidance value, see also report, page 4

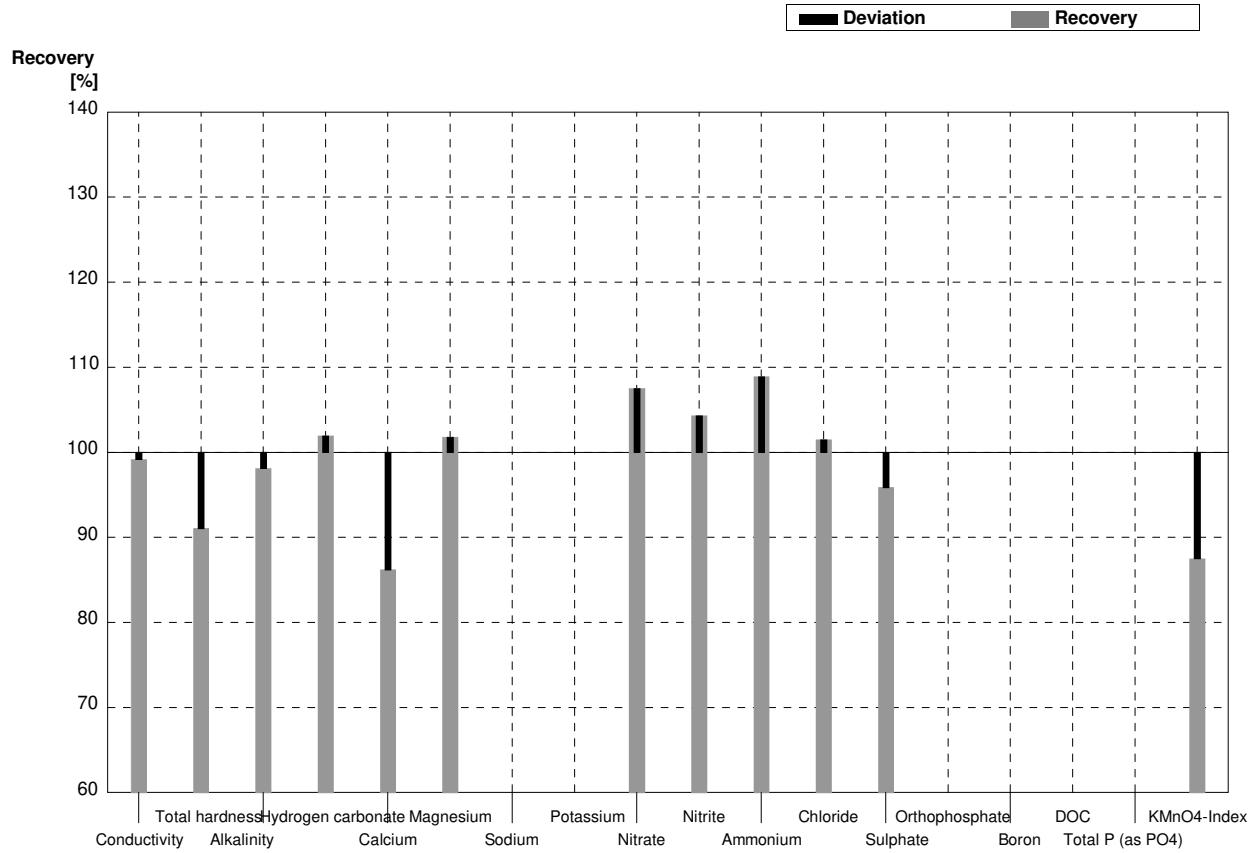
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory AJ**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	358	18	$\mu\text{S}/\text{cm}$	99%
Total hardness	1,23	0,01	1,12	0,11	mmol/l	91%
Alkalinity	1,58	0,01	1,55	0,16	mmol/l	98%
Hydrogen carbonate	93,2	0,7	95	9,5	mg/l	102%
Calcium	34,8	0,4	30,0	3	mg/l	86%
Magnesium	8,84	0,09	9,0	0,9	mg/l	102%
Sodium	20,3	0,2			mg/l	
Potassium	2,77	0,03			mg/l	
Nitrate	21,3	0,4	22,9	2,3	mg/l	108%
Nitrite	0,0278	0,0004	0,0290	0,003	mg/l	104%
Ammonium	0,0303	0,0031	0,0330	0,003	mg/l	109%
Chloride	33,9	0,6	34,4	3,5	mg/l	101%
Sulphate	26,7	0,3	25,6	2,6	mg/l	96%
Orthophosphate	<0,009				mg/l	
Boron	0,082	0,001			mg/l	
DOC	3,28	0,02			mg/l	
Total P (as PO4)	<0,009				mg/l	
KMnO4-Index	3,04	0,14	2,66	0,3	mg/l	88%



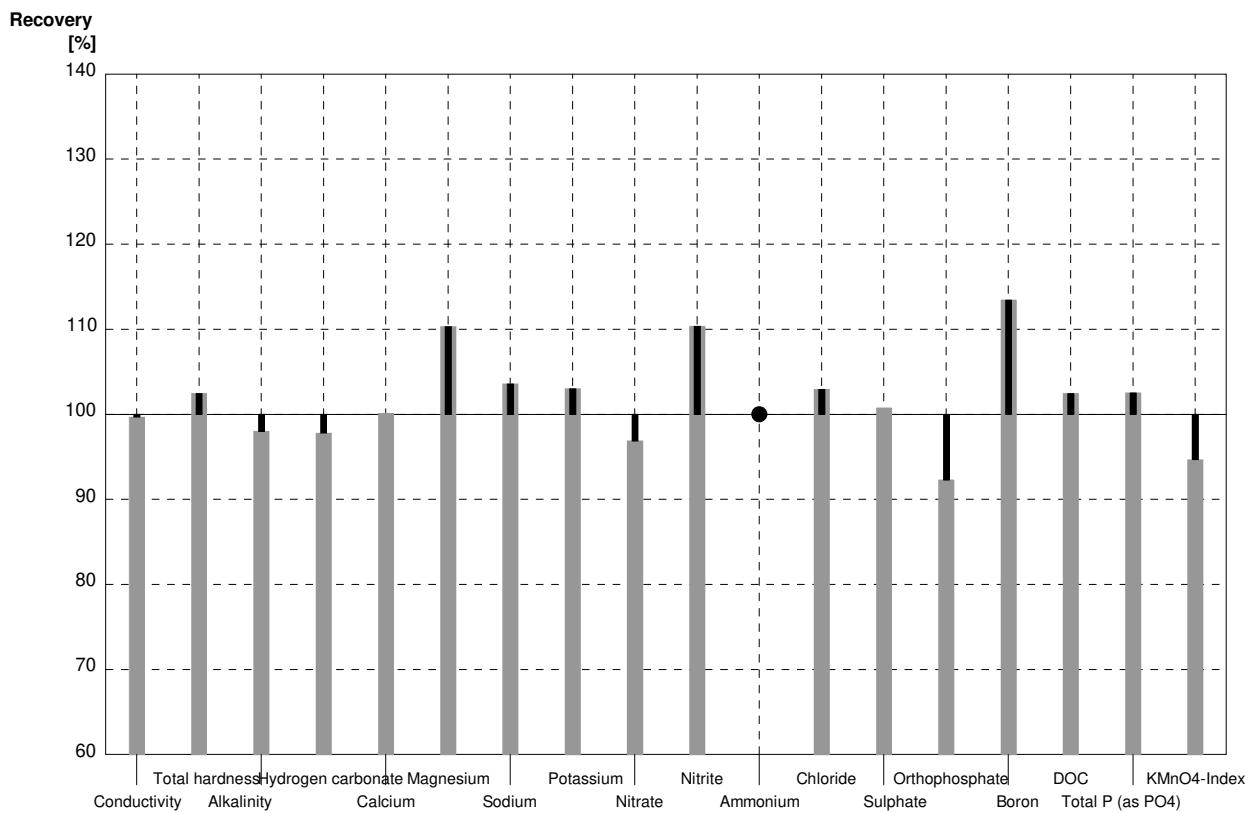
**Sample N157A**

**Laboratory AK**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	655	16,4	$\mu\text{S}/\text{cm}$	100%
Total hardness	2,83	0,03	2,90	0,29	$\text{mmol/l}$	102%
Alkalinity	3,03	0,04	2,97	0,30	$\text{mmol/l}$	98%
Hydrogen carbonate	182	3	178	17,8	$\text{mg/l}$	98%
Calcium	76,6	1,0	76,7	7,7	$\text{mg/l}$	100%
Magnesium	22,3	0,2	24,6	2,5	$\text{mg/l}$	110%
Sodium	19,6	0,5	20,3	2,03	$\text{mg/l}$	104%
Potassium	5,90	0,05	6,08	0,61	$\text{mg/l}$	103%
Nitrate	12,9	0,2	12,5	1,25	$\text{mg/l}$	97%
Nitrite	0,058	0,001	0,064	0,006	$\text{mg/l}$	110%
Ammonium	<0,02*		0,0140	0,0014	$\text{mg/l}$	•
Chloride	61,1	0,9	62,9	6,29	$\text{mg/l}$	103%
Sulphate	79,6	0,9	80,2	8,02	$\text{mg/l}$	101%
Orthophosphate	0,065	0,001	0,060	0,006	$\text{mg/l}$	92%
Boron	0,052	0,001	0,059	0,006	$\text{mg/l}$	113%
DOC	8,93	0,04	9,15	0,92	$\text{mg/l}$	102%
Total P (as PO <sub>4</sub> )	0,117	0,001	0,120	0,012	$\text{mg/l}$	103%
KMnO <sub>4</sub> -Index	5,64	0,17	5,34	0,534	$\text{mg/l}$	95%

\* guidance value, see also report, page 4

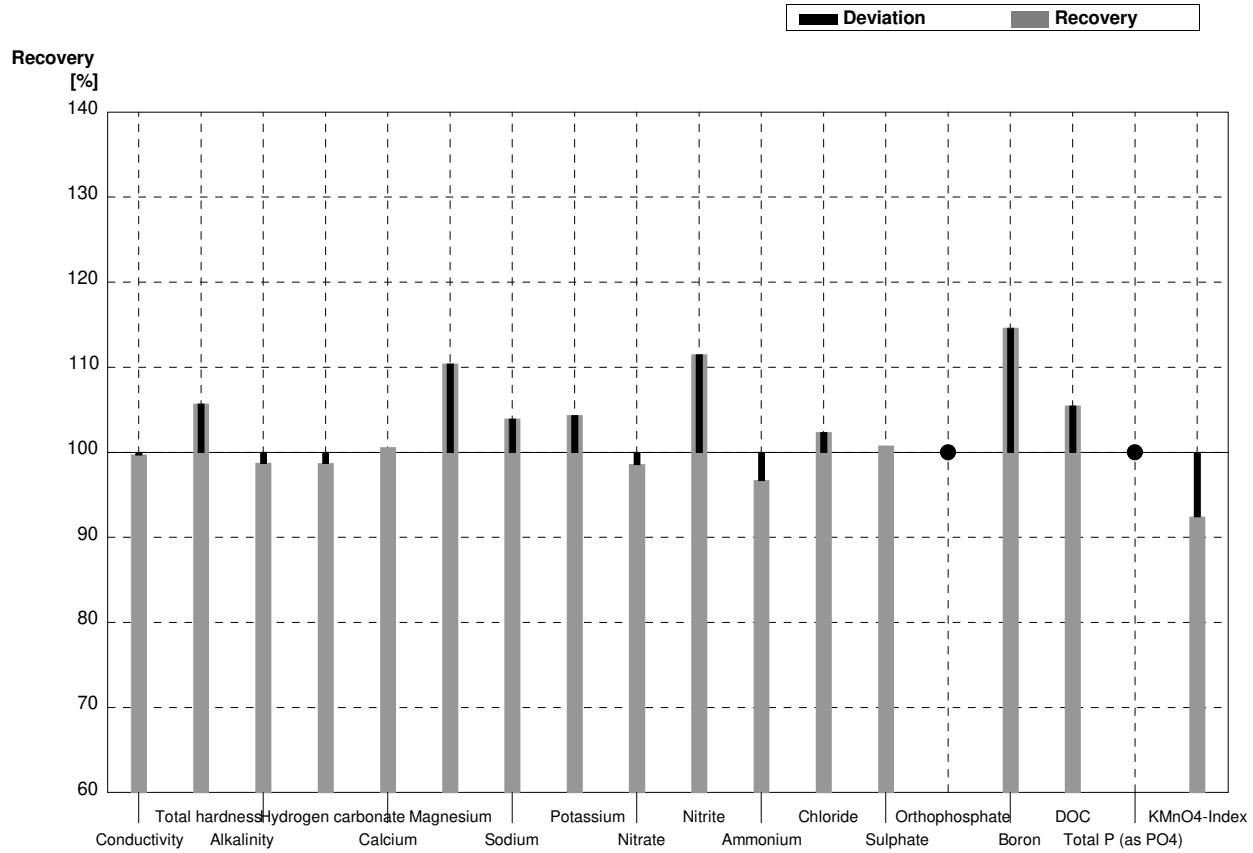
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory AK**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	360	9,0	$\mu\text{S}/\text{cm}$	100%
Total hardness	1,23	0,01	1,30	0,13	$\text{mmol/l}$	106%
Alkalinity	1,58	0,01	1,56	0,16	$\text{mmol/l}$	99%
Hydrogen carbonate	93,2	0,7	92	9,2	$\text{mg/l}$	99%
Calcium	34,8	0,4	35,0	3,5	$\text{mg/l}$	101%
Magnesium	8,84	0,09	9,76	0,98	$\text{mg/l}$	110%
Sodium	20,3	0,2	21,1	2,11	$\text{mg/l}$	104%
Potassium	2,77	0,03	2,89	0,29	$\text{mg/l}$	104%
Nitrate	21,3	0,4	21,0	2,1	$\text{mg/l}$	99%
Nitrite	0,0278	0,0004	0,0310	0,0031	$\text{mg/l}$	112%
Ammonium	0,0303	0,0031	0,0293	0,0029	$\text{mg/l}$	97%
Chloride	33,9	0,6	34,7	3,47	$\text{mg/l}$	102%
Sulphate	26,7	0,3	26,9	2,69	$\text{mg/l}$	101%
Orthophosphate	<0,009		<0,006		$\text{mg/l}$	•
Boron	0,082	0,001	0,094	0,0094	$\text{mg/l}$	115%
DOC	3,28	0,02	3,46	0,35	$\text{mg/l}$	105%
Total P (as PO4)	<0,009		<0,050		$\text{mg/l}$	•
KMnO4-Index	3,04	0,14	2,81	0,281	$\text{mg/l}$	92%

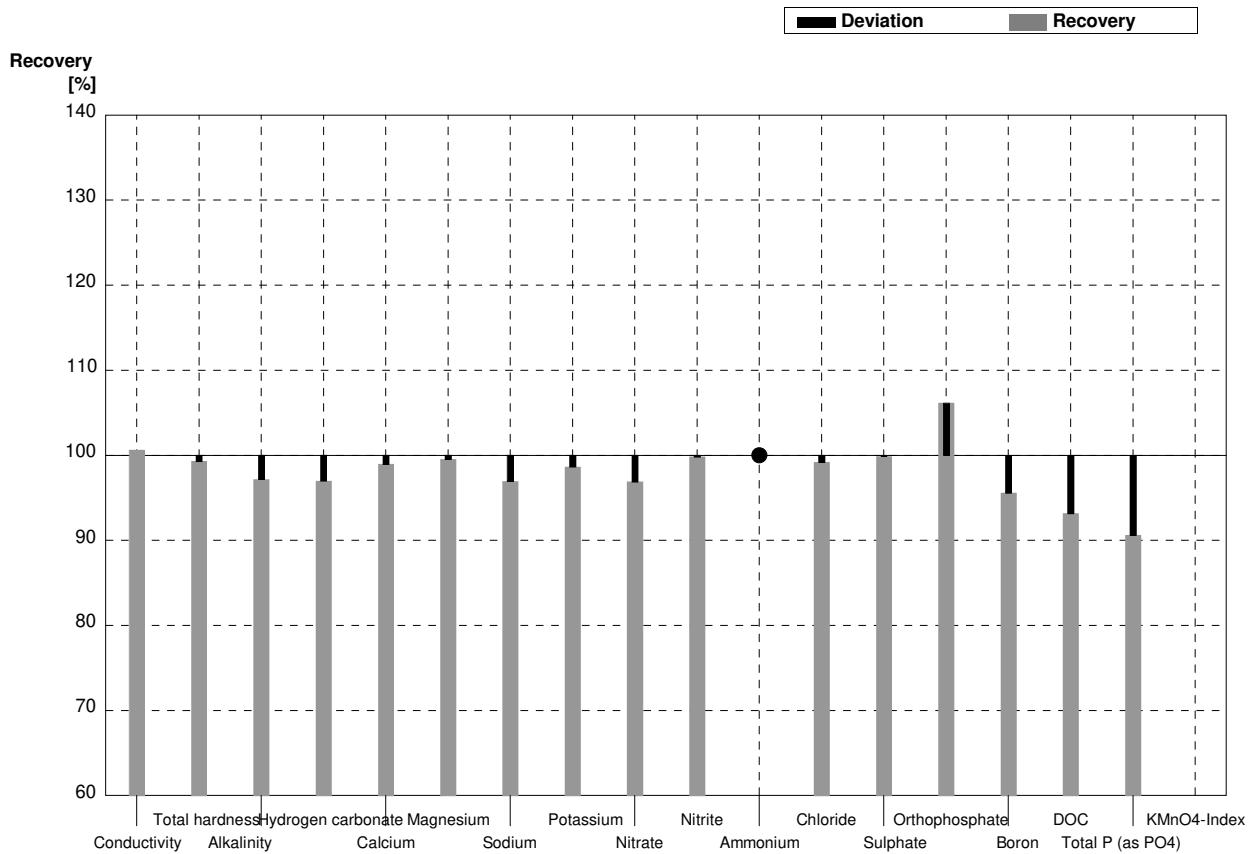


**Sample N157A**

**Laboratory AL**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	661	26	$\mu\text{S}/\text{cm}$	101%
Total hardness	2,83	0,03	2,81	0,15	$\text{mmol/l}$	99%
Alkalinity	3,03	0,04	2,944	0,211	$\text{mmol/l}$	97%
Hydrogen carbonate	182	3	176,5	12,9	$\text{mg/l}$	97%
Calcium	76,6	1,0	75,8	3,6	$\text{mg/l}$	99%
Magnesium	22,3	0,2	22,2	1,4	$\text{mg/l}$	100%
Sodium	19,6	0,5	19,0	1,0	$\text{mg/l}$	97%
Potassium	5,90	0,05	5,82	0,25	$\text{mg/l}$	99%
Nitrate	12,9	0,2	12,5	0,8	$\text{mg/l}$	97%
Nitrite	0,058	0,001	0,0579	0,0061	$\text{mg/l}$	100%
Ammonium	<0,02*		0,0152	0,0050	$\text{mg/l}$	•
Chloride	61,1	0,9	60,6	4,8	$\text{mg/l}$	99%
Sulphate	79,6	0,9	79,5	7,3	$\text{mg/l}$	100%
Orthophosphate	0,065	0,001	0,069	0,009	$\text{mg/l}$	106%
Boron	0,052	0,001	0,0497	0,0054	$\text{mg/l}$	96%
DOC	8,93	0,04	8,32	1,48	$\text{mg/l}$	93%
Total P (as PO <sub>4</sub> )	0,117	0,001	0,106	0,018	$\text{mg/l}$	91%
KMnO <sub>4</sub> -Index	5,64	0,17			$\text{mg/l}$	

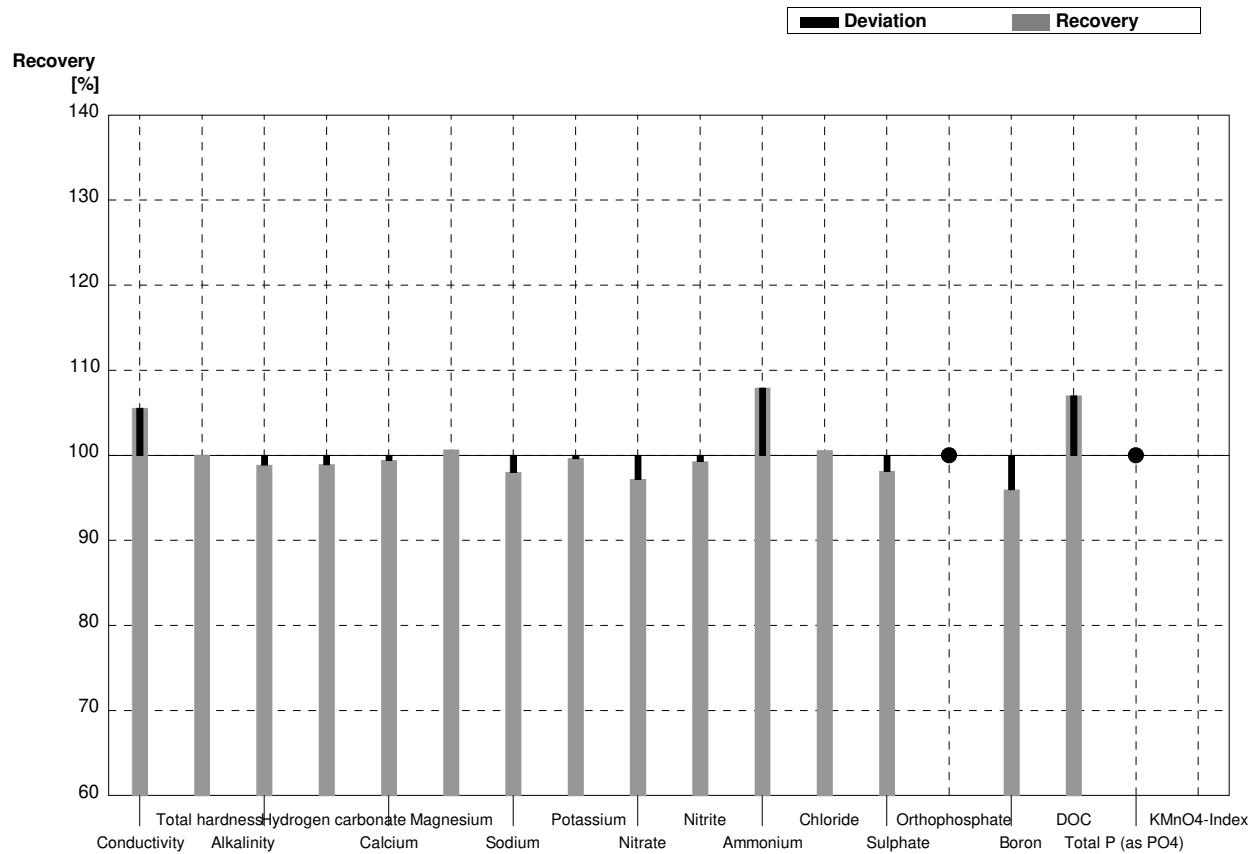
\* guidance value, see also report, page 4



**Sample N157B**

**Laboratory AL**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	381	15	$\mu\text{S}/\text{cm}$	106%
Total hardness	1,23	0,01	1,23	0,07	mmol/l	100%
Alkalinity	1,58	0,01	1,562	0,125	mmol/l	99%
Hydrogen carbonate	93,2	0,7	92,2	7,6	mg/l	99%
Calcium	34,8	0,4	34,6	1,7	mg/l	99%
Magnesium	8,84	0,09	8,9	0,6	mg/l	101%
Sodium	20,3	0,2	19,9	1,0	mg/l	98%
Potassium	2,77	0,03	2,76	0,15	mg/l	100%
Nitrate	21,3	0,4	20,7	1,3	mg/l	97%
Nitrite	0,0278	0,0004	0,0276	0,0040	mg/l	99%
Ammonium	0,0303	0,0031	0,0327	0,0074	mg/l	108%
Chloride	33,9	0,6	34,1	2,8	mg/l	101%
Sulphate	26,7	0,3	26,2	2,5	mg/l	98%
Orthophosphate	<0,009		<0,010		mg/l	•
Boron	0,082	0,001	0,0787	0,0080	mg/l	96%
DOC	3,28	0,02	3,51	0,71	mg/l	107%
Total P (as PO4)	<0,009		<0,010		mg/l	•
KMnO4-Index	3,04	0,14			mg/l	



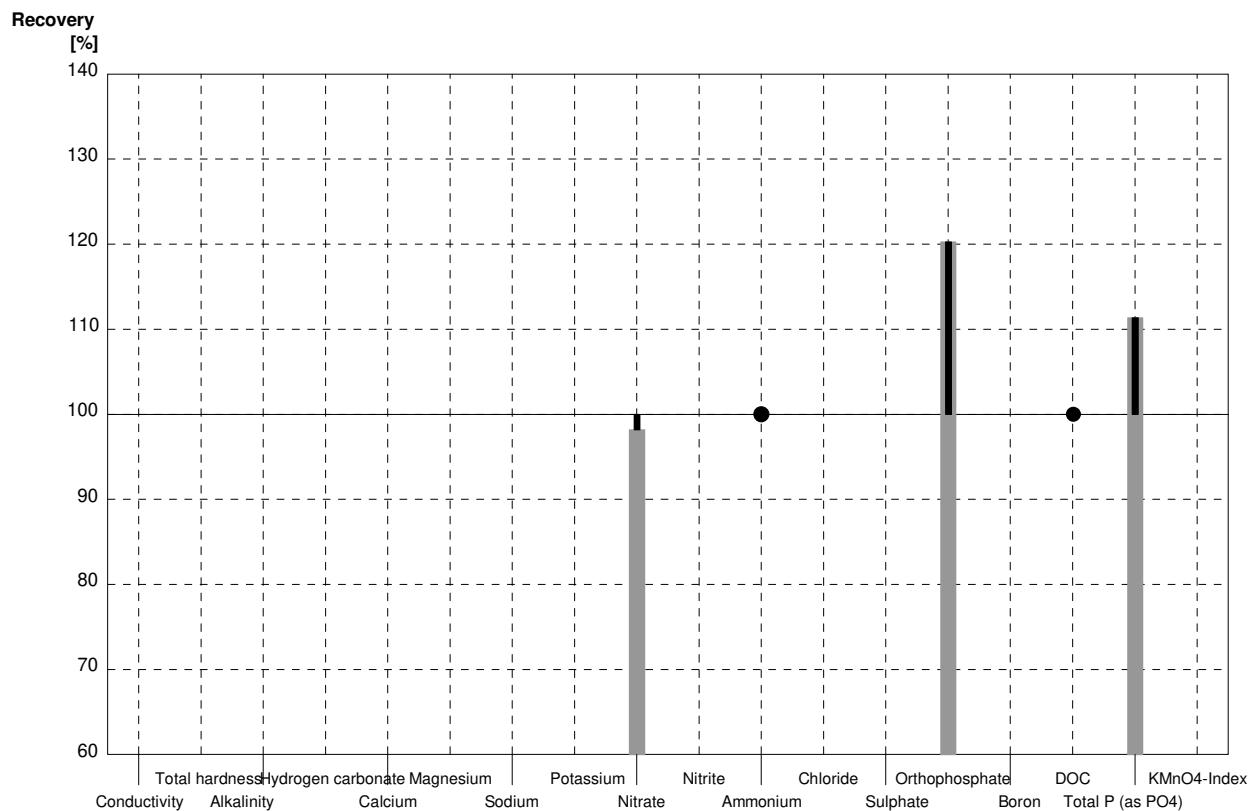
**Sample N157A**

**Laboratory AM**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3			$\mu\text{S}/\text{cm}$	
Total hardness	2,83	0,03			$\text{mmol/l}$	
Alkalinity	3,03	0,04			$\text{mmol/l}$	
Hydrogen carbonate	182	3			$\text{mg/l}$	
Calcium	76,6	1,0			$\text{mg/l}$	
Magnesium	22,3	0,2			$\text{mg/l}$	
Sodium	19,6	0,5			$\text{mg/l}$	
Potassium	5,90	0,05			$\text{mg/l}$	
Nitrate	12,9	0,2	12,67	3,21	$\text{mg/l}$	98%
Nitrite	0,058	0,001			$\text{mg/l}$	
Ammonium	<0,02*		0,0137	0,00150	$\text{mg/l}$	•
Chloride	61,1	0,9			$\text{mg/l}$	
Sulphate	79,6	0,9			$\text{mg/l}$	
Orthophosphate	0,065	0,001	0,0782	0,00430	$\text{mg/l}$	120%
Boron	0,052	0,001			$\text{mg/l}$	
DOC	8,93	0,04	>4		$\text{mg/l}$	•
Total P (as PO4)	0,117	0,001	0,1303	0,00430	$\text{mg/l}$	111%
KMnO4-Index	5,64	0,17			$\text{mg/l}$	

\* guidance value, see also report, page 4

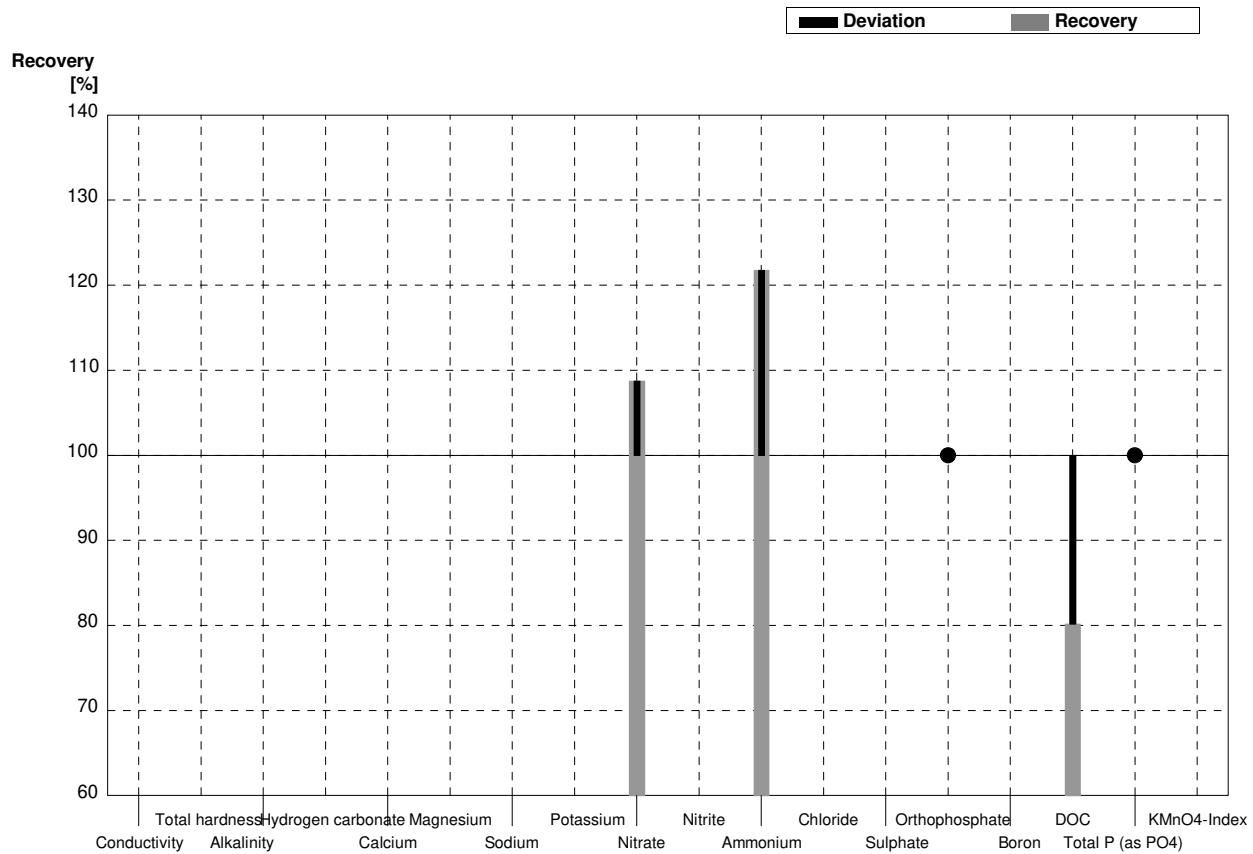
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory AM**

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Conductivity	361	2			µS/cm	
Total hardness	1,23	0,01			mmol/l	
Alkalinity	1,58	0,01			mmol/l	
Hydrogen carbonate	93,2	0,7			mg/l	
Calcium	34,8	0,4			mg/l	
Magnesium	8,84	0,09			mg/l	
Sodium	20,3	0,2			mg/l	
Potassium	2,77	0,03			mg/l	
Nitrate	21,3	0,4	23,16	1,72	mg/l	109%
Nitrite	0,0278	0,0004			mg/l	
Ammonium	0,0303	0,0031	0,0369	0,0079	mg/l	122%
Chloride	33,9	0,6			mg/l	
Sulphate	26,7	0,3			mg/l	
Orthophosphate	<0,009		<0,019		mg/l	•
Boron	0,082	0,001			mg/l	
DOC	3,28	0,02	2,63	0,0443	mg/l	80%
Total P (as PO4)	<0,009		<0,02		mg/l	•
KMnO4-Index	3,04	0,14			mg/l	



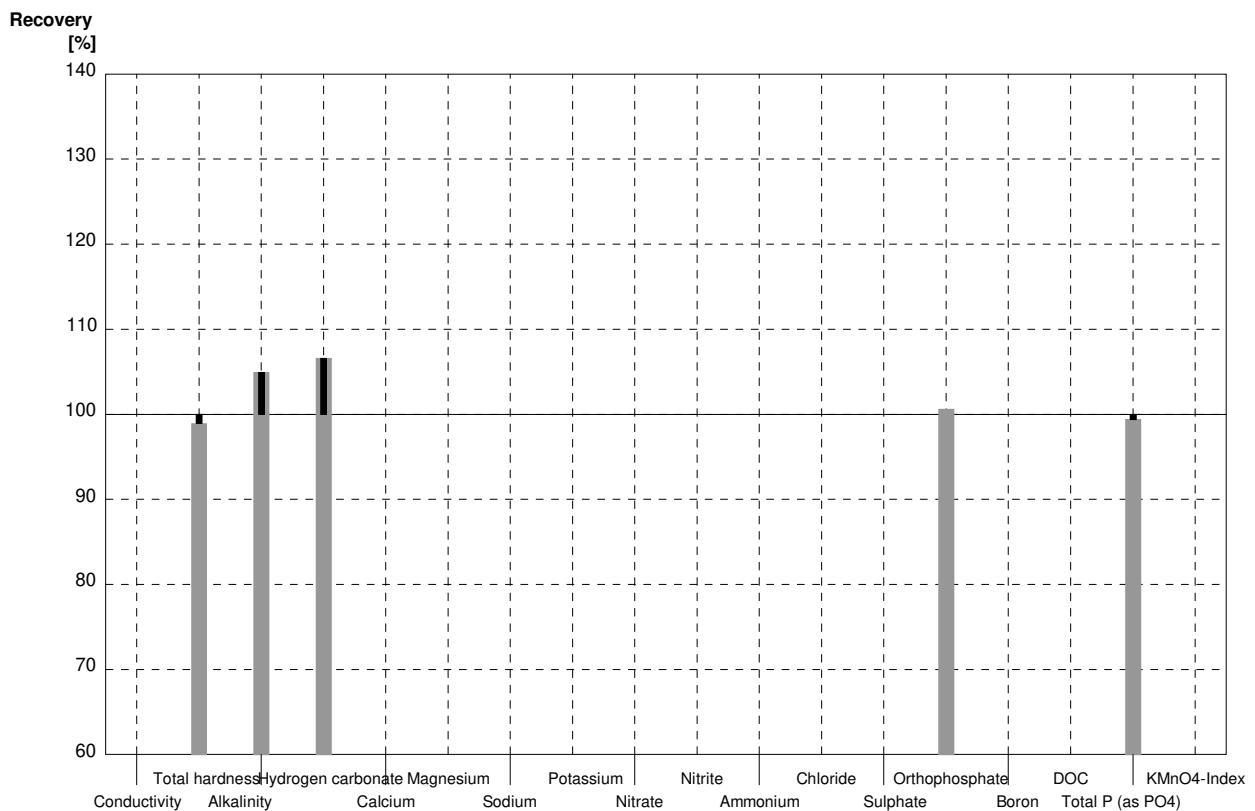
**Sample N157A**

**Laboratory AN**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3			$\mu\text{S}/\text{cm}$	
Total hardness	2,83	0,03	2,80		$\text{mmol/l}$	99%
Alkalinity	3,03	0,04	3,18		$\text{mmol/l}$	105%
Hydrogen carbonate	182	3	194		$\text{mg/l}$	107%
Calcium	76,6	1,0			$\text{mg/l}$	
Magnesium	22,3	0,2			$\text{mg/l}$	
Sodium	19,6	0,5			$\text{mg/l}$	
Potassium	5,90	0,05			$\text{mg/l}$	
Nitrate	12,9	0,2			$\text{mg/l}$	
Nitrite	0,058	0,001			$\text{mg/l}$	
Ammonium	<0,02*				$\text{mg/l}$	
Chloride	61,1	0,9			$\text{mg/l}$	
Sulphate	79,6	0,9			$\text{mg/l}$	
Orthophosphate	0,065	0,001	0,0654		$\text{mg/l}$	101%
Boron	0,052	0,001			$\text{mg/l}$	
DOC	8,93	0,04			$\text{mg/l}$	
Total P (as PO <sub>4</sub> )	0,117	0,001	0,1163		$\text{mg/l}$	99%
KMnO <sub>4</sub> -Index	5,64	0,17			$\text{mg/l}$	

\* guidance value, see also report, page 4

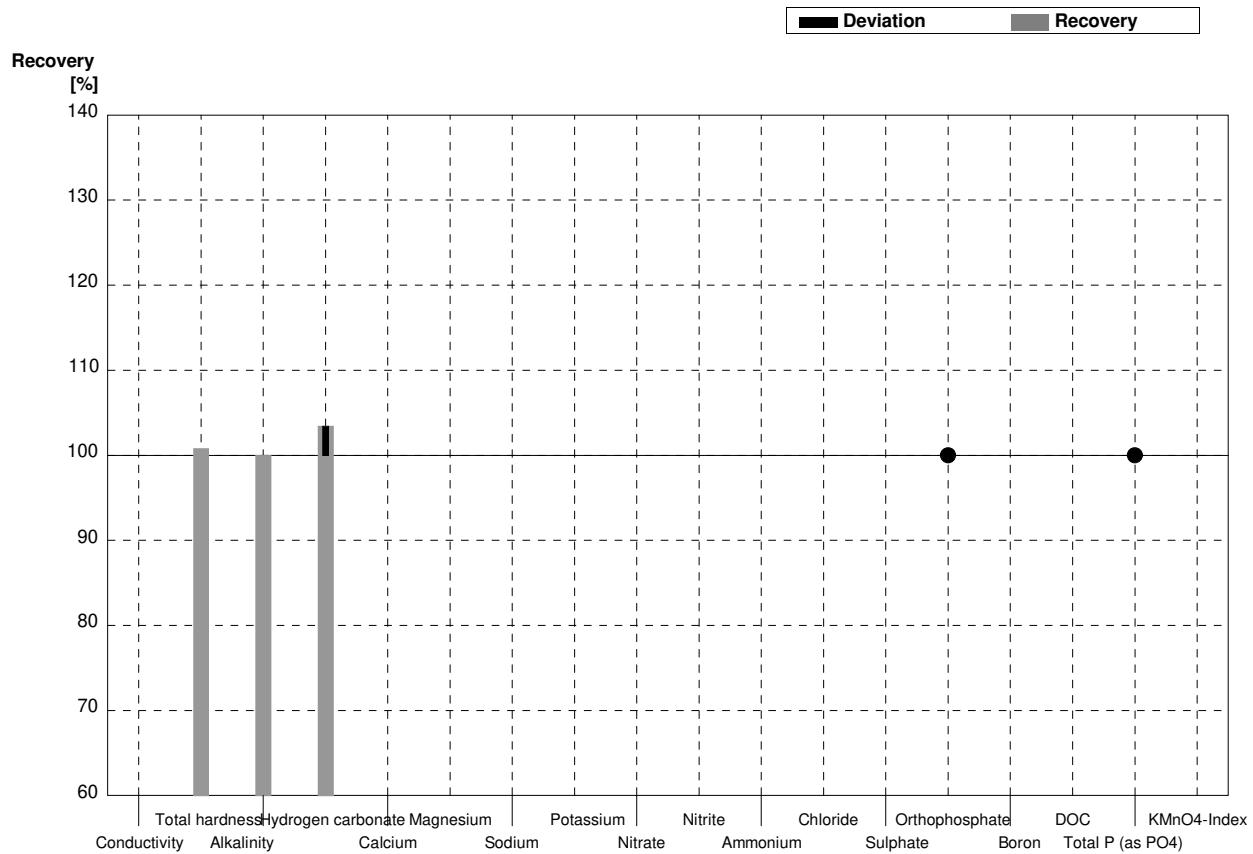
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory AN**

Parameter	Target value	$\pm U$ (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2			$\mu\text{S}/\text{cm}$	
Total hardness	1,23	0,01	1,24		$\text{mmol/l}$	101%
Alkalinity	1,58	0,01	1,58		$\text{mmol/l}$	100%
Hydrogen carbonate	93,2	0,7	96,4		$\text{mg/l}$	103%
Calcium	34,8	0,4			$\text{mg/l}$	
Magnesium	8,84	0,09			$\text{mg/l}$	
Sodium	20,3	0,2			$\text{mg/l}$	
Potassium	2,77	0,03			$\text{mg/l}$	
Nitrate	21,3	0,4			$\text{mg/l}$	
Nitrite	0,0278	0,0004			$\text{mg/l}$	
Ammonium	0,0303	0,0031			$\text{mg/l}$	
Chloride	33,9	0,6			$\text{mg/l}$	
Sulphate	26,7	0,3			$\text{mg/l}$	
Orthophosphate	<0,009		<0,009		$\text{mg/l}$	•
Boron	0,082	0,001			$\text{mg/l}$	
DOC	3,28	0,02			$\text{mg/l}$	
Total P (as PO4)	<0,009		<0,009		$\text{mg/l}$	•
KMnO4-Index	3,04	0,14			$\text{mg/l}$	



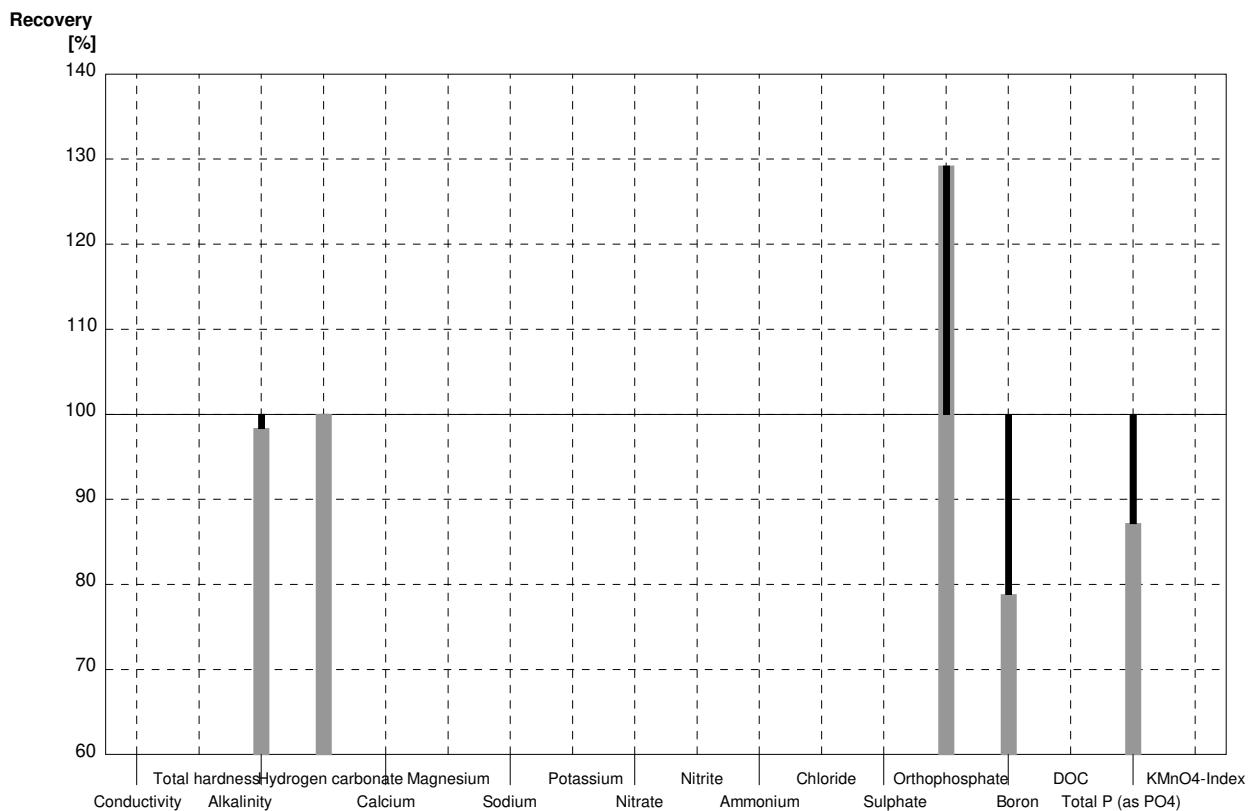
**Sample N157A**

**Laboratory AO**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3			$\mu\text{S}/\text{cm}$	
Total hardness	2,83	0,03			mmol/l	
Alkalinity	3,03	0,04	2,98	0,298	mmol/l	98%
Hydrogen carbonate	182	3	182	18,2	mg/l	100%
Calcium	76,6	1,0			mg/l	
Magnesium	22,3	0,2			mg/l	
Sodium	19,6	0,5			mg/l	
Potassium	5,90	0,05			mg/l	
Nitrate	12,9	0,2			mg/l	
Nitrite	0,058	0,001			mg/l	
Ammonium	<0,02*				mg/l	
Chloride	61,1	0,9			mg/l	
Sulphate	79,6	0,9			mg/l	
Orthophosphate	0,065	0,001	0,084	0,006	mg/l	129%
Boron	0,052	0,001	0,0410	0,004	mg/l	79%
DOC	8,93	0,04			mg/l	
Total P (as PO4)	0,117	0,001	0,102	0,0102	mg/l	87%
KMnO4-Index	5,64	0,17			mg/l	

\* guidance value, see also report, page 4

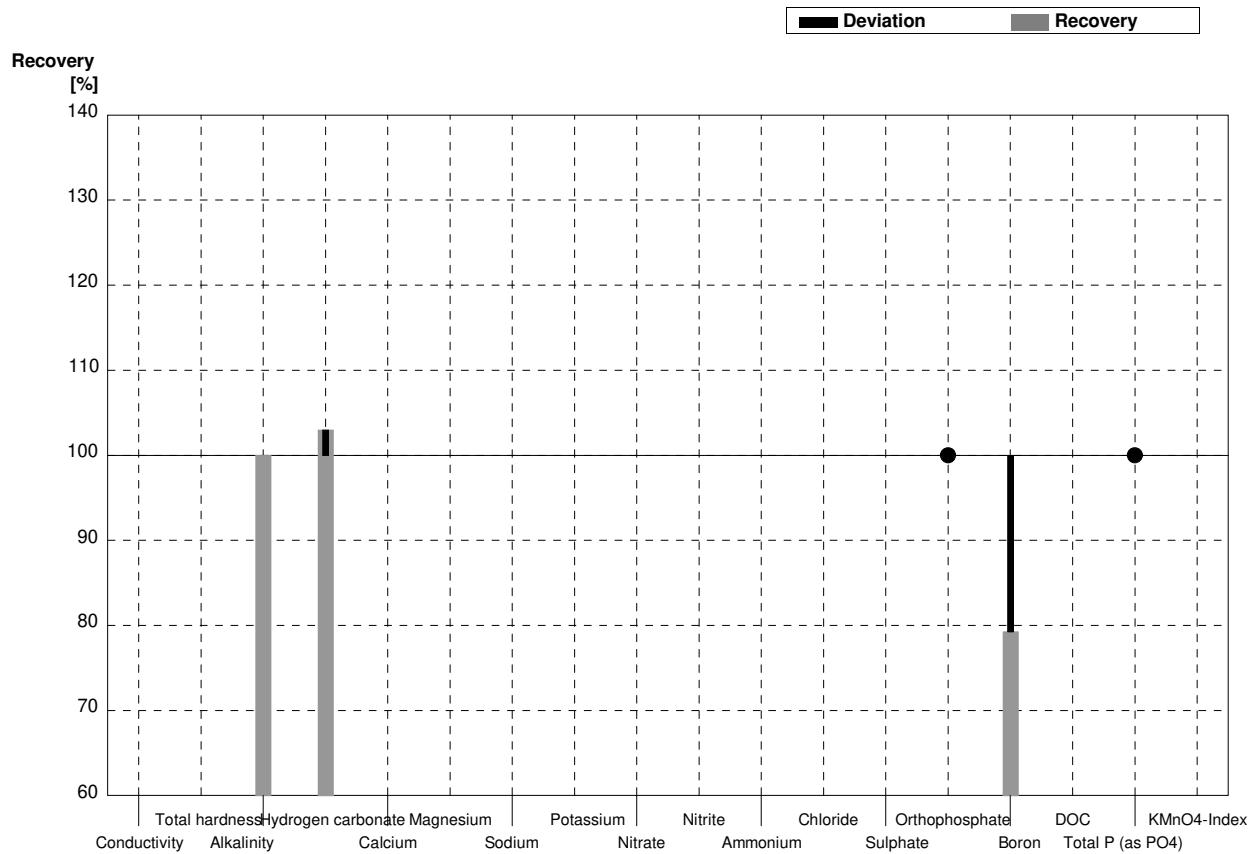
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory AO**

Parameter	Target value	$\pm U$ (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2			$\mu\text{S}/\text{cm}$	
Total hardness	1,23	0,01			$\text{mmol/l}$	
Alkalinity	1,58	0,01	1,58	0,158	$\text{mmol/l}$	100%
Hydrogen carbonate	93,2	0,7	96	9,6	$\text{mg/l}$	103%
Calcium	34,8	0,4			$\text{mg/l}$	
Magnesium	8,84	0,09			$\text{mg/l}$	
Sodium	20,3	0,2			$\text{mg/l}$	
Potassium	2,77	0,03			$\text{mg/l}$	
Nitrate	21,3	0,4			$\text{mg/l}$	
Nitrite	0,0278	0,0004			$\text{mg/l}$	
Ammonium	0,0303	0,0031			$\text{mg/l}$	
Chloride	33,9	0,6			$\text{mg/l}$	
Sulphate	26,7	0,3			$\text{mg/l}$	
Orthophosphate	<0,009		<0,05	0,005	$\text{mg/l}$	•
Boron	0,082	0,001	0,065	0,006	$\text{mg/l}$	79%
DOC	3,28	0,02			$\text{mg/l}$	
Total P (as PO4)	<0,009		<0,020	0,002	$\text{mg/l}$	•
KMnO4-Index	3,04	0,14			$\text{mg/l}$	



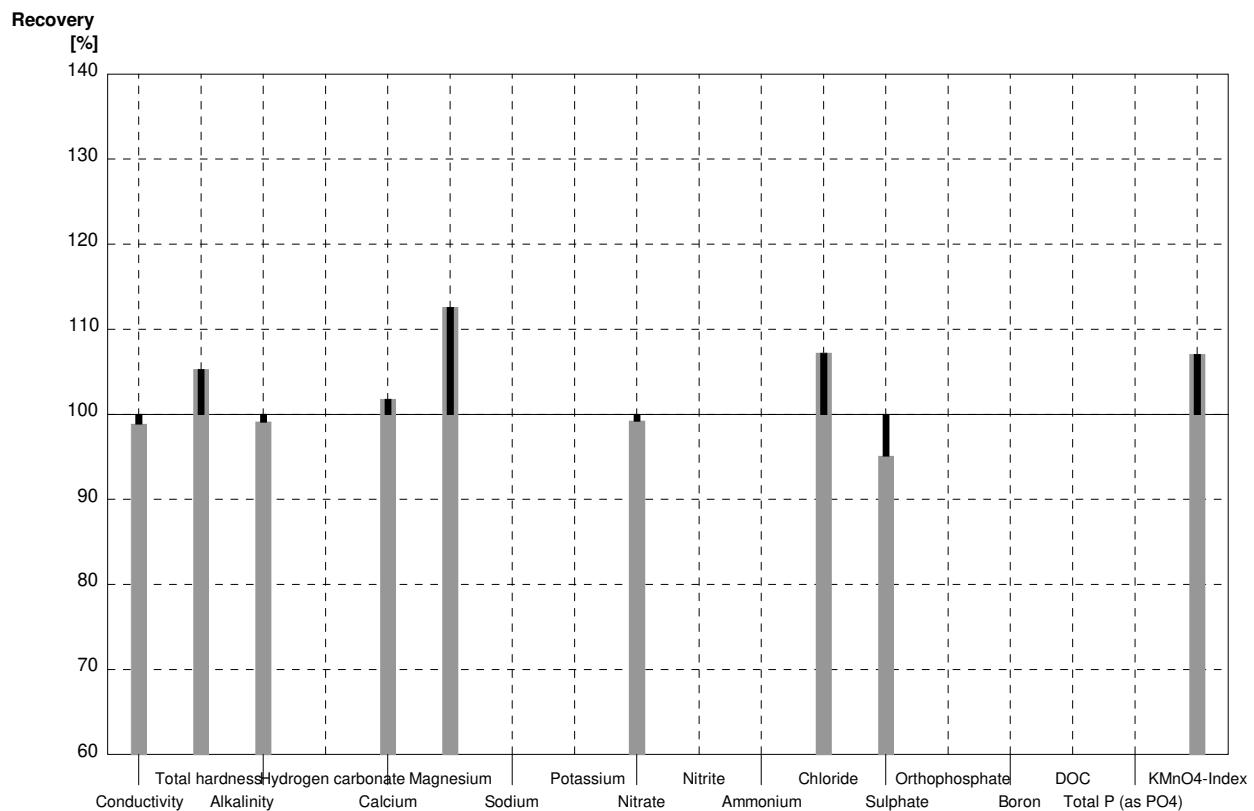
**Sample N157A**

**Laboratory AP**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	657	3	649,5	0,3	$\mu\text{S}/\text{cm}$	99%
Total hardness	2,83	0,03	2,98	0,06	$\text{mmol/l}$	105%
Alkalinity	3,03	0,04	3,003	0,06	$\text{mmol/l}$	99%
Hydrogen carbonate	182	3			$\text{mg/l}$	
Calcium	76,6	1,0	77,97	0,82	$\text{mg/l}$	102%
Magnesium	22,3	0,2	25,11	1,53	$\text{mg/l}$	113%
Sodium	19,6	0,5			$\text{mg/l}$	
Potassium	5,90	0,05			$\text{mg/l}$	
Nitrate	12,9	0,2	12,8	0,5	$\text{mg/l}$	99%
Nitrite	0,058	0,001			$\text{mg/l}$	
Ammonium	<0,02*				$\text{mg/l}$	
Chloride	61,1	0,9	65,5	1,1	$\text{mg/l}$	107%
Sulphate	79,6	0,9	75,7	7,4	$\text{mg/l}$	95%
Orthophosphate	0,065	0,001			$\text{mg/l}$	
Boron	0,052	0,001			$\text{mg/l}$	
DOC	8,93	0,04			$\text{mg/l}$	
Total P (as PO <sub>4</sub> )	0,117	0,001			$\text{mg/l}$	
KMnO <sub>4</sub> -Index	5,64	0,17	6,039	0,588	$\text{mg/l}$	107%

\* guidance value, see also report, page 4

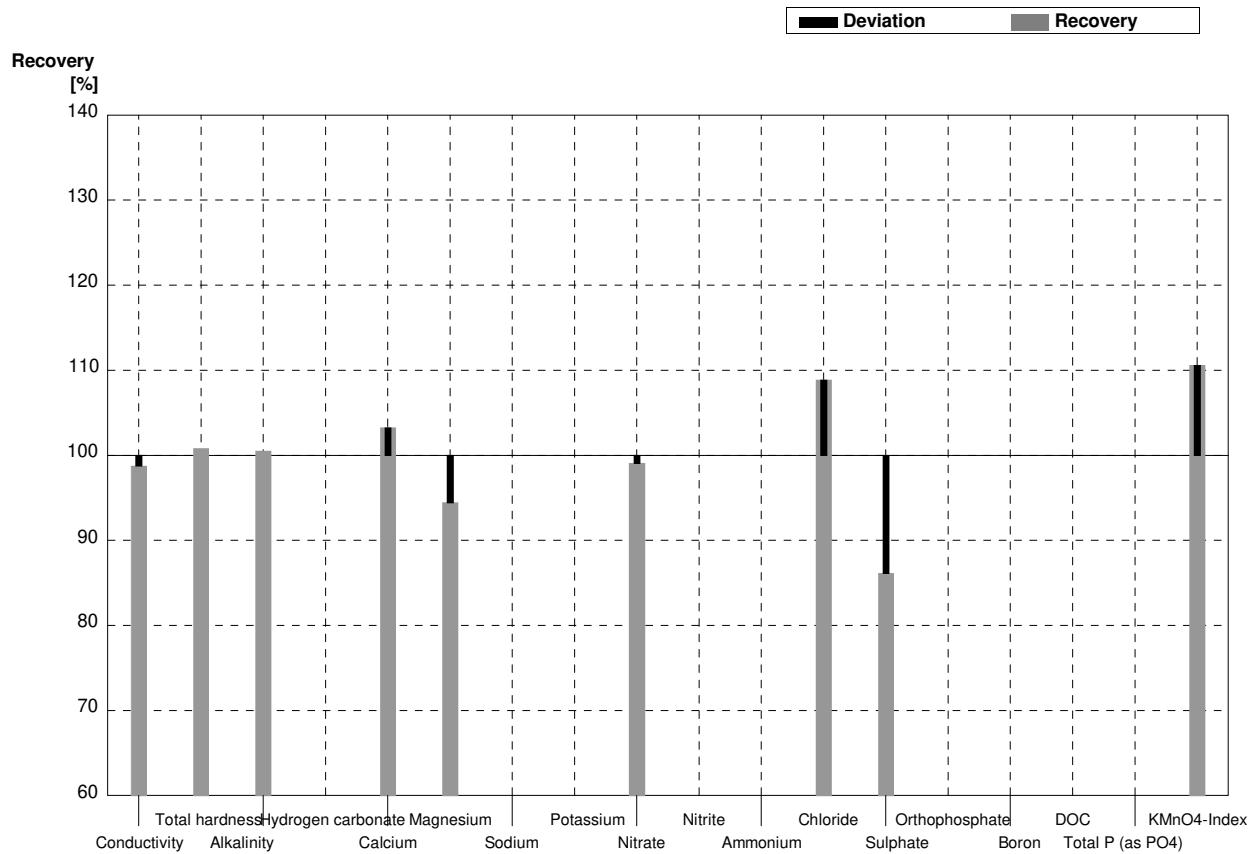
■ Deviation ■ Recovery



**Sample N157B**

**Laboratory AP**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2	356,5	0,3	$\mu\text{S}/\text{cm}$	99%
Total hardness	1,23	0,01	1,24	0,06	$\text{mmol/l}$	101%
Alkalinity	1,58	0,01	1,588	0,06	$\text{mmol/l}$	101%
Hydrogen carbonate	93,2	0,7			$\text{mg/l}$	
Calcium	34,8	0,4	35,93	0,82	$\text{mg/l}$	103%
Magnesium	8,84	0,09	8,35	1,53	$\text{mg/l}$	94%
Sodium	20,3	0,2			$\text{mg/l}$	
Potassium	2,77	0,03			$\text{mg/l}$	
Nitrate	21,3	0,4	21,1	0,5	$\text{mg/l}$	99%
Nitrite	0,0278	0,0004			$\text{mg/l}$	
Ammonium	0,0303	0,0031			$\text{mg/l}$	
Chloride	33,9	0,6	36,9	1,1	$\text{mg/l}$	109%
Sulphate	26,7	0,3	23,0	7,4	$\text{mg/l}$	86%
Orthophosphate	<0,009				$\text{mg/l}$	
Boron	0,082	0,001			$\text{mg/l}$	
DOC	3,28	0,02			$\text{mg/l}$	
Total P (as PO <sub>4</sub> )	<0,009				$\text{mg/l}$	
KMnO <sub>4</sub> -Index	3,04	0,14	3,362	0,588	$\text{mg/l}$	111%



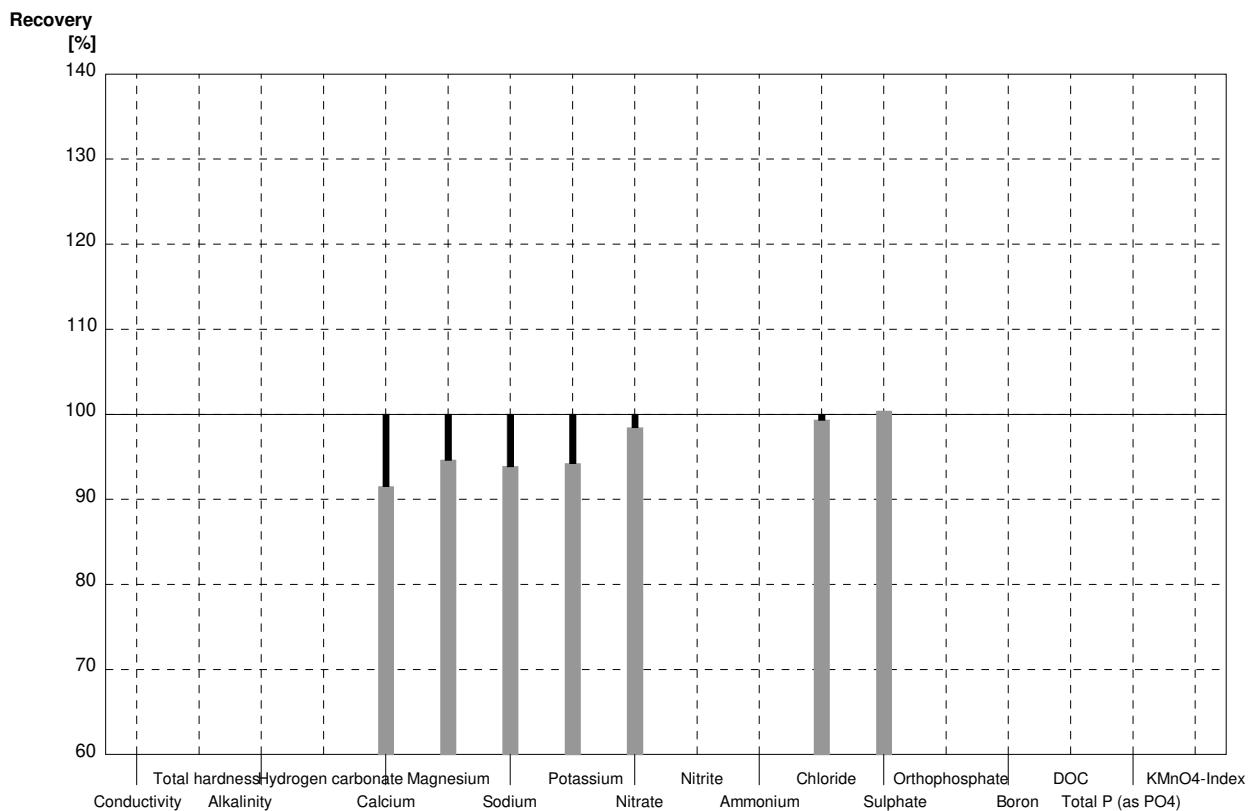
**Sample N157A**

**Laboratory AQ**

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Conductivity	657	3			µS/cm	
Total hardness	2,83	0,03			mmol/l	
Alkalinity	3,03	0,04			mmol/l	
Hydrogen carbonate	182	3			mg/l	
Calcium	76,6	1,0	70,1	1,4	mg/l	92%
Magnesium	22,3	0,2	21,1	0,4	mg/l	95%
Sodium	19,6	0,5	18,4	0,3	mg/l	94%
Potassium	5,90	0,05	5,56	0,05	mg/l	94%
Nitrate	12,9	0,2	12,7	0,1	mg/l	98%
Nitrite	0,058	0,001			mg/l	
Ammonium	<0,02*				mg/l	
Chloride	61,1	0,9	60,7	0,6	mg/l	99%
Sulphate	79,6	0,9	79,9	0,1	mg/l	100%
Orthophosphate	0,065	0,001			mg/l	
Boron	0,052	0,001			mg/l	
DOC	8,93	0,04			mg/l	
Total P (as PO4)	0,117	0,001			mg/l	
KMnO4-Index	5,64	0,17			mg/l	

\* guidance value, see also report, page 4

■ Deviation ■ Recovery



**Sample N157B**

**Laboratory AQ**

Parameter	Target value	$\pm$ U (k=2)	Result	$\pm$	Unit	Recovery
Conductivity	361	2			$\mu\text{S}/\text{cm}$	
Total hardness	1,23	0,01			$\text{mmol/l}$	
Alkalinity	1,58	0,01			$\text{mmol/l}$	
Hydrogen carbonate	93,2	0,7			$\text{mg/l}$	
Calcium	34,8	0,4	33,4	0,1	$\text{mg/l}$	96%
Magnesium	8,84	0,09	8,83	0,04	$\text{mg/l}$	100%
Sodium	20,3	0,2	19,9	0,3	$\text{mg/l}$	98%
Potassium	2,77	0,03	2,45	0,02	$\text{mg/l}$	88%
Nitrate	21,3	0,4	20,9	0,2	$\text{mg/l}$	98%
Nitrite	0,0278	0,0004			$\text{mg/l}$	
Ammonium	0,0303	0,0031			$\text{mg/l}$	
Chloride	33,9	0,6	33,7	0,1	$\text{mg/l}$	99%
Sulphate	26,7	0,3	26,7	0,1	$\text{mg/l}$	100%
Orthophosphate	<0,009				$\text{mg/l}$	
Boron	0,082	0,001			$\text{mg/l}$	
DOC	3,28	0,02			$\text{mg/l}$	
Total P (as PO <sub>4</sub> )	<0,009				$\text{mg/l}$	
KMnO <sub>4</sub> -Index	3,04	0,14			$\text{mg/l}$	

