



# **IFA-Proficiency Testing Scheme zur Wasseranalytik / for Water Analysis**

**Endbericht / Final Report**  
Eignungsprüfungsrunde / Proficiency testing round  
**N179**

**Nährstoffe / Major ions**

Probenversand / Sample dispatch: 10.11.2025

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## Allgemeine Informationen

Diese Zusammenfassung beschreibt die 179. Runde der regelmäßigen Eignungsprüfungen zur Parametergruppe „Nährstoffe“. Die Prüfgegenstände N179A und N179B wurden am 10. November 2025 an 44 Teilnehmer versendet. Jedes Labor erhielt zwei Prüfgegenstände zu 1000 ml, abgefüllt in je zwei 500-ml-Flaschen aus PET.

Einsendeschluss für die Ergebnisse war am 5. Dezember 2025. Von 42 Teilnehmern wurden Ergebnisse übermittelt. Zur Anonymisierung wurde jedem Labor per Zufallsgenerator ein Buchstabencode zugeteilt.

## Zusammensetzung der Prüfgegenstände

Die Prüfgegenstände N179A und N179B wurden durch Einwaage von reinen Salzen hergestellt, wobei die meisten der in der österreichischen Gewässerzustandsüberwachungsverordnung (GZÜV i.d.g.F.) für den Parameterblock 1 genannten Parameter berücksichtigt wurden. Zur Herstellung wurden  $\text{CaCO}_3$ ,  $\text{CaCl}_2$ ,  $\text{Ca}(\text{NO}_3)_2$ ,  $\text{MgSO}_4$ ,  $\text{Mg}(\text{NO}_3)_2$ ,  $\text{MgCl}_2$ , Natriumsalicylat (für  $\text{KMnO}_4$ -Index),  $\text{NaCl}$ ,  $\text{NaHCO}_3$ ,  $\text{KHCO}_3$ ,  $\text{C}_6\text{H}_{15}\text{PO}_3$  (für Gesamt-P) und Kaliumhydrogenphthalat (für DOC) als Reinsubstanzen sowie zertifizierte Standardlösungen von  $\text{NaNO}_2$ ,  $\text{Na}_2\text{SiO}_3$ ,  $\text{NH}_4\text{Cl}$ ,  $\text{KH}_2\text{PO}_4$  und  $\text{H}_3\text{BO}_3$  verwendet. Beide Prüfgegenstände enthielten freies  $\text{CO}_2$ , welches zum Lösen von  $\text{CaCO}_3$  und zum Neutralisieren von  $\text{Na}_2\text{SiO}_3$  verwendet wurde. Stabilisierung der Prüfgegenstände erfolgte durch Sterilfiltration und über die Temperatur.

## Homogenitäts-, Richtigkeits- und Stabilitätsuntersuchung

Die Prüfgegenstände wurden vor dem Versand am IFA-Tulln auf Homogenität und Richtigkeit untersucht. Die Ergebnisse der Kontrollanalytik finden sich auf den Rohdatenblättern sowie auf den Auswertungen zu jedem Parameter.

Zur Überprüfung der Stabilität wurden vier Wochen nach dem Versand alle Parameter nochmals bestimmt. Die Ergebnisse befinden sich ebenfalls auf den Rohdatenblättern sowie auf den Auswertungen zu jedem Parameter.

Unserer Erfahrung nach sind die Prüfgegenstände hinsichtlich der Parameter Leitfähigkeit, Gesamthärte, Säurekapazität,  $\text{Ca}^{2+}$ ,  $\text{Mg}^{2+}$ ,  $\text{Na}^+$ ,  $\text{K}^+$ ,  $\text{NO}_3^-$ ,  $\text{Cl}^-$ ,  $\text{SO}_4^{2-}$ , Bor und  $\text{HCO}_3^-$  bis 18 Monate stabil. Für die Parameter  $\text{NH}_4^+$ ,  $\text{NO}_2^-$ ,  $\text{o-PO}_4^{3-}$  Gesamt-P, DOC und Kaliumpermanganat-Index sind die Prüfgegenstände mehrere Wochen stabil, wobei die ersten Veränderungen üblicherweise bei Ammonium beobachtet werden können.

## Zugewiesene Werte

Die zugewiesenen Werte ergaben sich aus den Einwaagewerten der verwendeten Chemikalien. Die Unsicherheiten der zugewiesenen Werte (erweiterte Unsicherheiten,  $k = 2$ ,  $\alpha = 0,05$ ) wurden nach den Vorgaben des EURACHEM / CITAC Guides „Quantifying Uncertainty in Analytical Measurement, 3<sup>rd</sup> Edition (2012)“ ermittelt.

Der zugewiesene Wert für die Leitfähigkeit wurde mit einer Näherung nach Debye-Hückel berechnet. Die Auswertung der bis jetzt erhobenen Daten zeigte, dass bei mehr als 20 Teilnehmern und den beobachteten Standardabweichungen der Messwerte zwischen den Labors von ca. 1 % die Mittelwerte der Ausreißer-bereinigten Daten eine geringere Unsicherheit haben als die mit der Näherung berechneten Werte. Deshalb wurde die Leitfähigkeit über die Labormittelwerte ausgewertet. Die mit der Näherung berechneten Werte waren  $524 \mu\text{S}/\text{cm}$  für N179A und  $406 \mu\text{S}/\text{cm}$  für N179B.

Für den pH-Wert lassen sich keine zugewiesenen Werte angeben. Daher wurden die Messwerte nicht weiter ausgewertet. Die Werte können anhand der Rohdatenblätter verglichen werden. Dabei ist jedoch zu berücksichtigen, dass die Prüfgegenstände nur schwach gepuffert waren und freies  $\text{CO}_2$  enthielten. Man beobachtet daher in der Regel ein leichtes Ansteigen des pH-Wertes mit der Zeit.

Als Standardsubstanz für den Parameter Gesamt-P (als  $\text{PO}_4^{3-}$ ) nach Aufschluss nach DIN EN ISO 6878 wurde Ethylphosphonsäurediethylester ( $\text{C}_6\text{H}_{15}\text{PO}_3$ ) verwendet. Die zugewiesenen Werte wurden aus den Einwaagen von  $\text{KH}_2\text{PO}_4$  und  $\text{C}_6\text{H}_{15}\text{PO}_3$  berechnet. Die Ergebnisse wurden in  $\text{mg/l PO}_4^{3-}$  angegeben.

Als Standardsubstanz für den  $\text{KMnO}_4$ -Index wurde Natriumsalicylat in den Konzentrationen 2,86  $\text{mg/l}$  (N179A) und 1,81  $\text{mg/l}$  (N179B) verwendet. Geht man von einer vollständigen Oxidation zu  $\text{CO}_2$ , Wasser und Nitrat aus, ergeben sich unter Berücksichtigung von Nitrit theoretische Werte von 4,01  $\text{mg/l O}_2$  (N179A) und 2,56  $\text{mg/l O}_2$  (N179B). Die endgültige Auswertung erfolgte über die Labormittelwerte. Diese waren 3,74  $\text{mg/l O}_2$  für N179A und 2,43  $\text{mg/l O}_2$  für N179B.

Dem Prüfgegenstand N179A wurden keine Phosphorverbindungen und N179B wurde kein Ammonium zugesetzt. Die zugewiesenen Werte von  $<0,01 \text{ mg/l NH}_4$ ,  $<0,009 \text{ mg/l o-PO}_4^{3-}$  und  $<0,009 \text{ mg/l Ges-P}$  (als  $\text{PO}_4^{3-}$ ) wurden bei diesen Überprüfungen der Blindwerte entsprechend den Mindestbestimmungsgrenzen der GZÜV festgelegt.

## Auswertung

Mit den bei uns eingegangenen Messwerten wurde ein Ausreißertest nach Hampel durchgeführt. Die durch den Test als auffällig eingestufteten Werte wurden in der parameterorientierten Auswertung mit einem Stern gekennzeichnet. Die aus den Ausreißer-bereinigten Daten berechneten, auf die zugewiesenen Werte bezogenen mittleren Wiederfindungen lagen zwischen 94,9 % (Orthophosphat in N179B) und 102,1 % (DOC in N179B). Die aus den Ausreißer-bereinigten Daten berechneten Standardabweichungen bewegten sich im Bereich von 1,0 % (Leitfähigkeit in N179B) bis 13,5 % (Orthophosphat in N179B).

Zu den Mittelwerten und mittleren Wiederfindungen wurden auch die Vertrauensbereiche ( $P=99\%$ ) angegeben. Diese Vertrauensbereiche der Labormittelwerte enthalten in allen Fällen die entsprechenden zugewiesenen Werte mit ihren Unsicherheiten.

Die Standardunsicherheiten aller zugewiesenen Werte wurden nach dem Kriterium

$$u(x_{pp}) < 0,3\sigma_{pp} \text{ oder } u(x_{pp}) < 0,1\delta E \text{ (DIN ISO 13528, Punkt 9.2)}$$

überprüft und entsprach in allen Fällen bis auf Säurekapazität, Natrium, Nitrat, Nitrit, Ammonium und Chlorid im Prüfgegenstand N179A sowie Nitrat und Orthophosphat im Prüfgegenstand N179B der Vorgabe.

Bei diesen Parametern wurde deshalb zusätzlich der Vergleich der absoluten Differenz zwischen zugewiesenem Wert ( $x_{pt}$ ) und Labormittelwert ( $\bar{X}$ ) unter Berücksichtigung der Messunsicherheiten  $u(x_{pt})$  und  $u(\bar{X})$  durchgeführt. Alle Parameter entsprachen der Vorgabe:

$$|x_{pt} - \bar{X}| < 2 * \sqrt{u(x_{pt})^2 + u(\bar{X})^2} \quad (\text{DIN ISO 13528, Punkt 7 und E7})$$

Daher wurden alle ermittelten zugewiesenen Werte mit ihren Standardunsicherheiten übernommen.

## z-Score-Auswertung

Ein z-Score ist die auf eine Standardabweichung bezogene Abweichung eines Messwertes vom zugewiesenen Wert. Er wird mittels folgender Formel berechnet:

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

$z$	z-Score
$x_i$	Messwert eines Labors
$X$	Zugewiesener Wert oder Ausreißer-bereinigter Mittelwert („konventioneller zugewiesener Wert“)
$\sigma_{pt}$	Standardabweichung für die Eignungsbewertung

Es handelt sich also um das Verhältnis der Abweichung des Messwerts eines Labors vom zugewiesenen Wert zu einer vorgegebenen Standardabweichung.

Die Standardabweichungen für die Eignungsbewertung wurden aus den Ergebnissen der im Zeitraum 2014 - 2024 vom IFA-Tulln veranstalteten Eignungsprüfungen berechnet.

Diese Vorgehensweise wurde deshalb gewählt, weil, unserer Erfahrung nach, die Standardabweichungen der Ausreißer-bereinigten Messwerte zwischen den einzelnen Eignungsprüfungen variieren. Die Ermittlung der Standardabweichung über die Eignungsprüfungsrunden aus mehreren Jahren bieten jedoch eine gut abgesicherte Basis auf einer breiten Datengrundlage und ist somit meistens besser geeignet, als das bei der direkt aus der Eignungsprüfung berechneten Standardabweichung der Fall wäre. (EN ISO/IEC 17043:2023, B.4.1.3)

Der Vorteil, der sich für alle Teilnehmer daraus ergibt, ist, dass dadurch bei unseren Eignungsprüfungen schon vor der Teilnahme vorhersehbar ist, welche z-Scores man mit den eigenen, aus Routineverfahren bekannten, Messabweichungen erwarten kann.

### Rechenbeispiel:

Ein Labor bestimmte für den Parameter DOC einen Wert von 7,00 mg/l (Wiederfindung von 116%). Der zugewiesene Wert war 6,02 mg/l (100%).

In der nachfolgenden Tabelle (und in der Tabelle des Jahresprogrammes [www.ifatest.at](http://www.ifatest.at)) ist die relative Standardabweichung für die Eignungsbewertung beim Parameter DOC mit 5,4 % angegeben. Bezogen auf den zugewiesenen Wert von 6,02 mg/l DOC entsprechen 5,4 % 0,33 mg/l.

$$z = \frac{x_i - X}{\sigma_{pt}} = \frac{7,00 \text{ mg/l} - 6,02 \text{ mg/l}}{0,33 \text{ mg/l}} \approx 3,0 \quad \text{oder} \quad \frac{116 \% - 100 \%}{5,4 \%} \approx 3,0$$

$z$	z-Score
$x_i$	7,00 mg/l entsprechen 116 % (Messwert des Labors)
$X$	6,02 mg/l entsprechen 100 % (zugewiesener Wert)
$\sigma_{pt}$	0,33 mg/l entsprechen 5,4 % (Standardabweichung für die Eignungsbewertung, siehe Tabelle)

Abweichungen in den Nachkommastellen können sich bei Nachberechnung dadurch ergeben, dass im Bericht bei den Wiederfindungen zwecks Übersichtlichkeit gerundete Werte angegeben sind.

Die folgende Tabelle enthält die Standardabweichung für die Eignungsbewertung bezogen auf den zugewiesenen Wert mit ihren Anwendungsbereichen. Die Berechnung von z-Scores erfolgt nur dann, wenn der zugehörige zugewiesene Wert über der in der Tabelle angegebenen Konzentration liegt.

Parameter	Standardabweichung für die Eignungsbewertung bezogen auf den zugewiesenen Wert	untere Grenze
Ammonium	11 %	0,01 mg/l
Bor	7,0 %	0,012 mg/l
Calcium	3,1 %	9 mg/l
Chlorid	2,7 %	2 mg/l
DOC	5,4 %	1 mg/l
Gesamthärte	2,7 %	0,1 mmol/l
Gesamt-P (als PO <sub>4</sub> <sup>3-</sup> )	8,6 %	0,015 mg/l
Hydrogencarbonat	2,3 %	20 mg/l
Kalium	4,0 %	0,5 mg/l
KMnO <sub>4</sub> -Index	8,1 %	1 mg/l
Leitfähigkeit	1,2 %	50 µS/cm
Magnesium	3,5 %	1 mg/l
Natrium	3,0 %	1 mg/l
Nitrat	2,9 %	2 mg/l
Nitrit	5,5 %	0,01 mg/l
Orthophosphat	8,7 %	0,015 mg/l
Säurekapazität	1,8 %	0,2 mmol/l
Sulfat	3,1 %	3 mg/l

Zur Interpretation von z-Scores wird meist folgende Klassifikation vorgeschlagen:

z-Score	Klassifikation
≤2	zufriedenstellend
2< z <3	fraglich
≥3	nicht zufriedenstellend

Die z-Scores sind in der parameterorientierten Auswertung in den Tabellen neben den Wiederfindungen angegeben. Jedes Labor erhält zusätzlich zu dieser Auswertung ein Blatt, auf dem die erzielten z-Scores zusammengefasst und grafisch dargestellt sind. Die Standardabweichungen für die Eignungsbewertung sind dort in Konzentrationseinheiten angegeben.

Eine Übersichtstabelle aller z-Scores ist im Anschluss an die Rohdatentabellen im parameterorientierten Teil zu finden.

## Darstellung der Ergebnisse in der Auswertung

Eine Legende zur Darstellung der Ergebnisse finden Sie auf der nächsten Seite. In den Tabellen der Auswertung sind jeweils der zugewiesene Wert, Messwert, Unsicherheit und die Wiederfindung dargestellt. In der parameterorientierten Auswertung befindet sich der direkt unter der Parameterbezeichnung. Die Unsicherheit des zugewiesenen Wertes ist immer als erweiterte Unsicherheit ( $k = 2$ ;  $\alpha = 0,05$ ) angegeben. Sie wurde nach den Vorgaben des EURACHEM / CITAC Guides „Quantifying Uncertainty in Analytical Measurement, 3<sup>rd</sup> Edition (2012)“ ermittelt. Die grafische Darstellung der Ergebnisse enthält die Unsicherheit des zugewiesenen Wertes als grau unterlegtes Band.

In der parameterorientierten Auswertung wurden die Messwerte, die nach dem Test nach Hampel als Ausreißer gewertet wurden, mit einem Stern (\*) gekennzeichnet. Die Grafik der Messwerte wurde für Nitrit, Ammonium, Orthophosphat, Bor, DOC, ges-P (als  $\text{PO}_4^{3-}$ ) und  $\text{KMnO}_4$ -Index auf  $100 \% \pm 45 \%$  des zugewiesenen Wertes und für alle übrigen Parameter auf  $100 \% \pm 15 \%$  des zugewiesenen Wertes skaliert. Die kleine Tabelle unten links enthält statistische Parameter, darunter den 99 % - Vertrauensbereich der Labormittelwerte vor und nach Eliminierung der Ausreißer.

Ergebnisse, für die keine Wiederfindung bzw. Abweichung vom zugewiesenen Wert berechnet werden kann (d.h. „kleiner als“ Ergebnisse oder Zahlenwerte bei nicht zugegebenen Substanzen) werden in den Tabellen und Grafiken entweder als **FN** (falsch negativ), **FP** (falsch positiv) oder als • - Symbol dargestellt.

- Als falsch negativ gelten „< Ergebnisse“ mit einem Betrag des < - Wertes unterhalb des zugewiesenen Wertes bzw. Messwert „0“ bei zugegebenen Substanzen.
- Falsch positive Ergebnisse sind nur für Substanzen möglich, die über „< zugewiesener Wert“ ausgewertet wurden. Mit FP werden alle Messwerte gekennzeichnet, die mit Ihren Unsicherheiten das Kriterium „< zugewiesener Wert“ nicht einschließen (tangieren).
- Mit einem • - Symbol werden alle weiteren Ergebnisse illustriert, für die keine Wiederfindung berechnet werden kann

## Prüfmethoden

Den Teilnehmenden stand, mit Ausnahme der Parameter Gesamt-P (als  $\text{PO}_4^{3-}$ ) und  $\text{KMnO}_4$ -Index, die Wahl der Analysenmethode frei. Die Prüfmethoden sollten mit den jeweilig im Teilnehmerlabor verwendeten Routineverfahren übereinstimmen. Gesamt-P (als  $\text{PO}_4^{3-}$ ) sollte gemäß DIN EN ISO 6878:2004 nach oxidierendem Aufschluss und  $\text{KMnO}_4$ -Index nach EN ISO 8467 (H5) analysiert werden, wobei gleichwertige oder bessere Verfahren, die vergleichbare Messwerte liefern, zulässig waren. Eine Übersicht der angewendeten Methoden befindet sich am Ende des Berichts. „< Werte“ bzw. „> Werte“ sowie stark abweichende Messwerte, welche zu einer unübersichtlichen Skalierung führen würden, sind in den Graphiken nicht berücksichtigt.

Tulln, 17. Dezember 2025

**Probe M106A**

**Parameter Kupfer**

\*Sollwert ± U (k=2) 4,79 µg/l ± 0,13 µg/l  
 IFA-Kontrolle ± U (k=2) 4,79 µg/l ± 0,38 µg/l  
 IFA-Stabilität ± U (k=2) 4,69 µg/l ± 0,38 µg/l

\*Sollwert = "zugewiesener Wert"  
**Sollwert ± Unsicherheit aus Einwaage**  
**Kontrollmessung IFA vor Versand**  
**Messung IFA 3 Wochen nach Versand**

Labor-Kennung	Messwert	±	Einheit	Wiederfindung	z-Score
A	5,16	0,4128	µg/l	108%	0,90
B	4,22	0,42	µg/l	88%	-1,38
C	4,45	0,13	µg/l	93%	-0,83
D			µg/l		
E			µg/l		
F	4,10	0,08	µg/l	86%	-1,68
G			µg/l		
H			µg/l		
I	4,75	0,74	µg/l	99%	-0,10
J	<5		µg/l	*	
K	4,76		µg/l	99%	-0,07
L	<10		µg/l	*	
M	4,8	0,5	µg/l	100%	0,02
N	3,7	0,4	µg/l	77%	-2,65
O	4,47	0,447	µg/l	93%	-0,78
P	6,0		µg/l	125%	2,94
Q	4,17	0,2	µg/l	87%	-1,51
R	4,6	0,8	µg/l	96%	-0,46
S	4,44	0,67	µg/l	93%	-0,85
T			µg/l		
U	4,675	0,935	µg/l	95%	-0,28
V	5,0	0,50	µg/l	104%	0,51
W	3,54	0,3	µg/l	74%	-3,03
X	7,108	0,749	µg/l	148%	5,63
Y	<10		µg/l	*	
Z			µg/l		
AA	<3,0		µg/l	FN	
AB	3,775	0,107	µg/l	79%	-2,46
AC	<10,0		µg/l	*	

Wiederfindung des zugewiesenen Wertes in Prozent

z-Score des Labors

Ein Stern markiert einen Ausreißer nach dem Hampel-Test

Ergebnisunsicherheit laut Teilnehmer

	alle Ergebnisse	ohne Ausreißer	Einheit
MW ± VB(99%)	4,65 ± 0,57	4,51 ± 0,42	µg/l
WF ± VB(99%)	97,1 ± 12,0	94,1 ± 8,8	%
Standardabw.	0,84	0,59	µg/l
rel. Standardabw.	18,1	13,2	%
n für Berechnung	18	17	

Standardabweichung zwischen den Labors

Mittelwert der Messwerte und Wiederfindung des zugewiesenen Wertes mit zugehörigen Vertrauensbereichen (p=99%)

Anzahl der Messungen zur Berechnung der statistischen Kenngrößen

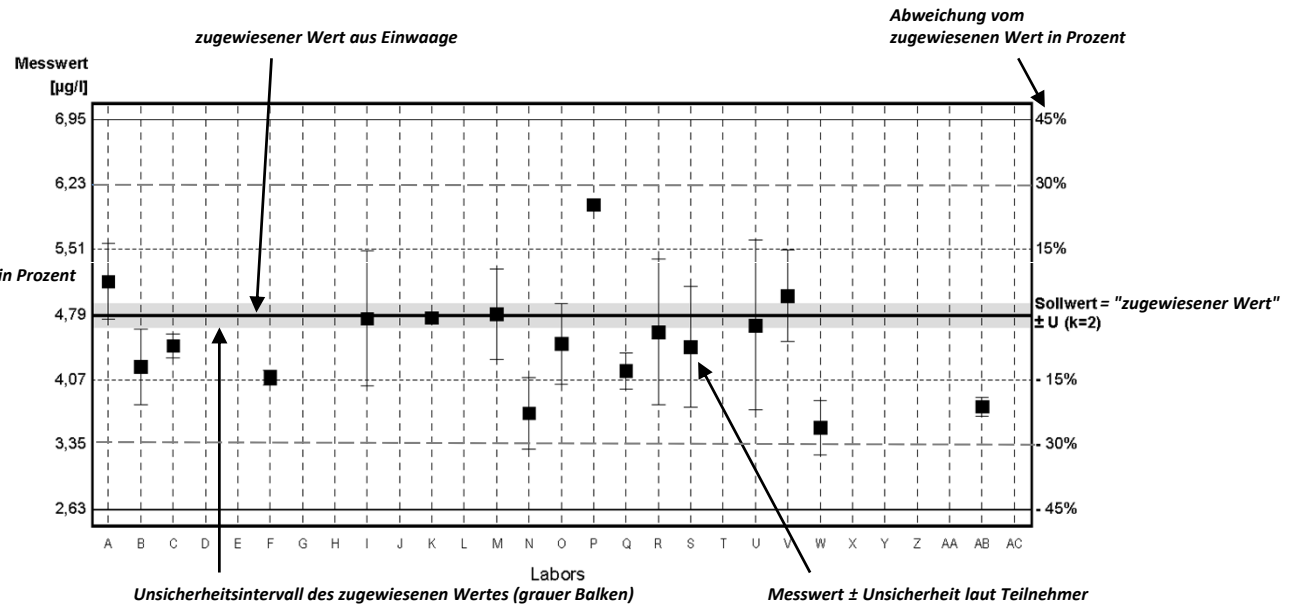
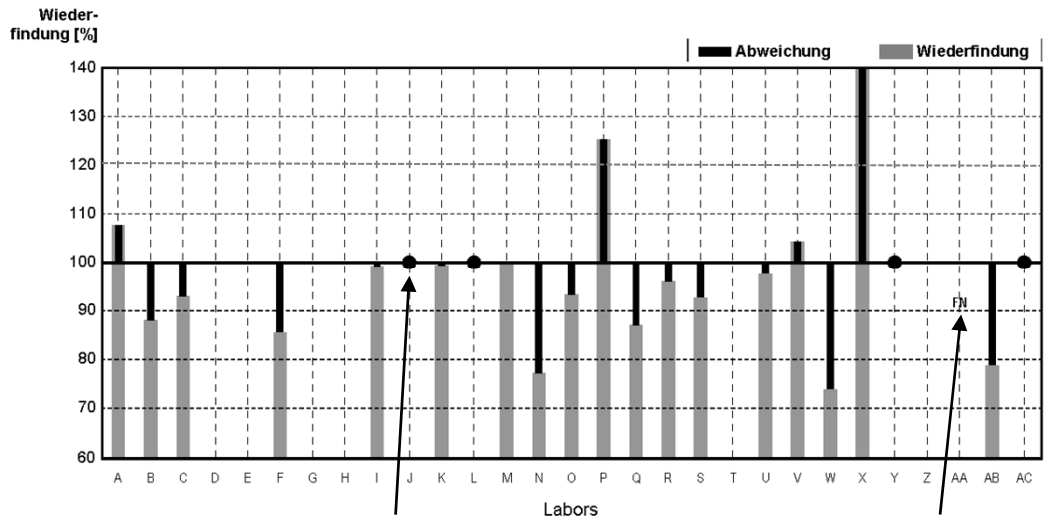


Diagramm 1: Messwerte mit zugehörigen Unsicherheitsintervallen



Ergebnis abgegeben, Berechnung der Wiederfindung oder Zuordnung FN, FP nicht möglich

Falsch negativ „< Ergebnis“ kleiner als der theoretische Sollwert

Diagramm 2: Wiederfindung und Abweichung vom zugewiesenen Wert

**LEGENDE**

## Information

This report summarises the results of round N179 (major ions) within the IFA-Proficiency Testing Scheme for Water Analysis. The proficiency testing items N179A and N179B were distributed to 44 participants on Monday, 10 November 2025. Each participant received two proficiency testing items of 1000 mL, each filled into two 500 mL PET bottles.

Closing date for reporting results to the IFA-Tulln was Friday, 5 December 2025. 42 participants submitted results. To make the participants anonymous, each laboratory obtained a letter code by random.

### Proficiency testing items

The proficiency testing items consisted of artificial ground water. For proficiency testing item preparation, ultrapure water was spiked with solutions of salts and standards to simulate the ionic composition of natural Austrian ground water. The following substances were added to the proficiency testing items:  $\text{CaCO}_3$ ,  $\text{CaCl}_2$ ,  $\text{Ca}(\text{NO}_3)_2$ ,  $\text{MgSO}_4$ ,  $\text{Mg}(\text{NO}_3)_2$ ,  $\text{MgCl}_2$ ,  $\text{NaCl}$ ,  $\text{NaHCO}_3$ ,  $\text{KHCO}_3$ , diethyl ethylphosphonate ( $\text{C}_6\text{H}_{15}\text{PO}_3$ , for total-P), potassium hydrogen phthalate (for DOC), sodium salicylate (for  $\text{KMnO}_4$ -Index) and certified standard solutions of  $\text{NaNO}_2$ ,  $\text{Na}_2\text{SiO}_3$ ,  $\text{NH}_4\text{Cl}$ ,  $\text{KH}_2\text{PO}_4$  and  $\text{H}_3\text{BO}_3$ . Both proficiency testing items, N179A and N179B, contained free  $\text{CO}_2$ , which was used for dissolution of  $\text{CaCO}_3$  and neutralisation of  $\text{Na}_2\text{SiO}_3$ . No other substances (e.g. preservatives) were added. The proficiency testing items were stabilised by sterile filtration and low temperature.

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

The proficiency testing items 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, all parameters were analysed in several proficiency testing items N179A and N179B approximately four weeks after shipment. The results are listed in the result tables ("Stability test") and the parameter oriented part of the report ("IFA result").

According to our experience, the proficiency testing items remain stable up to 18 months for the parameters conductivity, total hardness, alkalinity,  $\text{Ca}^{2+}$ ,  $\text{Mg}^{2+}$ ,  $\text{Na}^+$ ,  $\text{K}^+$ ,  $\text{NO}_3^-$ ,  $\text{Cl}^-$ ,  $\text{SO}_4^{2-}$ , boron, and  $\text{HCO}_3^-$ , when stored at  $4^\circ\text{C}$  in the dark. For the parameters  $\text{NH}_4^+$ ,  $\text{NO}_2^-$ ,  $\text{o-PO}_4^{3-}$ , total-P, DOC and  $\text{KMnO}_4$ -Index the proficiency testing items remain stable several weeks, whereas the first changes normally are observed for  $\text{NH}_4^+$ .

## Results

Data evaluation was based on concentrations that were calculated from the weights of the substances and standards used to produce the proficiency testing items. 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 assigned value of the electrical conductivity was set to the laboratory mean (consensus) value. When calculated from more than 20 results with a standard deviation between the laboratories of about 1 %, the consensus value has a confidence interval that is smaller than the uncertainty of our estimate calculated from the assigned concentrations by Debye-Hückel's theory: 2.4 % ( $p = 95$  %). However, the calculated electrical conductivity was 524  $\mu\text{S}/\text{cm}$  in N179A and 406  $\mu\text{S}/\text{cm}$  in N179B.

For the pH no assigned values can be defined. The results can be compared on the tables. In this kind of proficiency testing items containing  $\text{CO}_2$ , 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<sub>6</sub>H<sub>15</sub>PO<sub>3</sub>) and potassium dihydrogen phosphate (KH<sub>2</sub>PO<sub>4</sub>) were used for preparation. The assigned values of total-P were calculated from the weights of the two substances. The results were given in mg/L PO<sub>4</sub><sup>3-</sup>.

The concentrations of sodium salicylate, which was used as standard substance for the KMnO<sub>4</sub>-Index, were 2.86 mg/L in proficiency testing item N179A and 1.81 mg/L in proficiency testing item N179B. Assuming complete oxidation to carbon dioxide, nitrate and water (considering nitrite), the theoretical values were 4.01 mg/L O<sub>2</sub> (N179A) and 2.56 mg/L O<sub>2</sub> (N179B). However, the laboratory mean values were taken as reference values in this report: 3.74 mg/L O<sub>2</sub> for N179A and 2.43 mg/L O<sub>2</sub> for N179B.

Phosphorus substances were not added to N179A. Ammonium was not added to N179B to check the analytical blank values. The assigned concentrations were set to <0.01 mg/L NH<sub>4</sub><sup>+</sup>, <0.009 mg/L o-PO<sub>4</sub><sup>3-</sup> and <0.009 mg/L total-P (as PO<sub>4</sub><sup>3-</sup>), 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.

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

The recoveries of the concentrations, calculated from outlier-corrected data mean values ranged between 94.9 % (orthophosphate in N179B) and 102.1 % (DOC in N179B).

The between laboratory CVs covered the range between 1.0 % (conductivity in N179B) and 13.5 % (orthophosphate in N179B).

All confidence intervals of the outlier-corrected laboratory mean values encompass the corresponding assigned values with their uncertainties. Statistically, no difference could be detected between theoretical concentrations and outlier corrected laboratory means.

The standard uncertainties of all assigned values were checked according to the criterion

$$u(x_{pp}) < 0,3\sigma_{pp} \text{ or } u(x_{pp}) < 0,1\delta E, \text{ (DIN ISO 13528, Section 9.2)}$$

and met the requirement in all cases except for alkalinity, sodium, nitrate, nitrite, ammonium and chloride in N179A and sodium and orthophosphate in N179B.

For these parameters the comparison of the absolute difference between the assigned value ( $x_{pt}$ ) and the laboratory mean value ( $\bar{X}$ ), considering the measurement uncertainties  $u(x_{pt})$  and  $u(\bar{X})$ , was additionally carried out. All parameters met the requirement:

$$|x_{pt} - \bar{X}| < 2 * \sqrt{u(x_{pt})^2 + u(\bar{X})^2} \quad \text{(DIN ISO 13528, Section 7 and E7)}$$

Therefore, all determined assigned values with their standard uncertainties were adopted.

## **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** assigned 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 assigned 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 2014 to 2024. 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 17043:2023, B.4.1.3). 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 assigned 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.ifatetest.eu](http://www.ifatetest.eu)) by 5.4 %, which is 0.33 mg/L DOC, when based on the assigned value.

$$z = \frac{x_i - X}{\sigma_{PT}} = \frac{7.00 \text{ mg/L} - 6.02 \text{ mg/L}}{0.33 \text{ mg/L}} \approx 3.0 \quad \text{or} \quad \frac{116 \% - 100 \%}{5.4 \%} \approx 3.0$$

**z** z-score

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

**X** 6.02 mg/L equivalent to 100 % (assigned value)

$\sigma_{PT}$  0.33 mg/L equivalent to 3.0 % (standard deviation for proficiency assessment, see table below)

In the case of recalculation, deviations in the last digits may occur since 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 assigned values were higher than these limits.

Parameter	standard deviation for proficiency assessment based on the assigned value	Lower limit
Alkalinity $K_{S4.3}$	1.8 %	0.2 mmol/L
Ammonium	11 %	0.01 mg/L
Boron	7.0 %	0.012 mg/L
Calcium	3.1 %	9 mg/L
Chloride	2.7 %	2 mg/L
el. Conductivity	1.2 %	50 $\mu$ S/cm
DOC	5.4 %	1 mg/L
Hydrogen carbonate	2.3 %	20 mg/L
$KMnO_4$ -Index	8.1 %	1 mg/L
Magnesium	3.5 %	1 mg/L
Nitrate	2.9 %	2 mg/L
Nitrite	5.5 %	0.01 mg/L
Orthophosphate	8.7 %	0.015 mg/L
Potassium	4.0 %	0.5 mg/L
Sodium	3.0 %	1 mg/L
Sulphate	3.1 %	3 mg/L
Total hardness	2.7 %	0.1 mmol/L
Total-P (as $PO_4^{3-}$ )	8.6 %	0.015 mg/L

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

z-Score	Classification
$\leq 2$	satisfactory
$2 <  z  < 3$	questionable
$\geq 3$	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.

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

## Illustration of results

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

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

In the **parameter oriented part** the reported results and corresponding uncertainties are illustrated together with recoveries of the assigned 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 assigned 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 assigned value or the measured value was given as "0" when the substance was added.
- "FP": False positive results can only be obtained for compounds that were evaluated based on a "< assigned value". A result is termed FP if it does not include (strike) the "< "assigned value" with its measurement uncertainty.
- "•": All other results for which no recoveries can be calculated are illustrated by this symbol

## Overview of measurement methods

Except for total-P (as  $\text{PO}_4^{3-}$ ) and  $\text{KMnO}_4$ -Index the participants were free to choose the analysis method. The test methods should be consistent with the methods applied in routine. Total-P (as  $\text{PO}_4^{3-}$ ) should be analysed according to EN ISO 6878:2004 and  $\text{KMnO}_4$ -Index should be analysed according to EN ISO 8467-H5 whereby equivalent or better methods that provide comparable measured values were allowed. An overview of the methods used can be found at the end of the report.

"< values" or "> values" as well as significantly different measured values, which would lead to confusing scaling, are not included in the graphics.

Tulln, 17 December 2025

**Sample M106A**  
**Parameter Copper**

\*Target value ± U (k=2) 4,79 µg/l ± 0,13 µg/l  
 IFA result ± U (k=2) 4,79 µg/l ± 0,38 µg/l  
 Stability test ± U (k=2) 4,69 µg/l ± 0,38 µg/l

*\*Target value = "assigned value"*  
*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	±	Unit	Recovery	z-Score
A	5.16	0.4128	µg/l	108%	0.90
B	4.22	0.42	µg/l	88%	-1.38
C	4.45	0.13	µg/l	93%	-0.83
D			µg/l		
E			µg/l		
F	4.10	0.08	µg/l	86%	-1.68
G			µg/l		
H			µg/l		
I	4.75	0.74	µg/l	99%	-0.10
J	<5		µg/l	.	.
K	4.76		µg/l	99%	-0.07
L	<10		µg/l	.	.
M	4.8	0.5	µg/l	100%	0.02
N	3.7	0.4	µg/l	77%	-2.65
O	4.47	0.447	µg/l	93%	-0.78
P	6.0		µg/l	125%	2.94
Q	4.17	0.2	µg/l	87%	-1.51
R	4.6	0.8	µg/l	96%	-0.46
S	4.44	0.67	µg/l	93%	-0.85
T			µg/l		
U	4.675	0.935	µg/l	98%	-0.28
V	5.0	0.50	µg/l	104%	0.51
W	3.54	0.3	µg/l	74%	-3.03
X	7.108 *	0.749	µg/l	148%	5.63
Y	<10		µg/l	.	.
Z			µg/l		
AA	<3.0		µg/l	FN	
AB	3.775	0.107	µg/l	79%	-2.46
AC	<10.0		µg/l	.	.

Recovery of assigned value in percent

z-Score of the laboratory

An asterik indicates a result detected as outlier by Hampel test

Interval expected to encompass target value as stated by participant

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

Between laboratory standard deviation

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

Number of results used for calculation of statistic parameters

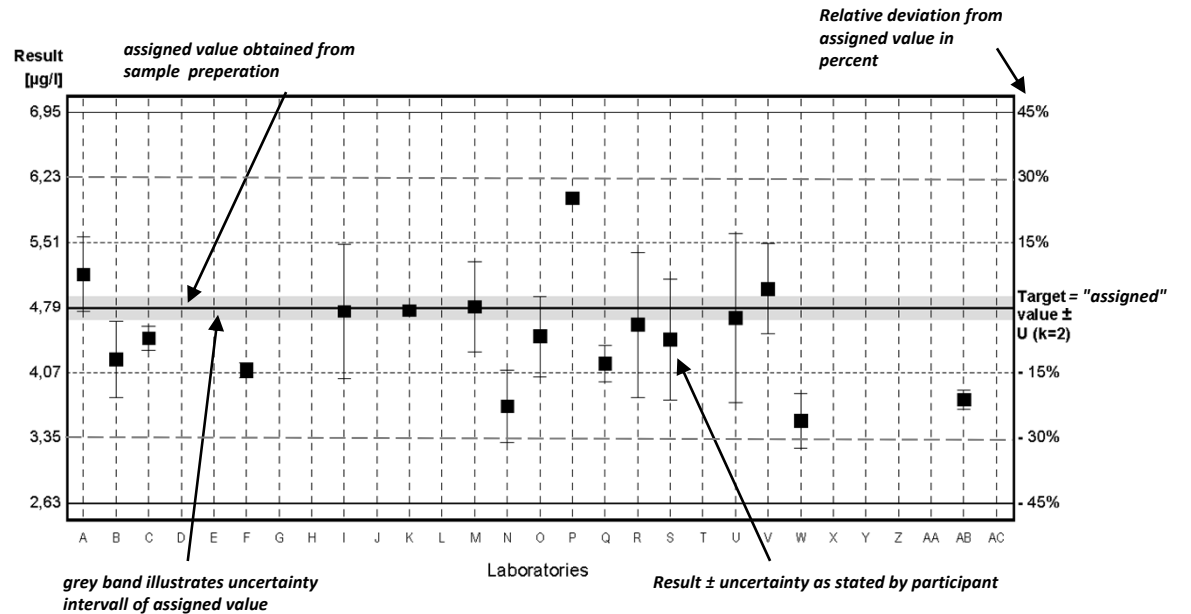


Diagram 1: Measurement results and their uncertainties

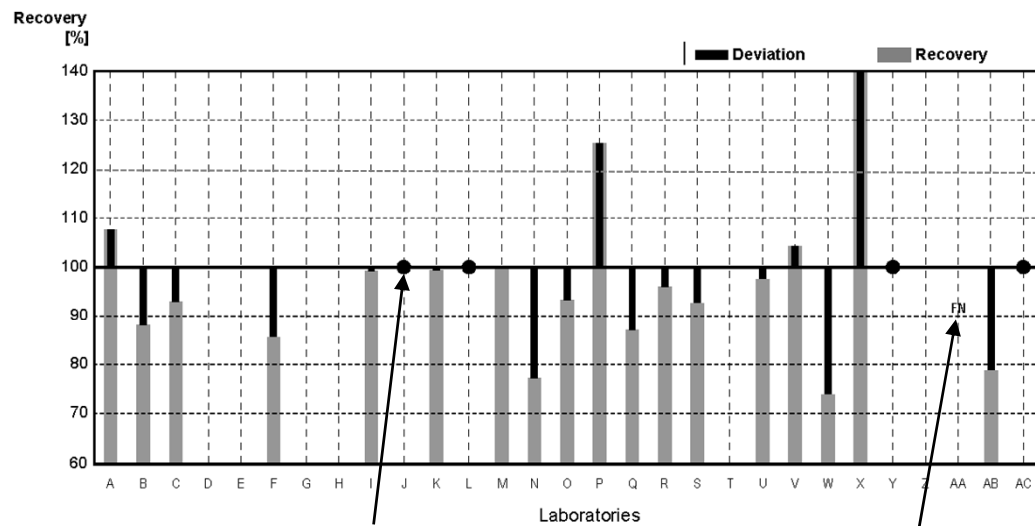


Diagram 2: Recoveries and deviations from assigned values

EXPLANATION



**Rohdatenblätter und  
Parameterorientierte Auswertung  
Tables and Parameter Oriented Part**

Eignungsprüfungsrunde / Proficiency testing round  
N179

Nährstoffe  
Major ions

Versand / Dispatch: 10.11.2025

## Results N179A

	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
Assigned value		527	2.32	2.77	166	69.9	14.06	11.2	5.86	31.6
IFA result	6.01	527	2.39	2.72	163	71	15.0	11.3	5.8	32.1
Stability test	6.21	526	2.31	2.70	162	69	14.0	11.1	5.6	31.3
A	6.08	524	2.30	2.84	170.23	68.8	14.2	11.4	5.82	30.8
B						67.56	14.24	11.35	6.024	
C	6.04	525	2.29	2.77	166	68.349	14.158	11.244	6.089	31.89
D										
E										
F	6.13	520	2.31	2.73	167	70.1	13.5	10.8	5.56	31.6
G				2.68		70.4				
H	6.10	532	2.29	2.71	165.4	68.0	14.3	11.4	5.98	32.38
I										
J	5.94	531	2.36	2.64	158.0	73.6	12.4			30.6
K		528	2.27	2.70	165	68	13.7	11.3	5.8	30.4
L	6.14	528	2.342	2.67	162.6	70.51	13.94	11.07	5.69	30.9
M	6.13	530		2.71	162					30.4
N	6.3	525	2.31	2.750	165	69.8	13.9	11.1	6.07	31.7
O								10.865	5.960	
P	6.02	541	2.30	2.76	165.1	69.2	13.9			30.4
Q	6.46	526	2.34	2.73	164	71.4	13.9	11.1	5.89	29.8
R	6.15	530	2.310	2.66	159.16	69.80	13.89	11.08	5.85	30.99
S			2.3468	2.725	164.395	70.9780	14.0110			
T	6.19	526	2.41	2.82	169.0	72.6	14.2	11.5	6.07	32.7
U	6.08	533								30.587
V	5.8	533	2.29	2.60	158.6	69.32	13.57	10.91	5.68	31.373
W	6.2	529	2.32	2.64	159	70	14.3	11.26	5.79	30.99
X	6.13	516	12.8	2.800	170.8	65.080	13.440	10.950	5.730	30.421
Y	6.1	530	2.61	2.79	170	70	14.3	11.4	6.0	31.5
Z										
AA	6.15	520	72.0	2.74	164					31.2
AB	6.2		2.19			68	12.1			
AC	6.45	528	2.35			70.155	14.6	11.437	5.8207	30.3
AD	6.10	523	2.305	2.737	167	73.8	14.4	12.5	6.22	33.4
AE			2.268							
AF	6.2	525				69.4	14.0	9.47	4.41	31.06
AG	6.305	524.5	2.43	2.73	163.5	73.39	14.64	11.39	5.70	38.38
AH	6.49	521	2.36	2.73	163.5	71.7	13.8	11.9	5.70	30.1
AI	6.2	524	2.315	2.69	164.1	69.9	13.8	11.1	5.6	30.5
AJ	6.5	515	2.30	2.80	171	69.6	14.3	11.0	5.94	32.5
AK				2.73						
AL	6.01	525.00	2.30	2.75		69.75	14.30	10.84	5.79	31.68
AM	5.99	518	2.26	2.73	166	67.1	14.2	11.3	5.46	31.0
AN	5.90	553	2.36	2.84	173.2	72.1	16.1	11.8	11.7	35.2
AO	6.88	525	2.27	2.80	171	68	13.9	11.3	5.8	30.4
AP	6.48	532	2.306	2.72	166	68.45	14.45	11.53	0.167	31.75
AQ	6.1	534				67.28	13.42	11.01	5.85	
AR		527	2.32	2.74	164	69.8	14.0	11.2	5.98	31.9

### Measurement Uncertainties N179A

	pH ±	Cond. ±	total- Hardn. ±	K <sub>S</sub> 4.3 ±	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
Assigned value		2	0.02	0.04	2	0.9	0.16	0.5	0.04	0.9
IFA result	0.2	9	0.12	0.11	7	5	0.8	0.8	0.3	1.6
Stability test	0.2	8	0.12	0.11	7	4	0.7	0.8	0.3	1.6
A	0.38	53	0.32	0.17	31.3	2.2	1.4	1.0	0.9	2.81
B						8.788	1.562	0.684	0.72	
C	0.19	29.2	0.126	0.15	9.13	3.76	0.496	0.394	0.213	2.42
D										
E										
F	0.18	16	0.35	0.22	13	11	1.6	1.4	0.83	3.2
G				0.26		7				
H	0.1	10	0.23	0.3	16.5	13.4	2.86	1.71	1.20	3.2
I										
J										
K		16	0.12	0.14	13	4	1.1	0.9	0.5	1.8
L										
M	0.01	4		0.076	2.3					2.1
N	0.2	11		0.187	8	4.5	1.1	0.8	0.53	2.2
O										
P	0.1	25	0.05	0.15	7.0	3.0	1.5			2.0
Q	0.0646	0.184	0.0271	0.104	3.27	0.514	0.199	0.230	0.264	0.951
R	0.25	11.7	0.09	0.06	3.34	2.72	0.65	0.53	0.37	2.08
S			0.2	0.15	9	6	2			
T	0.1	78.9	0.241	0.42	25.4	7.26	1.42	1.12	0.607	3.27
U	0.61	27								1.355
V	0.2	53.3		0.390	23.8	6.932	1.357	1.091	0.568	1.5686
W	0.3	13	0.09	0.02	7	2.8	1.4	0.23	0.35	1.5
X										
Y						5.6	1.14	0.7	0.58	
Z										
AA	0.3	13	6.5	0.24	14.8					2.4
AB	0.1		0.05			1	1			
AC	0.1	17.34	0.235			7.02	1.61	1.37	0.873	1.42
AD	0.04	14	0.025	0.025	10	2	0.4	1	0.2	1
AE			0.135							
AF	0.1	2				2.0	0.40	0.40	0.10	0.14
AG	0.186	28.64	0.277	0.277	0.277	5.15	2.15	1.453	0.280	7.05
AH				0.19		6	1.5	1.0	0.5	4.3
AI	0.2	21	0.100	0.16	10	2.6	0.8	0.7	0.3	3.0
AJ	0.37	13.6				3.15	0.59	0.72	0.77	3.85
AK										
AL	0.3	15.8	0.11	0.14		6.98	1.43	1.08	0.58	1.58
AM	0.006	1.000	0.010	0.006	0.577	0.252	0.231	0.252	0.015	0.058
AN	0.17	8	0.08	0.07	4.0	4.0	1.6	0.7	1.0	2.0
AO	0.07	11	0.19	0.24	7.7	3.5	0.88	0.86	0.20	1.5
AP										
AQ	0.02	53.4						1.10	1.17	
AR		22	0.1	0.2	7	6	1.7	1.7	0.8	3

## Results N179A

	NO <sub>2</sub> <sup>-</sup>	NH <sub>4</sub> <sup>+</sup>	Cl <sup>-</sup>	SO <sub>4</sub> <sup>2-</sup>	o-PO <sub>4</sub> <sup>3-</sup>	Boron	DOC	total-P (as PO <sub>4</sub> <sup>3-</sup> )	KMnO <sub>4</sub> - Index
Unit	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Assigned value	0.0303	0.0394	33.8	49.4	<0.009	0.1508	6.25	<0.009	3.74
IFA result	0.0304	0.0411	34.8	49.4	<0.009	0.166	6.35	<0.009	3.80
Stability test	0.0301	0.0407	33.9	47.9	<0.009	0.162	6.38	<0.009	3.87
A	0.0273	0.0450	34.4	48.5		0.152	5.62	<0.001	3.80
B							6.07		
C	0.0300	0.0400	34.18	49.06	<0.01	0.144	6.14	<0.01	3.83
D		0.0454			<0.019			<0.02	
E									
F	0.0304	0.0390	34.9	50.3	<0.015	0.148	6.01	<0.015	3.65
G							7.26		
H	0.0287	0.0393	33.63	48.80	<0.009	0.147	6.346	<0.009	
I									
J	0.0100	0.0450	36.5	61.1	0.150				
K	0.0300	0.0370	33.1	49.6	<0.009		6.2	<0.009	
L	0.0302	0.0412	34.57	50.17	<0.006	0.142	6.168	<0.006	
M	0.03070	0.0467	34.0		<0.006			<0.006	
N	0.0306	<0.05	34.0	48.2		0.156	6.16		
O									
P	0.0404	0.0310	33.3	48.1	<0.0300		5.94		3.95
Q	0.0320	0.0431	32.4	46.8	<0.015	0.157	6.68	<0.015	4.62
R	0.0310	0.0290	33.71	48.25			6.32		3.68
S									
T	0.0310	0.0342	35.2	50.1	<0.0055	0.1639	6.80	<0.011	
U	0.0340	0.0434	33.400	48.797	<0.015		6.607	<0.015	
V	0.0300	0.0330	34.0	49.49	0.0060	0.148	6.40	<0.015	3.66
W	0.0320	<0.01	31.85	48.38	<0.003		6.19	0.0092	14.72
X	0.0260	<0.100	34.126	47.111					
Y	0.0327	0.0462	34.3	49.0	<0.06	0.151	6.5		
Z									
AA	<0.01		32.9	51.3	<0.015		6.54		
AB			36.9						
AC	0.0307	0.0365	32.849	47.673	<0.031	0.1487	6.614	<0.0153	
AD	0.0310	0.0400	36.4	50.2				0.0090	
AE									
AF			33.3	49.0					
AG	0.0328	0.0451	36.03	53.63	0.0109	0.1626	<10	<0.15	
AH	0.0343	0.0414	32.9	50.9	<0.01	0.150	6.48	<0.030	3.44
AI	0.0298	0.0441	34.4	49.0	<0.010	0.154	6.3	<0.010	
AJ	0.0307		34.5	48.2		0.139	6.72	0.0161	
AK									
AL	0.0308	0.0354	34.40	49.10	<0.006	0.151			
AM	0.0325	0.0410	34.3	53.0	<0.009	0.143	6.21	<0.009	3.99
AN	0.085	0.0609	44.1	56.2	0.0438			0.0537	4.03
AO	0.327	0.0368	31.3	49.3	<0.01		6.3	<0.01	3.40
AP	0.0360	0.0436	34.18	51.15	0.0294	0.1672	6.67		3.69
AQ			34.75						
AR	0.0310	0.0400	34.1	49.1	<0.01		6.51	<0.013	

### Measurement Uncertainties N179A

	NO <sub>2</sub> <sup>-</sup> ±	NH <sub>4</sub> <sup>+</sup> ±	Cl <sup>-</sup> ±	SO <sub>4</sub> <sup>2-</sup> ±	o-PO <sub>4</sub> <sup>3-</sup> ±	Boron ±	DOC ±	total-P (as PO <sub>4</sub> <sup>3-</sup> ) ±	KMnO <sub>4</sub> - Index ±
Unit	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Assigned value	0.0010	0.0039	0.6	0.6		0.0012	0.03		0.14
IFA result	0.0013	0.0017	1.2	1.3		0.014	0.11		0.38
Stability test	0.0013	0.0017	1.2	1.2		0.014	0.12		0.39
A	0.005	0.012	2.51	3.00		0.015	0.43	0.0001	0.46
B							0.854		
C	0.0030	0.004	3.42	4.22		0.026	1.228		0.5
D		0.0059							
E									
F	0.0033	0.0031	3.5	8.0		0.019	1.2		0.55
G							0.72		
H	0.0042	0.0064	3.4	4.9		0.037	0.6364		
I									
J									
K	0.0039	0.0078	2.6	3.0			0.4		
L						0.014			
M	0.00307	0.0070	0.3						
N	0.00599		4.4	2.3		0.017	1.00		
O									
P	0.008	0.005	2	3	0.005		0.60		0.40
Q	0.00114	0.00128	0.790	0.522		0.000795	0.0608		
R	0.002	0.005	1.58	2.41			1.10		0.78
S									
T	0.0031	0.00342	3.52	5.01		0.0246	1.02		
U	0.0095	0.0100	4.369	2.972			1.189		
V	0.0044	0.0033	3.40	4.949	0.0009	0.0222	0.51		0.586
W	0.003		1.9	1.5			0.90		1.77
X									
Y						0.0111			
Z									
AA			3.9	4.1			0.71		
AB			1						
AC	0.003	0.004	1.22	2.24		0.025	0.734		
AD	0.01	0.01	1	1.5				0.05	
AE									
AF			0.14	0.23					
AG	0.00861	0.00439	11.81	19.09	0.00253				
AH		0.006	4.7	4.1			0.77		
AI	0.0040	0.0086	2.7	3.9		0.011	1.2		
AJ	0.0042		0.76	3.21		0.021	0.934	0.0024	
AK									
AL	0.0062	0.0042	1.72	4.9		0.03			
AM	0.001	0.003	0.321	0.058		0.003	0.026		0.047
AN	0.004	0.0235	2.8	2.7	0.0075			0.0099	0.36
AO	0.019	0.0027	2.5	3.0			0.58		0.15
AP									
AQ			3.48						
AR	0.003	0.005	3	4			1		

## Results N179B

	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
Assigned value		413	0.988	2.080	123.8	21.6	10.94	42.2	7.78	61.1
IFA result	6.49	413	1.05	2.06	123	22.3	11.9	42.4	7.72	63
Stability test	6.71	413	1.00	2.06	123	22.0	11.0	41.9	7.52	58
A	6.57	412	1.02	2.17	129.35	22.0	11.4	43.5	8.05	59.5
B						20.64	11.05	40.76	7.848	
C	6.54	412	0.98	2.101	125	21.173	11.071	42.628	8.059	60.95
D										
E										
F	6.62	410	0.967	2.07	126	21.4	10.5	40.1	7.99	60.7
G				2.02		21.61				
H	6.52	413	0.97	2.03	123.9	20.7	11.1	42.8	7.88	63.90
I										
J	6.51	416	0.94	2.01	119.6	26.8	6.54			59.6
K		414	0.97	2.07	127	21.0	10.7	42.4	7.7	61
L	6.58	413	1.003	2.00	121.8	21.97	10.97	41.45	7.60	60.3
M	6.61	417		2.05	122					58.4
N	6.8	410	0.996	2.085	124	21.8	11.0	42.4	8.07	61.0
O								40.686	7.626	
P	6.52	423	0.99	2.10	125.0	21.1	11.2			58.2
Q	6.94	413	0.952	2.07	123	21.2	10.6	40.9	7.80	59.9
R	6.55	414	0.982	2.02	120.13	21.59	10.78	43.59	7.84	60.44
S			0.9921	2.195	132.035	21.7565	10.9318			
T	6.57	412	1.02	2.14	127.5	22.5	11.1	44.4	8.16	64.0
U	6.56	416								59.072
V	6.2	417	0.95	1.97	120.2	20.86	10.48	42.03	7.64	59.996
W	6.7	416	0.99	2.00	119	22.9	10.0	42.0	7.7	60.0
X	6.64	409	5.500	2.100	128.1	20.010	10.370	40.960	7.630	58.695
Y	6.6	416	0.99	2.13	130	21.3	11.0	41.2	7.8	60
Z										
AA	6.59	410	30.5	2.07	123					60.1
AB	6.8		1.03			24.2	10.3			
AC	6.94	414	0.986			20.82	11.343	42.598	7.732	58.42
AD	6.72	410	0.989	2.062	126	22.5	11.4	45.8	8.52	65.4
AE			0.964							
AF	6.6	412				21.3	10.8	35.5	6.05	60.14
AG	6.745	412	1.055	2.07	123.3	22.30	12.20	41.07	7.52	70.03
AH	6.94	410	1.03	2.03	120.8	22.8	11.1	41.8	7.39	61.1
AI	6.7	413	0.974	2.03	123.7	21.2	10.8	42.3	7.6	59.9
AJ	6.7	400	0.972	2.20	134	21.4	11.1	40.8	7.87	61.6
AK				2.07						
AL	6.49	412.00	1.00	2.10		21.85	11.20	41.14	7.86	60.52
AM	6.46	410	0.960	2.06	126	21.0	10.9	40.8	7.43	60.4
AN	6.38	411	1.14	2.14	130.5	21.8	12.0	40.0	12.8	64.6
AO	7.34	413	0.94	2.13	130	20.2	10.6	42.6	7.9	59
AP	7.13	417	0.999	2.06	126	21.23	11.37	43.91	8.105	61.93
AQ	6.1	422				20.59	9.55	40.65	7.63	
AR		413	0.987	2.09	124	21.8	10.8	41.8	7.79	61.5

### Measurement Uncertainties N179B

	pH ±	Cond. ±	total- Hardn. ±	K <sub>S</sub> 4.3 ±	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
Assigned value		1	0.012	0.017	1.1	0.4	0.15	0.4	0.05	1.3
IFA result	0.2	7	0.06	0.09	5	1.5	0.6	1.4	0.35	3
Stability test	0.2	7	0.06	0.09	5	1.5	0.6	1.4	0.34	3
A	0.41	41	0.14	0.13	23.8	0.7	1.2	4.0	1.2	5.46
B						2.678	1.221	2.448	0.936	
C	0.19	22.9	0.054	0.12	6.88	1.163	0.388	1.492	0.282	4.63
D										
E										
F	0.20	12	0.15	0.17	10	3.2	1.3	5.2	1.2	6.1
G				0.2		2.1				
H	0.1	10	0.10	0.2	12.4	4.14	2.22	6.42	1.58	6.4
I										
J										
K		12	0.05	0.11	10	1.3	0.9	2.5	0.6	4
L										
M	0.01	3		0.058	2					4.0
N	0.2	8		0.142	6	1.4	0.9	3.1	0.71	4.2
O										
P	0.1	20	0.03	0.10	4.0	1.3	1.5			3.0
Q	0.0694	0.120	0.0991	0.0903	2.46	0.556	0.213	0.223	0.256	1.90
R	0.26	9.1	0.040	0.04	2.52	0.84	0.51	2.09	0.50	4.05
S			0.1	0.15	7	4	2			
T	0.1	61.8	0.102	0.32	19.1	0.225	0.111	4.44	0.816	6.40
U	0.66	21								2.617
V	0.2	41.7		0.296	18.03	2.086	1.048	4.203	0.764	2.9998
W	0.3	10	0.04	0.02	5	0.9	1.0	0.8	0.5	3.0
X										
Y						1.19	0.87	2.45	0.76	
Z										
AA	0.3	10	2.7	0.19	11.1					4.8
AB	0.1		0.05			1	1			
AC	0.1	12.42	0.099			2.08	1.25	5.47	1.16	2.75
AD	0.04	14	0.025	0.025	10	2	0.4	1	0.2	1
AE			0.057							
AF	0.1	1				0.70	0.20	1.5	0.30	0.33
AG	0.199	22.50	0.21	0.21	0.21	1.57	1.79	1.63	0.369	12.86
AH				0.14		1.9	1.2	3.6	0.7	8.7
AI	0.2	17	0.049	0.13	8.0	0.9	0.7	2.4	0.3	5.8
AJ	0.38	10.7				0.96	0.46	2.67	1.01	7.30
AK										
AL	0.32	12.36	0.05	0.11		2.19	1.12	4.1	0.79	3.03
AM	0.012	1.155	0.008	0.006	0.5	0.100	0.141	0.289	0.057	0.321
AN	0.19	6	0.04	0.05	3.0	1.2	1.2	2.4	1.1	3.7
AO	0.07	8.9	0.08	0.18	5.8	1.0	0.67	3.2	0.28	2.8
AP										
AQ	0.02	4.22						4.07	1.53	
AR		17	0.03	0.1	5	2	1.3	7	1.1	5

## Results N179B

	NO <sub>2</sub> <sup>-</sup>	NH <sub>4</sub> <sup>+</sup>	Cl <sup>-</sup>	SO <sub>4</sub> <sup>2-</sup>	o-PO <sub>4</sub> <sup>3-</sup>	Boron	DOC	total-P (as PO <sub>4</sub> <sup>3-</sup> )	KMnO <sub>4</sub> - Index
Unit	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Assigned value	0.0557	<0.01	20.46	17.8	0.0455	0.0807	4.07	0.101	2.43
IFA result	0.056	<0.01	21.0	18.2	0.0460	0.089	4.23	0.117	2.48
Stability test	0.056	<0.01	20.5	18.0	0.0455	0.087	4.28	0.117	2.55
A	0.0520	<0.01	20.1	17.6		0.083	3.72	0.0897	2.45
B							3.94		
C	0.0560	<0.01	20.73	17.94	0.0420	0.0818	4.05	0.0960	2.58
D		<0.01			0.0327			0.106	
E									
F	0.0528	<0.01	20.7	17.7	0.0403	0.0794	4.07	0.100	2.27
G							4.89		
H	0.0542	<0.010	19.87	17.25	0.0456	0.0796	4.177	0.1007	
I									
J	0.0400	0.0150	21.8	24.6	0.150				
K	0.056	<0.02	19.1	17.3	0.0474		4.09	0.106	
L	0.0562	<0.008	20.68	18.11	0.0448	0.080	4.07	0.103	
M	0.0565	0.0067	20.3		0.0447			0.1005	
N	0.0568	<0.05	19.3	17.1		0.084	4.07		
O									
P	0.0601	<0.020	19.6	17.1	0.0375		3.92		2.38
Q	0.0575	<0.010	19.5	17.3	0.0429	0.0832	4.23	0.101	2.76
R	0.057	0.00200	20.39	17.16			4.15		2.53
S									
T	0.056	<0.0090	21.1	18.4	0.0460	0.0897	4.62	0.104	
U	0.0599	<0.012	19.972	17.828	0.0450		4.250	0.090	
V	0.056	<0.00052	20.29	17.93	0.0370	0.080	4.20	0.0889	2.36
W	0.060	<0.002	18.96	17.3	0.0140		4.24	0.101	9.53
X	0.0480	<0.010	19.983	16.921					
Y	0.058	0.0062	19.7	17.7	0.109	0.083	4.27		
Z									
AA	0.0463		19.6	19.3	0.0360		4.26		
AB			20.3						
AC	0.0551	<0.024	19.831	16.965	0.0562	0.0793	4.2653	0.0987	
AD	0.057	0.0100	21.6	18.2				0.095	
AE									
AF			19.96	17.68					
AG	0.0597	0.00300	21.11	22.19	0.0524	0.0886	<10	<0.15	
AH	0.0588	<0.01	20.6	17.4	0.0442	0.0805	3.91	0.105	2.28
AI	0.056	<0.010	19.2	18.3	0.0389	0.0804	4.17	0.103	
AJ	0.0557		20.5	17.7		0.074	3.95	0.112	
AK									
AL	0.0566	<0.01	20.76	18.08	0.0452	0.081			
AM	0.0581	<0.010	20.5	18.0	0.0442	0.0812	4.08	0.0971	2.44
AN	0.184	0.0235	27.0	18.6	0.0162			0.0425	2.46
AO	0.0511	<0.01	20.0	16.9	0.0352		4.32	0.104	2.27
AP	0.0614	0.00450	20.368	18.21	0.0518	0.0911	4.47		2.38
AQ			21.99						
AR	0.056	<0.013	20.4	17.3	0.0400		4.41	0.095	

### Measurement Uncertainties N179B

	NO <sub>2</sub> <sup>-</sup> ±	NH <sub>4</sub> <sup>+</sup> ±	Cl <sup>-</sup> ±	SO <sub>4</sub> <sup>2-</sup> ±	o-PO <sub>4</sub> <sup>3-</sup> ±	Boron ±	DOC ±	total-P (as PO <sub>4</sub> <sup>3-</sup> ) ±	KMnO <sub>4</sub> - Index ±
Unit	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Assigned value	0.0012		0.12	0.2	0.0042	0.0005	0.02	0.003	0.09
IFA result	0.002		0.7	0.5	0.0015	0.008	0.09	0.021	0.25
Stability test	0.002		0.7	0.5	0.0015	0.007	0.09	0.021	0.25
A	0.01	0.001	1.47	1.09		0.0065	0.28	0.0052	0.30
B							0.546		
C	0.006		2.07	1.54	0.004	0.015	0.804	0.01	0.34
D					0.0094			0.0043	
E									
F	0.0058		2.1	2.8	0.0032	0.010	0.81	0.0080	0.34
G							0.48		
H	0.0079		2.0	1.7	0.0054	0.020	0.6265	0.0119	
I									
J									
K	0.007		1.5	1.0	0.0090		0.25	0.015	
L						0.008			
M	0.0056	0.0010	0.2		0.0052			0.0133	
N	0.01113		2.5	0.8		0.009	0.66		
O									
P	0.010	0.005	1.5	1.5	0.005		0.40		0.25
Q	0.00110		0.719	0.197	0.00204	0.000774	0.0549	0.00305	
R	0.004	0.000100	0.96	0.86			0.72		0.54
S									
T	0.0056		2.11	1.84	0.0046	0.0134	0.69	0.0104	
U	0.0168		2.612	1.086	0.0077		0.765	0.011	
V	0.0084		2.029	1.793	0.0055	0.0120	0.34	0.0135	0.378
W	0.006		1.10	0.5			0.60		1.14
X									
Y					0.0145	0.0063			
Z									
AA	0.005		2.3	1.5	0.003		0.47		
AB			1						
AC	0.0055		0.734	0.80	0.006	0.013	0.473	0.009	
AD	0.01	0.01	1	1.5				0.05	
AE									
AF			0.07	0.09					
AG	0.016	0.00029	6.92	7.90	0.0122				
AH	0.01		2.9	1.4		0.0137		0.009	
AI	0.006		1.6	1.6	0.006	0.0062	0.82	0.011	
AJ	0.0077		0.45	1.18		0.011	0.549	0.017	
AK									
AL	0.011		1.04	1.81	0.0045	0.016			
AM	0.002		0.058	0.153	0.004	0.002	0.020	0.002	0.066
AN	0.009	0.0091	1.7	0.9	0.0028			0.0079	0.22
AO	0.0030		1.6	1.0	0.0052		0.40	0.014	0.10
AP									
AQ			2.20						
AR	0.004		2	1.3	0.008		0.7	0.009	

## z-Scores N179A

	Cond.	total-Hardn.	K <sub>S</sub> 4.3	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>
A	-0.47	-0.32	1.40	1.11	-0.51	0.28	0.60	-0.17	-0.87
B					-1.08	0.37	0.45	0.70	
C	-0.32	-0.48	0.00	0.00	-0.72	0.20	0.13	0.98	0.32
D									
E									
F	-1.11	-0.16	-0.80	0.26	0.09	-1.14	-1.19	-1.28	0.00
G			-1.81		0.23				
H	0.79	-0.48	-1.20	-0.16	-0.88	0.49	0.60	0.51	0.85
I									
J	0.63	0.64	-2.61	-2.10	1.71	-3.37			-1.09
K	0.16	-0.80	-1.40	-0.26	-0.88	-0.73	0.30	-0.26	-1.31
L	0.16	0.35	-2.01	-0.89	0.28	-0.24	-0.39	-0.73	-0.76
M	0.47		-1.20	-1.05					-1.31
N	-0.32	-0.16	-0.40	-0.26	-0.05	-0.33	-0.30	0.90	0.11
O							-1.00	0.43	
P	2.21	-0.32	-0.20	-0.24	-0.32	-0.33			-1.31
Q	-0.16	0.32	-0.80	-0.52	0.69	-0.33	-0.30	0.13	-1.96
R	0.47	-0.16	-2.21	-1.79	-0.05	-0.35	-0.36	-0.04	-0.67
S		0.43	-0.90	-0.42	0.50	-0.10			
T	-0.16	1.44	1.00	0.79	1.25	0.28	0.89	0.90	1.20
U	0.95								-1.11
V	0.95	-0.48	-3.41	-1.94	-0.27	-1.00	-0.86	-0.77	-0.25
W	0.32	0.00	-2.61	-1.83	0.05	0.49	0.18	-0.30	-0.67
X	-1.74	167.31	0.60	1.26	-2.22	-1.26	-0.74	-0.55	-1.29
Y	0.47	4.63	0.40	1.05	0.05	0.49	0.60	0.60	-0.11
Z									
AA	-1.11	1112.39	-0.60	-0.52					-0.44
AB		-2.08			-0.88	-3.98			
AC	0.16	0.48			0.12	1.10	0.71	-0.17	-1.42
AD	-0.63	-0.24	-0.66	0.26	1.80	0.69	3.87	1.54	1.96
AE		-0.83							
AF	-0.32				-0.23	-0.12	-5.15	-6.19	-0.59
AG	-0.40	1.76	-0.80	-0.65	1.61	1.18	0.57	-0.68	7.40
AH	-0.95	0.64	-0.80	-0.65	0.83	-0.53	2.08	-0.68	-1.64
AI	-0.47	-0.08	-1.60	-0.50	0.00	-0.53	-0.30	-1.11	-1.20
AJ	-1.90	-0.32	0.60	1.31	-0.14	0.49	-0.60	0.34	0.98
AK			-0.80						
AL	-0.32	-0.32	-0.40		-0.07	0.49	-1.07	-0.30	0.09
AM	-1.42	-0.96	-0.80	0.00	-1.29	0.28	0.30	-1.71	-0.65
AN	4.11	0.64	1.40	1.89	1.02	4.15	1.79	24.91	3.93
AO	-0.32	-0.80	0.60	1.31	-0.88	-0.33	0.30	-0.26	-1.31
AP	0.79	-0.22	-1.00	0.00	-0.67	0.79	0.98	-24.29	0.16
AQ	1.11				-1.21	-1.30	-0.57	-0.04	
AR	0.00	0.00	-0.60	-0.52	-0.05	-0.12	0.00	0.51	0.33

## z-Scores N179A

	NO <sub>2</sub> <sup>-</sup>	NH <sub>4</sub> <sup>+</sup>	Cl <sup>-</sup>	SO <sub>4</sub> <sup>2-</sup>	o-PO <sub>4</sub> <sup>3-</sup>	Boron	DOC	total-P (as PO <sub>4</sub> <sup>3-</sup> )	KMnO <sub>4</sub> - Index
A	-1.80	1.29	0.66	-0.59		0.11	-1.87		0.20
B							-0.53		
C	-0.18	0.14	0.42	-0.22		-0.64	-0.33		0.30
D		1.38							
E									
F	0.06	-0.09	1.21	0.59		-0.27	-0.71		-0.30
G							2.99		
H	-0.96	-0.02	-0.19	-0.39		-0.36	0.28		
I									
J	-12.18	1.29	2.96	7.64					
K	-0.18	-0.55	-0.77	0.13			-0.15		
L	-0.06	0.42	0.84	0.50		-0.83	-0.24		
M	0.24	1.68	0.22						
N	0.18		0.22	-0.78		0.49	-0.27		
O									
P	6.06	-1.94	-0.55	-0.85			-0.92		0.69
Q	1.02	0.85	-1.53	-1.70		0.59	1.27		2.90
R	0.42	-2.40	-0.10	-0.75			0.21		-0.20
S									
T	0.42	-1.20	1.53	0.46		1.24	1.63		
U	2.22	0.92	-0.44	-0.39			1.06		
V	-0.18	-1.48	0.22	0.06		-0.27	0.44		-0.26
W	1.02		-2.14	-0.67			-0.18		36.24
X	-2.58		0.36	-1.49					
Y	1.44	1.57	0.55	-0.26		0.02	0.74		
Z									
AA			-0.99	1.24			0.86		
AB			3.40						
AC	0.24	-0.67	-1.04	-1.13		-0.20	1.08		
AD	0.42	0.14	2.85	0.52					
AE									
AF			-0.55	-0.26					
AG	1.50	1.32	2.44	2.76		1.12			
AH	2.40	0.46	-0.99	0.98		-0.08	0.68		-0.99
AI	-0.30	1.08	0.66	-0.26		0.30	0.15		
AJ	0.24		0.77	-0.78		-1.12	1.39		
AK									
AL	0.30	-0.92	0.66	-0.20		0.02			
AM	1.32	0.37	0.55	2.35		-0.74	-0.12		0.83
AN	32.82	4.96	11.29	4.44					0.96
AO	178.04	-0.60	-2.74	-0.07			0.15		-1.12
AP	3.42	0.97	0.42	1.14		1.55	1.24		-0.17
AQ			1.04						
AR	0.42	0.14	0.33	-0.20			0.77		

## z-Scores N179B

	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>
A	-0.20	1.20	2.40	1.95	0.60	1.20	1.03	0.87	-0.90
B					-1.43	0.29	-1.14	0.22	
C	-0.20	-0.30	0.56	0.42	-0.64	0.34	0.34	0.90	-0.08
D									
E									
F	-0.61	-0.79	-0.27	0.77	-0.30	-1.15	-1.66	0.67	-0.23
G			-1.60		0.01				
H	0.00	-0.67	-1.34	0.04	-1.34	0.42	0.47	0.32	1.58
I									
J	0.61	-1.80	-1.87	-1.48	7.77	-11.49			-0.85
K	0.20	-0.67	-0.27	1.12	-0.90	-0.63	0.16	-0.26	-0.06
L	0.00	0.56	-2.14	-0.70	0.55	0.08	-0.59	-0.58	-0.45
M	0.81		-0.80	-0.63					-1.52
N	-0.61	0.30	0.13	0.07	0.30	0.16	0.16	0.93	-0.06
O							-1.20	-0.49	
P	2.02	0.07	0.53	0.42	-0.75	0.68			-1.64
Q	0.00	-1.35	-0.27	-0.28	-0.60	-0.89	-1.03	0.06	-0.68
R	0.20	-0.22	-1.60	-1.29	-0.01	-0.42	1.10	0.19	-0.37
S		0.15	3.07	2.89	0.23	-0.02			
T	-0.20	1.20	1.60	1.30	1.34	0.42	1.74	1.22	1.64
U	0.61								-1.14
V	0.81	-1.42	-2.94	-1.26	-1.11	-1.20	-0.13	-0.45	-0.62
W	0.61	0.07	-2.14	-1.69	1.94	-2.45	-0.16	-0.26	-0.62
X	-0.81	169.14	0.53	1.51	-2.37	-1.49	-0.98	-0.48	-1.36
Y	0.61	0.07	1.34	2.18	-0.45	0.16	-0.79	0.06	-0.62
Z									
AA	-0.61	1106.31	-0.27	-0.28					-0.56
AB		1.57			3.88	-1.67			
AC	0.20	-0.07			-1.16	1.05	0.31	-0.15	-1.51
AD	-0.61	0.04	-0.48	0.77	1.34	1.20	2.84	2.38	2.43
AE		-0.90							
AF	-0.20				-0.45	-0.37	-5.29	-5.56	-0.54
AG	-0.20	2.51	-0.27	-0.18	1.05	3.29	-0.89	-0.84	5.04
AH	-0.61	1.57	-1.34	-1.05	1.79	0.42	-0.32	-1.25	0.00
AI	0.00	-0.52	-1.34	-0.04	-0.60	-0.37	0.08	-0.58	-0.68
AJ	-2.62	-0.60	3.21	3.58	-0.30	0.42	-1.11	0.29	0.28
AK			-0.27						
AL	-0.20	0.45	0.53		0.37	0.68	-0.84	0.26	-0.33
AM	-0.61	-1.05	-0.53	0.77	-0.90	-0.10	-1.11	-1.12	-0.40
AN	-0.40	5.70	1.60	2.35	0.30	2.77	-1.74	16.13	1.98
AO	0.00	-1.80	1.34	2.18	-2.09	-0.89	0.32	0.39	-1.19
AP	0.81	0.41	-0.53	0.77	-0.55	1.12	1.35	1.04	0.47
AQ	1.82				-1.51	-3.63	-1.22	-0.48	
AR	0.00	-0.04	0.27	0.07	0.30	-0.37	-0.32	0.03	0.23

**z-Scores N179B**

	NO <sub>2</sub> <sup>-</sup>	NH <sub>4</sub> <sup>+</sup>	Cl <sup>-</sup>	SO <sub>4</sub> <sup>2-</sup>	o-PO <sub>4</sub> <sup>3-</sup>	Boron	DOC	total-P (as PO <sub>4</sub> <sup>3-</sup> )	KMnO <sub>4</sub> - Index <sup>-</sup>
A	-1.21		-0.65	-0.36		0.41	-1.59	-1.30	0.10
B							-0.59		
C	0.10		0.49	0.25	-0.88	0.19	-0.09	-0.58	0.76
D					-3.23			0.58	
E									
F	-0.95		0.43	-0.18	-1.31	-0.23	0.00	-0.12	-0.81
G							3.73		
H	-0.49		-1.07	-1.00	0.03	-0.19	0.49	-0.03	
I									
J	-5.12		2.43	12.32	26.40				
K	0.10		-2.46	-0.91	0.48		0.09	0.58	
L	0.16		0.40	0.56	-0.18	-0.12	0.00	0.23	
M	0.26		-0.29		-0.20			-0.06	
N	0.36		-2.10	-1.27		0.58	0.00		
O									
P	1.44		-1.56	-1.27	-2.02		-0.68		-0.25
Q	0.59		-1.74	-0.91	-0.66	0.44	0.73	0.00	1.68
R	0.42		-0.13	-1.16			0.36		0.51
S									
T	0.10		1.16	1.09	0.13	1.59	2.50	0.35	
U	1.37		-0.88	0.05	-0.13		0.82	-1.27	
V	0.10		-0.31	0.24	-2.15	-0.12	0.59	-1.39	-0.36
W	1.40		-2.72	-0.91	-7.96		0.77	0.00	36.07
X	-2.51		-0.86	-1.59					
Y	0.75		-1.38	-0.18	16.04	0.41	0.91		
Z									
AA	-3.07		-1.56	2.72	-2.40		0.86		
AB			-0.29						
AC	-0.20		-1.14	-1.51	2.70	-0.25	0.89	-0.26	
AD	0.42		2.06	0.72				-0.69	
AE									
AF			-0.91	-0.22					
AG	1.31		1.18	7.96	1.74	1.40			
AH	1.01		0.25	-0.72	-0.33	-0.04	-0.73	0.46	-0.76
AI	0.10		-2.28	0.91	-1.67	-0.05	0.46	0.23	
AJ	0.00		0.07	-0.18		-1.19	-0.55	1.27	
AK									
AL	0.29		0.54	0.51	-0.08	0.05			
AM	0.78		0.07	0.36	-0.33	0.09	0.05	-0.45	0.05
AN	41.88		11.84	1.45	-7.40			-6.73	0.15
AO	-1.50		-0.83	-1.63	-2.60		1.14	0.35	-0.81
AP	1.86		-0.17	0.74	1.59	1.84	1.82		-0.25
AQ			2.77						
AR	0.10		-0.11	-0.91	-1.39		1.55	-0.69	

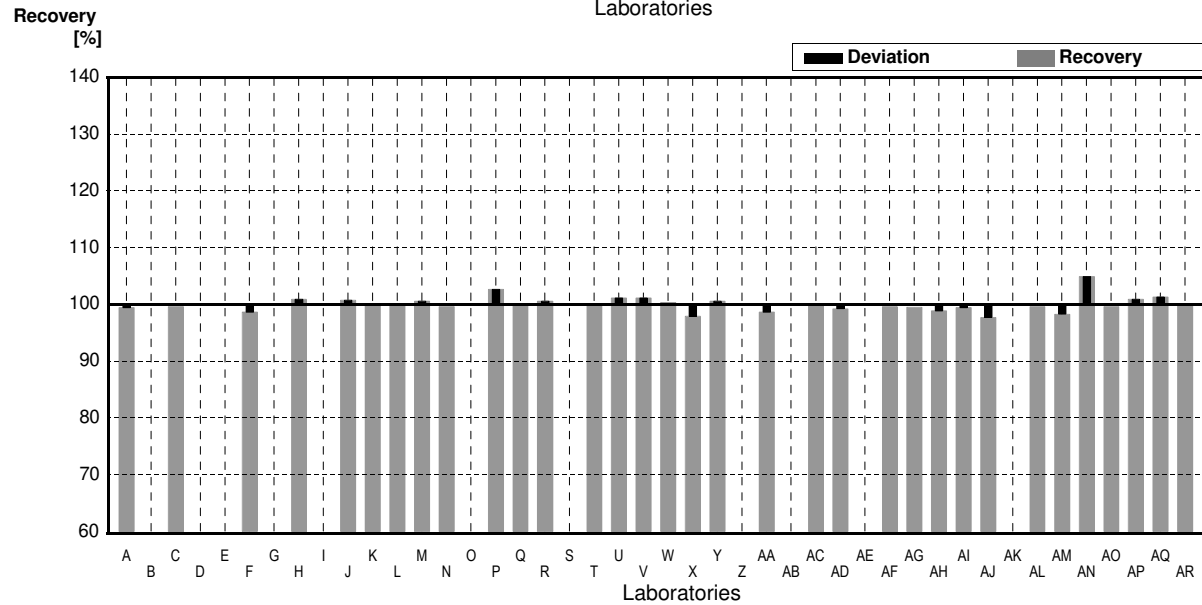
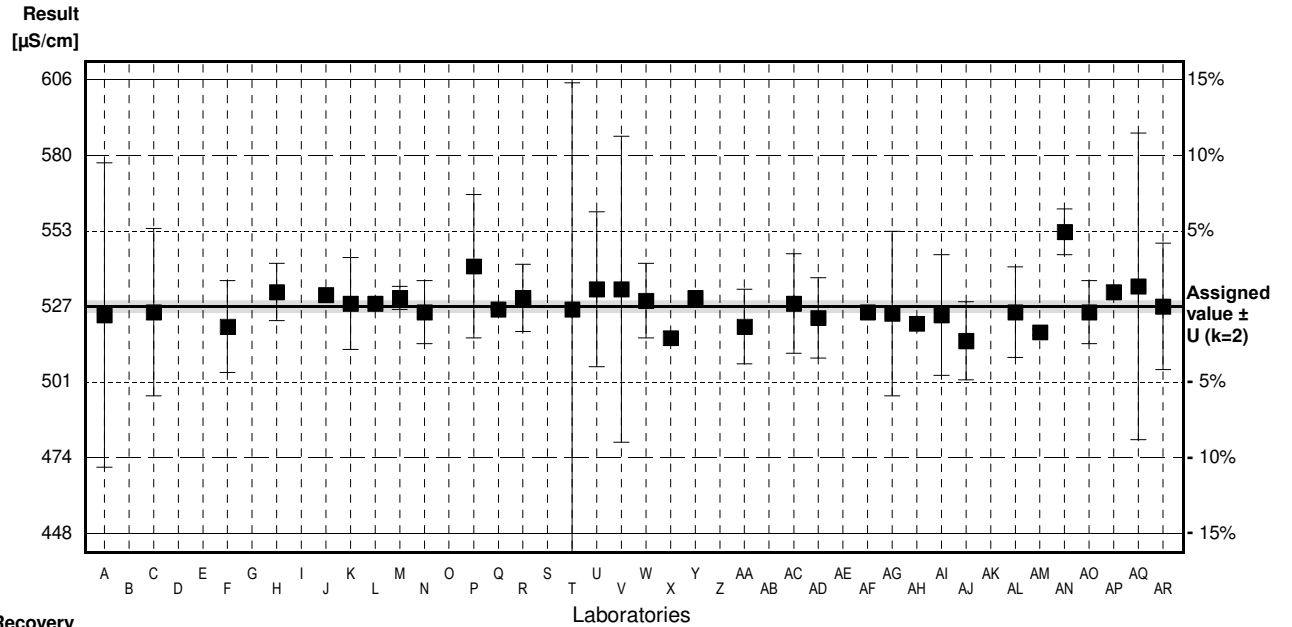
# Sample N179A

## Parameter Electr. Conductivity (25°C)

Assigned value ± U (k=2) 527 µS/cm ± 2 µS/cm  
 IFA result ± U (k=2) 527 µS/cm ± 9 µS/cm  
 Stability test ± U (k=2) 526 µS/cm ± 8 µS/cm

Lab Code	Result	±	Unit	Recovery	z-Score
A	524	53	µS/cm	99%	-0.47
B			µS/cm		
C	525	29.2	µS/cm	100%	-0.32
D			µS/cm		
E			µS/cm		
F	520	16	µS/cm	99%	-1.11
G			µS/cm		
H	532	10	µS/cm	101%	0.79
I			µS/cm		
J	531		µS/cm	101%	0.63
K	528	16	µS/cm	100%	0.16
L	528		µS/cm	100%	0.16
M	530	4	µS/cm	101%	0.47
N	525	11	µS/cm	100%	-0.32
O			µS/cm		
P	541	25	µS/cm	103%	2.21
Q	526	0.184	µS/cm	100%	-0.16
R	530	11.7	µS/cm	101%	0.47
S			µS/cm		
T	526	78.9	µS/cm	100%	-0.16
U	533	27	µS/cm	101%	0.95
V	533	53.3	µS/cm	101%	0.95
W	529	13	µS/cm	100%	0.32
X	516		µS/cm	98%	-1.74
Y	530		µS/cm	101%	0.47
Z			µS/cm		
AA	520	13	µS/cm	99%	-1.11
AB			µS/cm		
AC	528	17.34	µS/cm	100%	0.16
AD	523	14	µS/cm	99%	-0.63
AE			µS/cm		
AF	525	2	µS/cm	100%	-0.32
AG	524.5	28.64	µS/cm	100%	-0.40
AH	521		µS/cm	99%	-0.95
AI	524	21	µS/cm	99%	-0.47
AJ	515	13.6	µS/cm	98%	-1.90
AK			µS/cm		
AL	525.00	15.8	µS/cm	100%	-0.32
AM	518	1,000	µS/cm	98%	-1.42
AN	553	8	µS/cm	105%	4.11
AO	525	11	µS/cm	100%	-0.32
AP	532		µS/cm	101%	0.79
AQ	534	53.4	µS/cm	101%	1.11
AR	527	22	µS/cm	100%	0.00

	All results	Outliers excl.	Unit
Mean ± CI(99%)	527 ± 3	527 ± 3	µS/cm
Recov. ± CI(99%)	100,1 ± 0,6	99,9 ± 0,5	%
SD between labs	7	6	µS/cm
RSD between labs	1,4	1,1	%
n for calculation	33	32	



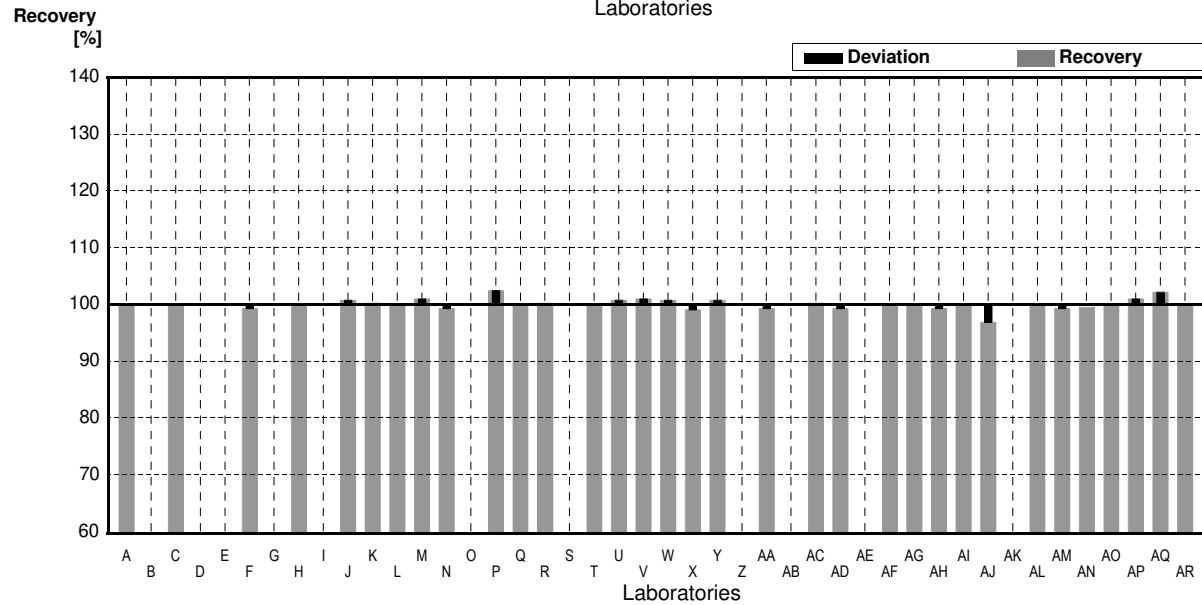
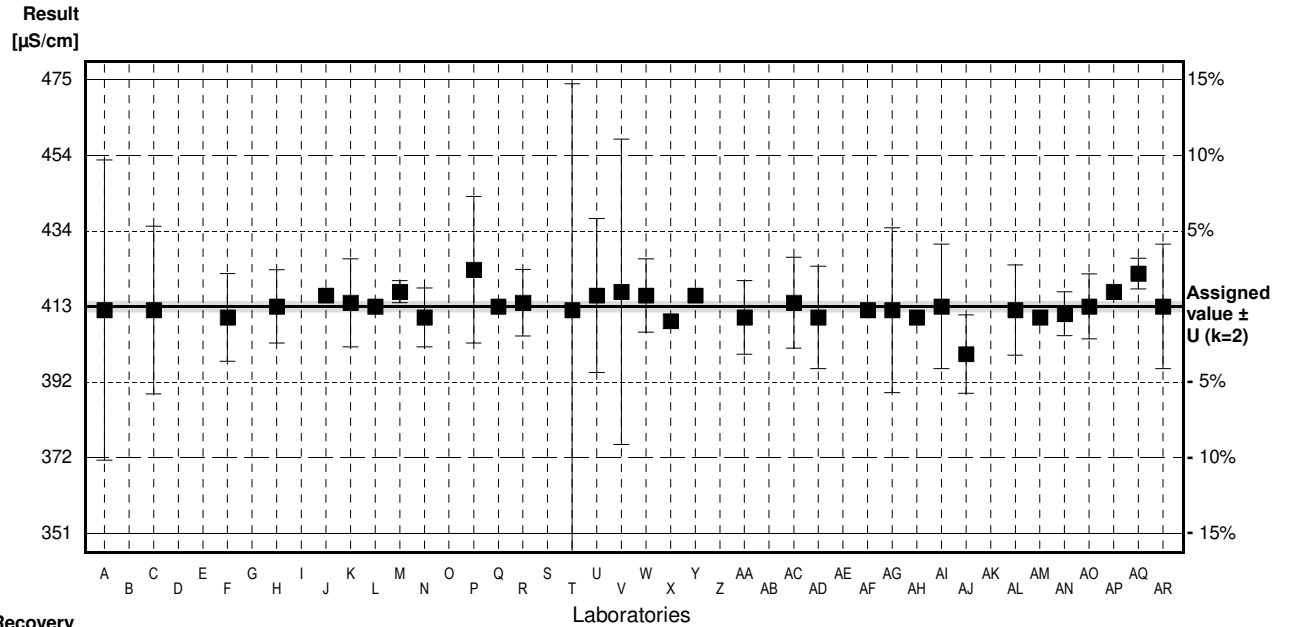
# Sample N179B

## Parameter Electr. Conductivity (25°C)

Assigned value ± U (k=2) 413 µS/cm ± 1 µS/cm  
 IFA result ± U (k=2) 413 µS/cm ± 7 µS/cm  
 Stability test ± U (k=2) 413 µS/cm ± 7 µS/cm

Lab Code	Result	±	Unit	Recovery	z-Score
A	412	41	µS/cm	100%	-0.20
B			µS/cm		
C	412	22.9	µS/cm	100%	-0.20
D			µS/cm		
E			µS/cm		
F	410	12	µS/cm	99%	-0.61
G			µS/cm		
H	413	10	µS/cm	100%	0.00
I			µS/cm		
J	416		µS/cm	101%	0.61
K	414	12	µS/cm	100%	0.20
L	413		µS/cm	100%	0.00
M	417	3	µS/cm	101%	0.81
N	410	8	µS/cm	99%	-0.61
O			µS/cm		
P	423	20	µS/cm	102%	2.02
Q	413	0.120	µS/cm	100%	0.00
R	414	9.1	µS/cm	100%	0.20
S			µS/cm		
T	412	61.8	µS/cm	100%	-0.20
U	416	21	µS/cm	101%	0.61
V	417	41.7	µS/cm	101%	0.81
W	416	10	µS/cm	101%	0.61
X	409		µS/cm	99%	-0.81
Y	416		µS/cm	101%	0.61
Z			µS/cm		
AA	410	10	µS/cm	99%	-0.61
AB			µS/cm		
AC	414	12.42	µS/cm	100%	0.20
AD	410	14	µS/cm	99%	-0.61
AE			µS/cm		
AF	412	1	µS/cm	100%	-0.20
AG	412	22.50	µS/cm	100%	-0.20
AH	410		µS/cm	99%	-0.61
AI	413	17	µS/cm	100%	0.00
AJ	400	10.7	µS/cm	97%	-2.62
AK			µS/cm		
AL	412.00	12.36	µS/cm	100%	-0.20
AM	410	1.155	µS/cm	99%	-0.61
AN	411	6	µS/cm	100%	-0.40
AO	413	8.9	µS/cm	100%	0.00
AP	417		µS/cm	101%	0.81
AQ	422	4.22	µS/cm	102%	1.82
AR	413	17	µS/cm	100%	0.00

	All results	Outliers excl.	Unit
Mean ± CI(99%)	413 ± 2	413 ± 2	µS/cm
Recov. ± CI(99%)	100,0 ± 0,5	100,0 ± 0,5	%
SD between labs	4	4	µS/cm
RSD between labs	1,0	1,0	%
n for calculation	33	33	



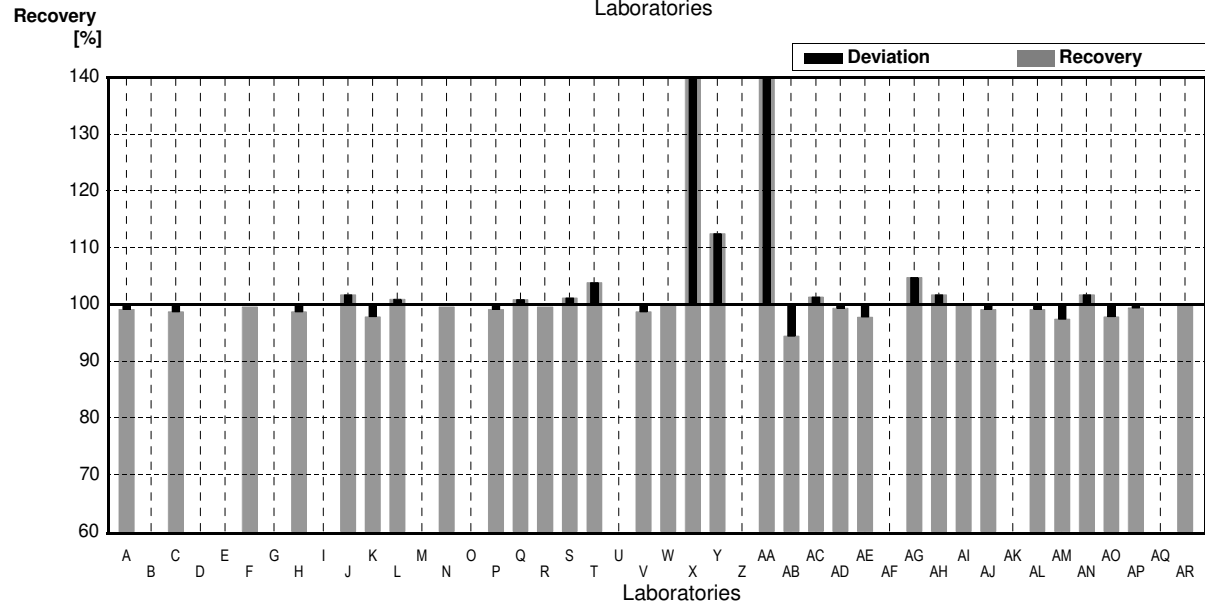
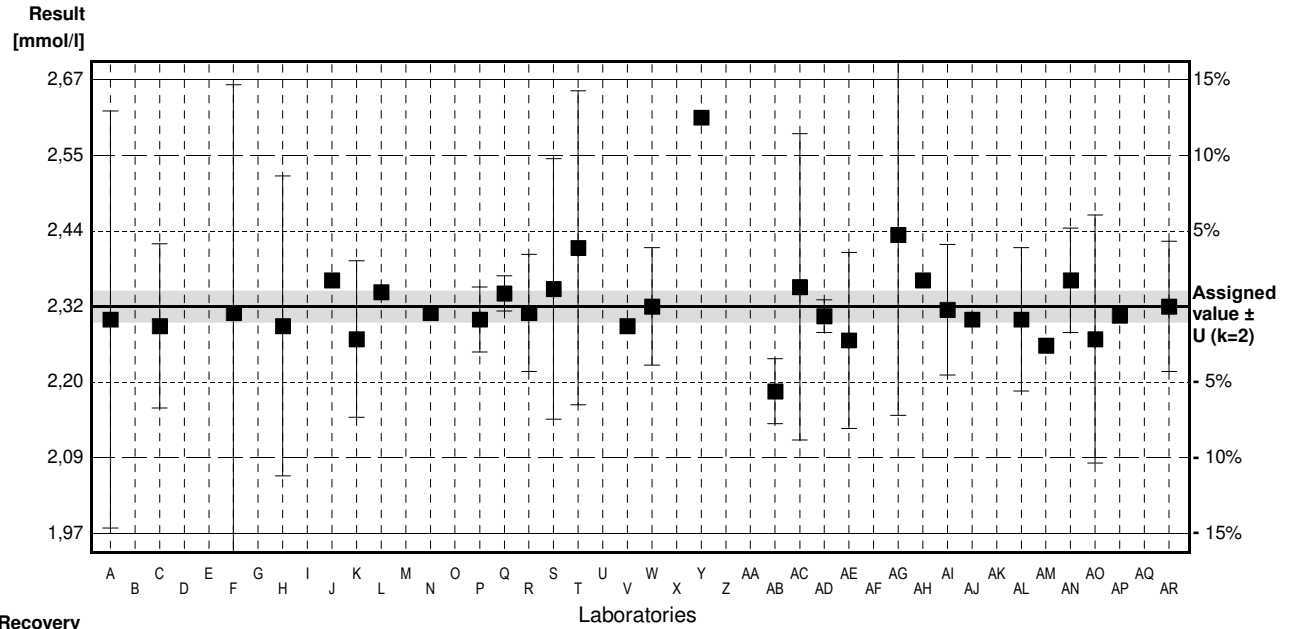
# Sample N179A

## Parameter Total hardness

Assigned value ± U (k=2) 2,32 mmol/l ± 0,02 mmol/l  
 IFA result ± U (k=2) 2,39 mmol/l ± 0,12 mmol/l  
 Stability test ± U (k=2) 2,31 mmol/l ± 0,12 mmol/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	2,30	0,32	mmol/l	99%	-0,32
B			mmol/l		
C	2,29	0,126	mmol/l	99%	-0,48
D			mmol/l		
E			mmol/l		
F	2,31	0,35	mmol/l	100%	-0,16
G			mmol/l		
H	2,29	0,23	mmol/l	99%	-0,48
I			mmol/l		
J	2,36		mmol/l	102%	0,64
K	2,27	0,12	mmol/l	98%	-0,80
L	2,342		mmol/l	101%	0,35
M			mmol/l		
N	2,31		mmol/l	100%	-0,16
O			mmol/l		
P	2,30	0,05	mmol/l	99%	-0,32
Q	2,34	0,0271	mmol/l	101%	0,32
R	2,310	0,09	mmol/l	100%	-0,16
S	2,3468	0,2	mmol/l	101%	0,43
T	2,41	0,241	mmol/l	104%	1,44
U			mmol/l		
V	2,29		mmol/l	99%	-0,48
W	2,32	0,09	mmol/l	100%	0,00
X	12,8	*	mmol/l	552%	167,31
Y	2,61	*	mmol/l	113%	4,63
Z			mmol/l		
AA	72,0	*	6,5	3103%	1112,39
AB	2,19	0,05	mmol/l	94%	-2,08
AC	2,35	0,235	mmol/l	101%	0,48
AD	2,305	0,025	mmol/l	99%	-0,24
AE	2,268	0,135	mmol/l	98%	-0,83
AF			mmol/l		
AG	2,43	0,277	mmol/l	105%	1,76
AH	2,36		mmol/l	102%	0,64
AI	2,315	0,100	mmol/l	100%	-0,08
AJ	2,30		mmol/l	99%	-0,32
AK			mmol/l		
AL	2,30	0,11	mmol/l	99%	-0,32
AM	2,26	0,010	mmol/l	97%	-0,96
AN	2,36	0,08	mmol/l	102%	0,64
AO	2,27	0,19	mmol/l	98%	-0,80
AP	2,306		mmol/l	99%	-0,22
AQ			mmol/l		
AR	2,32	0,1	mmol/l	100%	0,00

	All results	Outliers excl.	Unit
Mean ± CI(99%)	4,83 ± 6,03	2,31 ± 0,02	mmol/l
Recov. ± CI(99%)	208,2 ± 259,8	99,8 ± 1,0	%
SD between labs	12,40	0,05	mmol/l
RSD between labs	256,7	2,0	%
n for calculation	32	29	



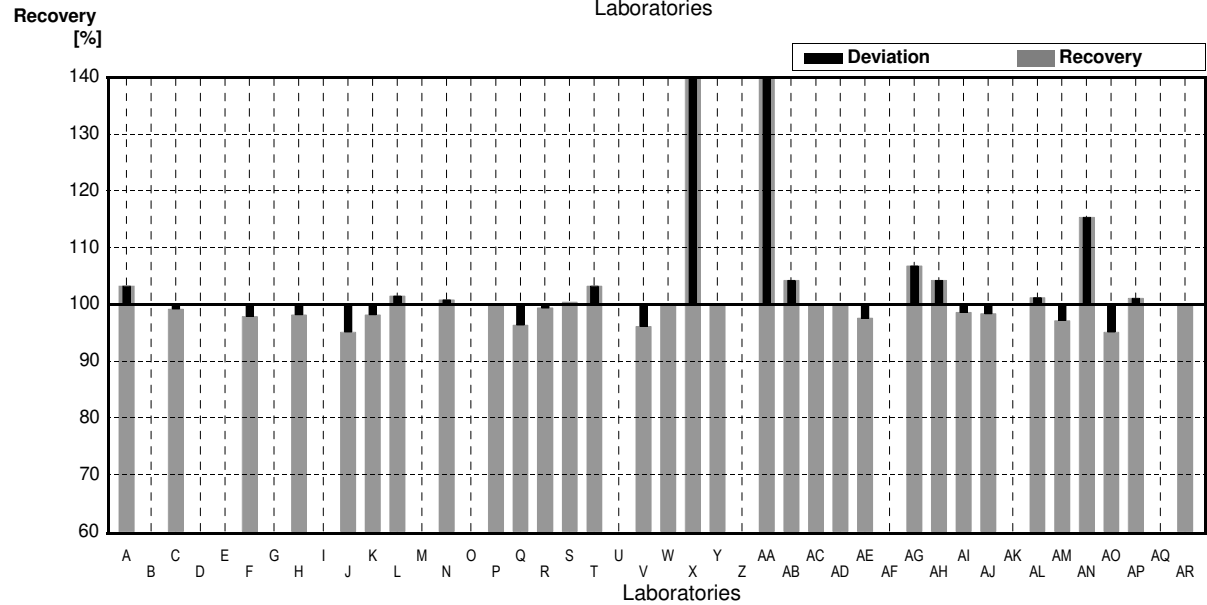
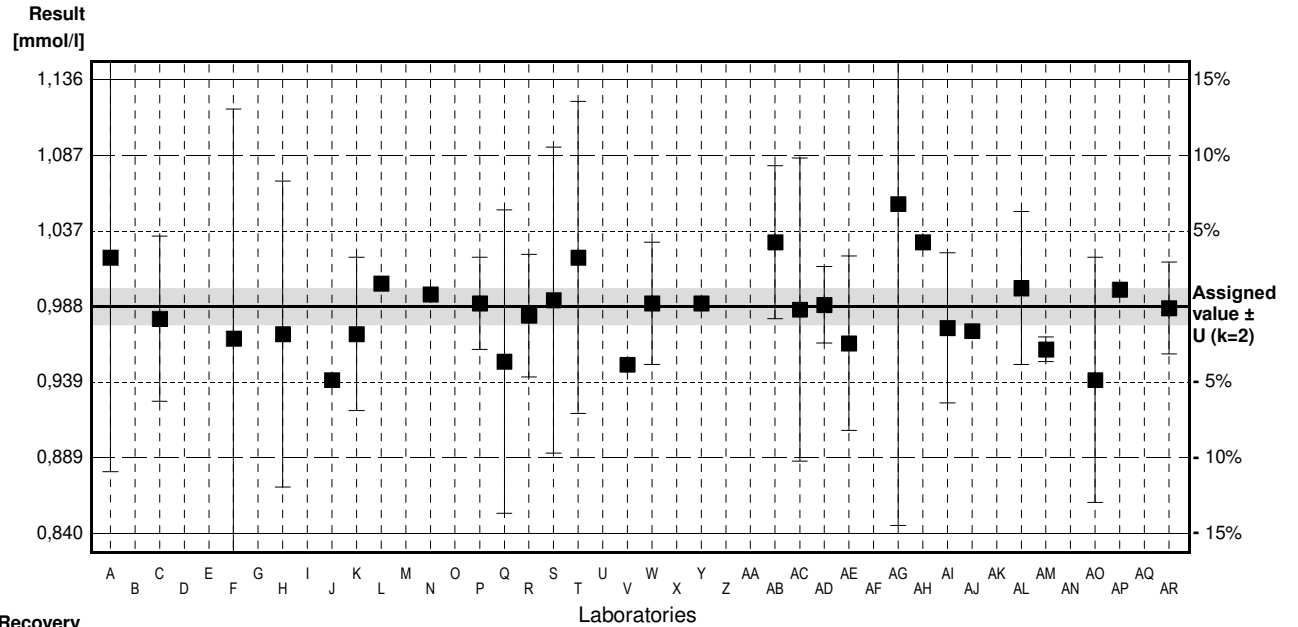
# Sample N179B

## Parameter Total hardness

Assigned value ± U (k=2) 0,988 mmol/l ± 0,012 mmol/l  
 IFA result ± U (k=2) 1,05 mmol/l ± 0,06 mmol/l  
 Stability test ± U (k=2) 1,00 mmol/l ± 0,06 mmol/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	1.02	0.14	mmol/l	103%	1.20
B			mmol/l		
C	0.98	0.054	mmol/l	99%	-0.30
D			mmol/l		
E			mmol/l		
F	0.967	0.15	mmol/l	98%	-0.79
G			mmol/l		
H	0.97	0.10	mmol/l	98%	-0.67
I			mmol/l		
J	0.94		mmol/l	95%	-1.80
K	0.97	0.05	mmol/l	98%	-0.67
L	1.003		mmol/l	102%	0.56
M			mmol/l		
N	0.996		mmol/l	101%	0.30
O			mmol/l		
P	0.99	0.03	mmol/l	100%	0.07
Q	0.952	0.0991	mmol/l	96%	-1.35
R	0.982	0.040	mmol/l	99%	-0.22
S	0.9921	0.1	mmol/l	100%	0.15
T	1.02	0.102	mmol/l	103%	1.20
U			mmol/l		
V	0.95		mmol/l	96%	-1.42
W	0.99	0.04	mmol/l	100%	0.07
X	5.500 *		mmol/l	557%	169.14
Y	0.99		mmol/l	100%	0.07
Z			mmol/l		
AA	30.5 *	2.7	mmol/l	3087%	1106.31
AB	1.03	0.05	mmol/l	104%	1.57
AC	0.986	0.099	mmol/l	100%	-0.07
AD	0.989	0.025	mmol/l	100%	0.04
AE	0.964	0.057	mmol/l	98%	-0.90
AF			mmol/l		
AG	1.055	0.21	mmol/l	107%	2.51
AH	1.03		mmol/l	104%	1.57
AI	0.974	0.049	mmol/l	99%	-0.52
AJ	0.972		mmol/l	98%	-0.60
AK			mmol/l		
AL	1.00	0.05	mmol/l	101%	0.45
AM	0.960	0.008	mmol/l	97%	-1.05
AN	1.14 *	0.04	mmol/l	115%	5.70
AO	0.94	0.08	mmol/l	95%	-1.80
AP	0.999		mmol/l	101%	0.41
AQ			mmol/l		
AR	0.987	0.03	mmol/l	100%	-0.04

	All results	Outliers excl.	Unit
Mean ± CI(99%)	2,054 ± 2,553	0,986 ± 0,014	mmol/l
Recov. ± CI(99%)	207,9 ± 258,4	99,8 ± 1,4	%
SD between labs	5,252	0,027	mmol/l
RSD between labs	255,6	2,8	%
n for calculation	32	29	



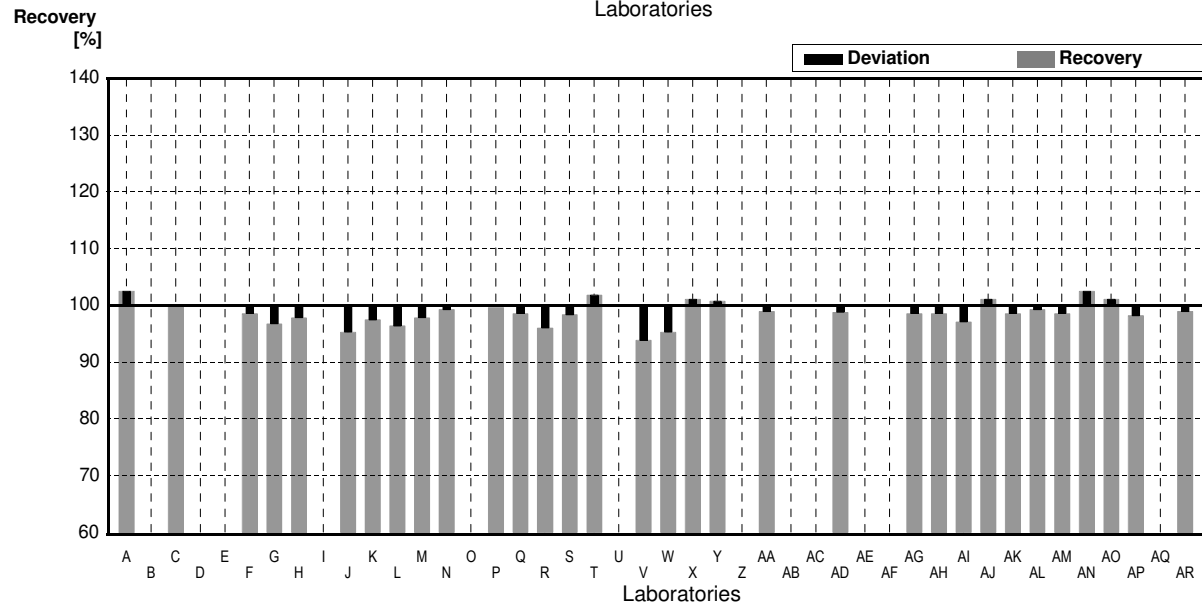
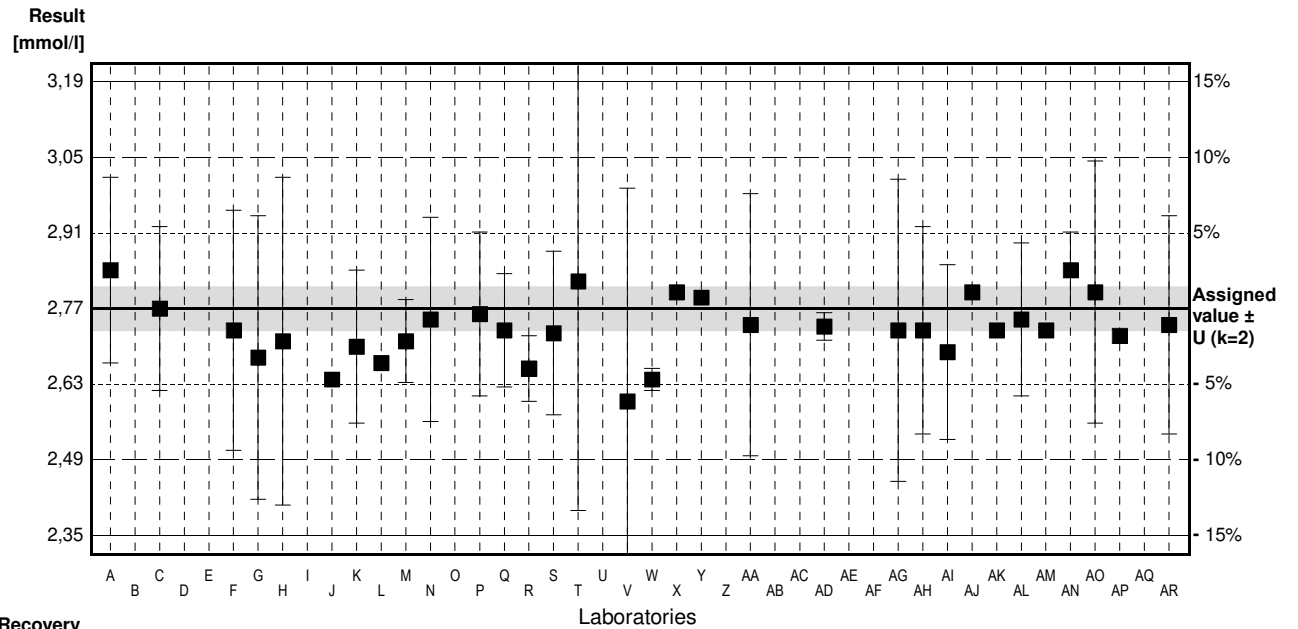
# Sample N179A

## Parameter Alkalinity KS 4,3 (as H+)

Assigned value ± U (k=2) 2,77 mmol/l ± 0,04 mmol/l  
 IFA result ± U (k=2) 2,72 mmol/l ± 0,11 mmol/l  
 Stability test ± U (k=2) 2,70 mmol/l ± 0,11 mmol/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	2.84	0.17	mmol/l	103%	1.40
B			mmol/l		
C	2.77	0.15	mmol/l	100%	0.00
D			mmol/l		
E			mmol/l		
F	2.73	0.22	mmol/l	99%	-0.80
G	2.68	0.26	mmol/l	97%	-1.81
H	2.71	0.3	mmol/l	98%	-1.20
I			mmol/l		
J	2.64		mmol/l	95%	-2.61
K	2.70	0.14	mmol/l	97%	-1.40
L	2.67		mmol/l	96%	-2.01
M	2.71	0.076	mmol/l	98%	-1.20
N	2.750	0.187	mmol/l	99%	-0.40
O			mmol/l		
P	2.76	0.15	mmol/l	100%	-0.20
Q	2.73	0.104	mmol/l	99%	-0.80
R	2.66	0.06	mmol/l	96%	-2.21
S	2.725	0.15	mmol/l	98%	-0.90
T	2.82	0.42	mmol/l	102%	1.00
U			mmol/l		
V	2.60	0.390	mmol/l	94%	-3.41
W	2.64	0.02	mmol/l	95%	-2.61
X	2.800		mmol/l	101%	0.60
Y	2.79		mmol/l	101%	0.40
Z			mmol/l		
AA	2.74	0.24	mmol/l	99%	-0.60
AB			mmol/l		
AC			mmol/l		
AD	2.737	0.025	mmol/l	99%	-0.66
AE			mmol/l		
AF			mmol/l		
AG	2.73	0.277	mmol/l	99%	-0.80
AH	2.73	0.19	mmol/l	99%	-0.80
AI	2.69	0.16	mmol/l	97%	-1.60
AJ	2.80		mmol/l	101%	0.60
AK	2.73		mmol/l	99%	-0.80
AL	2.75	0.14	mmol/l	99%	-0.40
AM	2.73	0.006	mmol/l	99%	-0.80
AN	2.84	0.07	mmol/l	103%	1.40
AO	2.80	0.24	mmol/l	101%	0.60
AP	2.72		mmol/l	98%	-1.00
AQ			mmol/l		
AR	2.74	0.2	mmol/l	99%	-0.60

	All results	Outliers excl.	Unit
Mean ± CI(99%)	2,73 ± 0,03	2,73 ± 0,03	mmol/l
Recov. ± CI(99%)	98,7 ± 1,0	98,7 ± 1,0	%
SD between labs	0,06	0,06	mmol/l
RSD between labs	2,1	2,1	%
n for calculation	32	32	



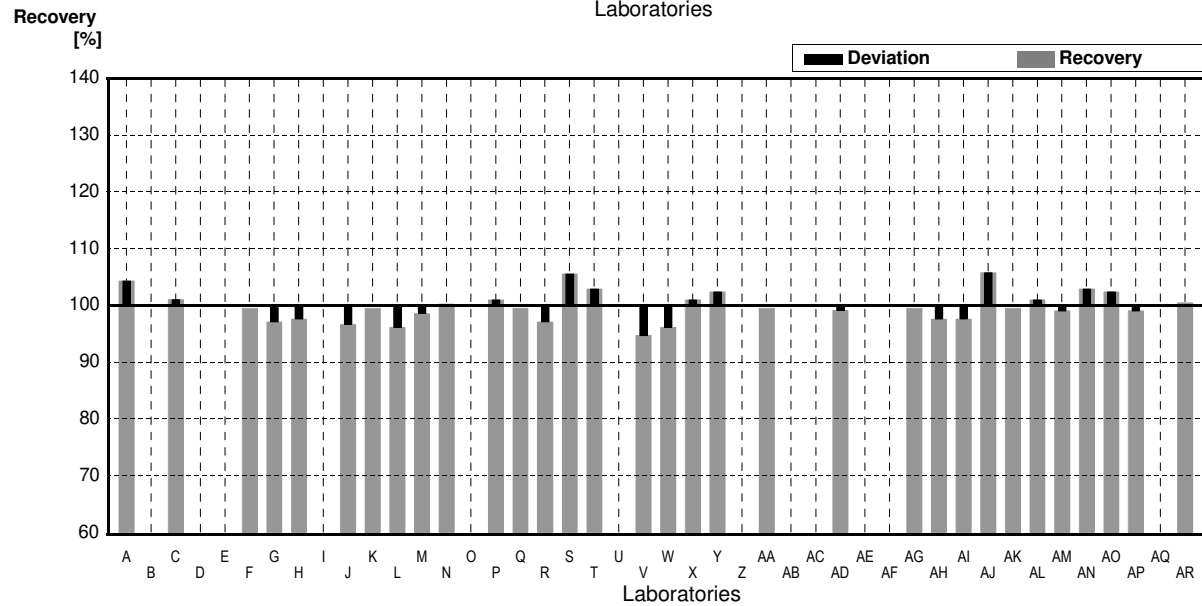
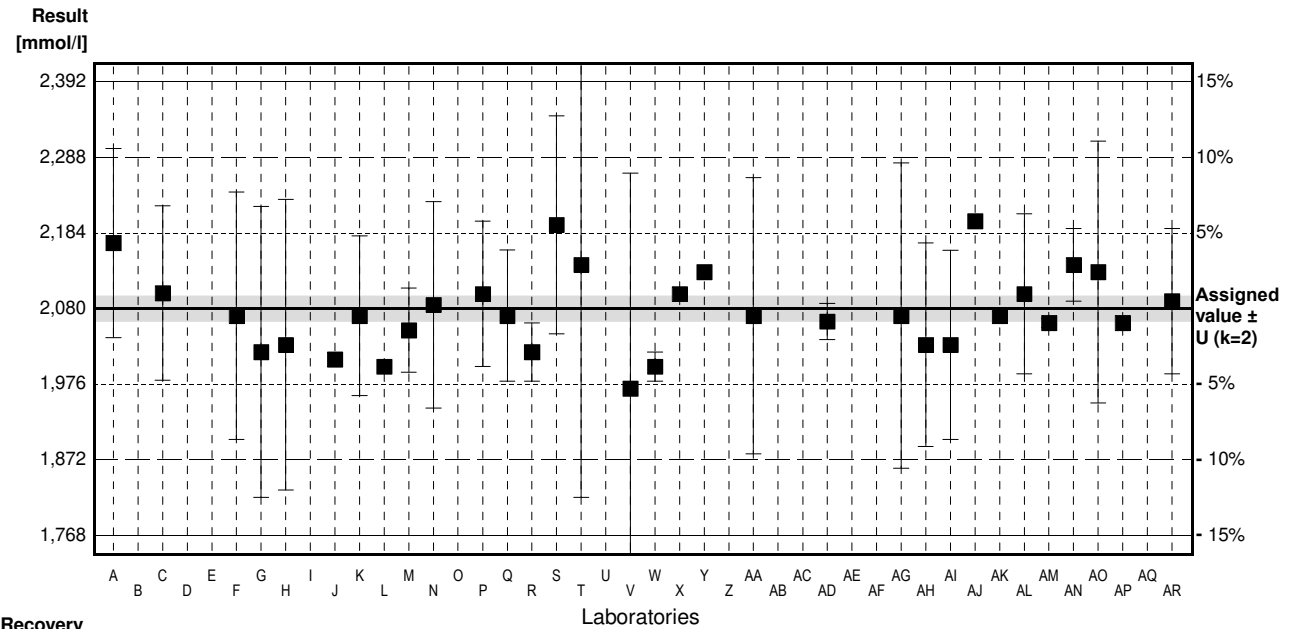
# Sample N179B

## Parameter Alkalinity KS 4,3 (as H+)

Assigned value ± U (k=2) 2,080 mmol/l ± 0,017 mmol/l  
 IFA result ± U (k=2) 2,06 mmol/l ± 0,09 mmol/l  
 Stability test ± U (k=2) 2,06 mmol/l ± 0,09 mmol/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	2,17	0,13	mmol/l	104%	2,40
B			mmol/l		
C	2,101	0,12	mmol/l	101%	0,56
D			mmol/l		
E			mmol/l		
F	2,07	0,17	mmol/l	100%	-0,27
G	2,02	0,2	mmol/l	97%	-1,60
H	2,03	0,2	mmol/l	98%	-1,34
I			mmol/l		
J	2,01		mmol/l	97%	-1,87
K	2,07	0,11	mmol/l	100%	-0,27
L	2,00		mmol/l	96%	-2,14
M	2,05	0,058	mmol/l	99%	-0,80
N	2,085	0,142	mmol/l	100%	0,13
O			mmol/l		
P	2,10	0,10	mmol/l	101%	0,53
Q	2,07	0,0903	mmol/l	100%	-0,27
R	2,02	0,04	mmol/l	97%	-1,60
S	2,195	0,15	mmol/l	106%	3,07
T	2,14	0,32	mmol/l	103%	1,60
U			mmol/l		
V	1,97	0,296	mmol/l	95%	-2,94
W	2,00	0,02	mmol/l	96%	-2,14
X	2,100		mmol/l	101%	0,53
Y	2,13		mmol/l	102%	1,34
Z			mmol/l		
AA	2,07	0,19	mmol/l	100%	-0,27
AB			mmol/l		
AC			mmol/l		
AD	2,062	0,025	mmol/l	99%	-0,48
AE			mmol/l		
AF			mmol/l		
AG	2,07	0,21	mmol/l	100%	-0,27
AH	2,03	0,14	mmol/l	98%	-1,34
AI	2,03	0,13	mmol/l	98%	-1,34
AJ	2,20		mmol/l	106%	3,21
AK	2,07		mmol/l	100%	-0,27
AL	2,10	0,11	mmol/l	101%	0,53
AM	2,06	0,006	mmol/l	99%	-0,53
AN	2,14	0,05	mmol/l	103%	1,60
AO	2,13	0,18	mmol/l	102%	1,34
AP	2,06		mmol/l	99%	-0,53
AQ			mmol/l		
AR	2,09	0,1	mmol/l	100%	0,27

	All results	Outliers excl.	Unit
Mean ± CI(99%)	2,076 ± 0,027	2,076 ± 0,027	mmol/l
Recov. ± CI(99%)	99,8 ± 1,3	99,8 ± 1,3	%
SD between labs	0,056	0,056	mmol/l
RSD between labs	2,7	2,7	%
n for calculation	32	32	



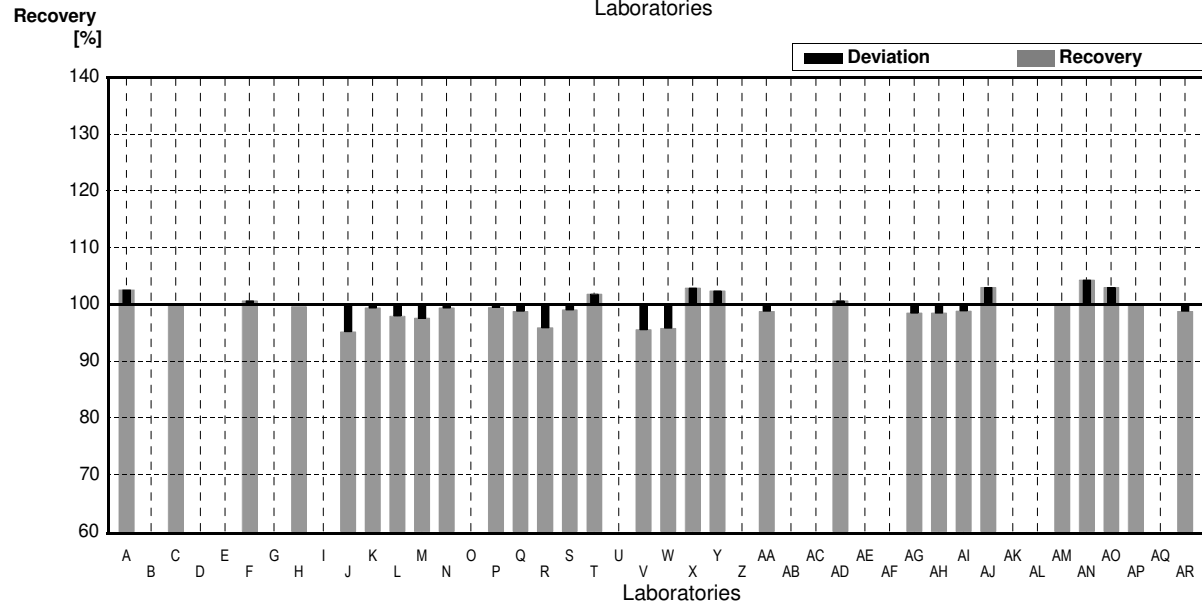
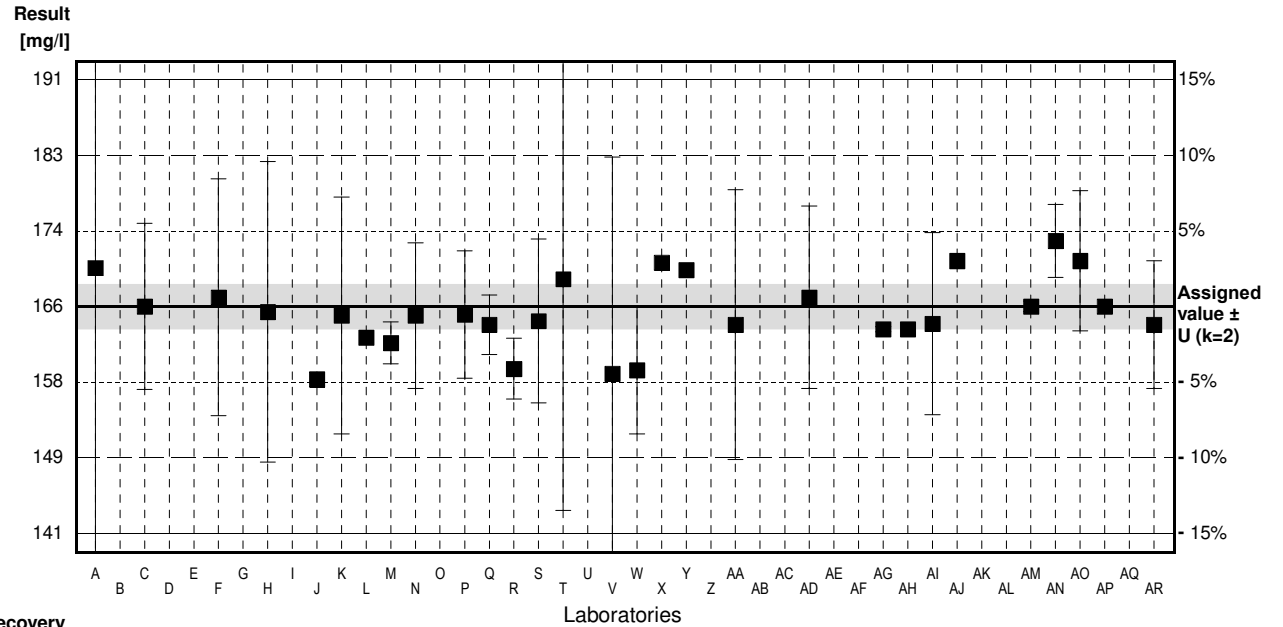
# Sample N179A

## Parameter Hydrogen carbonate

Assigned value  $\pm U$  (k=2) 166 mg/l  $\pm$  2 mg/l  
 IFA result  $\pm U$  (k=2) 163 mg/l  $\pm$  7 mg/l  
 Stability test  $\pm U$  (k=2) 162 mg/l  $\pm$  7 mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A	170.23	31.3	mg/l	103%	1.11
B			mg/l		
C	166	9.13	mg/l	100%	0.00
D			mg/l		
E			mg/l		
F	167	13	mg/l	101%	0.26
G			mg/l		
H	165.4	16.5	mg/l	100%	-0.16
I			mg/l		
J	158.0		mg/l	95%	-2.10
K	165	13	mg/l	99%	-0.26
L	162.6		mg/l	98%	-0.89
M	162	2.3	mg/l	98%	-1.05
N	165	8	mg/l	99%	-0.26
O			mg/l		
P	165.1	7.0	mg/l	99%	-0.24
Q	164	3.27	mg/l	99%	-0.52
R	159.16	3.34	mg/l	96%	-1.79
S	164.395	9	mg/l	99%	-0.42
T	169.0	25.4	mg/l	102%	0.79
U			mg/l		
V	158.6	23.8	mg/l	96%	-1.94
W	159	7	mg/l	96%	-1.83
X	170.8		mg/l	103%	1.26
Y	170		mg/l	102%	1.05
Z			mg/l		
AA	164	14.8	mg/l	99%	-0.52
AB			mg/l		
AC			mg/l		
AD	167	10	mg/l	101%	0.26
AE			mg/l		
AF			mg/l		
AG	163.5	0.277	mg/l	98%	-0.65
AH	163.5		mg/l	98%	-0.65
AI	164.1	10	mg/l	99%	-0.50
AJ	171		mg/l	103%	1.31
AK			mg/l		
AL			mg/l		
AM	166	0.577	mg/l	100%	0.00
AN	173.2	4.0	mg/l	104%	1.89
AO	171	7.7	mg/l	103%	1.31
AP	166		mg/l	100%	0.00
AQ			mg/l		
AR	164	7	mg/l	99%	-0.52

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	165 $\pm$ 2	165 $\pm$ 2	mg/l
Recov. $\pm$ CI(99%)	99,6 $\pm$ 1,2	99,6 $\pm$ 1,2	%
SD between labs	4	4	mg/l
RSD between labs	2,4	2,4	%
n for calculation	29	29	



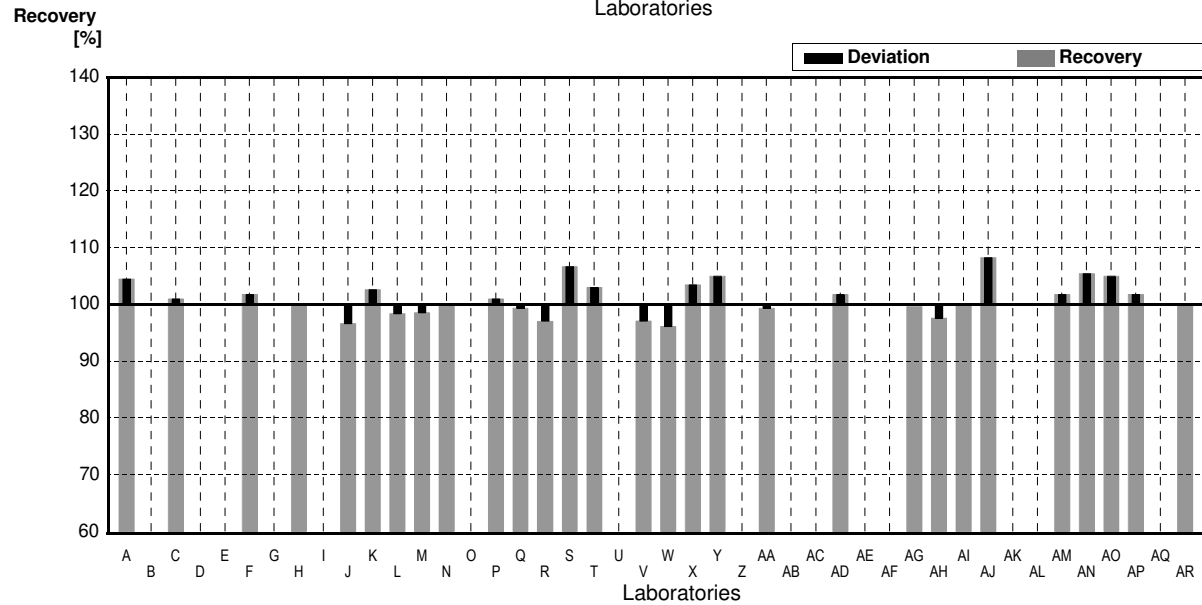
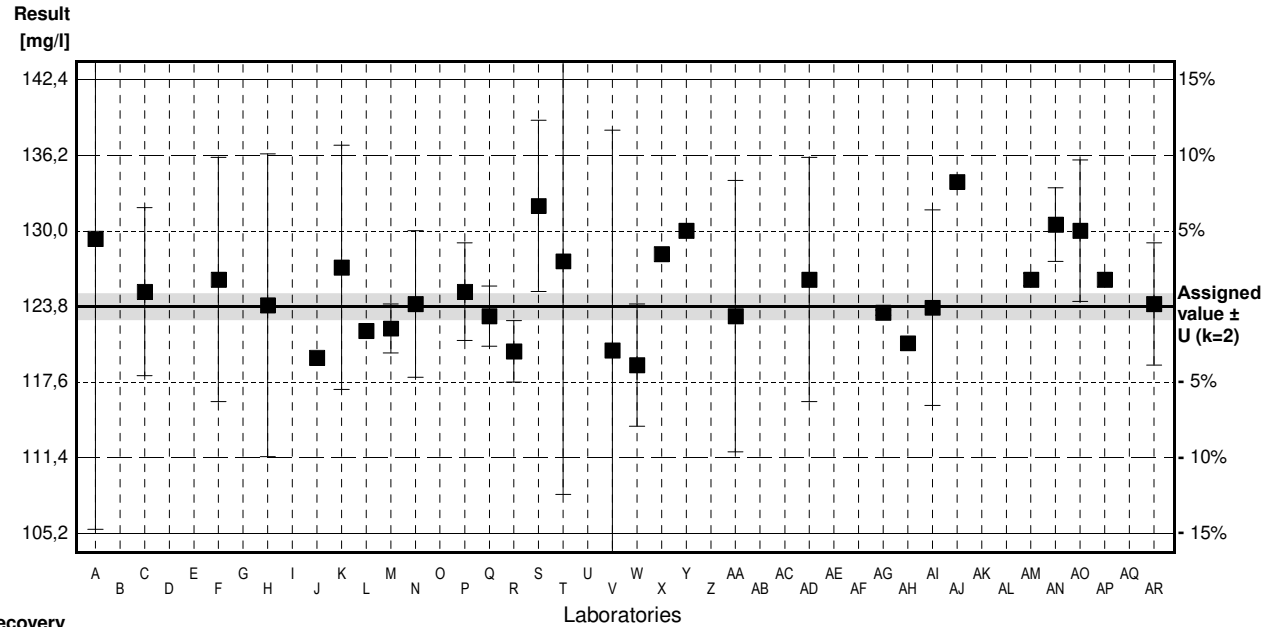
# Sample N179B

## Parameter Hydrogen carbonate

Assigned value ± U (k=2) 123,8 mg/l ± 1,1 mg/l  
 IFA result ± U (k=2) 123 mg/l ± 5 mg/l  
 Stability test ± U (k=2) 123 mg/l ± 5 mg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	129.35	23.8	mg/l	104%	1.95
B			mg/l		
C	125	6.88	mg/l	101%	0.42
D			mg/l		
E			mg/l		
F	126	10	mg/l	102%	0.77
G			mg/l		
H	123.9	12.4	mg/l	100%	0.04
I			mg/l		
J	119.6		mg/l	97%	-1.48
K	127	10	mg/l	103%	1.12
L	121.8		mg/l	98%	-0.70
M	122	2	mg/l	99%	-0.63
N	124	6	mg/l	100%	0.07
O			mg/l		
P	125.0	4.0	mg/l	101%	0.42
Q	123	2.46	mg/l	99%	-0.28
R	120.13	2.52	mg/l	97%	-1.29
S	132.035	7	mg/l	107%	2.89
T	127.5	19.1	mg/l	103%	1.30
U			mg/l		
V	120.2	18.03	mg/l	97%	-1.26
W	119	5	mg/l	96%	-1.69
X	128.1		mg/l	103%	1.51
Y	130		mg/l	105%	2.18
Z			mg/l		
AA	123	11.1	mg/l	99%	-0.28
AB			mg/l		
AC			mg/l		
AD	126	10	mg/l	102%	0.77
AE			mg/l		
AF			mg/l		
AG	123.3	0.21	mg/l	100%	-0.18
AH	120.8		mg/l	98%	-1.05
AI	123.7	8.0	mg/l	100%	-0.04
AJ	134		mg/l	108%	3.58
AK			mg/l		
AL			mg/l		
AM	126	0.5	mg/l	102%	0.77
AN	130.5	3.0	mg/l	105%	2.35
AO	130	5.8	mg/l	105%	2.18
AP	126		mg/l	102%	0.77
AQ			mg/l		
AR	124	5	mg/l	100%	0.07

	All results	Outliers excl.	Unit
Mean ± CI(99%)	125,2 ± 2,0	125,2 ± 2,0	mg/l
Recov. ± CI(99%)	101,1 ± 1,6	101,1 ± 1,6	%
SD between labs	3,9	3,9	mg/l
RSD between labs	3,1	3,1	%
n for calculation	29	29	



# Sample N179A

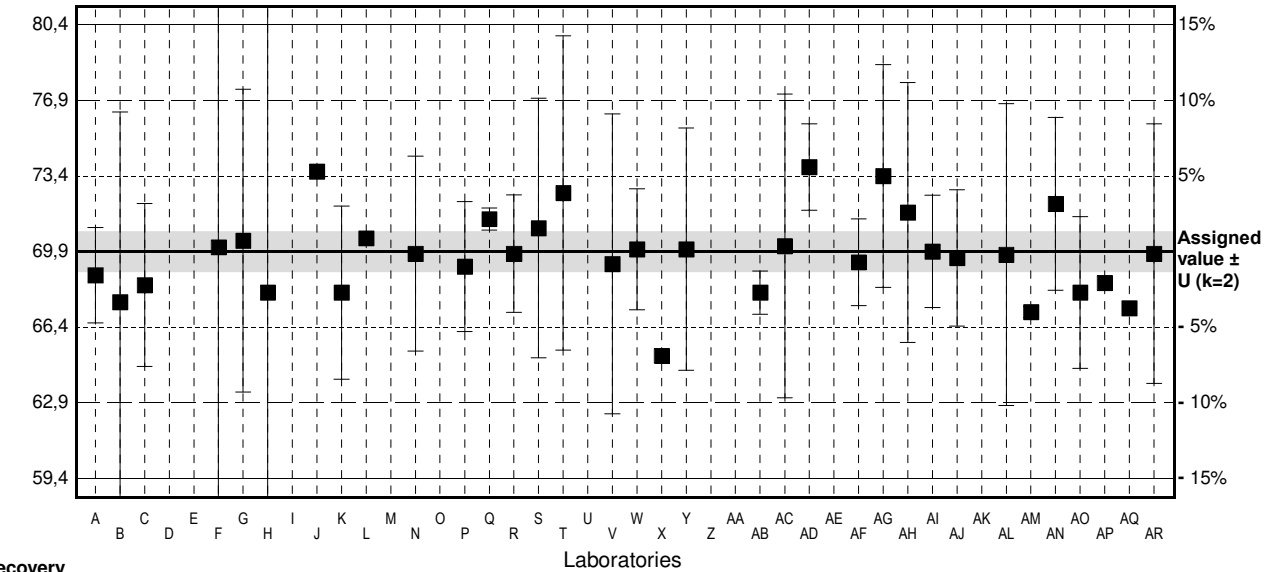
## Parameter Calcium

Assigned value  $\pm U$  (k=2) 69,9 mg/l  $\pm$  0,9 mg/l  
 IFA result  $\pm U$  (k=2) 71 mg/l  $\pm$  5 mg/l  
 Stability test  $\pm U$  (k=2) 69 mg/l  $\pm$  4 mg/l

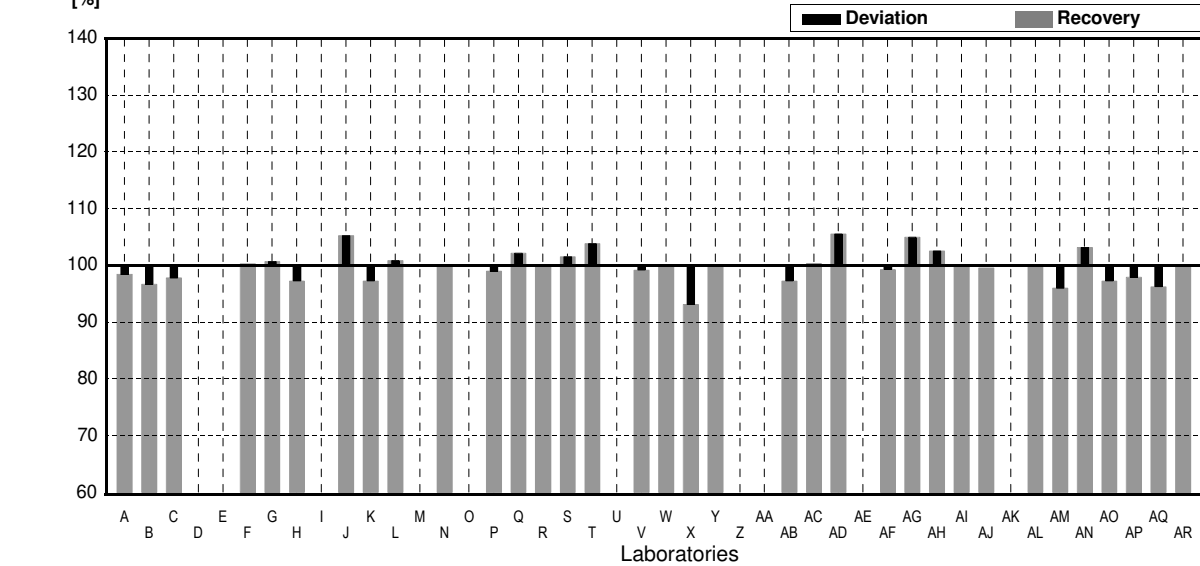
Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A	68.8	2.2	mg/l	98%	-0.51
B	67.56	8.788	mg/l	97%	-1.08
C	68.349	3.76	mg/l	98%	-0.72
D			mg/l		
E			mg/l		
F	70.1	11	mg/l	100%	0.09
G	70.4	7	mg/l	101%	0.23
H	68.0	13.4	mg/l	97%	-0.88
I			mg/l		
J	73.6		mg/l	105%	1.71
K	68	4	mg/l	97%	-0.88
L	70.51		mg/l	101%	0.28
M			mg/l		
N	69.8	4.5	mg/l	100%	-0.05
O			mg/l		
P	69.2	3.0	mg/l	99%	-0.32
Q	71.4	0.514	mg/l	102%	0.69
R	69.80	2.72	mg/l	100%	-0.05
S	70.9780	6	mg/l	102%	0.50
T	72.6	7.26	mg/l	104%	1.25
U			mg/l		
V	69.32	6.932	mg/l	99%	-0.27
W	70	2.8	mg/l	100%	0.05
X	65.080		mg/l	93%	-2.22
Y	70	5.6	mg/l	100%	0.05
Z			mg/l		
AA			mg/l		
AB	68	1	mg/l	97%	-0.88
AC	70.155	7.02	mg/l	100%	0.12
AD	73.8	2	mg/l	106%	1.80
AE			mg/l		
AF	69.4	2.0	mg/l	99%	-0.23
AG	73.39	5.15	mg/l	105%	1.61
AH	71.7	6	mg/l	103%	0.83
AI	69.9	2.6	mg/l	100%	0.00
AJ	69.6	3.15	mg/l	100%	-0.14
AK			mg/l		
AL	69.75	6.98	mg/l	100%	-0.07
AM	67.1	0.252	mg/l	96%	-1.29
AN	72.1	4.0	mg/l	103%	1.02
AO	68	3.5	mg/l	97%	-0.88
AP	68.45		mg/l	98%	-0.67
AQ	67.28		mg/l	96%	-1.21
AR	69.8	6	mg/l	100%	-0.05

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	69,8 $\pm$ 0,9	69,8 $\pm$ 0,9	mg/l
Recov. $\pm$ CI(99%)	99,8 $\pm$ 1,3	99,8 $\pm$ 1,3	%
SD between labs	1,9	1,9	mg/l
RSD between labs	2,8	2,8	%
n for calculation	34	34	

Result [mg/l]



Recovery [%]



# Sample N179B

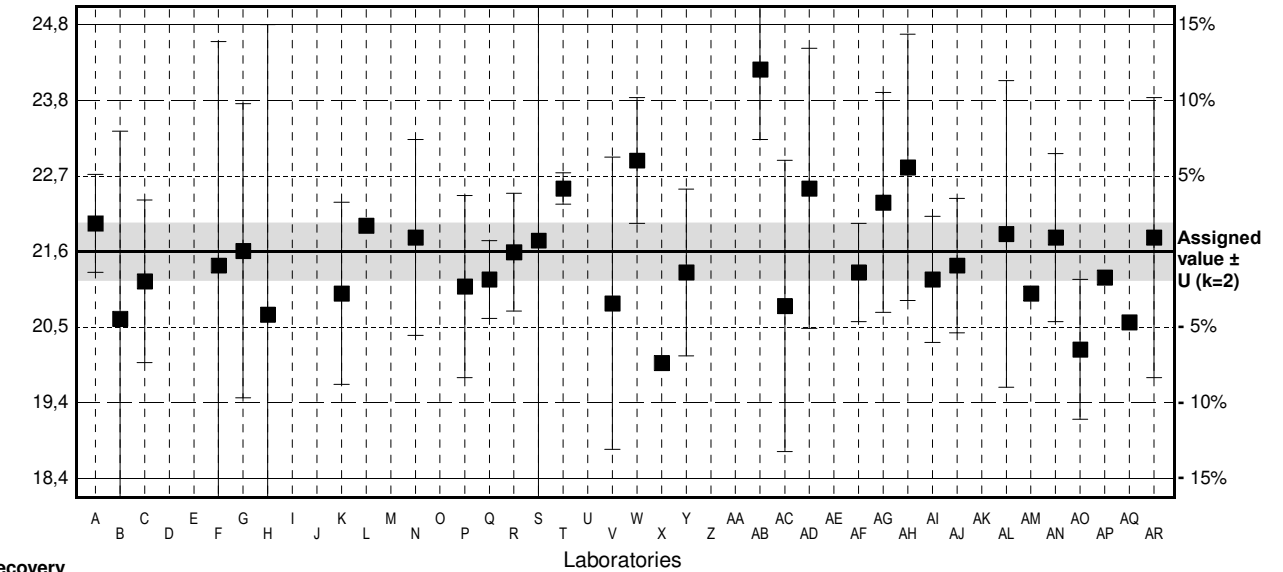
## Parameter Calcium

Assigned value ± U (k=2) 21,6 mg/l ± 0,4 mg/l  
 IFA result ± U (k=2) 22,3 mg/l ± 1,5 mg/l  
 Stability test ± U (k=2) 22,0 mg/l ± 1,5 mg/l

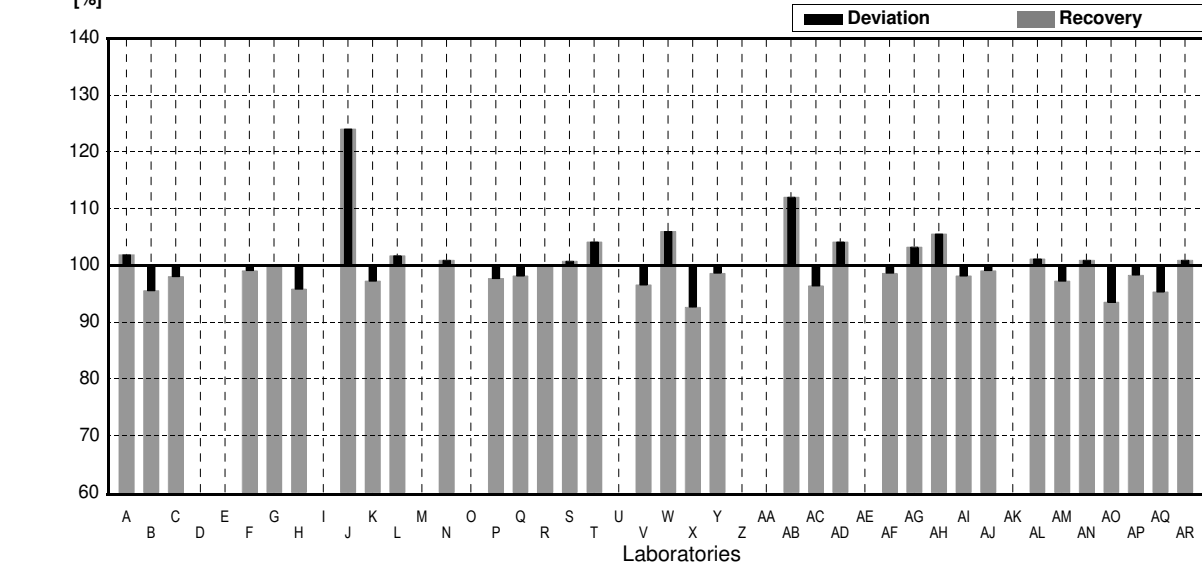
Lab Code	Result	±	Unit	Recovery	z-Score
A	22.0	0.7	mg/l	102%	0.60
B	20.64	2.678	mg/l	96%	-1.43
C	21.173	1.163	mg/l	98%	-0.64
D			mg/l		
E			mg/l		
F	21.4	3.2	mg/l	99%	-0.30
G	21.61	2.1	mg/l	100%	0.01
H	20.7	4.14	mg/l	96%	-1.34
I			mg/l		
J	26.8 *		mg/l	124%	7.77
K	21.0	1.3	mg/l	97%	-0.90
L	21.97		mg/l	102%	0.55
M			mg/l		
N	21.8	1.4	mg/l	101%	0.30
O			mg/l		
P	21.1	1.3	mg/l	98%	-0.75
Q	21.2	0.556	mg/l	98%	-0.60
R	21.59	0.84	mg/l	100%	-0.01
S	21.7565	4	mg/l	101%	0.23
T	22.5	0.225	mg/l	104%	1.34
U			mg/l		
V	20.86	2.086	mg/l	97%	-1.11
W	22.9	0.9	mg/l	106%	1.94
X	20.010		mg/l	93%	-2.37
Y	21.3	1.19	mg/l	99%	-0.45
Z			mg/l		
AA			mg/l		
AB	24.2 *	1	mg/l	112%	3.88
AC	20.82	2.08	mg/l	96%	-1.16
AD	22.5	2	mg/l	104%	1.34
AE			mg/l		
AF	21.3	0.70	mg/l	99%	-0.45
AG	22.30	1.57	mg/l	103%	1.05
AH	22.8	1.9	mg/l	106%	1.79
AI	21.2	0.9	mg/l	98%	-0.60
AJ	21.4	0.96	mg/l	99%	-0.30
AK			mg/l		
AL	21.85	2.19	mg/l	101%	0.37
AM	21.0	0.100	mg/l	97%	-0.90
AN	21.8	1.2	mg/l	101%	0.30
AO	20.2	1.0	mg/l	94%	-2.09
AP	21.23		mg/l	98%	-0.55
AQ	20.59		mg/l	95%	-1.51
AR	21.8	2	mg/l	101%	0.30

	All results	Outliers excl.	Unit
Mean ± CI(99%)	21,7 ± 0,6	21,4 ± 0,3	mg/l
Recov. ± CI(99%)	100,4 ± 2,7	99,3 ± 1,6	%
SD between labs	1,2	0,7	mg/l
RSD between labs	5,7	3,3	%
n for calculation	34	32	

Result [mg/l]



Recovery [%]



# Sample N179A

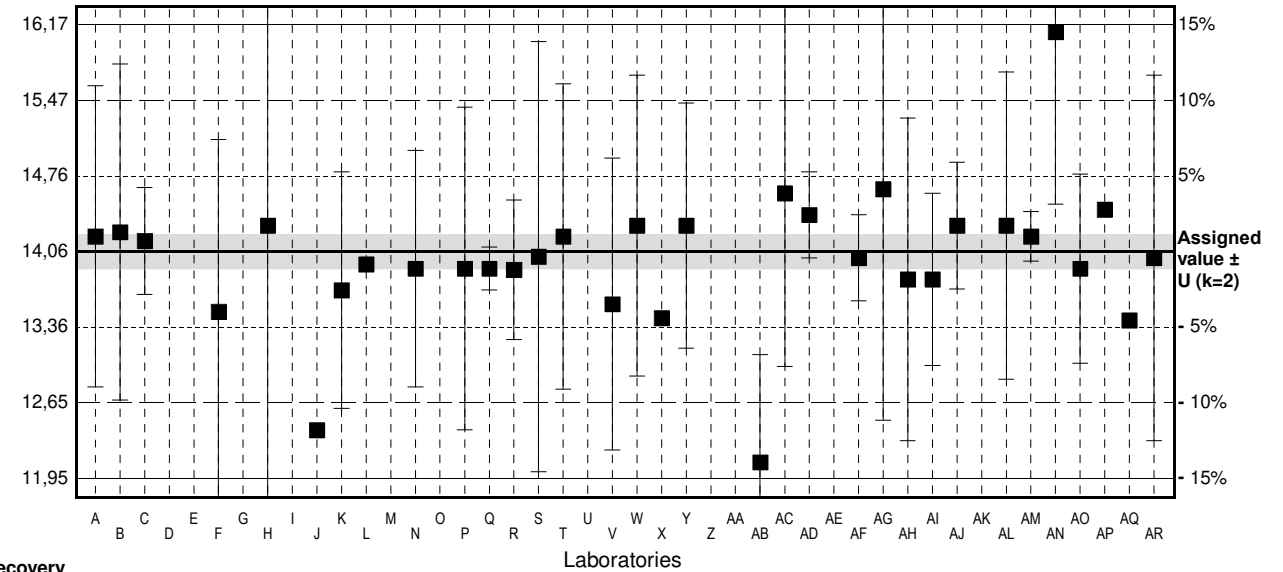
## Parameter Magnesium

Assigned value  $\pm U$  (k=2) 14,06 mg/l  $\pm$  0,16 mg/l  
 IFA result  $\pm U$  (k=2) 15,0 mg/l  $\pm$  0,8 mg/l  
 Stability test  $\pm U$  (k=2) 14,0 mg/l  $\pm$  0,7 mg/l

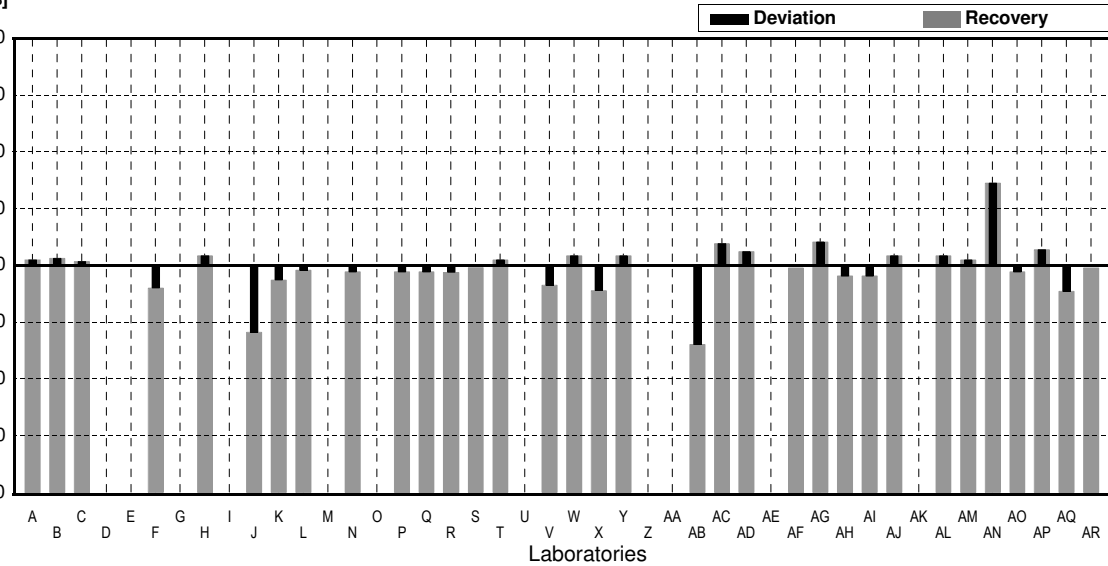
Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A	14.2	1.4	mg/l	101%	0.28
B	14.24	1.562	mg/l	101%	0.37
C	14.158	0.496	mg/l	101%	0.20
D			mg/l		
E			mg/l		
F	13.5	1.6	mg/l	96%	-1.14
G			mg/l		
H	14.3	2.86	mg/l	102%	0.49
I			mg/l		
J	12.4 *		mg/l	88%	-3.37
K	13.7	1.1	mg/l	97%	-0.73
L	13.94		mg/l	99%	-0.24
M			mg/l		
N	13.9	1.1	mg/l	99%	-0.33
O			mg/l		
P	13.9	1.5	mg/l	99%	-0.33
Q	13.9	0.199	mg/l	99%	-0.33
R	13.89	0.65	mg/l	99%	-0.35
S	14.0110	2	mg/l	100%	-0.10
T	14.2	1.42	mg/l	101%	0.28
U			mg/l		
V	13.57	1.357	mg/l	97%	-1.00
W	14.3	1.4	mg/l	102%	0.49
X	13.440		mg/l	96%	-1.26
Y	14.3	1.14	mg/l	102%	0.49
Z			mg/l		
AA			mg/l		
AB	12.1 *	1	mg/l	86%	-3.98
AC	14.6	1.61	mg/l	104%	1.10
AD	14.4	0.4	mg/l	102%	0.69
AE			mg/l		
AF	14.0	0.40	mg/l	100%	-0.12
AG	14.64	2.15	mg/l	104%	1.18
AH	13.8	1.5	mg/l	98%	-0.53
AI	13.8	0.8	mg/l	98%	-0.53
AJ	14.3	0.59	mg/l	102%	0.49
AK			mg/l		
AL	14.30	1.43	mg/l	102%	0.49
AM	14.2	0.231	mg/l	101%	0.28
AN	16.1 *	1.6	mg/l	115%	4.15
AO	13.9	0.88	mg/l	99%	-0.33
AP	14.45		mg/l	103%	0.79
AQ	13.42		mg/l	95%	-1.30
AR	14.0	1.7	mg/l	100%	-0.12

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	14,00 $\pm$ 0,31	14,04 $\pm$ 0,16	mg/l
Recov. $\pm$ CI(99%)	99,5 $\pm$ 2,2	99,9 $\pm$ 1,2	%
SD between labs	0,65	0,32	mg/l
RSD between labs	4,7	2,3	%
n for calculation	33	30	

Result [mg/l]



Recovery [%]



# Sample N179B

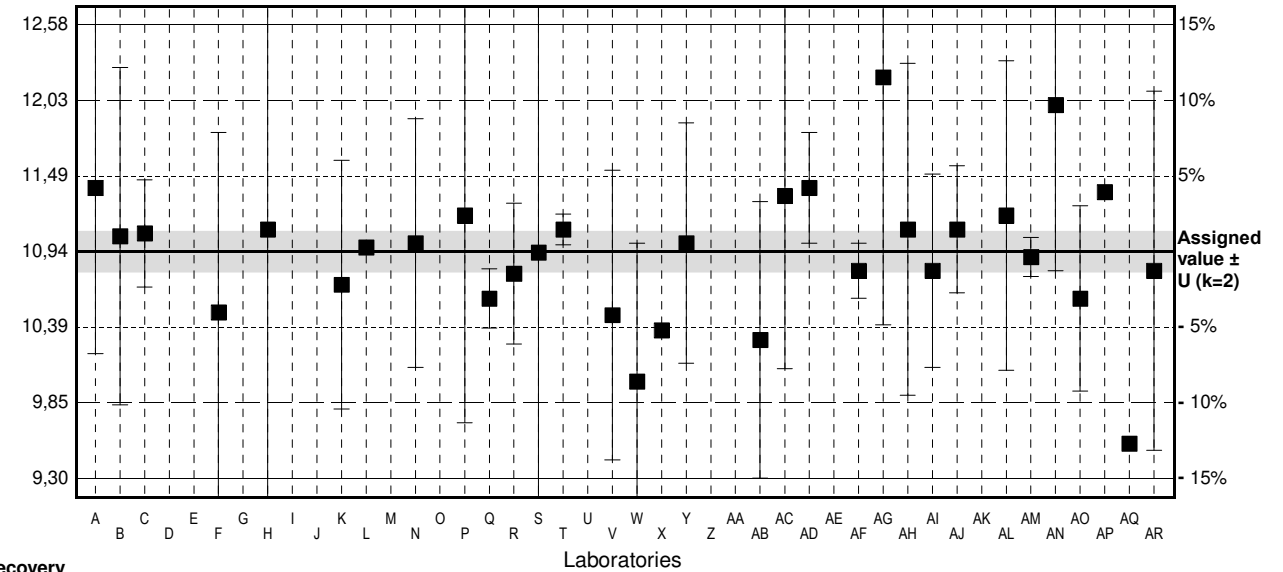
## Parameter Magnesium

Assigned value ± U (k=2) 10,94 mg/l ± 0,15 mg/l  
 IFA result ± U (k=2) 11,9 mg/l ± 0,6 mg/l  
 Stability test ± U (k=2) 11,0 mg/l ± 0,6 mg/l

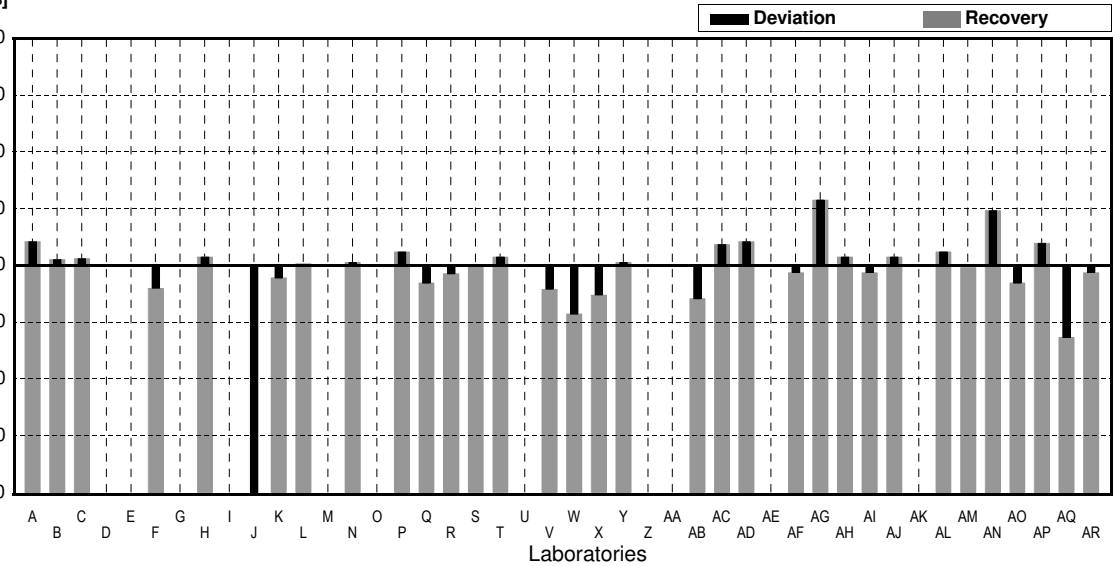
Lab Code	Result	±	Unit	Recovery	z-Score
A	11.4	1.2	mg/l	104%	1.20
B	11.05	1.221	mg/l	101%	0.29
C	11.071	0.388	mg/l	101%	0.34
D			mg/l		
E			mg/l		
F	10.5	1.3	mg/l	96%	-1.15
G			mg/l		
H	11.1	2.22	mg/l	101%	0.42
I			mg/l		
J	6.54 *		mg/l	60%	-11.49
K	10.7	0.9	mg/l	98%	-0.63
L	10.97		mg/l	100%	0.08
M			mg/l		
N	11.0	0.9	mg/l	101%	0.16
O			mg/l		
P	11.2	1.5	mg/l	102%	0.68
Q	10.6	0.213	mg/l	97%	-0.89
R	10.78	0.51	mg/l	99%	-0.42
S	10.9318	2	mg/l	100%	-0.02
T	11.1	0.111	mg/l	101%	0.42
U			mg/l		
V	10.48	1.048	mg/l	96%	-1.20
W	10.0	1.0	mg/l	91%	-2.45
X	10.370		mg/l	95%	-1.49
Y	11.0	0.87	mg/l	101%	0.16
Z			mg/l		
AA			mg/l		
AB	10.3	1	mg/l	94%	-1.67
AC	11.343	1.25	mg/l	104%	1.05
AD	11.4	0.4	mg/l	104%	1.20
AE			mg/l		
AF	10.8	0.20	mg/l	99%	-0.37
AG	12.20 *	1.79	mg/l	112%	3.29
AH	11.1	1.2	mg/l	101%	0.42
AI	10.8	0.7	mg/l	99%	-0.37
AJ	11.1	0.46	mg/l	101%	0.42
AK			mg/l		
AL	11.20	1.12	mg/l	102%	0.68
AM	10.9	0.141	mg/l	100%	-0.10
AN	12.0	1.2	mg/l	110%	2.77
AO	10.6	0.67	mg/l	97%	-0.89
AP	11.37		mg/l	104%	1.12
AQ	9.55 *		mg/l	87%	-3.63
AR	10.8	1.3	mg/l	99%	-0.37

	All results	Outliers excl.	Unit
Mean ± CI(99%)	10,80 ± 0,44	10,93 ± 0,20	mg/l
Recov. ± CI(99%)	98,7 ± 4,0	99,9 ± 1,8	%
SD between labs	0,91	0,40	mg/l
RSD between labs	8,5	3,6	%
n for calculation	33	30	

Result [mg/l]



Recovery [%]



# Sample N179A

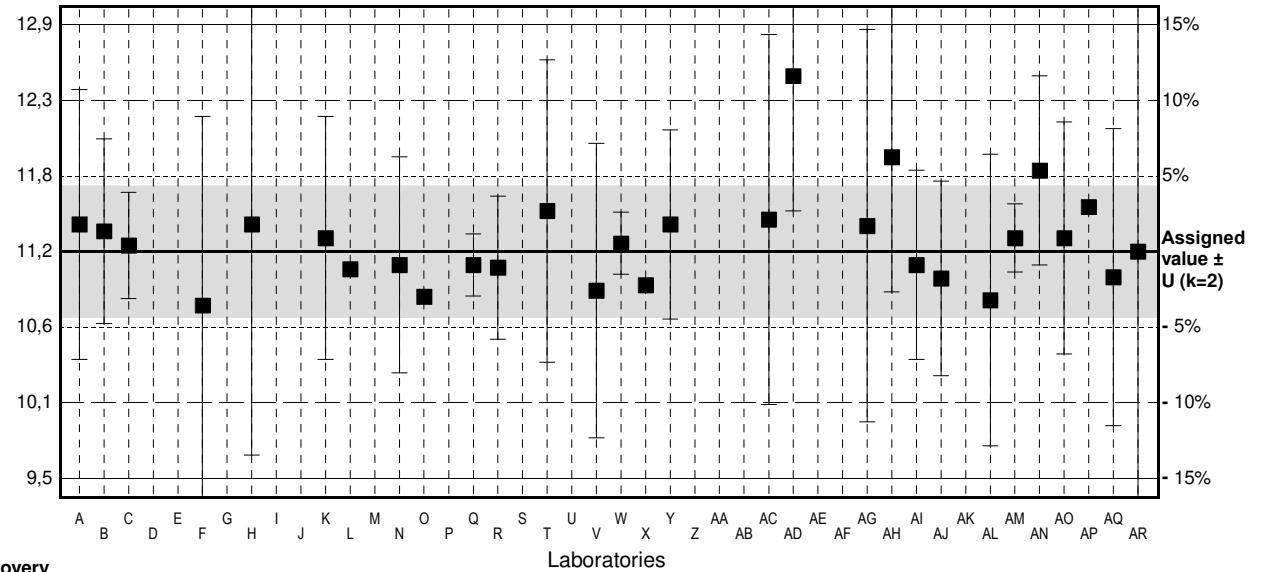
## Parameter Sodium

Assigned value ± U (k=2) 11,2 mg/l ± 0,5 mg/l  
 IFA result ± U (k=2) 11,3 mg/l ± 0,8 mg/l  
 Stability test ± U (k=2) 11,1 mg/l ± 0,8 mg/l

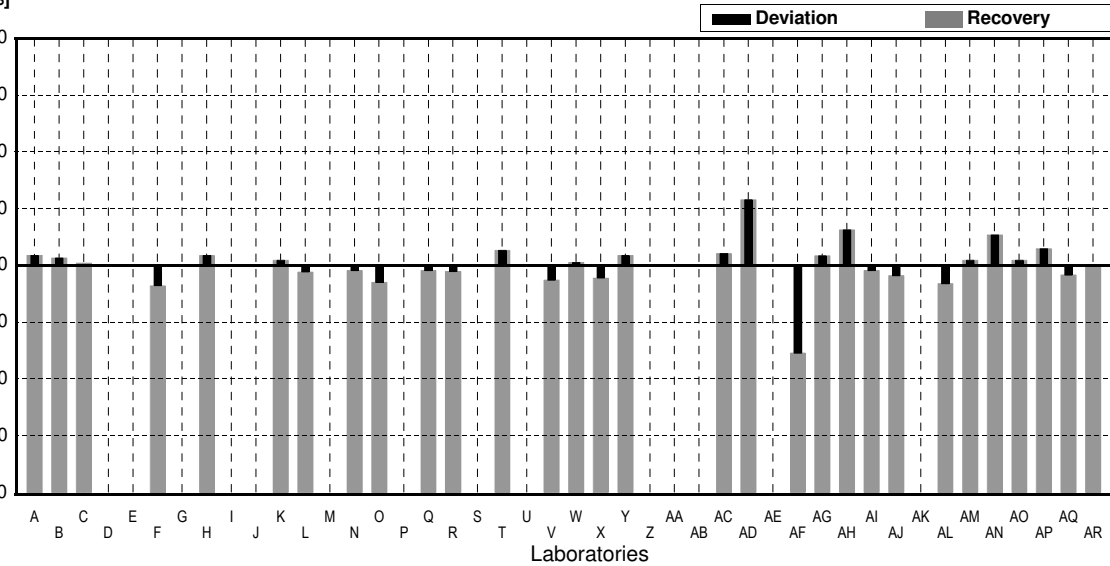
Lab Code	Result	±	Unit	Recovery	z-Score
A	11.4	1.0	mg/l	102%	0.60
B	11.35	0.684	mg/l	101%	0.45
C	11.244	0.394	mg/l	100%	0.13
D			mg/l		
E			mg/l		
F	10.8	1.4	mg/l	96%	-1.19
G			mg/l		
H	11.4	1.71	mg/l	102%	0.60
I			mg/l		
J			mg/l		
K	11.3	0.9	mg/l	101%	0.30
L	11.07		mg/l	99%	-0.39
M			mg/l		
N	11.1	0.8	mg/l	99%	-0.30
O	10.865		mg/l	97%	-1.00
P			mg/l		
Q	11.1	0.230	mg/l	99%	-0.30
R	11.08	0.53	mg/l	99%	-0.36
S			mg/l		
T	11.5	1.12	mg/l	103%	0.89
U			mg/l		
V	10.91	1.091	mg/l	97%	-0.86
W	11.26	0.23	mg/l	101%	0.18
X	10.950		mg/l	98%	-0.74
Y	11.4	0.7	mg/l	102%	0.60
Z			mg/l		
AA			mg/l		
AB			mg/l		
AC	11.437	1.37	mg/l	102%	0.71
AD	12.5 *	1	mg/l	112%	3.87
AE			mg/l		
AF	9.47 *	0.40	mg/l	85%	-5.15
AG	11.39	1.453	mg/l	102%	0.57
AH	11.9	1.0	mg/l	106%	2.08
AI	11.1	0.7	mg/l	99%	-0.30
AJ	11.0	0.72	mg/l	98%	-0.60
AK			mg/l		
AL	10.84	1.08	mg/l	97%	-1.07
AM	11.3	0.252	mg/l	101%	0.30
AN	11.8	0.7	mg/l	105%	1.79
AO	11.3	0.86	mg/l	101%	0.30
AP	11.53		mg/l	103%	0.98
AQ	11.01	1.10	mg/l	98%	-0.57
AR	11.2	1.7	mg/l	100%	0.00

	All results	Outliers excl.	Unit
Mean ± CI(99%)	11,2 ± 0,2	11,2 ± 0,1	mg/l
Recov. ± CI(99%)	100,2 ± 2,2	100,3 ± 1,3	%
SD between labs	0,5	0,3	mg/l
RSD between labs	4,3	2,4	%
n for calculation	30	28	

Result [mg/l]



Recovery [%]



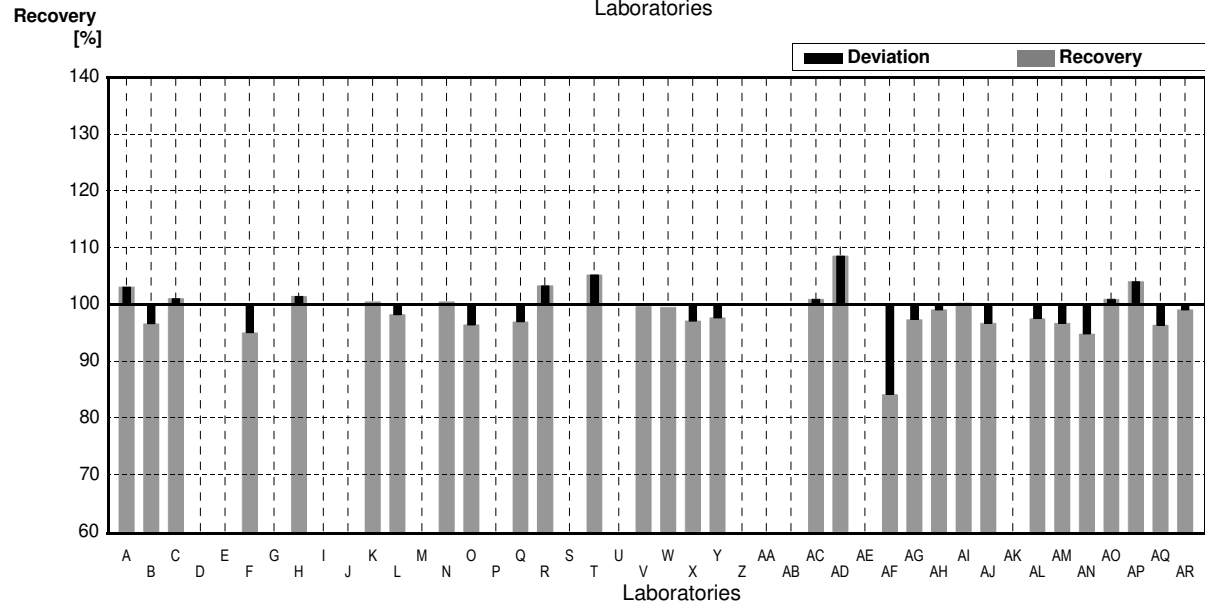
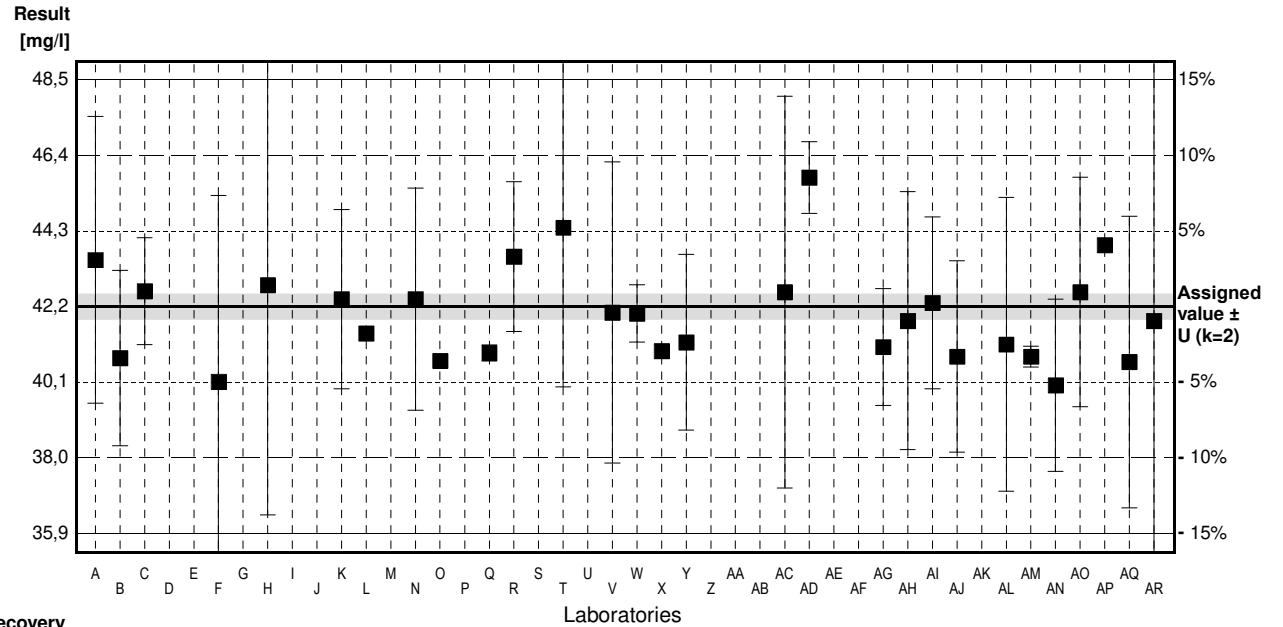
# Sample N179B

## Parameter Sodium

Assigned value ± U (k=2) 42,2 mg/l ± 0,4 mg/l  
 IFA result ± U (k=2) 42,4 mg/l ± 1,4 mg/l  
 Stability test ± U (k=2) 41,9 mg/l ± 1,4 mg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	43.5	4.0	mg/l	103%	1.03
B	40.76	2.448	mg/l	97%	-1.14
C	42.628	1.492	mg/l	101%	0.34
D			mg/l		
E			mg/l		
F	40.1	5.2	mg/l	95%	-1.66
G			mg/l		
H	42.8	6.42	mg/l	101%	0.47
I			mg/l		
J			mg/l		
K	42.4	2.5	mg/l	100%	0.16
L	41.45		mg/l	98%	-0.59
M			mg/l		
N	42.4	3.1	mg/l	100%	0.16
O	40.686		mg/l	96%	-1.20
P			mg/l		
Q	40.9	0.223	mg/l	97%	-1.03
R	43.59	2.09	mg/l	103%	1.10
S			mg/l		
T	44.4	4.44	mg/l	105%	1.74
U			mg/l		
V	42.03	4.203	mg/l	100%	-0.13
W	42.0	0.8	mg/l	100%	-0.16
X	40.960		mg/l	97%	-0.98
Y	41.2	2.45	mg/l	98%	-0.79
Z			mg/l		
AA			mg/l		
AB			mg/l		
AC	42.598	5.47	mg/l	101%	0.31
AD	45.8 *	1	mg/l	109%	2.84
AE			mg/l		
AF	35.5 *	1.5	mg/l	84%	-5.29
AG	41.07	1.63	mg/l	97%	-0.89
AH	41.8	3.6	mg/l	99%	-0.32
AI	42.3	2.4	mg/l	100%	0.08
AJ	40.8	2.67	mg/l	97%	-1.11
AK			mg/l		
AL	41.14	4.1	mg/l	97%	-0.84
AM	40.8	0.289	mg/l	97%	-1.11
AN	40.0	2.4	mg/l	95%	-1.74
AO	42.6	3.2	mg/l	101%	0.32
AP	43.91		mg/l	104%	1.35
AQ	40.65	4.07	mg/l	96%	-1.22
AR	41.8	7	mg/l	99%	-0.32

	All results	Outliers excl.	Unit
Mean ± CI(99%)	41,8 ± 0,9	41,8 ± 0,6	mg/l
Recov. ± CI(99%)	98,9 ± 2,1	99,1 ± 1,4	%
SD between labs	1,8	1,2	mg/l
RSD between labs	4,3	2,8	%
n for calculation	30	28	



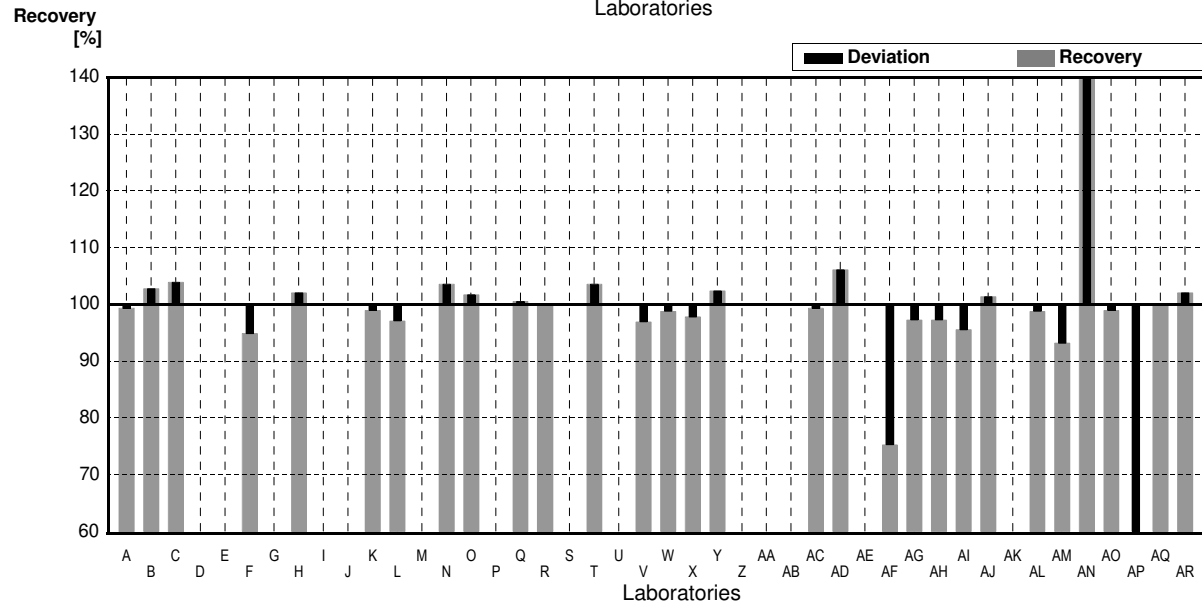
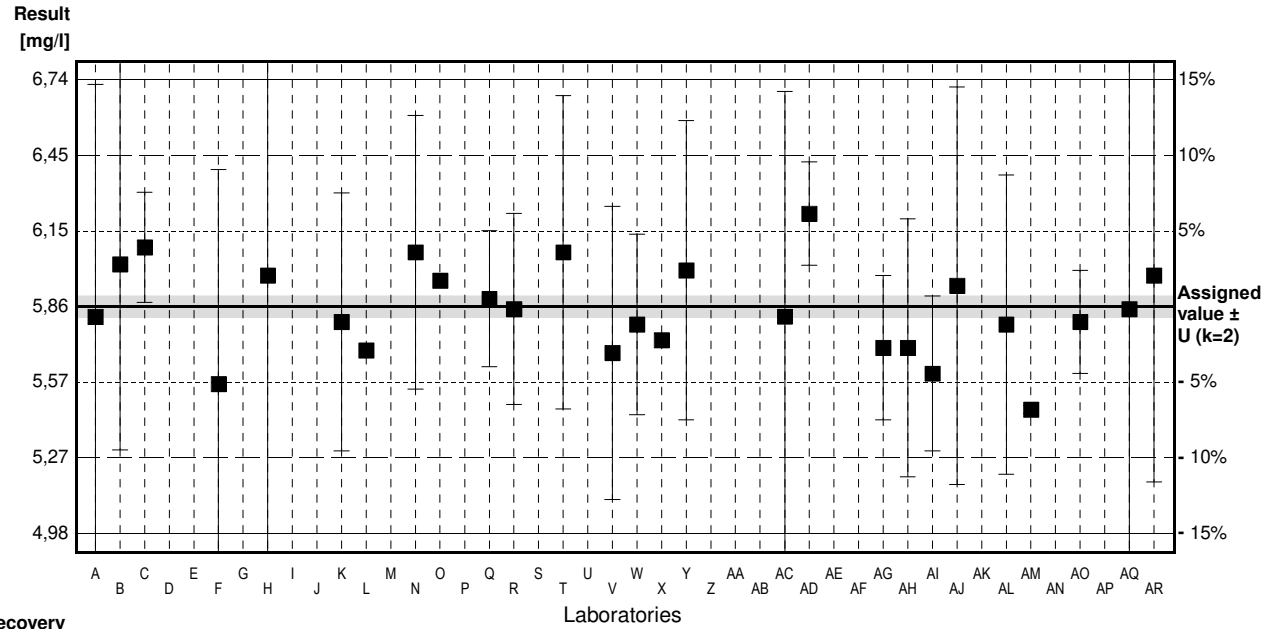
# Sample N179A

## Parameter Potassium

Assigned value ± U (k=2) 5,86 mg/l ± 0,04 mg/l  
 IFA result ± U (k=2) 5,8 mg/l ± 0,3 mg/l  
 Stability test ± U (k=2) 5,6 mg/l ± 0,3 mg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	5.82	0.9	mg/l	99%	-0.17
B	6.024	0.72	mg/l	103%	0.70
C	6.089	0.213	mg/l	104%	0.98
D			mg/l		
E			mg/l		
F	5.56	0.83	mg/l	95%	-1.28
G			mg/l		
H	5.98	1.20	mg/l	102%	0.51
I			mg/l		
J			mg/l		
K	5.8	0.5	mg/l	99%	-0.26
L	5.69		mg/l	97%	-0.73
M			mg/l		
N	6.07	0.53	mg/l	104%	0.90
O	5.960		mg/l	102%	0.43
P			mg/l		
Q	5.89	0.264	mg/l	101%	0.13
R	5.85	0.37	mg/l	100%	-0.04
S			mg/l		
T	6.07	0.607	mg/l	104%	0.90
U			mg/l		
V	5.68	0.568	mg/l	97%	-0.77
W	5.79	0.35	mg/l	99%	-0.30
X	5.730		mg/l	98%	-0.55
Y	6.0	0.58	mg/l	102%	0.60
Z			mg/l		
AA			mg/l		
AB			mg/l		
AC	5.8207	0.873	mg/l	99%	-0.17
AD	6.22	0.2	mg/l	106%	1.54
AE			mg/l		
AF	4.41 *	0.10	mg/l	75%	-6.19
AG	5.70	0.280	mg/l	97%	-0.68
AH	5.70	0.5	mg/l	97%	-0.68
AI	5.6	0.3	mg/l	96%	-1.11
AJ	5.94	0.77	mg/l	101%	0.34
AK			mg/l		
AL	5.79	0.58	mg/l	99%	-0.30
AM	5.46	0.015	mg/l	93%	-1.71
AN	11.7 *	1.0	mg/l	200%	24.91
AO	5.8	0.20	mg/l	99%	-0.26
AP	0.167 *		mg/l	3%	-24.29
AQ	5.85	1.17	mg/l	100%	-0.04
AR	5.98	0.8	mg/l	102%	0.51

	All results	Outliers excl.	Unit
Mean ± CI(99%)	5,80 ± 0,78	5,85 ± 0,10	mg/l
Recov. ± CI(99%)	99,1 ± 13,3	99,8 ± 1,6	%
SD between labs	1,55	0,18	mg/l
RSD between labs	26,6	3,0	%
n for calculation	30	27	



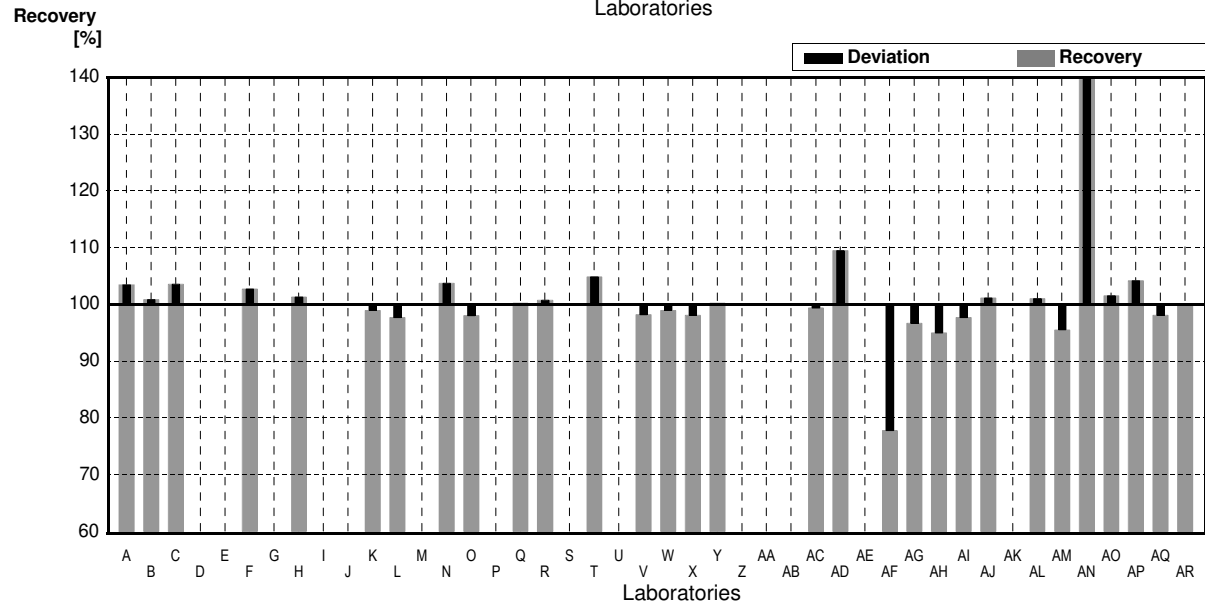
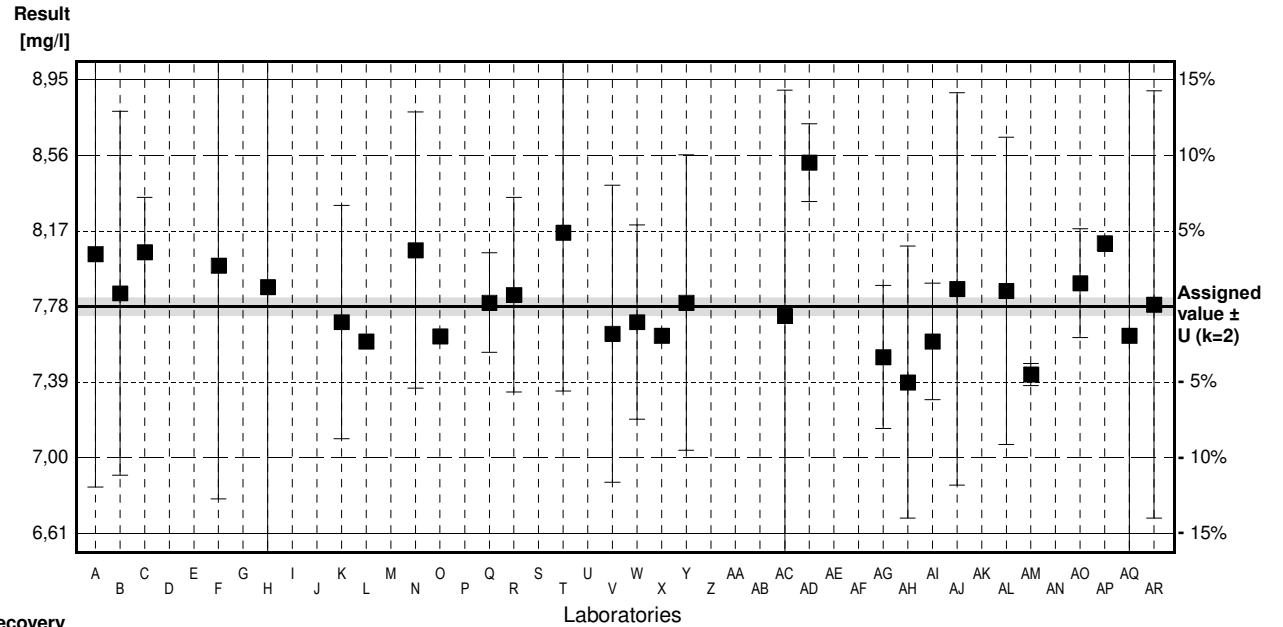
# Sample N179B

## Parameter Potassium

Assigned value ± U (k=2) 7,78 mg/l ± 0,05 mg/l  
 IFA result ± U (k=2) 7,72 mg/l ± 0,35 mg/l  
 Stability test ± U (k=2) 7,52 mg/l ± 0,34 mg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	8,05	1,2	mg/l	103%	0,87
B	7,848	0,936	mg/l	101%	0,22
C	8,059	0,282	mg/l	104%	0,90
D			mg/l		
E			mg/l		
F	7,99	1,2	mg/l	103%	0,67
G			mg/l		
H	7,88	1,58	mg/l	101%	0,32
I			mg/l		
J			mg/l		
K	7,7	0,6	mg/l	99%	-0,26
L	7,60		mg/l	98%	-0,58
M			mg/l		
N	8,07	0,71	mg/l	104%	0,93
O	7,626		mg/l	98%	-0,49
P			mg/l		
Q	7,80	0,256	mg/l	100%	0,06
R	7,84	0,50	mg/l	101%	0,19
S			mg/l		
T	8,16	0,816	mg/l	105%	1,22
U			mg/l		
V	7,64	0,764	mg/l	98%	-0,45
W	7,7	0,5	mg/l	99%	-0,26
X	7,630		mg/l	98%	-0,48
Y	7,8	0,76	mg/l	100%	0,06
Z			mg/l		
AA			mg/l		
AB			mg/l		
AC	7,732	1,16	mg/l	99%	-0,15
AD	8,52	0,2	mg/l	110%	2,38
AE			mg/l		
AF	6,05 *	0,30	mg/l	78%	-5,56
AG	7,52	0,369	mg/l	97%	-0,84
AH	7,39	0,7	mg/l	95%	-1,25
AI	7,6	0,3	mg/l	98%	-0,58
AJ	7,87	1,01	mg/l	101%	0,29
AK			mg/l		
AL	7,86	0,79	mg/l	101%	0,26
AM	7,43	0,057	mg/l	96%	-1,12
AN	12,8 *	1,1	mg/l	165%	16,13
AO	7,9	0,28	mg/l	102%	0,39
AP	8,105		mg/l	104%	1,04
AQ	7,63	1,53	mg/l	98%	-0,48
AR	7,79	1,1	mg/l	100%	0,03

	All results	Outliers excl.	Unit
Mean ± CI(99%)	7,92 ± 0,51	7,81 ± 0,13	mg/l
Recov. ± CI(99%)	101,8 ± 6,5	100,4 ± 1,6	%
SD between labs	1,00	0,24	mg/l
RSD between labs	12,7	3,1	%
n for calculation	30	28	



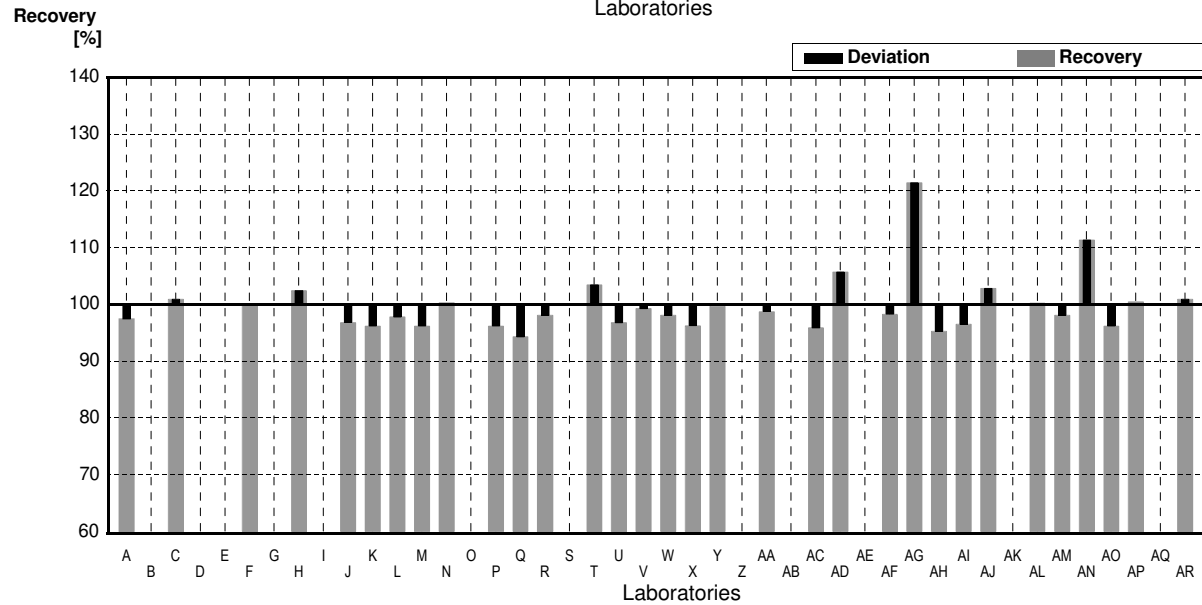
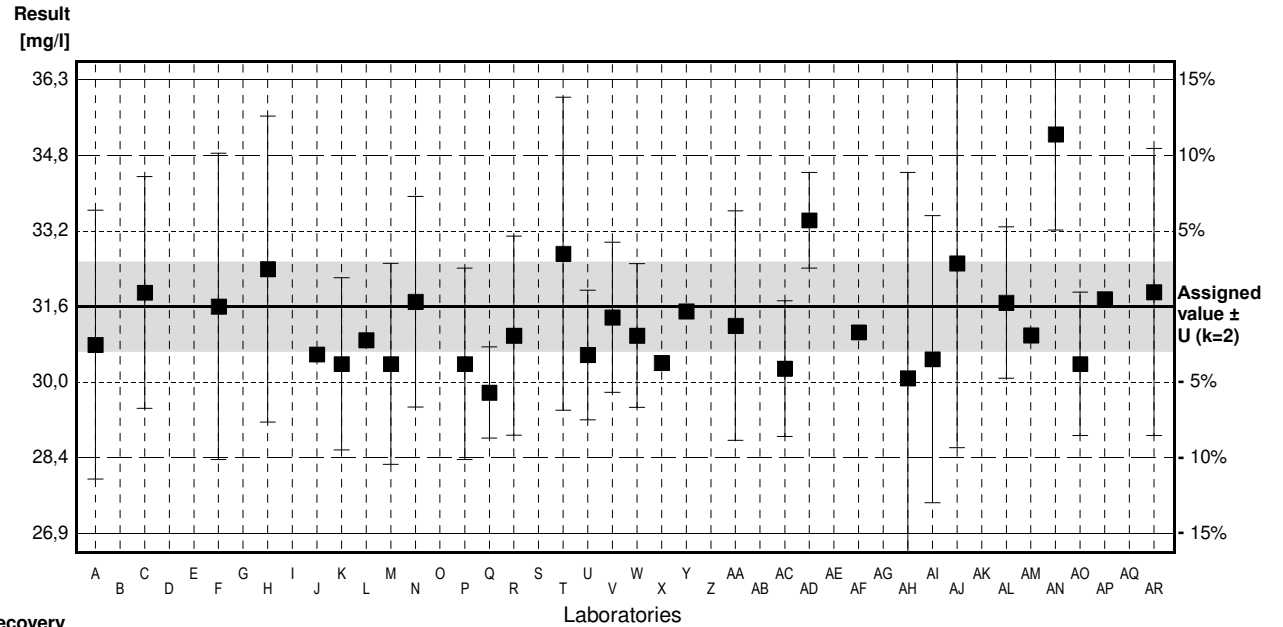
# Sample N179A

## Parameter Nitrate (as NO3)

Assigned value ± U (k=2) 31,6 mg/l ± 0,9 mg/l  
 IFA result ± U (k=2) 32,1 mg/l ± 1,6 mg/l  
 Stability test ± U (k=2) 31,3 mg/l ± 1,6 mg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	30.8	2.81	mg/l	97%	-0.87
B			mg/l		
C	31.89	2.42	mg/l	101%	0.32
D			mg/l		
E			mg/l		
F	31.6	3.2	mg/l	100%	0.00
G			mg/l		
H	32.38	3.2	mg/l	102%	0.85
I			mg/l		
J	30.6		mg/l	97%	-1.09
K	30.4	1.8	mg/l	96%	-1.31
L	30.9		mg/l	98%	-0.76
M	30.4	2.1	mg/l	96%	-1.31
N	31.7	2.2	mg/l	100%	0.11
O			mg/l		
P	30.4	2.0	mg/l	96%	-1.31
Q	29.8	0.951	mg/l	94%	-1.96
R	30.99	2.08	mg/l	98%	-0.67
S			mg/l		
T	32.7	3.27	mg/l	103%	1.20
U	30.587	1.355	mg/l	97%	-1.11
V	31.373	1.5686	mg/l	99%	-0.25
W	30.99	1.5	mg/l	98%	-0.67
X	30.421		mg/l	96%	-1.29
Y	31.5		mg/l	100%	-0.11
Z			mg/l		
AA	31.2	2.4	mg/l	99%	-0.44
AB			mg/l		
AC	30.3	1.42	mg/l	96%	-1.42
AD	33.4	1	mg/l	106%	1.96
AE			mg/l		
AF	31.06	0.14	mg/l	98%	-0.59
AG	38.38 *	7.05	mg/l	121%	7.40
AH	30.1	4.3	mg/l	95%	-1.64
AI	30.5	3.0	mg/l	97%	-1.20
AJ	32.5	3.85	mg/l	103%	0.98
AK			mg/l		
AL	31.68	1.58	mg/l	100%	0.09
AM	31.0	0.058	mg/l	98%	-0.65
AN	35.2 *	2.0	mg/l	111%	3.93
AO	30.4	1.5	mg/l	96%	-1.31
AP	31.75		mg/l	100%	0.16
AQ			mg/l		
AR	31.9	3	mg/l	101%	0.33

	All results	Outliers excl.	Unit
Mean ± CI(99%)	31,5 ± 0,8	31,2 ± 0,4	mg/l
Recov. ± CI(99%)	99,8 ± 2,5	98,7 ± 1,4	%
SD between labs	1,7	0,8	mg/l
RSD between labs	5,3	2,7	%
n for calculation	32	30	



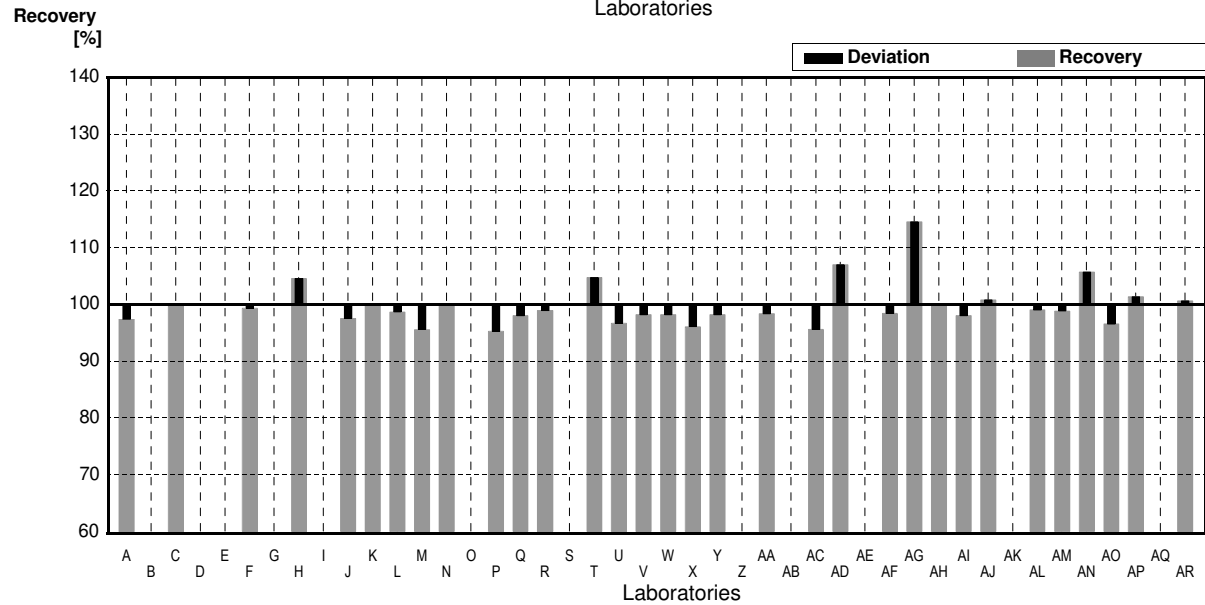
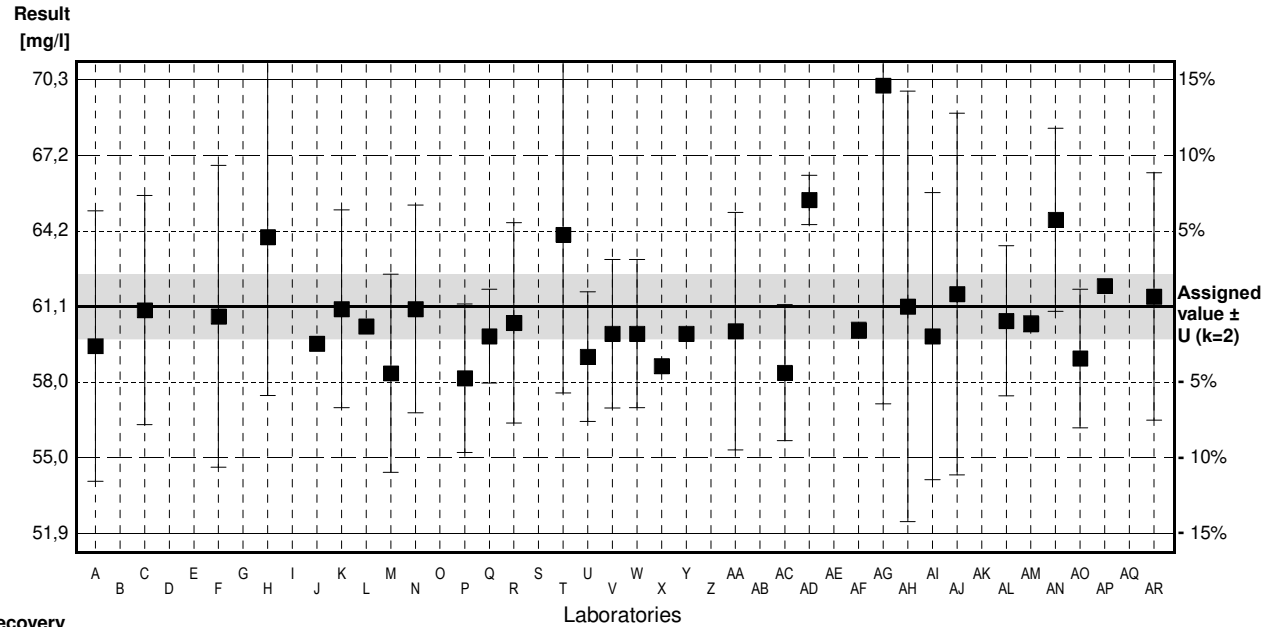
# Sample N179B

## Parameter Nitrate (as NO3)

Assigned value ± U (k=2) 61,1 mg/l ± 1,3 mg/l  
 IFA result ± U (k=2) 63 mg/l ± 3 mg/l  
 Stability test ± U (k=2) 58 mg/l ± 3 mg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	59.5	5.46	mg/l	97%	-0.90
B			mg/l		
C	60.95	4.63	mg/l	100%	-0.08
D			mg/l		
E			mg/l		
F	60.7	6.1	mg/l	99%	-0.23
G			mg/l		
H	63.90 *	6.4	mg/l	105%	1.58
I			mg/l		
J	59.6		mg/l	98%	-0.85
K	61	4	mg/l	100%	-0.06
L	60.3		mg/l	99%	-0.45
M	58.4	4.0	mg/l	96%	-1.52
N	61.0	4.2	mg/l	100%	-0.06
O			mg/l		
P	58.2	3.0	mg/l	95%	-1.64
Q	59.9	1.90	mg/l	98%	-0.68
R	60.44	4.05	mg/l	99%	-0.37
S			mg/l		
T	64.0 *	6.40	mg/l	105%	1.64
U	59.072	2.617	mg/l	97%	-1.14
V	59.996	2.9998	mg/l	98%	-0.62
W	60.0	3.0	mg/l	98%	-0.62
X	58.695		mg/l	96%	-1.36
Y	60		mg/l	98%	-0.62
Z			mg/l		
AA	60.1	4.8	mg/l	98%	-0.56
AB			mg/l		
AC	58.42	2.75	mg/l	96%	-1.51
AD	65.4 *	1	mg/l	107%	2.43
AE			mg/l		
AF	60.14	0.33	mg/l	98%	-0.54
AG	70.03 *	12.86	mg/l	115%	5.04
AH	61.1	8.7	mg/l	100%	0.00
AI	59.9	5.8	mg/l	98%	-0.68
AJ	61.6	7.30	mg/l	101%	0.28
AK			mg/l		
AL	60.52	3.03	mg/l	99%	-0.33
AM	60.4	0.321	mg/l	99%	-0.40
AN	64.6 *	3.7	mg/l	106%	1.98
AO	59	2.8	mg/l	97%	-1.19
AP	61.93		mg/l	101%	0.47
AQ			mg/l		
AR	61.5	5	mg/l	101%	0.23

	All results	Outliers excl.	Unit
Mean ± CI(99%)	60,9 ± 1,2	60,1 ± 0,5	mg/l
Recov. ± CI(99%)	99,7 ± 1,9	98,3 ± 0,9	%
SD between labs	2,4	1,0	mg/l
RSD between labs	3,9	1,7	%
n for calculation	32	27	



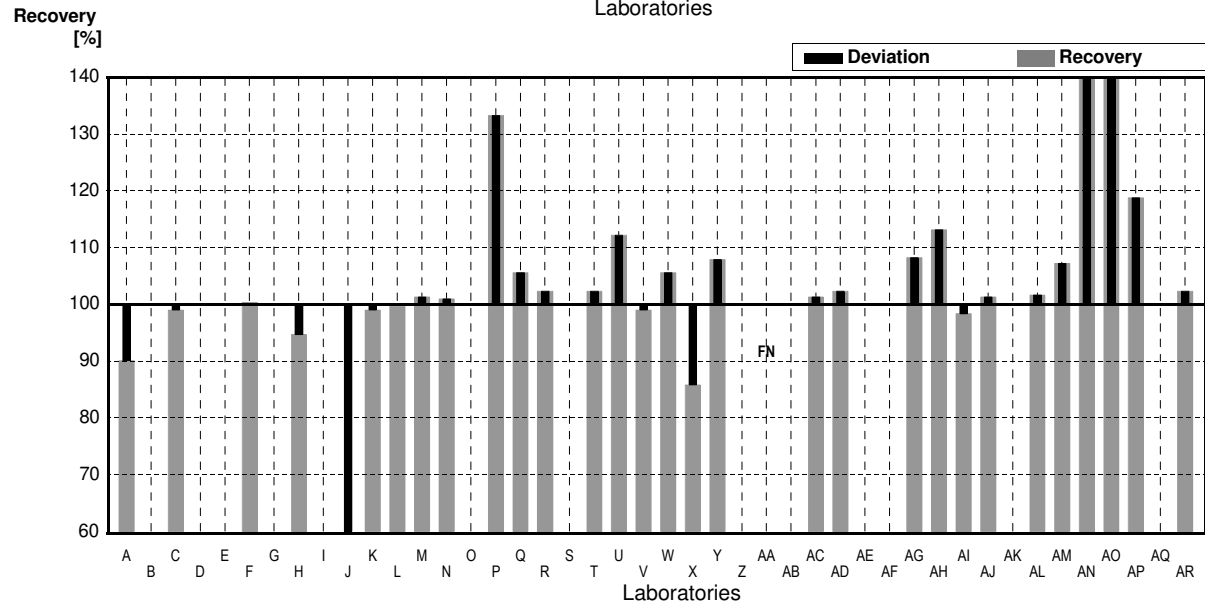
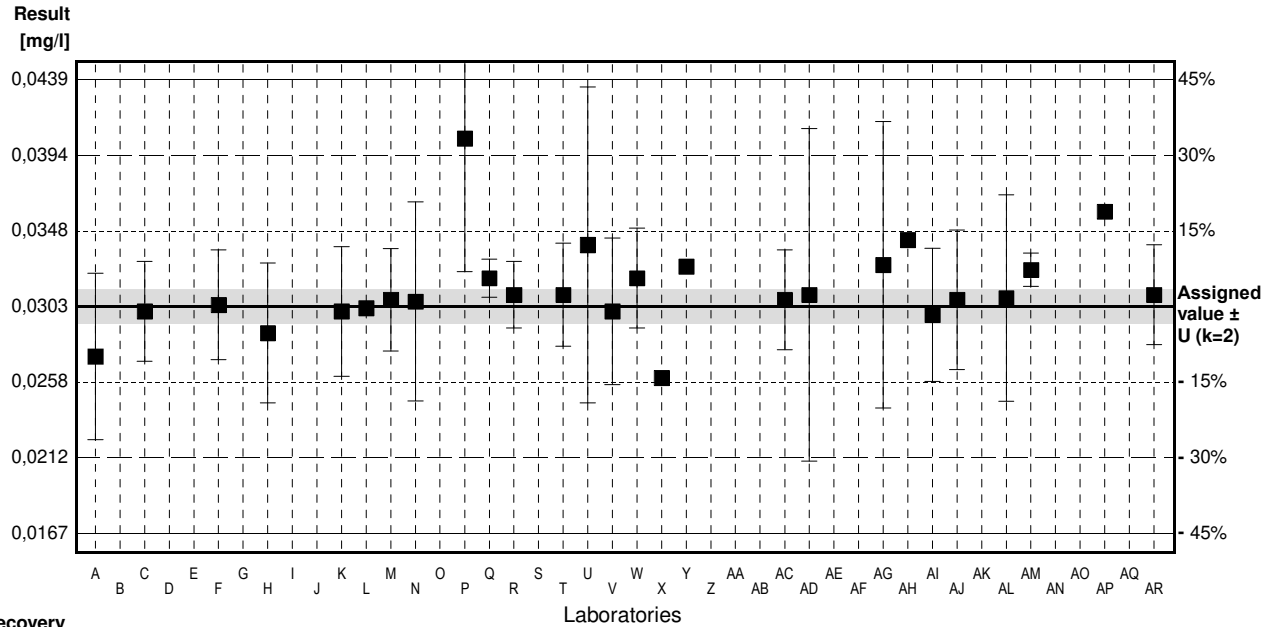
# Sample N179A

## Parameter Nitrite (as NO2)

Assigned value ± U (k=2) 0,0303 mg/l ± 0,0010 mg/l  
 IFA result ± U (k=2) 0,0304 mg/l ± 0,0013 mg/l  
 Stability test ± U (k=2) 0,0301 mg/l ± 0,0013 mg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	0.0273	0.005	mg/l	90%	-1.80
B			mg/l		
C	0.0300	0.0030	mg/l	99%	-0.18
D			mg/l		
E			mg/l		
F	0.0304	0.0033	mg/l	100%	0.06
G			mg/l		
H	0.0287	0.0042	mg/l	95%	-0.96
I			mg/l		
J	0.0100 *		mg/l	33%	-12.18
K	0.0300	0.0039	mg/l	99%	-0.18
L	0.0302		mg/l	100%	-0.06
M	0.03070	0.00307	mg/l	101%	0.24
N	0.0306	0.00599	mg/l	101%	0.18
O			mg/l		
P	0.0404 *	0.008	mg/l	133%	6.06
Q	0.0320	0.00114	mg/l	106%	1.02
R	0.0310	0.002	mg/l	102%	0.42
S			mg/l		
T	0.0310	0.0031	mg/l	102%	0.42
U	0.0340	0.0095	mg/l	112%	2.22
V	0.0300	0.0044	mg/l	99%	-0.18
W	0.0320	0.003	mg/l	106%	1.02
X	0.0260		mg/l	86%	-2.58
Y	0.0327		mg/l	108%	1.44
Z			mg/l		
AA	<0.01		mg/l	FN	
AB			mg/l		
AC	0.0307	0.003	mg/l	101%	0.24
AD	0.0310	0.01	mg/l	102%	0.42
AE			mg/l		
AF			mg/l		
AG	0.0328	0.00861	mg/l	108%	1.50
AH	0.0343		mg/l	113%	2.40
AI	0.0298	0.0040	mg/l	98%	-0.30
AJ	0.0307	0.0042	mg/l	101%	0.24
AK			mg/l		
AL	0.0308	0.0062	mg/l	102%	0.30
AM	0.0325	0.001	mg/l	107%	1.32
AN	0.085 *	0.004	mg/l	281%	32.82
AO	0.327 *	0.019	mg/l	1079%	178.04
AP	0.0360 *		mg/l	119%	3.42
AQ			mg/l		
AR	0.0310	0.003	mg/l	102%	0.42

	All results	Outliers excl.	Unit
Mean ± CI(99%)	0,0423 ± 0,0277	0,0308 ± 0,0010	mg/l
Recov. ± CI(99%)	139,6 ± 91,3	101,7 ± 3,4	%
SD between labs	0,0549	0,0018	mg/l
RSD between labs	129,8	5,9	%
n for calculation	30	25	



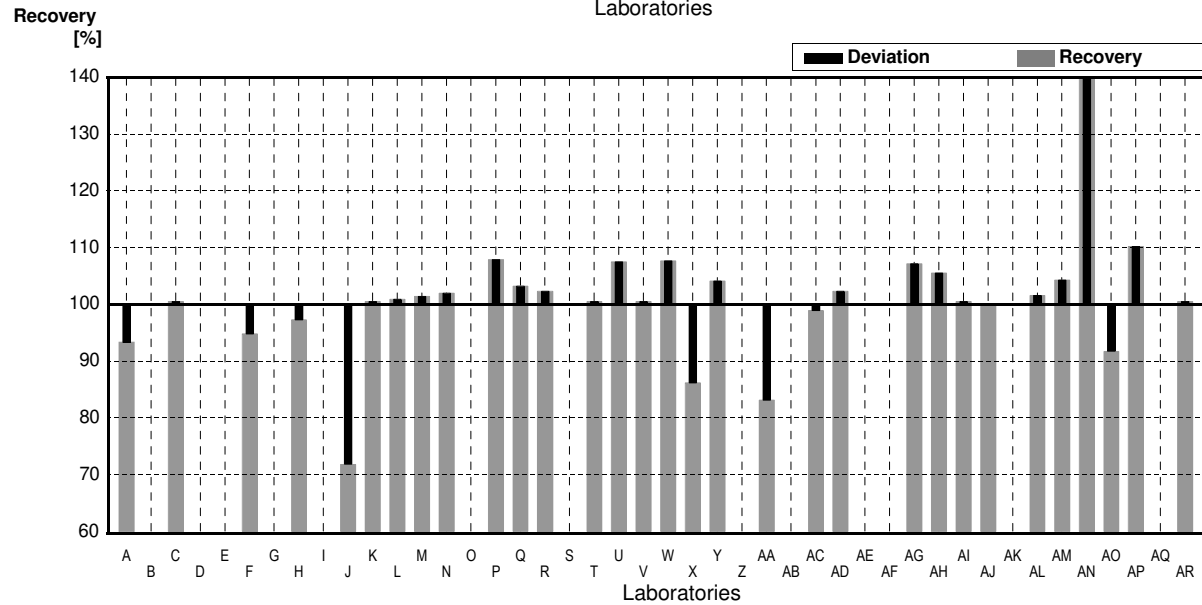
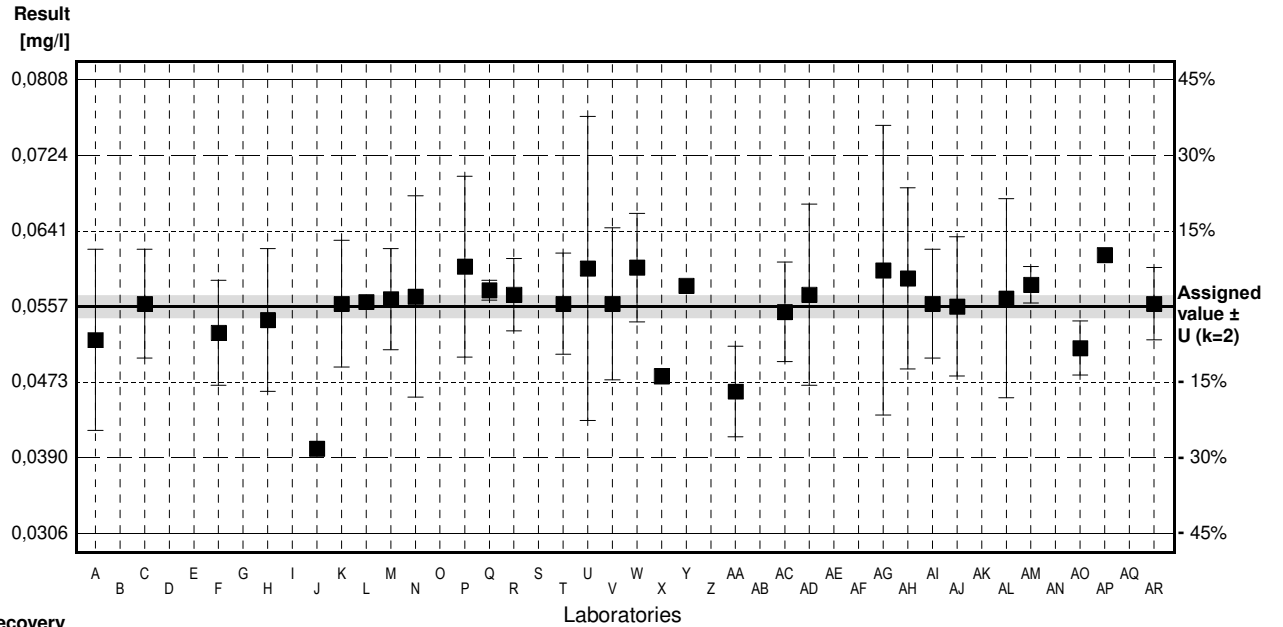
# Sample N179B

## Parameter Nitrite (as NO2)

Assigned value ± U (k=2) 0,0557 mg/l ± 0,0012 mg/l  
 IFA result ± U (k=2) 0,056 mg/l ± 0,002 mg/l  
 Stability test ± U (k=2) 0,056 mg/l ± 0,002 mg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	0.0520	0.01	mg/l	93%	-1.21
B			mg/l		
C	0.0560	0.006	mg/l	101%	0.10
D			mg/l		
E			mg/l		
F	0.0528	0.0058	mg/l	95%	-0.95
G			mg/l		
H	0.0542	0.0079	mg/l	97%	-0.49
I			mg/l		
J	0.0400 *		mg/l	72%	-5.12
K	0.056	0.007	mg/l	101%	0.10
L	0.0562		mg/l	101%	0.16
M	0.0565	0.0056	mg/l	101%	0.26
N	0.0568	0.01113	mg/l	102%	0.36
O			mg/l		
P	0.0601	0.010	mg/l	108%	1.44
Q	0.0575	0.00110	mg/l	103%	0.59
R	0.057	0.004	mg/l	102%	0.42
S			mg/l		
T	0.056	0.0056	mg/l	101%	0.10
U	0.0599	0.0168	mg/l	108%	1.37
V	0.056	0.0084	mg/l	101%	0.10
W	0.060	0.006	mg/l	108%	1.40
X	0.0480		mg/l	86%	-2.51
Y	0.058		mg/l	104%	0.75
Z			mg/l		
AA	0.0463 *	0.005	mg/l	83%	-3.07
AB			mg/l		
AC	0.0551	0.0055	mg/l	99%	-0.20
AD	0.057	0.01	mg/l	102%	0.42
AE			mg/l		
AF			mg/l		
AG	0.0597	0.016	mg/l	107%	1.31
AH	0.0588	0.01	mg/l	106%	1.01
AI	0.056	0.006	mg/l	101%	0.10
AJ	0.0557	0.0077	mg/l	100%	0.00
AK			mg/l		
AL	0.0566	0.011	mg/l	102%	0.29
AM	0.0581	0.002	mg/l	104%	0.78
AN	0.184 *	0.009	mg/l	330%	41.88
AO	0.0511	0.0030	mg/l	92%	-1.50
AP	0.0614		mg/l	110%	1.86
AQ			mg/l		
AR	0.056	0.004	mg/l	101%	0.10

	All results	Outliers excl.	Unit
Mean ± CI(99%)	0,0596 ± 0,0116	0,0564 ± 0,0015	mg/l
Recov. ± CI(99%)	107,1 ± 20,8	101,2 ± 2,7	%
SD between labs	0,0235	0,0029	mg/l
RSD between labs	39.4	5.1	%
n for calculation	31	28	



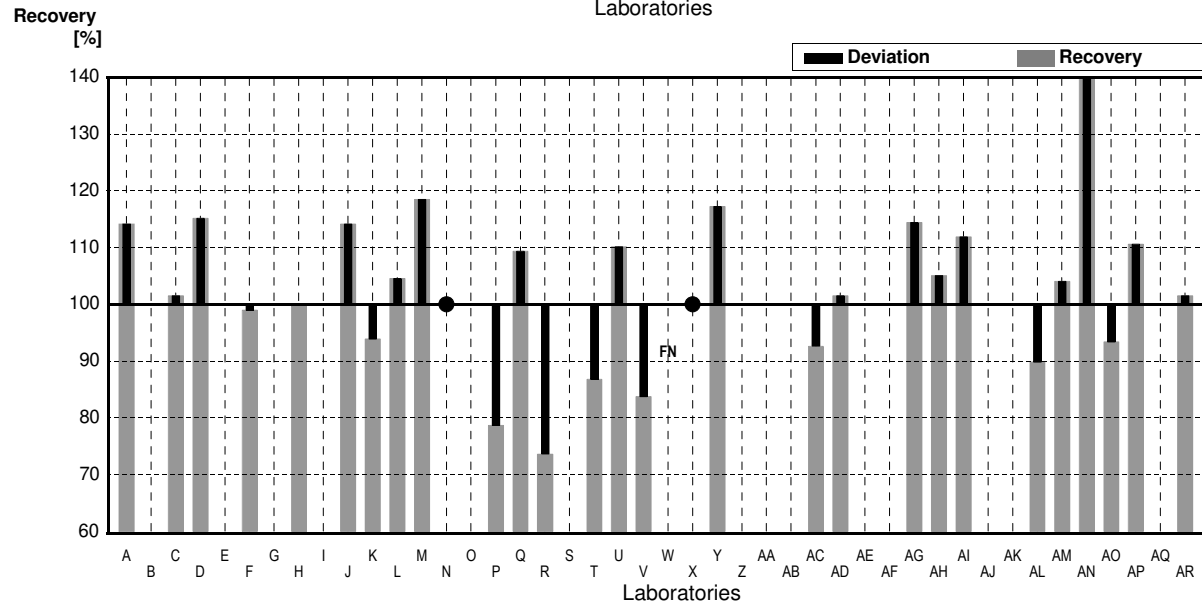
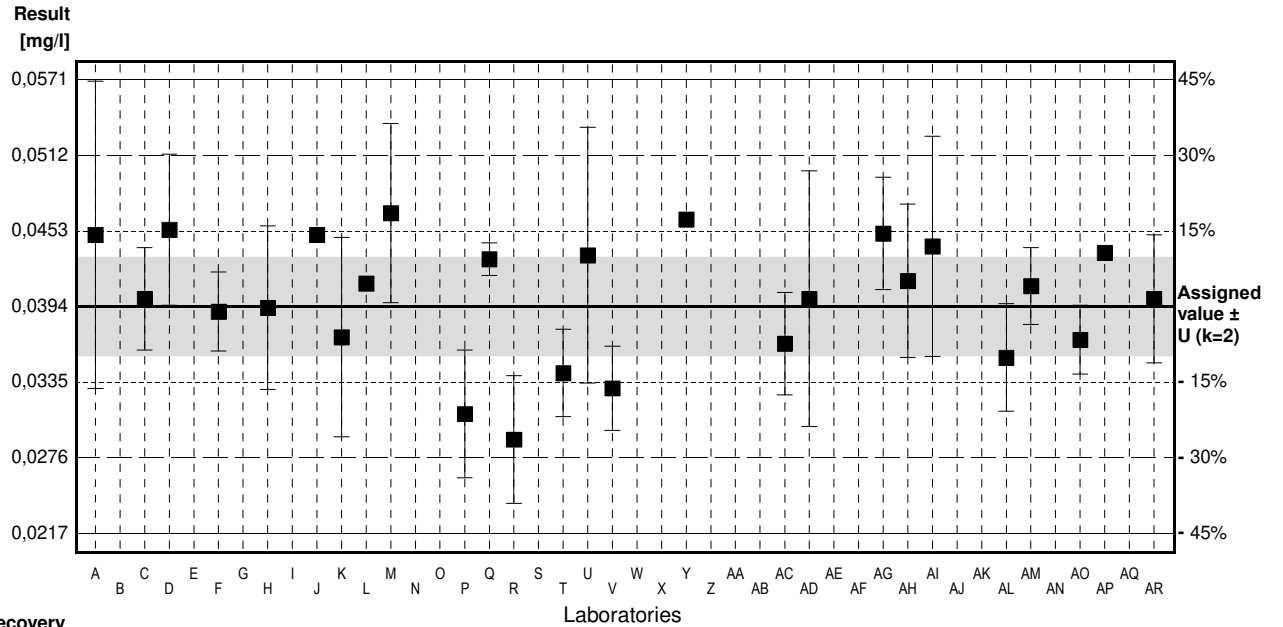
# Sample N179A

## Parameter Ammonium (as NH4)

Assigned value ± U (k=2) 0,0394 mg/l ± 0,0039 mg/l  
 IFA result ± U (k=2) 0,0411 mg/l ± 0,0017 mg/l  
 Stability test ± U (k=2) 0,0407 mg/l ± 0,0017 mg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	0.0450	0.012	mg/l	114%	1.29
B			mg/l		
C	0.0400	0.004	mg/l	102%	0.14
D	0.0454	0.0059	mg/l	115%	1.38
E			mg/l		
F	0.0390	0.0031	mg/l	99%	-0.09
G			mg/l		
H	0.0393	0.0064	mg/l	100%	-0.02
I			mg/l		
J	0.0450		mg/l	114%	1.29
K	0.0370	0.0078	mg/l	94%	-0.55
L	0.0412		mg/l	105%	0.42
M	0.0467	0.0070	mg/l	119%	1.68
N	<0.05		mg/l	*	
O			mg/l		
P	0.0310	0.005	mg/l	79%	-1.94
Q	0.0431	0.00128	mg/l	109%	0.85
R	0.0290	0.005	mg/l	74%	-2.40
S			mg/l		
T	0.0342	0.00342	mg/l	87%	-1.20
U	0.0434	0.0100	mg/l	110%	0.92
V	0.0330	0.0033	mg/l	84%	-1.48
W	<0.01		mg/l	FN	
X	<-0.100		mg/l	*	
Y	0.0462		mg/l	117%	1.57
Z			mg/l		
AA			mg/l		
AB			mg/l		
AC	0.0365	0.004	mg/l	93%	-0.67
AD	0.0400	0.01	mg/l	102%	0.14
AE			mg/l		
AF			mg/l		
AG	0.0451	0.00439	mg/l	114%	1.32
AH	0.0414	0.006	mg/l	105%	0.46
AI	0.0441	0.0086	mg/l	112%	1.08
AJ			mg/l		
AK			mg/l		
AL	0.0354	0.0042	mg/l	90%	-0.92
AM	0.0410	0.003	mg/l	104%	0.37
AN	0.0609	0.0235	mg/l	155%	4.96
AO	0.0368	0.0027	mg/l	93%	-0.60
AP	0.0436		mg/l	111%	0.97
AQ			mg/l		
AR	0.0400	0.005	mg/l	102%	0.14

	All results	Outliers excl.	Unit
Mean ± CI(99%)	0,0409 ± 0,0033	0,0401 ± 0,0026	mg/l
Recov. ± CI(99%)	103,7 ± 8,4	101,8 ± 6,7	%
SD between labs	0,0062	0,0048	mg/l
RSD between labs	15,2	12,0	%
n for calculation	27	26	



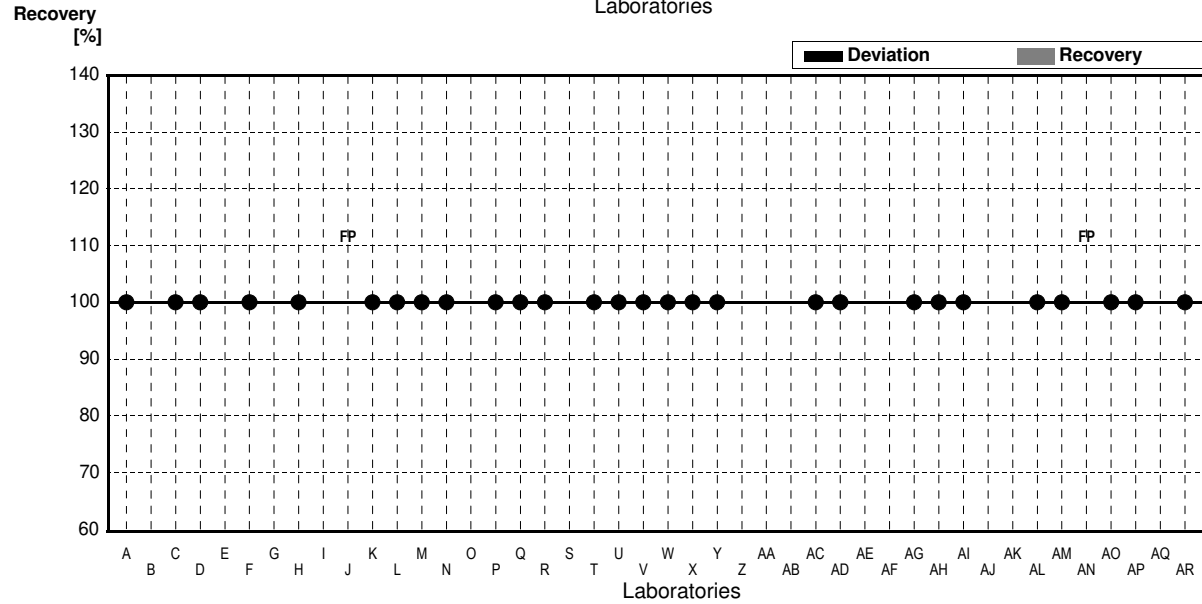
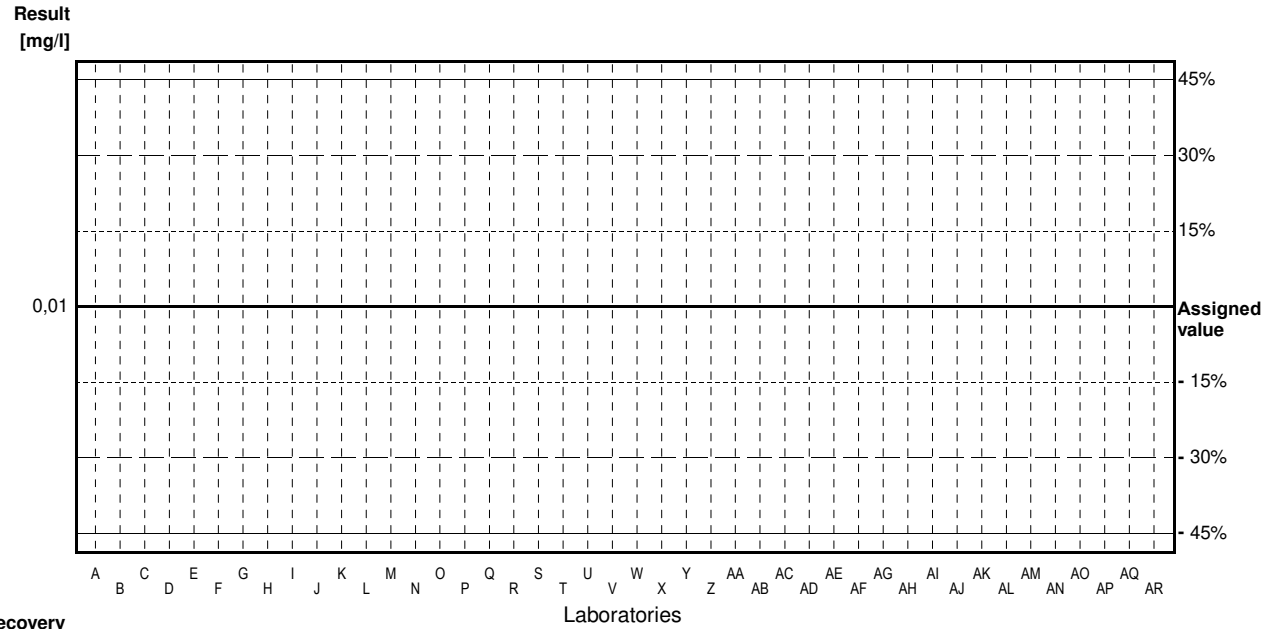
# Sample N179B

## Parameter Ammonium (as NH4)

Assigned value <0,01 mg/l  
 IFA result <0,01 mg/l  
 Stability test <0,01 mg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	<0.01	0.001	mg/l	•	
B			mg/l		
C	<0.01		mg/l	•	
D	<0.01		mg/l	•	
E			mg/l		
F	<0.01		mg/l	•	
G			mg/l		
H	<0.010		mg/l	•	
I			mg/l		
J	0.0150		mg/l	FP	
K	<0.02		mg/l	•	
L	<0.008		mg/l	•	
M	0.0067	0.0010	mg/l	•	
N	<0.05		mg/l	•	
O			mg/l		
P	<0.020	0.005	mg/l	•	
Q	<0.010		mg/l	•	
R	0.00200	0.000100	mg/l	•	
S			mg/l		
T	<0.0090		mg/l	•	
U	<0.012		mg/l	•	
V	<0.00052		mg/l	•	
W	<0.002		mg/l	•	
X	<0.010		mg/l	•	
Y	0.0062		mg/l	•	
Z			mg/l		
AA			mg/l		
AB			mg/l		
AC	<0.024		mg/l	•	
AD	0.0100	0.01	mg/l	•	
AE			mg/l		
AF			mg/l		
AG	0.00300	0.00029	mg/l	•	
AH	<0.01		mg/l	•	
AI	<0.010		mg/l	•	
AJ			mg/l		
AK			mg/l		
AL	<0.01		mg/l	•	
AM	<0.010		mg/l	•	
AN	0.0235	0.0091	mg/l	FP	
AO	<0.01		mg/l	•	
AP	0.00450		mg/l	•	
AQ			mg/l		
AR	<0.013		mg/l	•	

	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 N179A

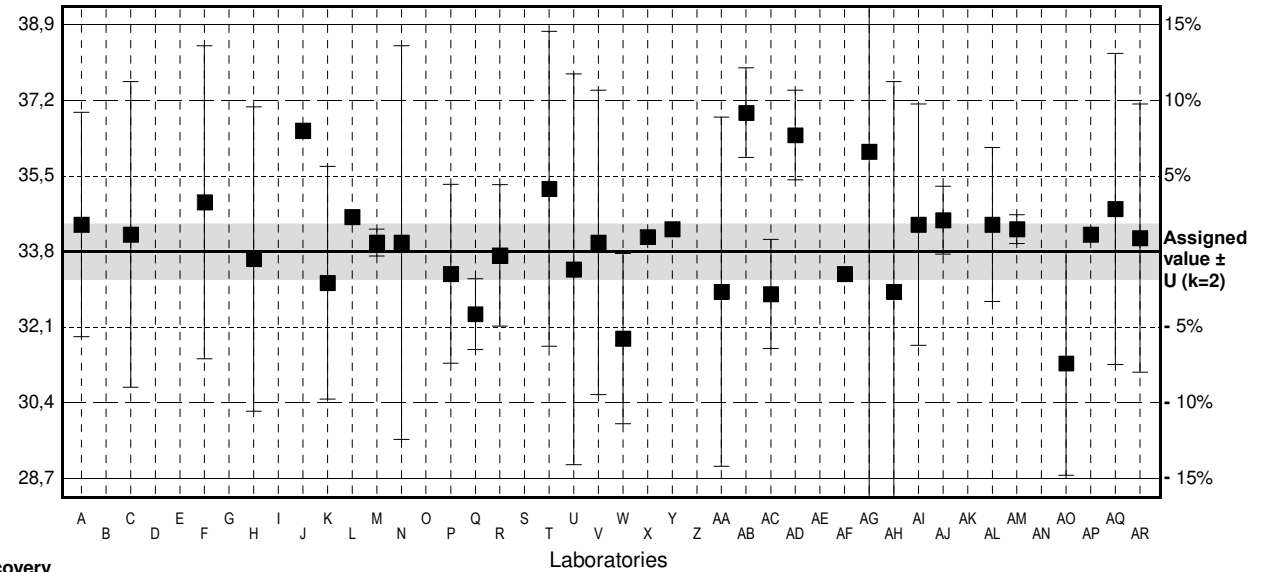
## Parameter Chloride

Assigned value ± U (k=2) 33,8 mg/l ± 0,6 mg/l  
 IFA result ± U (k=2) 34,8 mg/l ± 1,2 mg/l  
 Stability test ± U (k=2) 33,9 mg/l ± 1,2 mg/l

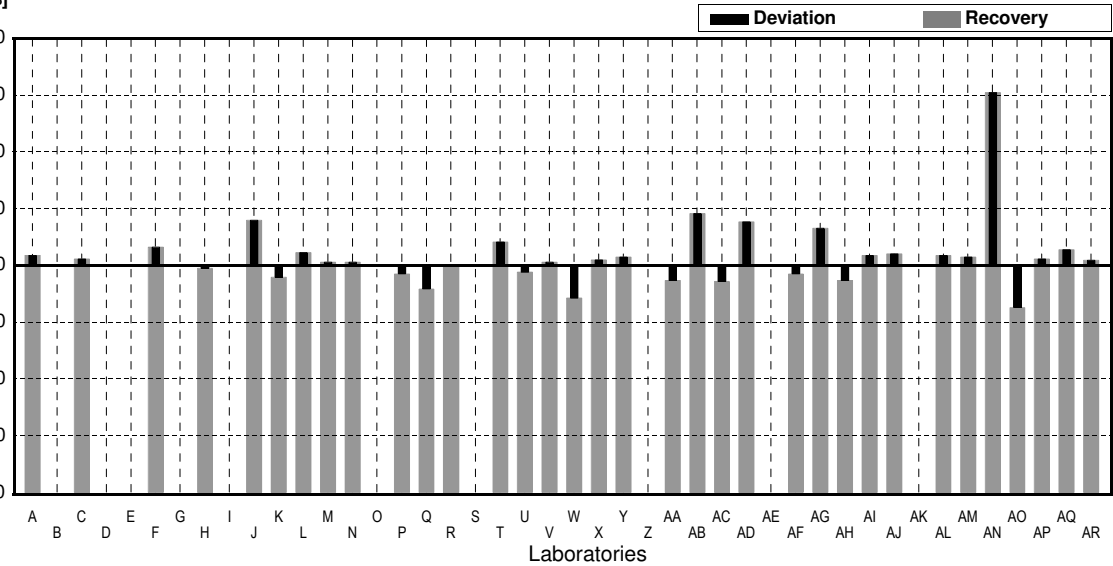
Lab Code	Result	±	Unit	Recovery	z-Score
A	34.4	2.51	mg/l	102%	0.66
B			mg/l		
C	34.18	3.42	mg/l	101%	0.42
D			mg/l		
E			mg/l		
F	34.9	3.5	mg/l	103%	1.21
G			mg/l		
H	33.63	3.4	mg/l	99%	-0.19
I			mg/l		
J	36.5		mg/l	108%	2.96
K	33.1	2.6	mg/l	98%	-0.77
L	34.57		mg/l	102%	0.84
M	34.0	0.3	mg/l	101%	0.22
N	34.0	4.4	mg/l	101%	0.22
O			mg/l		
P	33.3	2	mg/l	99%	-0.55
Q	32.4	0.790	mg/l	96%	-1.53
R	33.71	1.58	mg/l	100%	-0.10
S			mg/l		
T	35.2	3.52	mg/l	104%	1.53
U	33.400	4.369	mg/l	99%	-0.44
V	34.0	3.40	mg/l	101%	0.22
W	31.85	1.9	mg/l	94%	-2.14
X	34.126		mg/l	101%	0.36
Y	34.3		mg/l	101%	0.55
Z			mg/l		
AA	32.9	3.9	mg/l	97%	-0.99
AB	36.9	1	mg/l	109%	3.40
AC	32.849	1.22	mg/l	97%	-1.04
AD	36.4	1	mg/l	108%	2.85
AE			mg/l		
AF	33.3	0.14	mg/l	99%	-0.55
AG	36.03	11.81	mg/l	107%	2.44
AH	32.9	4.7	mg/l	97%	-0.99
AI	34.4	2.7	mg/l	102%	0.66
AJ	34.5	0.76	mg/l	102%	0.77
AK			mg/l		
AL	34.40	1.72	mg/l	102%	0.66
AM	34.3	0.321	mg/l	101%	0.55
AN	44.1 *	2.8	mg/l	130%	11.29
AO	31.3	2.5	mg/l	93%	-2.74
AP	34.18		mg/l	101%	0.42
AQ	34.75	3.48	mg/l	103%	1.04
AR	34.1	3	mg/l	101%	0.33

	All results	Outliers excl.	Unit
Mean ± CI(99%)	34,4 ± 1,0	34,1 ± 0,6	mg/l
Recov. ± CI(99%)	101,7 ± 2,9	100,8 ± 1,7	%
SD between labs	2,1	1,2	mg/l
RSD between labs	6,1	3,6	%
n for calculation	34	33	

Result [mg/l]



Recovery [%]



# Sample N179B

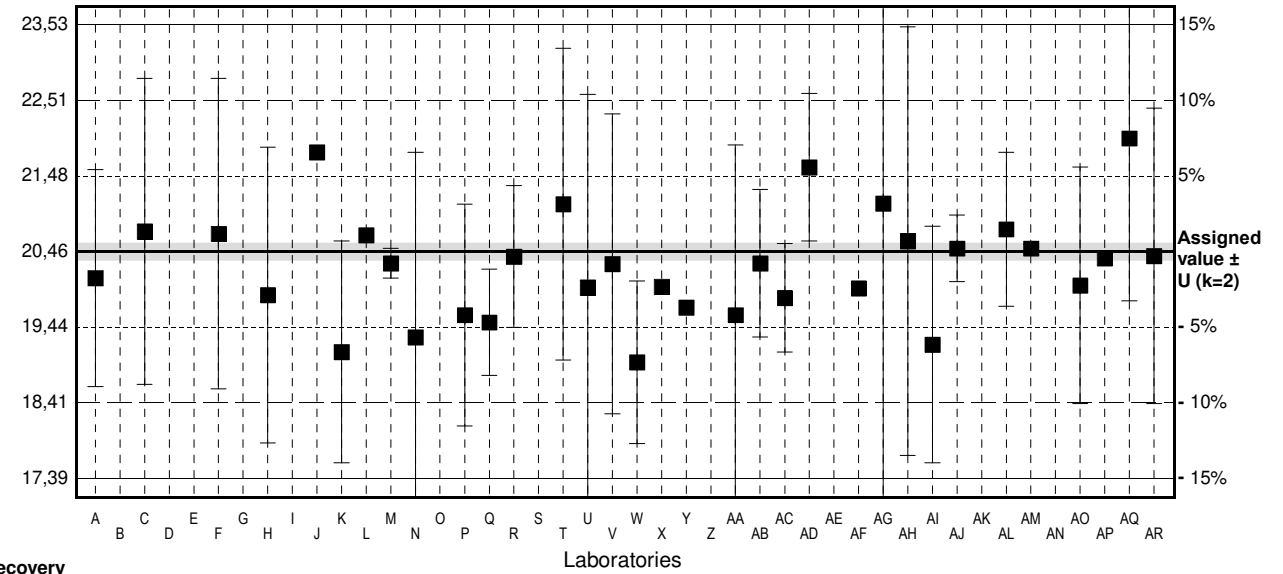
## Parameter Chloride

Assigned value  $\pm U$  (k=2) 20,46 mg/l  $\pm$  0,12 mg/l  
 IFA result  $\pm U$  (k=2) 21,0 mg/l  $\pm$  0,7 mg/l  
 Stability test  $\pm U$  (k=2) 20,5 mg/l  $\pm$  0,7 mg/l

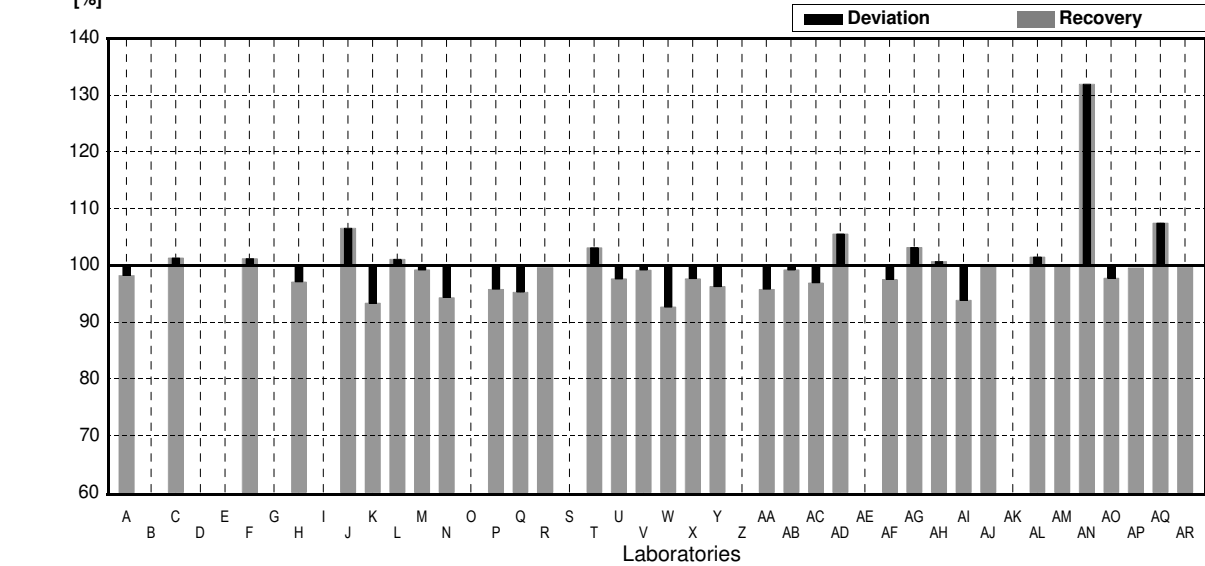
Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A	20.1	1.47	mg/l	98%	-0.65
B			mg/l		
C	20.73	2.07	mg/l	101%	0.49
D			mg/l		
E			mg/l		
F	20.7	2.1	mg/l	101%	0.43
G			mg/l		
H	19.87	2.0	mg/l	97%	-1.07
I			mg/l		
J	21.8		mg/l	107%	2.43
K	19.1	1.5	mg/l	93%	-2.46
L	20.68		mg/l	101%	0.40
M	20.3	0.2	mg/l	99%	-0.29
N	19.3	2.5	mg/l	94%	-2.10
O			mg/l		
P	19.6	1.5	mg/l	96%	-1.56
Q	19.5	0.719	mg/l	95%	-1.74
R	20.39	0.96	mg/l	100%	-0.13
S			mg/l		
T	21.1	2.11	mg/l	103%	1.16
U	19.972	2.612	mg/l	98%	-0.88
V	20.29	2.029	mg/l	99%	-0.31
W	18.96	1.10	mg/l	93%	-2.72
X	19.983		mg/l	98%	-0.86
Y	19.7		mg/l	96%	-1.38
Z			mg/l		
AA	19.6	2.3	mg/l	96%	-1.56
AB	20.3	1	mg/l	99%	-0.29
AC	19.831	0.734	mg/l	97%	-1.14
AD	21.6	1	mg/l	106%	2.06
AE			mg/l		
AF	19.96	0.07	mg/l	98%	-0.91
AG	21.11	6.92	mg/l	103%	1.18
AH	20.6	2.9	mg/l	101%	0.25
AI	19.2	1.6	mg/l	94%	-2.28
AJ	20.5	0.45	mg/l	100%	0.07
AK			mg/l		
AL	20.76	1.04	mg/l	101%	0.54
AM	20.5	0.058	mg/l	100%	0.07
AN	27.0 *	1.7	mg/l	132%	11.84
AO	20.0	1.6	mg/l	98%	-0.83
AP	20.368		mg/l	100%	-0.17
AQ	21.99	2.20	mg/l	107%	2.77
AR	20.4	2	mg/l	100%	-0.11

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	20,46 $\pm$ 0,64	20,27 $\pm$ 0,35	mg/l
Recov. $\pm$ CI(99%)	100,0 $\pm$ 3,1	99,1 $\pm$ 1,7	%
SD between labs	1,36	0,73	mg/l
RSD between labs	6,7	3,6	%
n for calculation	34	33	

Result [mg/l]



Recovery [%]



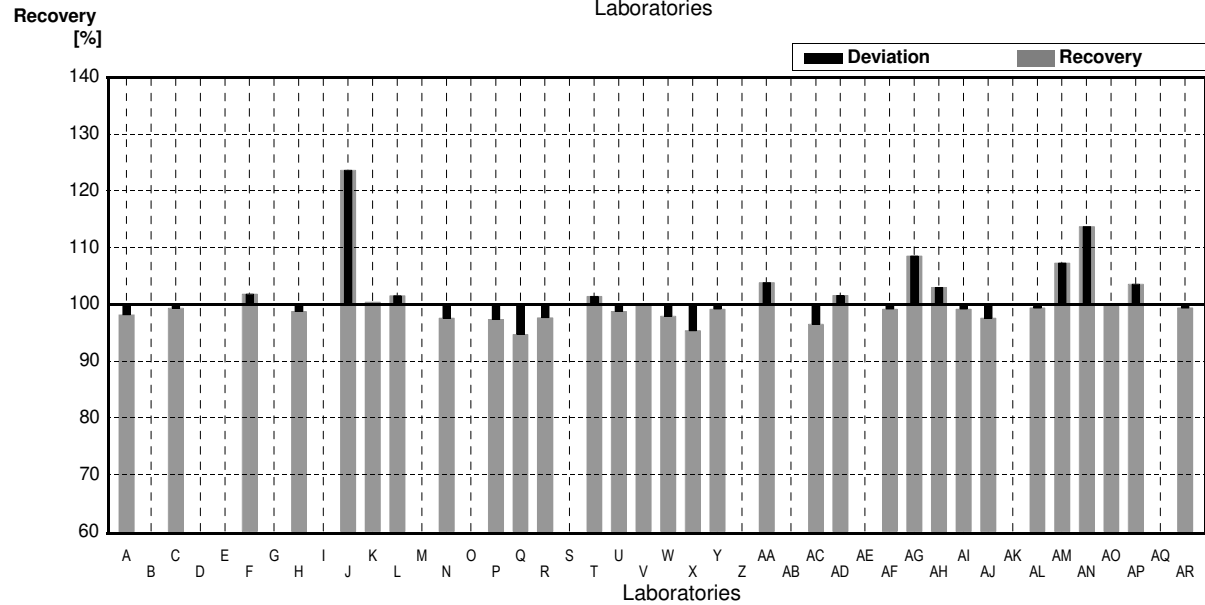
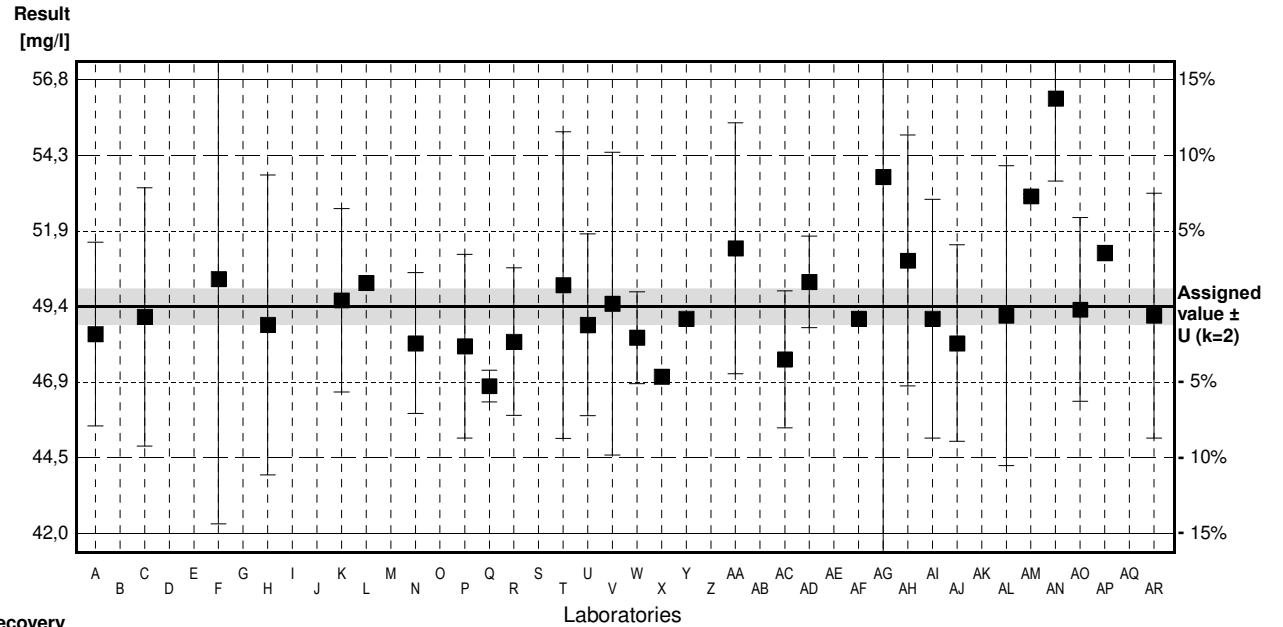
# Sample N179A

## Parameter Sulphate (as SO4)

Assigned value ± U (k=2) 49,4 mg/l ± 0,6 mg/l  
 IFA result ± U (k=2) 49,4 mg/l ± 1,3 mg/l  
 Stability test ± U (k=2) 47,9 mg/l ± 1,2 mg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	48.5	3.00	mg/l	98%	-0.59
B			mg/l		
C	49.06	4.22	mg/l	99%	-0.22
D			mg/l		
E			mg/l		
F	50.3	8.0	mg/l	102%	0.59
G			mg/l		
H	48.80	4.9	mg/l	99%	-0.39
I			mg/l		
J	61.1 *		mg/l	124%	7.64
K	49.6	3.0	mg/l	100%	0.13
L	50.17		mg/l	102%	0.50
M			mg/l		
N	48.2	2.3	mg/l	98%	-0.78
O			mg/l		
P	48.1	3	mg/l	97%	-0.85
Q	46.8	0.522	mg/l	95%	-1.70
R	48.25	2.41	mg/l	98%	-0.75
S			mg/l		
T	50.1	5.01	mg/l	101%	0.46
U	48.797	2.972	mg/l	99%	-0.39
V	49.49	4.949	mg/l	100%	0.06
W	48.38	1.5	mg/l	98%	-0.67
X	47.111		mg/l	95%	-1.49
Y	49.0		mg/l	99%	-0.26
Z			mg/l		
AA	51.3	4.1	mg/l	104%	1.24
AB			mg/l		
AC	47.673	2.24	mg/l	97%	-1.13
AD	50.2	1.5	mg/l	102%	0.52
AE			mg/l		
AF	49.0	0.23	mg/l	99%	-0.26
AG	53.63 *	19.09	mg/l	109%	2.76
AH	50.9	4.1	mg/l	103%	0.98
AI	49.0	3.9	mg/l	99%	-0.26
AJ	48.2	3.21	mg/l	98%	-0.78
AK			mg/l		
AL	49.10	4.9	mg/l	99%	-0.20
AM	53.0	0.058	mg/l	107%	2.35
AN	56.2 *	2.7	mg/l	114%	4.44
AO	49.3	3.0	mg/l	100%	-0.07
AP	51.15		mg/l	104%	1.14
AQ			mg/l		
AR	49.1	4	mg/l	99%	-0.20

	All results	Outliers excl.	Unit
Mean ± CI(99%)	50,0 ± 1,4	49,2 ± 0,7	mg/l
Recov. ± CI(99%)	101,2 ± 2,8	99,7 ± 1,4	%
SD between labs	2,8	1,3	mg/l
RSD between labs	5,6	2,7	%
n for calculation	31	28	



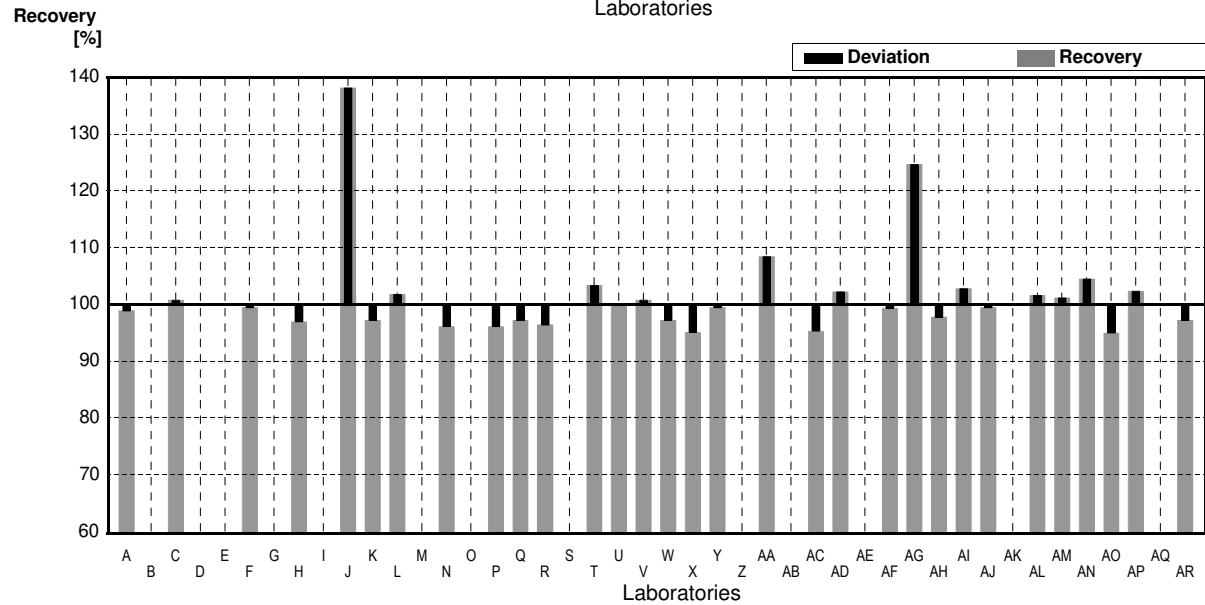
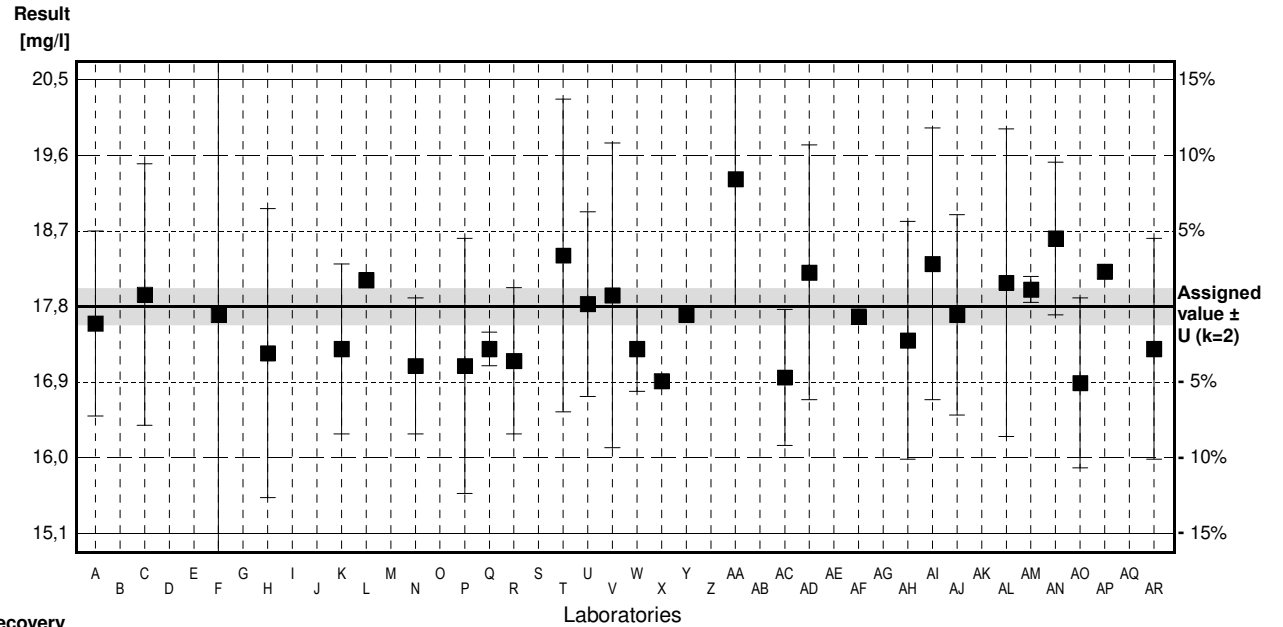
# Sample N179B

## Parameter Sulphate (as SO4)

Assigned value ± U (k=2) 17,8 mg/l ± 0,2 mg/l  
 IFA result ± U (k=2) 18,2 mg/l ± 0,5 mg/l  
 Stability test ± U (k=2) 18,0 mg/l ± 0,5 mg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	17.6	1.09	mg/l	99%	-0.36
B			mg/l		
C	17.94	1.54	mg/l	101%	0.25
D			mg/l		
E			mg/l		
F	17.7	2.8	mg/l	99%	-0.18
G			mg/l		
H	17.25	1.7	mg/l	97%	-1.00
I			mg/l		
J	24.6 *		mg/l	138%	12.32
K	17.3	1.0	mg/l	97%	-0.91
L	18.11		mg/l	102%	0.56
M			mg/l		
N	17.1	0.8	mg/l	96%	-1.27
O			mg/l		
P	17.1	1.5	mg/l	96%	-1.27
Q	17.3	0.197	mg/l	97%	-0.91
R	17.16	0.86	mg/l	96%	-1.16
S			mg/l		
T	18.4	1.84	mg/l	103%	1.09
U	17.828	1.086	mg/l	100%	0.05
V	17.93	1.793	mg/l	101%	0.24
W	17.3	0.5	mg/l	97%	-0.91
X	16.921		mg/l	95%	-1.59
Y	17.7		mg/l	99%	-0.18
Z			mg/l		
AA	19.3	1.5	mg/l	108%	2.72
AB			mg/l		
AC	16.965	0.80	mg/l	95%	-1.51
AD	18.2	1.5	mg/l	102%	0.72
AE			mg/l		
AF	17.68	0.09	mg/l	99%	-0.22
AG	22.19 *	7.90	mg/l	125%	7.96
AH	17.4	1.4	mg/l	98%	-0.72
AI	18.3	1.6	mg/l	103%	0.91
AJ	17.7	1.18	mg/l	99%	-0.18
AK			mg/l		
AL	18.08	1.81	mg/l	102%	0.51
AM	18.0	0.153	mg/l	101%	0.36
AN	18.6	0.9	mg/l	104%	1.45
AO	16.9	1.0	mg/l	95%	-1.63
AP	18.21		mg/l	102%	0.74
AQ			mg/l		
AR	17.3	1.3	mg/l	97%	-0.91

	All results	Outliers excl.	Unit
Mean ± CI(99%)	18,1 ± 0,8	17,7 ± 0,3	mg/l
Recov. ± CI(99%)	101,5 ± 4,3	99,4 ± 1,6	%
SD between labs	1,6	0,6	mg/l
RSD between labs	8,6	3,2	%
n for calculation	31	29	



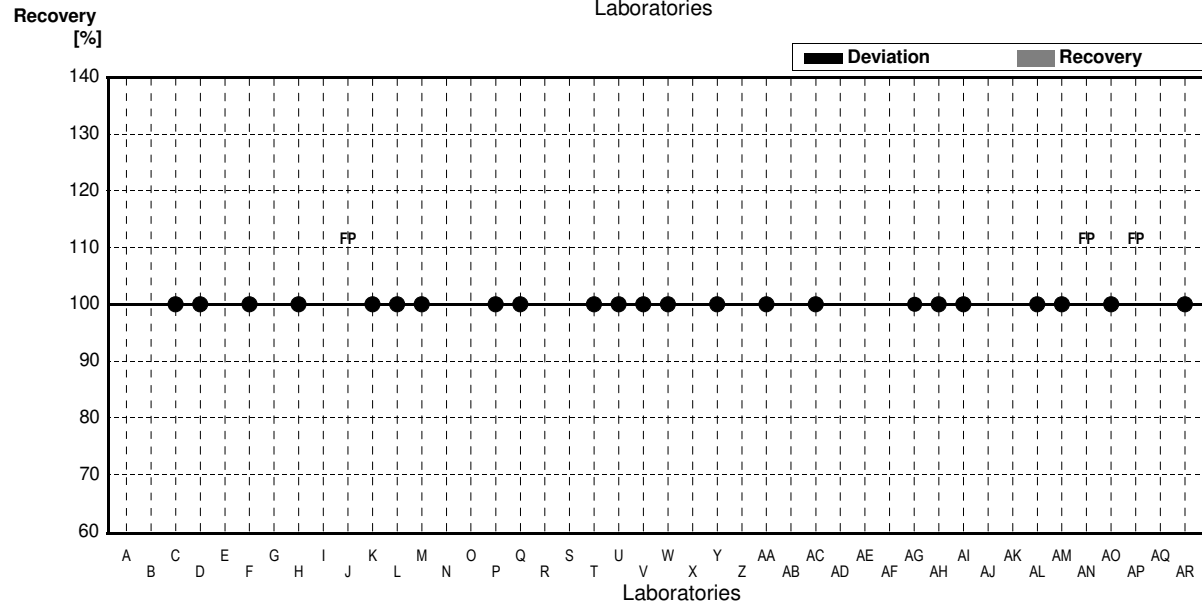
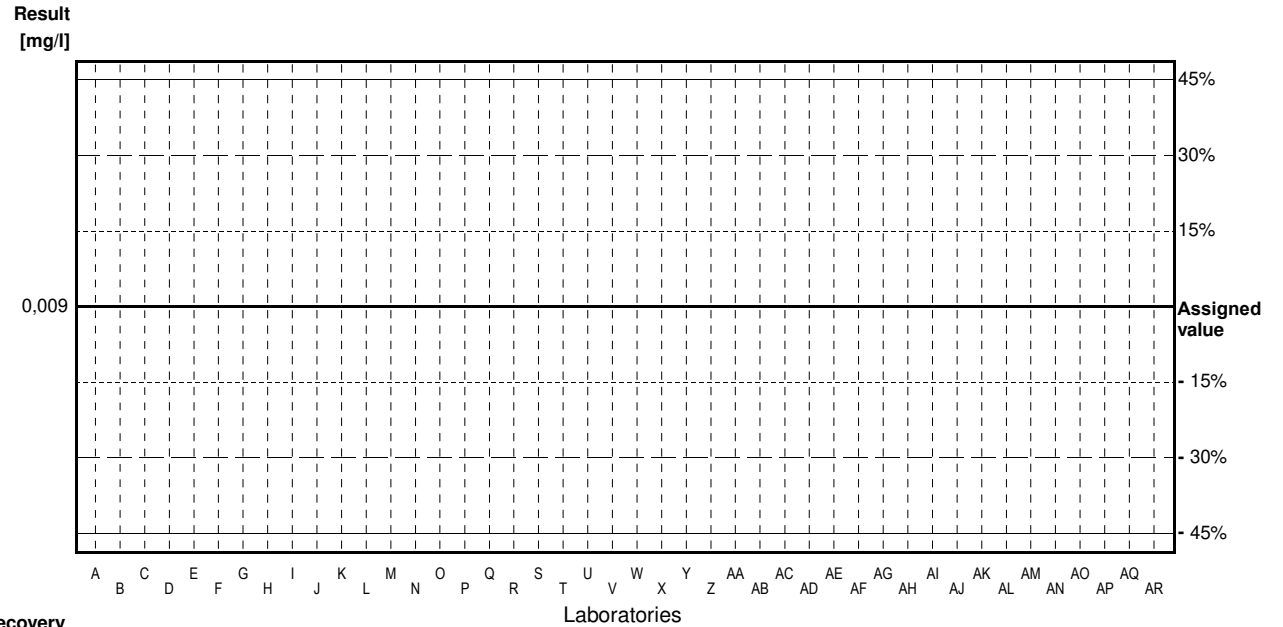
# Sample N179A

## Parameter Orthophosphate (as PO4)

Assigned value <0,009 mg/l  
 IFA result <0,009 mg/l  
 Stability test <0,009 mg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A			mg/l		
B			mg/l		
C	<0.01		mg/l	•	
D	<0.019		mg/l	•	
E			mg/l		
F	<0.015		mg/l	•	
G			mg/l		
H	<0.009		mg/l	•	
I			mg/l		
J	0.150		mg/l	FP	
K	<0.009		mg/l	•	
L	<0.006		mg/l	•	
M	<0.006		mg/l	•	
N			mg/l		
O			mg/l		
P	<0.0300	0.005	mg/l	•	
Q	<0.015		mg/l	•	
R			mg/l		
S			mg/l		
T	<0.0055		mg/l	•	
U	<0.015		mg/l	•	
V	0.0060	0.0009	mg/l	•	
W	<0.003		mg/l	•	
X			mg/l		
Y	<0.06		mg/l	•	
Z			mg/l		
AA	<0.015		mg/l	•	
AB			mg/l		
AC	<0.031		mg/l	•	
AD			mg/l		
AE			mg/l		
AF			mg/l		
AG	0.0109	0.00253	mg/l	•	
AH	<0.01		mg/l	•	
AI	<0.010		mg/l	•	
AJ			mg/l		
AK			mg/l		
AL	<0.006		mg/l	•	
AM	<0.009		mg/l	•	
AN	0.0438	0.0075	mg/l	FP	
AO	<0.01		mg/l	•	
AP	0.0294		mg/l	FP	
AQ			mg/l		
AR	<0.01		mg/l	•	

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



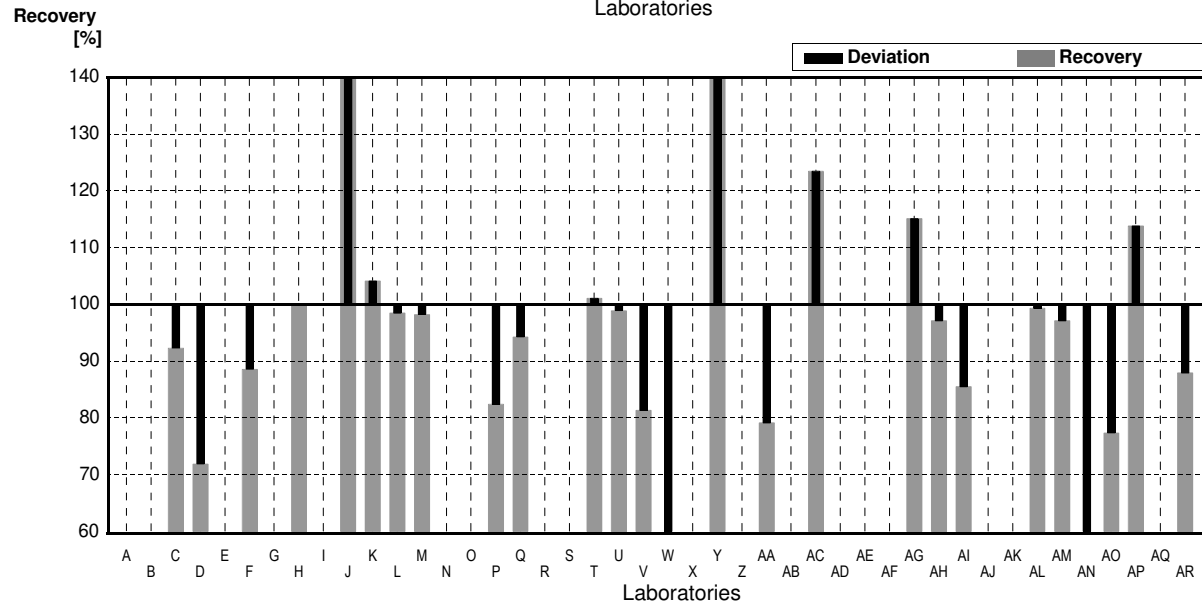
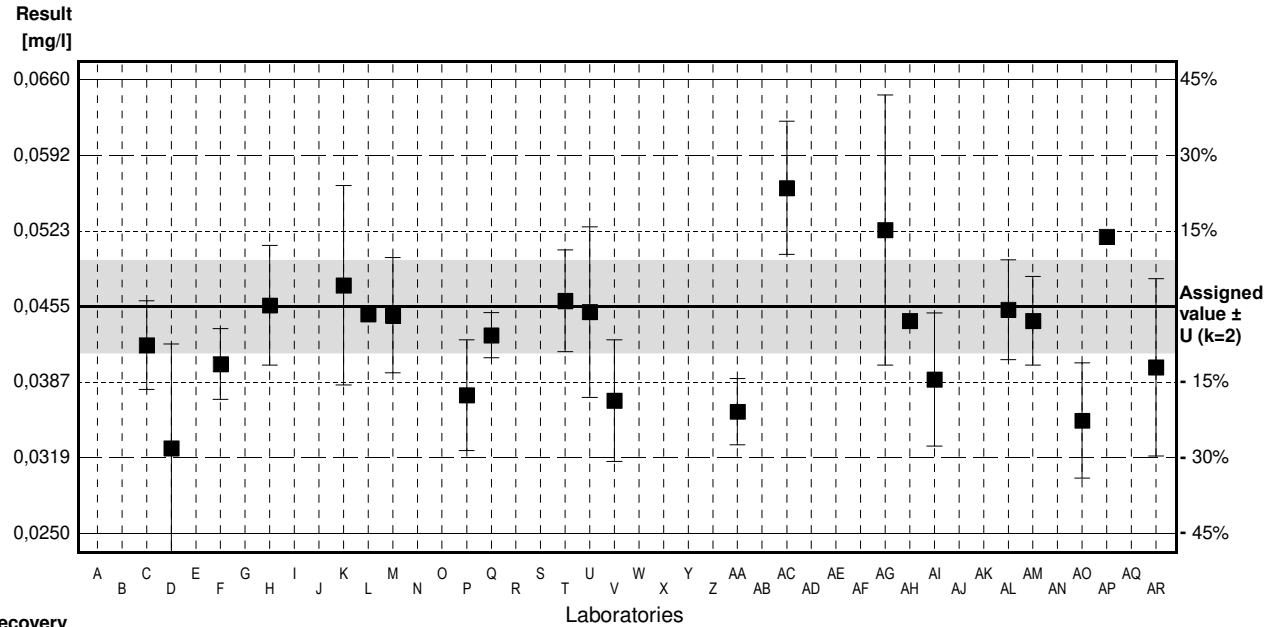
# Sample N179B

## Parameter Orthophosphate (as PO4)

Assigned value ± U (k=2) 0,0455 mg/l ± 0,0042 mg/l  
 IFA result ± U (k=2) 0,0460 mg/l ± 0,0015 mg/l  
 Stability test ± U (k=2) 0,0455 mg/l ± 0,0015 mg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A			mg/l		
B			mg/l		
C	0.0420	0.004	mg/l	92%	-0.88
D	0.0327	0.0094	mg/l	72%	-3.23
E			mg/l		
F	0.0403	0.0032	mg/l	89%	-1.31
G			mg/l		
H	0.0456	0.0054	mg/l	100%	0.03
I			mg/l		
J	0.150 *		mg/l	330%	26.40
K	0.0474	0.0090	mg/l	104%	0.48
L	0.0448		mg/l	98%	-0.18
M	0.0447	0.0052	mg/l	98%	-0.20
N			mg/l		
O			mg/l		
P	0.0375	0.005	mg/l	82%	-2.02
Q	0.0429	0.00204	mg/l	94%	-0.66
R			mg/l		
S			mg/l		
T	0.0460	0.0046	mg/l	101%	0.13
U	0.0450	0.0077	mg/l	99%	-0.13
V	0.0370	0.0055	mg/l	81%	-2.15
W			mg/l		
X			mg/l		
Y	0.109 *	0.0145	mg/l	240%	16.04
Z			mg/l		
AA	0.0360	0.003	mg/l	79%	-2.40
AB			mg/l		
AC	0.0562	0.006	mg/l	124%	2.70
AD			mg/l		
AE			mg/l		
AF			mg/l		
AG	0.0524	0.0122	mg/l	115%	1.74
AH	0.0442		mg/l	97%	-0.33
AI	0.0389	0.006	mg/l	85%	-1.67
AJ			mg/l		
AK			mg/l		
AL	0.0452	0.0045	mg/l	99%	-0.08
AM	0.0442	0.004	mg/l	97%	-0.33
AN	0.0162 *	0.0028	mg/l	36%	-7.40
AO	0.0352	0.0052	mg/l	77%	-2.60
AP	0.0518		mg/l	114%	1.59
AQ			mg/l		
AR	0.0400	0.008	mg/l	88%	-1.39

	All results	Outliers excl.	Unit
Mean ± CI(99%)	0,0477 ± 0,0145	0,0432 ± 0,0035	mg/l
Recov. ± CI(99%)	104,8 ± 31,8	94,9 ± 7,7	%
SD between labs	0,0265	0,0058	mg/l
RSD between labs	55,5	13,5	%
n for calculation	26	22	



# Sample N179A

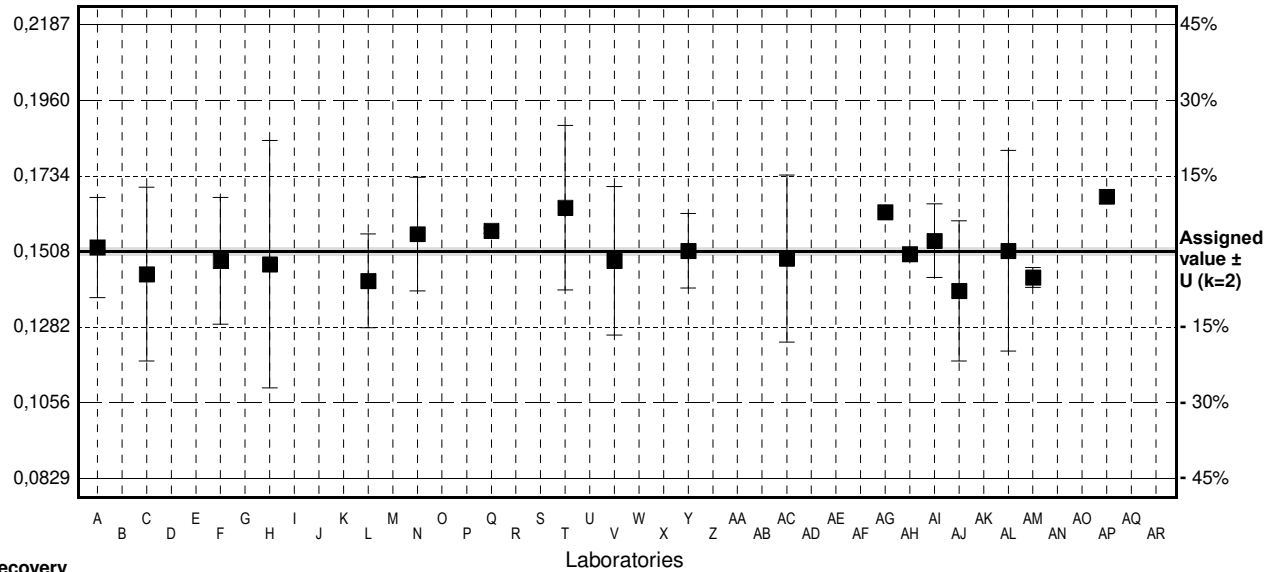
## Parameter Boron

Assigned value ± U (k=2) 0,1508 mg/l ± 0,0012 mg/l  
 IFA result ± U (k=2) 0,166 mg/l ± 0,014 mg/l  
 Stability test ± U (k=2) 0,162 mg/l ± 0,014 mg/l

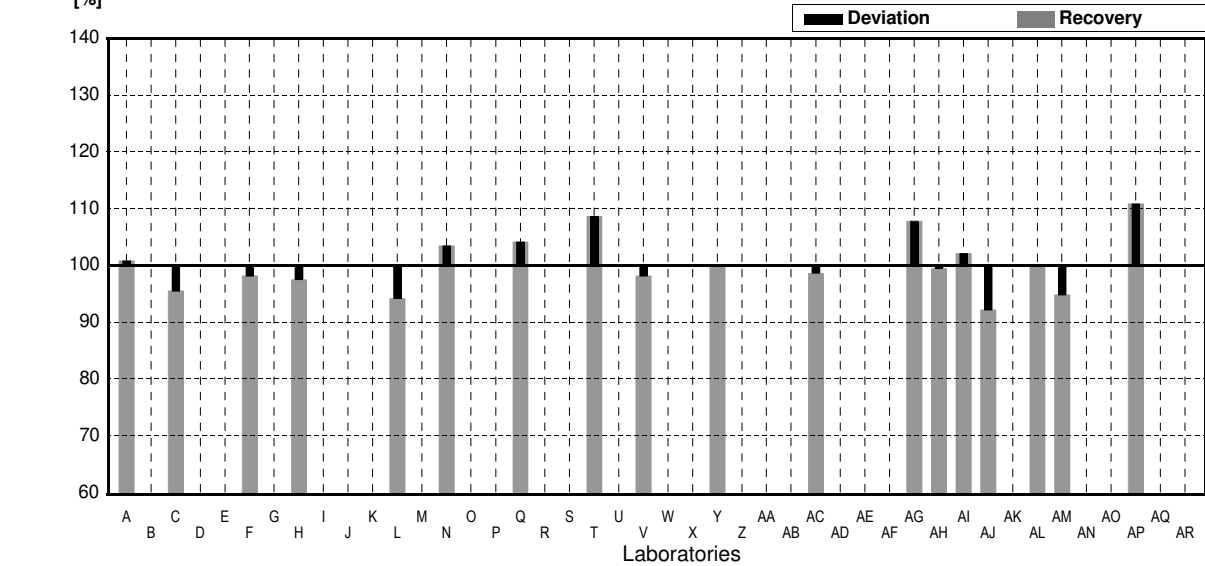
Lab Code	Result	±	Unit	Recovery	z-Score
A	0.152	0.015	mg/l	101%	0.11
B			mg/l		
C	0.144	0.026	mg/l	95%	-0.64
D			mg/l		
E			mg/l		
F	0.148	0.019	mg/l	98%	-0.27
G			mg/l		
H	0.147	0.037	mg/l	97%	-0.36
I			mg/l		
J			mg/l		
K			mg/l		
L	0.142	0.014	mg/l	94%	-0.83
M			mg/l		
N	0.156	0.017	mg/l	103%	0.49
O			mg/l		
P			mg/l		
Q	0.157	0.000795	mg/l	104%	0.59
R			mg/l		
S			mg/l		
T	0.1639	0.0246	mg/l	109%	1.24
U			mg/l		
V	0.148	0.0222	mg/l	98%	-0.27
W			mg/l		
X			mg/l		
Y	0.151	0.0111	mg/l	100%	0.02
Z			mg/l		
AA			mg/l		
AB			mg/l		
AC	0.1487	0.025	mg/l	99%	-0.20
AD			mg/l		
AE			mg/l		
AF			mg/l		
AG	0.1626		mg/l	108%	1.12
AH	0.150		mg/l	99%	-0.08
AI	0.154	0.011	mg/l	102%	0.30
AJ	0.139	0.021	mg/l	92%	-1.12
AK			mg/l		
AL	0.151	0.03	mg/l	100%	0.02
AM	0.143	0.003	mg/l	95%	-0.74
AN			mg/l		
AO			mg/l		
AP	0.1672		mg/l	111%	1.55
AQ			mg/l		
AR			mg/l		

	All results	Outliers excl.	Unit
Mean ± CI(99%)	0,1514 ± 0,0053	0,1514 ± 0,0053	mg/l
Recov. ± CI(99%)	100,4 ± 3,5	100,4 ± 3,5	%
SD between labs	0,0077	0,0077	mg/l
RSD between labs	5,1	5,1	%
n for calculation	18	18	

Result [mg/l]



Recovery [%]



# Sample N179B

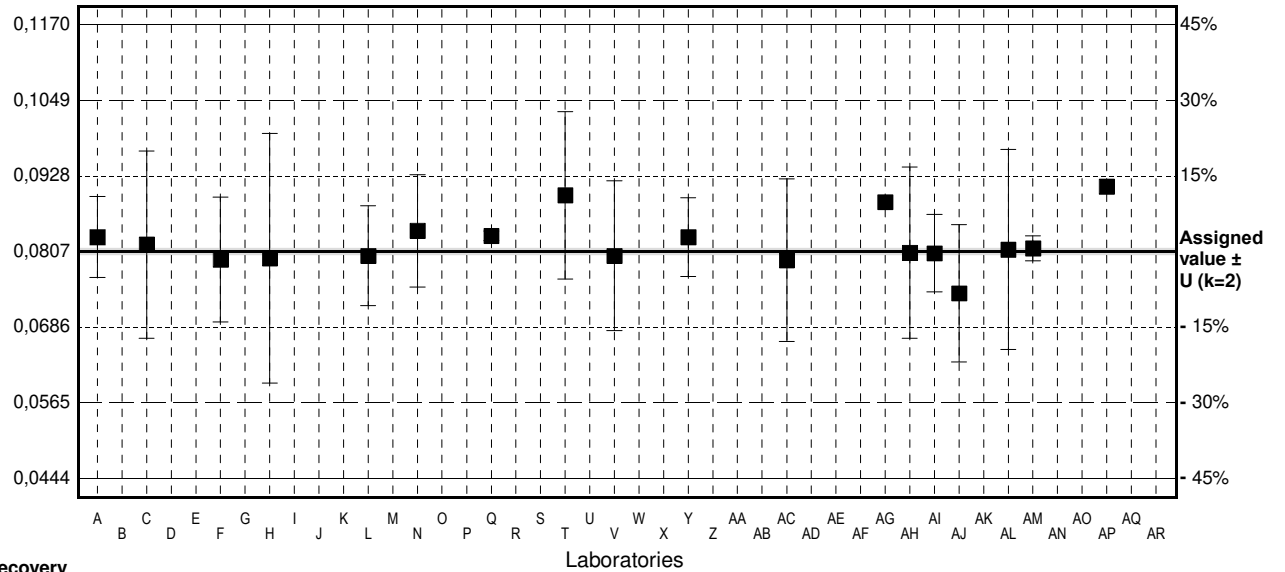
## Parameter Boron

Assigned value ± U (k=2) 0,0807 mg/l ± 0,0005 mg/l  
 IFA result ± U (k=2) 0,089 mg/l ± 0,008 mg/l  
 Stability test ± U (k=2) 0,087 mg/l ± 0,007 mg/l

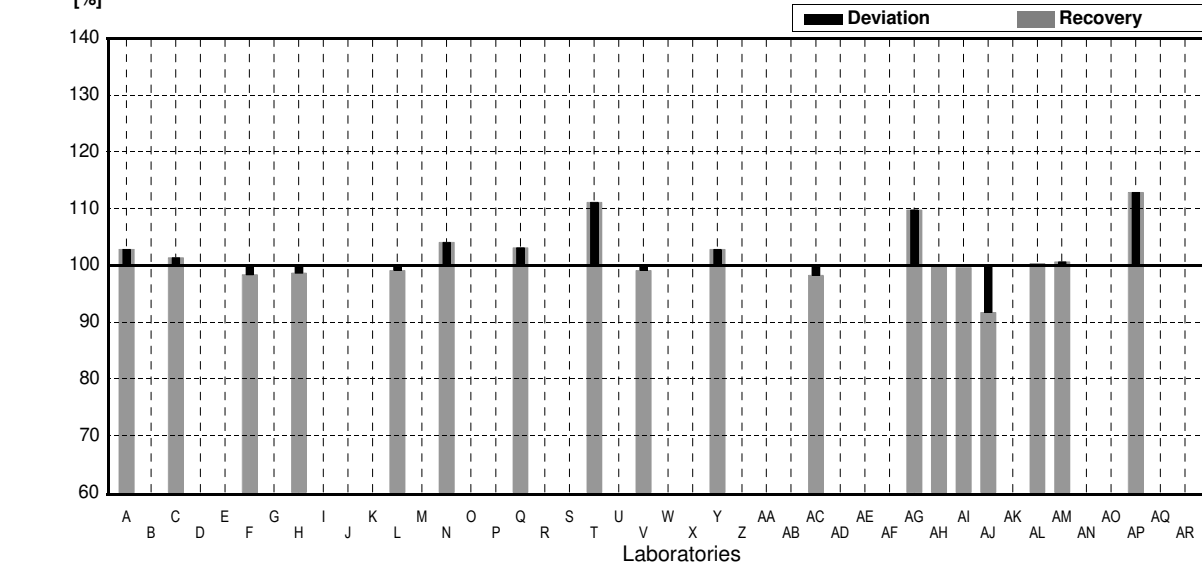
Lab Code	Result	±	Unit	Recovery	z-Score
A	0.083	0.0065	mg/l	103%	0.41
B			mg/l		
C	0.0818	0.015	mg/l	101%	0.19
D			mg/l		
E			mg/l		
F	0.0794	0.010	mg/l	98%	-0.23
G			mg/l		
H	0.0796	0.020	mg/l	99%	-0.19
I			mg/l		
J			mg/l		
K			mg/l		
L	0.080	0.008	mg/l	99%	-0.12
M			mg/l		
N	0.084	0.009	mg/l	104%	0.58
O			mg/l		
P			mg/l		
Q	0.0832	0.000774	mg/l	103%	0.44
R			mg/l		
S			mg/l		
T	0.0897 *	0.0134	mg/l	111%	1.59
U			mg/l		
V	0.080	0.0120	mg/l	99%	-0.12
W			mg/l		
X			mg/l		
Y	0.083	0.0063	mg/l	103%	0.41
Z			mg/l		
AA			mg/l		
AB			mg/l		
AC	0.0793	0.013	mg/l	98%	-0.25
AD			mg/l		
AE			mg/l		
AF			mg/l		
AG	0.0886		mg/l	110%	1.40
AH	0.0805	0.0137	mg/l	100%	-0.04
AI	0.0804	0.0062	mg/l	100%	-0.05
AJ	0.074	0.011	mg/l	92%	-1.19
AK			mg/l		
AL	0.081	0.016	mg/l	100%	0.05
AM	0.0812	0.002	mg/l	101%	0.09
AN			mg/l		
AO			mg/l		
AP	0.0911 *		mg/l	113%	1.84
AQ			mg/l		
AR			mg/l		

	All results	Outliers excl.	Unit
Mean ± CI(99%)	0,0822 ± 0,0028	0,0812 ± 0,0022	mg/l
Recov. ± CI(99%)	101,9 ± 3,5	100,6 ± 2,8	%
SD between labs	0,0041	0,0030	mg/l
RSD between labs	5,0	3,7	%
n for calculation	18	16	

Result [mg/l]



Recovery [%]



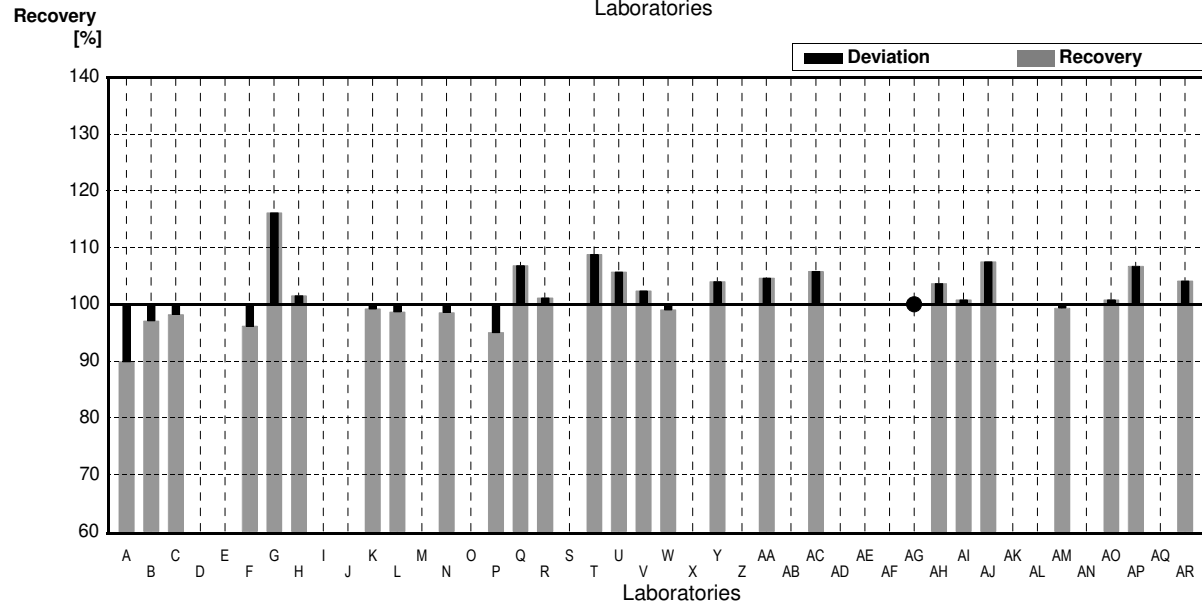
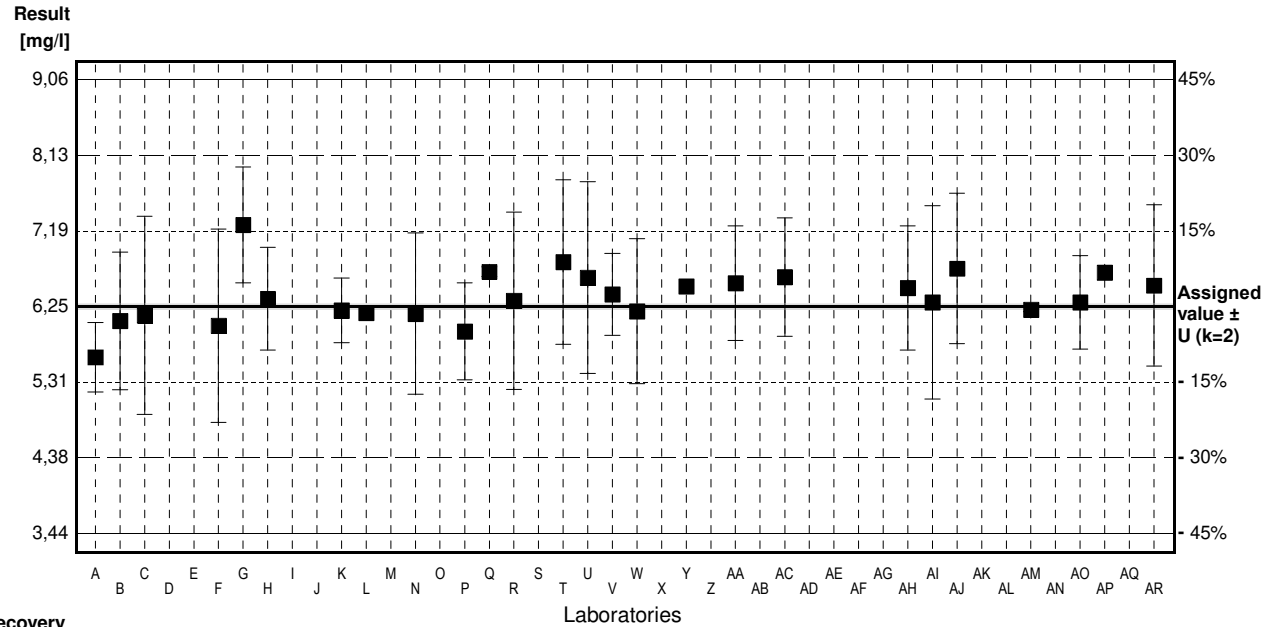
# Sample N179A

## Parameter DOC (as C)

Assigned value ± U (k=2) 6,25 mg/l ± 0,03 mg/l  
 IFA result ± U (k=2) 6,35 mg/l ± 0,11 mg/l  
 Stability test ± U (k=2) 6,38 mg/l ± 0,12 mg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	5.62	0.43	mg/l	90%	-1.87
B	6.07	0.854	mg/l	97%	-0.53
C	6.14	1.228	mg/l	98%	-0.33
D			mg/l		
E			mg/l		
F	6.01	1.2	mg/l	96%	-0.71
G	7.26	0.72	mg/l	116%	2.99
H	6.346	0.6364	mg/l	102%	0.28
I			mg/l		
J			mg/l		
K	6.2	0.4	mg/l	99%	-0.15
L	6.168		mg/l	99%	-0.24
M			mg/l		
N	6.16	1.00	mg/l	99%	-0.27
O			mg/l		
P	5.94	0.60	mg/l	95%	-0.92
Q	6.68	0.0608	mg/l	107%	1.27
R	6.32	1.10	mg/l	101%	0.21
S			mg/l		
T	6.80	1.02	mg/l	109%	1.63
U	6.607	1.189	mg/l	106%	1.06
V	6.40	0.51	mg/l	102%	0.44
W	6.19	0.90	mg/l	99%	-0.18
X			mg/l		
Y	6.5		mg/l	104%	0.74
Z			mg/l		
AA	6.54	0.71	mg/l	105%	0.86
AB			mg/l		
AC	6.614	0.734	mg/l	106%	1.08
AD			mg/l		
AE			mg/l		
AF			mg/l		
AG	<10		mg/l	-	
AH	6.48	0.77	mg/l	104%	0.68
AI	6.3	1.2	mg/l	101%	0.15
AJ	6.72	0.934	mg/l	108%	1.39
AK			mg/l		
AL			mg/l		
AM	6.21	0.026	mg/l	99%	-0.12
AN			mg/l		
AO	6.3	0.58	mg/l	101%	0.15
AP	6.67		mg/l	107%	1.24
AQ			mg/l		
AR	6.51	1	mg/l	104%	0.77

	All results	Outliers excl.	Unit
Mean ± CI(99%)	6,38 ± 0,16	6,34 ± 0,16	mg/l
Recov. ± CI(99%)	102,0 ± 2,9	101,4 ± 2,5	%
SD between labs	0,33	0,28	mg/l
RSD between labs	5,1	4,4	%
n for calculation	26	25	



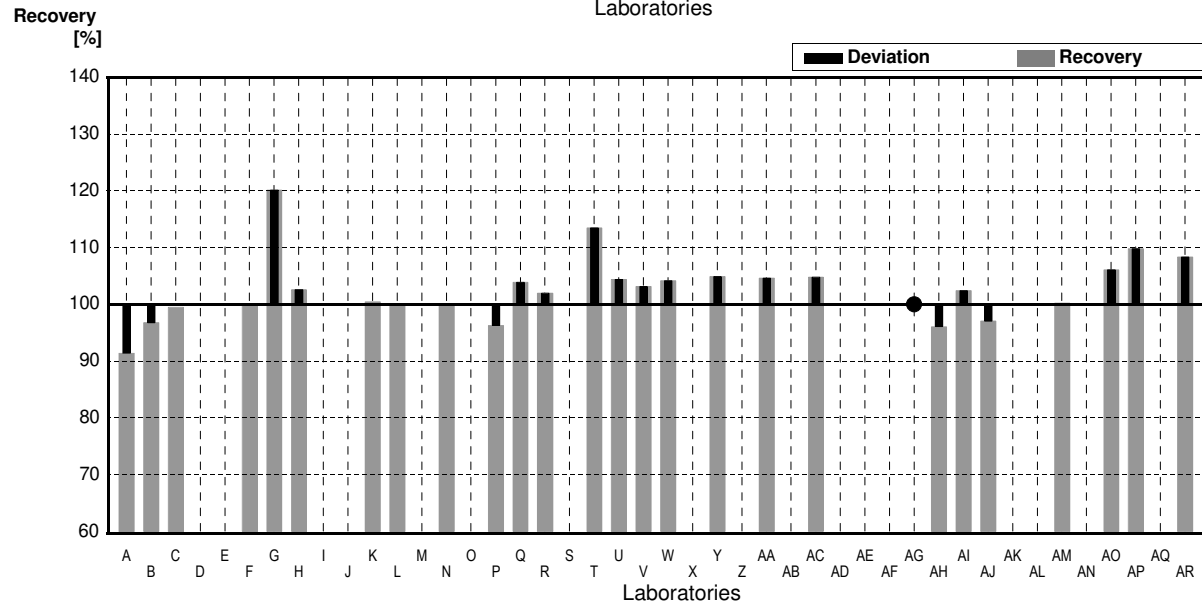
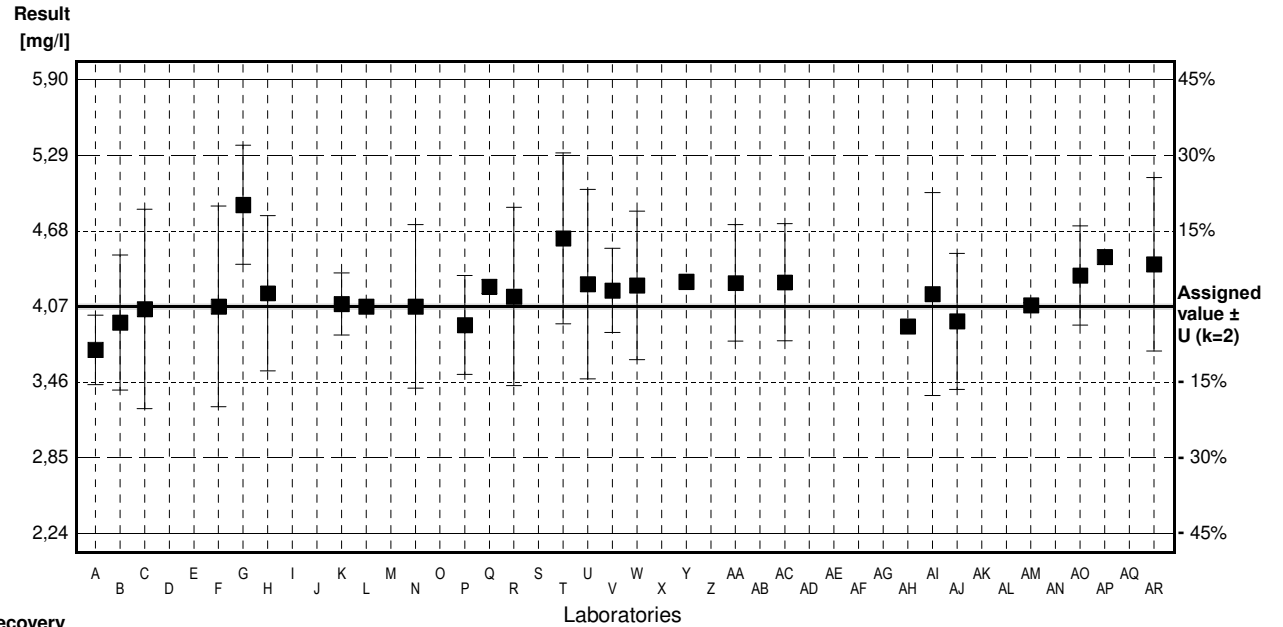
# Sample N179B

## Parameter DOC (as C)

Assigned value ± U (k=2) 4,07 mg/l ± 0,02 mg/l  
 IFA result ± U (k=2) 4,23 mg/l ± 0,09 mg/l  
 Stability test ± U (k=2) 4,28 mg/l ± 0,09 mg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	3,72	0,28	mg/l	91%	-1,59
B	3,94	0,546	mg/l	97%	-0,59
C	4,05	0,804	mg/l	100%	-0,09
D			mg/l		
E			mg/l		
F	4,07	0,81	mg/l	100%	0,00
G	4,89	0,48	mg/l	120%	3,73
H	4,177	0,6265	mg/l	103%	0,49
I			mg/l		
J			mg/l		
K	4,09	0,25	mg/l	100%	0,09
L	4,07		mg/l	100%	0,00
M			mg/l		
N	4,07	0,66	mg/l	100%	0,00
O			mg/l		
P	3,92	0,40	mg/l	96%	-0,68
Q	4,23	0,0549	mg/l	104%	0,73
R	4,15	0,72	mg/l	102%	0,36
S			mg/l		
T	4,62	0,69	mg/l	114%	2,50
U	4,250	0,765	mg/l	104%	0,82
V	4,20	0,34	mg/l	103%	0,59
W	4,24	0,60	mg/l	104%	0,77
X			mg/l		
Y	4,27		mg/l	105%	0,91
Z			mg/l		
AA	4,26	0,47	mg/l	105%	0,86
AB			mg/l		
AC	4,2653	0,473	mg/l	105%	0,89
AD			mg/l		
AE			mg/l		
AF			mg/l		
AG	<10		mg/l	*	
AH	3,91		mg/l	96%	-0,73
AI	4,17	0,82	mg/l	102%	0,46
AJ	3,95	0,549	mg/l	97%	-0,55
AK			mg/l		
AL			mg/l		
AM	4,08	0,020	mg/l	100%	0,05
AN			mg/l		
AO	4,32	0,40	mg/l	106%	1,14
AP	4,47		mg/l	110%	1,82
AQ			mg/l		
AR	4,41	0,7	mg/l	108%	1,55

	All results	Outliers excl.	Unit
Mean ± CI(99%)	4,18 ± 0,13	4,16 ± 0,11	mg/l
Recov. ± CI(99%)	102,8 ± 3,2	102,1 ± 2,7	%
SD between labs	0,24	0,19	mg/l
RSD between labs	5,7	4,7	%
n for calculation	26	25	



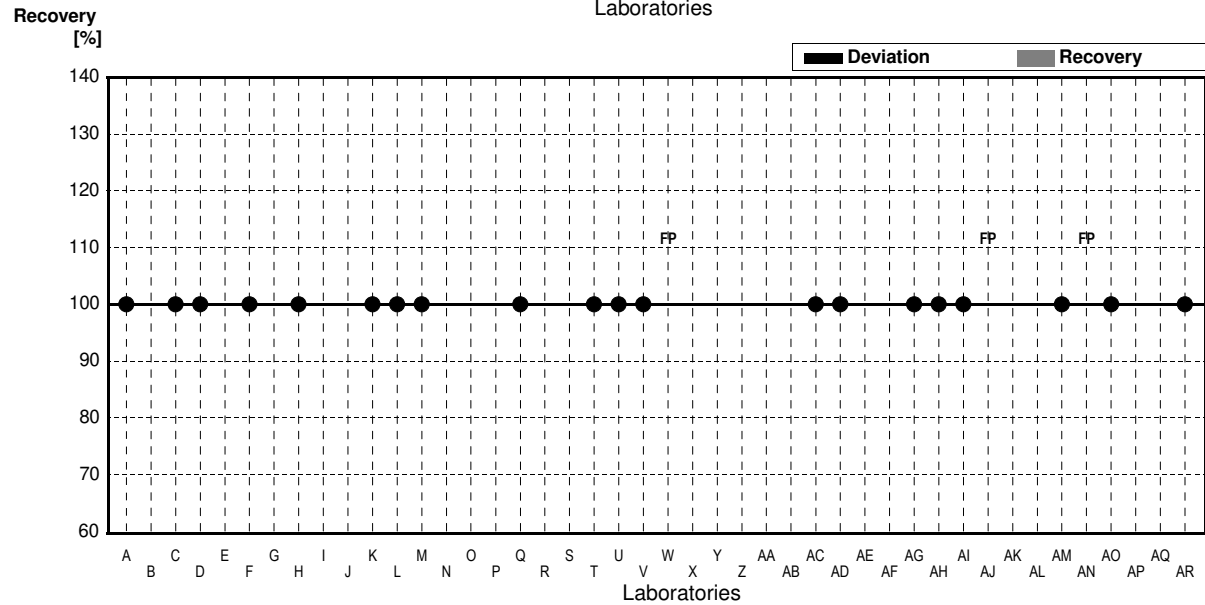
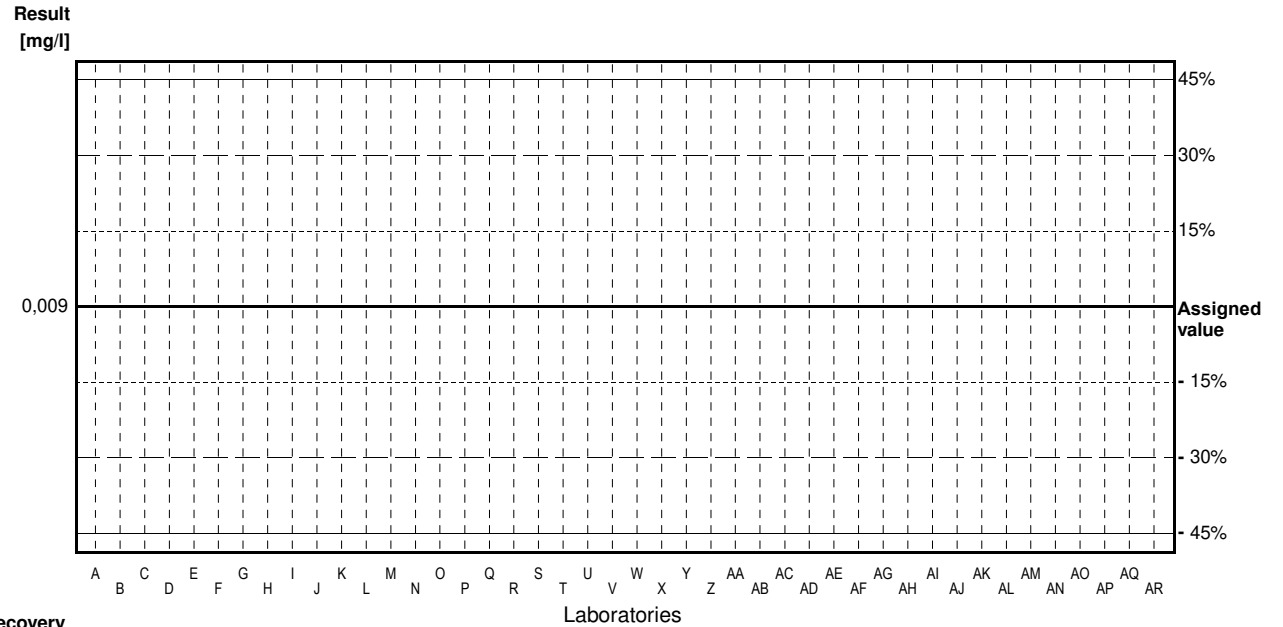
# Sample N179A

## Parameter Total P (as PO4)

Assigned value <0,009 mg/l  
 IFA result <0,009 mg/l  
 Stability test <0,009 mg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	<0.001	0.0001	mg/l	•	
B			mg/l		
C	<0.01		mg/l	•	
D	<0.02		mg/l	•	
E			mg/l		
F	<0.015		mg/l	•	
G			mg/l		
H	<0.009		mg/l	•	
I			mg/l		
J			mg/l		
K	<0.009		mg/l	•	
L	<0.006		mg/l	•	
M	<0.006		mg/l	•	
N			mg/l		
O			mg/l		
P			mg/l		
Q	<0.015		mg/l	•	
R			mg/l		
S			mg/l		
T	<0.011		mg/l	•	
U	<0.015		mg/l	•	
V	<0.015		mg/l	•	
W	0.0092		mg/l	FP	
X			mg/l		
Y			mg/l		
Z			mg/l		
AA			mg/l		
AB			mg/l		
AC	<0.0153		mg/l	•	
AD	0.0090	0.05	mg/l	•	
AE			mg/l		
AF			mg/l		
AG	<0.15		mg/l	•	
AH	<0.030		mg/l	•	
AI	<0.010		mg/l	•	
AJ	0.0161	0.0024	mg/l	FP	
AK			mg/l		
AL			mg/l		
AM	<0.009		mg/l	•	
AN	0.0537	0.0099	mg/l	FP	
AO	<0.01		mg/l	•	
AP			mg/l		
AQ			mg/l		
AR	<0.013		mg/l	•	

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



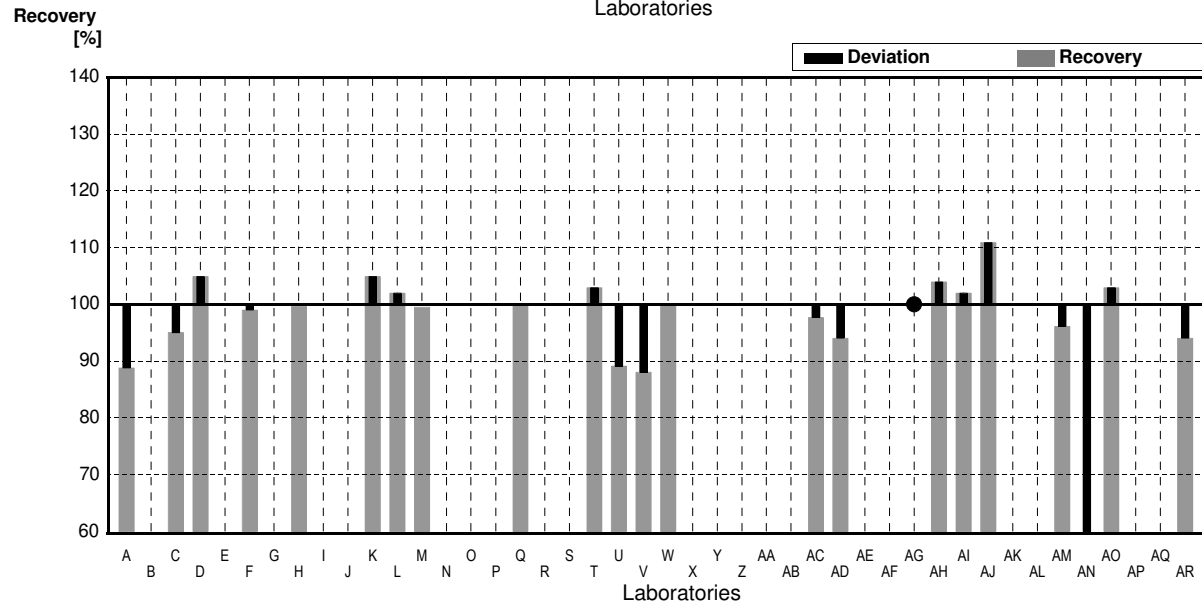
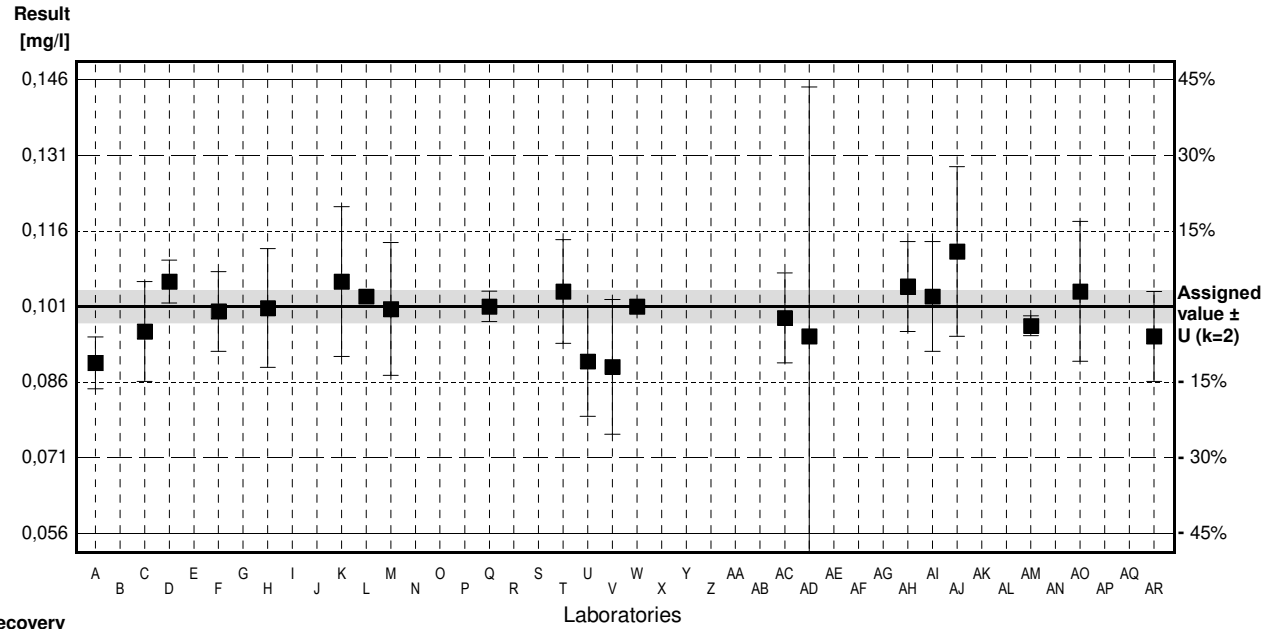
# Sample N179B

## Parameter Total P (as PO4)

Assigned value  $\pm U$  (k=2) 0,101 mg/l  $\pm$  0,003 mg/l  
 IFA result  $\pm U$  (k=2) 0,117 mg/l  $\pm$  0,021 mg/l  
 Stability test  $\pm U$  (k=2) 0,117 mg/l  $\pm$  0,021 mg/l

Lab Code	Result	$\pm$	Unit	Recovery	z-Score
A	0.0897	0.0052	mg/l	89%	-1.30
B			mg/l		
C	0.0960	0.01	mg/l	95%	-0.58
D	0.106	0.0043	mg/l	105%	0.58
E			mg/l		
F	0.100	0.0080	mg/l	99%	-0.12
G			mg/l		
H	0.1007	0.0119	mg/l	100%	-0.03
I			mg/l		
J			mg/l		
K	0.106	0.015	mg/l	105%	0.58
L	0.103		mg/l	102%	0.23
M	0.1005	0.0133	mg/l	100%	-0.06
N			mg/l		
O			mg/l		
P			mg/l		
Q	0.101	0.00305	mg/l	100%	0.00
R			mg/l		
S			mg/l		
T	0.104	0.0104	mg/l	103%	0.35
U	0.090	0.011	mg/l	89%	-1.27
V	0.0889	0.0135	mg/l	88%	-1.39
W	0.101		mg/l	100%	0.00
X			mg/l		
Y			mg/l		
Z			mg/l		
AA			mg/l		
AB			mg/l		
AC	0.0987	0.009	mg/l	98%	-0.26
AD	0.095	0.05	mg/l	94%	-0.69
AE			mg/l		
AF			mg/l		
AG	<0.15		mg/l	*	
AH	0.105	0.009	mg/l	104%	0.46
AI	0.103	0.011	mg/l	102%	0.23
AJ	0.112	0.017	mg/l	111%	1.27
AK			mg/l		
AL			mg/l		
AM	0.0971	0.002	mg/l	96%	-0.45
AN	0.0425 *	0.0079	mg/l	42%	-6.73
AO	0.104	0.014	mg/l	103%	0.35
AP			mg/l		
AQ			mg/l		
AR	0.095	0.009	mg/l	94%	-0.69

	All results	Outliers excl.	Unit
Mean $\pm$ CI(99%)	0,097 $\pm$ 0,008	0,100 $\pm$ 0,004	mg/l
Recov. $\pm$ CI(99%)	96,3 $\pm$ 8,1	98,8 $\pm$ 3,6	%
SD between labs	0,014	0,006	mg/l
RSD between labs	13,9	5,9	%
n for calculation	22	21	



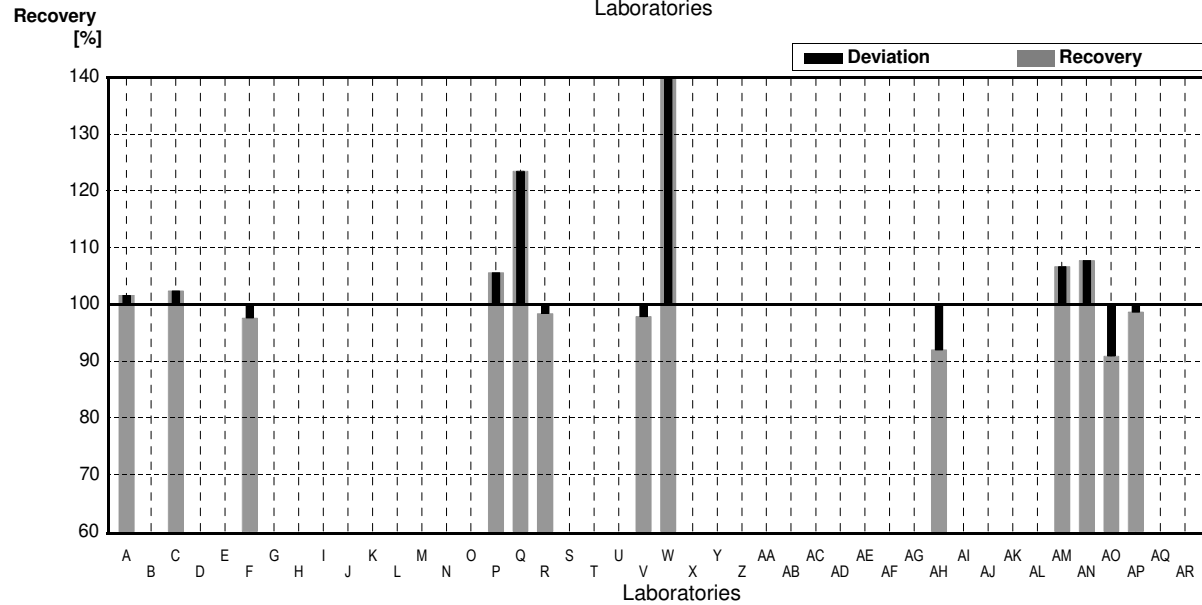
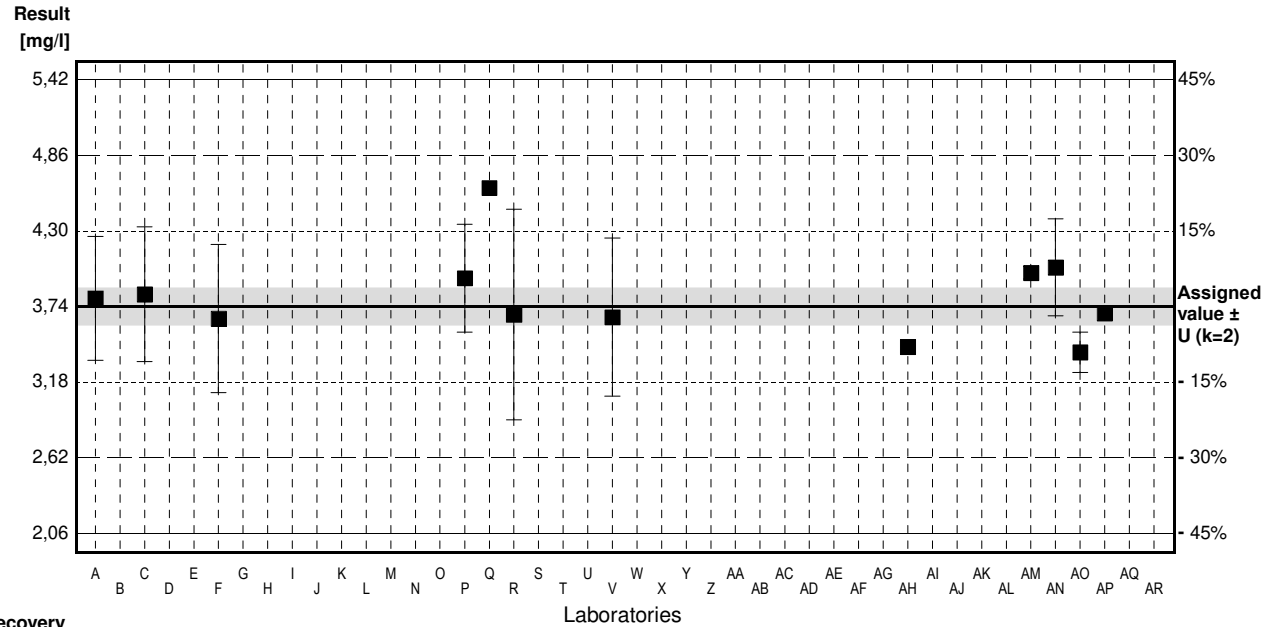
# Sample N179A

## Parameter KMnO4-Index (as O2)

Assigned value ± U (k=2) 3,74 mg/l ± 0,14 mg/l  
 IFA result ± U (k=2) 3,80 mg/l ± 0,38 mg/l  
 Stability test ± U (k=2) 3,87 mg/l ± 0,39 mg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	3.80	0.46	mg/l	102%	0.20
B			mg/l		
C	3.83	0.5	mg/l	102%	0.30
D			mg/l		
E			mg/l		
F	3.65	0.55	mg/l	98%	-0.30
G			mg/l		
H			mg/l		
I			mg/l		
J			mg/l		
K			mg/l		
L			mg/l		
M			mg/l		
N			mg/l		
O			mg/l		
P	3.95	0.40	mg/l	106%	0.69
Q	4.62 *		mg/l	124%	2.90
R	3.68	0.78	mg/l	98%	-0.20
S			mg/l		
T			mg/l		
U			mg/l		
V	3.66	0.586	mg/l	98%	-0.26
W	14.72 *	1.77	mg/l	394%	36.24
X			mg/l		
Y			mg/l		
Z			mg/l		
AA			mg/l		
AB			mg/l		
AC			mg/l		
AD			mg/l		
AE			mg/l		
AF			mg/l		
AG			mg/l		
AH	3.44		mg/l	92%	-0.99
AI			mg/l		
AJ			mg/l		
AK			mg/l		
AL			mg/l		
AM	3.99	0,047	mg/l	107%	0.83
AN	4.03	0.36	mg/l	108%	0.96
AO	3.40	0.15	mg/l	91%	-1.12
AP	3.69		mg/l	99%	-0.17
AQ			mg/l		
AR			mg/l		

	All results	Outliers excl.	Unit
Mean ± CI(99%)	4,65 ± 2,57	3,74 ± 0,20	mg/l
Recov. ± CI(99%)	124,4 ± 68,8	100,0 ± 5,3	%
SD between labs	3,04	0,21	mg/l
RSD between labs	65,4	5,5	%
n for calculation	13	11	



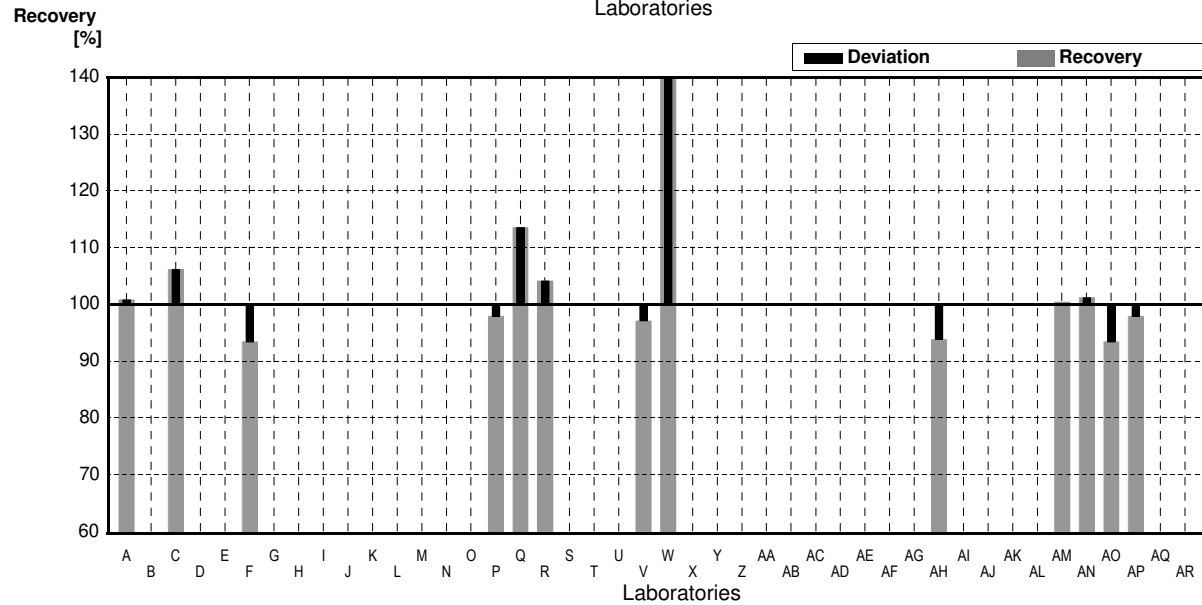
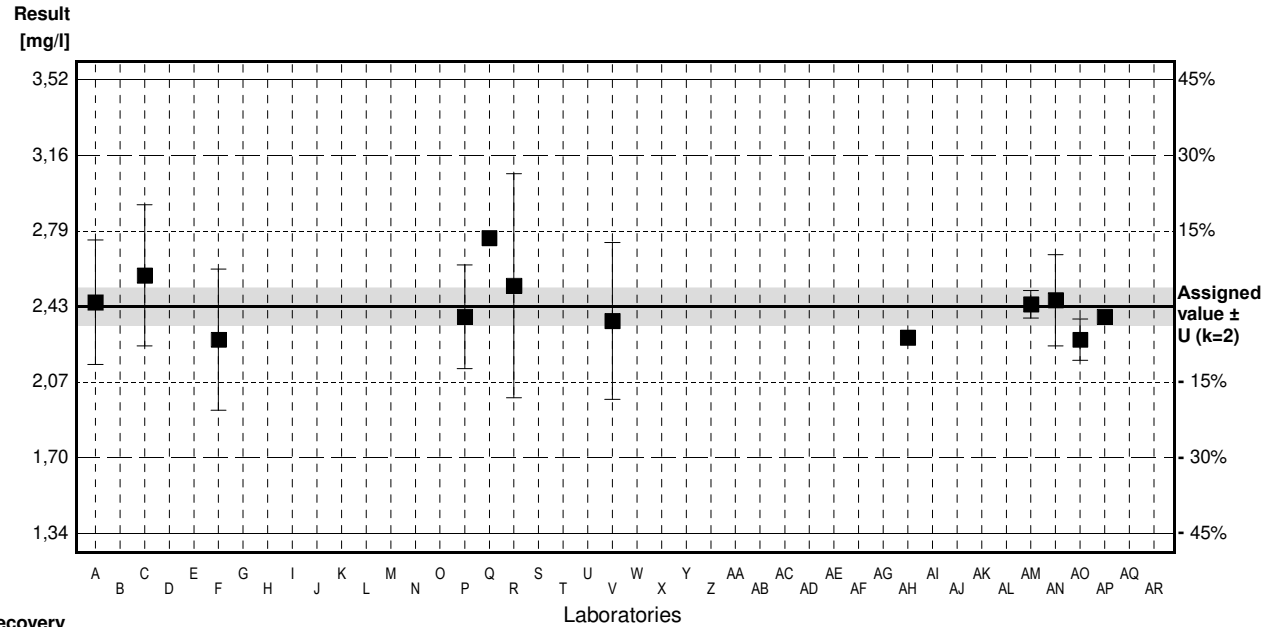
# Sample N179B

## Parameter KMnO4-Index (as O2)

Assigned value ± U (k=2) 2,43 mg/l ± 0,09 mg/l  
 IFA result ± U (k=2) 2,48 mg/l ± 0,25 mg/l  
 Stability test ± U (k=2) 2,55 mg/l ± 0,25 mg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	2,45	0,30	mg/l	101%	0,10
B			mg/l		
C	2,58	0,34	mg/l	106%	0,76
D			mg/l		
E			mg/l		
F	2,27	0,34	mg/l	93%	-0,81
G			mg/l		
H			mg/l		
I			mg/l		
J			mg/l		
K			mg/l		
L			mg/l		
M			mg/l		
N			mg/l		
O			mg/l		
P	2,38	0,25	mg/l	98%	-0,25
Q	2,76		mg/l	114%	1,68
R	2,53	0,54	mg/l	104%	0,51
S			mg/l		
T			mg/l		
U			mg/l		
V	2,36	0,378	mg/l	97%	-0,36
W	9,53 *	1,14	mg/l	392%	36,07
X			mg/l		
Y			mg/l		
Z			mg/l		
AA			mg/l		
AB			mg/l		
AC			mg/l		
AD			mg/l		
AE			mg/l		
AF			mg/l		
AG			mg/l		
AH	2,28		mg/l	94%	-0,76
AI			mg/l		
AJ			mg/l		
AK			mg/l		
AL			mg/l		
AM	2,44	0,066	mg/l	100%	0,05
AN	2,46	0,22	mg/l	101%	0,15
AO	2,27	0,10	mg/l	93%	-0,81
AP	2,38		mg/l	98%	-0,25
AQ			mg/l		
AR			mg/l		

	All results	Outliers excl.	Unit
Mean ± CI(99%)	2,98 ± 1,67	2,43 ± 0,13	mg/l
Recov. ± CI(99%)	122,5 ± 68,7	100,0 ± 5,3	%
SD between labs	1,97	0,14	mg/l
RSD between labs	66,3	5,9	%
n for calculation	13	12	







# **Labororientierte Auswertung**

## **Laboratory Oriented Part**

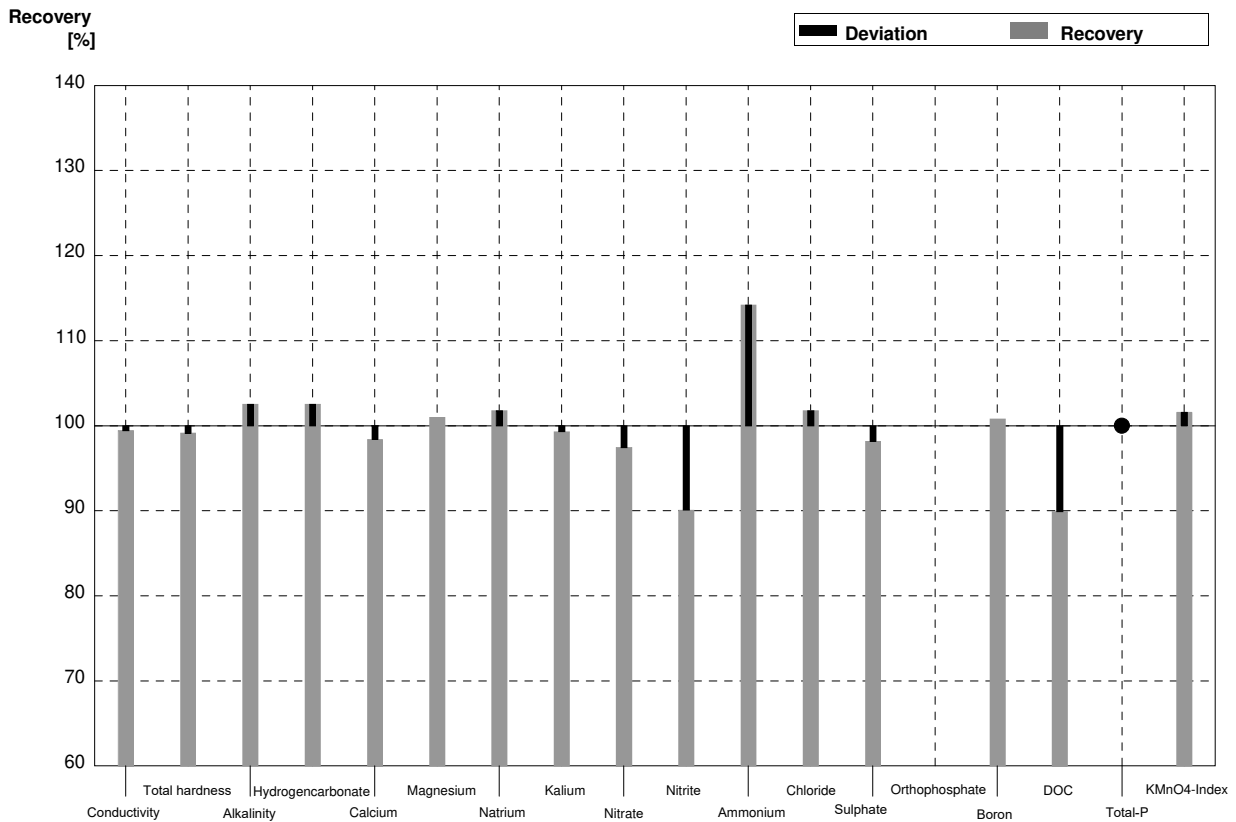
Eignungsprüfungsrunde / Proficiency testing round  
N179

Nährstoffe  
Major Ions

Versand / Dispatch: 10.11.2025

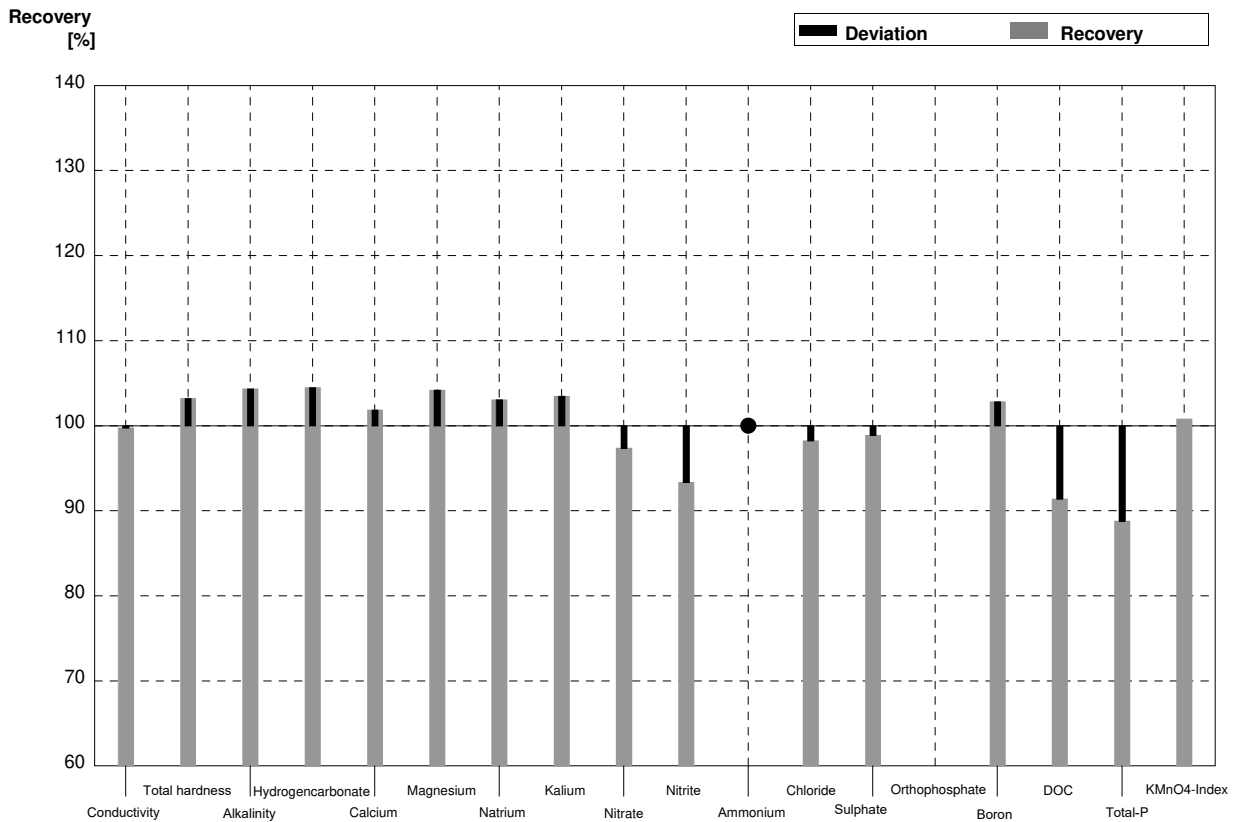
**Sample N179A**  
**Laboratory A**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	524	53	µS/cm	99%
Total hardness	2,32	0,02	2,30	0,32	mmol/l	99%
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,84	0,17	mmol/l	103%
Hydrogen carbonate	166	2	170,23	31,3	mg/l	103%
Calcium	69,9	0,9	68,8	2,2	mg/l	98%
Magnesium	14,06	0,16	14,2	1,4	mg/l	101%
Sodium	11,2	0,5	11,4	1,0	mg/l	102%
Potassium	5,86	0,04	5,82	0,9	mg/l	99%
Nitrate (as NO3)	31,6	0,9	30,8	2,81	mg/l	97%
Nitrite (as NO2)	0,0303	0,0010	0,0273	0,005	mg/l	90%
Ammonium (as NH4)	0,0394	0,0039	0,0450	0,012	mg/l	114%
Chloride	33,8	0,6	34,4	2,51	mg/l	102%
Sulphate (as SO4)	49,4	0,6	48,5	3,00	mg/l	98%
Orthophosphate (as PO4)	<0,009				mg/l	
Boron	0,1508	0,0012	0,152	0,015	mg/l	101%
DOC (as C)	6,25	0,03	5,62	0,43	mg/l	90%
Total P (as PO4)	<0,009		<0,001	0,0001	mg/l	•
KMnO4-Index (as O2)	3,74	0,14	3,80	0,46	mg/l	102%



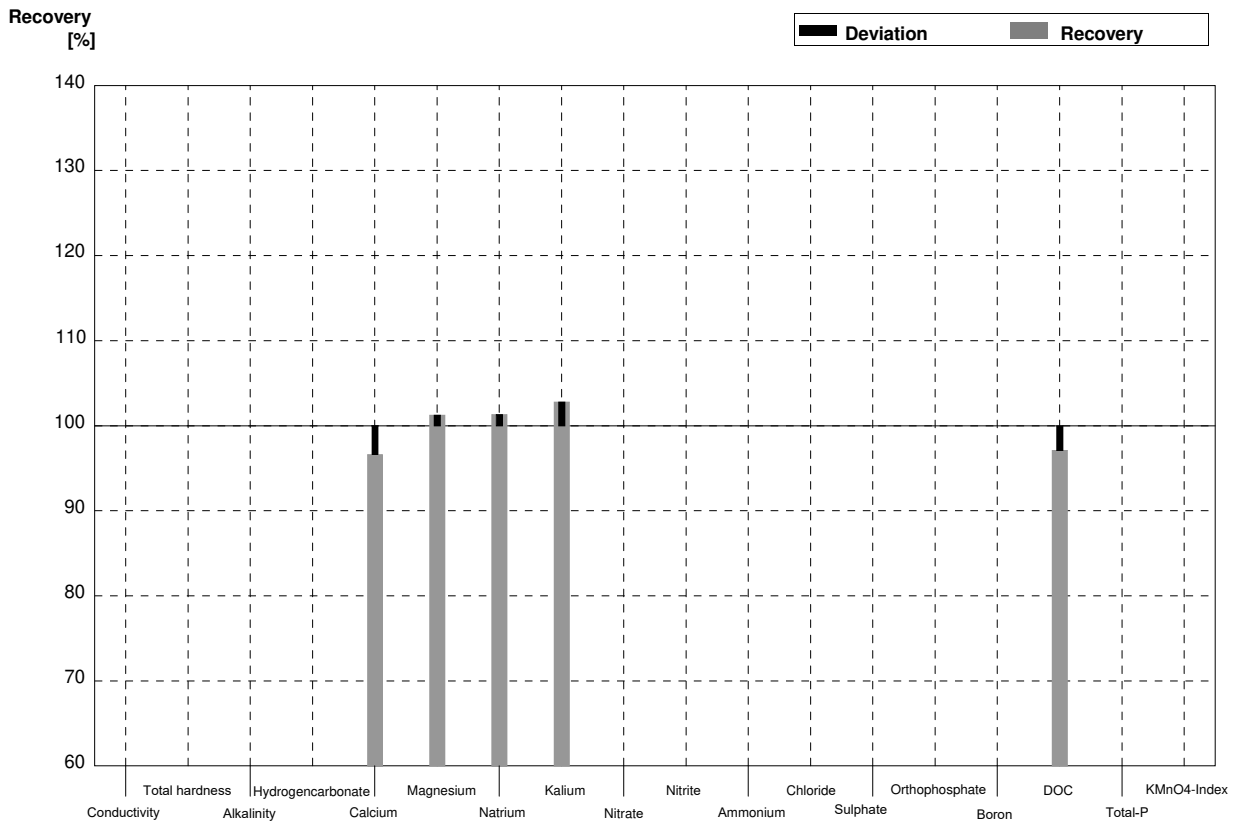
**Sample N179B**  
**Laboratory A**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	412	41	µS/cm	100%
Total hardness	0,988	0,012	1,02	0,14	mmol/l	103%
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,17	0,13	mmol/l	104%
Hydrogen carbonate	123,8	1,1	129,35	23,8	mg/l	104%
Calcium	21,6	0,4	22,0	0,7	mg/l	102%
Magnesium	10,94	0,15	11,4	1,2	mg/l	104%
Sodium	42,2	0,4	43,5	4,0	mg/l	103%
Potassium	7,78	0,05	8,05	1,2	mg/l	103%
Nitrate (as NO3)	61,1	1,3	59,5	5,46	mg/l	97%
Nitrite (as NO2)	0,0557	0,0012	0,0520	0,01	mg/l	93%
Ammonium (as NH4)	<0,01		<0,01	0,001	mg/l	•
Chloride	20,46	0,12	20,1	1,47	mg/l	98%
Sulphate (as SO4)	17,8	0,2	17,6	1,09	mg/l	99%
Orthophosphate (as PO4)	0,0455	0,0042			mg/l	
Boron	0,0807	0,0005	0,083	0,0065	mg/l	103%
DOC (as C)	4,07	0,02	3,72	0,28	mg/l	91%
Total P (as PO4)	0,101	0,003	0,0897	0,0052	mg/l	89%
KMnO4-Index (as O2)	2,43	0,09	2,45	0,30	mg/l	101%



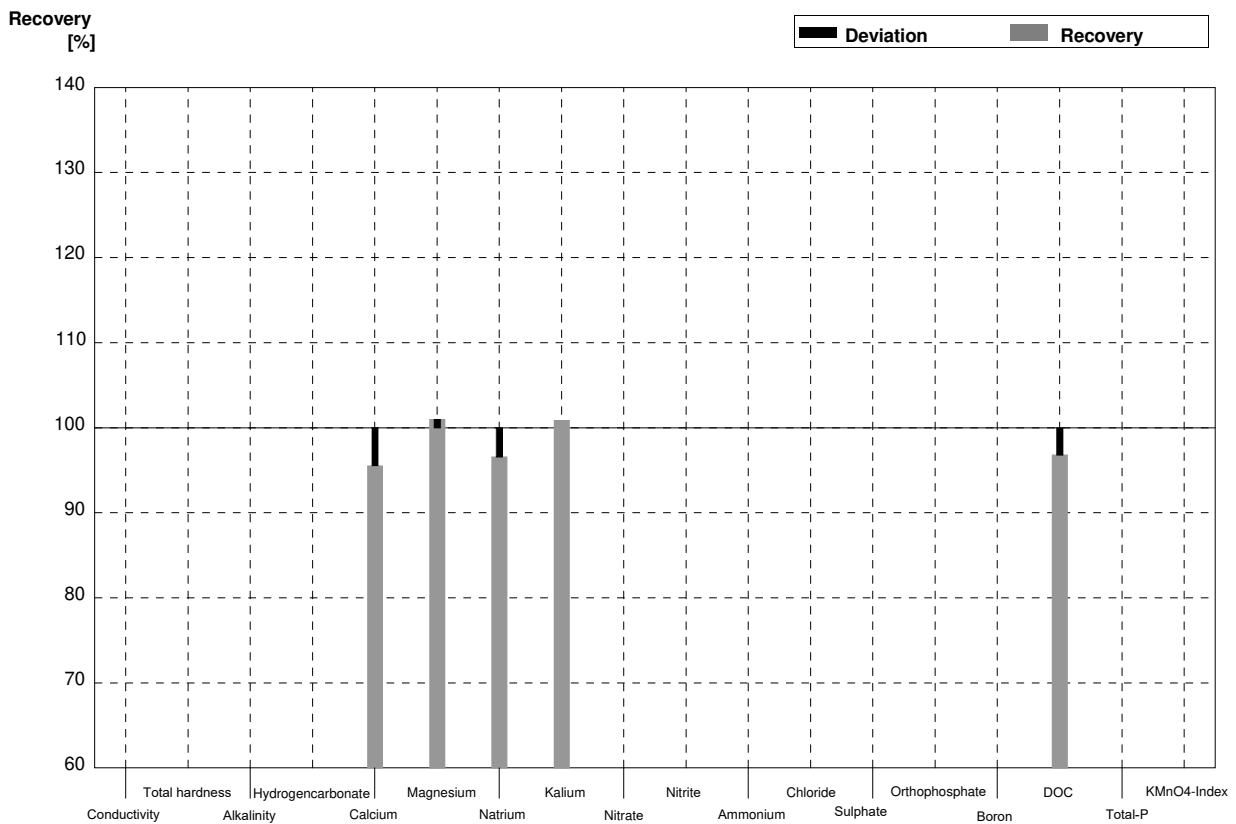
**Sample N179A**  
**Laboratory B**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2			µS/cm	
Total hardness	2,32	0,02			mmol/l	
Alkalinity KS 4,3 (as H+)	2,77	0,04			mmol/l	
Hydrogen carbonate	166	2			mg/l	
Calcium	69,9	0,9	67,56	8,788	mg/l	97%
Magnesium	14,06	0,16	14,24	1,562	mg/l	101%
Sodium	11,2	0,5	11,35	0,684	mg/l	101%
Potassium	5,86	0,04	6,024	0,72	mg/l	103%
Nitrate (as NO3)	31,6	0,9			mg/l	
Nitrite (as NO2)	0,0303	0,0010			mg/l	
Ammonium (as NH4)	0,0394	0,0039			mg/l	
Chloride	33,8	0,6			mg/l	
Sulphate (as SO4)	49,4	0,6			mg/l	
Orthophosphate (as PO4)	<0,009				mg/l	
Boron	0,1508	0,0012			mg/l	
DOC (as C)	6,25	0,03	6,07	0,854	mg/l	97%
Total P (as PO4)	<0,009				mg/l	
KMnO4-Index (as O2)	3,74	0,14			mg/l	



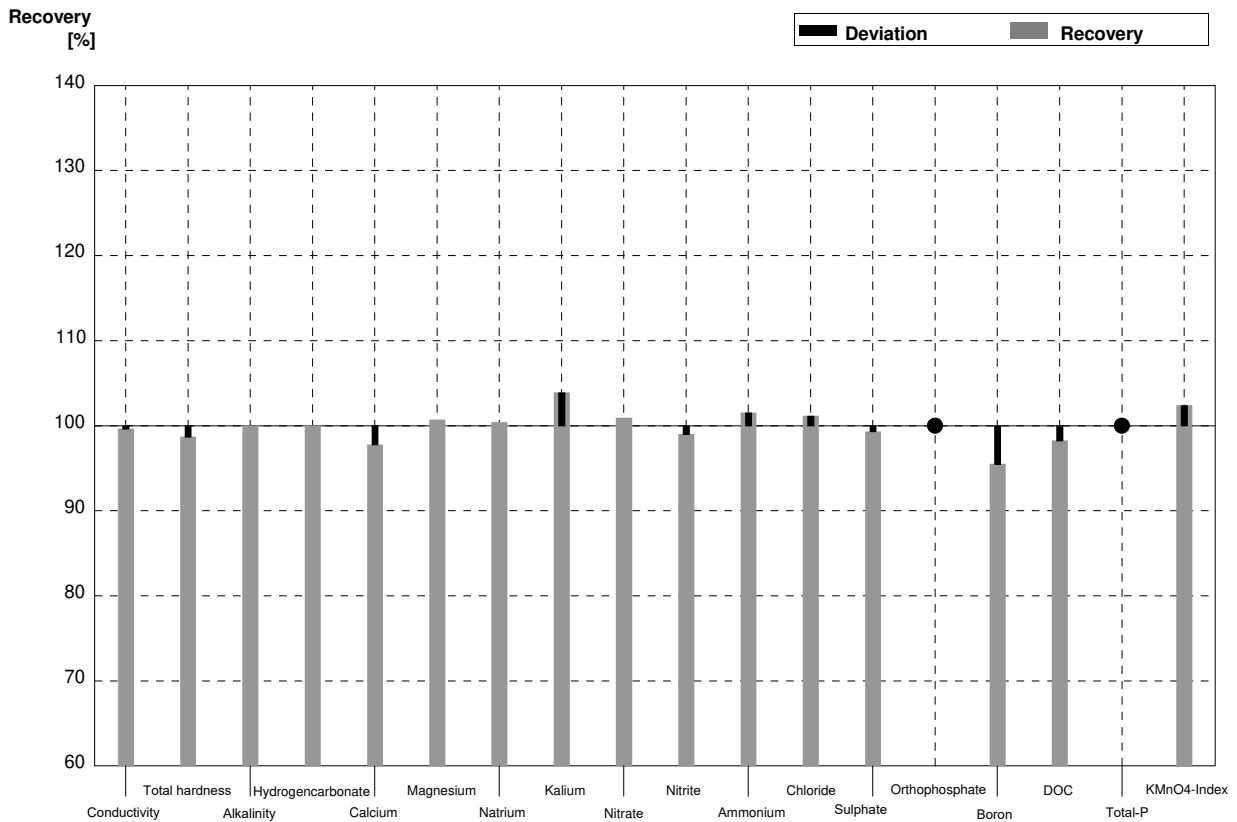
**Sample N179B**  
**Laboratory B**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1			µS/cm	
Total hardness	0,988	0,012			mmol/l	
Alkalinity KS 4,3 (as H+)	2,080	0,017			mmol/l	
Hydrogen carbonate	123,8	1,1			mg/l	
Calcium	21,6	0,4	20,64	2,678	mg/l	96%
Magnesium	10,94	0,15	11,05	1,221	mg/l	101%
Sodium	42,2	0,4	40,76	2,448	mg/l	97%
Potassium	7,78	0,05	7,848	0,936	mg/l	101%
Nitrate (as NO3)	61,1	1,3			mg/l	
Nitrite (as NO2)	0,0557	0,0012			mg/l	
Ammonium (as NH4)	<0,01				mg/l	
Chloride	20,46	0,12			mg/l	
Sulphate (as SO4)	17,8	0,2			mg/l	
Orthophosphate (as PO4)	0,0455	0,0042			mg/l	
Boron	0,0807	0,0005			mg/l	
DOC (as C)	4,07	0,02	3,94	0,546	mg/l	97%
Total P (as PO4)	0,101	0,003			mg/l	
KMnO4-Index (as O2)	2,43	0,09			mg/l	



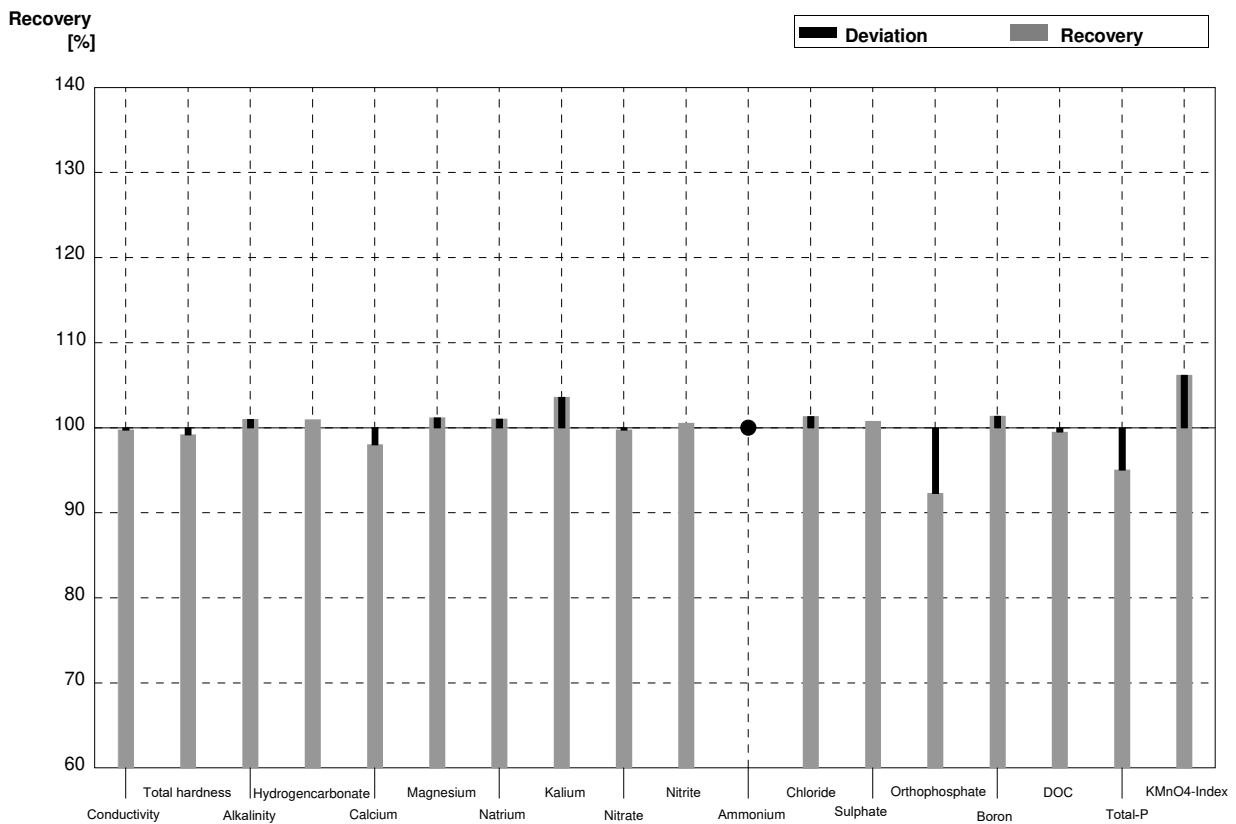
**Sample N179A**  
**Laboratory C**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	525	29,2	µS/cm	100%
Total hardness	2,32	0,02	2,29	0,126	mmol/l	99%
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,77	0,15	mmol/l	100%
Hydrogen carbonate	166	2	166	9,13	mg/l	100%
Calcium	69,9	0,9	68,349	3,76	mg/l	98%
Magnesium	14,06	0,16	14,158	0,496	mg/l	101%
Sodium	11,2	0,5	11,244	0,394	mg/l	100%
Potassium	5,86	0,04	6,089	0,213	mg/l	104%
Nitrate (as NO3)	31,6	0,9	31,89	2,42	mg/l	101%
Nitrite (as NO2)	0,0303	0,0010	0,0300	0,0030	mg/l	99%
Ammonium (as NH4)	0,0394	0,0039	0,0400	0,004	mg/l	102%
Chloride	33,8	0,6	34,18	3,42	mg/l	101%
Sulphate (as SO4)	49,4	0,6	49,06	4,22	mg/l	99%
Orthophosphate (as PO4)	<0,009		<0,01		mg/l	•
Boron	0,1508	0,0012	0,144	0,026	mg/l	95%
DOC (as C)	6,25	0,03	6,14	1,228	mg/l	98%
Total P (as PO4)	<0,009		<0,01		mg/l	•
KMnO4-Index (as O2)	3,74	0,14	3,83	0,5	mg/l	102%



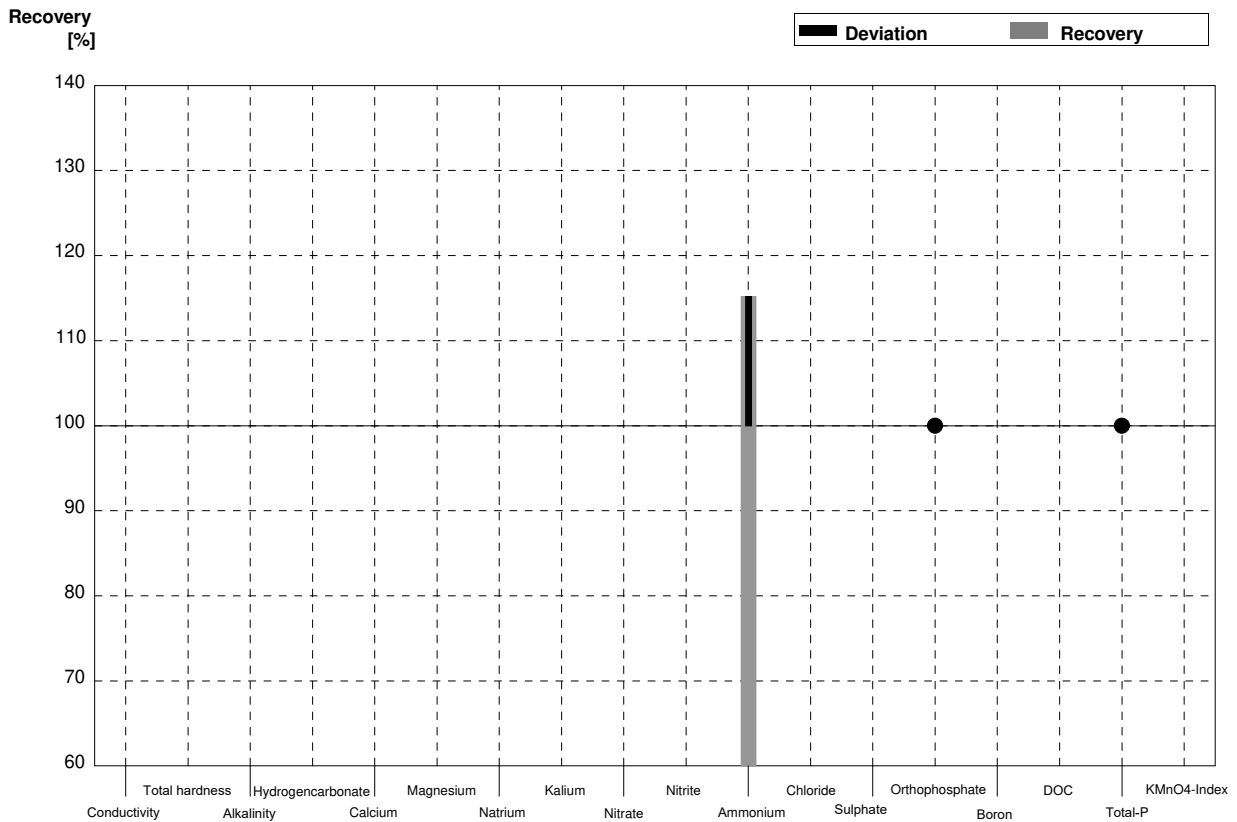
**Sample N179B**  
**Laboratory C**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	412	22,9	µS/cm	100%
Total hardness	0,988	0,012	0,98	0,054	mmol/l	99%
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,101	0,12	mmol/l	101%
Hydrogen carbonate	123,8	1,1	125	6,88	mg/l	101%
Calcium	21,6	0,4	21,173	1,163	mg/l	98%
Magnesium	10,94	0,15	11,071	0,388	mg/l	101%
Sodium	42,2	0,4	42,628	1,492	mg/l	101%
Potassium	7,78	0,05	8,059	0,282	mg/l	104%
Nitrate (as NO3)	61,1	1,3	60,95	4,63	mg/l	100%
Nitrite (as NO2)	0,0557	0,0012	0,0560	0,006	mg/l	101%
Ammonium (as NH4)	<0,01		<0,01		mg/l	•
Chloride	20,46	0,12	20,73	2,07	mg/l	101%
Sulphate (as SO4)	17,8	0,2	17,94	1,54	mg/l	101%
Orthophosphate (as PO4)	0,0455	0,0042	0,0420	0,004	mg/l	92%
Boron	0,0807	0,0005	0,0818	0,015	mg/l	101%
DOC (as C)	4,07	0,02	4,05	0,804	mg/l	100%
Total P (as PO4)	0,101	0,003	0,0960	0,01	mg/l	95%
KMnO4-Index (as O2)	2,43	0,09	2,58	0,34	mg/l	106%



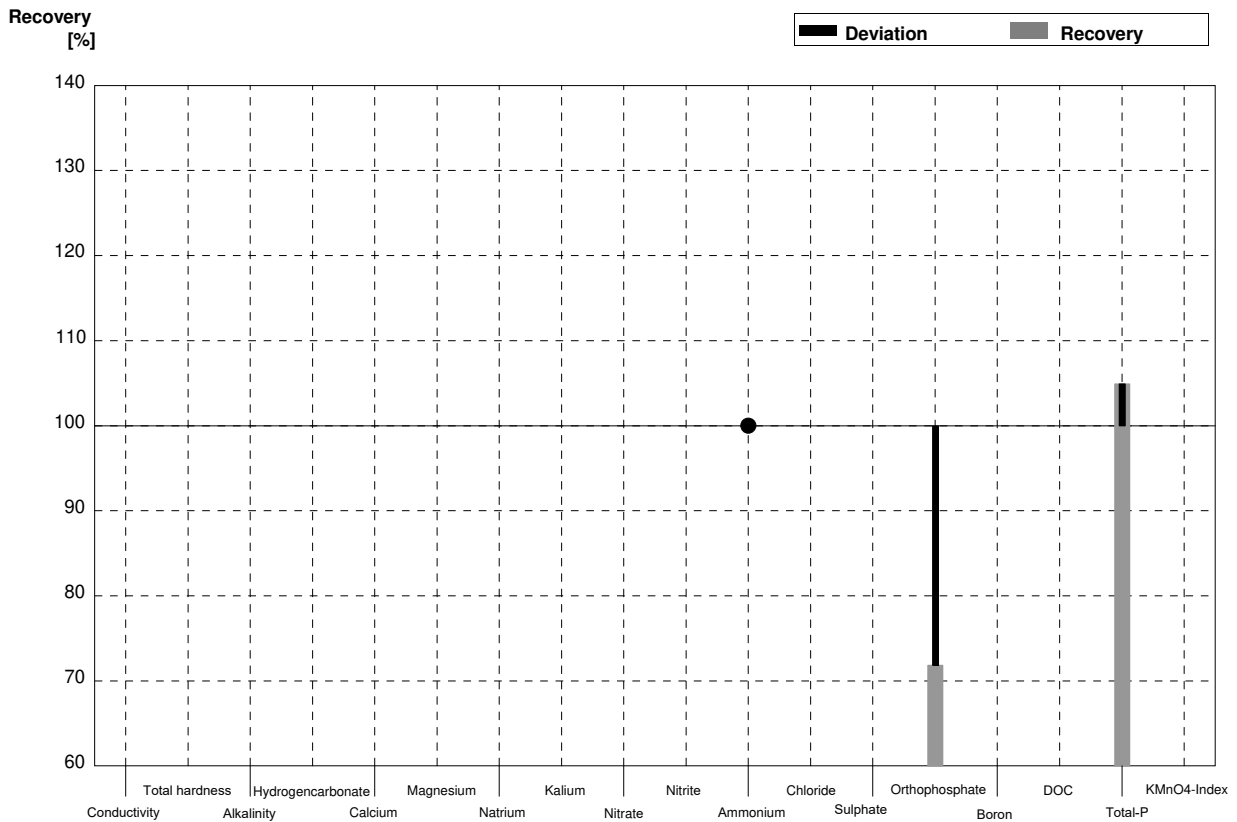
**Sample N179A**  
**Laboratory D**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2			µS/cm	
Total hardness	2,32	0,02			mmol/l	
Alkalinity KS 4,3 (as H+)	2,77	0,04			mmol/l	
Hydrogen carbonate	166	2			mg/l	
Calcium	69,9	0,9			mg/l	
Magnesium	14,06	0,16			mg/l	
Sodium	11,2	0,5			mg/l	
Potassium	5,86	0,04			mg/l	
Nitrate (as NO3)	31,6	0,9			mg/l	
Nitrite (as NO2)	0,0303	0,0010			mg/l	
Ammonium (as NH4)	0,0394	0,0039	0,0454	0,0059	mg/l	115%
Chloride	33,8	0,6			mg/l	
Sulphate (as SO4)	49,4	0,6			mg/l	
Orthophosphate (as PO4)	<0,009		<0,019		mg/l	•
Boron	0,1508	0,0012			mg/l	
DOC (as C)	6,25	0,03			mg/l	
Total P (as PO4)	<0,009		<0,02		mg/l	•
KMnO4-Index (as O2)	3,74	0,14			mg/l	



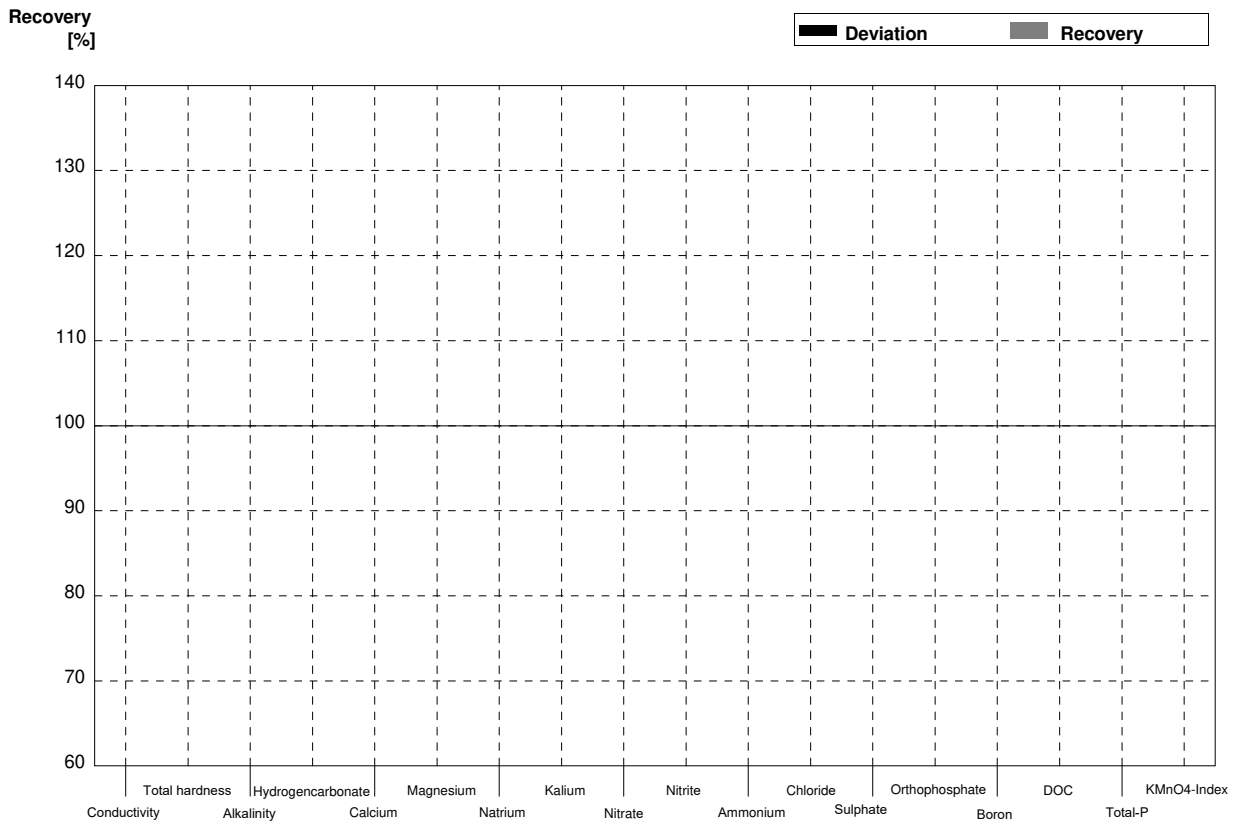
**Sample N179B**  
**Laboratory D**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1			µS/cm	
Total hardness	0,988	0,012			mmol/l	
Alkalinity KS 4,3 (as H+)	2,080	0,017			mmol/l	
Hydrogen carbonate	123,8	1,1			mg/l	
Calcium	21,6	0,4			mg/l	
Magnesium	10,94	0,15			mg/l	
Sodium	42,2	0,4			mg/l	
Potassium	7,78	0,05			mg/l	
Nitrate (as NO3)	61,1	1,3			mg/l	
Nitrite (as NO2)	0,0557	0,0012			mg/l	
Ammonium (as NH4)	<0,01		<0,01		mg/l	•
Chloride	20,46	0,12			mg/l	
Sulphate (as SO4)	17,8	0,2			mg/l	
Orthophosphate (as PO4)	0,0455	0,0042	0,0327	0,0094	mg/l	72%
Boron	0,0807	0,0005			mg/l	
DOC (as C)	4,07	0,02			mg/l	
Total P (as PO4)	0,101	0,003	0,106	0,0043	mg/l	105%
KMnO4-Index (as O2)	2,43	0,09			mg/l	



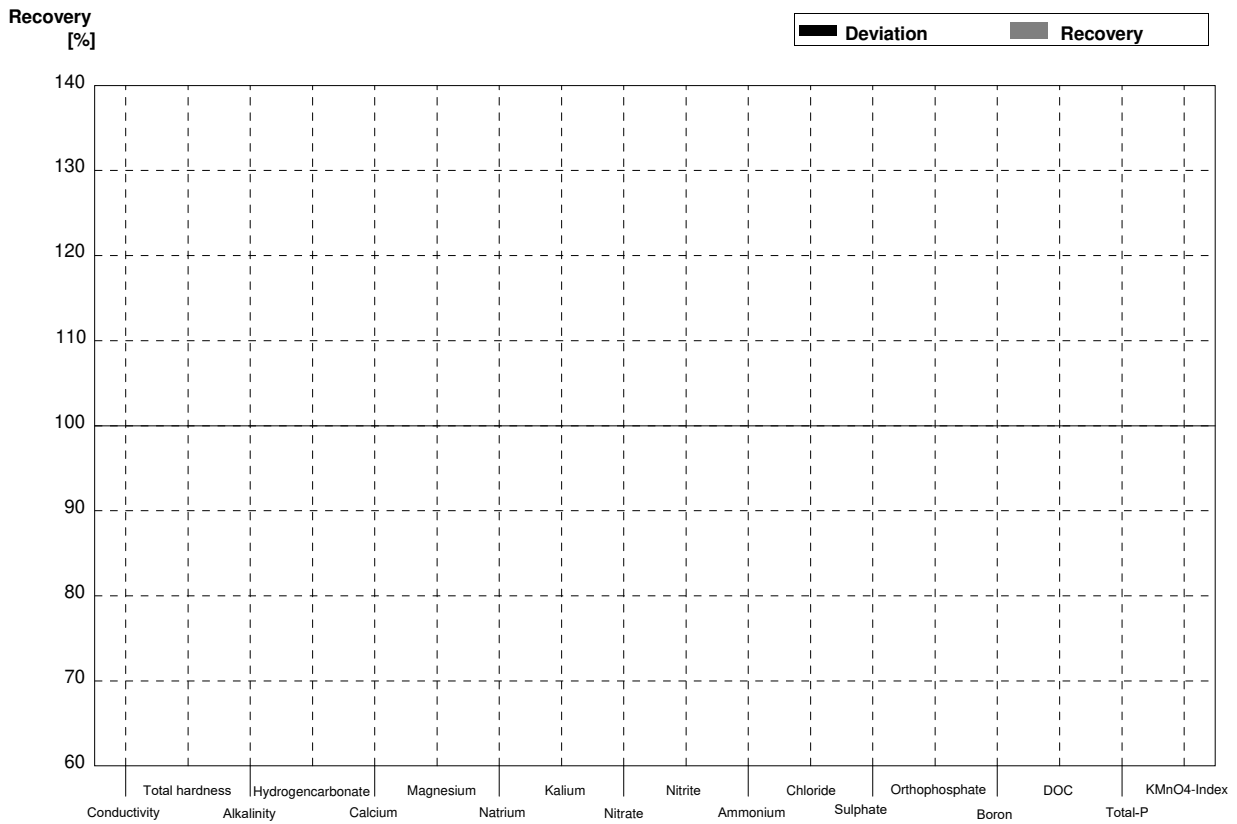
**Sample N179A**  
**Laboratory E**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2			µS/cm	
Total hardness	2,32	0,02			mmol/l	
Alkalinity KS 4,3 (as H+)	2,77	0,04			mmol/l	
Hydrogen carbonate	166	2			mg/l	
Calcium	69,9	0,9			mg/l	
Magnesium	14,06	0,16			mg/l	
Sodium	11,2	0,5			mg/l	
Potassium	5,86	0,04			mg/l	
Nitrate (as NO3)	31,6	0,9			mg/l	
Nitrite (as NO2)	0,0303	0,0010			mg/l	
Ammonium (as NH4)	0,0394	0,0039			mg/l	
Chloride	33,8	0,6			mg/l	
Sulphate (as SO4)	49,4	0,6			mg/l	
Orthophosphate (as PO4)	<0,009				mg/l	
Boron	0,1508	0,0012			mg/l	
DOC (as C)	6,25	0,03			mg/l	
Total P (as PO4)	<0,009				mg/l	
KMnO4-Index (as O2)	3,74	0,14			mg/l	



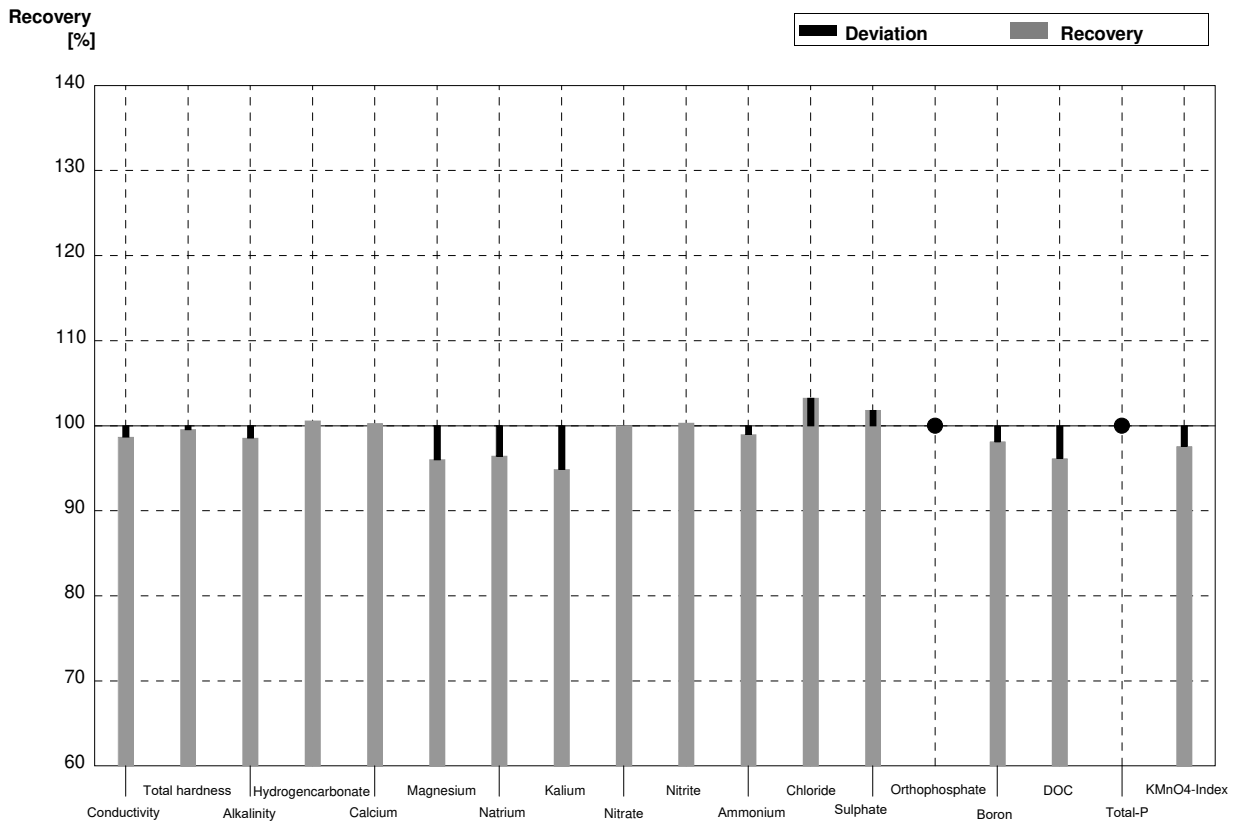
**Sample N179B**  
**Laboratory E**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1			µS/cm	
Total hardness	0,988	0,012			mmol/l	
Alkalinity KS 4,3 (as H+)	2,080	0,017			mmol/l	
Hydrogen carbonate	123,8	1,1			mg/l	
Calcium	21,6	0,4			mg/l	
Magnesium	10,94	0,15			mg/l	
Sodium	42,2	0,4			mg/l	
Potassium	7,78	0,05			mg/l	
Nitrate (as NO3)	61,1	1,3			mg/l	
Nitrite (as NO2)	0,0557	0,0012			mg/l	
Ammonium (as NH4)	<0,01				mg/l	
Chloride	20,46	0,12			mg/l	
Sulphate (as SO4)	17,8	0,2			mg/l	
Orthophosphate (as PO4)	0,0455	0,0042			mg/l	
Boron	0,0807	0,0005			mg/l	
DOC (as C)	4,07	0,02			mg/l	
Total P (as PO4)	0,101	0,003			mg/l	
KMnO4-Index (as O2)	2,43	0,09			mg/l	



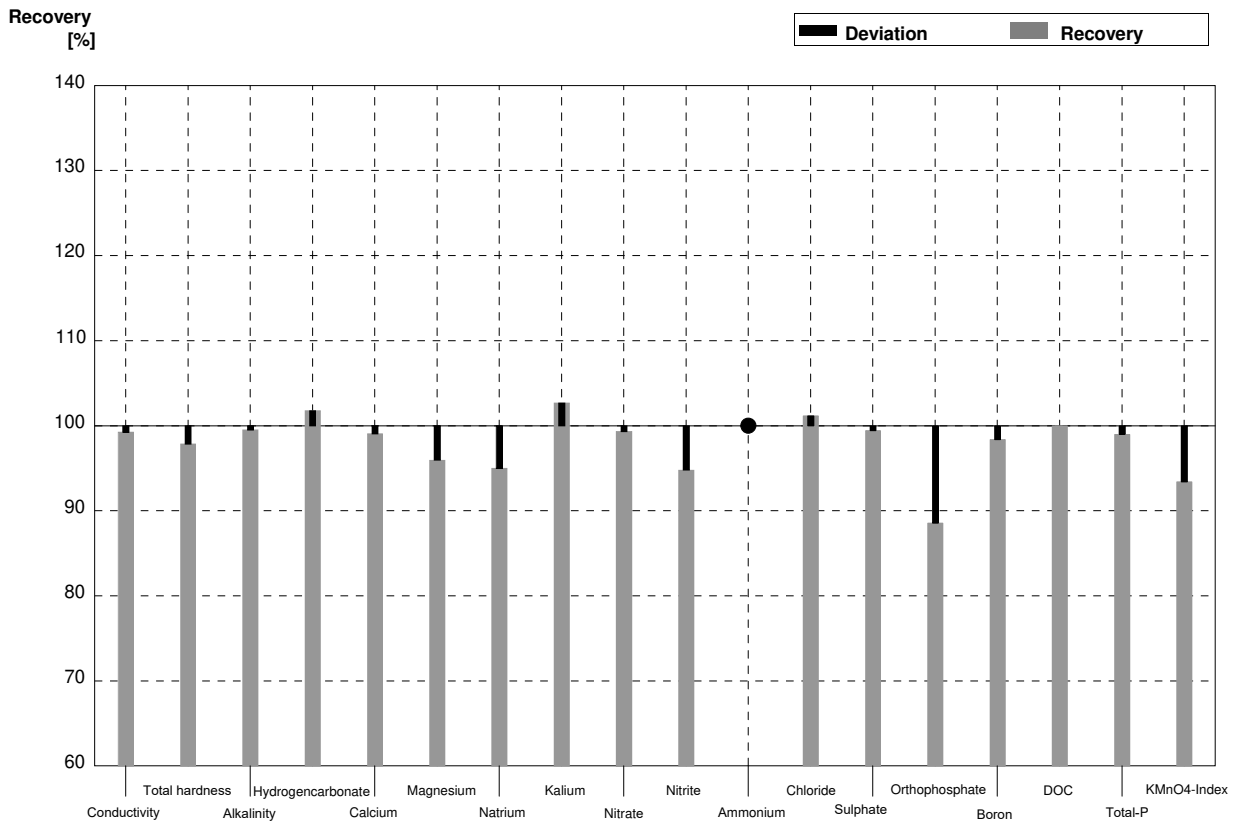
**Sample N179A**  
**Laboratory F**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	520	16	µS/cm	99%
Total hardness	2,32	0,02	2,31	0,35	mmol/l	100%
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,73	0,22	mmol/l	99%
Hydrogen carbonate	166	2	167	13	mg/l	101%
Calcium	69,9	0,9	70,1	11	mg/l	100%
Magnesium	14,06	0,16	13,5	1,6	mg/l	96%
Sodium	11,2	0,5	10,8	1,4	mg/l	96%
Potassium	5,86	0,04	5,56	0,83	mg/l	95%
Nitrate (as NO3)	31,6	0,9	31,6	3,2	mg/l	100%
Nitrite (as NO2)	0,0303	0,0010	0,0304	0,0033	mg/l	100%
Ammonium (as NH4)	0,0394	0,0039	0,0390	0,0031	mg/l	99%
Chloride	33,8	0,6	34,9	3,5	mg/l	103%
Sulphate (as SO4)	49,4	0,6	50,3	8,0	mg/l	102%
Orthophosphate (as PO4)	<0,009		<0,015		mg/l	•
Boron	0,1508	0,0012	0,148	0,019	mg/l	98%
DOC (as C)	6,25	0,03	6,01	1,2	mg/l	96%
Total P (as PO4)	<0,009		<0,015		mg/l	•
KMnO4-Index (as O2)	3,74	0,14	3,65	0,55	mg/l	98%



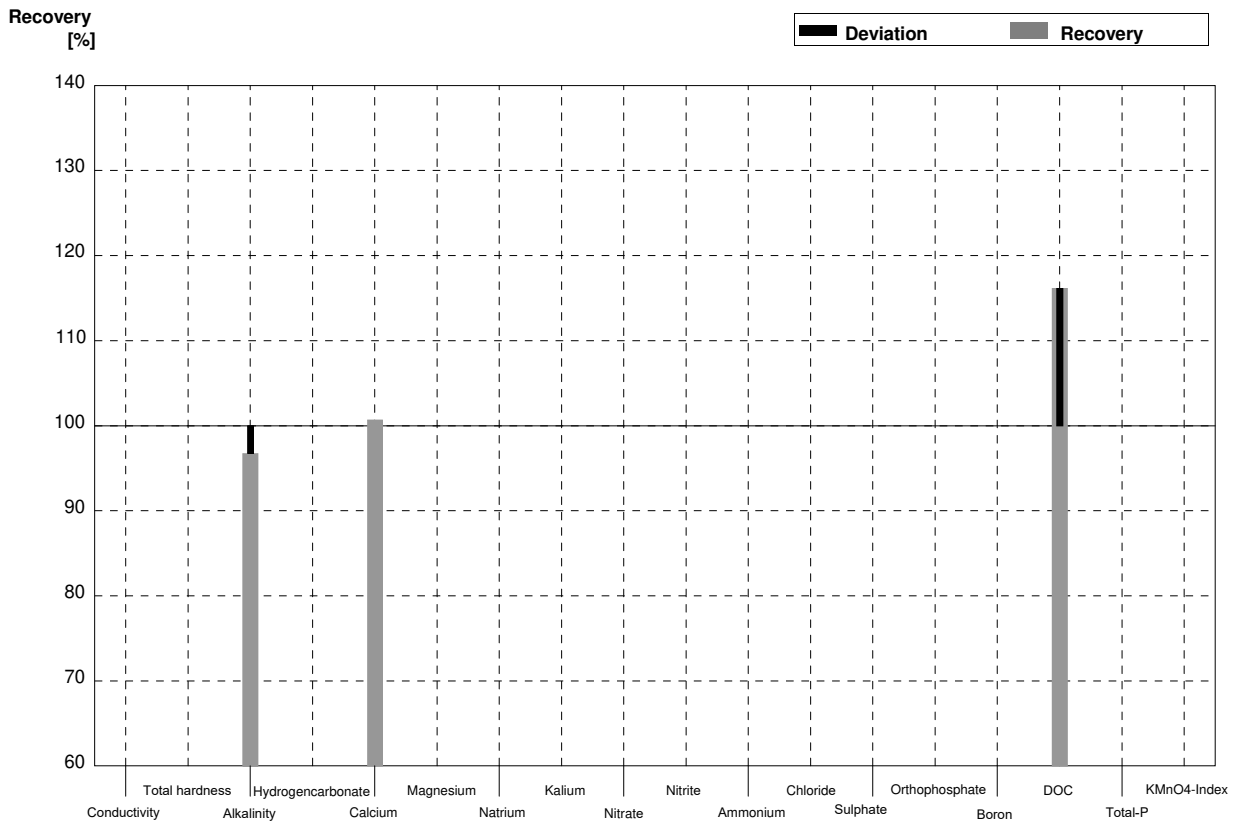
**Sample N179B**  
**Laboratory F**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	410	12	µS/cm	99%
Total hardness	0,988	0,012	0,967	0,15	mmol/l	98%
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,07	0,17	mmol/l	100%
Hydrogen carbonate	123,8	1,1	126	10	mg/l	102%
Calcium	21,6	0,4	21,4	3,2	mg/l	99%
Magnesium	10,94	0,15	10,5	1,3	mg/l	96%
Sodium	42,2	0,4	40,1	5,2	mg/l	95%
Potassium	7,78	0,05	7,99	1,2	mg/l	103%
Nitrate (as NO3)	61,1	1,3	60,7	6,1	mg/l	99%
Nitrite (as NO2)	0,0557	0,0012	0,0528	0,0058	mg/l	95%
Ammonium (as NH4)	<0,01		<0,01		mg/l	•
Chloride	20,46	0,12	20,7	2,1	mg/l	101%
Sulphate (as SO4)	17,8	0,2	17,7	2,8	mg/l	99%
Orthophosphate (as PO4)	0,0455	0,0042	0,0403	0,0032	mg/l	89%
Boron	0,0807	0,0005	0,0794	0,010	mg/l	98%
DOC (as C)	4,07	0,02	4,07	0,81	mg/l	100%
Total P (as PO4)	0,101	0,003	0,100	0,0080	mg/l	99%
KMnO4-Index (as O2)	2,43	0,09	2,27	0,34	mg/l	93%



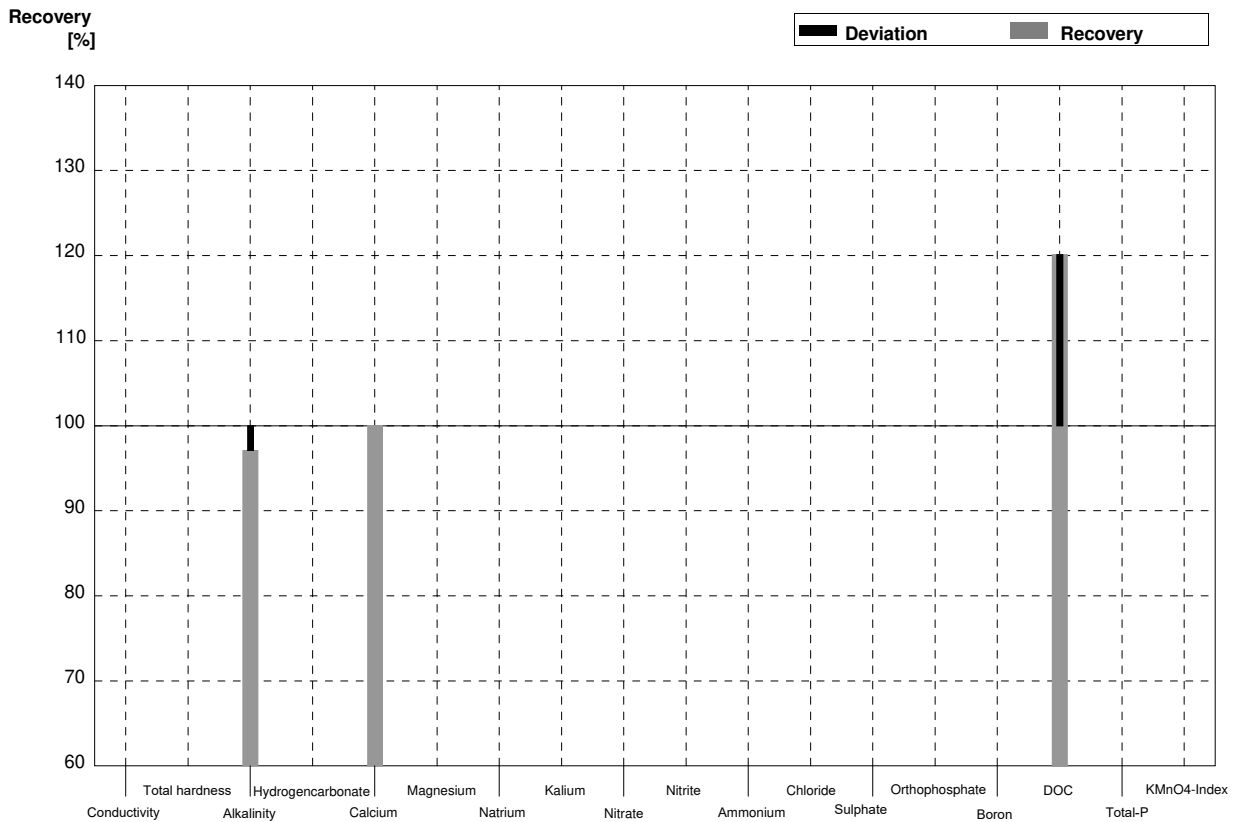
**Sample N179A**  
**Laboratory G**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2			µS/cm	
Total hardness	2,32	0,02			mmol/l	
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,68	0,26	mmol/l	97%
Hydrogen carbonate	166	2			mg/l	
Calcium	69,9	0,9	70,4	7	mg/l	101%
Magnesium	14,06	0,16			mg/l	
Sodium	11,2	0,5			mg/l	
Potassium	5,86	0,04			mg/l	
Nitrate (as NO3)	31,6	0,9			mg/l	
Nitrite (as NO2)	0,0303	0,0010			mg/l	
Ammonium (as NH4)	0,0394	0,0039			mg/l	
Chloride	33,8	0,6			mg/l	
Sulphate (as SO4)	49,4	0,6			mg/l	
Orthophosphate (as PO4)	<0,009				mg/l	
Boron	0,1508	0,0012			mg/l	
DOC (as C)	6,25	0,03	7,26	0,72	mg/l	116%
Total P (as PO4)	<0,009				mg/l	
KMnO4-Index (as O2)	3,74	0,14			mg/l	



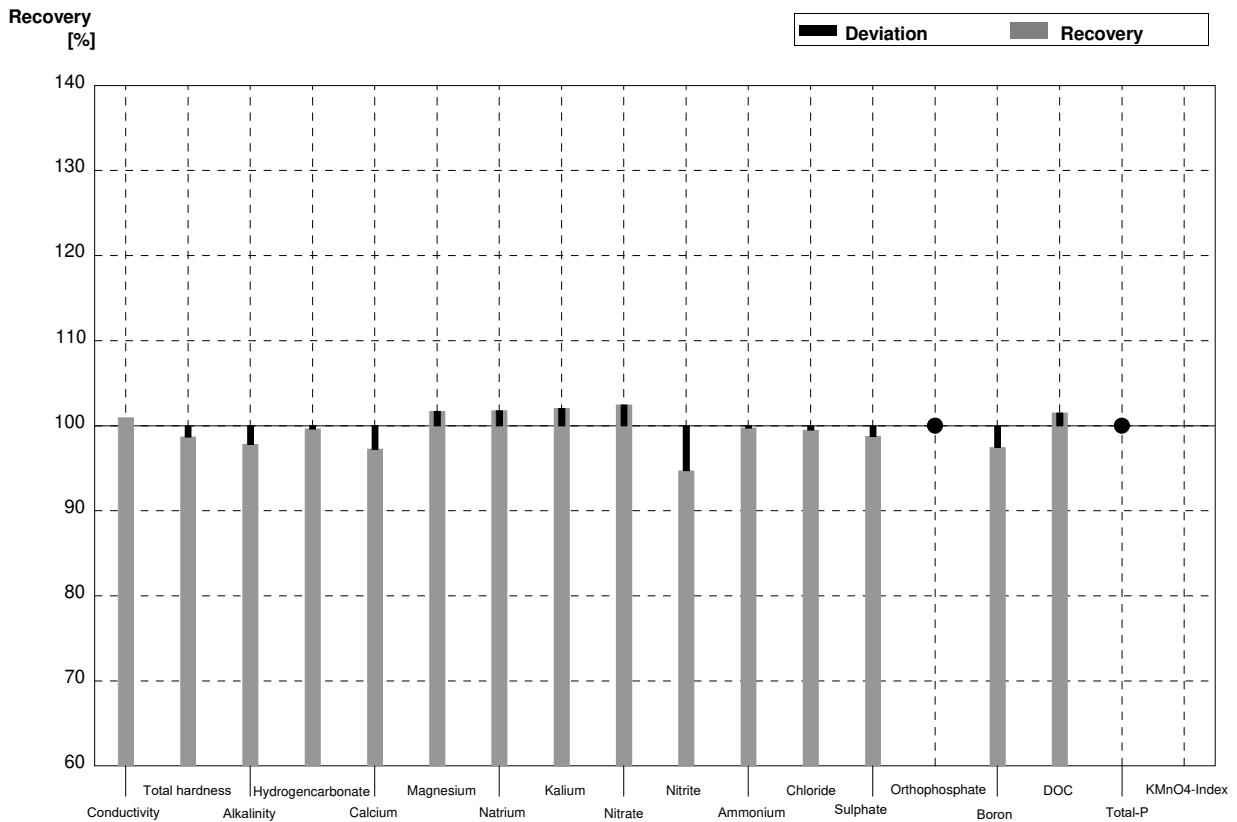
**Sample N179B**  
**Laboratory G**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1			µS/cm	
Total hardness	0,988	0,012			mmol/l	
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,02	0,2	mmol/l	97%
Hydrogen carbonate	123,8	1,1			mg/l	
Calcium	21,6	0,4	21,61	2,1	mg/l	100%
Magnesium	10,94	0,15			mg/l	
Sodium	42,2	0,4			mg/l	
Potassium	7,78	0,05			mg/l	
Nitrate (as NO3)	61,1	1,3			mg/l	
Nitrite (as NO2)	0,0557	0,0012			mg/l	
Ammonium (as NH4)	<0,01				mg/l	
Chloride	20,46	0,12			mg/l	
Sulphate (as SO4)	17,8	0,2			mg/l	
Orthophosphate (as PO4)	0,0455	0,0042			mg/l	
Boron	0,0807	0,0005			mg/l	
DOC (as C)	4,07	0,02	4,89	0,48	mg/l	120%
Total P (as PO4)	0,101	0,003			mg/l	
KMnO4-Index (as O2)	2,43	0,09			mg/l	



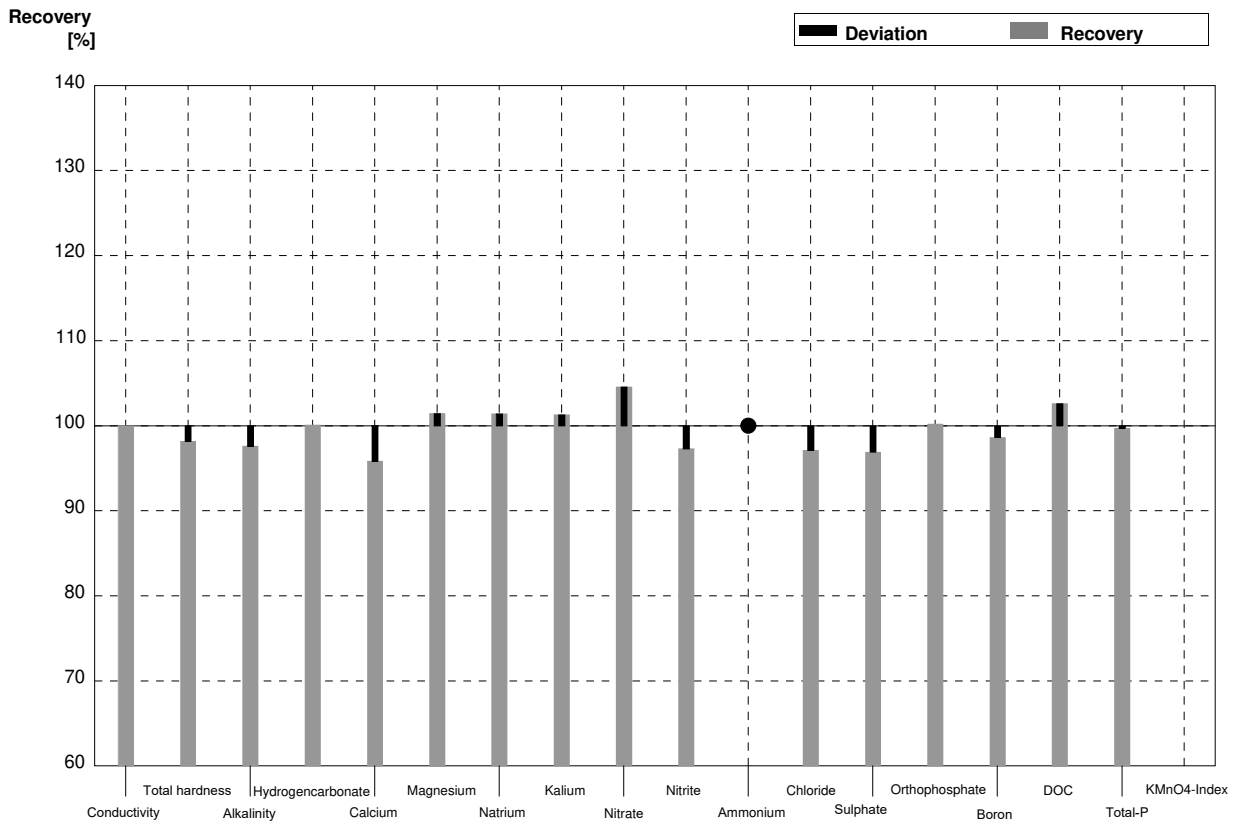
**Sample N179A**  
**Laboratory H**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	532	10	µS/cm	101%
Total hardness	2,32	0,02	2,29	0,23	mmol/l	99%
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,71	0,3	mmol/l	98%
Hydrogen carbonate	166	2	165,4	16,5	mg/l	100%
Calcium	69,9	0,9	68,0	13,4	mg/l	97%
Magnesium	14,06	0,16	14,3	2,86	mg/l	102%
Sodium	11,2	0,5	11,4	1,71	mg/l	102%
Potassium	5,86	0,04	5,98	1,20	mg/l	102%
Nitrate (as NO3)	31,6	0,9	32,38	3,2	mg/l	102%
Nitrite (as NO2)	0,0303	0,0010	0,0287	0,0042	mg/l	95%
Ammonium (as NH4)	0,0394	0,0039	0,0393	0,0064	mg/l	100%
Chloride	33,8	0,6	33,63	3,4	mg/l	99%
Sulphate (as SO4)	49,4	0,6	48,80	4,9	mg/l	99%
Orthophosphate (as PO4)	<0,009		<0,009		mg/l	•
Boron	0,1508	0,0012	0,147	0,037	mg/l	97%
DOC (as C)	6,25	0,03	6,346	0,6364	mg/l	102%
Total P (as PO4)	<0,009		<0,009		mg/l	•
KMnO4-Index (as O2)	3,74	0,14			mg/l	



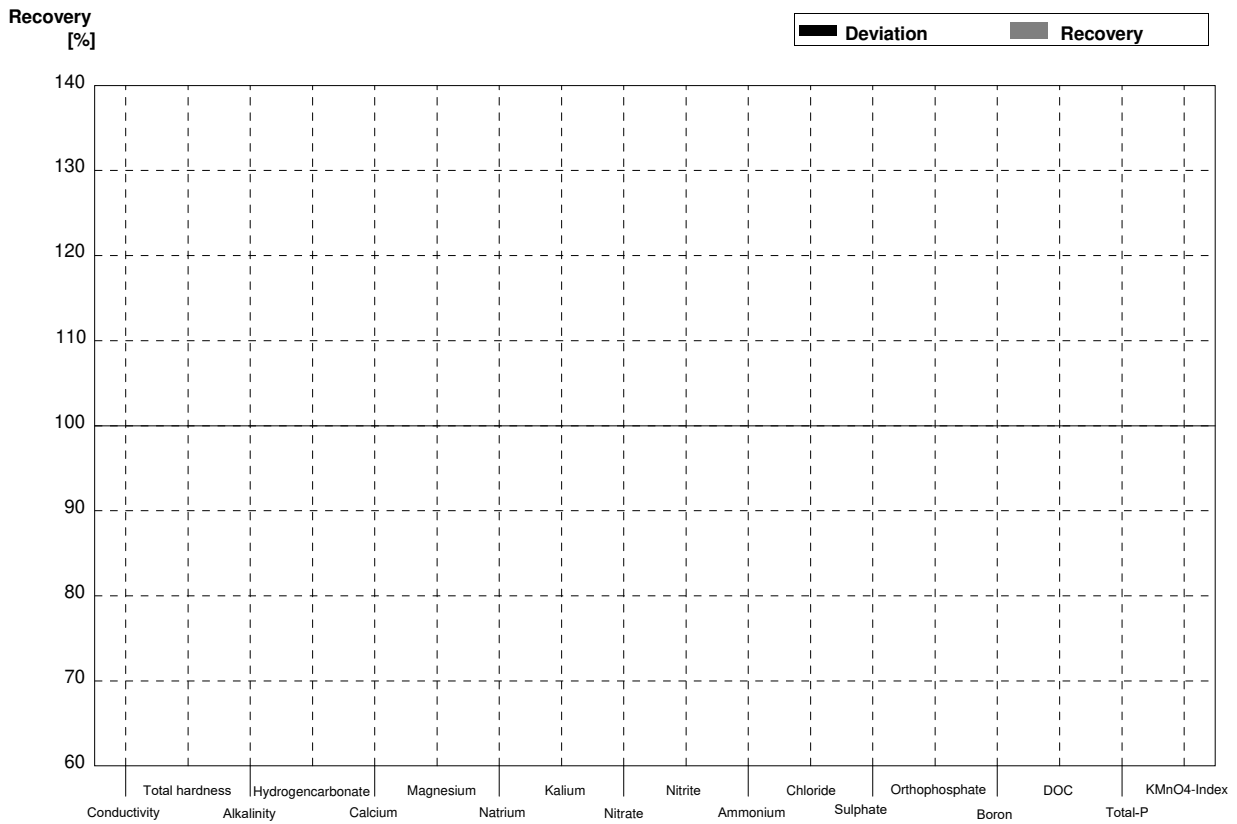
**Sample N179B**  
**Laboratory H**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	413	10	µS/cm	100%
Total hardness	0,988	0,012	0,97	0,10	mmol/l	98%
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,03	0,2	mmol/l	98%
Hydrogen carbonate	123,8	1,1	123,9	12,4	mg/l	100%
Calcium	21,6	0,4	20,7	4,14	mg/l	96%
Magnesium	10,94	0,15	11,1	2,22	mg/l	101%
Sodium	42,2	0,4	42,8	6,42	mg/l	101%
Potassium	7,78	0,05	7,88	1,58	mg/l	101%
Nitrate (as NO3)	61,1	1,3	63,90	6,4	mg/l	105%
Nitrite (as NO2)	0,0557	0,0012	0,0542	0,0079	mg/l	97%
Ammonium (as NH4)	<0,01		<0,010		mg/l	•
Chloride	20,46	0,12	19,87	2,0	mg/l	97%
Sulphate (as SO4)	17,8	0,2	17,25	1,7	mg/l	97%
Orthophosphate (as PO4)	0,0455	0,0042	0,0456	0,0054	mg/l	100%
Boron	0,0807	0,0005	0,0796	0,020	mg/l	99%
DOC (as C)	4,07	0,02	4,177	0,6265	mg/l	103%
Total P (as PO4)	0,101	0,003	0,1007	0,0119	mg/l	100%
KMnO4-Index (as O2)	2,43	0,09			mg/l	



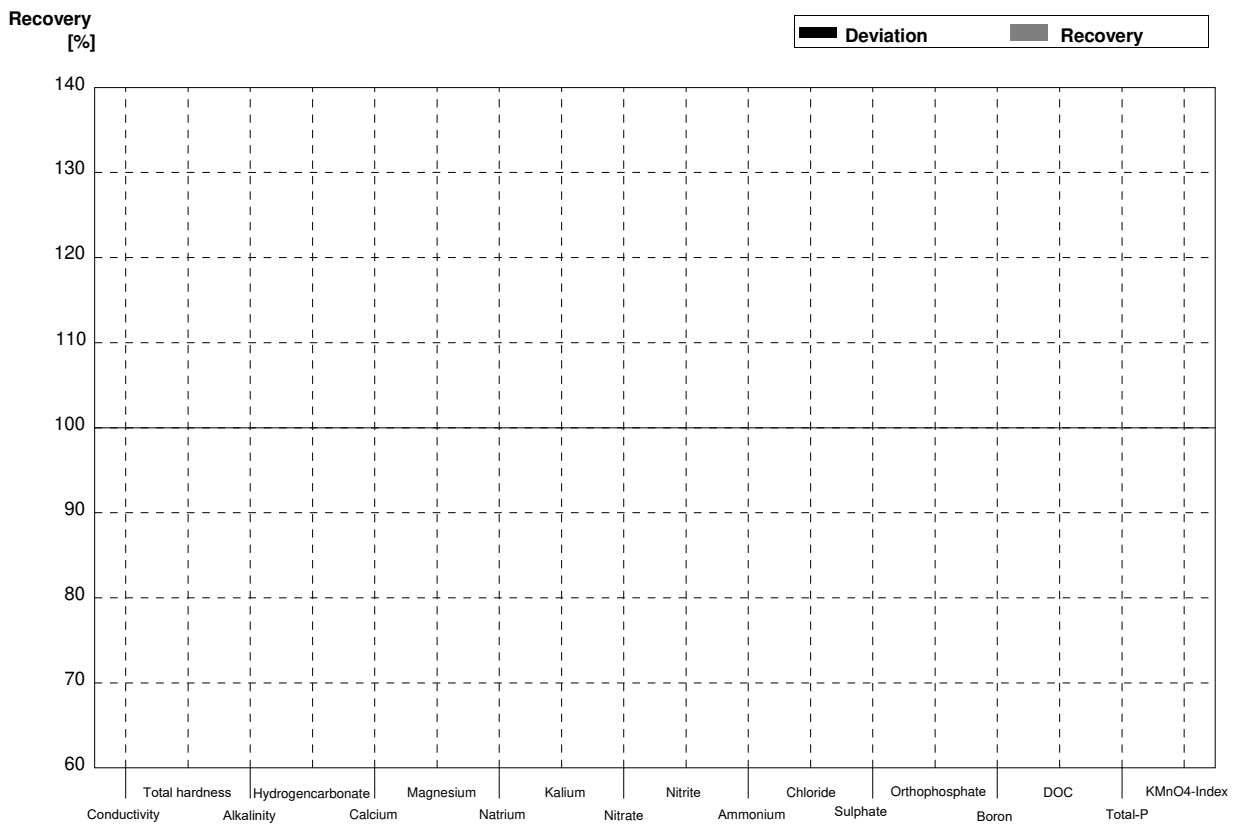
**Sample N179A**  
**Laboratory I**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2			µS/cm	
Total hardness	2,32	0,02			mmol/l	
Alkalinity KS 4,3 (as H+)	2,77	0,04			mmol/l	
Hydrogen carbonate	166	2			mg/l	
Calcium	69,9	0,9			mg/l	
Magnesium	14,06	0,16			mg/l	
Sodium	11,2	0,5			mg/l	
Potassium	5,86	0,04			mg/l	
Nitrate (as NO3)	31,6	0,9			mg/l	
Nitrite (as NO2)	0,0303	0,0010			mg/l	
Ammonium (as NH4)	0,0394	0,0039			mg/l	
Chloride	33,8	0,6			mg/l	
Sulphate (as SO4)	49,4	0,6			mg/l	
Orthophosphate (as PO4)	<0,009				mg/l	
Boron	0,1508	0,0012			mg/l	
DOC (as C)	6,25	0,03			mg/l	
Total P (as PO4)	<0,009				mg/l	
KMnO4-Index (as O2)	3,74	0,14			mg/l	



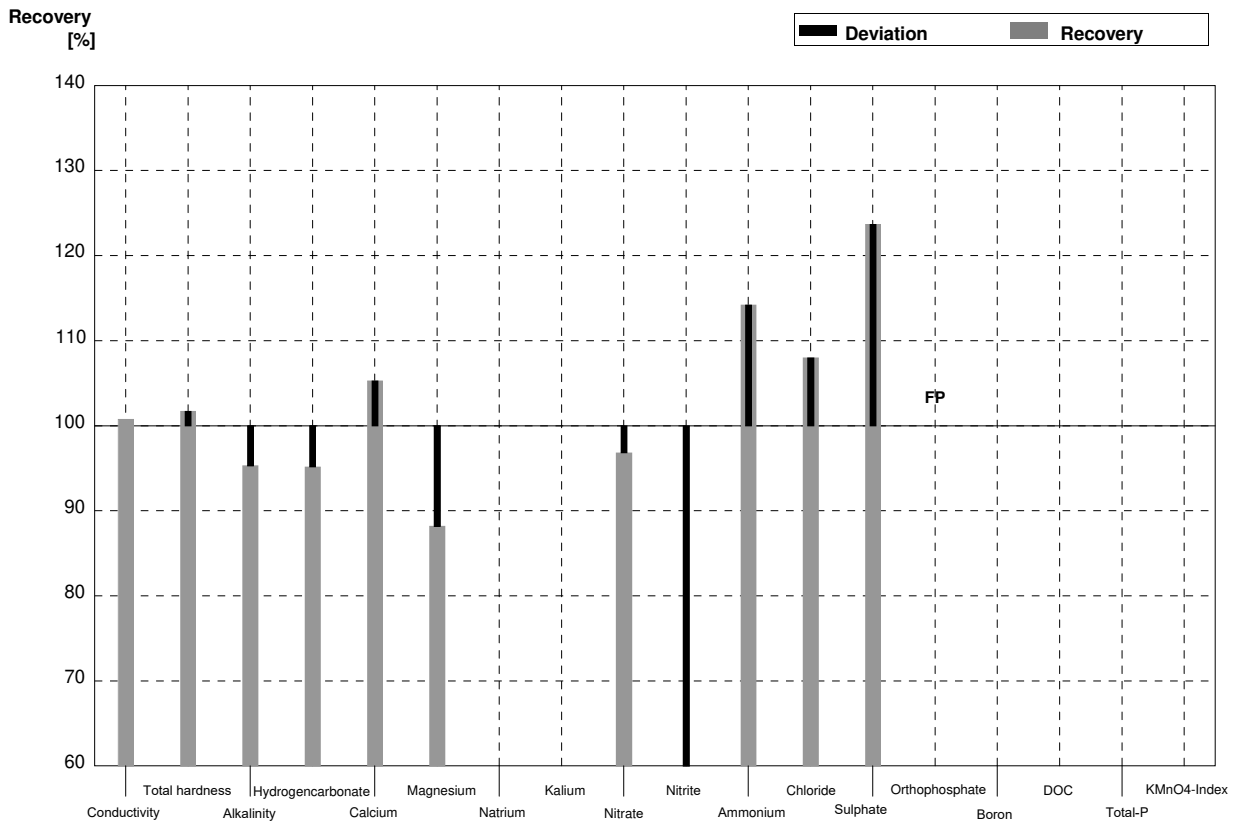
**Sample N179B**  
**Laboratory I**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1			µS/cm	
Total hardness	0,988	0,012			mmol/l	
Alkalinity KS 4,3 (as H+)	2,080	0,017			mmol/l	
Hydrogen carbonate	123,8	1,1			mg/l	
Calcium	21,6	0,4			mg/l	
Magnesium	10,94	0,15			mg/l	
Sodium	42,2	0,4			mg/l	
Potassium	7,78	0,05			mg/l	
Nitrate (as NO3)	61,1	1,3			mg/l	
Nitrite (as NO2)	0,0557	0,0012			mg/l	
Ammonium (as NH4)	<0,01				mg/l	
Chloride	20,46	0,12			mg/l	
Sulphate (as SO4)	17,8	0,2			mg/l	
Orthophosphate (as PO4)	0,0455	0,0042			mg/l	
Boron	0,0807	0,0005			mg/l	
DOC (as C)	4,07	0,02			mg/l	
Total P (as PO4)	0,101	0,003			mg/l	
KMnO4-Index (as O2)	2,43	0,09			mg/l	



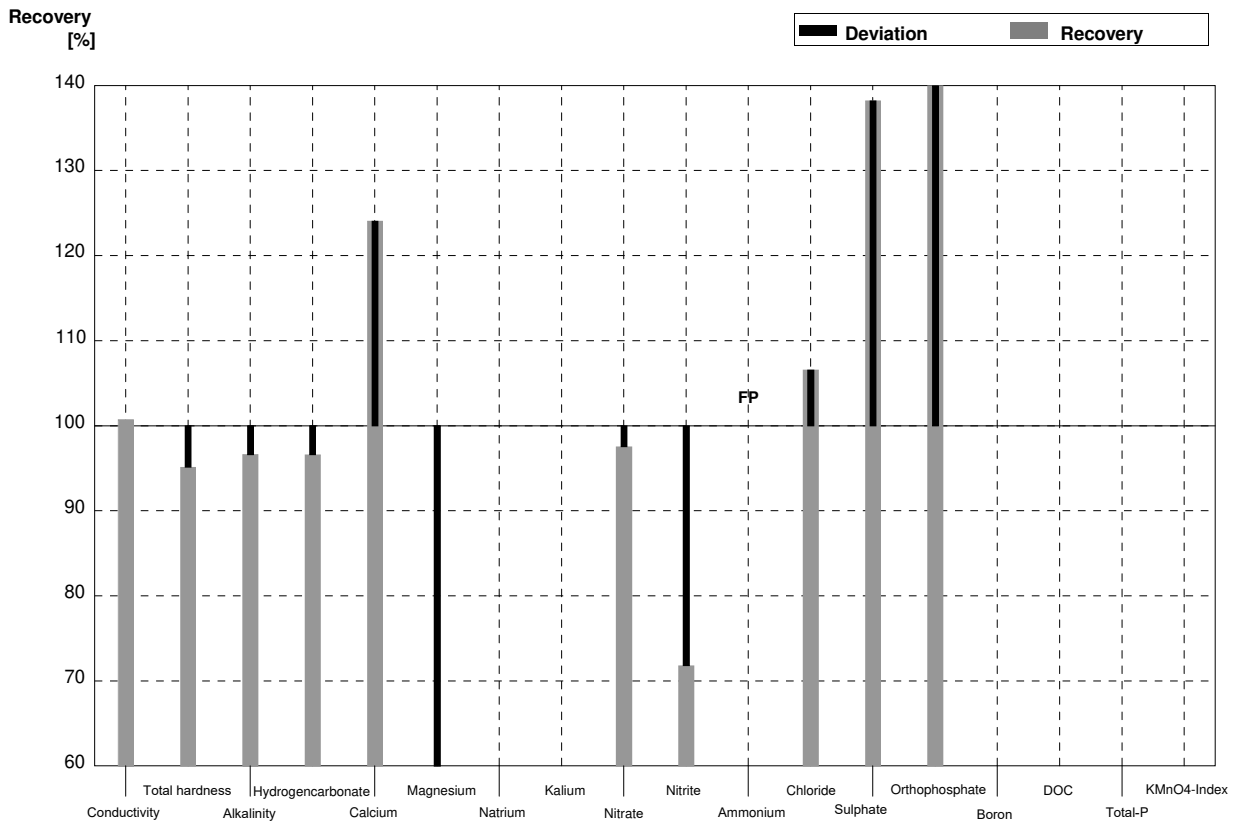
**Sample N179A**  
**Laboratory J**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	531		µS/cm	101%
Total hardness	2,32	0,02	2,36		mmol/l	102%
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,64		mmol/l	95%
Hydrogen carbonate	166	2	158,0		mg/l	95%
Calcium	69,9	0,9	73,6		mg/l	105%
Magnesium	14,06	0,16	12,4		mg/l	88%
Sodium	11,2	0,5			mg/l	
Potassium	5,86	0,04			mg/l	
Nitrate (as NO3)	31,6	0,9	30,6		mg/l	97%
Nitrite (as NO2)	0,0303	0,0010	0,0100		mg/l	33%
Ammonium (as NH4)	0,0394	0,0039	0,0450		mg/l	114%
Chloride	33,8	0,6	36,5		mg/l	108%
Sulphate (as SO4)	49,4	0,6	61,1		mg/l	124%
Orthophosphate (as PO4)	<0,009		0,150		mg/l	FP
Boron	0,1508	0,0012			mg/l	
DOC (as C)	6,25	0,03			mg/l	
Total P (as PO4)	<0,009				mg/l	
KMnO4-Index (as O2)	3,74	0,14			mg/l	



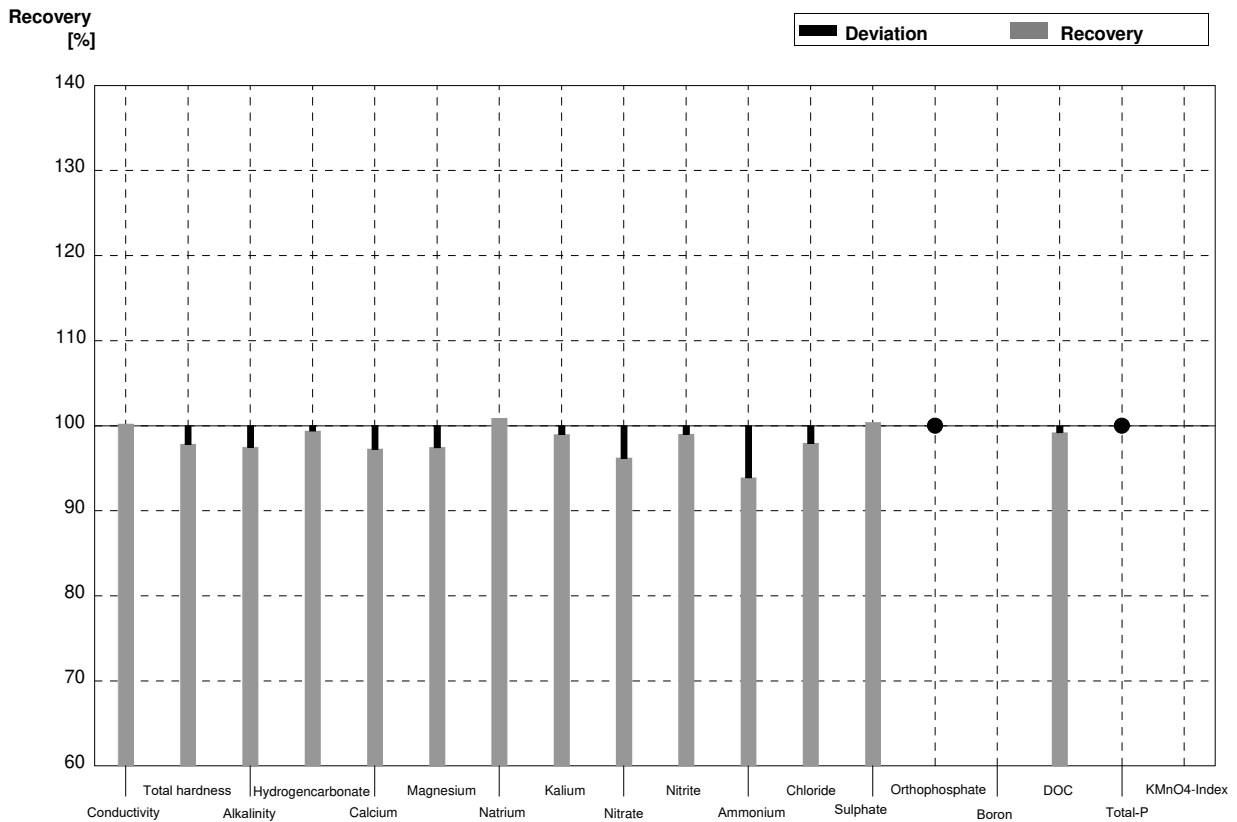
**Sample N179B**  
**Laboratory J**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	416		µS/cm	101%
Total hardness	0,988	0,012	0,94		mmol/l	95%
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,01		mmol/l	97%
Hydrogen carbonate	123,8	1,1	119,6		mg/l	97%
Calcium	21,6	0,4	26,8		mg/l	124%
Magnesium	10,94	0,15	6,54		mg/l	60%
Sodium	42,2	0,4			mg/l	
Potassium	7,78	0,05			mg/l	
Nitrate (as NO3)	61,1	1,3	59,6		mg/l	98%
Nitrite (as NO2)	0,0557	0,0012	0,0400		mg/l	72%
Ammonium (as NH4)	<0,01		0,0150		mg/l	FP
Chloride	20,46	0,12	21,8		mg/l	107%
Sulphate (as SO4)	17,8	0,2	24,6		mg/l	138%
Orthophosphate (as PO4)	0,0455	0,0042	0,150		mg/l	330%
Boron	0,0807	0,0005			mg/l	
DOC (as C)	4,07	0,02			mg/l	
Total P (as PO4)	0,101	0,003			mg/l	
KMnO4-Index (as O2)	2,43	0,09			mg/l	



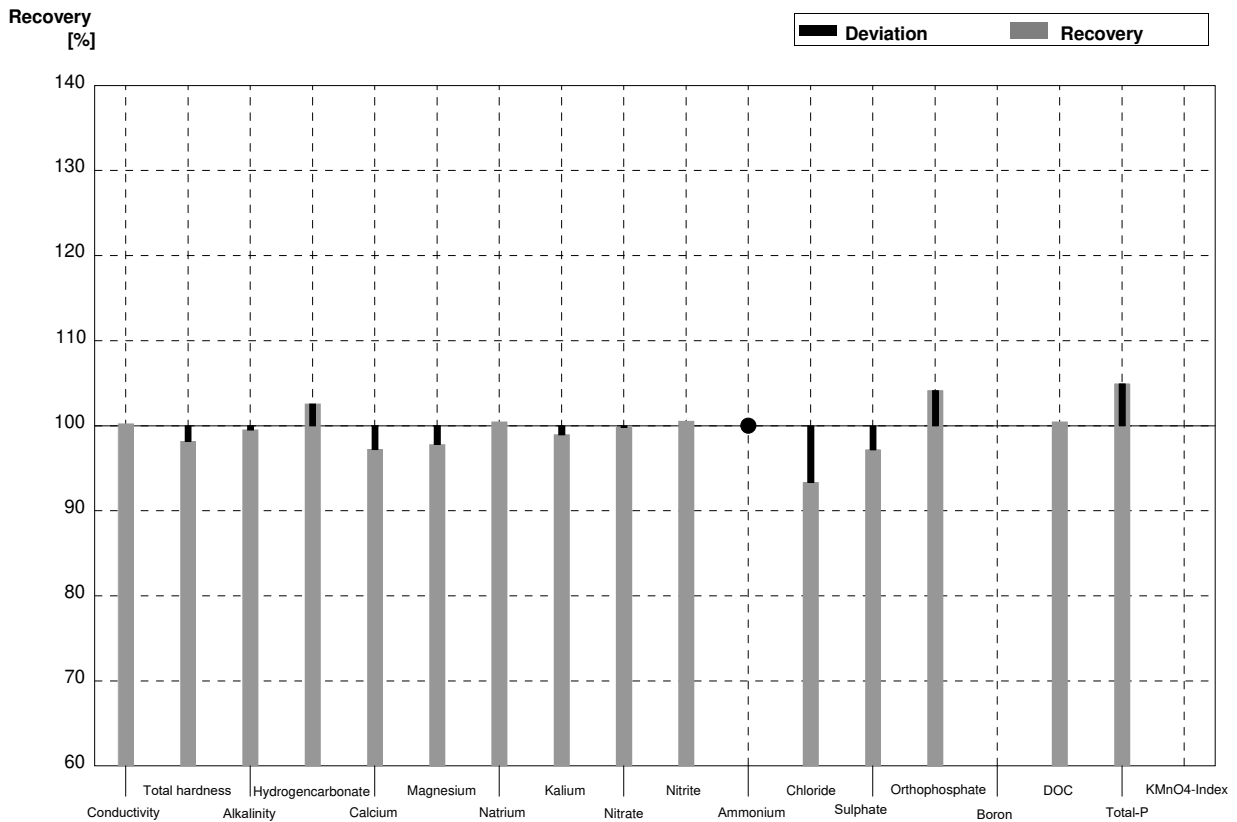
**Sample N179A**  
**Laboratory K**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	528	16	µS/cm	100%
Total hardness	2,32	0,02	2,27	0,12	mmol/l	98%
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,70	0,14	mmol/l	97%
Hydrogen carbonate	166	2	165	13	mg/l	99%
Calcium	69,9	0,9	68	4	mg/l	97%
Magnesium	14,06	0,16	13,7	1,1	mg/l	97%
Sodium	11,2	0,5	11,3	0,9	mg/l	101%
Potassium	5,86	0,04	5,8	0,5	mg/l	99%
Nitrate (as NO3)	31,6	0,9	30,4	1,8	mg/l	96%
Nitrite (as NO2)	0,0303	0,0010	0,0300	0,0039	mg/l	99%
Ammonium (as NH4)	0,0394	0,0039	0,0370	0,0078	mg/l	94%
Chloride	33,8	0,6	33,1	2,6	mg/l	98%
Sulphate (as SO4)	49,4	0,6	49,6	3,0	mg/l	100%
Orthophosphate (as PO4)	<0,009		<0,009		mg/l	•
Boron	0,1508	0,0012			mg/l	
DOC (as C)	6,25	0,03	6,2	0,4	mg/l	99%
Total P (as PO4)	<0,009		<0,009		mg/l	•
KMnO4-Index (as O2)	3,74	0,14			mg/l	



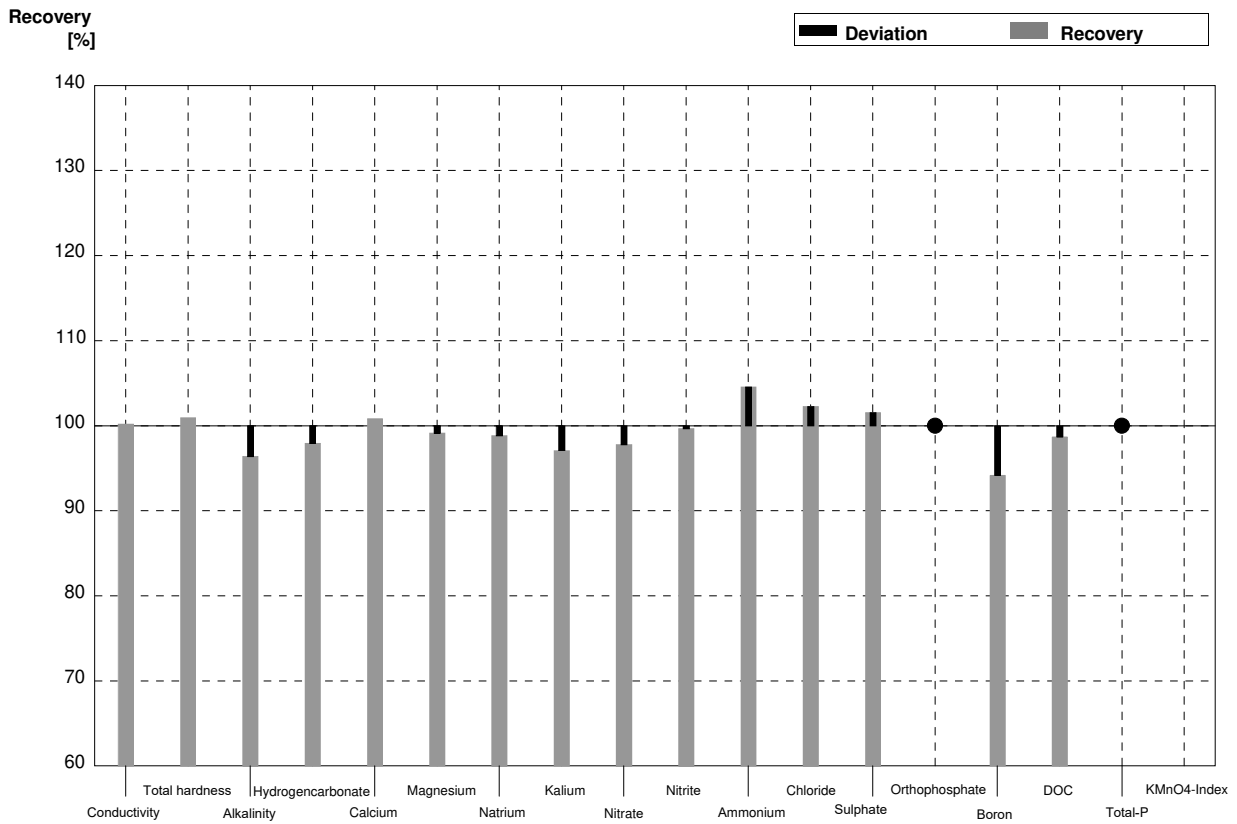
**Sample N179B**  
**Laboratory K**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	414	12	µS/cm	100%
Total hardness	0,988	0,012	0,97	0,05	mmol/l	98%
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,07	0,11	mmol/l	100%
Hydrogen carbonate	123,8	1,1	127	10	mg/l	103%
Calcium	21,6	0,4	21,0	1,3	mg/l	97%
Magnesium	10,94	0,15	10,7	0,9	mg/l	98%
Sodium	42,2	0,4	42,4	2,5	mg/l	100%
Potassium	7,78	0,05	7,7	0,6	mg/l	99%
Nitrate (as NO3)	61,1	1,3	61	4	mg/l	100%
Nitrite (as NO2)	0,0557	0,0012	0,056	0,007	mg/l	101%
Ammonium (as NH4)	<0,01		<0,02		mg/l	•
Chloride	20,46	0,12	19,1	1,5	mg/l	93%
Sulphate (as SO4)	17,8	0,2	17,3	1,0	mg/l	97%
Orthophosphate (as PO4)	0,0455	0,0042	0,0474	0,0090	mg/l	104%
Boron	0,0807	0,0005			mg/l	
DOC (as C)	4,07	0,02	4,09	0,25	mg/l	100%
Total P (as PO4)	0,101	0,003	0,106	0,015	mg/l	105%
KMnO4-Index (as O2)	2,43	0,09			mg/l	



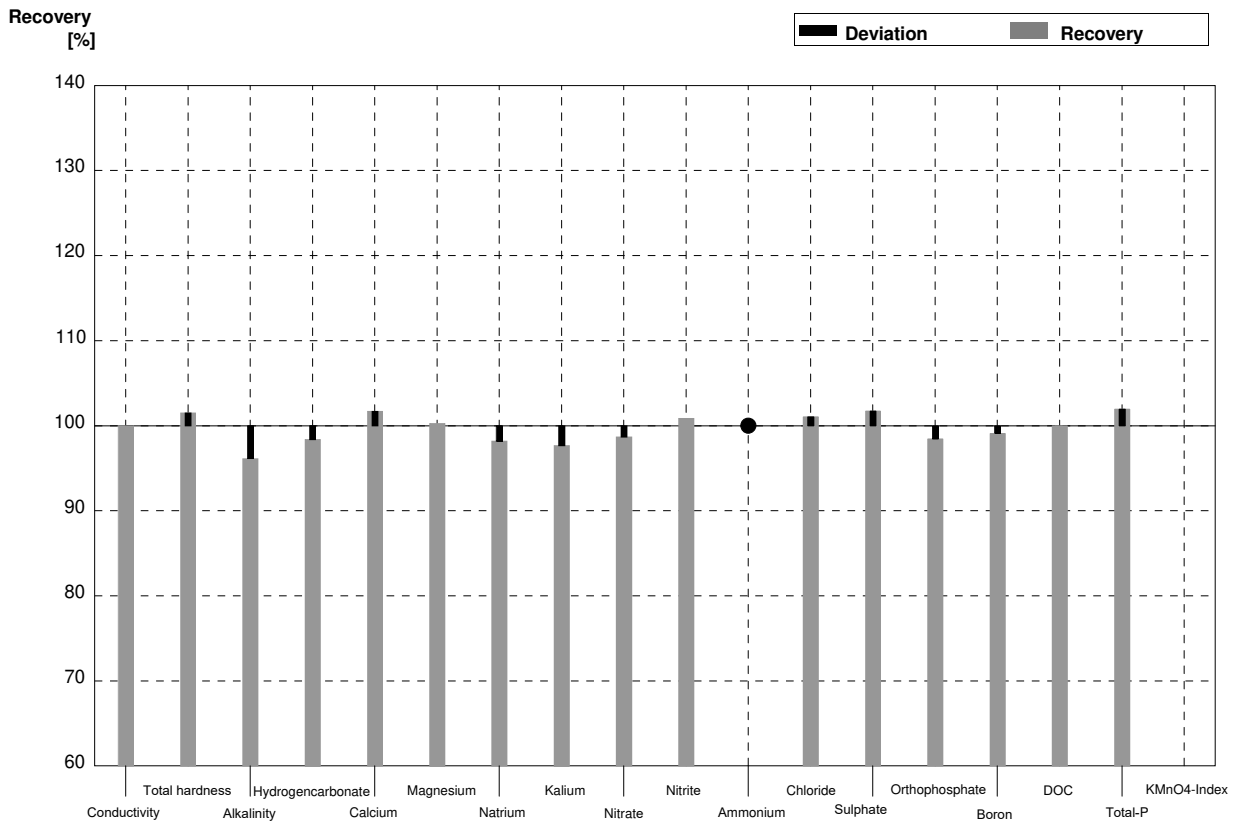
**Sample N179A**  
**Laboratory L**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	528		µS/cm	100%
Total hardness	2,32	0,02	2,342		mmol/l	101%
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,67		mmol/l	96%
Hydrogen carbonate	166	2	162,6		mg/l	98%
Calcium	69,9	0,9	70,51		mg/l	101%
Magnesium	14,06	0,16	13,94		mg/l	99%
Sodium	11,2	0,5	11,07		mg/l	99%
Potassium	5,86	0,04	5,69		mg/l	97%
Nitrate (as NO3)	31,6	0,9	30,9		mg/l	98%
Nitrite (as NO2)	0,0303	0,0010	0,0302		mg/l	100%
Ammonium (as NH4)	0,0394	0,0039	0,0412		mg/l	105%
Chloride	33,8	0,6	34,57		mg/l	102%
Sulphate (as SO4)	49,4	0,6	50,17		mg/l	102%
Orthophosphate (as PO4)	<0,009		<0,006		mg/l	•
Boron	0,1508	0,0012	0,142	0,014	mg/l	94%
DOC (as C)	6,25	0,03	6,168		mg/l	99%
Total P (as PO4)	<0,009		<0,006		mg/l	•
KMnO4-Index (as O2)	3,74	0,14			mg/l	



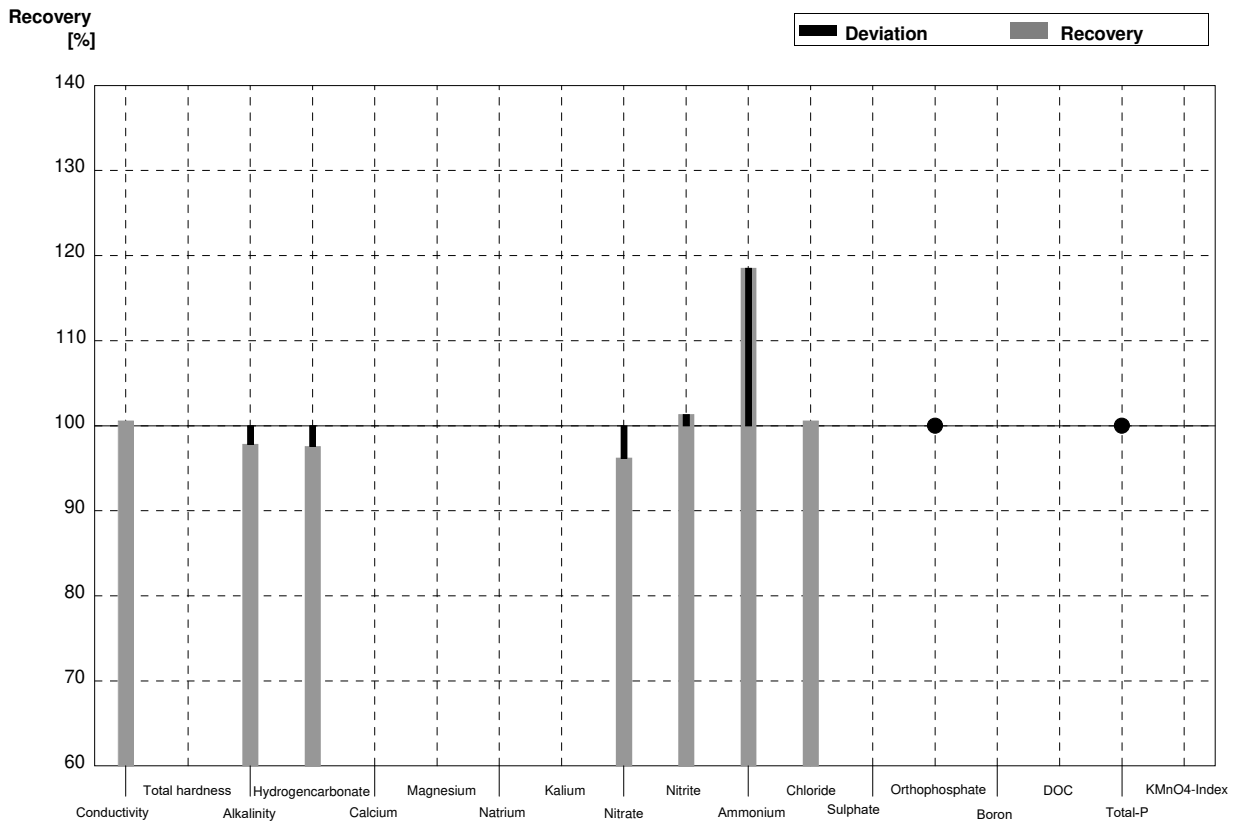
**Sample N179B**  
**Laboratory L**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	413		µS/cm	100%
Total hardness	0,988	0,012	1,003		mmol/l	102%
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,00		mmol/l	96%
Hydrogen carbonate	123,8	1,1	121,8		mg/l	98%
Calcium	21,6	0,4	21,97		mg/l	102%
Magnesium	10,94	0,15	10,97		mg/l	100%
Sodium	42,2	0,4	41,45		mg/l	98%
Potassium	7,78	0,05	7,60		mg/l	98%
Nitrate (as NO3)	61,1	1,3	60,3		mg/l	99%
Nitrite (as NO2)	0,0557	0,0012	0,0562		mg/l	101%
Ammonium (as NH4)	<0,01		<0,008		mg/l	•
Chloride	20,46	0,12	20,68		mg/l	101%
Sulphate (as SO4)	17,8	0,2	18,11		mg/l	102%
Orthophosphate (as PO4)	0,0455	0,0042	0,0448		mg/l	98%
Boron	0,0807	0,0005	0,080	0,008	mg/l	99%
DOC (as C)	4,07	0,02	4,07		mg/l	100%
Total P (as PO4)	0,101	0,003	0,103		mg/l	102%
KMnO4-Index (as O2)	2,43	0,09			mg/l	



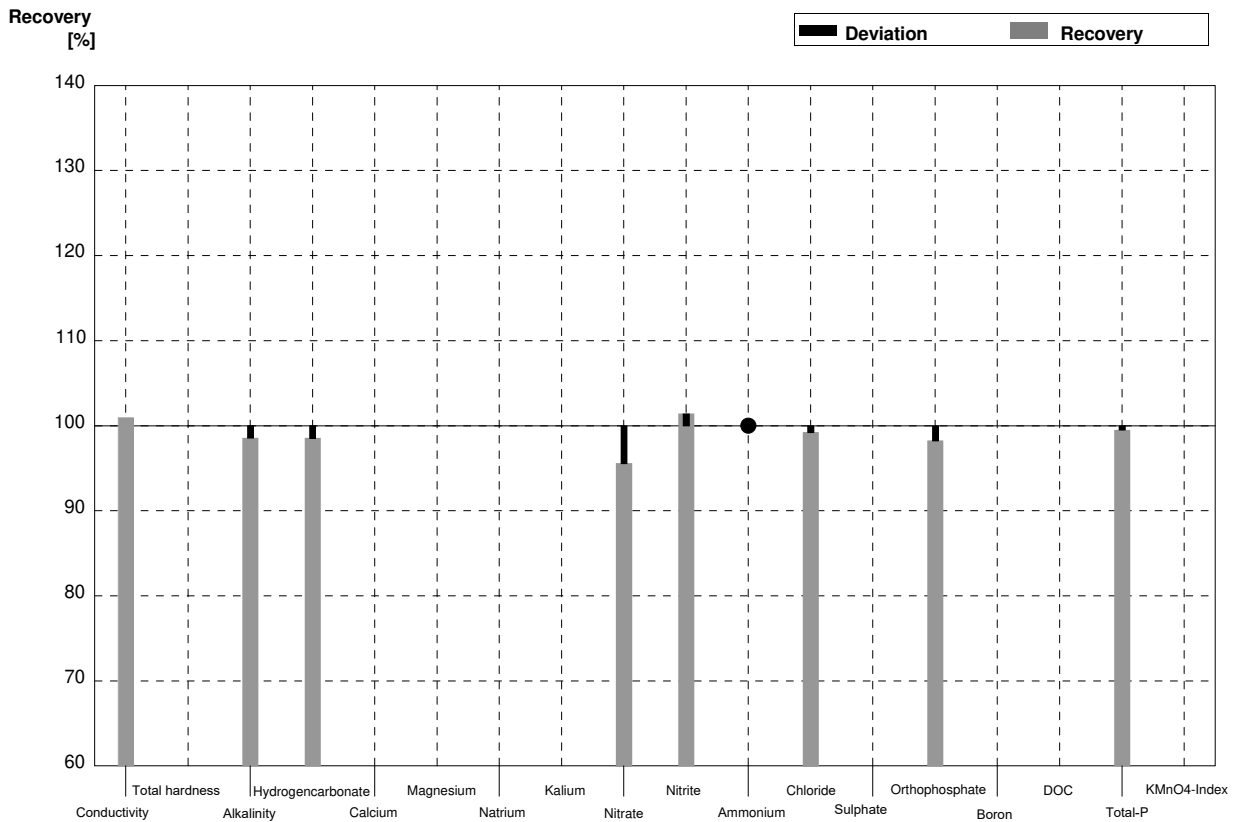
**Sample N179A**  
**Laboratory M**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	530	4	µS/cm	101%
Total hardness	2,32	0,02			mmol/l	
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,71	0,076	mmol/l	98%
Hydrogen carbonate	166	2	162	2,3	mg/l	98%
Calcium	69,9	0,9			mg/l	
Magnesium	14,06	0,16			mg/l	
Sodium	11,2	0,5			mg/l	
Potassium	5,86	0,04			mg/l	
Nitrate (as NO3)	31,6	0,9	30,4	2,1	mg/l	96%
Nitrite (as NO2)	0,0303	0,0010	0,03070	0,00307	mg/l	101%
Ammonium (as NH4)	0,0394	0,0039	0,0467	0,0070	mg/l	119%
Chloride	33,8	0,6	34,0	0,3	mg/l	101%
Sulphate (as SO4)	49,4	0,6			mg/l	
Orthophosphate (as PO4)	<0,009		<0,006		mg/l	•
Boron	0,1508	0,0012			mg/l	
DOC (as C)	6,25	0,03			mg/l	
Total P (as PO4)	<0,009		<0,006		mg/l	•
KMnO4-Index (as O2)	3,74	0,14			mg/l	



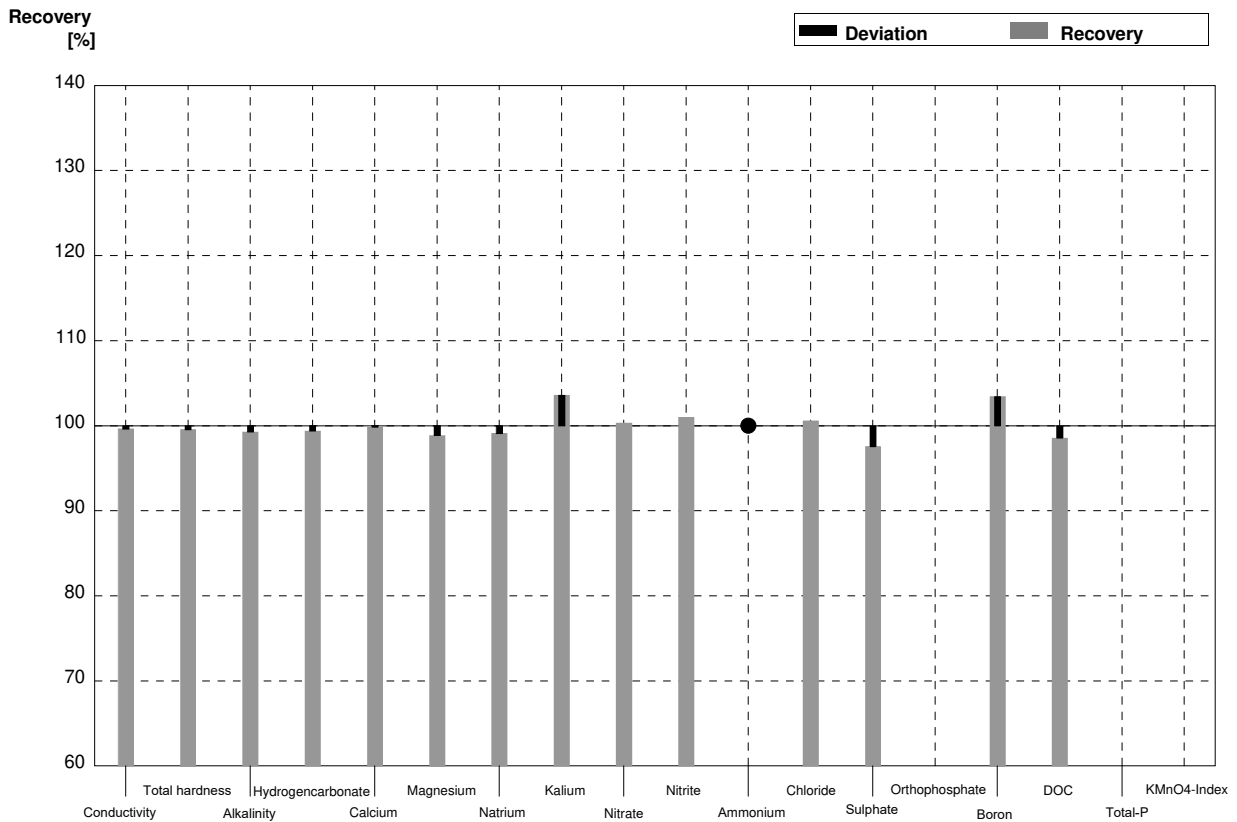
**Sample N179B**  
**Laboratory M**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	417	3	µS/cm	101%
Total hardness	0,988	0,012			mmol/l	
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,05	0,058	mmol/l	99%
Hydrogen carbonate	123,8	1,1	122	2	mg/l	99%
Calcium	21,6	0,4			mg/l	
Magnesium	10,94	0,15			mg/l	
Sodium	42,2	0,4			mg/l	
Potassium	7,78	0,05			mg/l	
Nitrate (as NO3)	61,1	1,3	58,4	4,0	mg/l	96%
Nitrite (as NO2)	0,0557	0,0012	0,0565	0,0056	mg/l	101%
Ammonium (as NH4)	<0,01		0,0067	0,0010	mg/l	•
Chloride	20,46	0,12	20,3	0,2	mg/l	99%
Sulphate (as SO4)	17,8	0,2			mg/l	
Orthophosphate (as PO4)	0,0455	0,0042	0,0447	0,0052	mg/l	98%
Boron	0,0807	0,0005			mg/l	
DOC (as C)	4,07	0,02			mg/l	
Total P (as PO4)	0,101	0,003	0,1005	0,0133	mg/l	100%
KMnO4-Index (as O2)	2,43	0,09			mg/l	



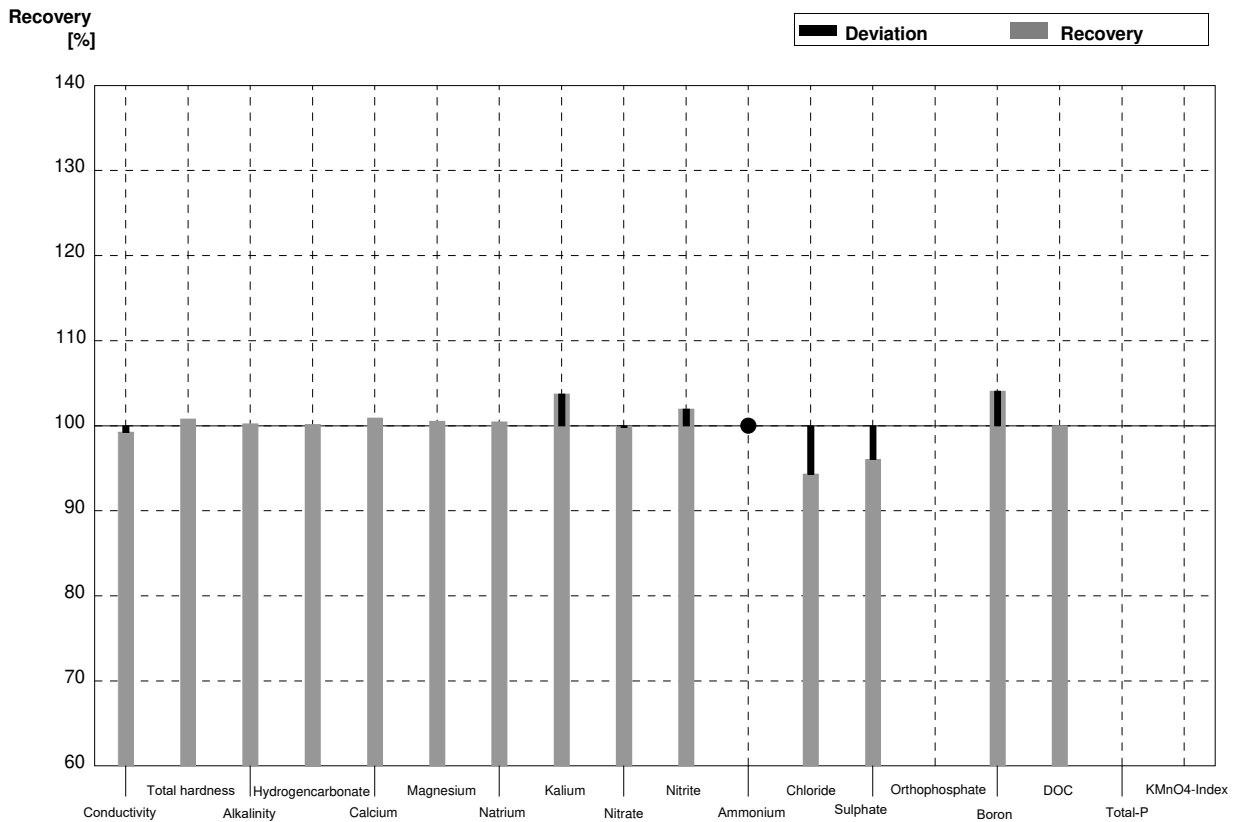
**Sample N179A**  
**Laboratory N**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	525	11	µS/cm	100%
Total hardness	2,32	0,02	2,31		mmol/l	100%
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,750	0,187	mmol/l	99%
Hydrogen carbonate	166	2	165	8	mg/l	99%
Calcium	69,9	0,9	69,8	4,5	mg/l	100%
Magnesium	14,06	0,16	13,9	1,1	mg/l	99%
Sodium	11,2	0,5	11,1	0,8	mg/l	99%
Potassium	5,86	0,04	6,07	0,53	mg/l	104%
Nitrate (as NO3)	31,6	0,9	31,7	2,2	mg/l	100%
Nitrite (as NO2)	0,0303	0,0010	0,0306	0,00599	mg/l	101%
Ammonium (as NH4)	0,0394	0,0039	<0,05		mg/l	•
Chloride	33,8	0,6	34,0	4,4	mg/l	101%
Sulphate (as SO4)	49,4	0,6	48,2	2,3	mg/l	98%
Orthophosphate (as PO4)	<0,009				mg/l	
Boron	0,1508	0,0012	0,156	0,017	mg/l	103%
DOC (as C)	6,25	0,03	6,16	1,00	mg/l	99%
Total P (as PO4)	<0,009				mg/l	
KMnO4-Index (as O2)	3,74	0,14			mg/l	



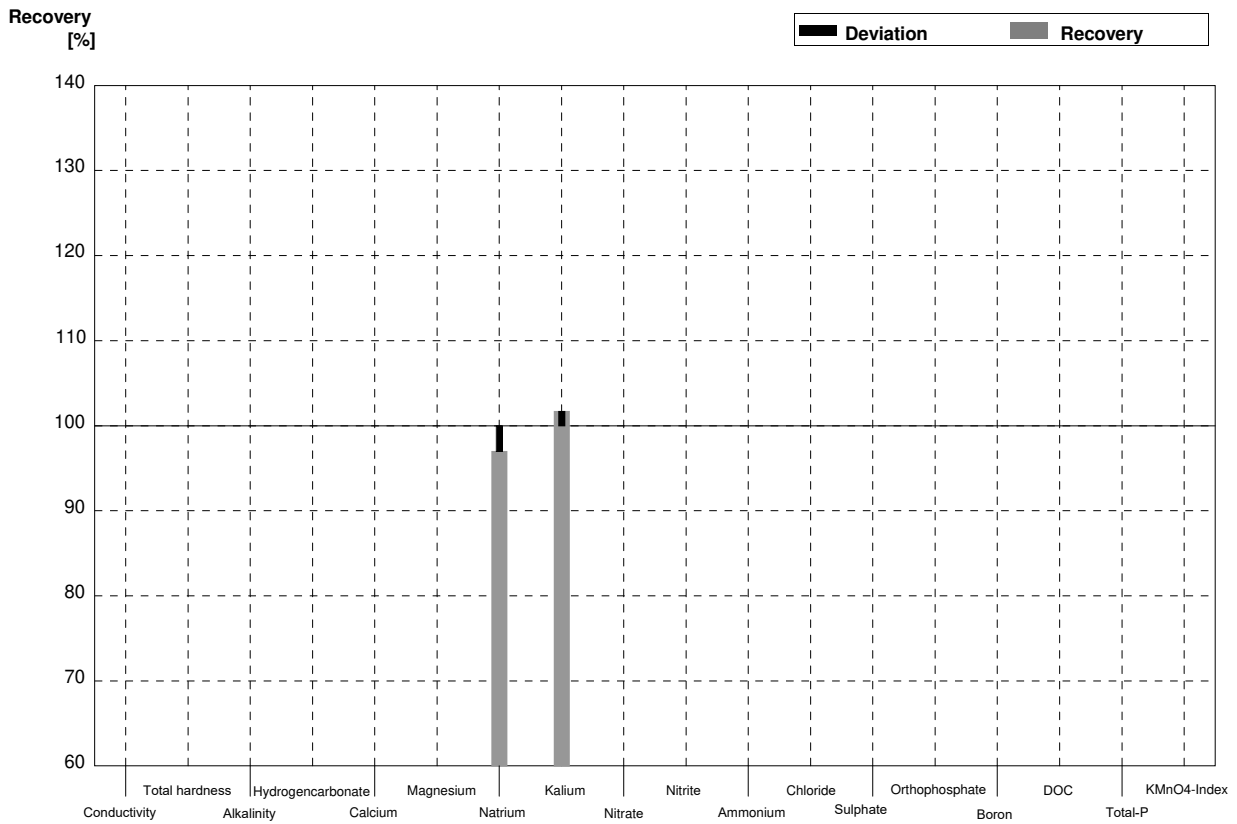
**Sample N179B**  
**Laboratory N**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	410	8	µS/cm	99%
Total hardness	0,988	0,012	0,996		mmol/l	101%
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,085	0,142	mmol/l	100%
Hydrogen carbonate	123,8	1,1	124	6	mg/l	100%
Calcium	21,6	0,4	21,8	1,4	mg/l	101%
Magnesium	10,94	0,15	11,0	0,9	mg/l	101%
Sodium	42,2	0,4	42,4	3,1	mg/l	100%
Potassium	7,78	0,05	8,07	0,71	mg/l	104%
Nitrate (as NO3)	61,1	1,3	61,0	4,2	mg/l	100%
Nitrite (as NO2)	0,0557	0,0012	0,0568	0,01113	mg/l	102%
Ammonium (as NH4)	<0,01		<0,05		mg/l	•
Chloride	20,46	0,12	19,3	2,5	mg/l	94%
Sulphate (as SO4)	17,8	0,2	17,1	0,8	mg/l	96%
Orthophosphate (as PO4)	0,0455	0,0042			mg/l	
Boron	0,0807	0,0005	0,084	0,009	mg/l	104%
DOC (as C)	4,07	0,02	4,07	0,66	mg/l	100%
Total P (as PO4)	0,101	0,003			mg/l	
KMnO4-Index (as O2)	2,43	0,09			mg/l	



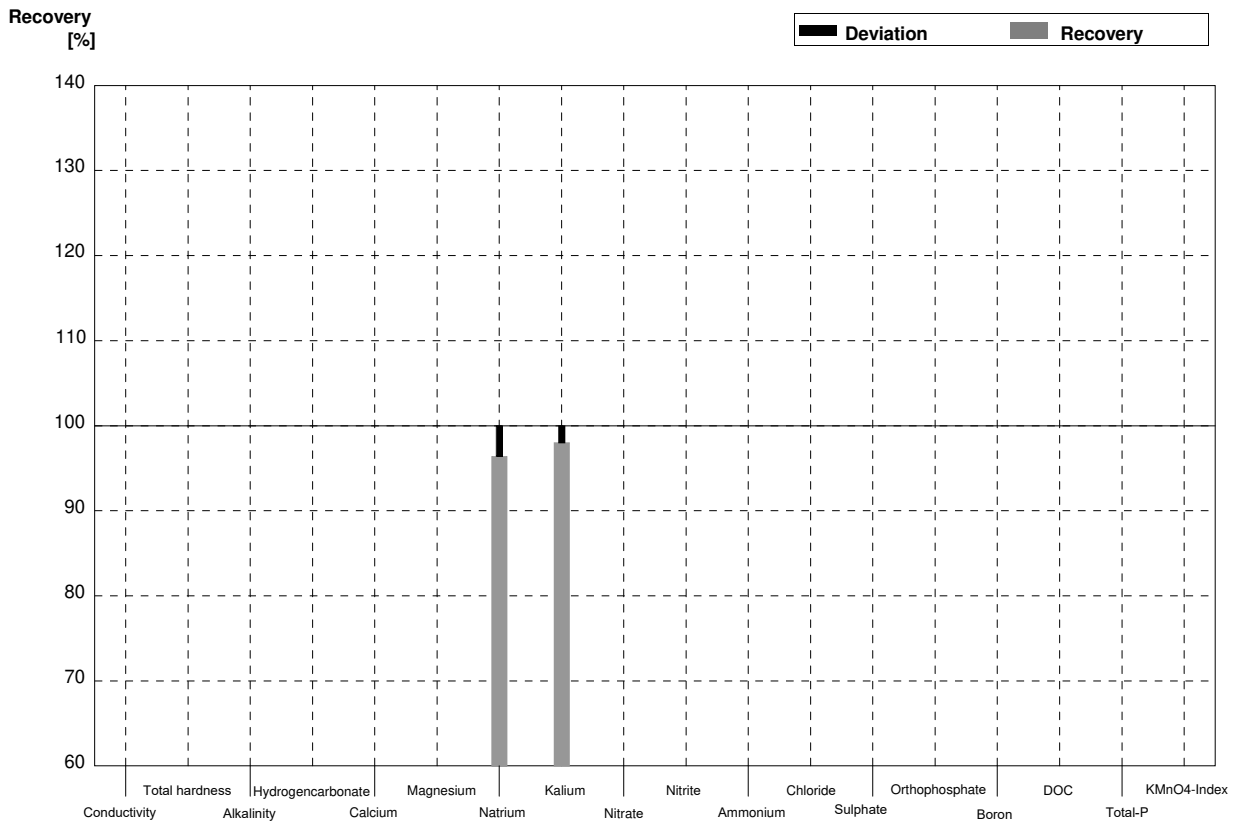
**Sample N179A**  
**Laboratory O**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2			µS/cm	
Total hardness	2,32	0,02			mmol/l	
Alkalinity KS 4,3 (as H+)	2,77	0,04			mmol/l	
Hydrogen carbonate	166	2			mg/l	
Calcium	69,9	0,9			mg/l	
Magnesium	14,06	0,16			mg/l	
Sodium	11,2	0,5	10,865		mg/l	97%
Potassium	5,86	0,04	5,960		mg/l	102%
Nitrate (as NO3)	31,6	0,9			mg/l	
Nitrite (as NO2)	0,0303	0,0010			mg/l	
Ammonium (as NH4)	0,0394	0,0039			mg/l	
Chloride	33,8	0,6			mg/l	
Sulphate (as SO4)	49,4	0,6			mg/l	
Orthophosphate (as PO4)	<0,009				mg/l	
Boron	0,1508	0,0012			mg/l	
DOC (as C)	6,25	0,03			mg/l	
Total P (as PO4)	<0,009				mg/l	
KMnO4-Index (as O2)	3,74	0,14			mg/l	



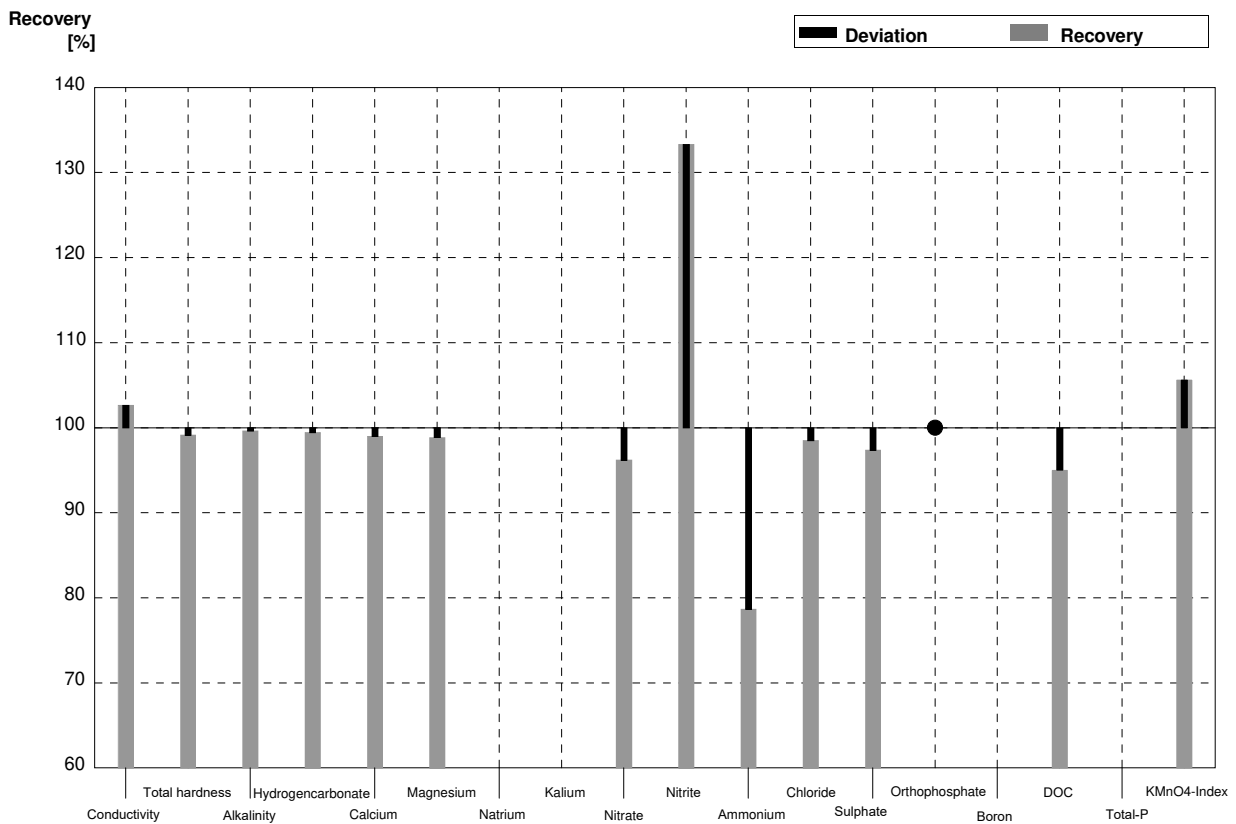
**Sample N179B**  
**Laboratory O**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1			µS/cm	
Total hardness	0,988	0,012			mmol/l	
Alkalinity KS 4,3 (as H+)	2,080	0,017			mmol/l	
Hydrogen carbonate	123,8	1,1			mg/l	
Calcium	21,6	0,4			mg/l	
Magnesium	10,94	0,15			mg/l	
Sodium	42,2	0,4	40,686		mg/l	96%
Potassium	7,78	0,05	7,626		mg/l	98%
Nitrate (as NO3)	61,1	1,3			mg/l	
Nitrite (as NO2)	0,0557	0,0012			mg/l	
Ammonium (as NH4)	<0,01				mg/l	
Chloride	20,46	0,12			mg/l	
Sulphate (as SO4)	17,8	0,2			mg/l	
Orthophosphate (as PO4)	0,0455	0,0042			mg/l	
Boron	0,0807	0,0005			mg/l	
DOC (as C)	4,07	0,02			mg/l	
Total P (as PO4)	0,101	0,003			mg/l	
KMnO4-Index (as O2)	2,43	0,09			mg/l	



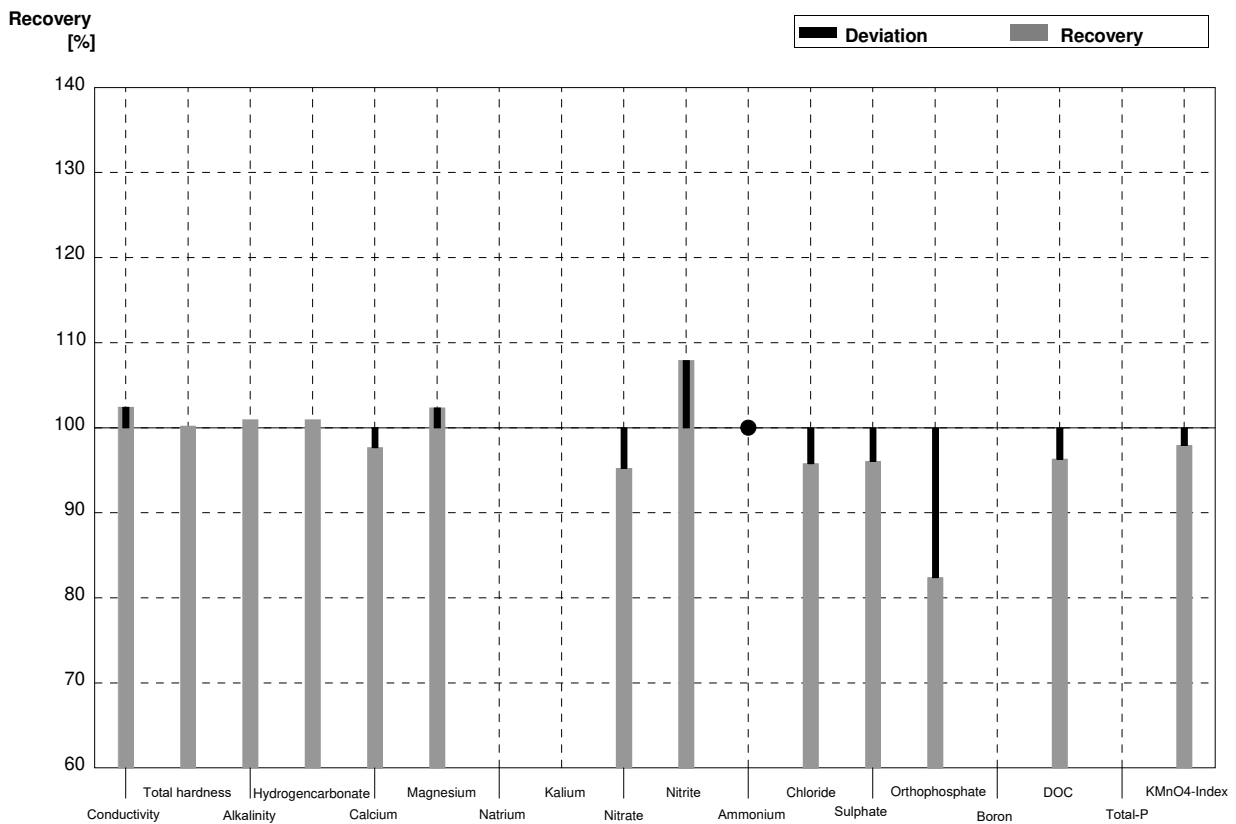
**Sample N179A**  
**Laboratory P**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	541	25	µS/cm	103%
Total hardness	2,32	0,02	2,30	0,05	mmol/l	99%
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,76	0,15	mmol/l	100%
Hydrogen carbonate	166	2	165,1	7,0	mg/l	99%
Calcium	69,9	0,9	69,2	3,0	mg/l	99%
Magnesium	14,06	0,16	13,9	1,5	mg/l	99%
Sodium	11,2	0,5			mg/l	
Potassium	5,86	0,04			mg/l	
Nitrate (as NO3)	31,6	0,9	30,4	2,0	mg/l	96%
Nitrite (as NO2)	0,0303	0,0010	0,0404	0,008	mg/l	133%
Ammonium (as NH4)	0,0394	0,0039	0,0310	0,005	mg/l	79%
Chloride	33,8	0,6	33,3	2	mg/l	99%
Sulphate (as SO4)	49,4	0,6	48,1	3	mg/l	97%
Orthophosphate (as PO4)	<0,009		<0,0300	0,005	mg/l	•
Boron	0,1508	0,0012			mg/l	
DOC (as C)	6,25	0,03	5,94	0,60	mg/l	95%
Total P (as PO4)	<0,009				mg/l	
KMnO4-Index (as O2)	3,74	0,14	3,95	0,40	mg/l	106%



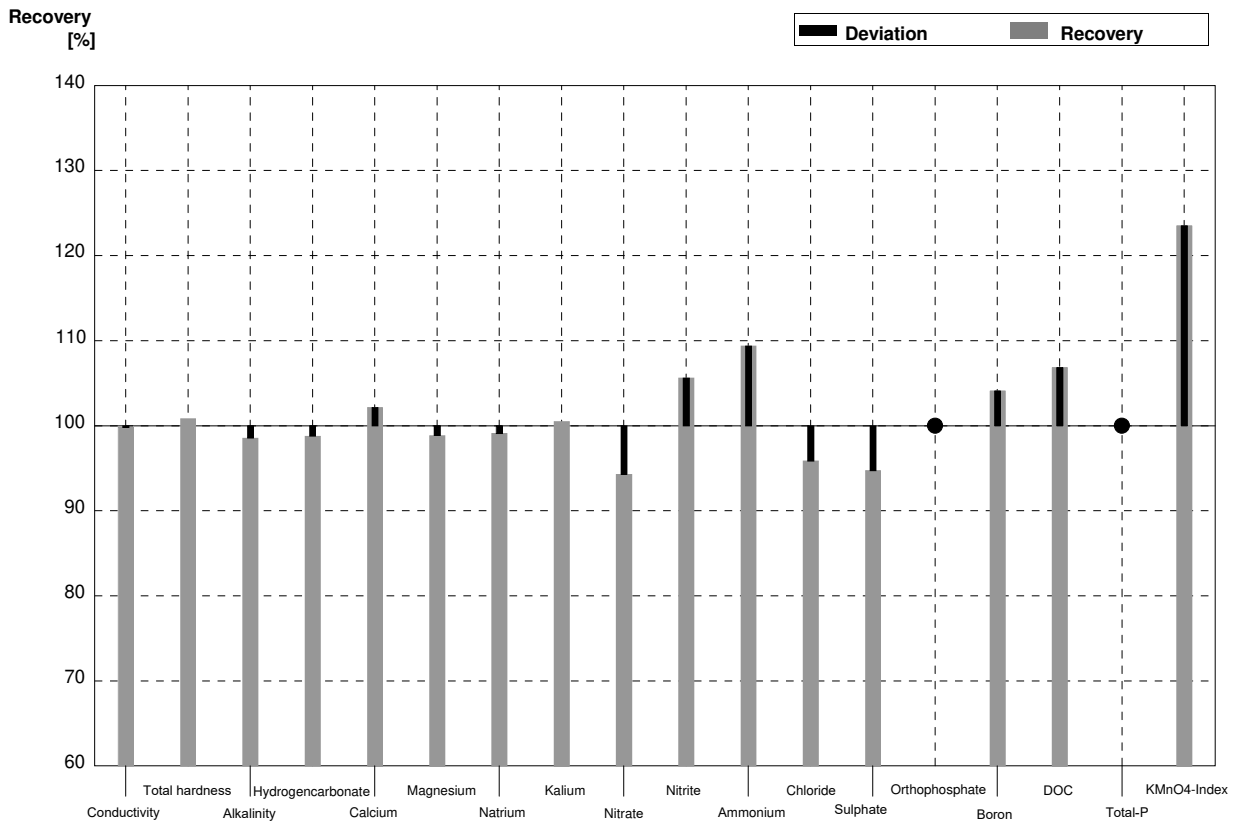
**Sample N179B**  
**Laboratory P**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	423	20	µS/cm	102%
Total hardness	0,988	0,012	0,99	0,03	mmol/l	100%
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,10	0,10	mmol/l	101%
Hydrogen carbonate	123,8	1,1	125,0	4,0	mg/l	101%
Calcium	21,6	0,4	21,1	1,3	mg/l	98%
Magnesium	10,94	0,15	11,2	1,5	mg/l	102%
Sodium	42,2	0,4			mg/l	
Potassium	7,78	0,05			mg/l	
Nitrate (as NO3)	61,1	1,3	58,2	3,0	mg/l	95%
Nitrite (as NO2)	0,0557	0,0012	0,0601	0,010	mg/l	108%
Ammonium (as NH4)	<0,01		<0,020	0,005	mg/l	•
Chloride	20,46	0,12	19,6	1,5	mg/l	96%
Sulphate (as SO4)	17,8	0,2	17,1	1,5	mg/l	96%
Orthophosphate (as PO4)	0,0455	0,0042	0,0375	0,005	mg/l	82%
Boron	0,0807	0,0005			mg/l	
DOC (as C)	4,07	0,02	3,92	0,40	mg/l	96%
Total P (as PO4)	0,101	0,003			mg/l	
KMnO4-Index (as O2)	2,43	0,09	2,38	0,25	mg/l	98%



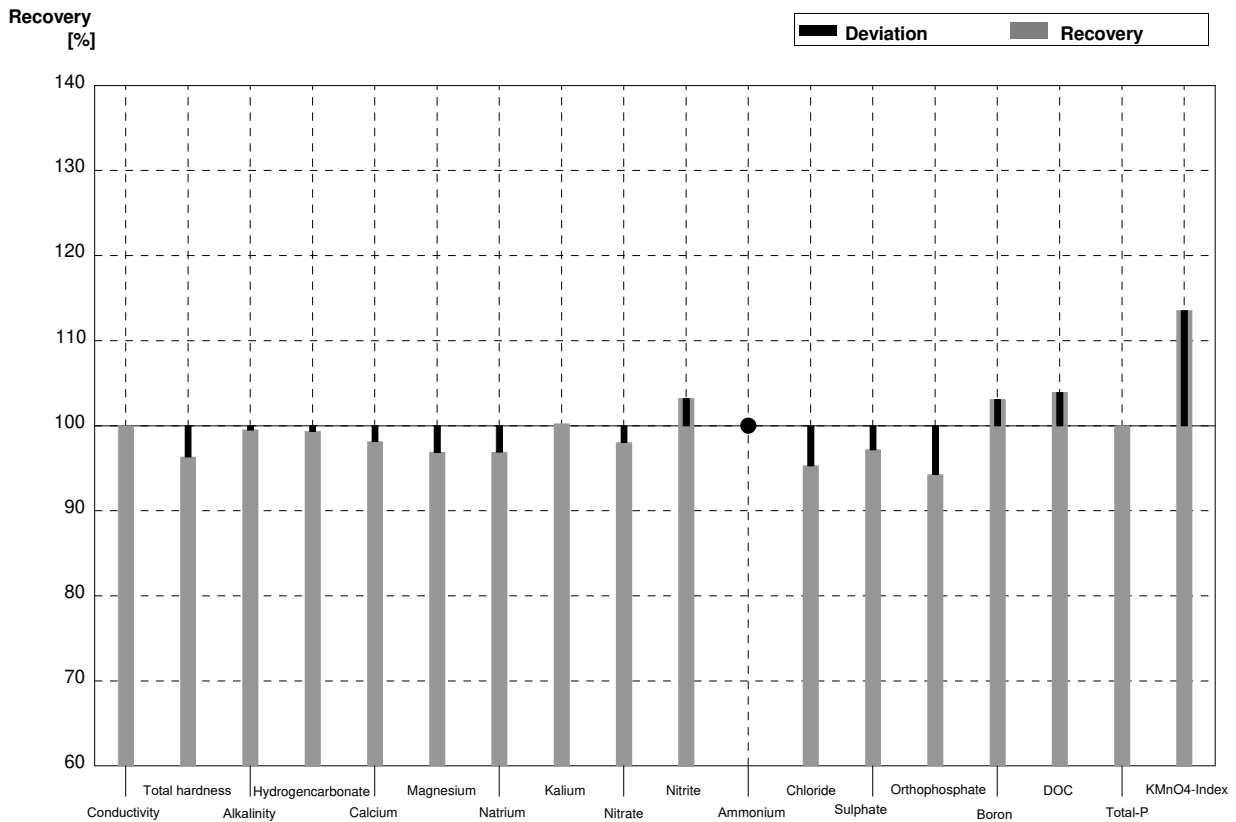
**Sample N179A**  
**Laboratory Q**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	526	0,184	µS/cm	100%
Total hardness	2,32	0,02	2,34	0,0271	mmol/l	101%
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,73	0,104	mmol/l	99%
Hydrogen carbonate	166	2	164	3,27	mg/l	99%
Calcium	69,9	0,9	71,4	0,514	mg/l	102%
Magnesium	14,06	0,16	13,9	0,199	mg/l	99%
Sodium	11,2	0,5	11,1	0,230	mg/l	99%
Potassium	5,86	0,04	5,89	0,264	mg/l	101%
Nitrate (as NO3)	31,6	0,9	29,8	0,951	mg/l	94%
Nitrite (as NO2)	0,0303	0,0010	0,0320	0,00114	mg/l	106%
Ammonium (as NH4)	0,0394	0,0039	0,0431	0,00128	mg/l	109%
Chloride	33,8	0,6	32,4	0,790	mg/l	96%
Sulphate (as SO4)	49,4	0,6	46,8	0,522	mg/l	95%
Orthophosphate (as PO4)	<0,009		<0,015		mg/l	•
Boron	0,1508	0,0012	0,157	0,000795	mg/l	104%
DOC (as C)	6,25	0,03	6,68	0,0608	mg/l	107%
Total P (as PO4)	<0,009		<0,015		mg/l	•
KMnO4-Index (as O2)	3,74	0,14	4,62		mg/l	124%



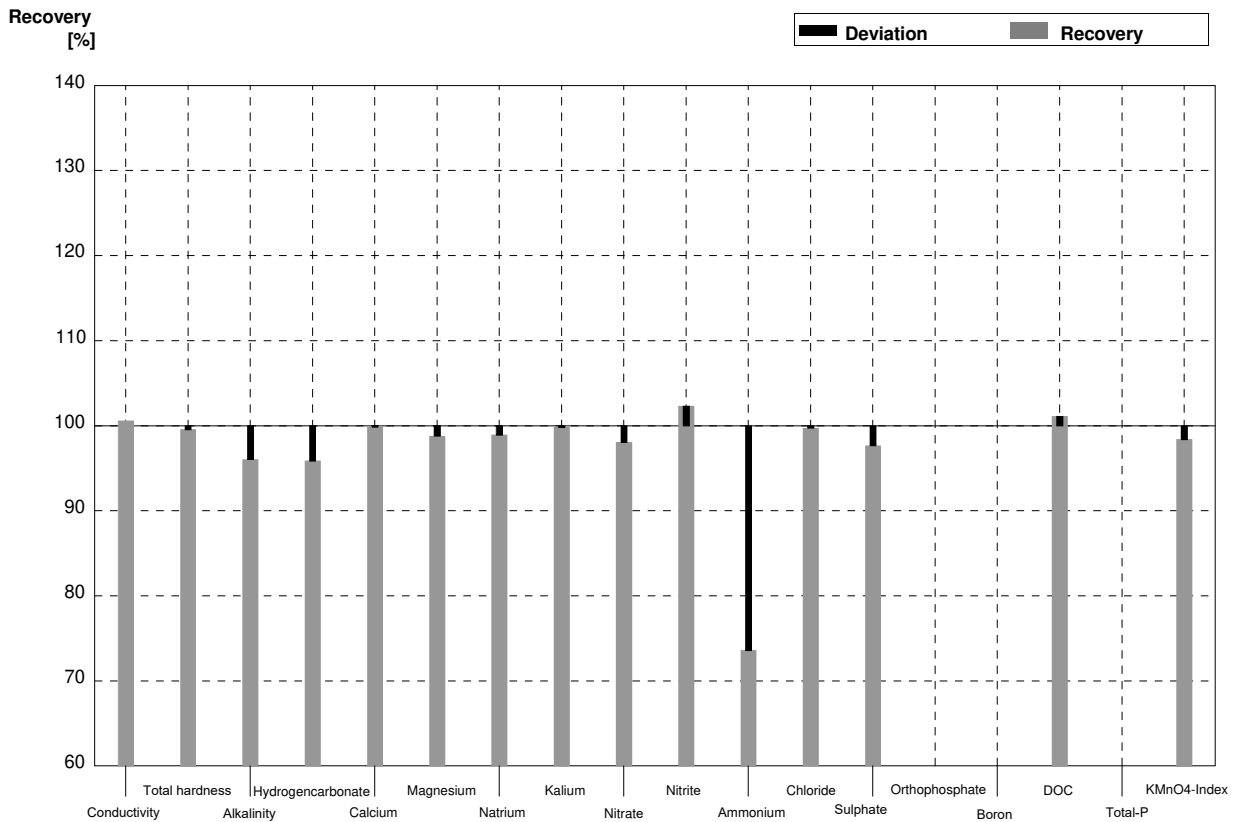
**Sample N179B**  
**Laboratory Q**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	413	0,120	µS/cm	100%
Total hardness	0,988	0,012	0,952	0,0991	mmol/l	96%
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,07	0,0903	mmol/l	100%
Hydrogen carbonate	123,8	1,1	123	2,46	mg/l	99%
Calcium	21,6	0,4	21,2	0,556	mg/l	98%
Magnesium	10,94	0,15	10,6	0,213	mg/l	97%
Sodium	42,2	0,4	40,9	0,223	mg/l	97%
Potassium	7,78	0,05	7,80	0,256	mg/l	100%
Nitrate (as NO3)	61,1	1,3	59,9	1,90	mg/l	98%
Nitrite (as NO2)	0,0557	0,0012	0,0575	0,00110	mg/l	103%
Ammonium (as NH4)	<0,01		<0,010		mg/l	•
Chloride	20,46	0,12	19,5	0,719	mg/l	95%
Sulphate (as SO4)	17,8	0,2	17,3	0,197	mg/l	97%
Orthophosphate (as PO4)	0,0455	0,0042	0,0429	0,00204	mg/l	94%
Boron	0,0807	0,0005	0,0832	0,000774	mg/l	103%
DOC (as C)	4,07	0,02	4,23	0,0549	mg/l	104%
Total P (as PO4)	0,101	0,003	0,101	0,00305	mg/l	100%
KMnO4-Index (as O2)	2,43	0,09	2,76		mg/l	114%



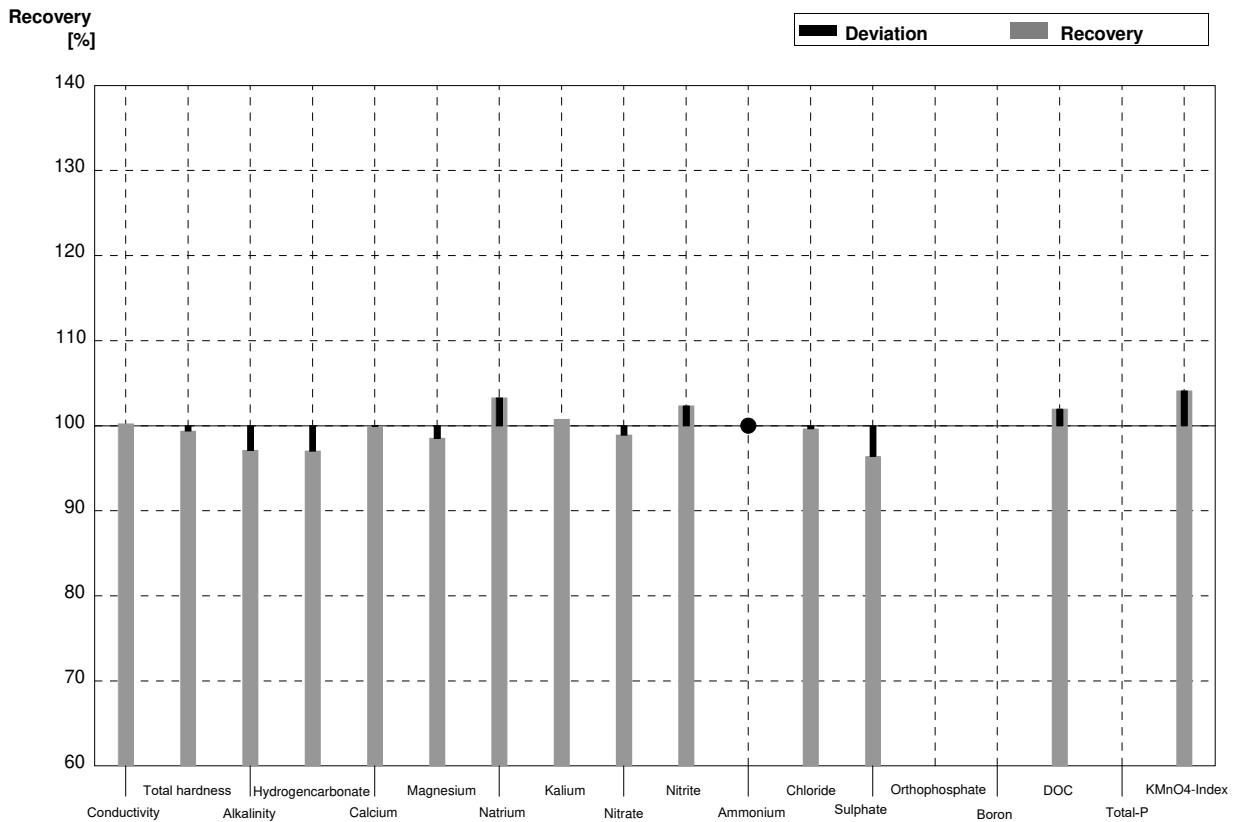
**Sample N179A**  
**Laboratory R**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	530	11,7	µS/cm	101%
Total hardness	2,32	0,02	2,310	0,09	mmol/l	100%
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,66	0,06	mmol/l	96%
Hydrogen carbonate	166	2	159,16	3,34	mg/l	96%
Calcium	69,9	0,9	69,80	2,72	mg/l	100%
Magnesium	14,06	0,16	13,89	0,65	mg/l	99%
Sodium	11,2	0,5	11,08	0,53	mg/l	99%
Potassium	5,86	0,04	5,85	0,37	mg/l	100%
Nitrate (as NO3)	31,6	0,9	30,99	2,08	mg/l	98%
Nitrite (as NO2)	0,0303	0,0010	0,0310	0,002	mg/l	102%
Ammonium (as NH4)	0,0394	0,0039	0,0290	0,005	mg/l	74%
Chloride	33,8	0,6	33,71	1,58	mg/l	100%
Sulphate (as SO4)	49,4	0,6	48,25	2,41	mg/l	98%
Orthophosphate (as PO4)	<0,009				mg/l	
Boron	0,1508	0,0012			mg/l	
DOC (as C)	6,25	0,03	6,32	1,10	mg/l	101%
Total P (as PO4)	<0,009				mg/l	
KMnO4-Index (as O2)	3,74	0,14	3,68	0,78	mg/l	98%



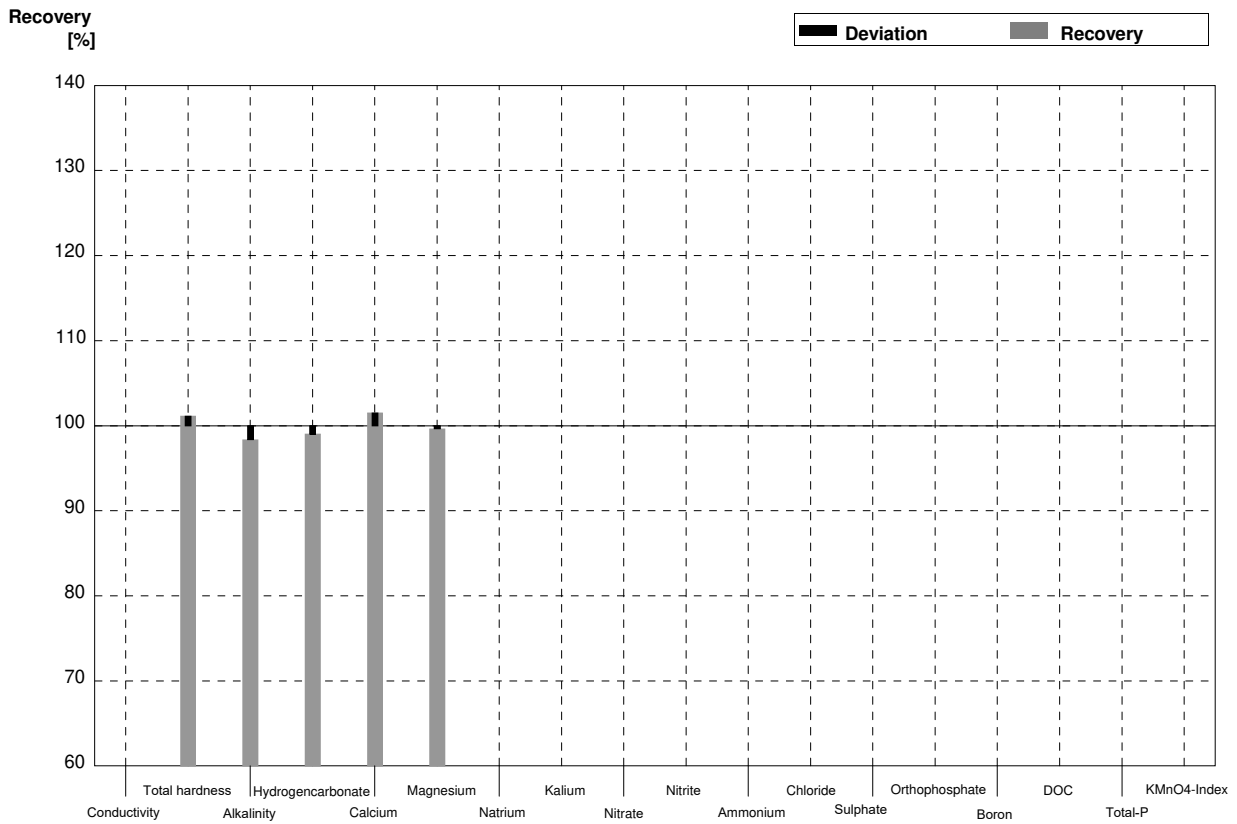
**Sample N179B**  
**Laboratory R**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	414	9,1	µS/cm	100%
Total hardness	0,988	0,012	0,982	0,040	mmol/l	99%
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,02	0,04	mmol/l	97%
Hydrogen carbonate	123,8	1,1	120,13	2,52	mg/l	97%
Calcium	21,6	0,4	21,59	0,84	mg/l	100%
Magnesium	10,94	0,15	10,78	0,51	mg/l	99%
Sodium	42,2	0,4	43,59	2,09	mg/l	103%
Potassium	7,78	0,05	7,84	0,50	mg/l	101%
Nitrate (as NO3)	61,1	1,3	60,44	4,05	mg/l	99%
Nitrite (as NO2)	0,0557	0,0012	0,057	0,004	mg/l	102%
Ammonium (as NH4)	<0,01		0,00200	0,000100	mg/l	•
Chloride	20,46	0,12	20,39	0,96	mg/l	100%
Sulphate (as SO4)	17,8	0,2	17,16	0,86	mg/l	96%
Orthophosphate (as PO4)	0,0455	0,0042			mg/l	
Boron	0,0807	0,0005			mg/l	
DOC (as C)	4,07	0,02	4,15	0,72	mg/l	102%
Total P (as PO4)	0,101	0,003			mg/l	
KMnO4-Index (as O2)	2,43	0,09	2,53	0,54	mg/l	104%



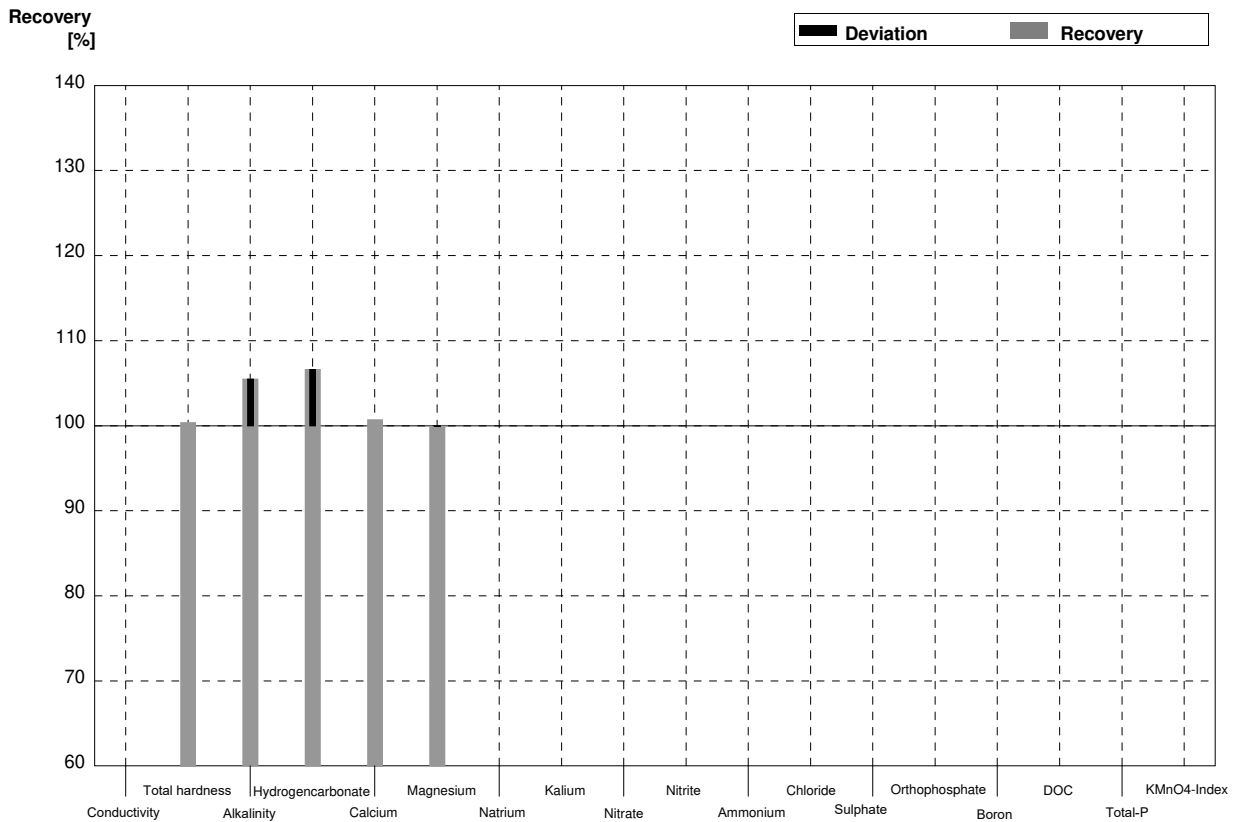
**Sample N179A**  
**Laboratory S**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2			µS/cm	
Total hardness	2,32	0,02	2,3468	0,2	mmol/l	101%
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,725	0,15	mmol/l	98%
Hydrogen carbonate	166	2	164,395	9	mg/l	99%
Calcium	69,9	0,9	70,9780	6	mg/l	102%
Magnesium	14,06	0,16	14,0110	2	mg/l	100%
Sodium	11,2	0,5			mg/l	
Potassium	5,86	0,04			mg/l	
Nitrate (as NO3)	31,6	0,9			mg/l	
Nitrite (as NO2)	0,0303	0,0010			mg/l	
Ammonium (as NH4)	0,0394	0,0039			mg/l	
Chloride	33,8	0,6			mg/l	
Sulphate (as SO4)	49,4	0,6			mg/l	
Orthophosphate (as PO4)	<0,009				mg/l	
Boron	0,1508	0,0012			mg/l	
DOC (as C)	6,25	0,03			mg/l	
Total P (as PO4)	<0,009				mg/l	
KMnO4-Index (as O2)	3,74	0,14			mg/l	



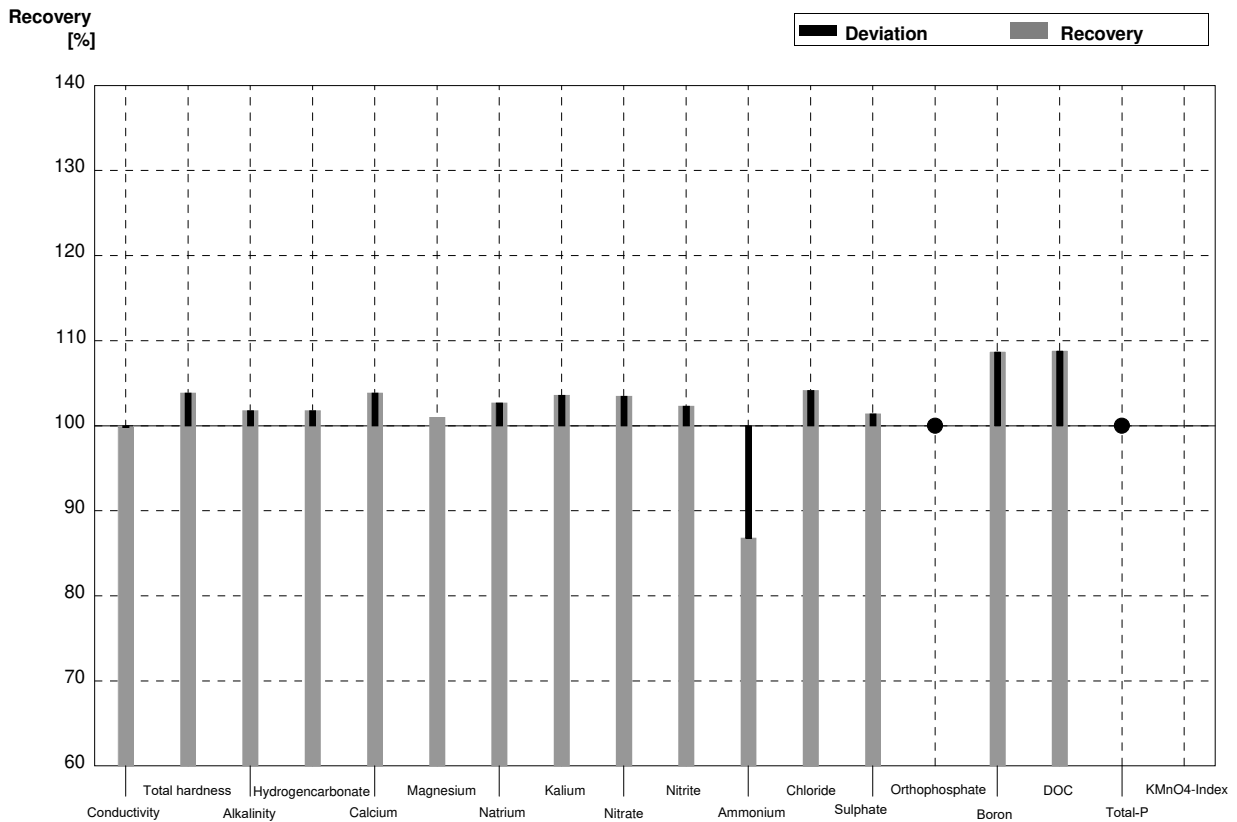
**Sample N179B**  
**Laboratory S**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1			µS/cm	
Total hardness	0,988	0,012	0,9921	0,1	mmol/l	100%
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,195	0,15	mmol/l	106%
Hydrogen carbonate	123,8	1,1	132,035	7	mg/l	107%
Calcium	21,6	0,4	21,7565	4	mg/l	101%
Magnesium	10,94	0,15	10,9318	2	mg/l	100%
Sodium	42,2	0,4			mg/l	
Potassium	7,78	0,05			mg/l	
Nitrate (as NO3)	61,1	1,3			mg/l	
Nitrite (as NO2)	0,0557	0,0012			mg/l	
Ammonium (as NH4)	<0,01				mg/l	
Chloride	20,46	0,12			mg/l	
Sulphate (as SO4)	17,8	0,2			mg/l	
Orthophosphate (as PO4)	0,0455	0,0042			mg/l	
Boron	0,0807	0,0005			mg/l	
DOC (as C)	4,07	0,02			mg/l	
Total P (as PO4)	0,101	0,003			mg/l	
KMnO4-Index (as O2)	2,43	0,09			mg/l	



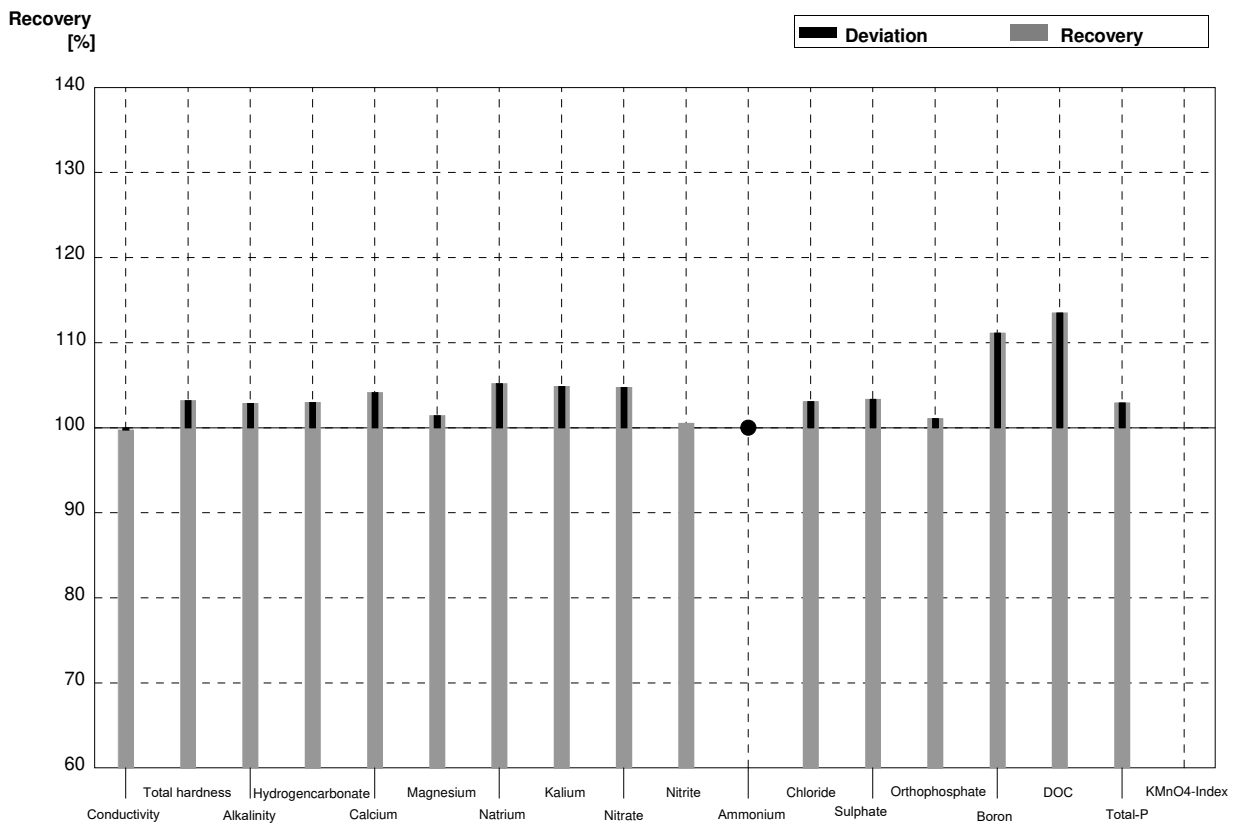
**Sample N179A**  
**Laboratory T**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	526	78,9	µS/cm	100%
Total hardness	2,32	0,02	2,41	0,241	mmol/l	104%
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,82	0,42	mmol/l	102%
Hydrogen carbonate	166	2	169,0	25,4	mg/l	102%
Calcium	69,9	0,9	72,6	7,26	mg/l	104%
Magnesium	14,06	0,16	14,2	1,42	mg/l	101%
Sodium	11,2	0,5	11,5	1,12	mg/l	103%
Potassium	5,86	0,04	6,07	0,607	mg/l	104%
Nitrate (as NO3)	31,6	0,9	32,7	3,27	mg/l	103%
Nitrite (as NO2)	0,0303	0,0010	0,0310	0,0031	mg/l	102%
Ammonium (as NH4)	0,0394	0,0039	0,0342	0,00342	mg/l	87%
Chloride	33,8	0,6	35,2	3,52	mg/l	104%
Sulphate (as SO4)	49,4	0,6	50,1	5,01	mg/l	101%
Orthophosphate (as PO4)	<0,009		<0,0055		mg/l	•
Boron	0,1508	0,0012	0,1639	0,0246	mg/l	109%
DOC (as C)	6,25	0,03	6,80	1,02	mg/l	109%
Total P (as PO4)	<0,009		<0,011		mg/l	•
KMnO4-Index (as O2)	3,74	0,14			mg/l	



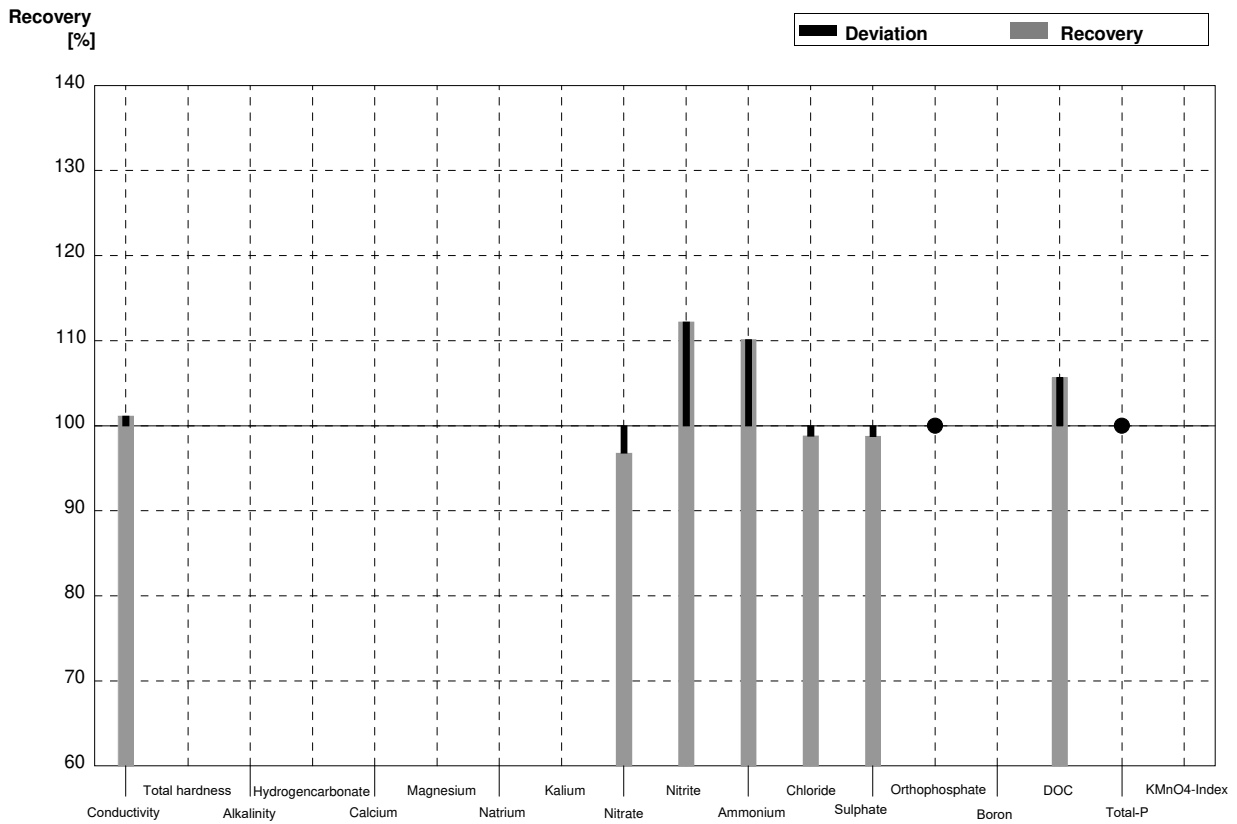
**Sample N179B**  
**Laboratory T**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	412	61,8	µS/cm	100%
Total hardness	0,988	0,012	1,02	0,102	mmol/l	103%
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,14	0,32	mmol/l	103%
Hydrogen carbonate	123,8	1,1	127,5	19,1	mg/l	103%
Calcium	21,6	0,4	22,5	0,225	mg/l	104%
Magnesium	10,94	0,15	11,1	0,111	mg/l	101%
Sodium	42,2	0,4	44,4	4,44	mg/l	105%
Potassium	7,78	0,05	8,16	0,816	mg/l	105%
Nitrate (as NO3)	61,1	1,3	64,0	6,40	mg/l	105%
Nitrite (as NO2)	0,0557	0,0012	0,056	0,0056	mg/l	101%
Ammonium (as NH4)	<0,01		<0,0090		mg/l	•
Chloride	20,46	0,12	21,1	2,11	mg/l	103%
Sulphate (as SO4)	17,8	0,2	18,4	1,84	mg/l	103%
Orthophosphate (as PO4)	0,0455	0,0042	0,0460	0,0046	mg/l	101%
Boron	0,0807	0,0005	0,0897	0,0134	mg/l	111%
DOC (as C)	4,07	0,02	4,62	0,69	mg/l	114%
Total P (as PO4)	0,101	0,003	0,104	0,0104	mg/l	103%
KMnO4-Index (as O2)	2,43	0,09			mg/l	



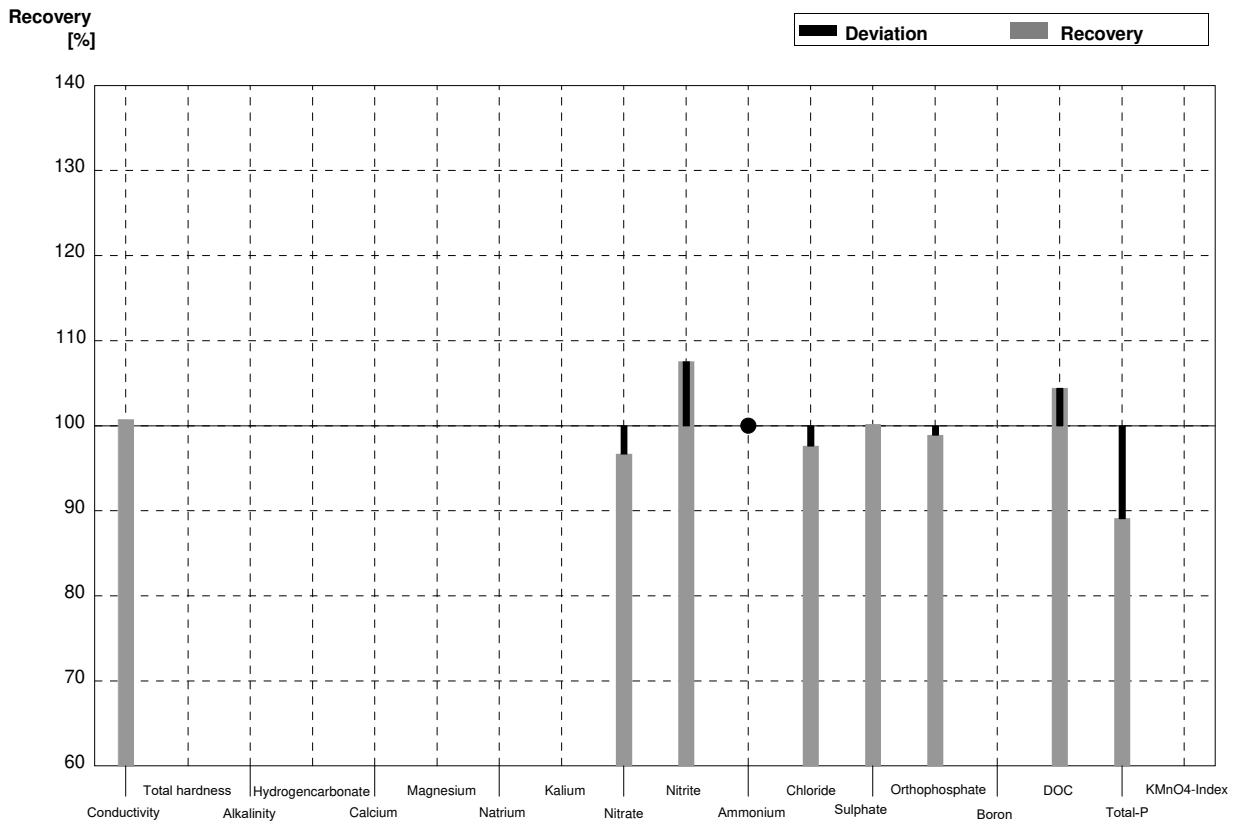
**Sample N179A**  
**Laboratory U**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	533	27	µS/cm	101%
Total hardness	2,32	0,02			mmol/l	
Alkalinity KS 4,3 (as H+)	2,77	0,04			mmol/l	
Hydrogen carbonate	166	2			mg/l	
Calcium	69,9	0,9			mg/l	
Magnesium	14,06	0,16			mg/l	
Sodium	11,2	0,5			mg/l	
Potassium	5,86	0,04			mg/l	
Nitrate (as NO3)	31,6	0,9	30,587	1,355	mg/l	97%
Nitrite (as NO2)	0,0303	0,0010	0,0340	0,0095	mg/l	112%
Ammonium (as NH4)	0,0394	0,0039	0,0434	0,0100	mg/l	110%
Chloride	33,8	0,6	33,400	4,369	mg/l	99%
Sulphate (as SO4)	49,4	0,6	48,797	2,972	mg/l	99%
Orthophosphate (as PO4)	<0,009		<0,015		mg/l	•
Boron	0,1508	0,0012			mg/l	
DOC (as C)	6,25	0,03	6,607	1,189	mg/l	106%
Total P (as PO4)	<0,009		<0,015		mg/l	•
KMnO4-Index (as O2)	3,74	0,14			mg/l	



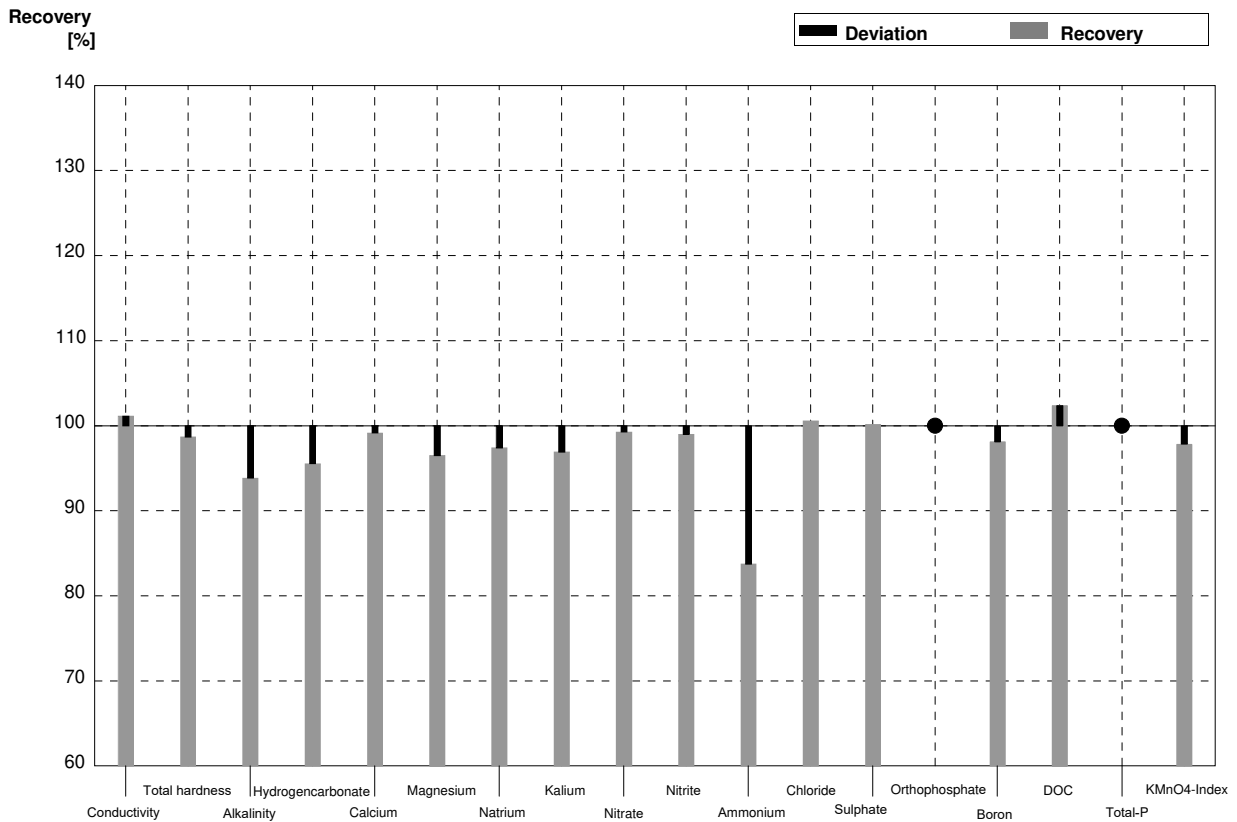
**Sample N179B**  
**Laboratory U**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	416	21	µS/cm	101%
Total hardness	0,988	0,012			mmol/l	
Alkalinity KS 4,3 (as H+)	2,080	0,017			mmol/l	
Hydrogen carbonate	123,8	1,1			mg/l	
Calcium	21,6	0,4			mg/l	
Magnesium	10,94	0,15			mg/l	
Sodium	42,2	0,4			mg/l	
Potassium	7,78	0,05			mg/l	
Nitrate (as NO3)	61,1	1,3	59,072	2,617	mg/l	97%
Nitrite (as NO2)	0,0557	0,0012	0,0599	0,0168	mg/l	108%
Ammonium (as NH4)	<0,01		<0,012		mg/l	•
Chloride	20,46	0,12	19,972	2,612	mg/l	98%
Sulphate (as SO4)	17,8	0,2	17,828	1,086	mg/l	100%
Orthophosphate (as PO4)	0,0455	0,0042	0,0450	0,0077	mg/l	99%
Boron	0,0807	0,0005			mg/l	
DOC (as C)	4,07	0,02	4,250	0,765	mg/l	104%
Total P (as PO4)	0,101	0,003	0,090	0,011	mg/l	89%
KMnO4-Index (as O2)	2,43	0,09			mg/l	



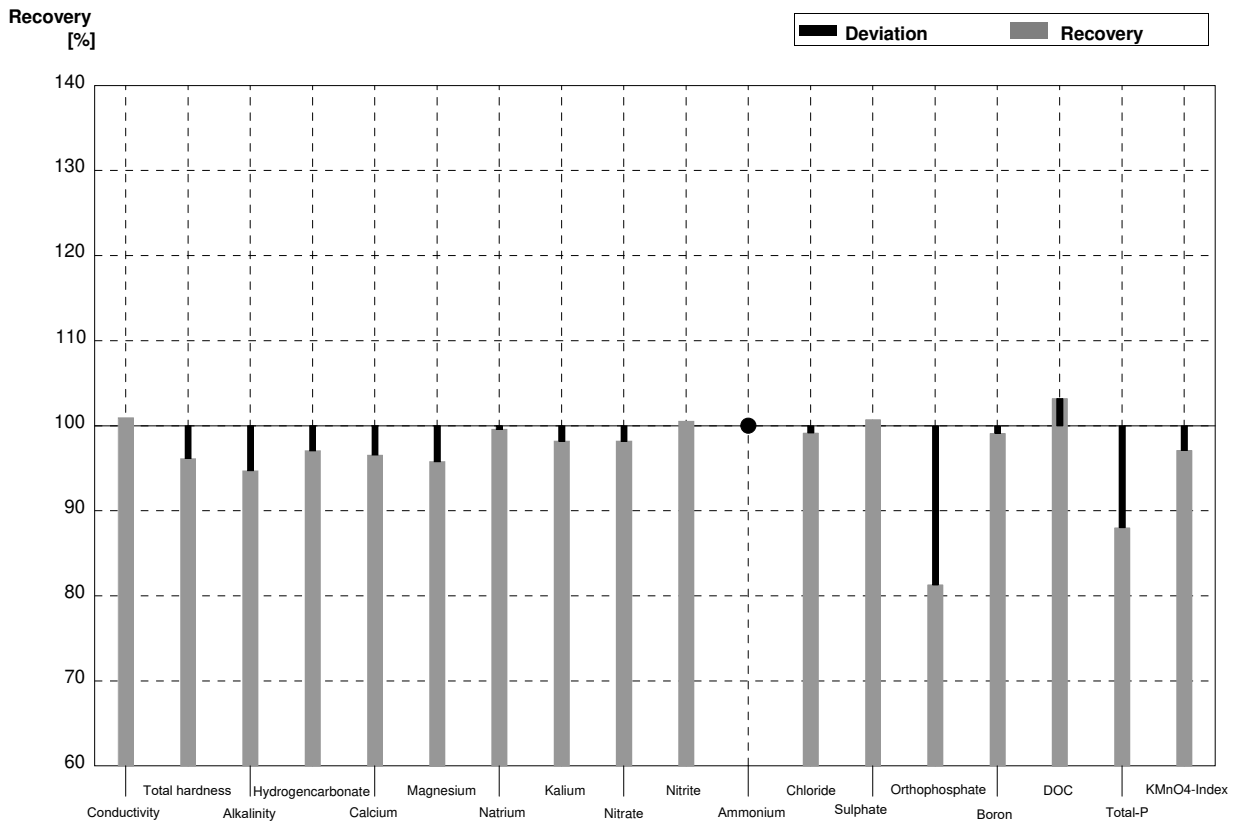
**Sample N179A**  
**Laboratory V**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	533	53,3	µS/cm	101%
Total hardness	2,32	0,02	2,29		mmol/l	99%
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,60	0,390	mmol/l	94%
Hydrogen carbonate	166	2	158,6	23,8	mg/l	96%
Calcium	69,9	0,9	69,32	6,932	mg/l	99%
Magnesium	14,06	0,16	13,57	1,357	mg/l	97%
Sodium	11,2	0,5	10,91	1,091	mg/l	97%
Potassium	5,86	0,04	5,68	0,568	mg/l	97%
Nitrate (as NO3)	31,6	0,9	31,373	1,5686	mg/l	99%
Nitrite (as NO2)	0,0303	0,0010	0,0300	0,0044	mg/l	99%
Ammonium (as NH4)	0,0394	0,0039	0,0330	0,0033	mg/l	84%
Chloride	33,8	0,6	34,0	3,40	mg/l	101%
Sulphate (as SO4)	49,4	0,6	49,49	4,949	mg/l	100%
Orthophosphate (as PO4)	<0,009		0,0060	0,0009	mg/l	•
Boron	0,1508	0,0012	0,148	0,0222	mg/l	98%
DOC (as C)	6,25	0,03	6,40	0,51	mg/l	102%
Total P (as PO4)	<0,009		<0,015		mg/l	•
KMnO4-Index (as O2)	3,74	0,14	3,66	0,586	mg/l	98%



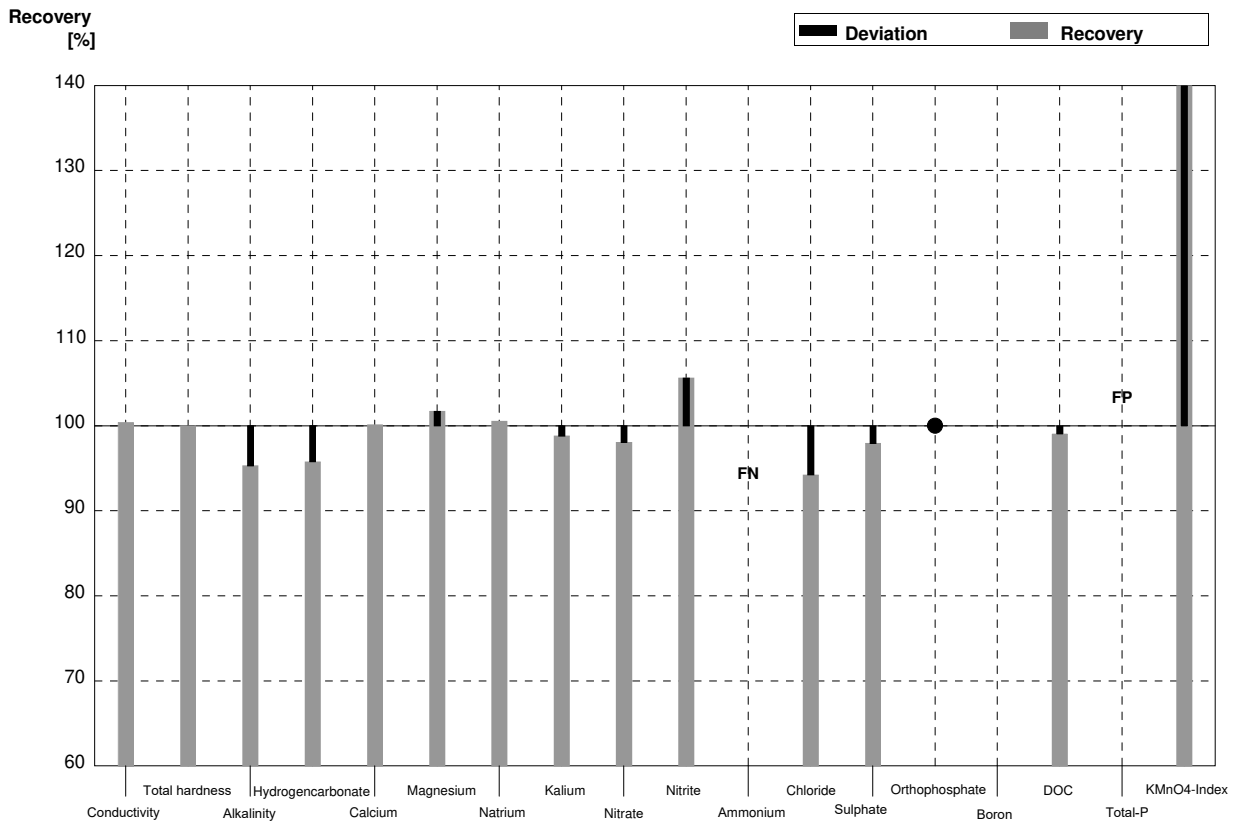
**Sample N179B**  
**Laboratory V**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	417	41,7	µS/cm	101%
Total hardness	0,988	0,012	0,95		mmol/l	96%
Alkalinity KS 4,3 (as H+)	2,080	0,017	1,97	0,296	mmol/l	95%
Hydrogen carbonate	123,8	1,1	120,2	18,03	mg/l	97%
Calcium	21,6	0,4	20,86	2,086	mg/l	97%
Magnesium	10,94	0,15	10,48	1,048	mg/l	96%
Sodium	42,2	0,4	42,03	4,203	mg/l	100%
Potassium	7,78	0,05	7,64	0,764	mg/l	98%
Nitrate (as NO3)	61,1	1,3	59,996	2,9998	mg/l	98%
Nitrite (as NO2)	0,0557	0,0012	0,056	0,0084	mg/l	101%
Ammonium (as NH4)	<0,01		<0,00052		mg/l	•
Chloride	20,46	0,12	20,29	2,029	mg/l	99%
Sulphate (as SO4)	17,8	0,2	17,93	1,793	mg/l	101%
Orthophosphate (as PO4)	0,0455	0,0042	0,0370	0,0055	mg/l	81%
Boron	0,0807	0,0005	0,080	0,0120	mg/l	99%
DOC (as C)	4,07	0,02	4,20	0,34	mg/l	103%
Total P (as PO4)	0,101	0,003	0,0889	0,0135	mg/l	88%
KMnO4-Index (as O2)	2,43	0,09	2,36	0,378	mg/l	97%



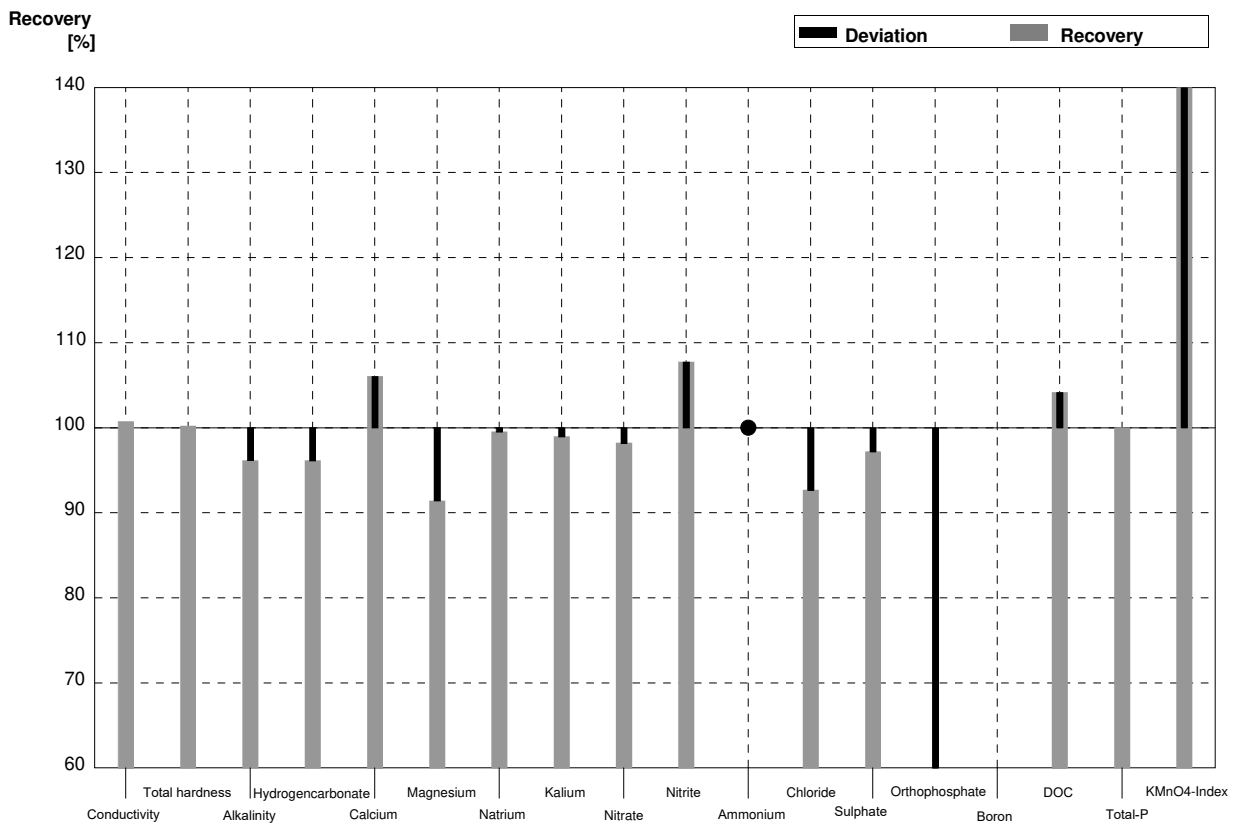
**Sample N179A**  
**Laboratory W**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	529	13	µS/cm	100%
Total hardness	2,32	0,02	2,32	0,09	mmol/l	100%
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,64	0,02	mmol/l	95%
Hydrogen carbonate	166	2	159	7	mg/l	96%
Calcium	69,9	0,9	70	2,8	mg/l	100%
Magnesium	14,06	0,16	14,3	1,4	mg/l	102%
Sodium	11,2	0,5	11,26	0,23	mg/l	101%
Potassium	5,86	0,04	5,79	0,35	mg/l	99%
Nitrate (as NO3)	31,6	0,9	30,99	1,5	mg/l	98%
Nitrite (as NO2)	0,0303	0,0010	0,0320	0,003	mg/l	106%
Ammonium (as NH4)	0,0394	0,0039	<0,01		mg/l	FN
Chloride	33,8	0,6	31,85	1,9	mg/l	94%
Sulphate (as SO4)	49,4	0,6	48,38	1,5	mg/l	98%
Orthophosphate (as PO4)	<0,009		<0,003		mg/l	•
Boron	0,1508	0,0012			mg/l	
DOC (as C)	6,25	0,03	6,19	0,90	mg/l	99%
Total P (as PO4)	<0,009		0,0092		mg/l	FP
KMnO4-Index (as O2)	3,74	0,14	14,72	1,77	mg/l	394%



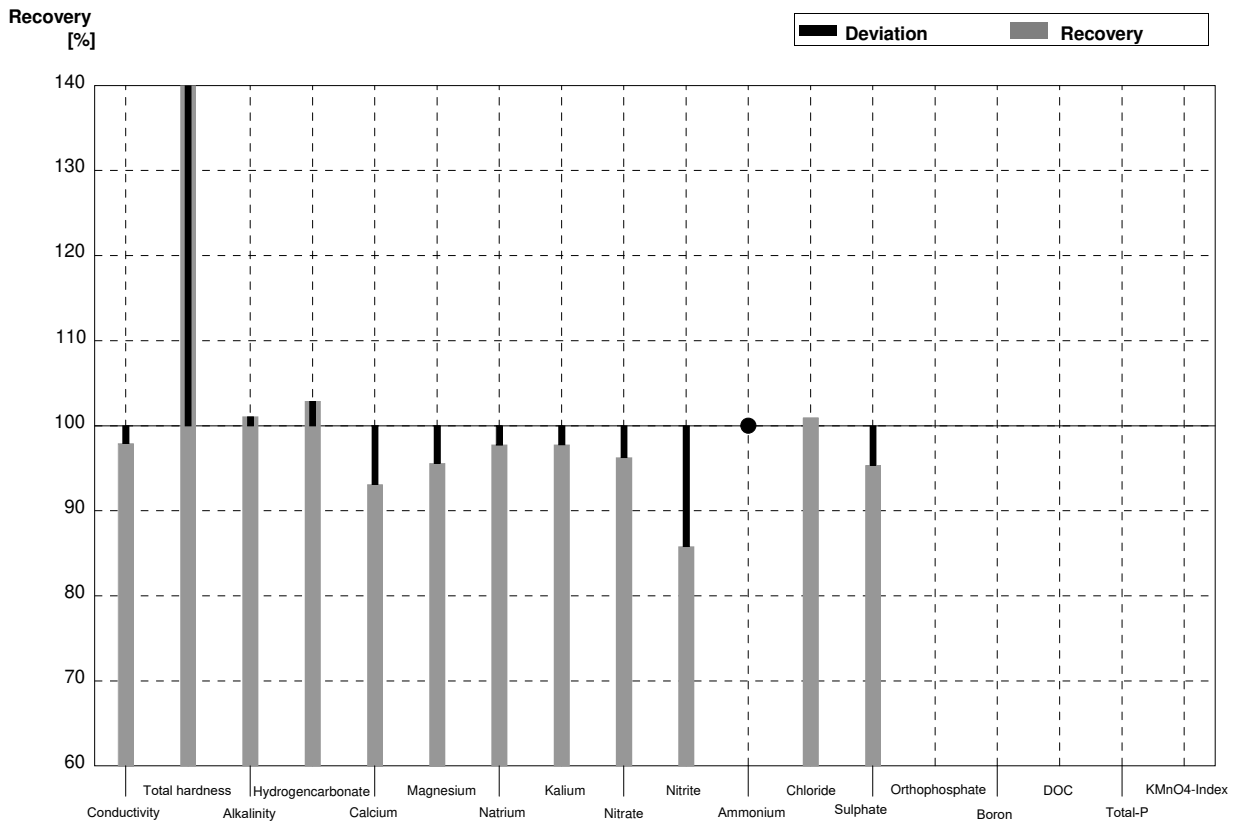
**Sample N179B**  
**Laboratory W**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	416	10	µS/cm	101%
Total hardness	0,988	0,012	0,99	0,04	mmol/l	100%
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,00	0,02	mmol/l	96%
Hydrogen carbonate	123,8	1,1	119	5	mg/l	96%
Calcium	21,6	0,4	22,9	0,9	mg/l	106%
Magnesium	10,94	0,15	10,0	1,0	mg/l	91%
Sodium	42,2	0,4	42,0	0,8	mg/l	100%
Potassium	7,78	0,05	7,7	0,5	mg/l	99%
Nitrate (as NO3)	61,1	1,3	60,0	3,0	mg/l	98%
Nitrite (as NO2)	0,0557	0,0012	0,060	0,006	mg/l	108%
Ammonium (as NH4)	<0,01		<0,002		mg/l	•
Chloride	20,46	0,12	18,96	1,10	mg/l	93%
Sulphate (as SO4)	17,8	0,2	17,3	0,5	mg/l	97%
Orthophosphate (as PO4)	0,0455	0,0042	0,0140		mg/l	31%
Boron	0,0807	0,0005			mg/l	
DOC (as C)	4,07	0,02	4,24	0,60	mg/l	104%
Total P (as PO4)	0,101	0,003	0,101		mg/l	100%
KMnO4-Index (as O2)	2,43	0,09	9,53	1,14	mg/l	392%



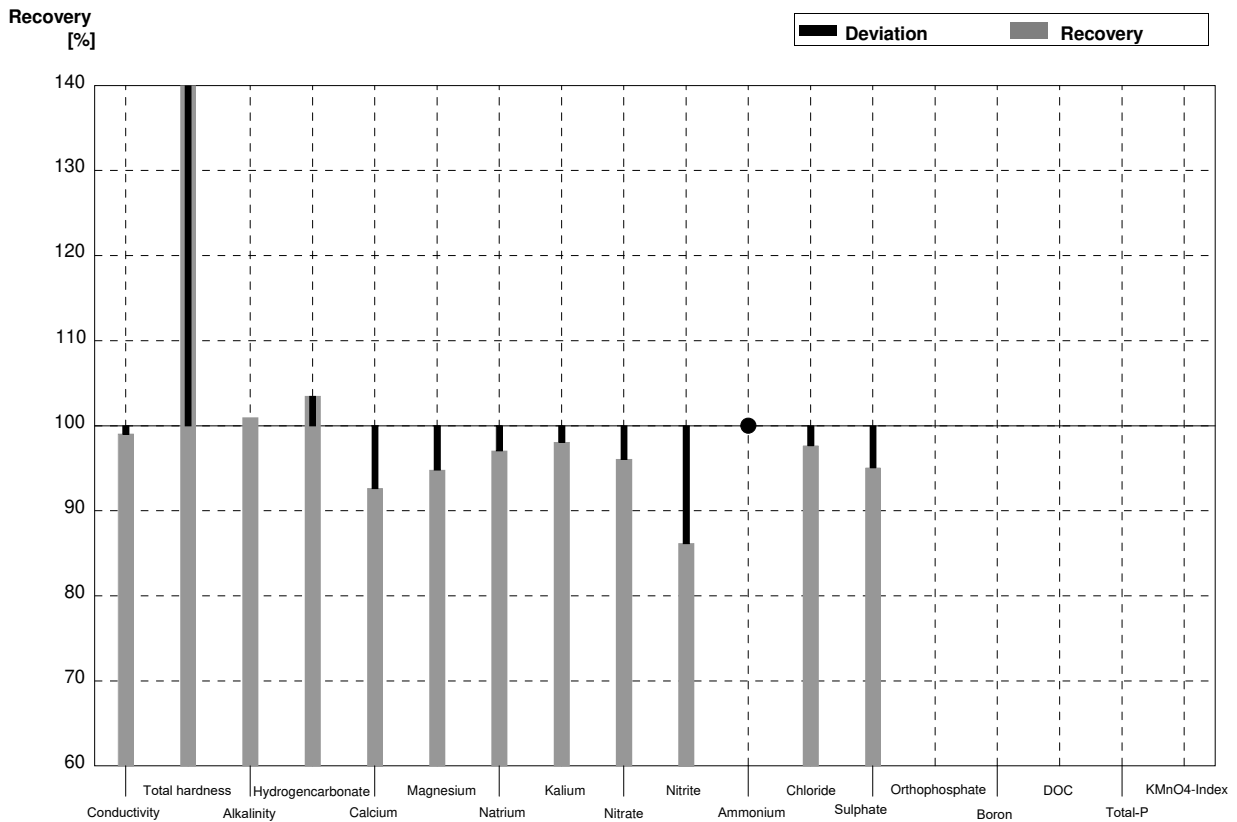
**Sample N179A**  
**Laboratory X**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	516		µS/cm	98%
Total hardness	2,32	0,02	12,8		mmol/l	552%
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,800		mmol/l	101%
Hydrogen carbonate	166	2	170,8		mg/l	103%
Calcium	69,9	0,9	65,080		mg/l	93%
Magnesium	14,06	0,16	13,440		mg/l	96%
Sodium	11,2	0,5	10,950		mg/l	98%
Potassium	5,86	0,04	5,730		mg/l	98%
Nitrate (as NO3)	31,6	0,9	30,421		mg/l	96%
Nitrite (as NO2)	0,0303	0,0010	0,0260		mg/l	86%
Ammonium (as NH4)	0,0394	0,0039	<0,100		mg/l	•
Chloride	33,8	0,6	34,126		mg/l	101%
Sulphate (as SO4)	49,4	0,6	47,111		mg/l	95%
Orthophosphate (as PO4)	<0,009				mg/l	
Boron	0,1508	0,0012			mg/l	
DOC (as C)	6,25	0,03			mg/l	
Total P (as PO4)	<0,009				mg/l	
KMnO4-Index (as O2)	3,74	0,14			mg/l	



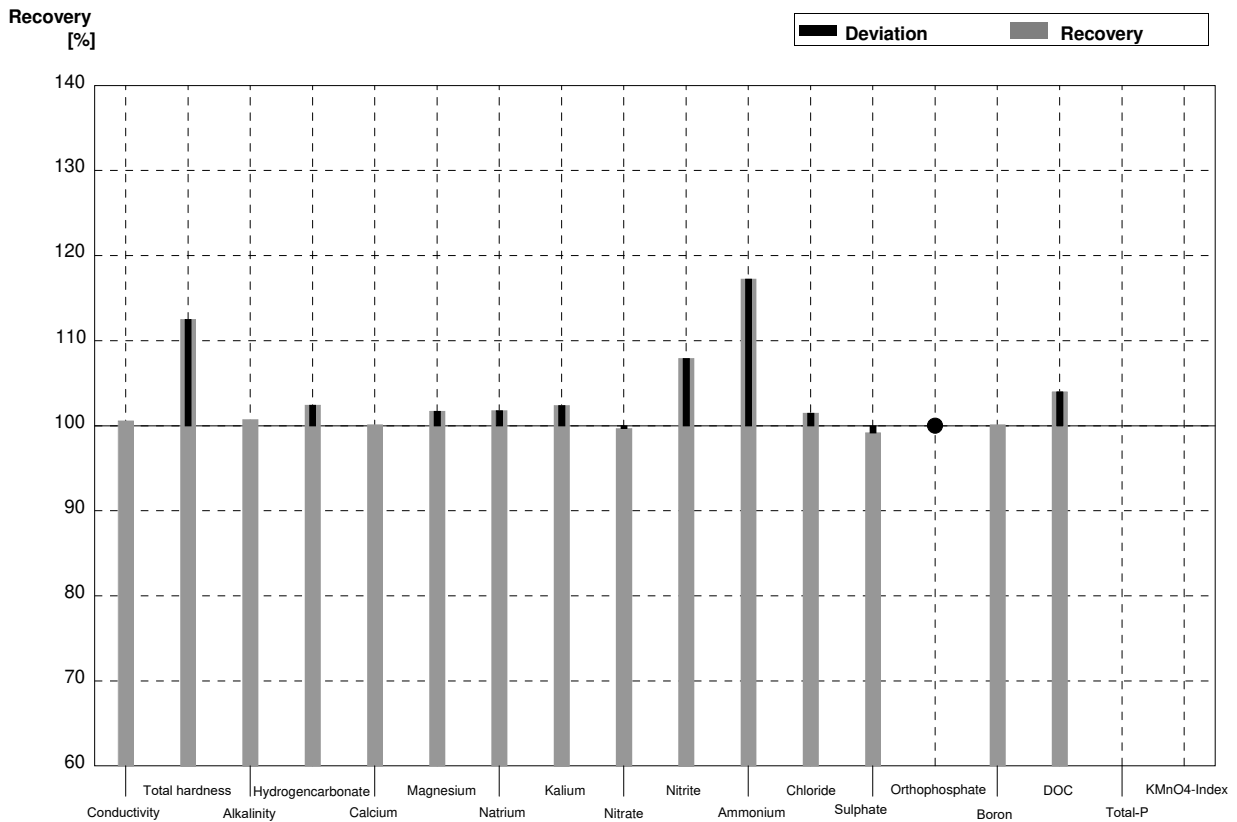
**Sample N179B**  
**Laboratory X**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	409		µS/cm	99%
Total hardness	0,988	0,012	5,500		mmol/l	557%
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,100		mmol/l	101%
Hydrogen carbonate	123,8	1,1	128,1		mg/l	103%
Calcium	21,6	0,4	20,010		mg/l	93%
Magnesium	10,94	0,15	10,370		mg/l	95%
Sodium	42,2	0,4	40,960		mg/l	97%
Potassium	7,78	0,05	7,630		mg/l	98%
Nitrate (as NO3)	61,1	1,3	58,695		mg/l	96%
Nitrite (as NO2)	0,0557	0,0012	0,0480		mg/l	86%
Ammonium (as NH4)	<0,01		<0,010		mg/l	•
Chloride	20,46	0,12	19,983		mg/l	98%
Sulphate (as SO4)	17,8	0,2	16,921		mg/l	95%
Orthophosphate (as PO4)	0,0455	0,0042			mg/l	
Boron	0,0807	0,0005			mg/l	
DOC (as C)	4,07	0,02			mg/l	
Total P (as PO4)	0,101	0,003			mg/l	
KMnO4-Index (as O2)	2,43	0,09			mg/l	



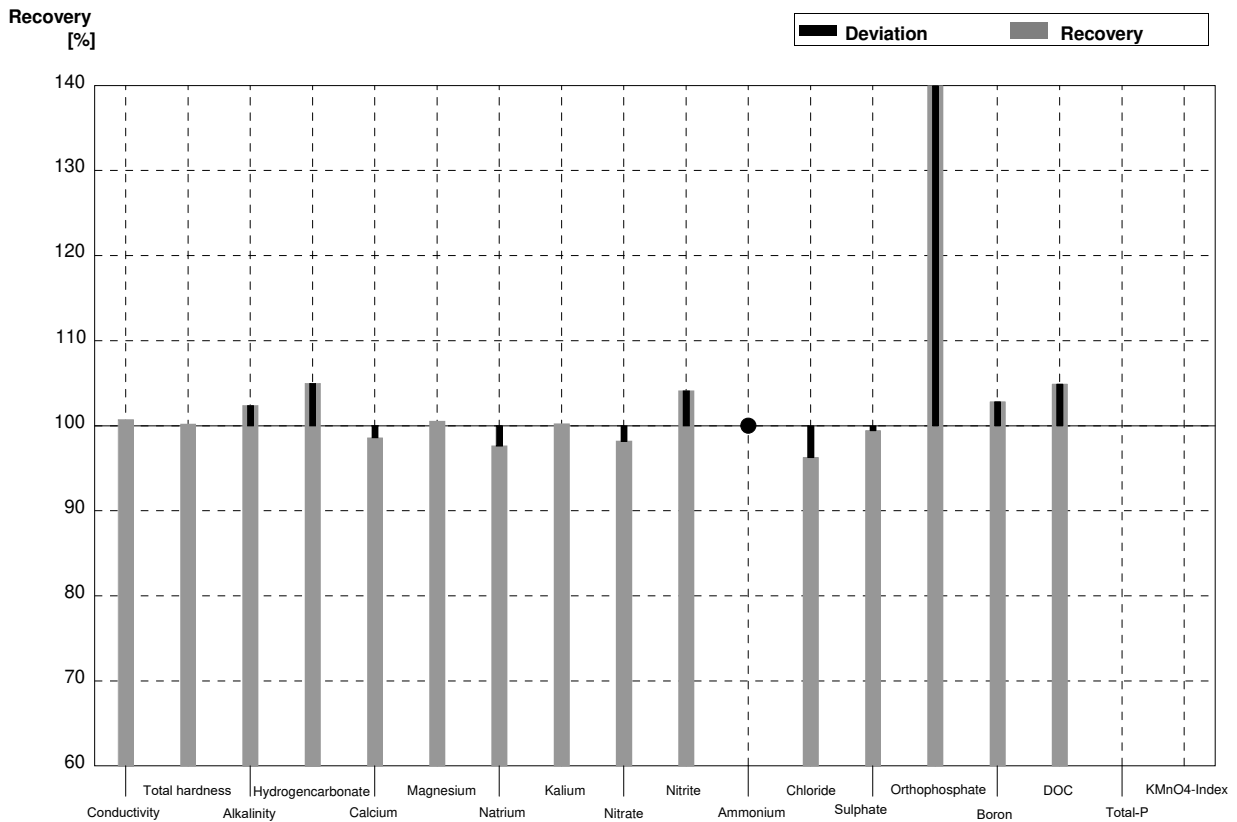
**Sample N179A**  
**Laboratory Y**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	530		µS/cm	101%
Total hardness	2,32	0,02	2,61		mmol/l	113%
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,79		mmol/l	101%
Hydrogen carbonate	166	2	170		mg/l	102%
Calcium	69,9	0,9	70	5,6	mg/l	100%
Magnesium	14,06	0,16	14,3	1,14	mg/l	102%
Sodium	11,2	0,5	11,4	0,7	mg/l	102%
Potassium	5,86	0,04	6,0	0,58	mg/l	102%
Nitrate (as NO3)	31,6	0,9	31,5		mg/l	100%
Nitrite (as NO2)	0,0303	0,0010	0,0327		mg/l	108%
Ammonium (as NH4)	0,0394	0,0039	0,0462		mg/l	117%
Chloride	33,8	0,6	34,3		mg/l	101%
Sulphate (as SO4)	49,4	0,6	49,0		mg/l	99%
Orthophosphate (as PO4)	<0,009		<0,06		mg/l	•
Boron	0,1508	0,0012	0,151	0,0111	mg/l	100%
DOC (as C)	6,25	0,03	6,5		mg/l	104%
Total P (as PO4)	<0,009				mg/l	
KMnO4-Index (as O2)	3,74	0,14			mg/l	



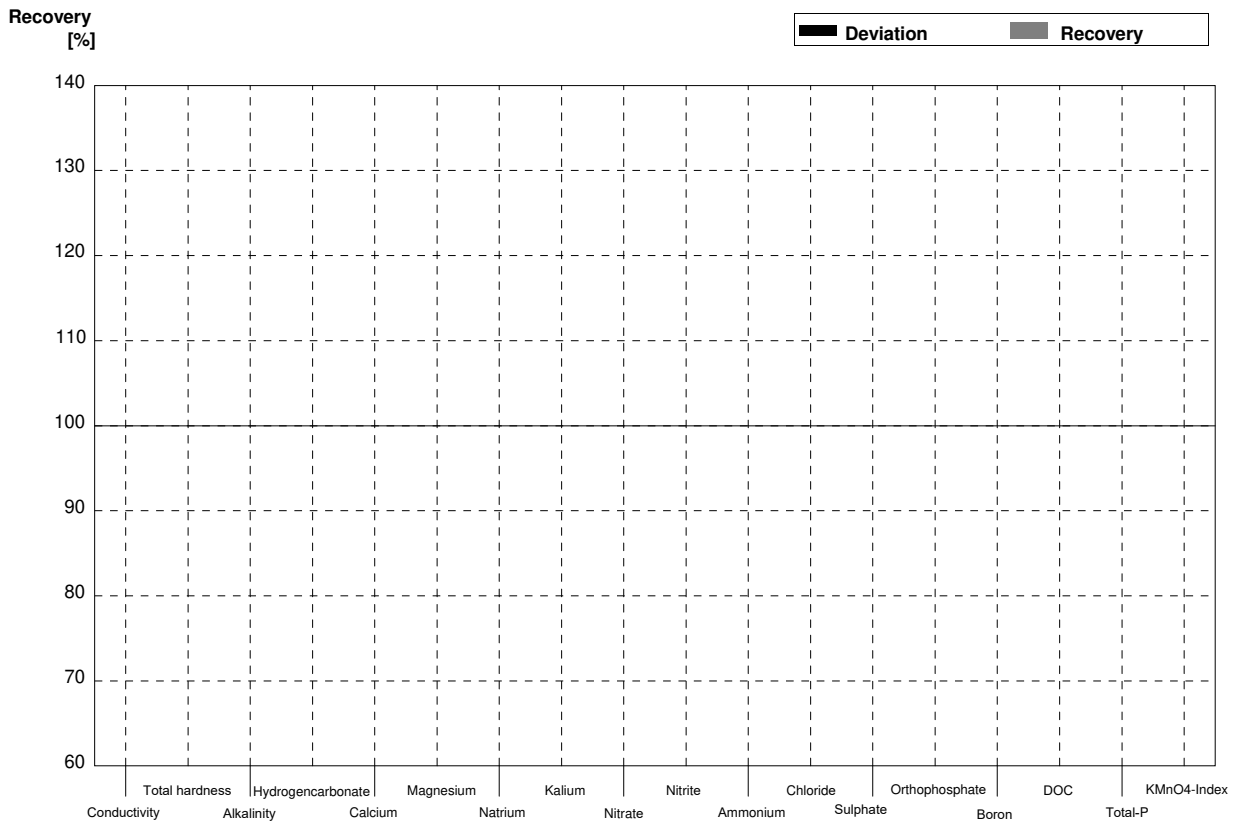
**Sample N179B**  
**Laboratory Y**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	416		µS/cm	101%
Total hardness	0,988	0,012	0,99		mmol/l	100%
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,13		mmol/l	102%
Hydrogen carbonate	123,8	1,1	130		mg/l	105%
Calcium	21,6	0,4	21,3	1,19	mg/l	99%
Magnesium	10,94	0,15	11,0	0,87	mg/l	101%
Sodium	42,2	0,4	41,2	2,45	mg/l	98%
Potassium	7,78	0,05	7,8	0,76	mg/l	100%
Nitrate (as NO3)	61,1	1,3	60		mg/l	98%
Nitrite (as NO2)	0,0557	0,0012	0,058		mg/l	104%
Ammonium (as NH4)	<0,01		0,0062		mg/l	•
Chloride	20,46	0,12	19,7		mg/l	96%
Sulphate (as SO4)	17,8	0,2	17,7		mg/l	99%
Orthophosphate (as PO4)	0,0455	0,0042	0,109	0,0145	mg/l	240%
Boron	0,0807	0,0005	0,083	0,0063	mg/l	103%
DOC (as C)	4,07	0,02	4,27		mg/l	105%
Total P (as PO4)	0,101	0,003			mg/l	
KMnO4-Index (as O2)	2,43	0,09			mg/l	



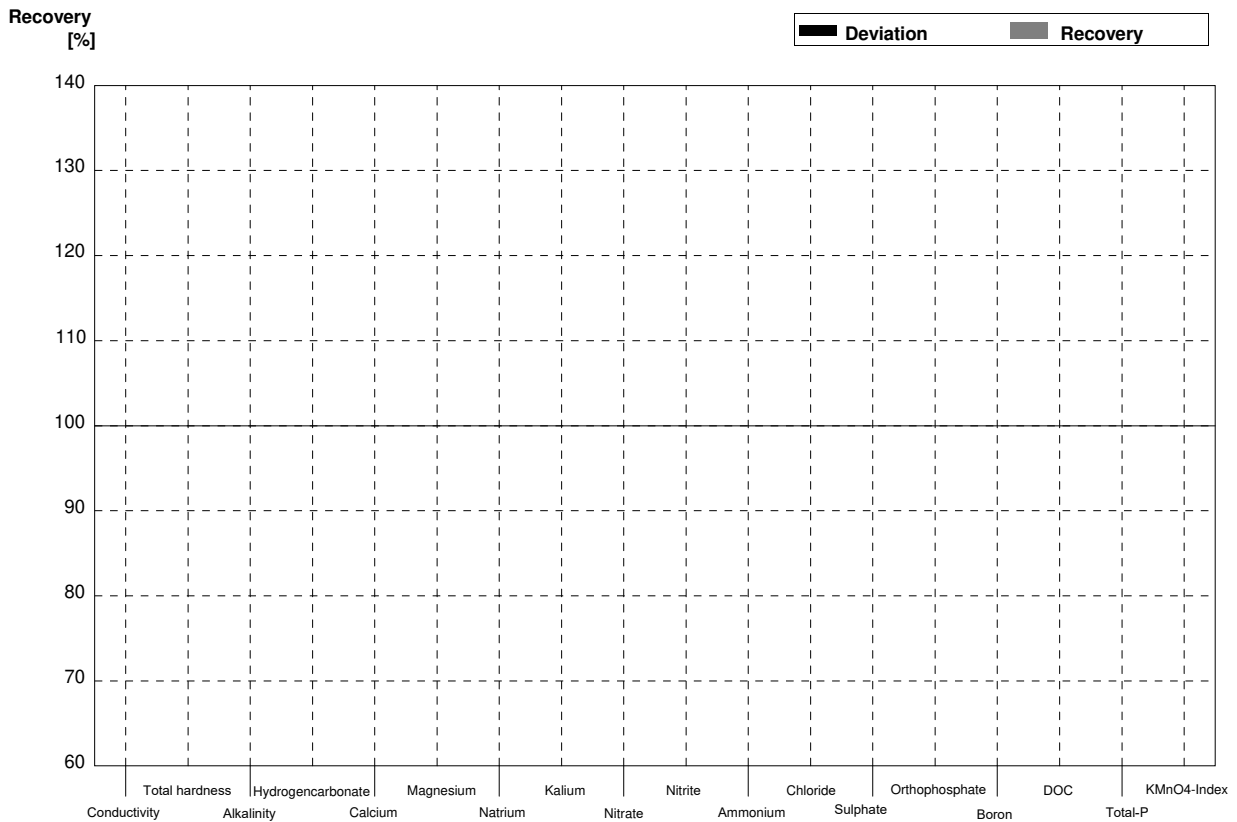
**Sample N179A**  
**Laboratory Z**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2			µS/cm	
Total hardness	2,32	0,02			mmol/l	
Alkalinity KS 4,3 (as H+)	2,77	0,04			mmol/l	
Hydrogen carbonate	166	2			mg/l	
Calcium	69,9	0,9			mg/l	
Magnesium	14,06	0,16			mg/l	
Sodium	11,2	0,5			mg/l	
Potassium	5,86	0,04			mg/l	
Nitrate (as NO3)	31,6	0,9			mg/l	
Nitrite (as NO2)	0,0303	0,0010			mg/l	
Ammonium (as NH4)	0,0394	0,0039			mg/l	
Chloride	33,8	0,6			mg/l	
Sulphate (as SO4)	49,4	0,6			mg/l	
Orthophosphate (as PO4)	<0,009				mg/l	
Boron	0,1508	0,0012			mg/l	
DOC (as C)	6,25	0,03			mg/l	
Total P (as PO4)	<0,009				mg/l	
KMnO4-Index (as O2)	3,74	0,14			mg/l	



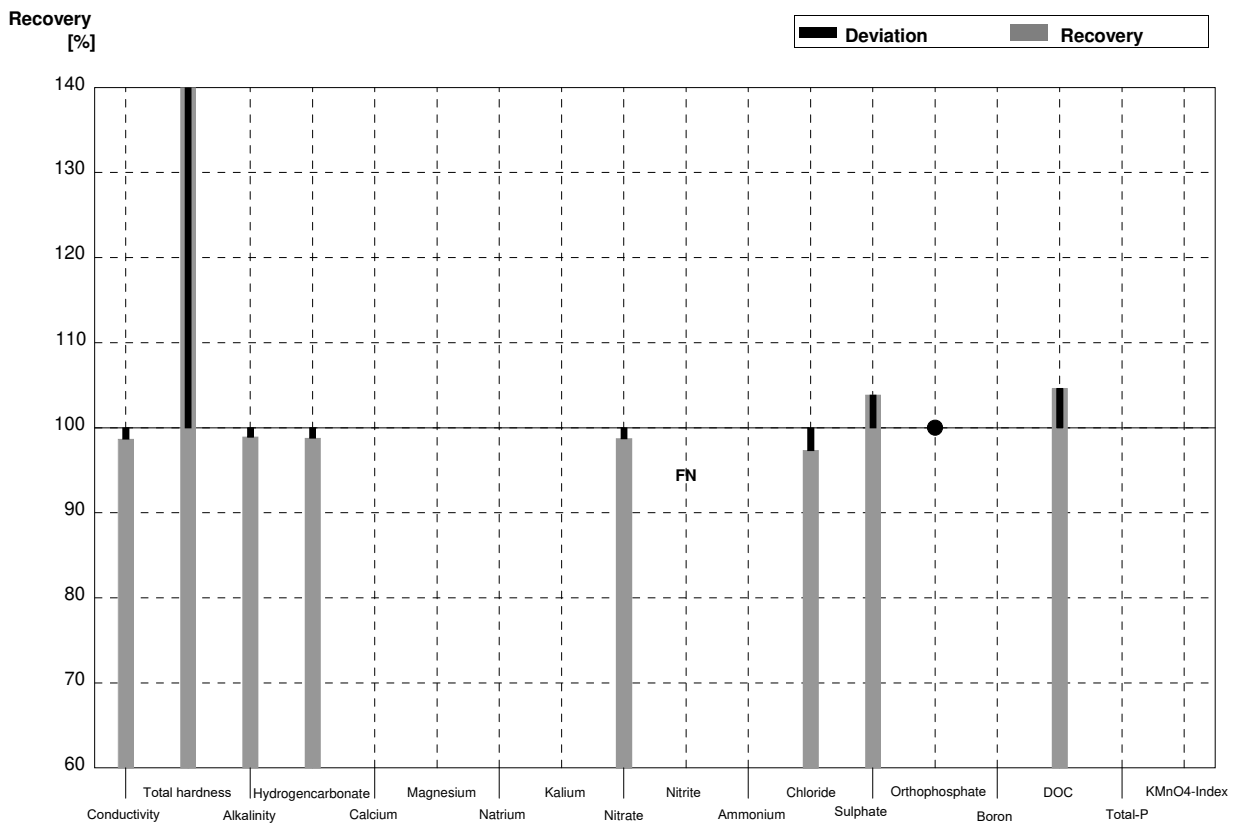
**Sample N179B**  
**Laboratory Z**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1			µS/cm	
Total hardness	0,988	0,012			mmol/l	
Alkalinity KS 4,3 (as H+)	2,080	0,017			mmol/l	
Hydrogen carbonate	123,8	1,1			mg/l	
Calcium	21,6	0,4			mg/l	
Magnesium	10,94	0,15			mg/l	
Sodium	42,2	0,4			mg/l	
Potassium	7,78	0,05			mg/l	
Nitrate (as NO3)	61,1	1,3			mg/l	
Nitrite (as NO2)	0,0557	0,0012			mg/l	
Ammonium (as NH4)	<0,01				mg/l	
Chloride	20,46	0,12			mg/l	
Sulphate (as SO4)	17,8	0,2			mg/l	
Orthophosphate (as PO4)	0,0455	0,0042			mg/l	
Boron	0,0807	0,0005			mg/l	
DOC (as C)	4,07	0,02			mg/l	
Total P (as PO4)	0,101	0,003			mg/l	
KMnO4-Index (as O2)	2,43	0,09			mg/l	



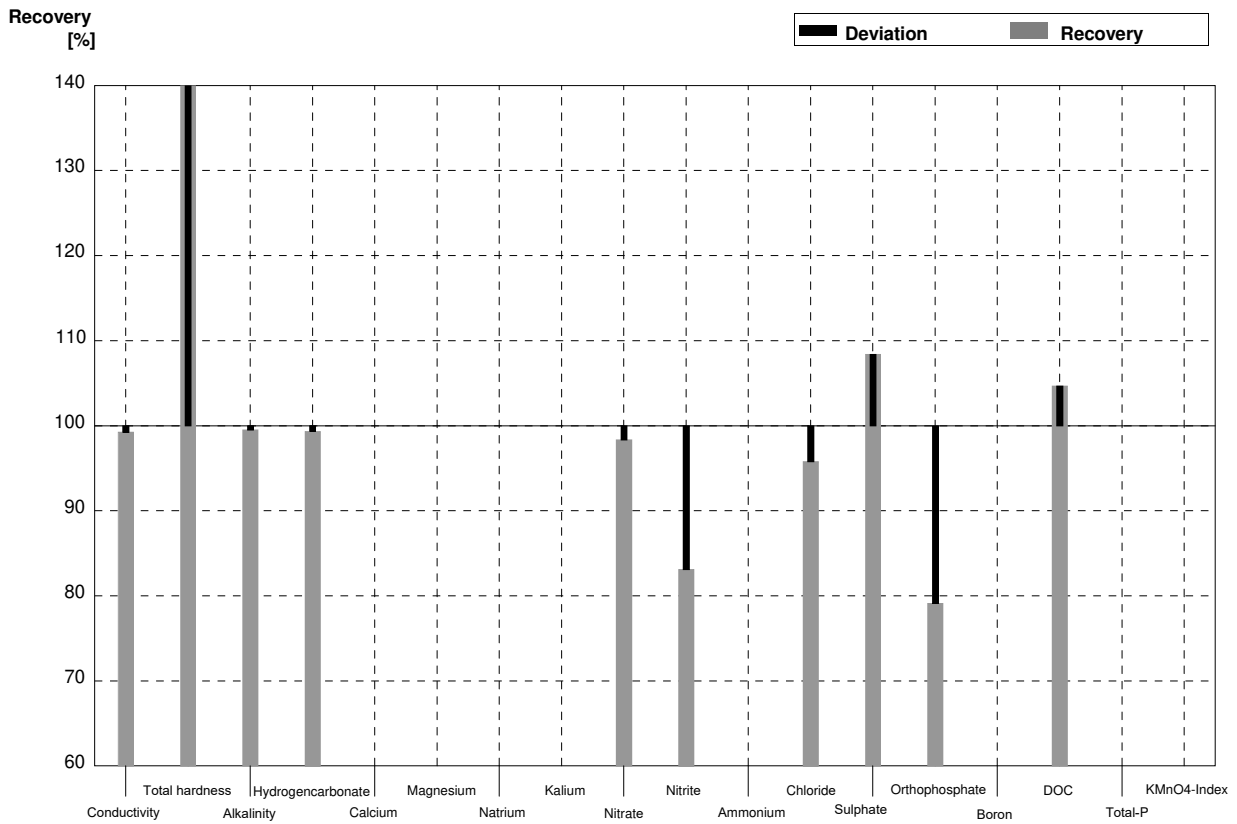
**Sample N179A**  
**Laboratory AA**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	520	13	µS/cm	99%
Total hardness	2,32	0,02	72,0	6,5	mmol/l	3103%
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,74	0,24	mmol/l	99%
Hydrogen carbonate	166	2	164	14,8	mg/l	99%
Calcium	69,9	0,9			mg/l	
Magnesium	14,06	0,16			mg/l	
Sodium	11,2	0,5			mg/l	
Potassium	5,86	0,04			mg/l	
Nitrate (as NO3)	31,6	0,9	31,2	2,4	mg/l	99%
Nitrite (as NO2)	0,0303	0,0010	<0,01		mg/l	FN
Ammonium (as NH4)	0,0394	0,0039			mg/l	
Chloride	33,8	0,6	32,9	3,9	mg/l	97%
Sulphate (as SO4)	49,4	0,6	51,3	4,1	mg/l	104%
Orthophosphate (as PO4)	<0,009		<0,015		mg/l	•
Boron	0,1508	0,0012			mg/l	
DOC (as C)	6,25	0,03	6,54	0,71	mg/l	105%
Total P (as PO4)	<0,009				mg/l	
KMnO4-Index (as O2)	3,74	0,14			mg/l	



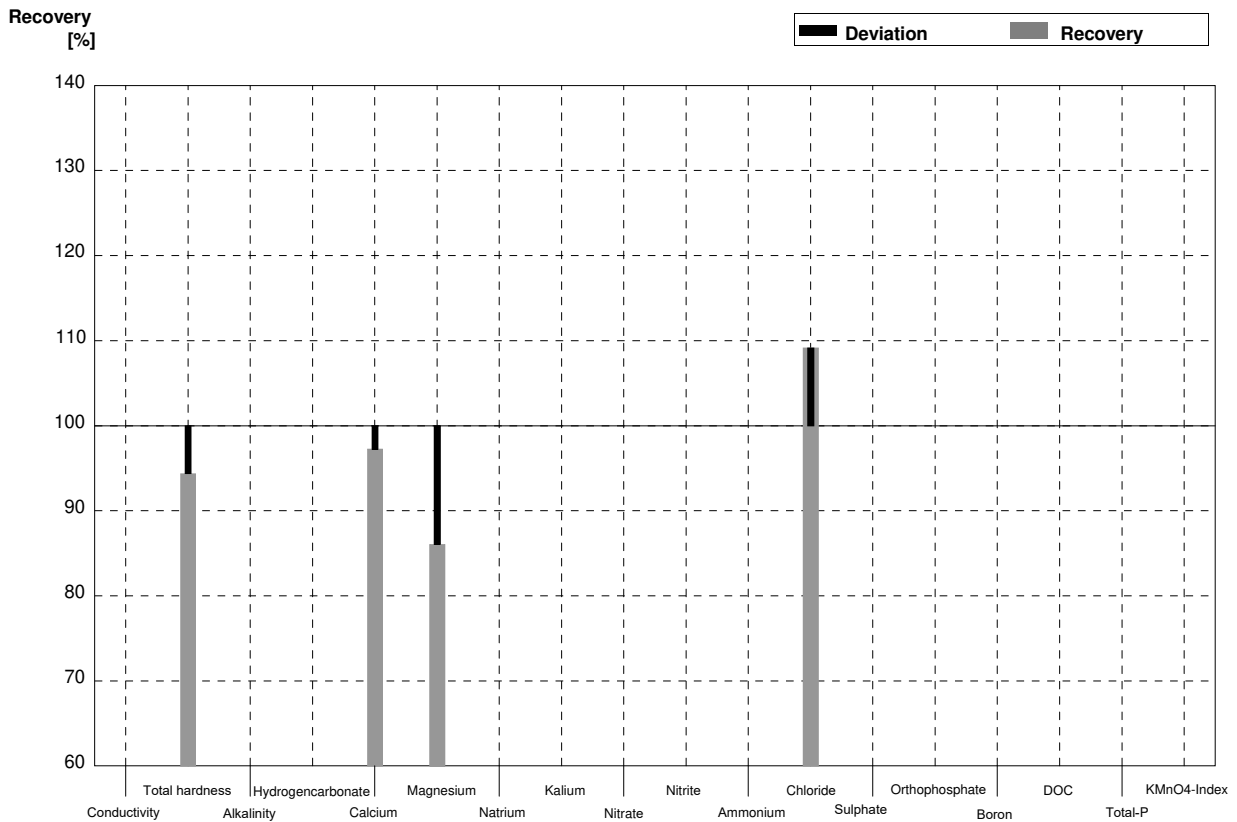
**Sample N179B**  
**Laboratory AA**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	410	10	µS/cm	99%
Total hardness	0,988	0,012	30,5	2,7	mmol/l	3087%
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,07	0,19	mmol/l	100%
Hydrogen carbonate	123,8	1,1	123	11,1	mg/l	99%
Calcium	21,6	0,4			mg/l	
Magnesium	10,94	0,15			mg/l	
Sodium	42,2	0,4			mg/l	
Potassium	7,78	0,05			mg/l	
Nitrate (as NO3)	61,1	1,3	60,1	4,8	mg/l	98%
Nitrite (as NO2)	0,0557	0,0012	0,0463	0,005	mg/l	83%
Ammonium (as NH4)	<0,01				mg/l	
Chloride	20,46	0,12	19,6	2,3	mg/l	96%
Sulphate (as SO4)	17,8	0,2	19,3	1,5	mg/l	108%
Orthophosphate (as PO4)	0,0455	0,0042	0,0360	0,003	mg/l	79%
Boron	0,0807	0,0005			mg/l	
DOC (as C)	4,07	0,02	4,26	0,47	mg/l	105%
Total P (as PO4)	0,101	0,003			mg/l	
KMnO4-Index (as O2)	2,43	0,09			mg/l	



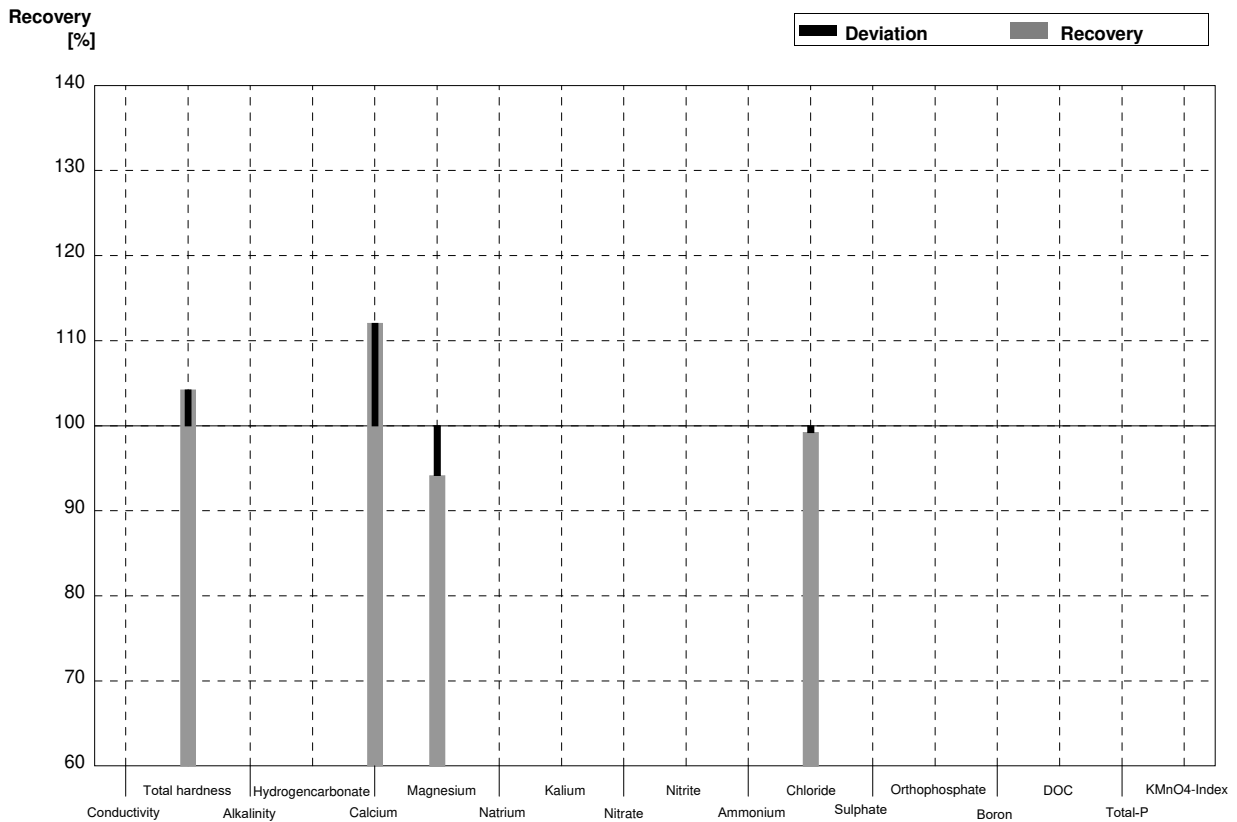
**Sample N179A**  
**Laboratory AB**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2			µS/cm	
Total hardness	2,32	0,02	2,19	0,05	mmol/l	94%
Alkalinity KS 4,3 (as H+)	2,77	0,04			mmol/l	
Hydrogen carbonate	166	2			mg/l	
Calcium	69,9	0,9	68	1	mg/l	97%
Magnesium	14,06	0,16	12,1	1	mg/l	86%
Sodium	11,2	0,5			mg/l	
Potassium	5,86	0,04			mg/l	
Nitrate (as NO3)	31,6	0,9			mg/l	
Nitrite (as NO2)	0,0303	0,0010			mg/l	
Ammonium (as NH4)	0,0394	0,0039			mg/l	
Chloride	33,8	0,6	36,9	1	mg/l	109%
Sulphate (as SO4)	49,4	0,6			mg/l	
Orthophosphate (as PO4)	<0,009				mg/l	
Boron	0,1508	0,0012			mg/l	
DOC (as C)	6,25	0,03			mg/l	
Total P (as PO4)	<0,009				mg/l	
KMnO4-Index (as O2)	3,74	0,14			mg/l	



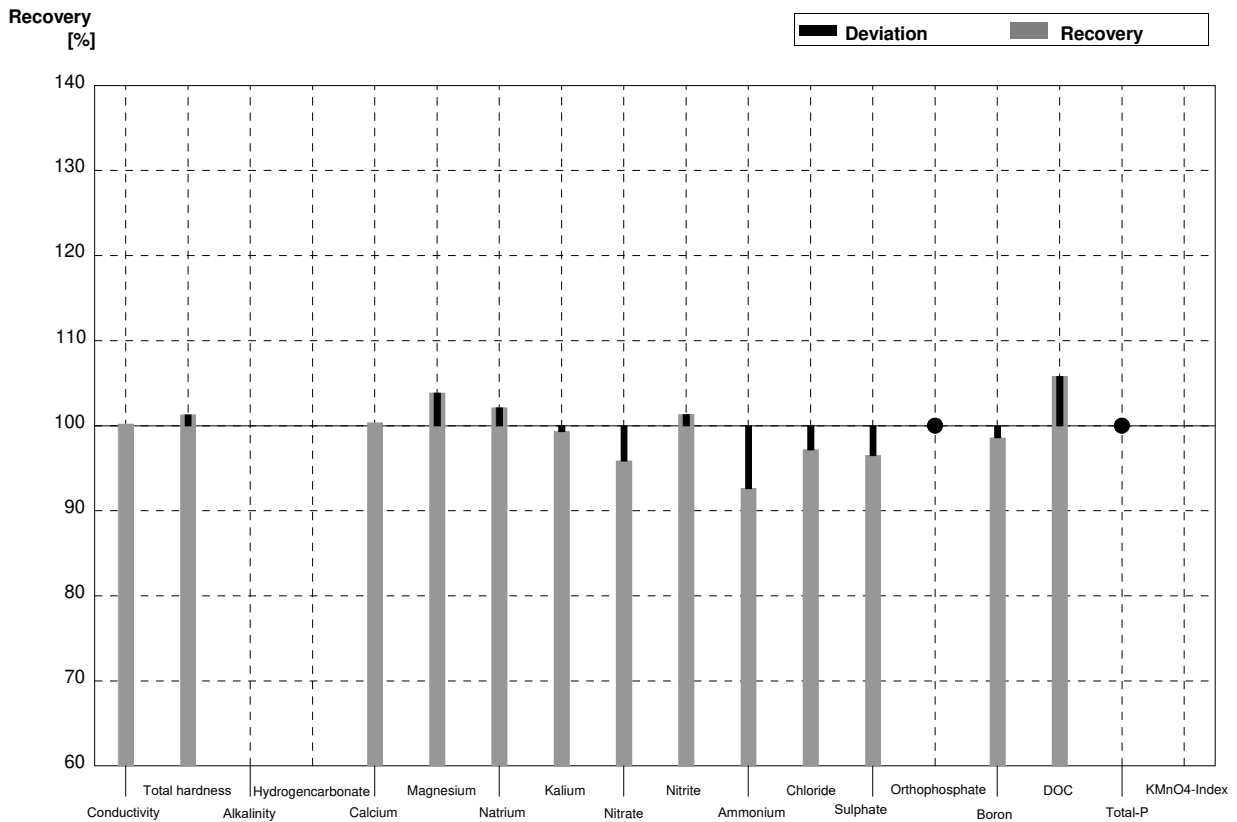
**Sample N179B**  
**Laboratory AB**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1			µS/cm	
Total hardness	0,988	0,012	1,03	0,05	mmol/l	104%
Alkalinity KS 4,3 (as H+)	2,080	0,017			mmol/l	
Hydrogen carbonate	123,8	1,1			mg/l	
Calcium	21,6	0,4	24,2	1	mg/l	112%
Magnesium	10,94	0,15	10,3	1	mg/l	94%
Sodium	42,2	0,4			mg/l	
Potassium	7,78	0,05			mg/l	
Nitrate (as NO3)	61,1	1,3			mg/l	
Nitrite (as NO2)	0,0557	0,0012			mg/l	
Ammonium (as NH4)	<0,01				mg/l	
Chloride	20,46	0,12	20,3	1	mg/l	99%
Sulphate (as SO4)	17,8	0,2			mg/l	
Orthophosphate (as PO4)	0,0455	0,0042			mg/l	
Boron	0,0807	0,0005			mg/l	
DOC (as C)	4,07	0,02			mg/l	
Total P (as PO4)	0,101	0,003			mg/l	
KMnO4-Index (as O2)	2,43	0,09			mg/l	



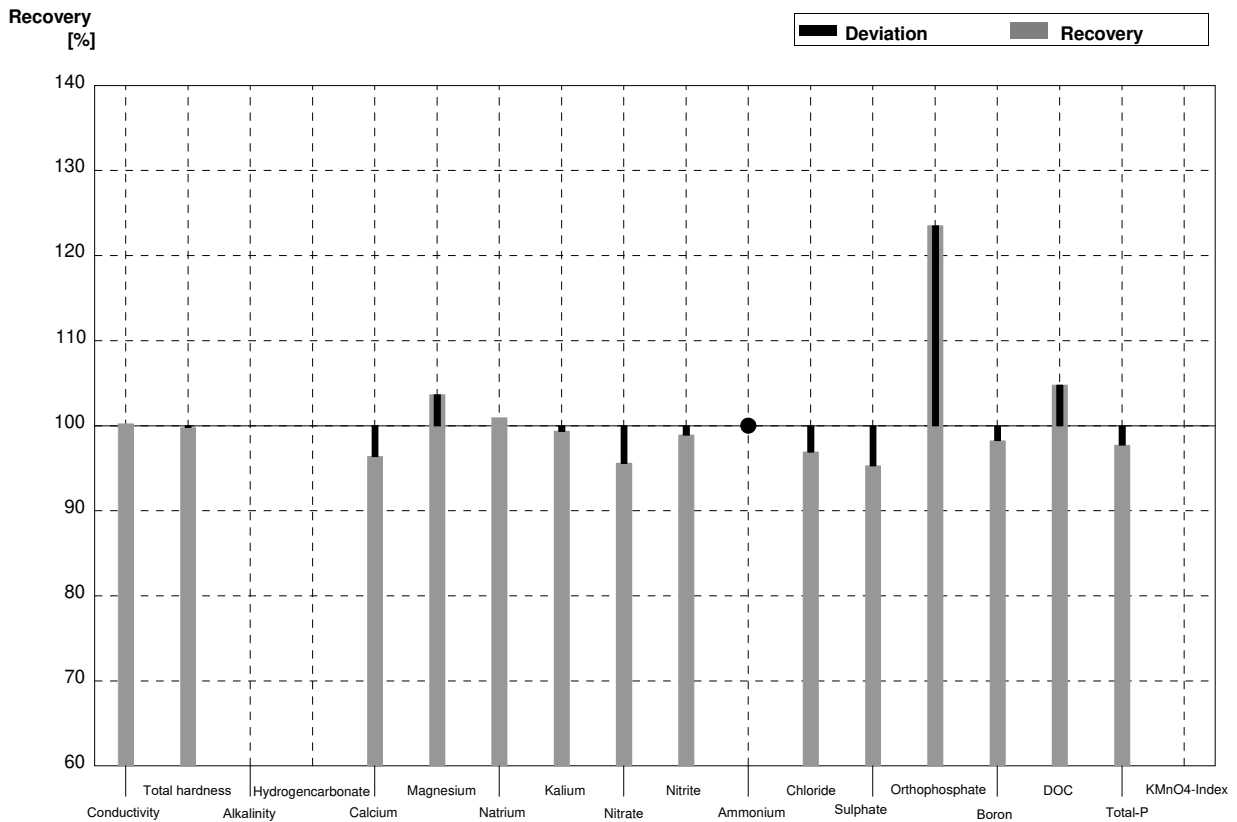
**Sample N179A**  
**Laboratory AC**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	528	17,34	µS/cm	100%
Total hardness	2,32	0,02	2,35	0,235	mmol/l	101%
Alkalinity KS 4,3 (as H+)	2,77	0,04			mmol/l	
Hydrogen carbonate	166	2			mg/l	
Calcium	69,9	0,9	70,155	7,02	mg/l	100%
Magnesium	14,06	0,16	14,6	1,61	mg/l	104%
Sodium	11,2	0,5	11,437	1,37	mg/l	102%
Potassium	5,86	0,04	5,8207	0,873	mg/l	99%
Nitrate (as NO3)	31,6	0,9	30,3	1,42	mg/l	96%
Nitrite (as NO2)	0,0303	0,0010	0,0307	0,003	mg/l	101%
Ammonium (as NH4)	0,0394	0,0039	0,0365	0,004	mg/l	93%
Chloride	33,8	0,6	32,849	1,22	mg/l	97%
Sulphate (as SO4)	49,4	0,6	47,673	2,24	mg/l	97%
Orthophosphate (as PO4)	<0,009		<0,031		mg/l	•
Boron	0,1508	0,0012	0,1487	0,025	mg/l	99%
DOC (as C)	6,25	0,03	6,614	0,734	mg/l	106%
Total P (as PO4)	<0,009		<0,0153		mg/l	•
KMnO4-Index (as O2)	3,74	0,14			mg/l	



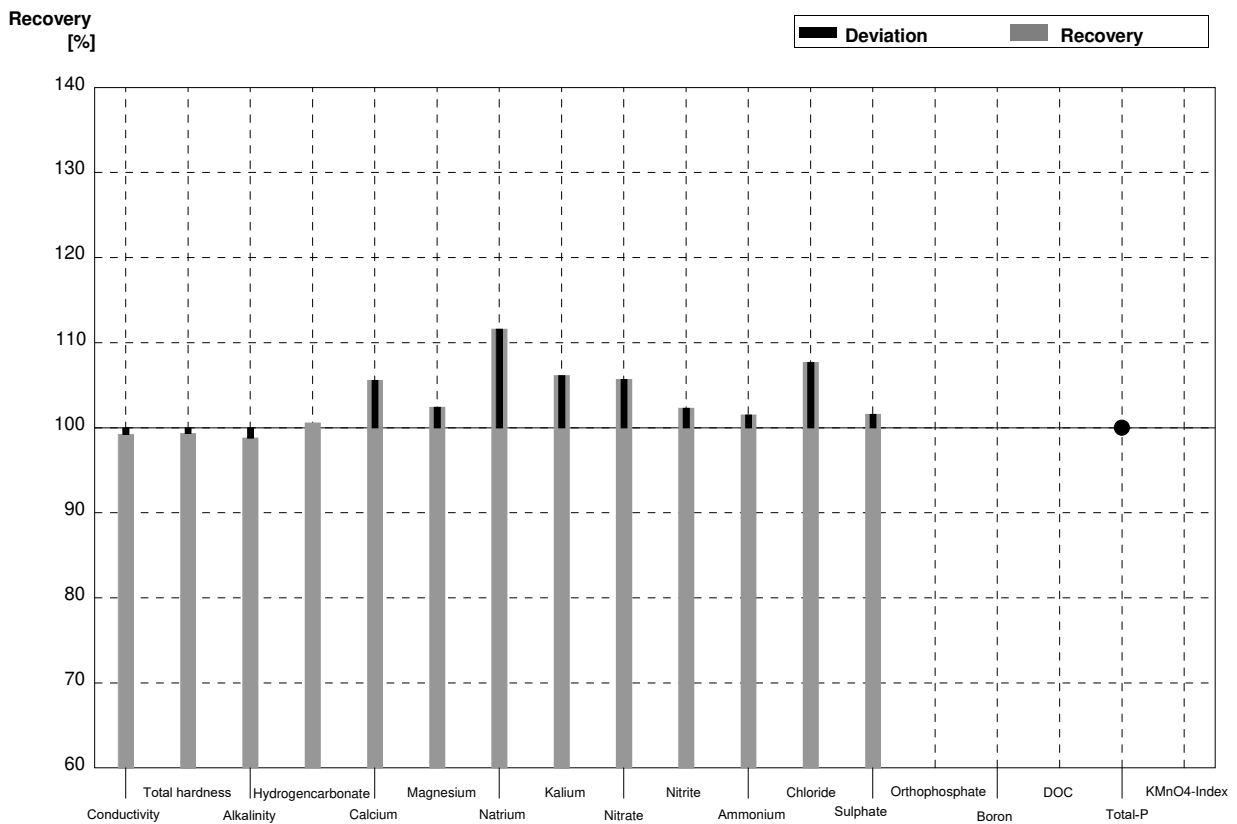
**Sample N179B**  
**Laboratory AC**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	414	12,42	µS/cm	100%
Total hardness	0,988	0,012	0,986	0,099	mmol/l	100%
Alkalinity KS 4,3 (as H+)	2,080	0,017			mmol/l	
Hydrogen carbonate	123,8	1,1			mg/l	
Calcium	21,6	0,4	20,82	2,08	mg/l	96%
Magnesium	10,94	0,15	11,343	1,25	mg/l	104%
Sodium	42,2	0,4	42,598	5,47	mg/l	101%
Potassium	7,78	0,05	7,732	1,16	mg/l	99%
Nitrate (as NO3)	61,1	1,3	58,42	2,75	mg/l	96%
Nitrite (as NO2)	0,0557	0,0012	0,0551	0,0055	mg/l	99%
Ammonium (as NH4)	<0,01		<0,024		mg/l	•
Chloride	20,46	0,12	19,831	0,734	mg/l	97%
Sulphate (as SO4)	17,8	0,2	16,965	0,80	mg/l	95%
Orthophosphate (as PO4)	0,0455	0,0042	0,0562	0,006	mg/l	124%
Boron	0,0807	0,0005	0,0793	0,013	mg/l	98%
DOC (as C)	4,07	0,02	4,2653	0,473	mg/l	105%
Total P (as PO4)	0,101	0,003	0,0987	0,009	mg/l	98%
KMnO4-Index (as O2)	2,43	0,09			mg/l	



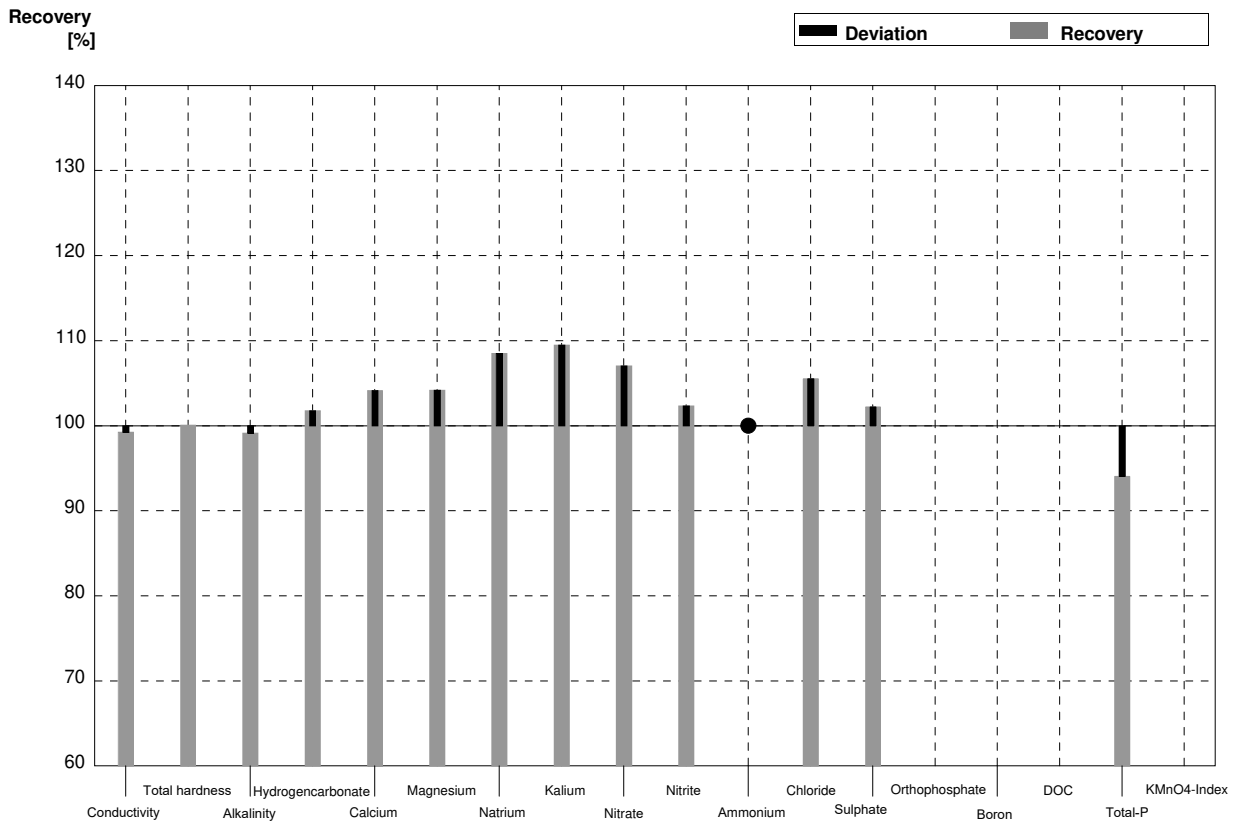
**Sample N179A**  
**Laboratory AD**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	523	14	µS/cm	99%
Total hardness	2,32	0,02	2,305	0,025	mmol/l	99%
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,737	0,025	mmol/l	99%
Hydrogen carbonate	166	2	167	10	mg/l	101%
Calcium	69,9	0,9	73,8	2	mg/l	106%
Magnesium	14,06	0,16	14,4	0,4	mg/l	102%
Sodium	11,2	0,5	12,5	1	mg/l	112%
Potassium	5,86	0,04	6,22	0,2	mg/l	106%
Nitrate (as NO3)	31,6	0,9	33,4	1	mg/l	106%
Nitrite (as NO2)	0,0303	0,0010	0,0310	0,01	mg/l	102%
Ammonium (as NH4)	0,0394	0,0039	0,0400	0,01	mg/l	102%
Chloride	33,8	0,6	36,4	1	mg/l	108%
Sulphate (as SO4)	49,4	0,6	50,2	1,5	mg/l	102%
Orthophosphate (as PO4)	<0,009				mg/l	
Boron	0,1508	0,0012			mg/l	
DOC (as C)	6,25	0,03			mg/l	
Total P (as PO4)	<0,009		0,0090	0,05	mg/l	•
KMnO4-Index (as O2)	3,74	0,14			mg/l	



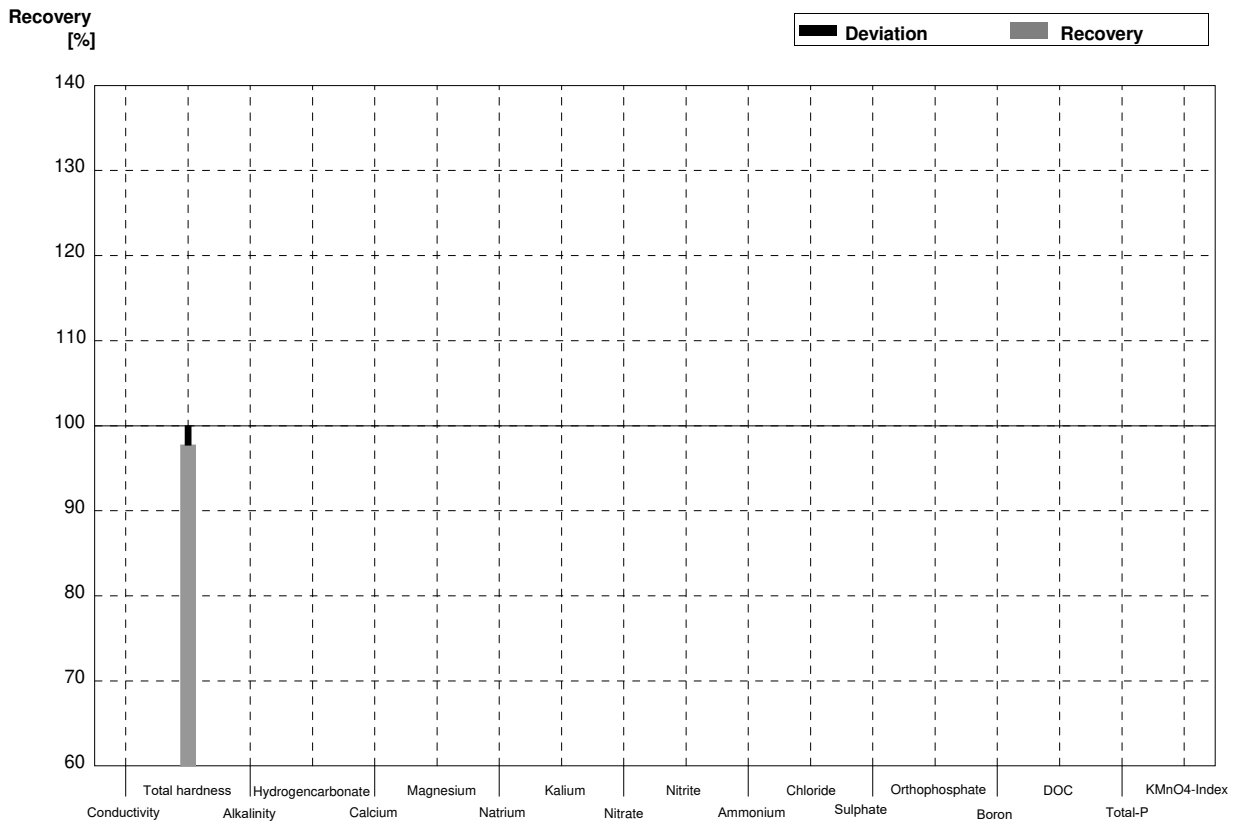
**Sample N179B**  
**Laboratory AD**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	410	14	µS/cm	99%
Total hardness	0,988	0,012	0,989	0,025	mmol/l	100%
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,062	0,025	mmol/l	99%
Hydrogen carbonate	123,8	1,1	126	10	mg/l	102%
Calcium	21,6	0,4	22,5	2	mg/l	104%
Magnesium	10,94	0,15	11,4	0,4	mg/l	104%
Sodium	42,2	0,4	45,8	1	mg/l	109%
Potassium	7,78	0,05	8,52	0,2	mg/l	110%
Nitrate (as NO3)	61,1	1,3	65,4	1	mg/l	107%
Nitrite (as NO2)	0,0557	0,0012	0,057	0,01	mg/l	102%
Ammonium (as NH4)	<0,01		0,0100	0,01	mg/l	•
Chloride	20,46	0,12	21,6	1	mg/l	106%
Sulphate (as SO4)	17,8	0,2	18,2	1,5	mg/l	102%
Orthophosphate (as PO4)	0,0455	0,0042			mg/l	
Boron	0,0807	0,0005			mg/l	
DOC (as C)	4,07	0,02			mg/l	
Total P (as PO4)	0,101	0,003	0,095	0,05	mg/l	94%
KMnO4-Index (as O2)	2,43	0,09			mg/l	



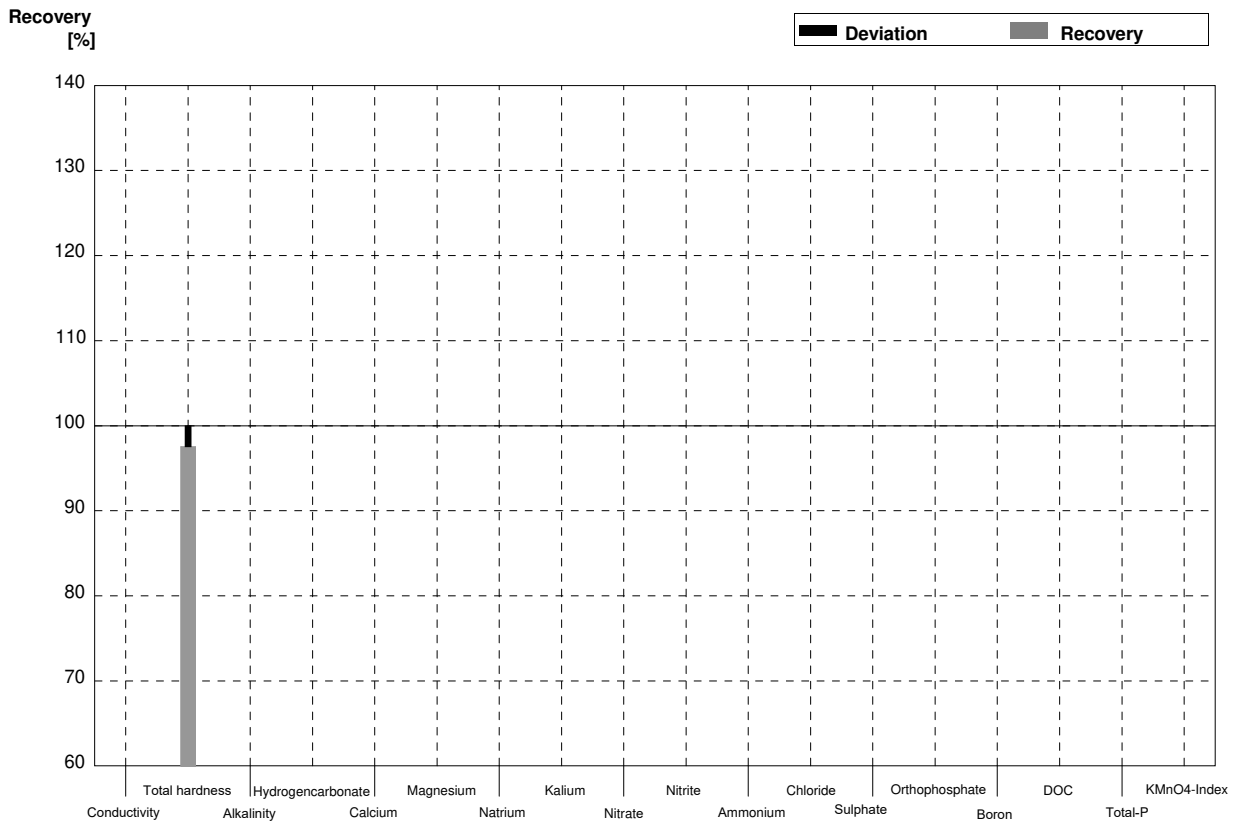
**Sample N179A**  
**Laboratory AE**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2			µS/cm	
Total hardness	2,32	0,02	2,268	0,135	mmol/l	98%
Alkalinity KS 4,3 (as H+)	2,77	0,04			mmol/l	
Hydrogen carbonate	166	2			mg/l	
Calcium	69,9	0,9			mg/l	
Magnesium	14,06	0,16			mg/l	
Sodium	11,2	0,5			mg/l	
Potassium	5,86	0,04			mg/l	
Nitrate (as NO3)	31,6	0,9			mg/l	
Nitrite (as NO2)	0,0303	0,0010			mg/l	
Ammonium (as NH4)	0,0394	0,0039			mg/l	
Chloride	33,8	0,6			mg/l	
Sulphate (as SO4)	49,4	0,6			mg/l	
Orthophosphate (as PO4)	<0,009				mg/l	
Boron	0,1508	0,0012			mg/l	
DOC (as C)	6,25	0,03			mg/l	
Total P (as PO4)	<0,009				mg/l	
KMnO4-Index (as O2)	3,74	0,14			mg/l	



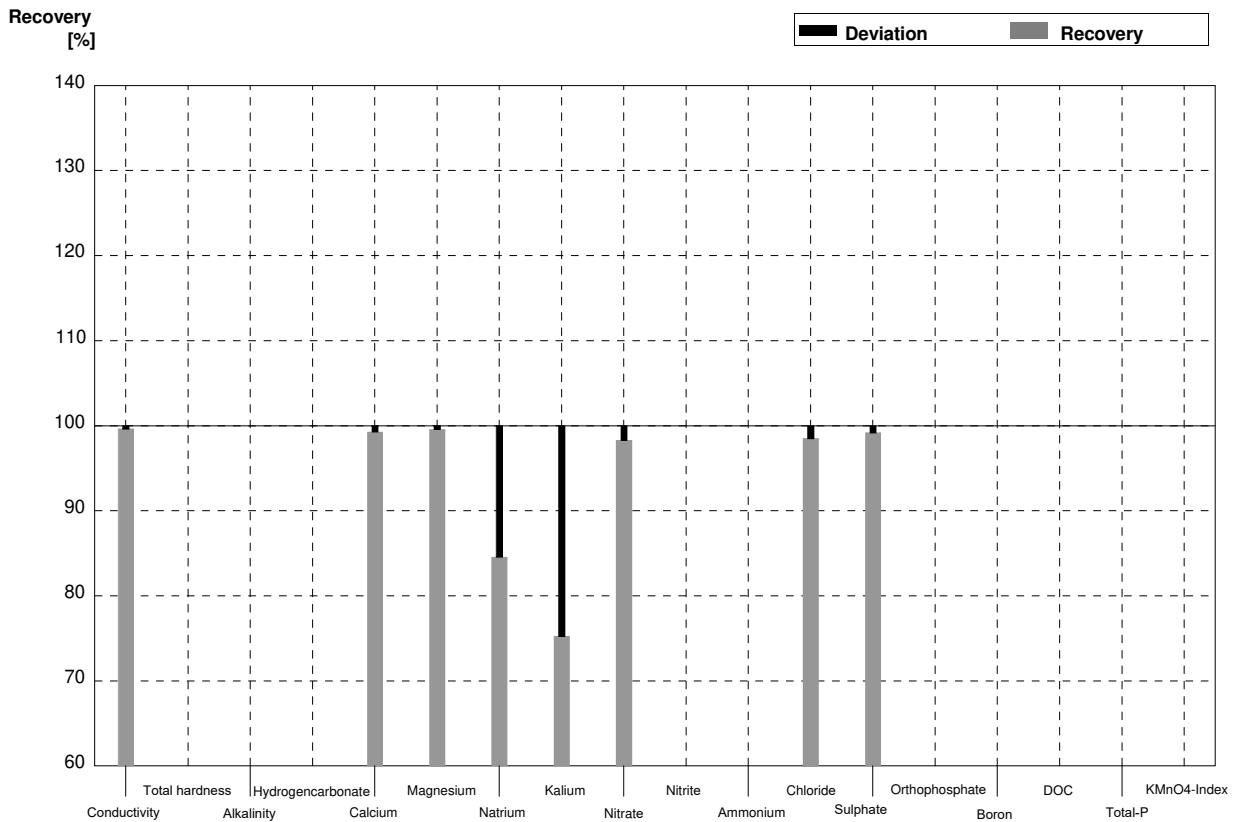
**Sample N179B**  
**Laboratory AE**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1			µS/cm	
Total hardness	0,988	0,012	0,964	0,057	mmol/l	98%
Alkalinity KS 4,3 (as H+)	2,080	0,017			mmol/l	
Hydrogen carbonate	123,8	1,1			mg/l	
Calcium	21,6	0,4			mg/l	
Magnesium	10,94	0,15			mg/l	
Sodium	42,2	0,4			mg/l	
Potassium	7,78	0,05			mg/l	
Nitrate (as NO3)	61,1	1,3			mg/l	
Nitrite (as NO2)	0,0557	0,0012			mg/l	
Ammonium (as NH4)	<0,01				mg/l	
Chloride	20,46	0,12			mg/l	
Sulphate (as SO4)	17,8	0,2			mg/l	
Orthophosphate (as PO4)	0,0455	0,0042			mg/l	
Boron	0,0807	0,0005			mg/l	
DOC (as C)	4,07	0,02			mg/l	
Total P (as PO4)	0,101	0,003			mg/l	
KMnO4-Index (as O2)	2,43	0,09			mg/l	



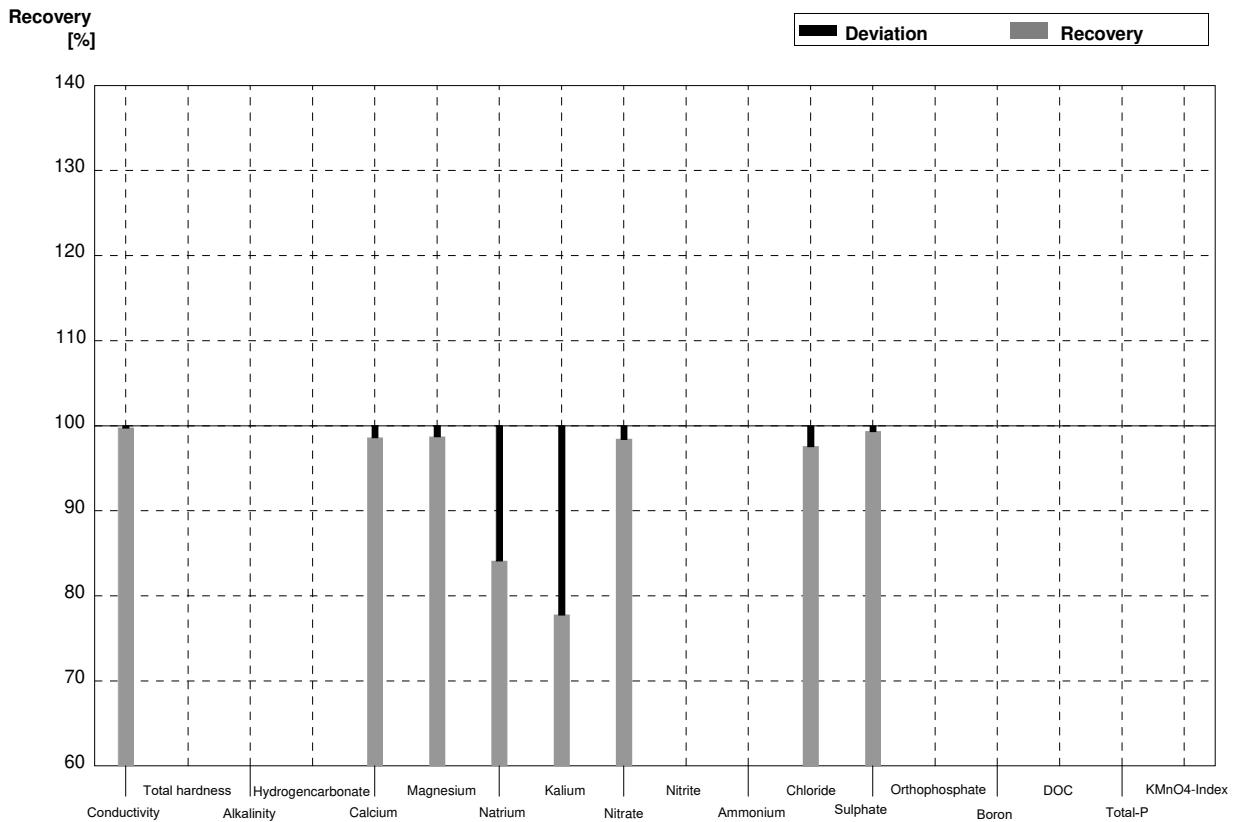
**Sample N179A**  
**Laboratory AF**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	525	2	µS/cm	100%
Total hardness	2,32	0,02			mmol/l	
Alkalinity KS 4,3 (as H+)	2,77	0,04			mmol/l	
Hydrogen carbonate	166	2			mg/l	
Calcium	69,9	0,9	69,4	2,0	mg/l	99%
Magnesium	14,06	0,16	14,0	0,40	mg/l	100%
Sodium	11,2	0,5	9,47	0,40	mg/l	85%
Potassium	5,86	0,04	4,41	0,10	mg/l	75%
Nitrate (as NO3)	31,6	0,9	31,06	0,14	mg/l	98%
Nitrite (as NO2)	0,0303	0,0010			mg/l	
Ammonium (as NH4)	0,0394	0,0039			mg/l	
Chloride	33,8	0,6	33,3	0,14	mg/l	99%
Sulphate (as SO4)	49,4	0,6	49,0	0,23	mg/l	99%
Orthophosphate (as PO4)	<0,009				mg/l	
Boron	0,1508	0,0012			mg/l	
DOC (as C)	6,25	0,03			mg/l	
Total P (as PO4)	<0,009				mg/l	
KMnO4-Index (as O2)	3,74	0,14			mg/l	



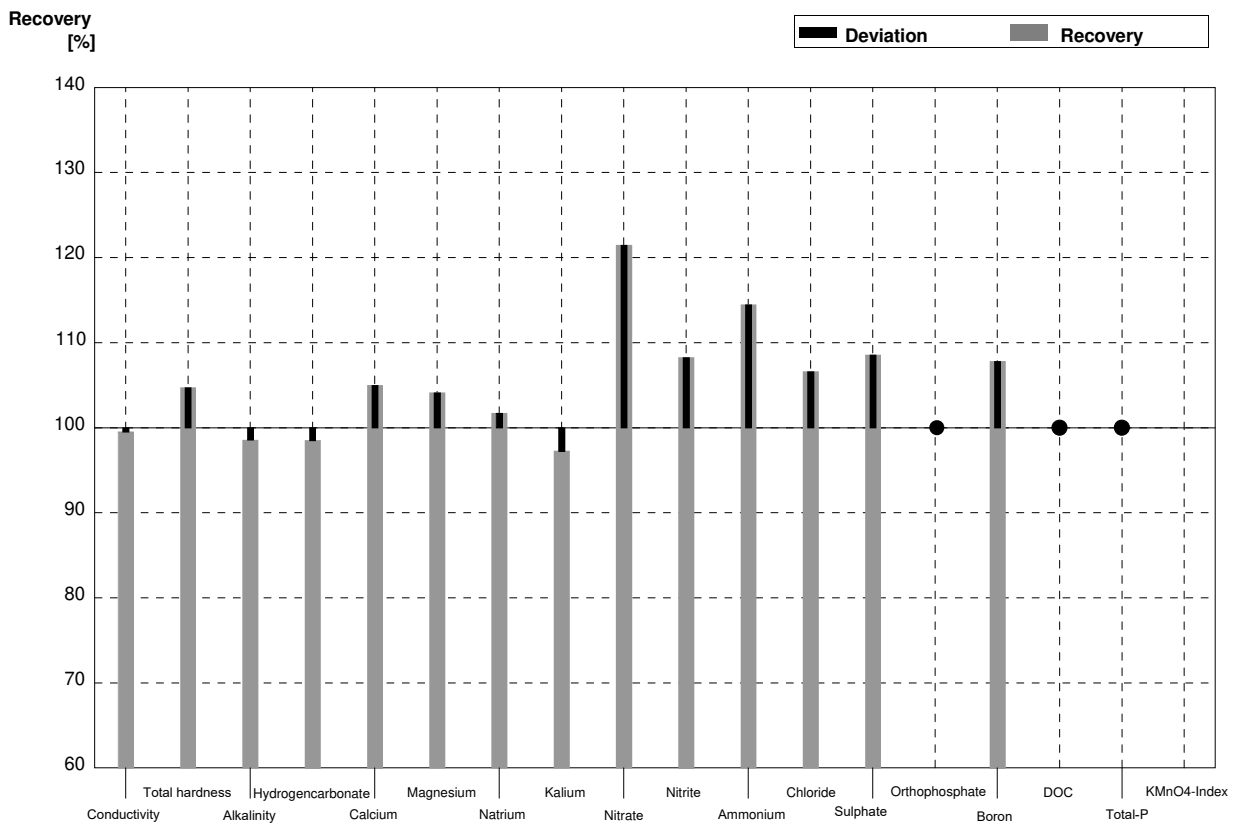
**Sample N179B**  
**Laboratory AF**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	412	1	µS/cm	100%
Total hardness	0,988	0,012			mmol/l	
Alkalinity KS 4,3 (as H+)	2,080	0,017			mmol/l	
Hydrogen carbonate	123,8	1,1			mg/l	
Calcium	21,6	0,4	21,3	0,70	mg/l	99%
Magnesium	10,94	0,15	10,8	0,20	mg/l	99%
Sodium	42,2	0,4	35,5	1,5	mg/l	84%
Potassium	7,78	0,05	6,05	0,30	mg/l	78%
Nitrate (as NO3)	61,1	1,3	60,14	0,33	mg/l	98%
Nitrite (as NO2)	0,0557	0,0012			mg/l	
Ammonium (as NH4)	<0,01				mg/l	
Chloride	20,46	0,12	19,96	0,07	mg/l	98%
Sulphate (as SO4)	17,8	0,2	17,68	0,09	mg/l	99%
Orthophosphate (as PO4)	0,0455	0,0042			mg/l	
Boron	0,0807	0,0005			mg/l	
DOC (as C)	4,07	0,02			mg/l	
Total P (as PO4)	0,101	0,003			mg/l	
KMnO4-Index (as O2)	2,43	0,09			mg/l	



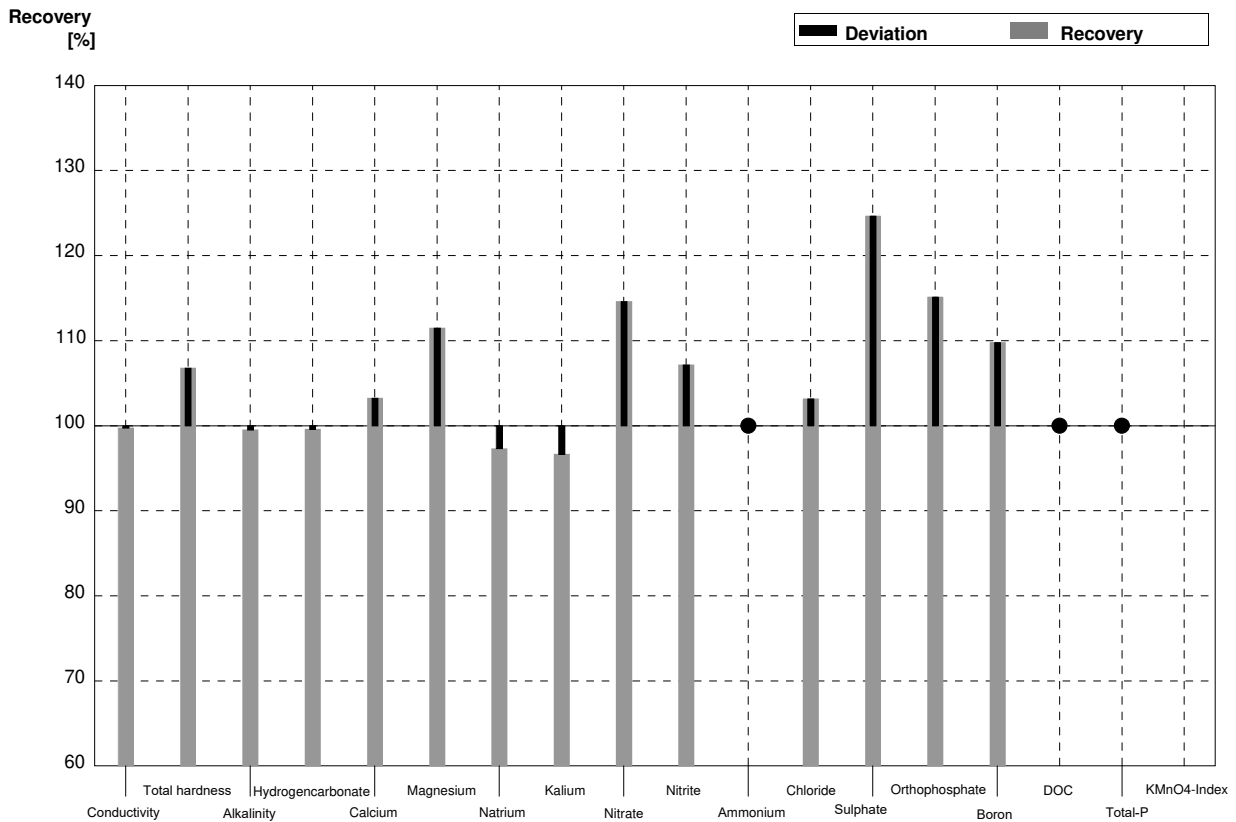
**Sample N179A**  
**Laboratory AG**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	524,5	28,64	µS/cm	100%
Total hardness	2,32	0,02	2,43	0,277	mmol/l	105%
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,73	0,277	mmol/l	99%
Hydrogen carbonate	166	2	163,5	0,277	mg/l	98%
Calcium	69,9	0,9	73,39	5,15	mg/l	105%
Magnesium	14,06	0,16	14,64	2,15	mg/l	104%
Sodium	11,2	0,5	11,39	1,453	mg/l	102%
Potassium	5,86	0,04	5,70	0,280	mg/l	97%
Nitrate (as NO3)	31,6	0,9	38,38	7,05	mg/l	121%
Nitrite (as NO2)	0,0303	0,0010	0,0328	0,00861	mg/l	108%
Ammonium (as NH4)	0,0394	0,0039	0,0451	0,00439	mg/l	114%
Chloride	33,8	0,6	36,03	11,81	mg/l	107%
Sulphate (as SO4)	49,4	0,6	53,63	19,09	mg/l	109%
Orthophosphate (as PO4)	<0,009		0,0109	0,00253	mg/l	•
Boron	0,1508	0,0012	0,1626		mg/l	108%
DOC (as C)	6,25	0,03	<10		mg/l	•
Total P (as PO4)	<0,009		<0,15		mg/l	•
KMnO4-Index (as O2)	3,74	0,14			mg/l	



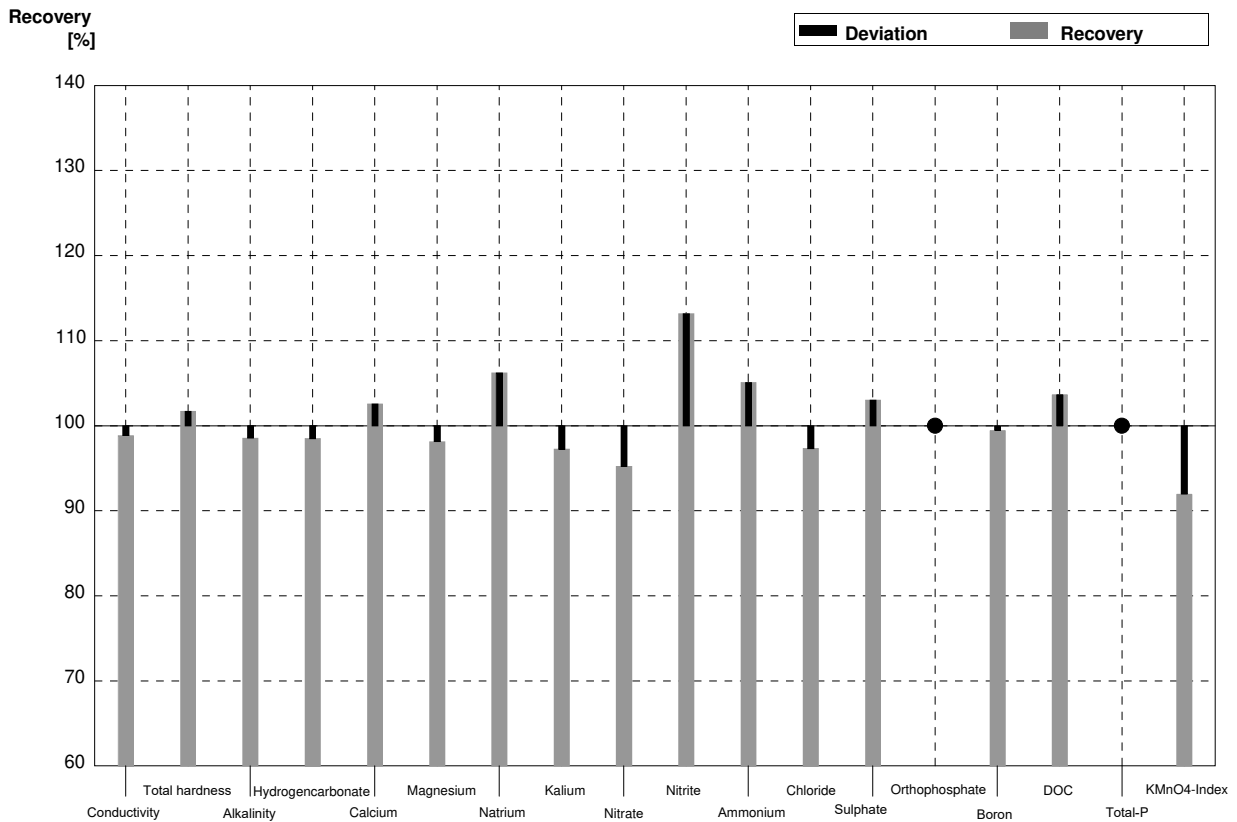
**Sample N179B**  
**Laboratory AG**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	412	22,50	µS/cm	100%
Total hardness	0,988	0,012	1,055	0,21	mmol/l	107%
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,07	0,21	mmol/l	100%
Hydrogen carbonate	123,8	1,1	123,3	0,21	mg/l	100%
Calcium	21,6	0,4	22,30	1,57	mg/l	103%
Magnesium	10,94	0,15	12,20	1,79	mg/l	112%
Sodium	42,2	0,4	41,07	1,63	mg/l	97%
Potassium	7,78	0,05	7,52	0,369	mg/l	97%
Nitrate (as NO3)	61,1	1,3	70,03	12,86	mg/l	115%
Nitrite (as NO2)	0,0557	0,0012	0,0597	0,016	mg/l	107%
Ammonium (as NH4)	<0,01		0,00300	0,00029	mg/l	•
Chloride	20,46	0,12	21,11	6,92	mg/l	103%
Sulphate (as SO4)	17,8	0,2	22,19	7,90	mg/l	125%
Orthophosphate (as PO4)	0,0455	0,0042	0,0524	0,0122	mg/l	115%
Boron	0,0807	0,0005	0,0886		mg/l	110%
DOC (as C)	4,07	0,02	<10		mg/l	•
Total P (as PO4)	0,101	0,003	<0,15		mg/l	•
KMnO4-Index (as O2)	2,43	0,09			mg/l	



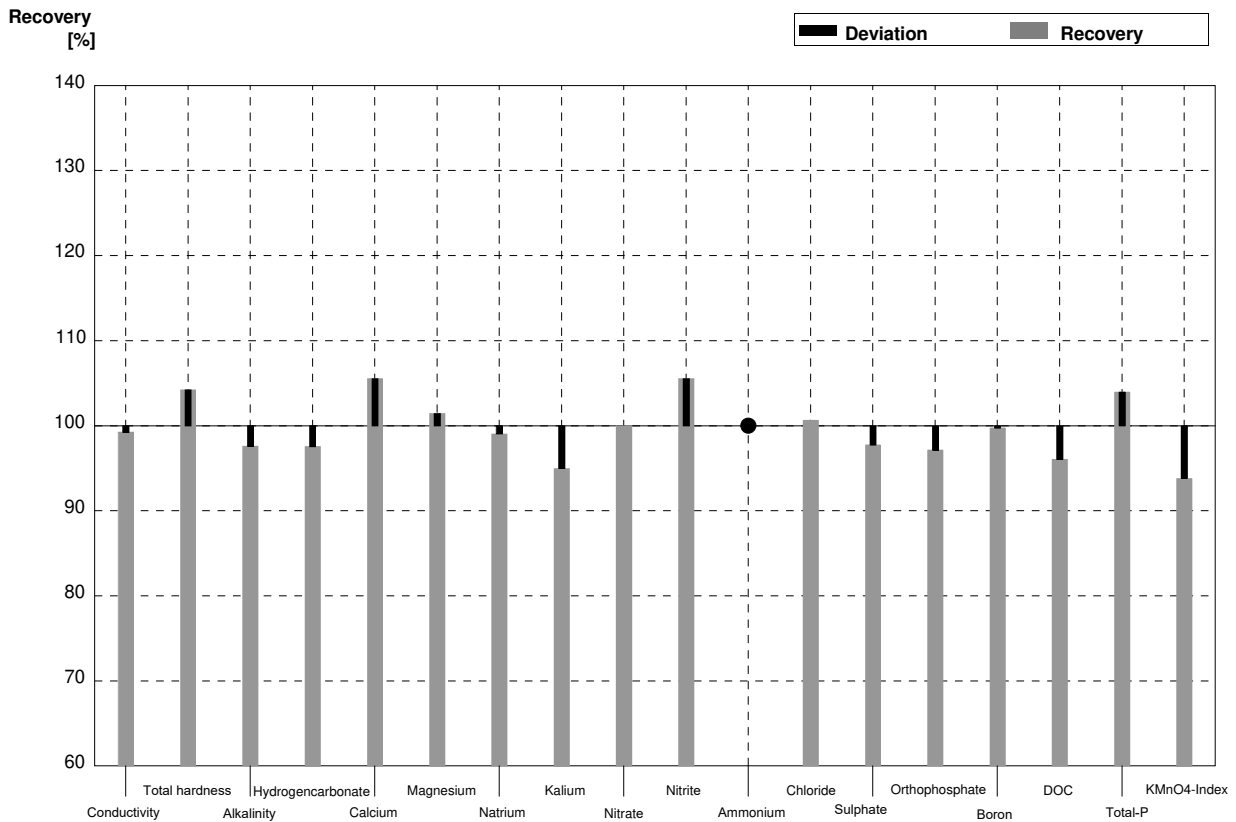
**Sample N179A**  
**Laboratory AH**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	521		µS/cm	99%
Total hardness	2,32	0,02	2,36		mmol/l	102%
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,73	0,19	mmol/l	99%
Hydrogen carbonate	166	2	163,5		mg/l	98%
Calcium	69,9	0,9	71,7	6	mg/l	103%
Magnesium	14,06	0,16	13,8	1,5	mg/l	98%
Sodium	11,2	0,5	11,9	1,0	mg/l	106%
Potassium	5,86	0,04	5,70	0,5	mg/l	97%
Nitrate (as NO3)	31,6	0,9	30,1	4,3	mg/l	95%
Nitrite (as NO2)	0,0303	0,0010	0,0343		mg/l	113%
Ammonium (as NH4)	0,0394	0,0039	0,0414	0,006	mg/l	105%
Chloride	33,8	0,6	32,9	4,7	mg/l	97%
Sulphate (as SO4)	49,4	0,6	50,9	4,1	mg/l	103%
Orthophosphate (as PO4)	<0,009		<0,01		mg/l	•
Boron	0,1508	0,0012	0,150		mg/l	99%
DOC (as C)	6,25	0,03	6,48	0,77	mg/l	104%
Total P (as PO4)	<0,009		<0,030		mg/l	•
KMnO4-Index (as O2)	3,74	0,14	3,44		mg/l	92%



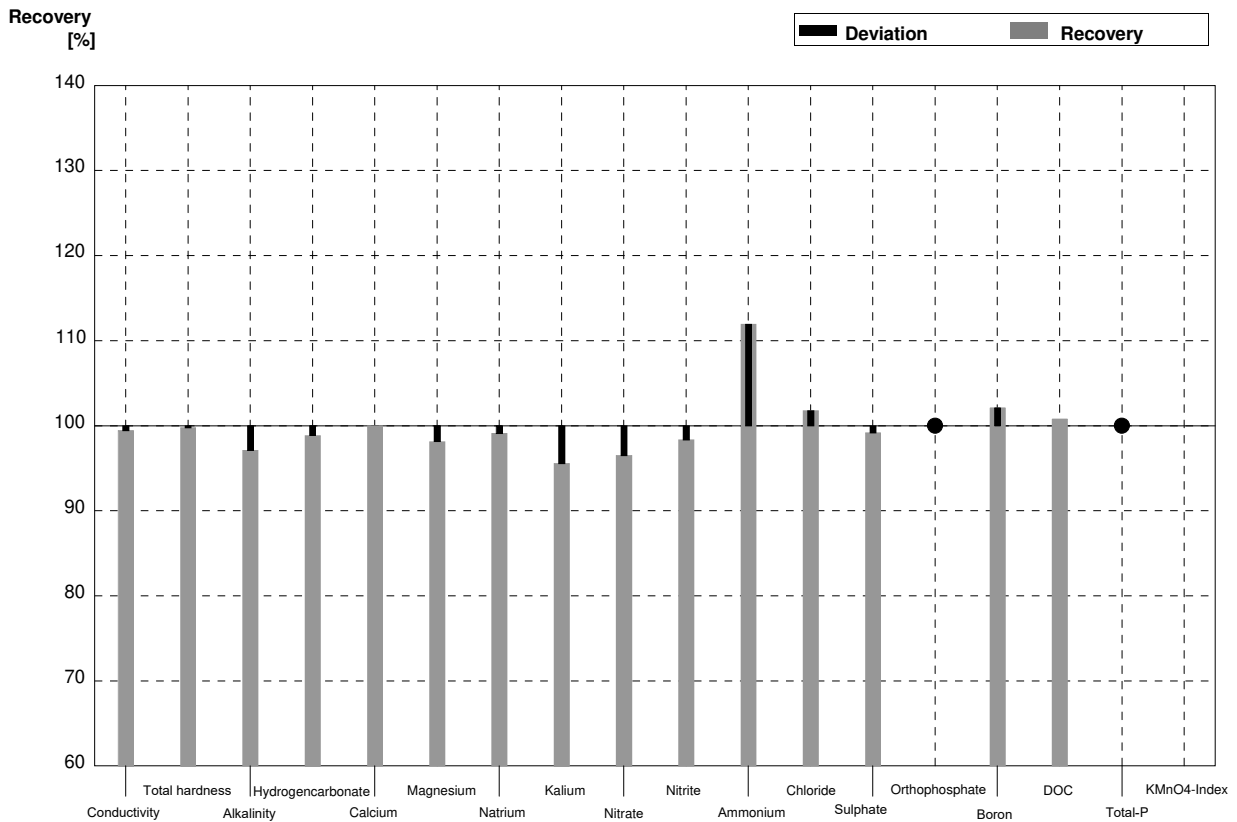
**Sample N179B**  
**Laboratory AH**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	410		µS/cm	99%
Total hardness	0,988	0,012	1,03		mmol/l	104%
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,03	0,14	mmol/l	98%
Hydrogen carbonate	123,8	1,1	120,8		mg/l	98%
Calcium	21,6	0,4	22,8	1,9	mg/l	106%
Magnesium	10,94	0,15	11,1	1,2	mg/l	101%
Sodium	42,2	0,4	41,8	3,6	mg/l	99%
Potassium	7,78	0,05	7,39	0,7	mg/l	95%
Nitrate (as NO3)	61,1	1,3	61,1	8,7	mg/l	100%
Nitrite (as NO2)	0,0557	0,0012	0,0588	0,01	mg/l	106%
Ammonium (as NH4)	<0,01		<0,01		mg/l	•
Chloride	20,46	0,12	20,6	2,9	mg/l	101%
Sulphate (as SO4)	17,8	0,2	17,4	1,4	mg/l	98%
Orthophosphate (as PO4)	0,0455	0,0042	0,0442		mg/l	97%
Boron	0,0807	0,0005	0,0805	0,0137	mg/l	100%
DOC (as C)	4,07	0,02	3,91		mg/l	96%
Total P (as PO4)	0,101	0,003	0,105	0,009	mg/l	104%
KMnO4-Index (as O2)	2,43	0,09	2,28		mg/l	94%



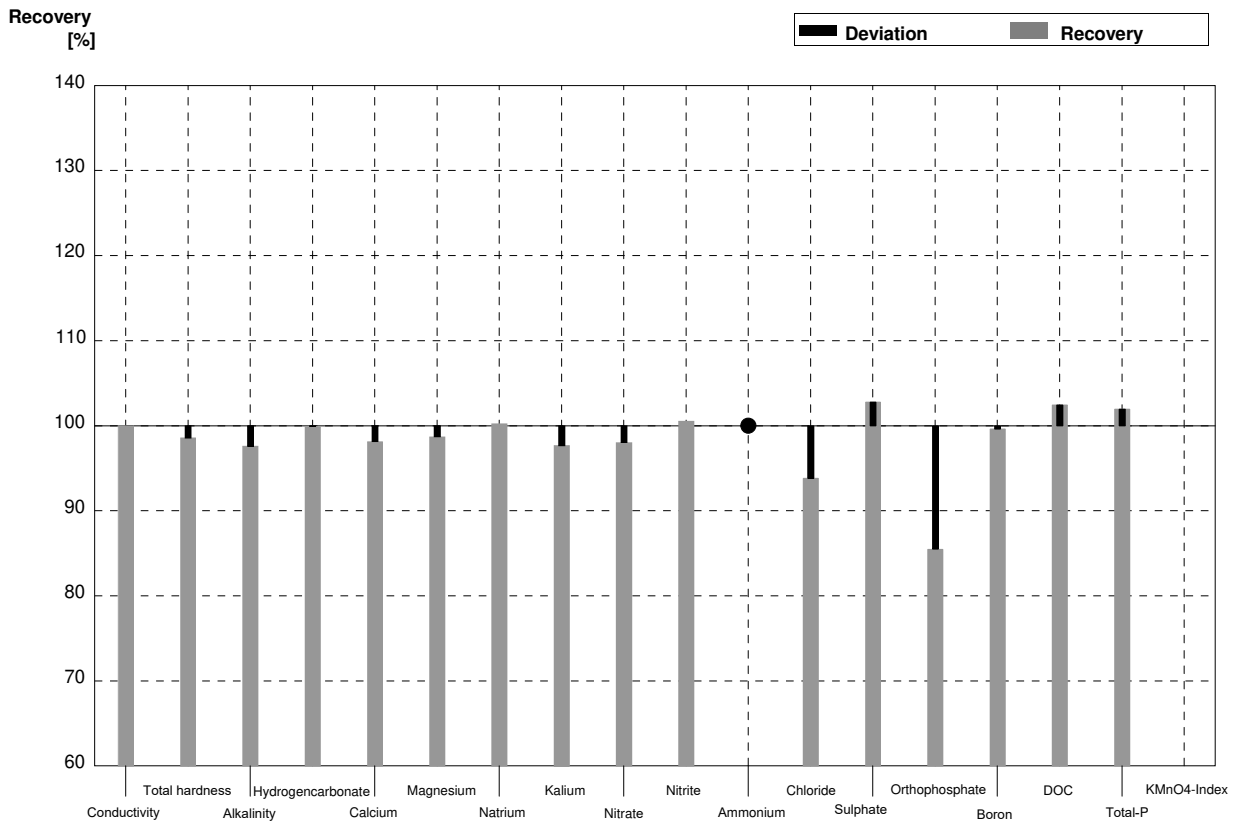
**Sample N179A**  
**Laboratory AI**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	524	21	µS/cm	99%
Total hardness	2,32	0,02	2,315	0,100	mmol/l	100%
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,69	0,16	mmol/l	97%
Hydrogen carbonate	166	2	164,1	10	mg/l	99%
Calcium	69,9	0,9	69,9	2,6	mg/l	100%
Magnesium	14,06	0,16	13,8	0,8	mg/l	98%
Sodium	11,2	0,5	11,1	0,7	mg/l	99%
Potassium	5,86	0,04	5,6	0,3	mg/l	96%
Nitrate (as NO3)	31,6	0,9	30,5	3,0	mg/l	97%
Nitrite (as NO2)	0,0303	0,0010	0,0298	0,0040	mg/l	98%
Ammonium (as NH4)	0,0394	0,0039	0,0441	0,0086	mg/l	112%
Chloride	33,8	0,6	34,4	2,7	mg/l	102%
Sulphate (as SO4)	49,4	0,6	49,0	3,9	mg/l	99%
Orthophosphate (as PO4)	<0,009		<0,010		mg/l	•
Boron	0,1508	0,0012	0,154	0,011	mg/l	102%
DOC (as C)	6,25	0,03	6,3	1,2	mg/l	101%
Total P (as PO4)	<0,009		<0,010		mg/l	•
KMnO4-Index (as O2)	3,74	0,14			mg/l	



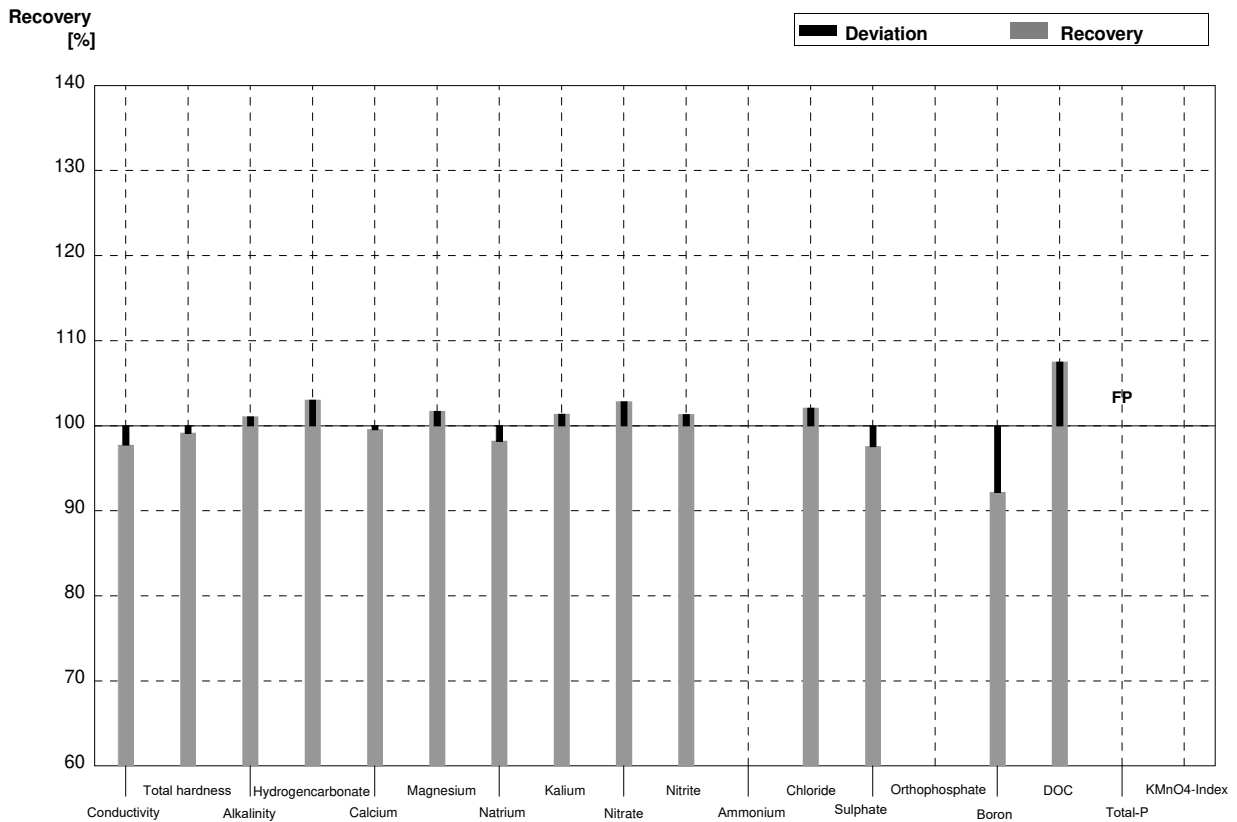
**Sample N179B**  
**Laboratory AI**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	413	17	µS/cm	100%
Total hardness	0,988	0,012	0,974	0,049	mmol/l	99%
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,03	0,13	mmol/l	98%
Hydrogen carbonate	123,8	1,1	123,7	8,0	mg/l	100%
Calcium	21,6	0,4	21,2	0,9	mg/l	98%
Magnesium	10,94	0,15	10,8	0,7	mg/l	99%
Sodium	42,2	0,4	42,3	2,4	mg/l	100%
Potassium	7,78	0,05	7,6	0,3	mg/l	98%
Nitrate (as NO3)	61,1	1,3	59,9	5,8	mg/l	98%
Nitrite (as NO2)	0,0557	0,0012	0,056	0,006	mg/l	101%
Ammonium (as NH4)	<0,01		<0,010		mg/l	•
Chloride	20,46	0,12	19,2	1,6	mg/l	94%
Sulphate (as SO4)	17,8	0,2	18,3	1,6	mg/l	103%
Orthophosphate (as PO4)	0,0455	0,0042	0,0389	0,006	mg/l	85%
Boron	0,0807	0,0005	0,0804	0,0062	mg/l	100%
DOC (as C)	4,07	0,02	4,17	0,82	mg/l	102%
Total P (as PO4)	0,101	0,003	0,103	0,011	mg/l	102%
KMnO4-Index (as O2)	2,43	0,09			mg/l	



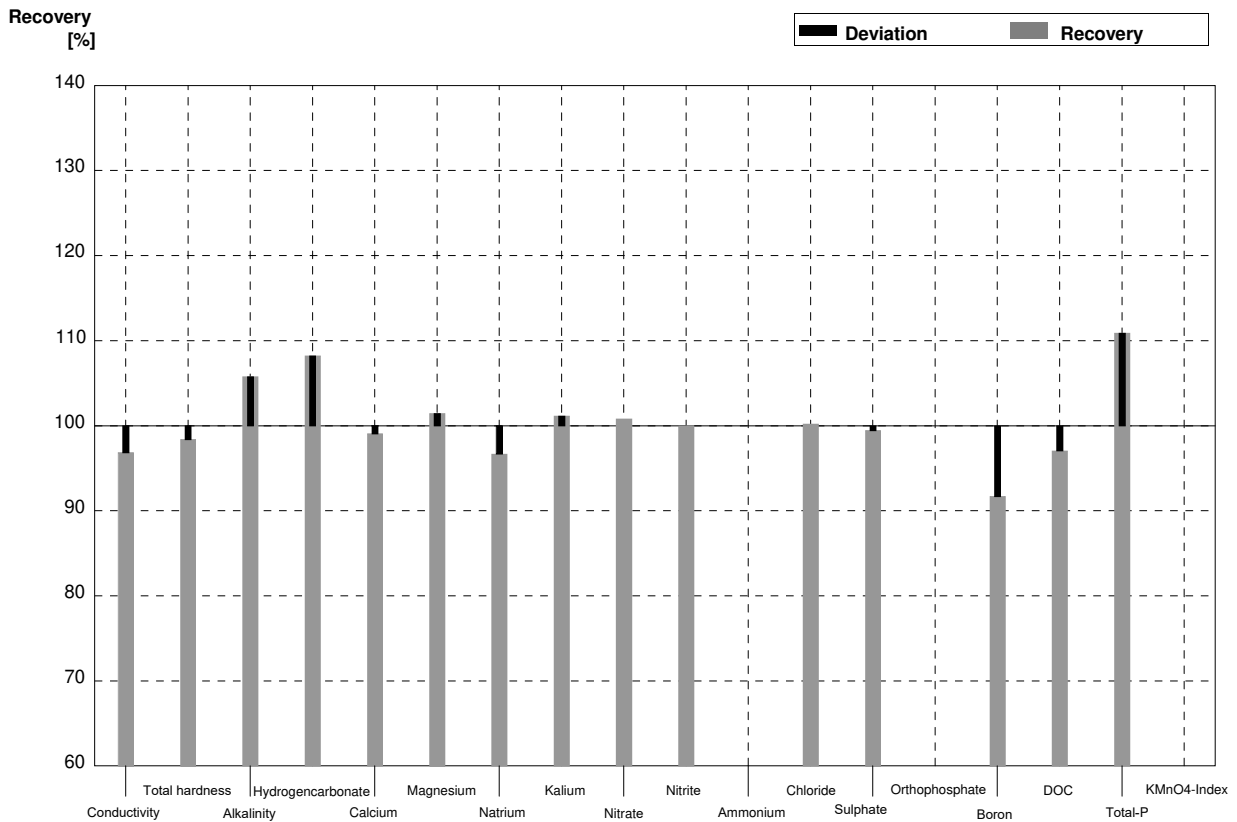
**Sample N179A**  
**Laboratory AJ**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	515	13,6	µS/cm	98%
Total hardness	2,32	0,02	2,30		mmol/l	99%
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,80		mmol/l	101%
Hydrogen carbonate	166	2	171		mg/l	103%
Calcium	69,9	0,9	69,6	3,15	mg/l	100%
Magnesium	14,06	0,16	14,3	0,59	mg/l	102%
Sodium	11,2	0,5	11,0	0,72	mg/l	98%
Potassium	5,86	0,04	5,94	0,77	mg/l	101%
Nitrate (as NO3)	31,6	0,9	32,5	3,85	mg/l	103%
Nitrite (as NO2)	0,0303	0,0010	0,0307	0,0042	mg/l	101%
Ammonium (as NH4)	0,0394	0,0039			mg/l	
Chloride	33,8	0,6	34,5	0,76	mg/l	102%
Sulphate (as SO4)	49,4	0,6	48,2	3,21	mg/l	98%
Orthophosphate (as PO4)	<0,009				mg/l	
Boron	0,1508	0,0012	0,139	0,021	mg/l	92%
DOC (as C)	6,25	0,03	6,72	0,934	mg/l	108%
Total P (as PO4)	<0,009		0,0161	0,0024	mg/l	FP
KMnO4-Index (as O2)	3,74	0,14			mg/l	



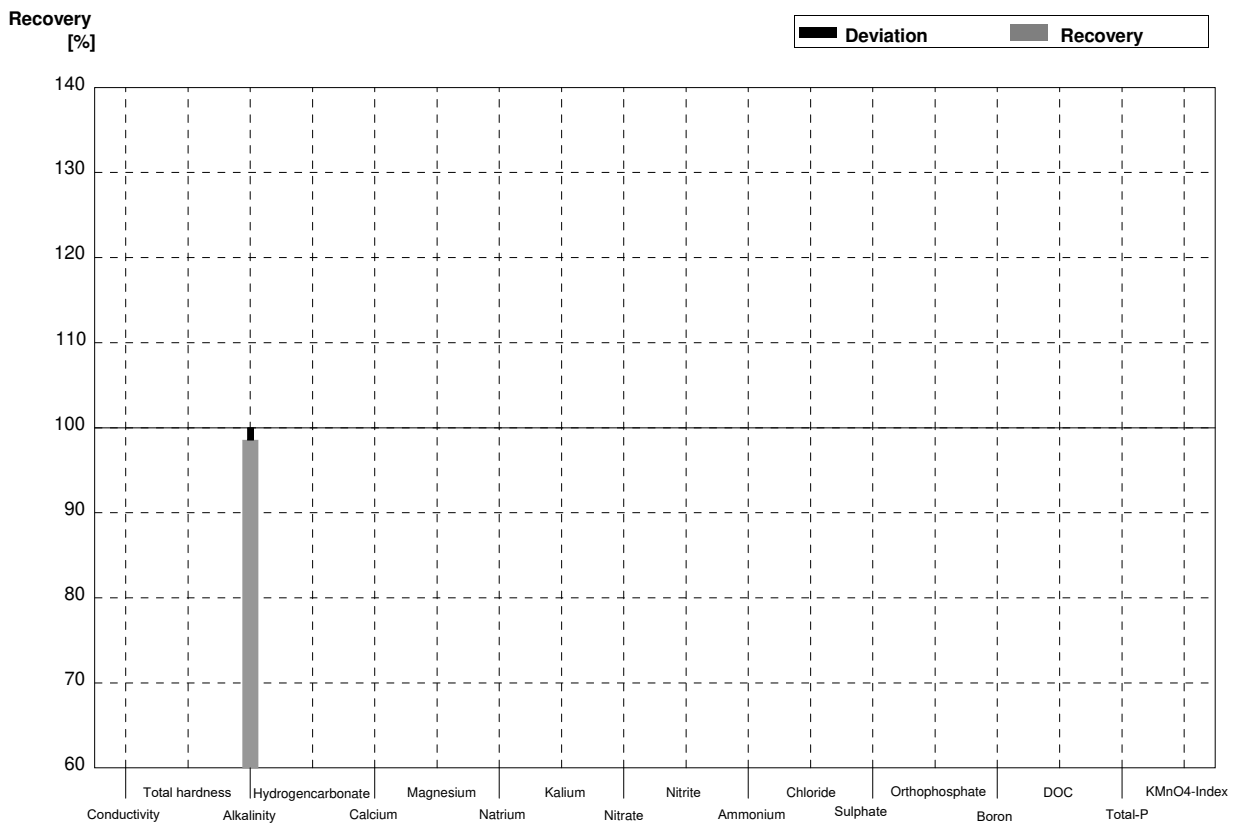
**Sample N179B**  
**Laboratory AJ**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	400	10,7	µS/cm	97%
Total hardness	0,988	0,012	0,972		mmol/l	98%
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,20		mmol/l	106%
Hydrogen carbonate	123,8	1,1	134		mg/l	108%
Calcium	21,6	0,4	21,4	0,96	mg/l	99%
Magnesium	10,94	0,15	11,1	0,46	mg/l	101%
Sodium	42,2	0,4	40,8	2,67	mg/l	97%
Potassium	7,78	0,05	7,87	1,01	mg/l	101%
Nitrate (as NO3)	61,1	1,3	61,6	7,30	mg/l	101%
Nitrite (as NO2)	0,0557	0,0012	0,0557	0,0077	mg/l	100%
Ammonium (as NH4)	<0,01				mg/l	
Chloride	20,46	0,12	20,5	0,45	mg/l	100%
Sulphate (as SO4)	17,8	0,2	17,7	1,18	mg/l	99%
Orthophosphate (as PO4)	0,0455	0,0042			mg/l	
Boron	0,0807	0,0005	0,074	0,011	mg/l	92%
DOC (as C)	4,07	0,02	3,95	0,549	mg/l	97%
Total P (as PO4)	0,101	0,003	0,112	0,017	mg/l	111%
KMnO4-Index (as O2)	2,43	0,09			mg/l	



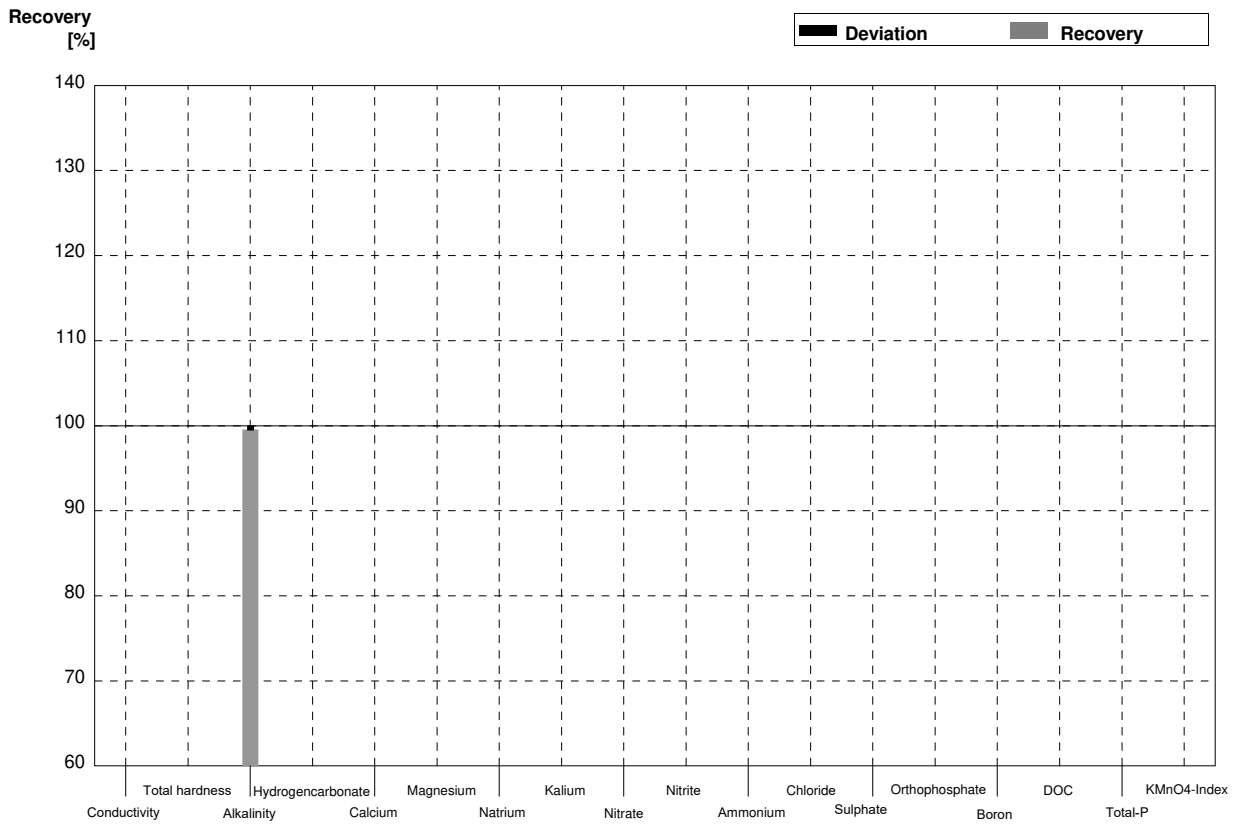
**Sample N179A**  
**Laboratory AK**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2			µS/cm	
Total hardness	2,32	0,02			mmol/l	
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,73		mmol/l	99%
Hydrogen carbonate	166	2			mg/l	
Calcium	69,9	0,9			mg/l	
Magnesium	14,06	0,16			mg/l	
Sodium	11,2	0,5			mg/l	
Potassium	5,86	0,04			mg/l	
Nitrate (as NO3)	31,6	0,9			mg/l	
Nitrite (as NO2)	0,0303	0,0010			mg/l	
Ammonium (as NH4)	0,0394	0,0039			mg/l	
Chloride	33,8	0,6			mg/l	
Sulphate (as SO4)	49,4	0,6			mg/l	
Orthophosphate (as PO4)	<0,009				mg/l	
Boron	0,1508	0,0012			mg/l	
DOC (as C)	6,25	0,03			mg/l	
Total P (as PO4)	<0,009				mg/l	
KMnO4-Index (as O2)	3,74	0,14			mg/l	



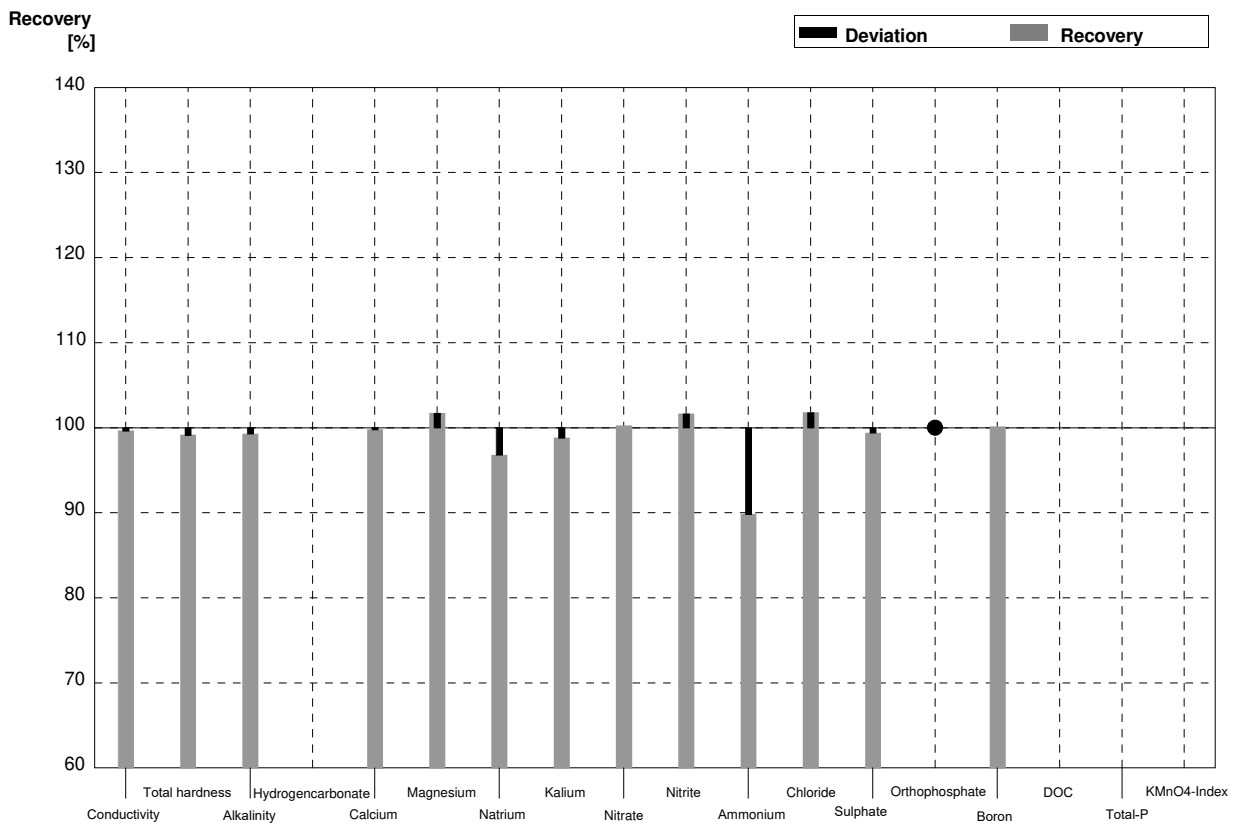
**Sample N179B**  
**Laboratory AK**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1			µS/cm	
Total hardness	0,988	0,012			mmol/l	
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,07		mmol/l	100%
Hydrogen carbonate	123,8	1,1			mg/l	
Calcium	21,6	0,4			mg/l	
Magnesium	10,94	0,15			mg/l	
Sodium	42,2	0,4			mg/l	
Potassium	7,78	0,05			mg/l	
Nitrate (as NO3)	61,1	1,3			mg/l	
Nitrite (as NO2)	0,0557	0,0012			mg/l	
Ammonium (as NH4)	<0,01				mg/l	
Chloride	20,46	0,12			mg/l	
Sulphate (as SO4)	17,8	0,2			mg/l	
Orthophosphate (as PO4)	0,0455	0,0042			mg/l	
Boron	0,0807	0,0005			mg/l	
DOC (as C)	4,07	0,02			mg/l	
Total P (as PO4)	0,101	0,003			mg/l	
KMnO4-Index (as O2)	2,43	0,09			mg/l	



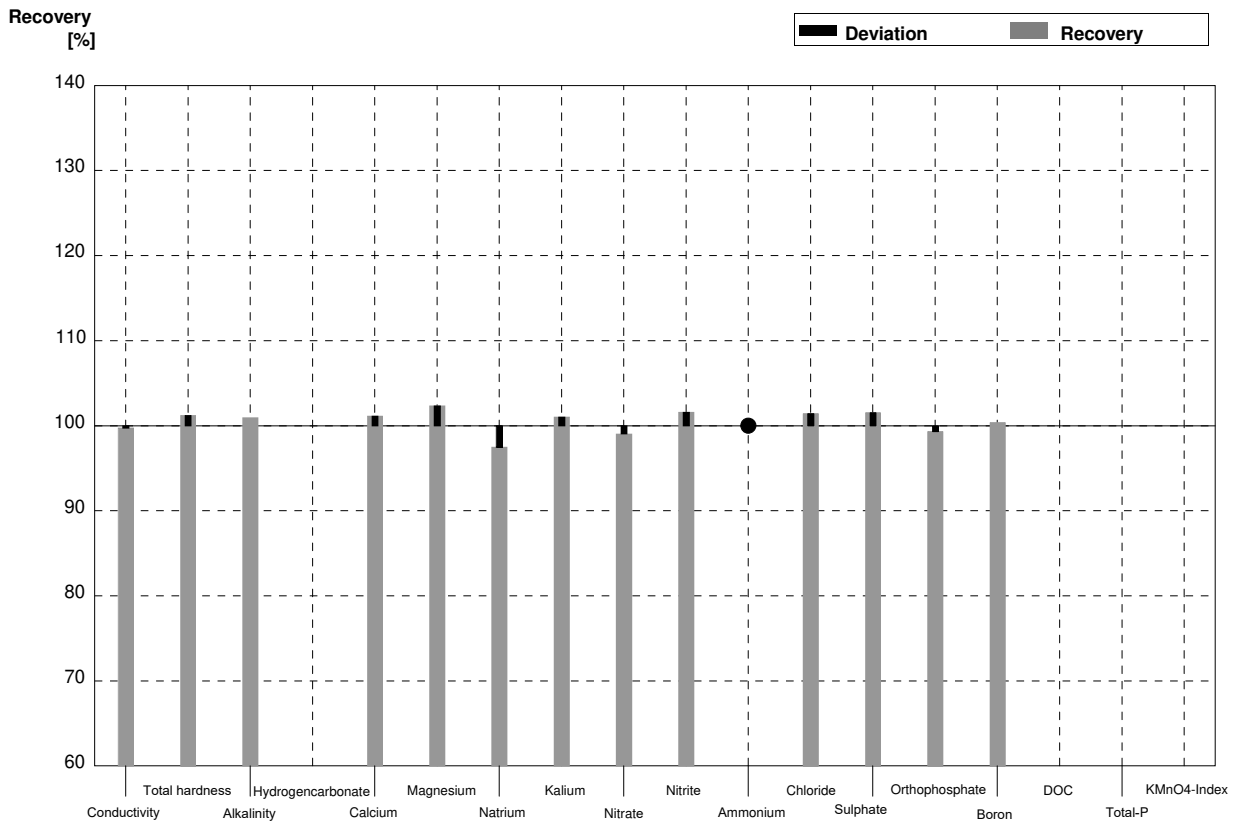
**Sample N179A**  
**Laboratory AL**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	525,00	15,8	µS/cm	100%
Total hardness	2,32	0,02	2,30	0,11	mmol/l	99%
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,75	0,14	mmol/l	99%
Hydrogen carbonate	166	2			mg/l	
Calcium	69,9	0,9	69,75	6,98	mg/l	100%
Magnesium	14,06	0,16	14,30	1,43	mg/l	102%
Sodium	11,2	0,5	10,84	1,08	mg/l	97%
Potassium	5,86	0,04	5,79	0,58	mg/l	99%
Nitrate (as NO3)	31,6	0,9	31,68	1,58	mg/l	100%
Nitrite (as NO2)	0,0303	0,0010	0,0308	0,0062	mg/l	102%
Ammonium (as NH4)	0,0394	0,0039	0,0354	0,0042	mg/l	90%
Chloride	33,8	0,6	34,40	1,72	mg/l	102%
Sulphate (as SO4)	49,4	0,6	49,10	4,9	mg/l	99%
Orthophosphate (as PO4)	<0,009		<0,006		mg/l	•
Boron	0,1508	0,0012	0,151	0,03	mg/l	100%
DOC (as C)	6,25	0,03			mg/l	
Total P (as PO4)	<0,009				mg/l	
KMnO4-Index (as O2)	3,74	0,14			mg/l	



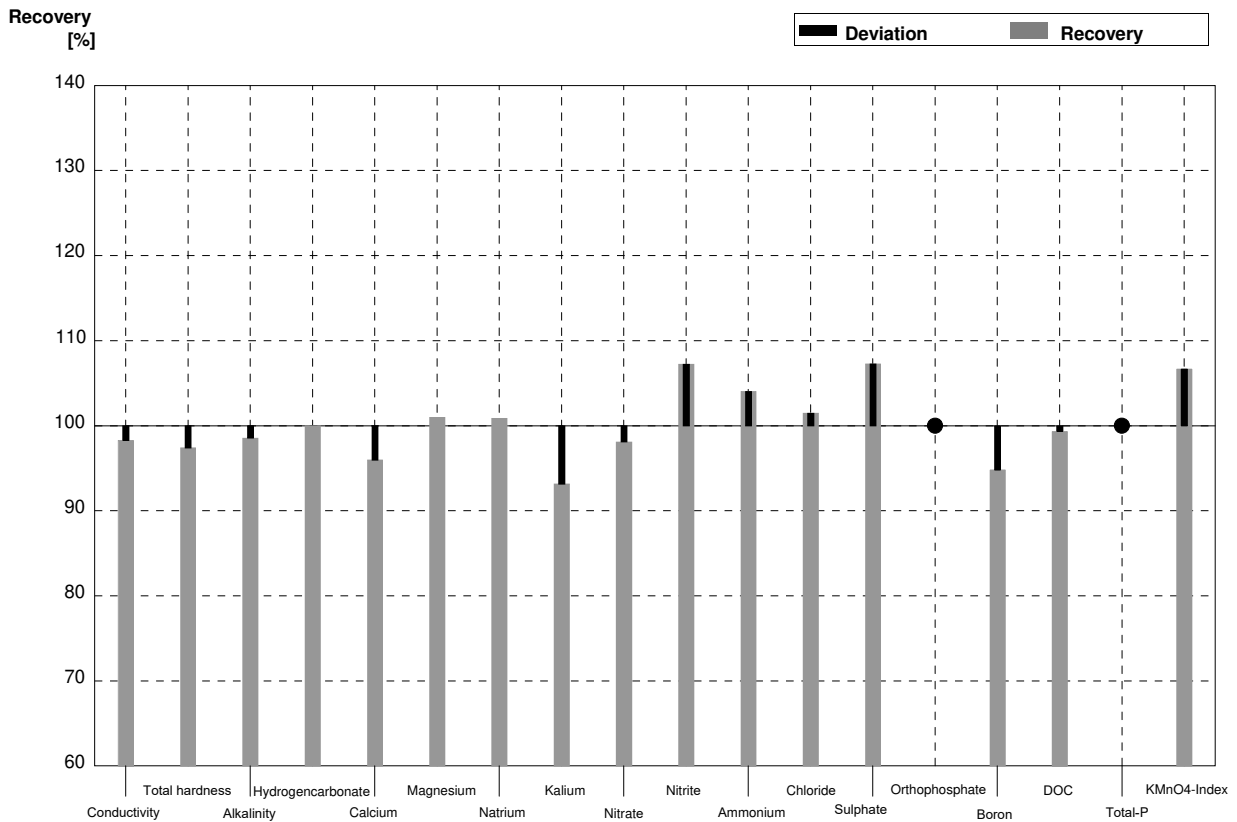
**Sample N179B**  
**Laboratory AL**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	412,00	12,36	µS/cm	100%
Total hardness	0,988	0,012	1,00	0,05	mmol/l	101%
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,10	0,11	mmol/l	101%
Hydrogen carbonate	123,8	1,1			mg/l	
Calcium	21,6	0,4	21,85	2,19	mg/l	101%
Magnesium	10,94	0,15	11,20	1,12	mg/l	102%
Sodium	42,2	0,4	41,14	4,1	mg/l	97%
Potassium	7,78	0,05	7,86	0,79	mg/l	101%
Nitrate (as NO3)	61,1	1,3	60,52	3,03	mg/l	99%
Nitrite (as NO2)	0,0557	0,0012	0,0566	0,011	mg/l	102%
Ammonium (as NH4)	<0,01		<0,01		mg/l	•
Chloride	20,46	0,12	20,76	1,04	mg/l	101%
Sulphate (as SO4)	17,8	0,2	18,08	1,81	mg/l	102%
Orthophosphate (as PO4)	0,0455	0,0042	0,0452	0,0045	mg/l	99%
Boron	0,0807	0,0005	0,081	0,016	mg/l	100%
DOC (as C)	4,07	0,02			mg/l	
Total P (as PO4)	0,101	0,003			mg/l	
KMnO4-Index (as O2)	2,43	0,09			mg/l	



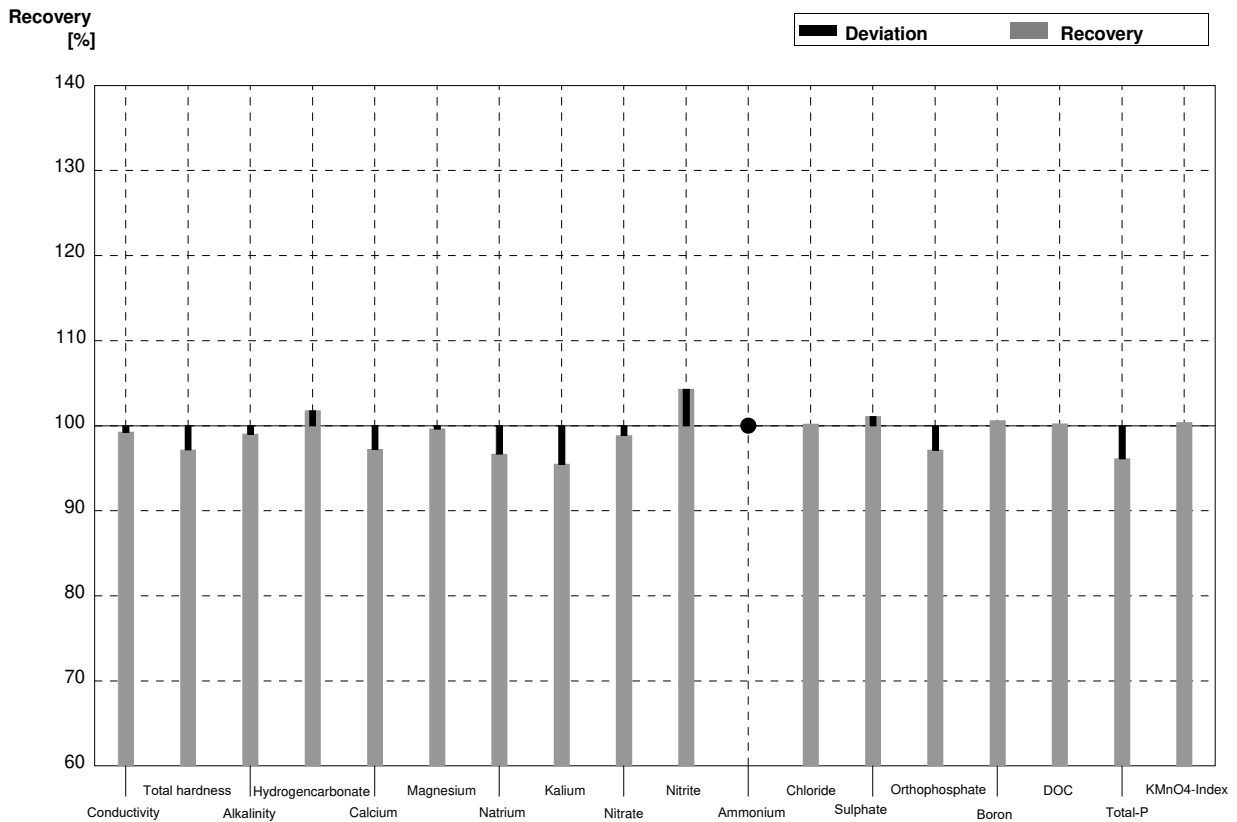
**Sample N179A**  
**Laboratory AM**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	518	1,000	µS/cm	98%
Total hardness	2,32	0,02	2,26	0,010	mmol/l	97%
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,73	0,006	mmol/l	99%
Hydrogen carbonate	166	2	166	0,577	mg/l	100%
Calcium	69,9	0,9	67,1	0,252	mg/l	96%
Magnesium	14,06	0,16	14,2	0,231	mg/l	101%
Sodium	11,2	0,5	11,3	0,252	mg/l	101%
Potassium	5,86	0,04	5,46	0,015	mg/l	93%
Nitrate (as NO3)	31,6	0,9	31,0	0,058	mg/l	98%
Nitrite (as NO2)	0,0303	0,0010	0,0325	0,001	mg/l	107%
Ammonium (as NH4)	0,0394	0,0039	0,0410	0,003	mg/l	104%
Chloride	33,8	0,6	34,3	0,321	mg/l	101%
Sulphate (as SO4)	49,4	0,6	53,0	0,058	mg/l	107%
Orthophosphate (as PO4)	<0,009		<0,009		mg/l	•
Boron	0,1508	0,0012	0,143	0,003	mg/l	95%
DOC (as C)	6,25	0,03	6,21	0,026	mg/l	99%
Total P (as PO4)	<0,009		<0,009		mg/l	•
KMnO4-Index (as O2)	3,74	0,14	3,99	0,047	mg/l	107%



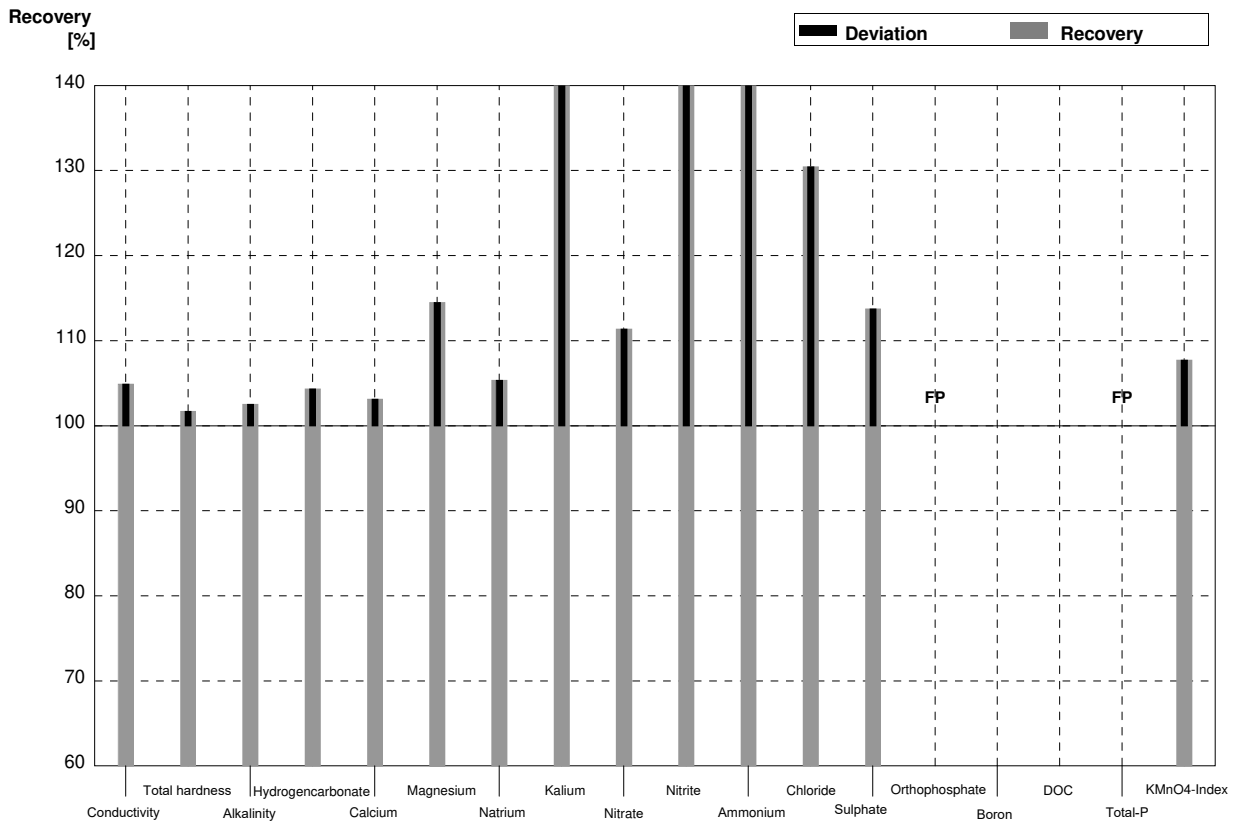
**Sample N179B**  
**Laboratory AM**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	410	1,155	µS/cm	99%
Total hardness	0,988	0,012	0,960	0,008	mmol/l	97%
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,06	0,006	mmol/l	99%
Hydrogen carbonate	123,8	1,1	126	0,5	mg/l	102%
Calcium	21,6	0,4	21,0	0,100	mg/l	97%
Magnesium	10,94	0,15	10,9	0,141	mg/l	100%
Sodium	42,2	0,4	40,8	0,289	mg/l	97%
Potassium	7,78	0,05	7,43	0,057	mg/l	96%
Nitrate (as NO3)	61,1	1,3	60,4	0,321	mg/l	99%
Nitrite (as NO2)	0,0557	0,0012	0,0581	0,002	mg/l	104%
Ammonium (as NH4)	<0,01		<0,010		mg/l	•
Chloride	20,46	0,12	20,5	0,058	mg/l	100%
Sulphate (as SO4)	17,8	0,2	18,0	0,153	mg/l	101%
Orthophosphate (as PO4)	0,0455	0,0042	0,0442	0,004	mg/l	97%
Boron	0,0807	0,0005	0,0812	0,002	mg/l	101%
DOC (as C)	4,07	0,02	4,08	0,020	mg/l	100%
Total P (as PO4)	0,101	0,003	0,0971	0,002	mg/l	96%
KMnO4-Index (as O2)	2,43	0,09	2,44	0,066	mg/l	100%



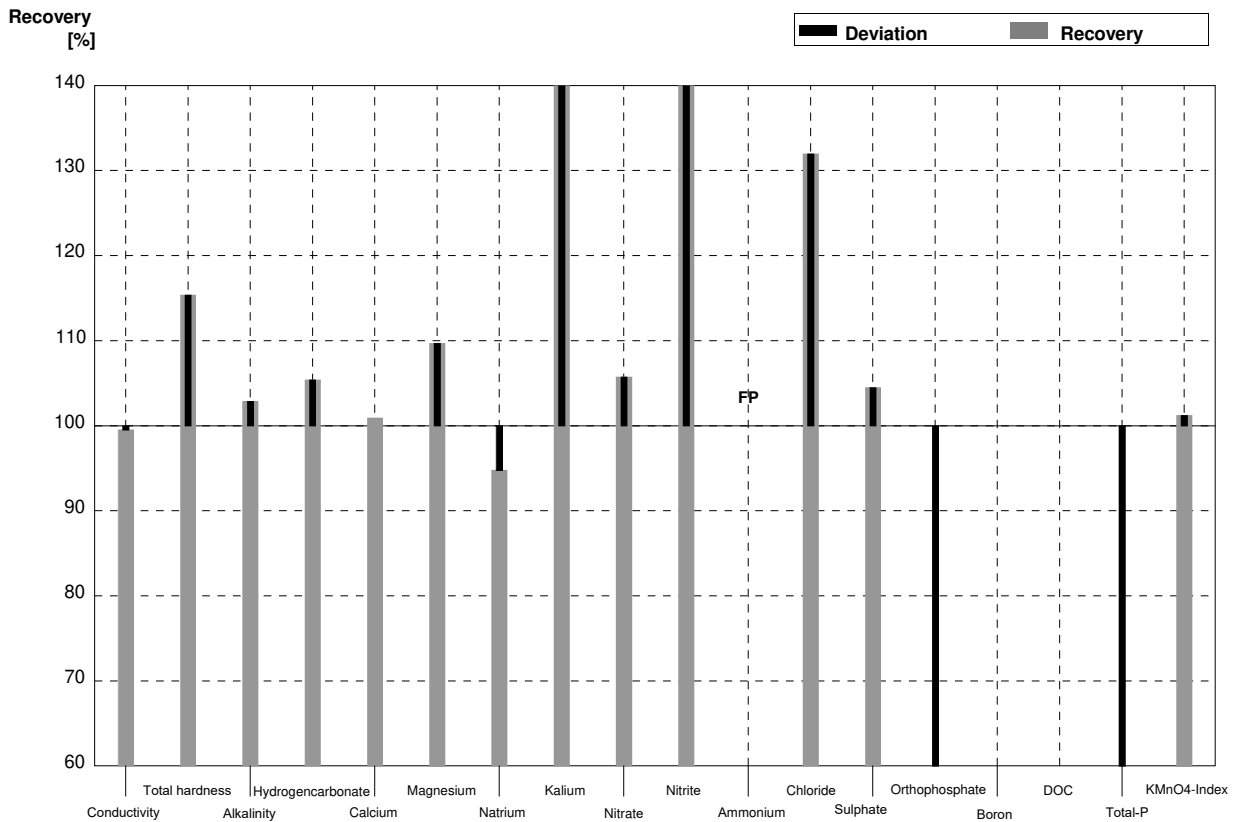
**Sample N179A**  
**Laboratory AN**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	553	8	µS/cm	105%
Total hardness	2,32	0,02	2,36	0,08	mmol/l	102%
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,84	0,07	mmol/l	103%
Hydrogen carbonate	166	2	173,2	4,0	mg/l	104%
Calcium	69,9	0,9	72,1	4,0	mg/l	103%
Magnesium	14,06	0,16	16,1	1,6	mg/l	115%
Sodium	11,2	0,5	11,8	0,7	mg/l	105%
Potassium	5,86	0,04	11,7	1,0	mg/l	200%
Nitrate (as NO3)	31,6	0,9	35,2	2,0	mg/l	111%
Nitrite (as NO2)	0,0303	0,0010	0,085	0,004	mg/l	281%
Ammonium (as NH4)	0,0394	0,0039	0,0609	0,0235	mg/l	155%
Chloride	33,8	0,6	44,1	2,8	mg/l	130%
Sulphate (as SO4)	49,4	0,6	56,2	2,7	mg/l	114%
Orthophosphate (as PO4)	<0,009		0,0438	0,0075	mg/l	FP
Boron	0,1508	0,0012			mg/l	
DOC (as C)	6,25	0,03			mg/l	
Total P (as PO4)	<0,009		0,0537	0,0099	mg/l	FP
KMnO4-Index (as O2)	3,74	0,14	4,03	0,36	mg/l	108%



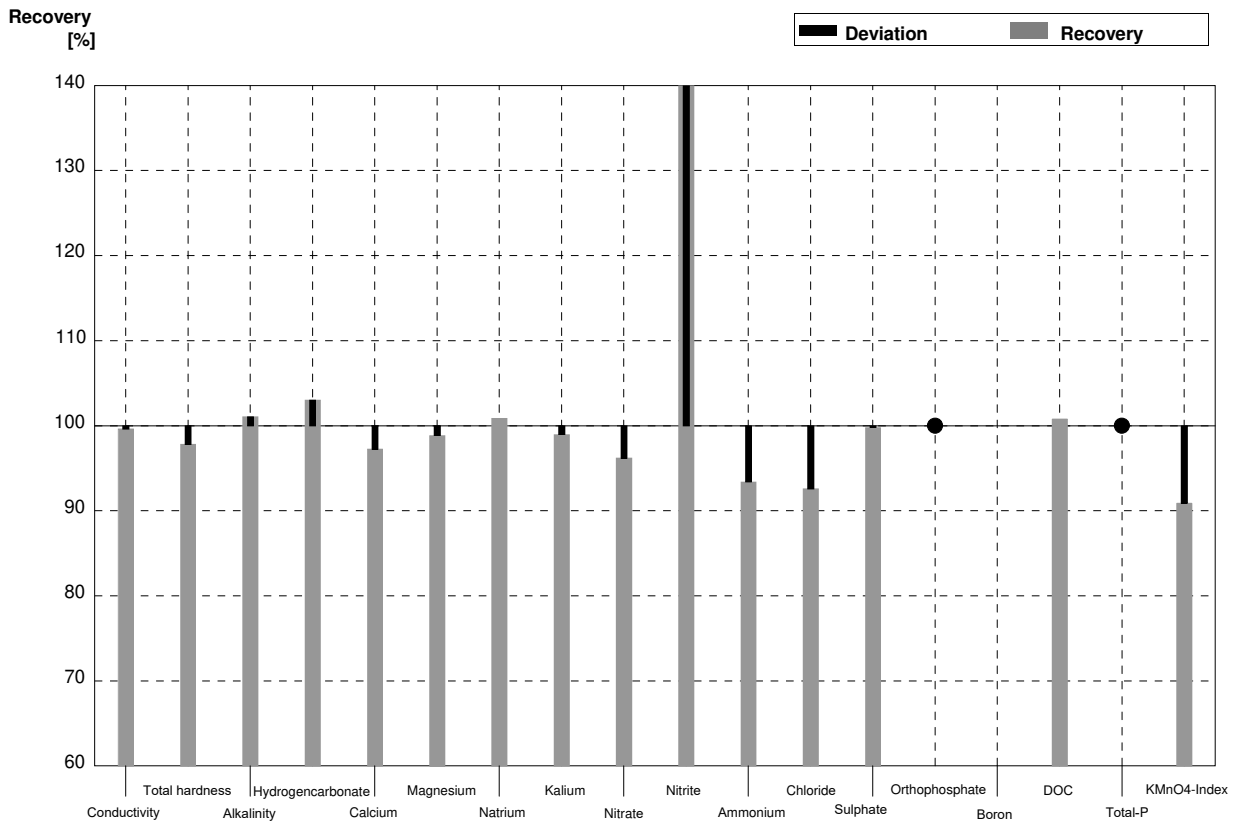
**Sample N179B**  
**Laboratory AN**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	411	6	µS/cm	100%
Total hardness	0,988	0,012	1,14	0,04	mmol/l	115%
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,14	0,05	mmol/l	103%
Hydrogen carbonate	123,8	1,1	130,5	3,0	mg/l	105%
Calcium	21,6	0,4	21,8	1,2	mg/l	101%
Magnesium	10,94	0,15	12,0	1,2	mg/l	110%
Sodium	42,2	0,4	40,0	2,4	mg/l	95%
Potassium	7,78	0,05	12,8	1,1	mg/l	165%
Nitrate (as NO3)	61,1	1,3	64,6	3,7	mg/l	106%
Nitrite (as NO2)	0,0557	0,0012	0,184	0,009	mg/l	330%
Ammonium (as NH4)	<0,01		0,0235	0,0091	mg/l	FP
Chloride	20,46	0,12	27,0	1,7	mg/l	132%
Sulphate (as SO4)	17,8	0,2	18,6	0,9	mg/l	104%
Orthophosphate (as PO4)	0,0455	0,0042	0,0162	0,0028	mg/l	36%
Boron	0,0807	0,0005			mg/l	
DOC (as C)	4,07	0,02			mg/l	
Total P (as PO4)	0,101	0,003	0,0425	0,0079	mg/l	42%
KMnO4-Index (as O2)	2,43	0,09	2,46	0,22	mg/l	101%



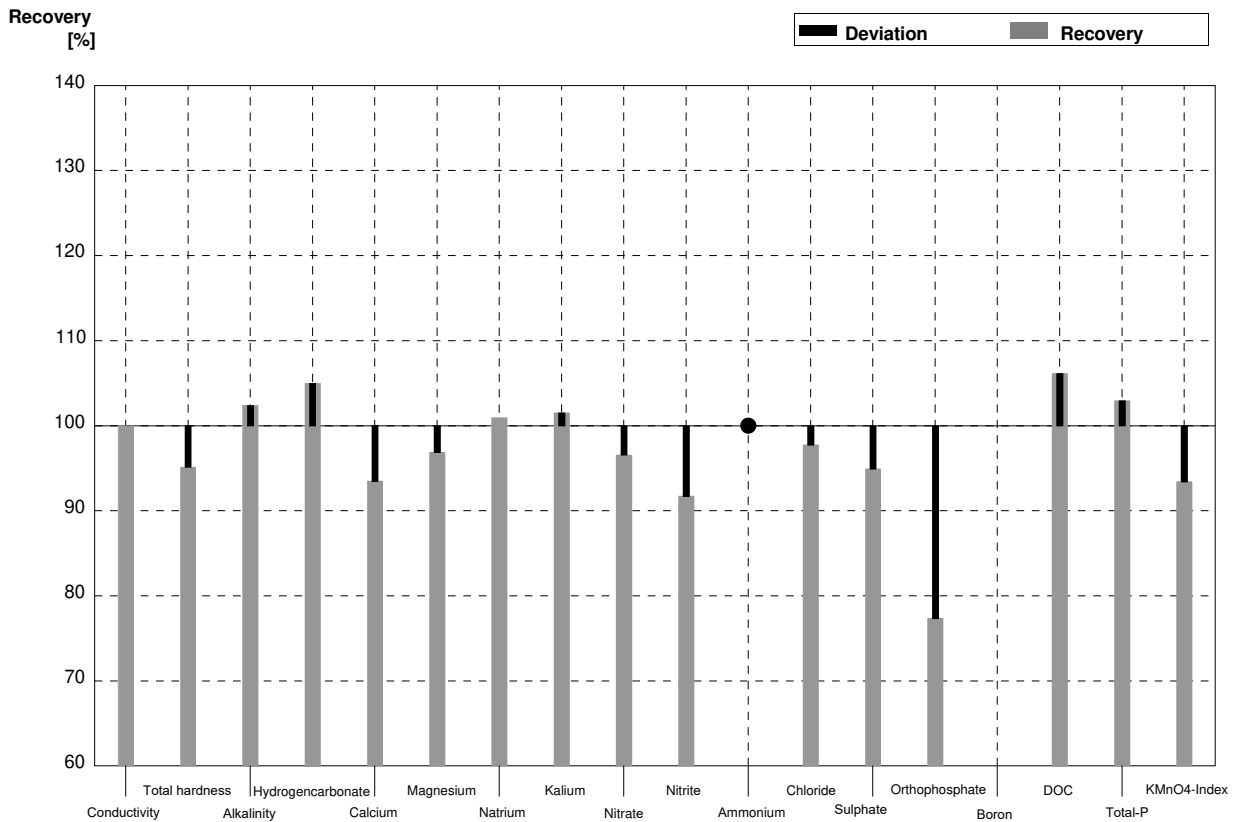
**Sample N179A**  
**Laboratory AO**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	525	11	µS/cm	100%
Total hardness	2,32	0,02	2,27	0,19	mmol/l	98%
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,80	0,24	mmol/l	101%
Hydrogen carbonate	166	2	171	7,7	mg/l	103%
Calcium	69,9	0,9	68	3,5	mg/l	97%
Magnesium	14,06	0,16	13,9	0,88	mg/l	99%
Sodium	11,2	0,5	11,3	0,86	mg/l	101%
Potassium	5,86	0,04	5,8	0,20	mg/l	99%
Nitrate (as NO3)	31,6	0,9	30,4	1,5	mg/l	96%
Nitrite (as NO2)	0,0303	0,0010	0,327	0,019	mg/l	1079%
Ammonium (as NH4)	0,0394	0,0039	0,0368	0,0027	mg/l	93%
Chloride	33,8	0,6	31,3	2,5	mg/l	93%
Sulphate (as SO4)	49,4	0,6	49,3	3,0	mg/l	100%
Orthophosphate (as PO4)	<0,009		<0,01		mg/l	•
Boron	0,1508	0,0012			mg/l	
DOC (as C)	6,25	0,03	6,3	0,58	mg/l	101%
Total P (as PO4)	<0,009		<0,01		mg/l	•
KMnO4-Index (as O2)	3,74	0,14	3,40	0,15	mg/l	91%



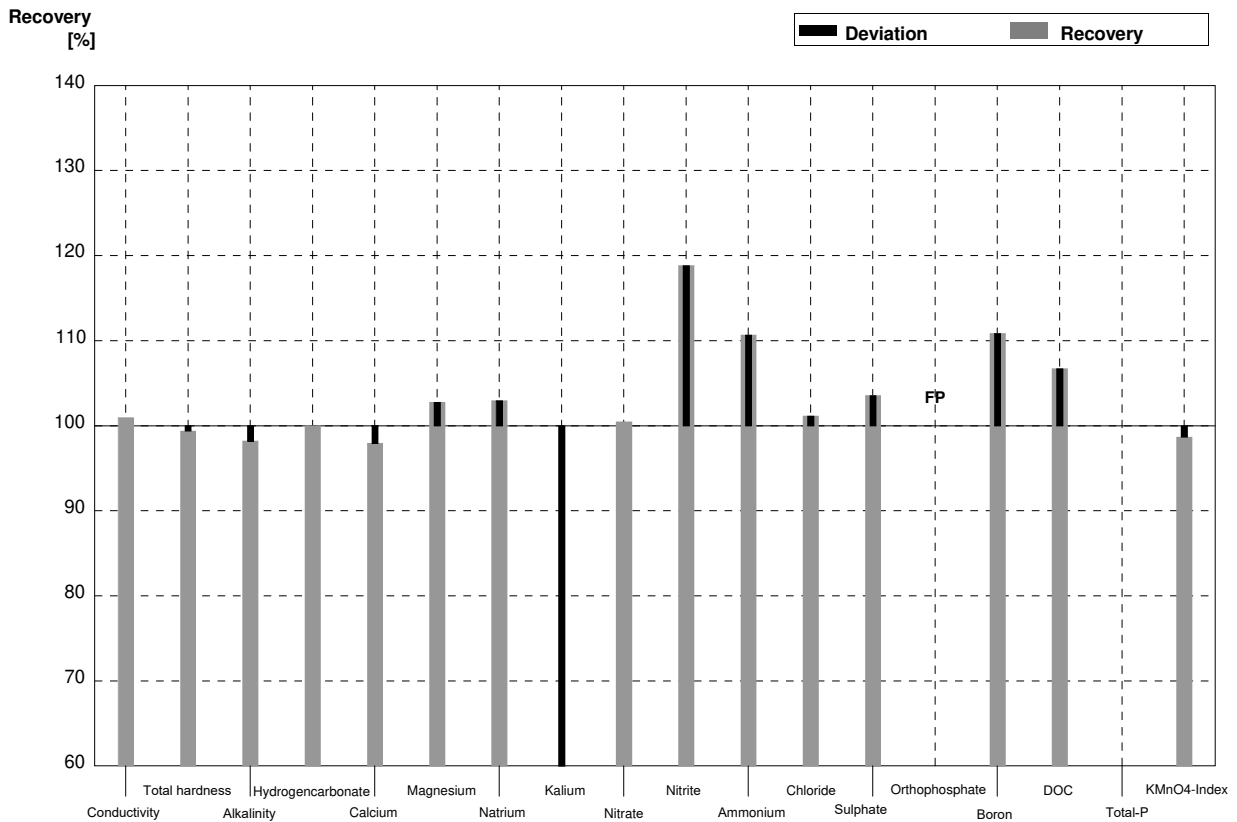
**Sample N179B**  
**Laboratory AO**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	413	8,9	µS/cm	100%
Total hardness	0,988	0,012	0,94	0,08	mmol/l	95%
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,13	0,18	mmol/l	102%
Hydrogen carbonate	123,8	1,1	130	5,8	mg/l	105%
Calcium	21,6	0,4	20,2	1,0	mg/l	94%
Magnesium	10,94	0,15	10,6	0,67	mg/l	97%
Sodium	42,2	0,4	42,6	3,2	mg/l	101%
Potassium	7,78	0,05	7,9	0,28	mg/l	102%
Nitrate (as NO3)	61,1	1,3	59	2,8	mg/l	97%
Nitrite (as NO2)	0,0557	0,0012	0,0511	0,0030	mg/l	92%
Ammonium (as NH4)	<0,01		<0,01		mg/l	•
Chloride	20,46	0,12	20,0	1,6	mg/l	98%
Sulphate (as SO4)	17,8	0,2	16,9	1,0	mg/l	95%
Orthophosphate (as PO4)	0,0455	0,0042	0,0352	0,0052	mg/l	77%
Boron	0,0807	0,0005			mg/l	
DOC (as C)	4,07	0,02	4,32	0,40	mg/l	106%
Total P (as PO4)	0,101	0,003	0,104	0,014	mg/l	103%
KMnO4-Index (as O2)	2,43	0,09	2,27	0,10	mg/l	93%



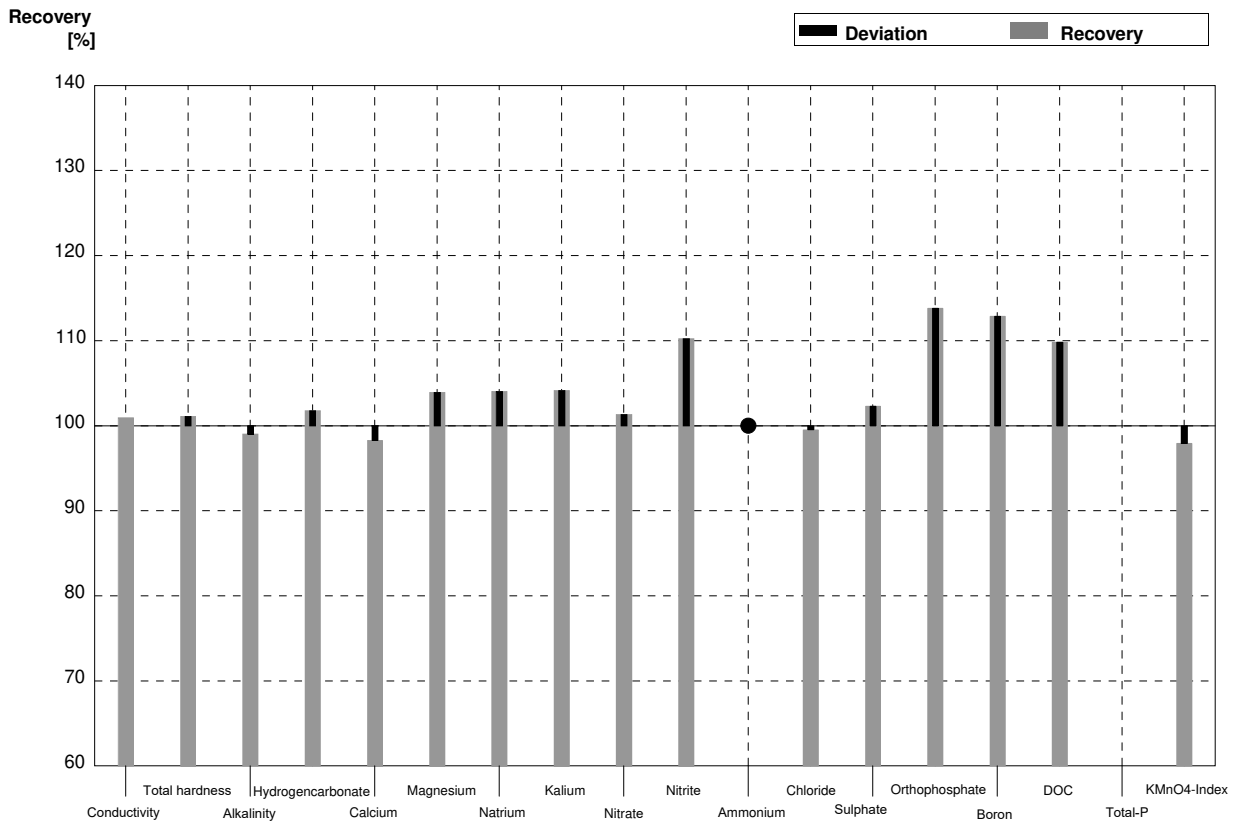
**Sample N179A**  
**Laboratory AP**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	532		µS/cm	101%
Total hardness	2,32	0,02	2,306		mmol/l	99%
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,72		mmol/l	98%
Hydrogen carbonate	166	2	166		mg/l	100%
Calcium	69,9	0,9	68,45		mg/l	98%
Magnesium	14,06	0,16	14,45		mg/l	103%
Sodium	11,2	0,5	11,53		mg/l	103%
Potassium	5,86	0,04	0,167		mg/l	3%
Nitrate (as NO3)	31,6	0,9	31,75		mg/l	100%
Nitrite (as NO2)	0,0303	0,0010	0,0360		mg/l	119%
Ammonium (as NH4)	0,0394	0,0039	0,0436		mg/l	111%
Chloride	33,8	0,6	34,18		mg/l	101%
Sulphate (as SO4)	49,4	0,6	51,15		mg/l	104%
Orthophosphate (as PO4)	<0,009		0,0294		mg/l	FP
Boron	0,1508	0,0012	0,1672		mg/l	111%
DOC (as C)	6,25	0,03	6,67		mg/l	107%
Total P (as PO4)	<0,009				mg/l	
KMnO4-Index (as O2)	3,74	0,14	3,69		mg/l	99%



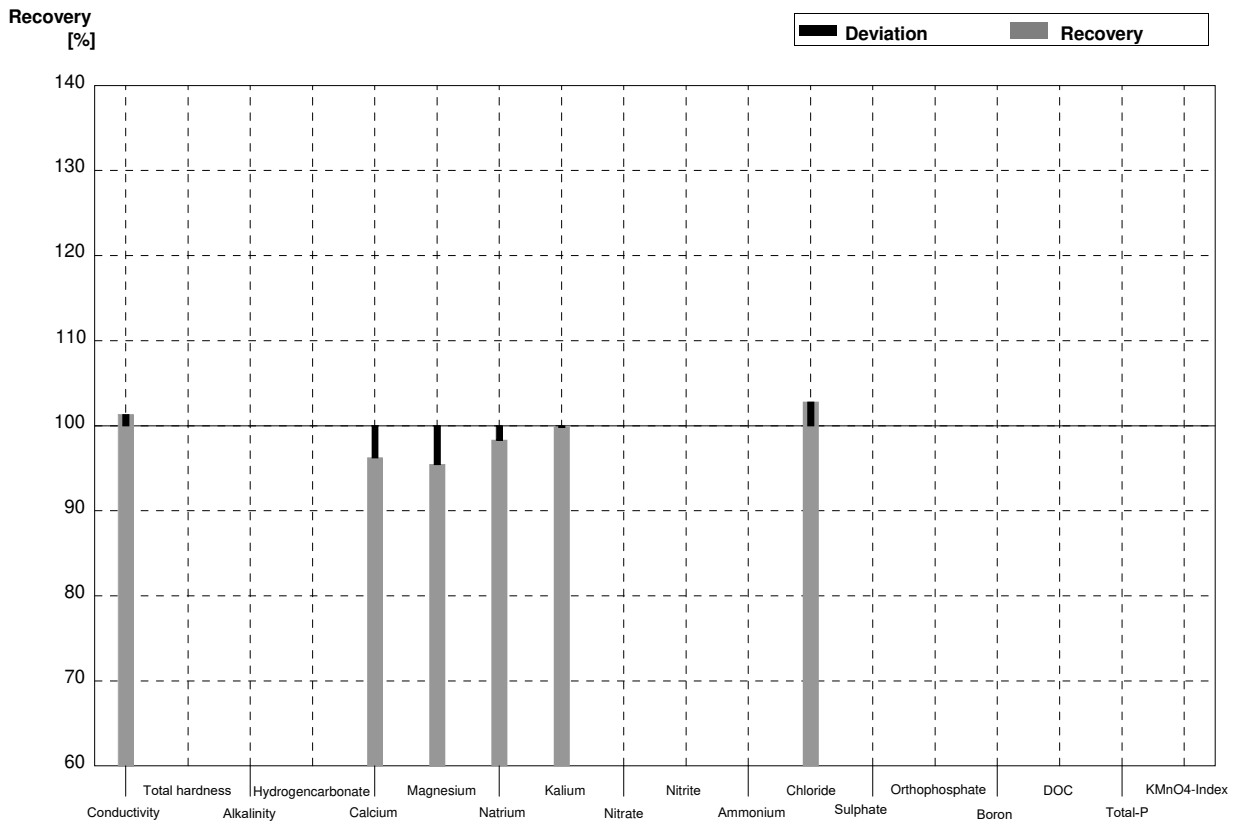
**Sample N179B**  
**Laboratory AP**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	417		µS/cm	101%
Total hardness	0,988	0,012	0,999		mmol/l	101%
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,06		mmol/l	99%
Hydrogen carbonate	123,8	1,1	126		mg/l	102%
Calcium	21,6	0,4	21,23		mg/l	98%
Magnesium	10,94	0,15	11,37		mg/l	104%
Sodium	42,2	0,4	43,91		mg/l	104%
Potassium	7,78	0,05	8,105		mg/l	104%
Nitrate (as NO3)	61,1	1,3	61,93		mg/l	101%
Nitrite (as NO2)	0,0557	0,0012	0,0614		mg/l	110%
Ammonium (as NH4)	<0,01		0,00450		mg/l	•
Chloride	20,46	0,12	20,368		mg/l	100%
Sulphate (as SO4)	17,8	0,2	18,21		mg/l	102%
Orthophosphate (as PO4)	0,0455	0,0042	0,0518		mg/l	114%
Boron	0,0807	0,0005	0,0911		mg/l	113%
DOC (as C)	4,07	0,02	4,47		mg/l	110%
Total P (as PO4)	0,101	0,003			mg/l	
KMnO4-Index (as O2)	2,43	0,09	2,38		mg/l	98%



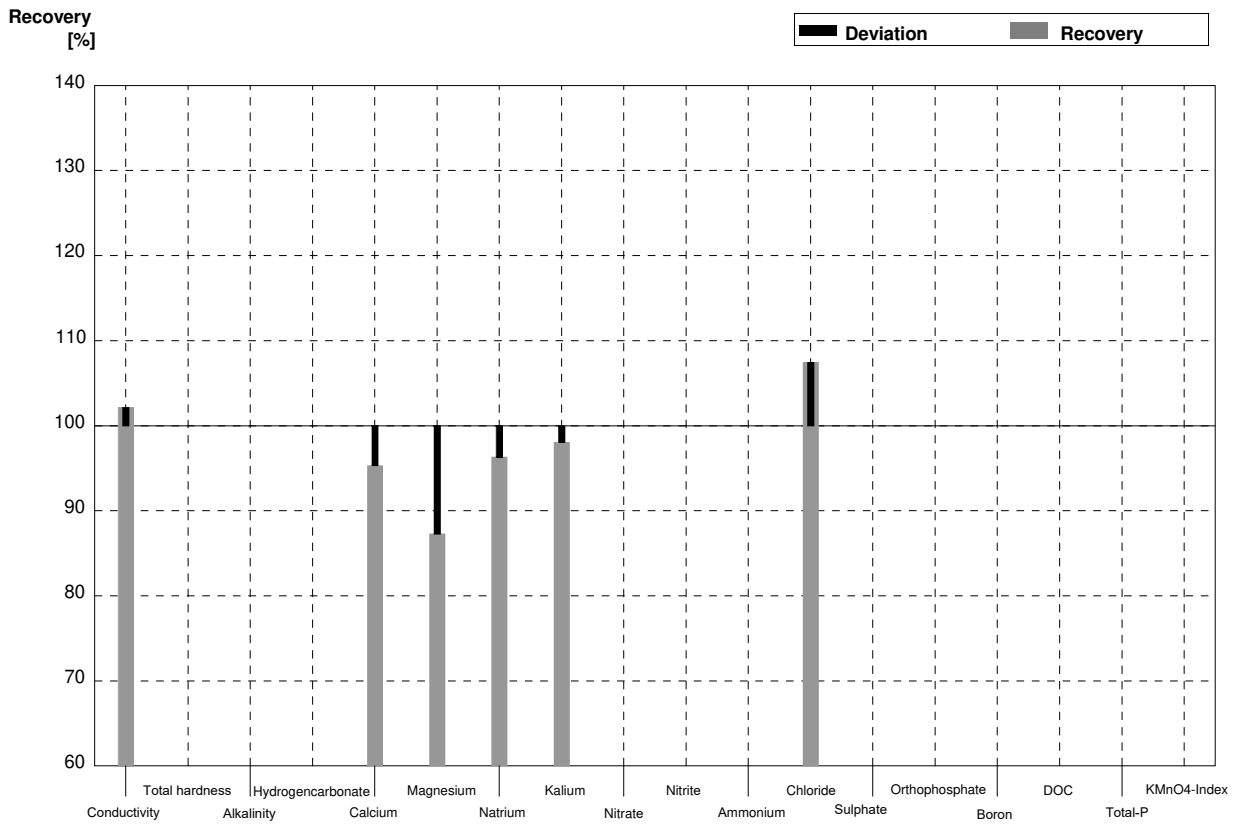
**Sample N179A**  
**Laboratory AQ**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	534	53,4	µS/cm	101%
Total hardness	2,32	0,02			mmol/l	
Alkalinity KS 4,3 (as H+)	2,77	0,04			mmol/l	
Hydrogen carbonate	166	2			mg/l	
Calcium	69,9	0,9	67,28		mg/l	96%
Magnesium	14,06	0,16	13,42		mg/l	95%
Sodium	11,2	0,5	11,01	1,10	mg/l	98%
Potassium	5,86	0,04	5,85	1,17	mg/l	100%
Nitrate (as NO3)	31,6	0,9			mg/l	
Nitrite (as NO2)	0,0303	0,0010			mg/l	
Ammonium (as NH4)	0,0394	0,0039			mg/l	
Chloride	33,8	0,6	34,75	3,48	mg/l	103%
Sulphate (as SO4)	49,4	0,6			mg/l	
Orthophosphate (as PO4)	<0,009				mg/l	
Boron	0,1508	0,0012			mg/l	
DOC (as C)	6,25	0,03			mg/l	
Total P (as PO4)	<0,009				mg/l	
KMnO4-Index (as O2)	3,74	0,14			mg/l	



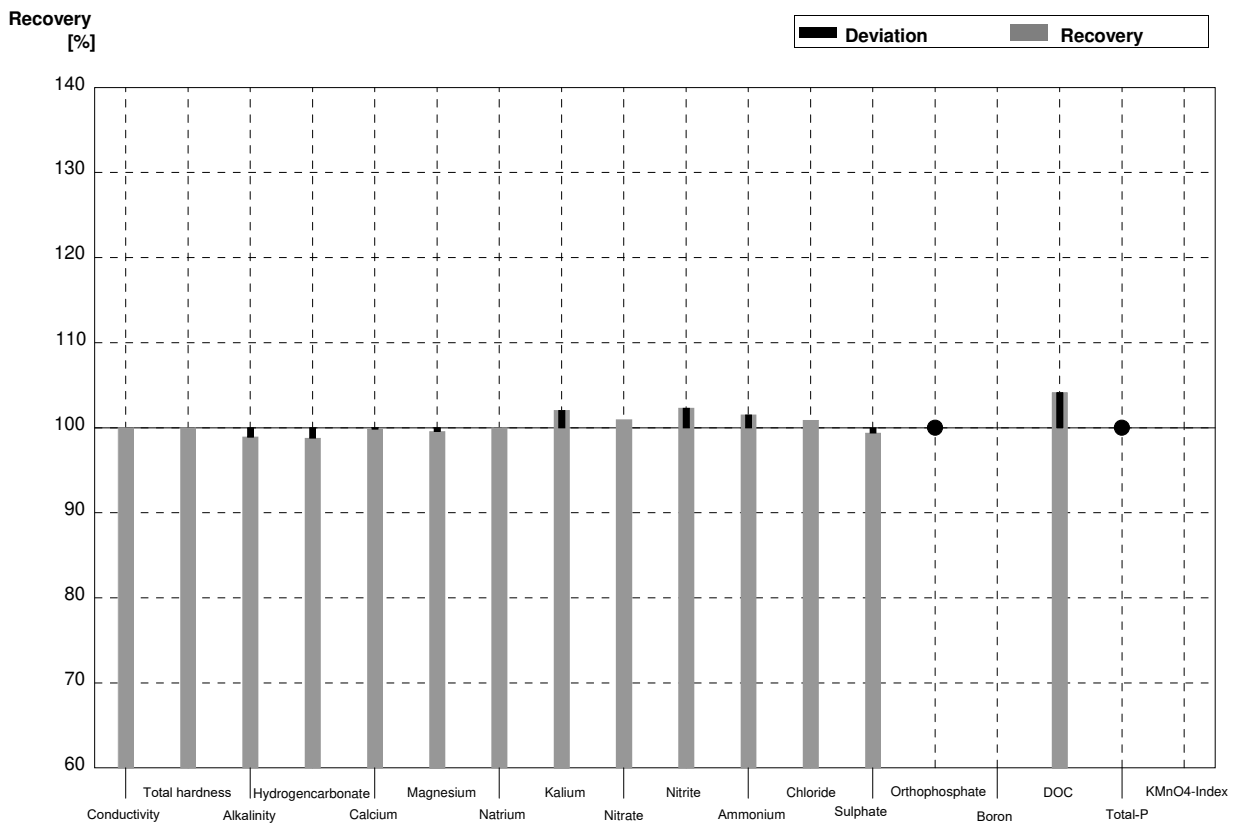
**Sample N179B**  
**Laboratory AQ**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	422	4,22	µS/cm	102%
Total hardness	0,988	0,012			mmol/l	
Alkalinity KS 4,3 (as H+)	2,080	0,017			mmol/l	
Hydrogen carbonate	123,8	1,1			mg/l	
Calcium	21,6	0,4	20,59		mg/l	95%
Magnesium	10,94	0,15	9,55		mg/l	87%
Sodium	42,2	0,4	40,65	4,07	mg/l	96%
Potassium	7,78	0,05	7,63	1,53	mg/l	98%
Nitrate (as NO3)	61,1	1,3			mg/l	
Nitrite (as NO2)	0,0557	0,0012			mg/l	
Ammonium (as NH4)	<0,01				mg/l	
Chloride	20,46	0,12	21,99	2,20	mg/l	107%
Sulphate (as SO4)	17,8	0,2			mg/l	
Orthophosphate (as PO4)	0,0455	0,0042			mg/l	
Boron	0,0807	0,0005			mg/l	
DOC (as C)	4,07	0,02			mg/l	
Total P (as PO4)	0,101	0,003			mg/l	
KMnO4-Index (as O2)	2,43	0,09			mg/l	



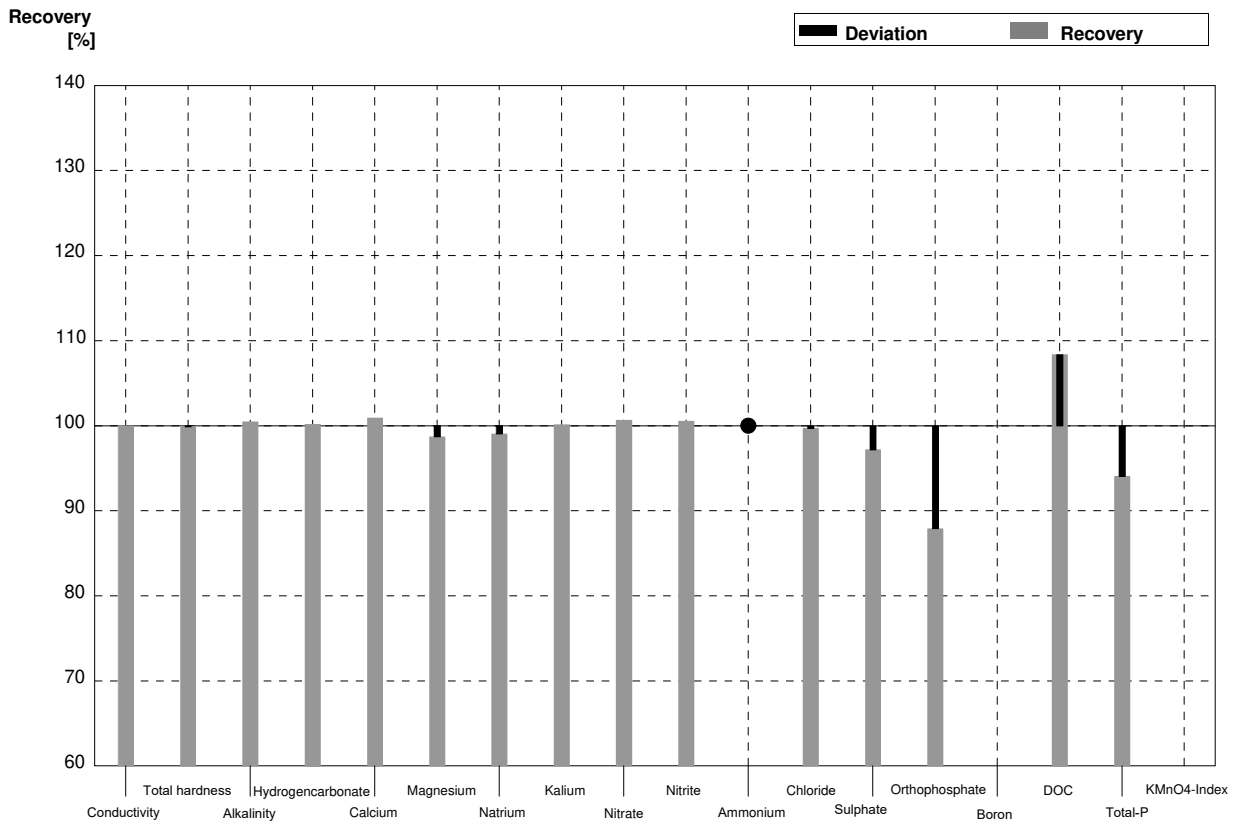
**Sample N179A**  
**Laboratory AR**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	527	2	527	22	µS/cm	100%
Total hardness	2,32	0,02	2,32	0,1	mmol/l	100%
Alkalinity KS 4,3 (as H+)	2,77	0,04	2,74	0,2	mmol/l	99%
Hydrogen carbonate	166	2	164	7	mg/l	99%
Calcium	69,9	0,9	69,8	6	mg/l	100%
Magnesium	14,06	0,16	14,0	1,7	mg/l	100%
Sodium	11,2	0,5	11,2	1,7	mg/l	100%
Potassium	5,86	0,04	5,98	0,8	mg/l	102%
Nitrate (as NO3)	31,6	0,9	31,9	3	mg/l	101%
Nitrite (as NO2)	0,0303	0,0010	0,0310	0,003	mg/l	102%
Ammonium (as NH4)	0,0394	0,0039	0,0400	0,005	mg/l	102%
Chloride	33,8	0,6	34,1	3	mg/l	101%
Sulphate (as SO4)	49,4	0,6	49,1	4	mg/l	99%
Orthophosphate (as PO4)	<0,009		<0,01		mg/l	•
Boron	0,1508	0,0012			mg/l	
DOC (as C)	6,25	0,03	6,51	1	mg/l	104%
Total P (as PO4)	<0,009		<0,013		mg/l	•
KMnO4-Index (as O2)	3,74	0,14			mg/l	



**Sample N179B**  
**Laboratory AR**

Parameter	Assigned value	± U (k=2)	Result	±	Unit	Recovery
Electr. Conductivity 25°C	413	1	413	17	µS/cm	100%
Total hardness	0,988	0,012	0,987	0,03	mmol/l	100%
Alkalinity KS 4,3 (as H+)	2,080	0,017	2,09	0,1	mmol/l	100%
Hydrogen carbonate	123,8	1,1	124	5	mg/l	100%
Calcium	21,6	0,4	21,8	2	mg/l	101%
Magnesium	10,94	0,15	10,8	1,3	mg/l	99%
Sodium	42,2	0,4	41,8	7	mg/l	99%
Potassium	7,78	0,05	7,79	1,1	mg/l	100%
Nitrate (as NO3)	61,1	1,3	61,5	5	mg/l	101%
Nitrite (as NO2)	0,0557	0,0012	0,056	0,004	mg/l	101%
Ammonium (as NH4)	<0,01		<0,013		mg/l	•
Chloride	20,46	0,12	20,4	2	mg/l	100%
Sulphate (as SO4)	17,8	0,2	17,3	1,3	mg/l	97%
Orthophosphate (as PO4)	0,0455	0,0042	0,0400	0,008	mg/l	88%
Boron	0,0807	0,0005			mg/l	
DOC (as C)	4,07	0,02	4,41	0,7	mg/l	108%
Total P (as PO4)	0,101	0,003	0,095	0,009	mg/l	94%
KMnO4-Index (as O2)	2,43	0,09			mg/l	







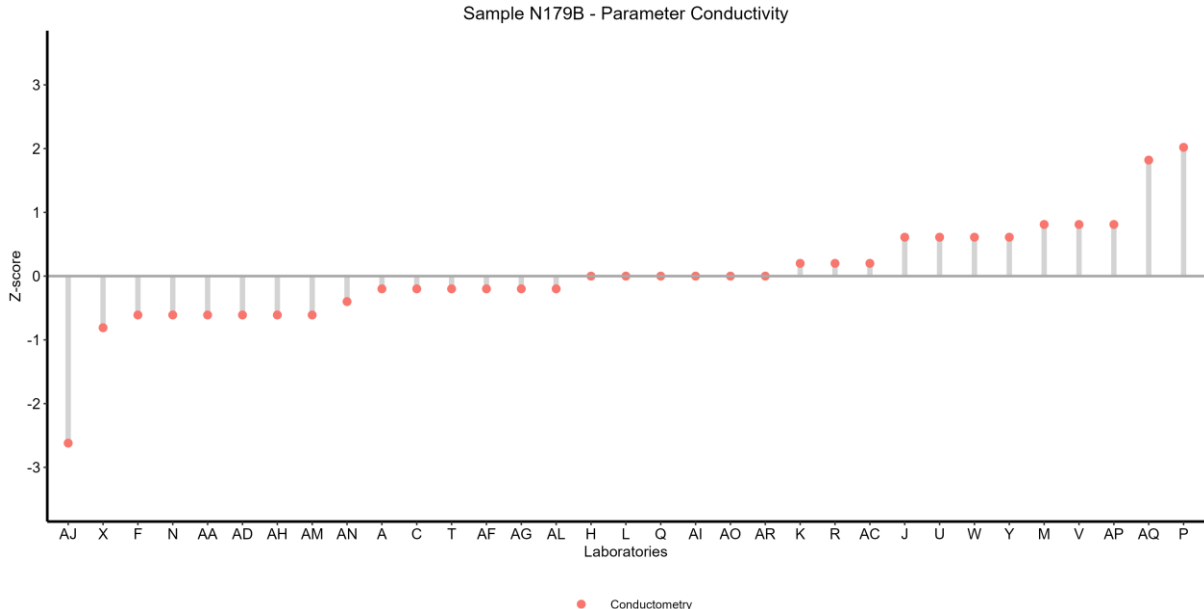
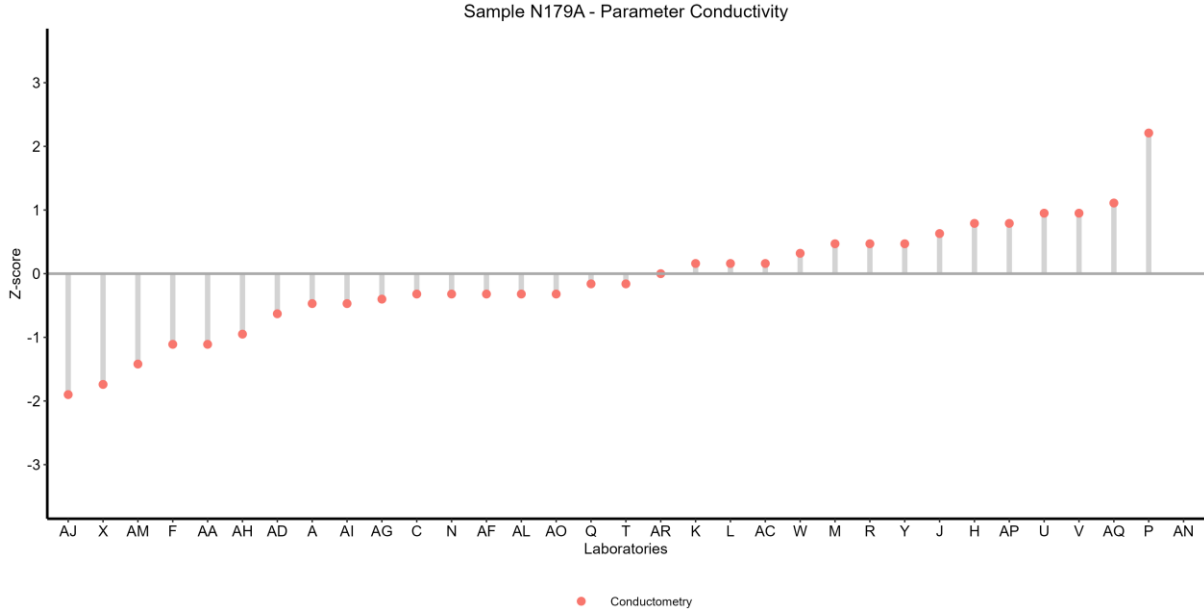
**Methodenvergleich**  
**Method comparison**

Eignungsprüfungsrunde / Proficiency testing round  
N179

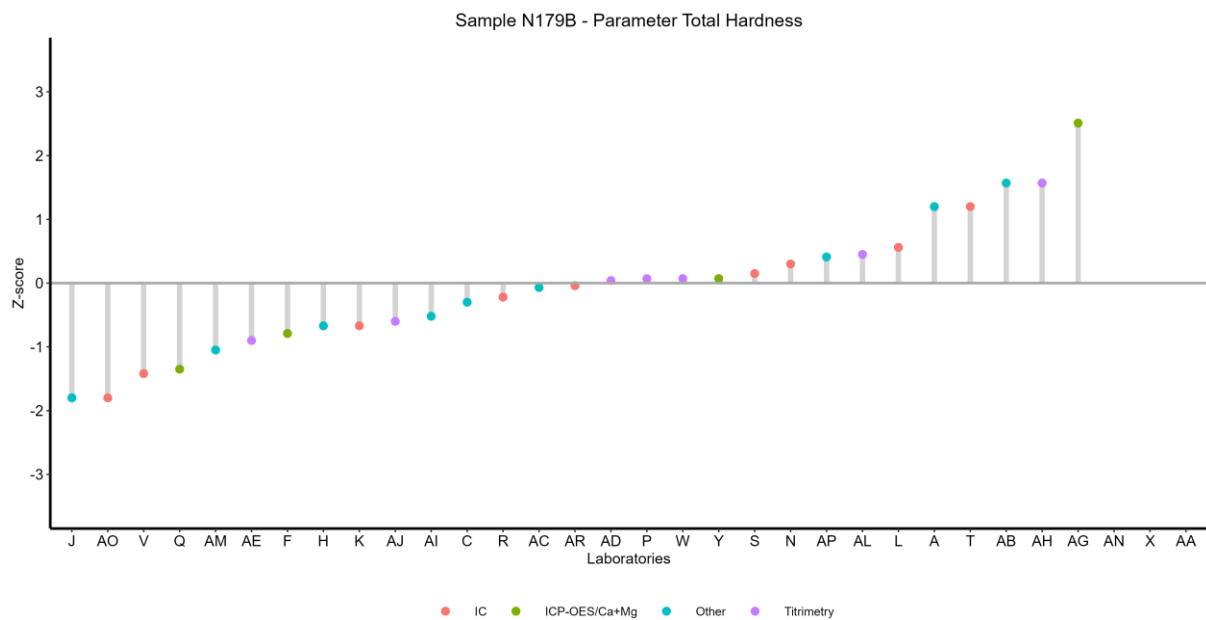
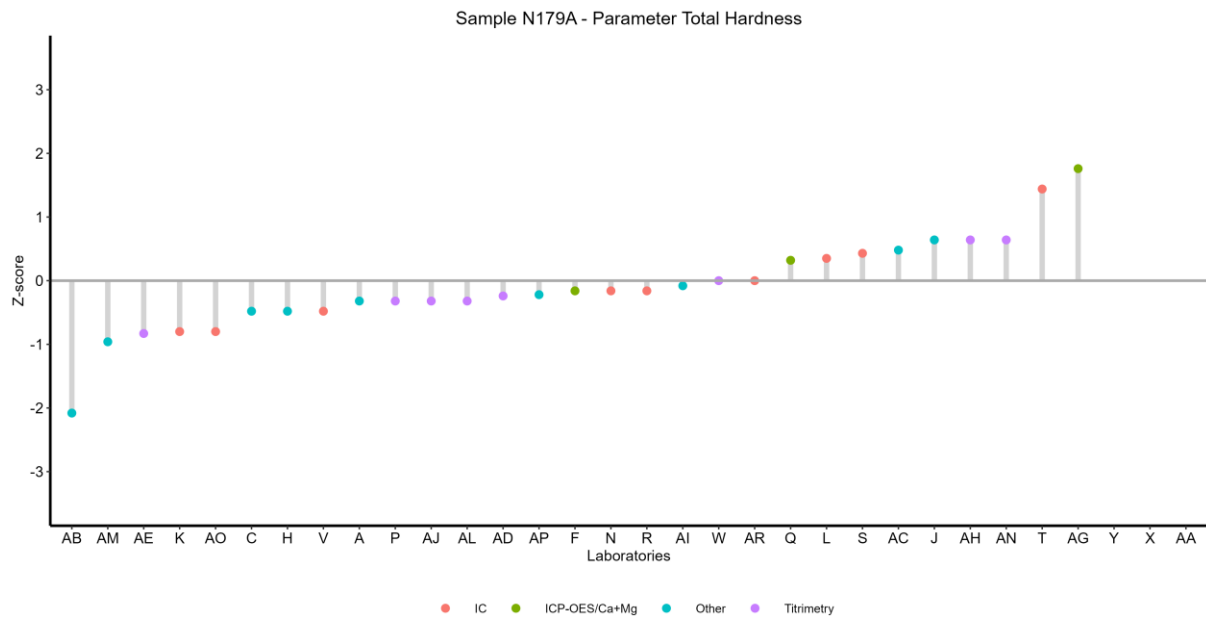
Nährstoffe  
Major ions

Versand / Dispatch: 10.11.2025

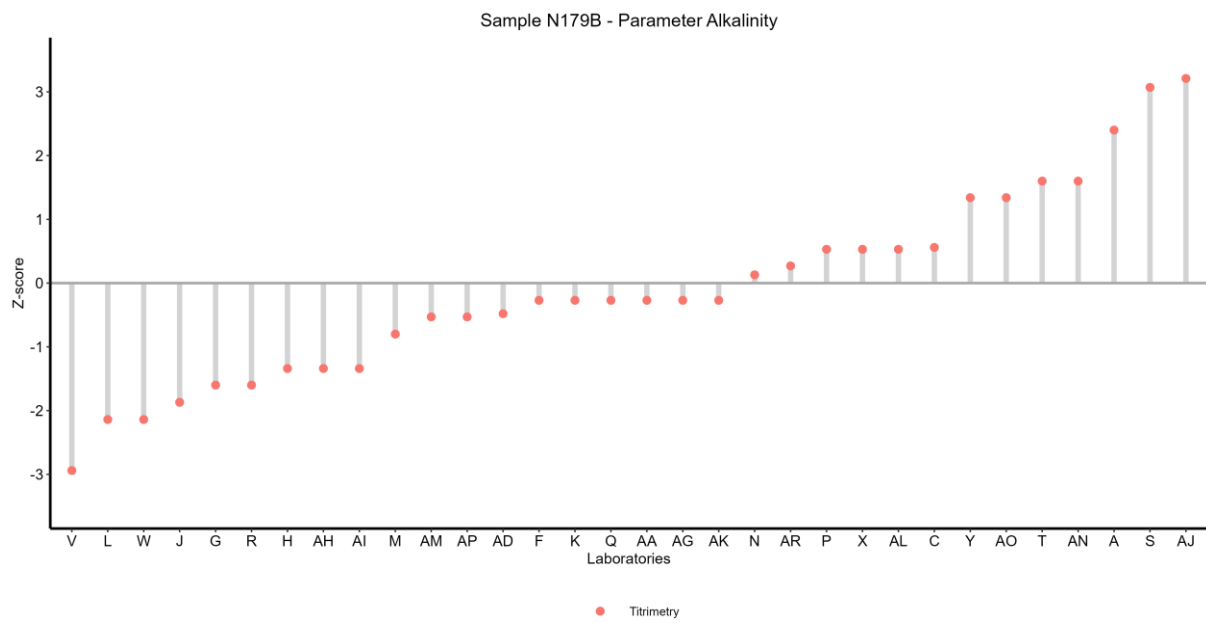
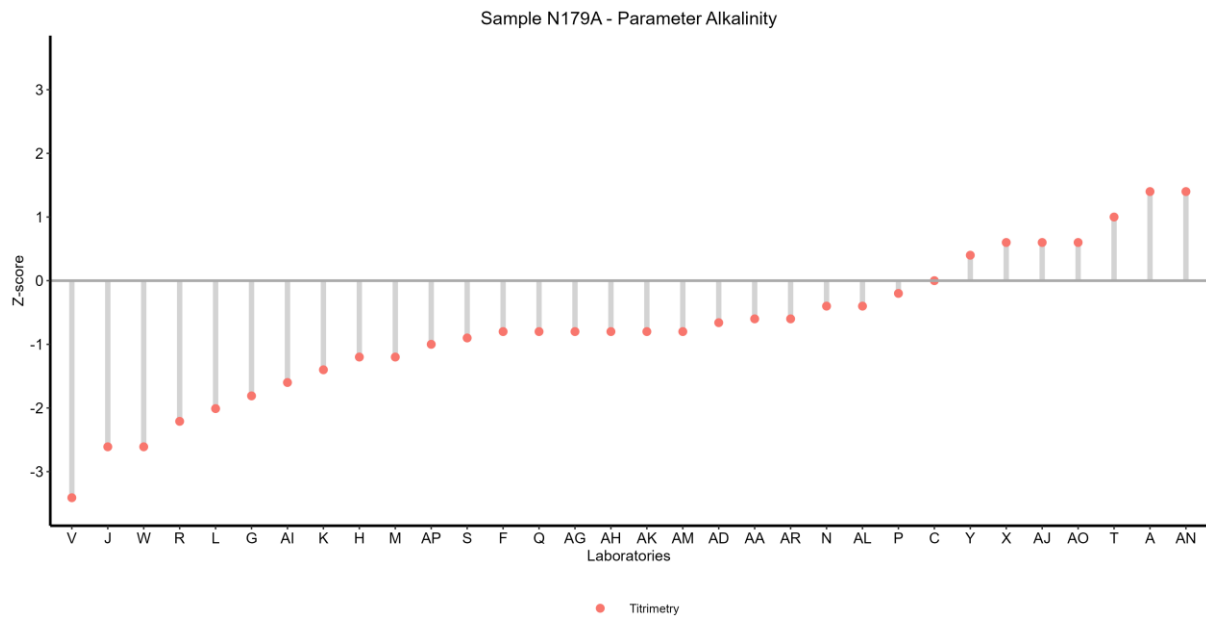
# Conductivity



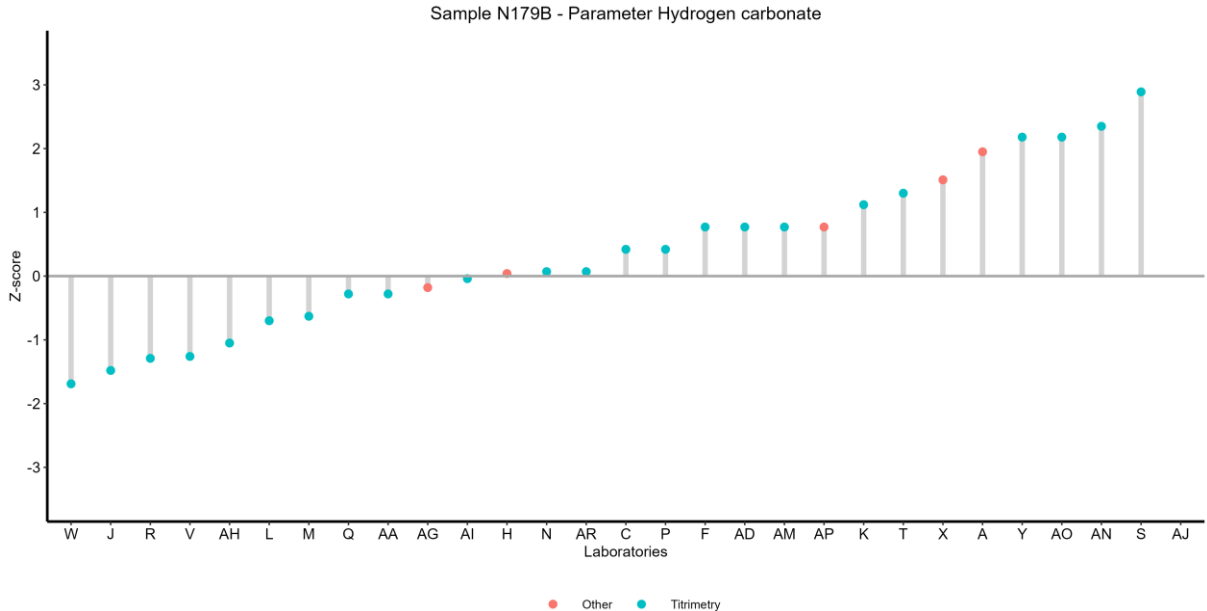
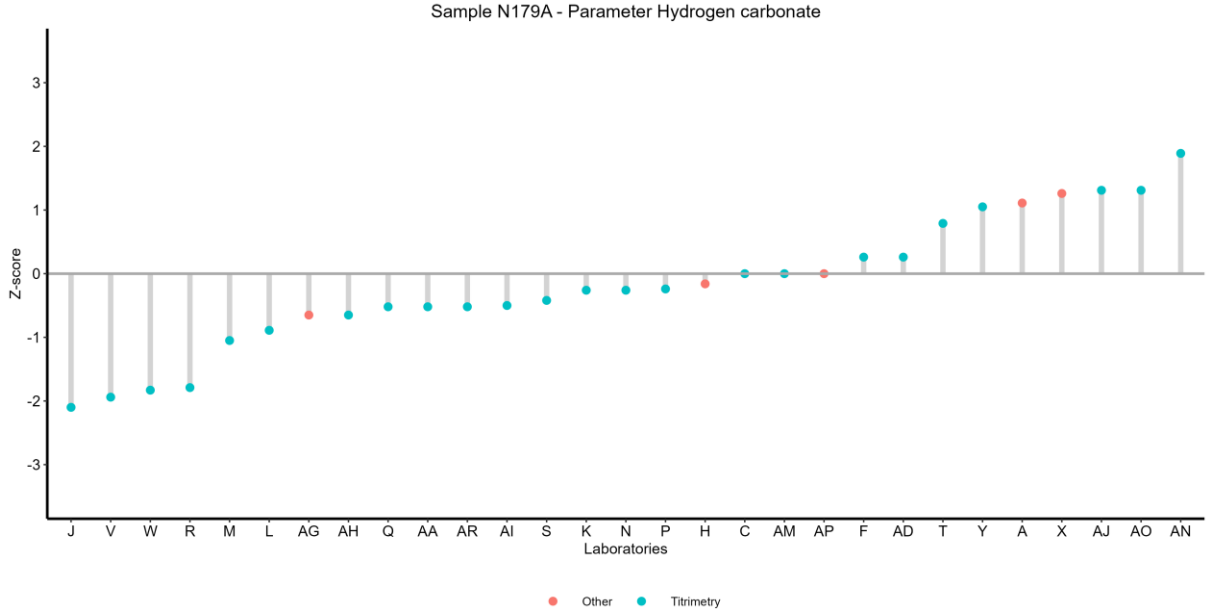
# Total Hardness



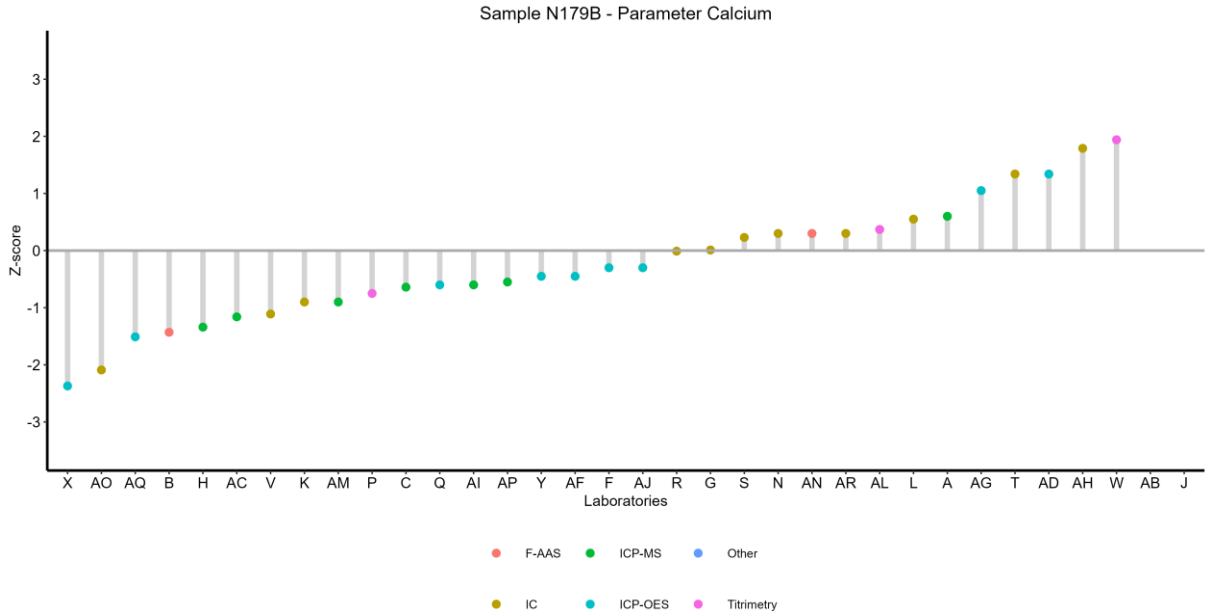
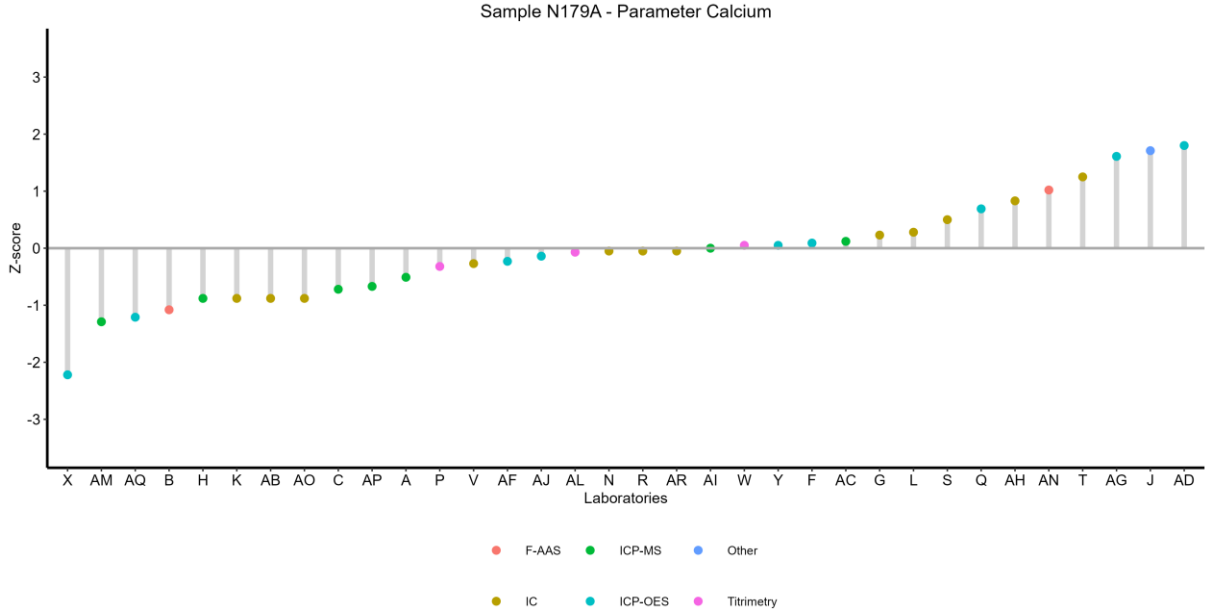
# Alkalinity $K_{S 4.3}$ (as $H^+$ )



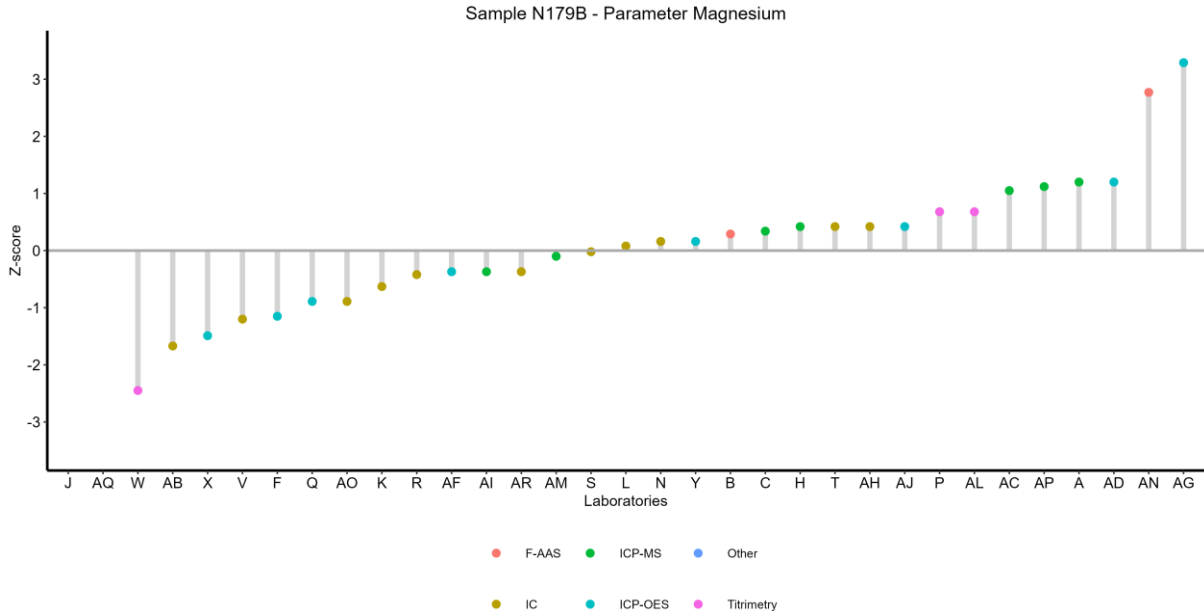
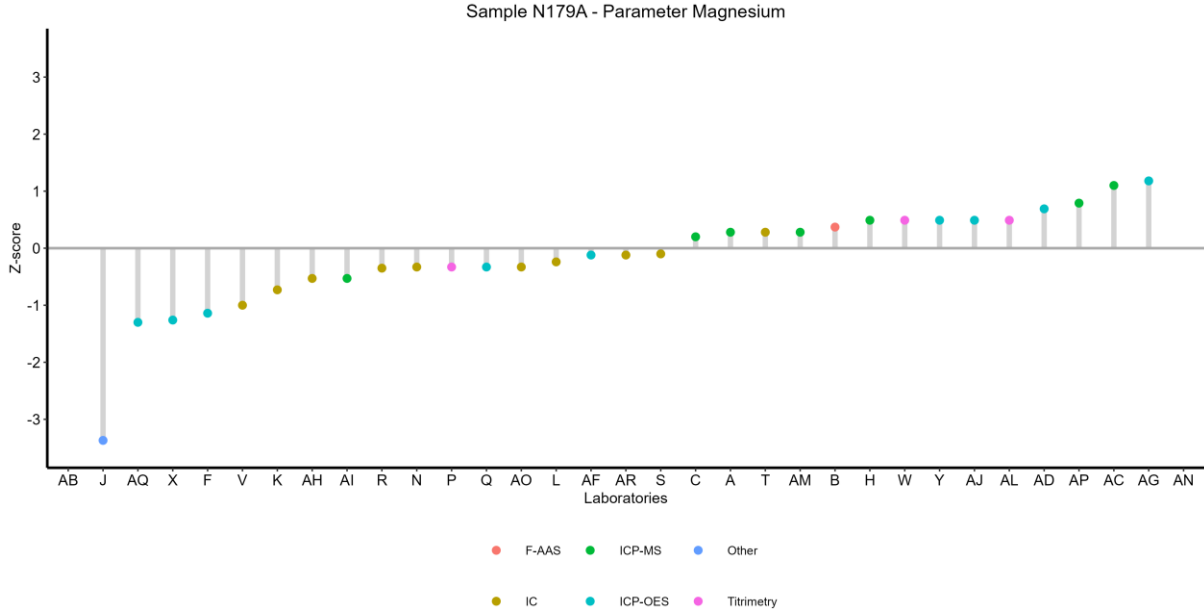
# Hydrogen carbonate



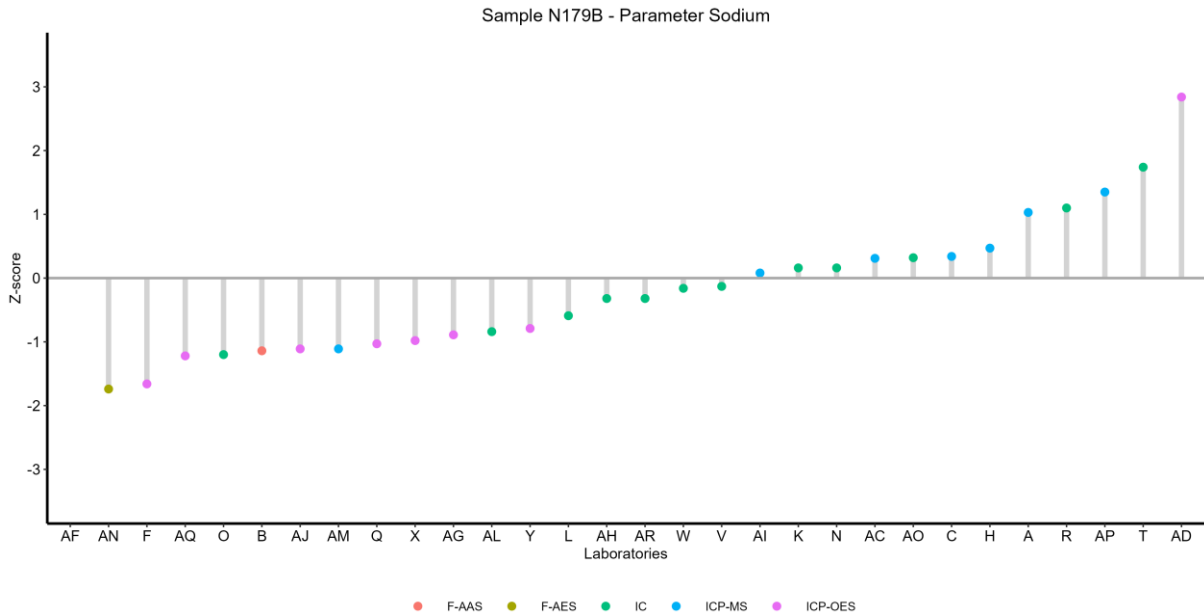
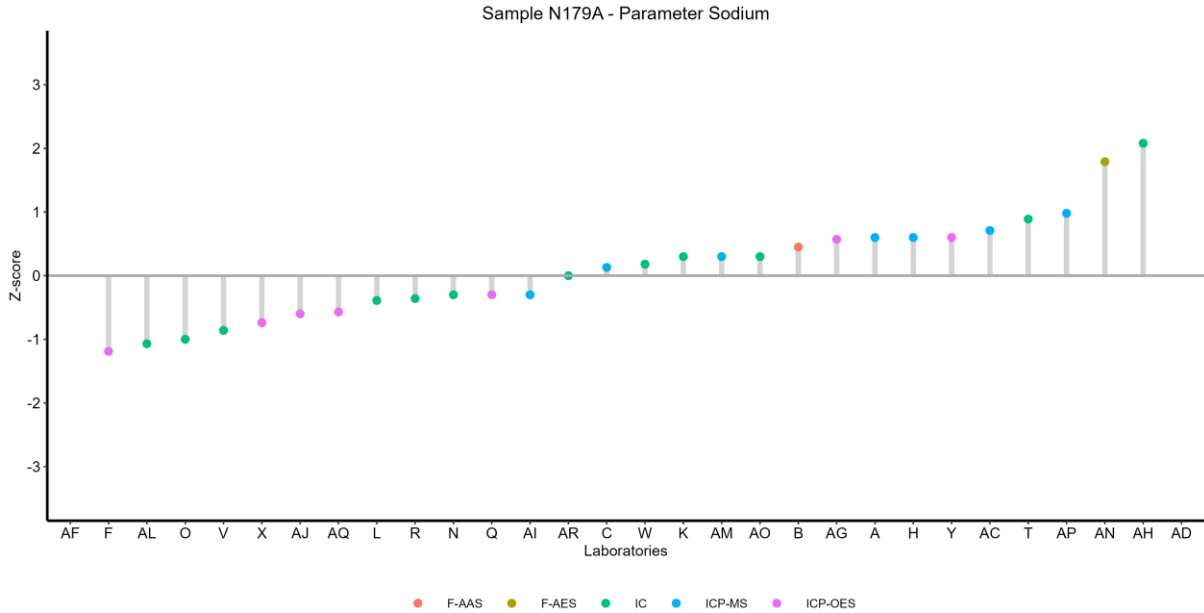
# Calcium



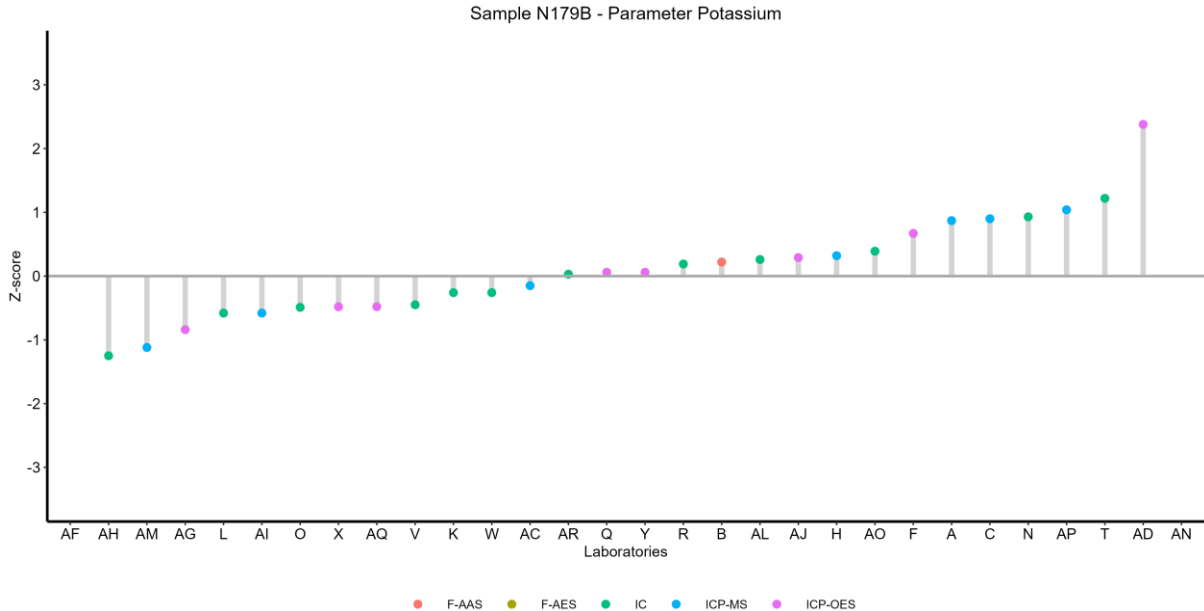
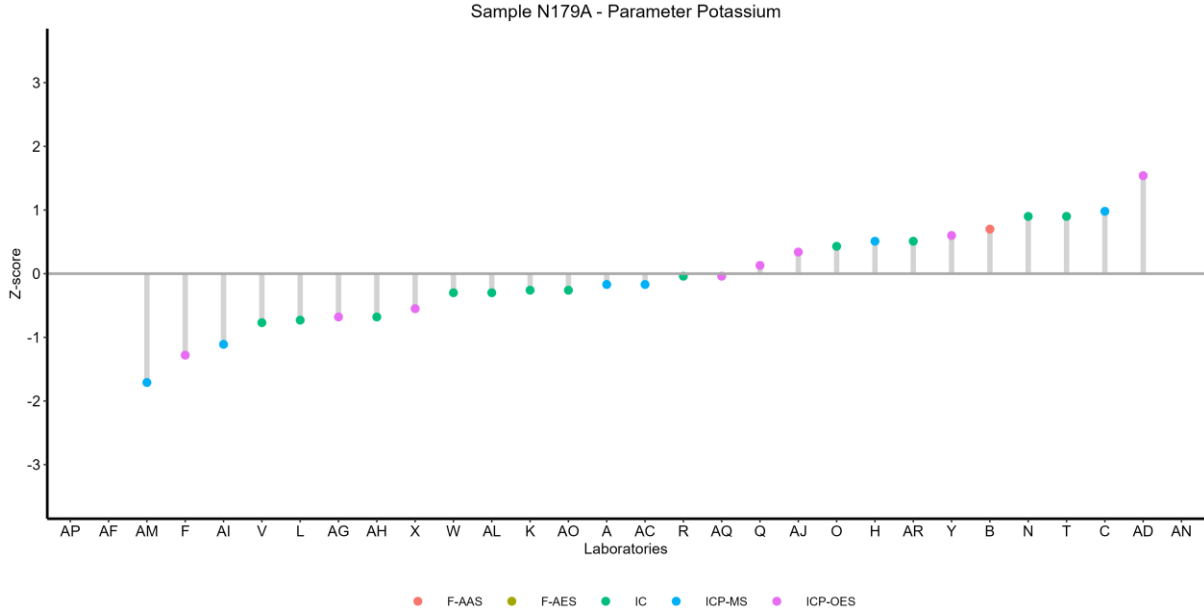
# Magnesium



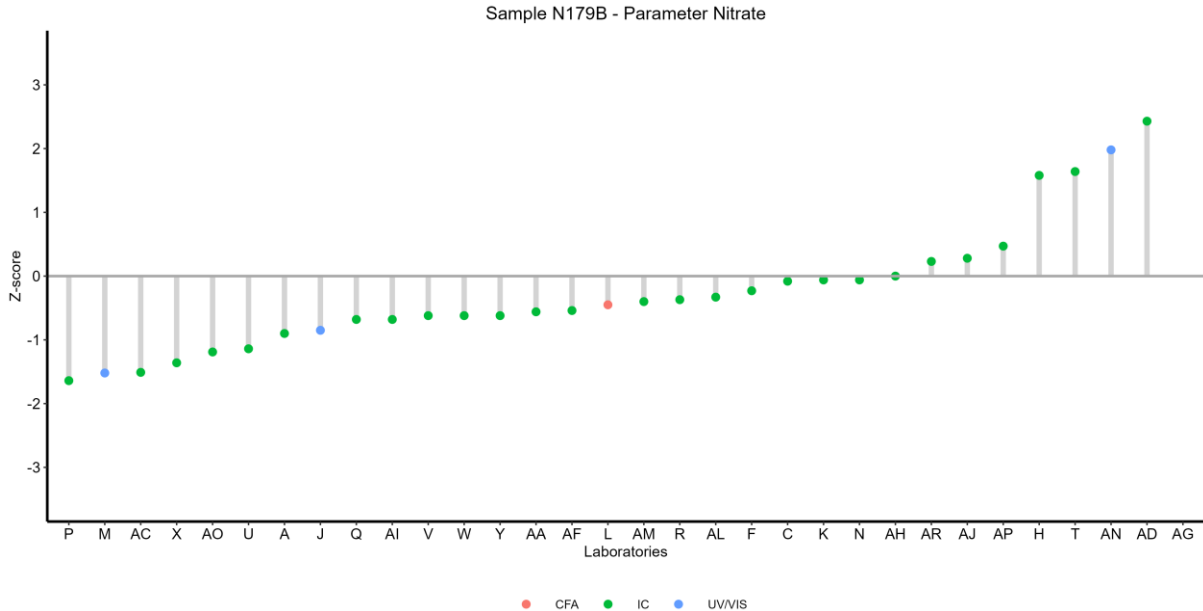
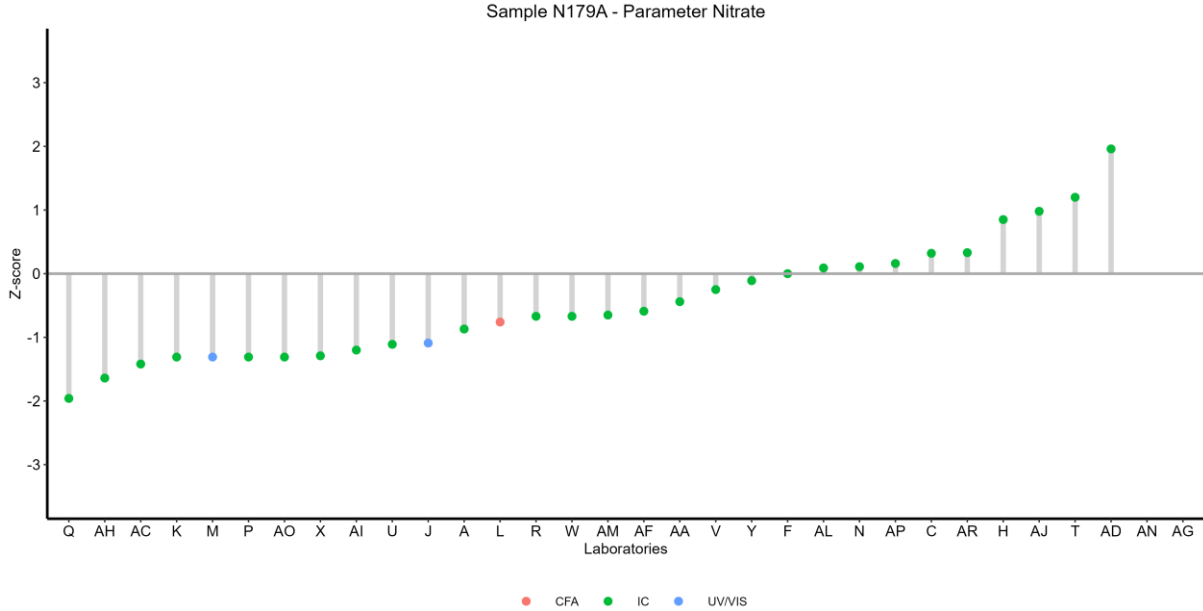
# Sodium



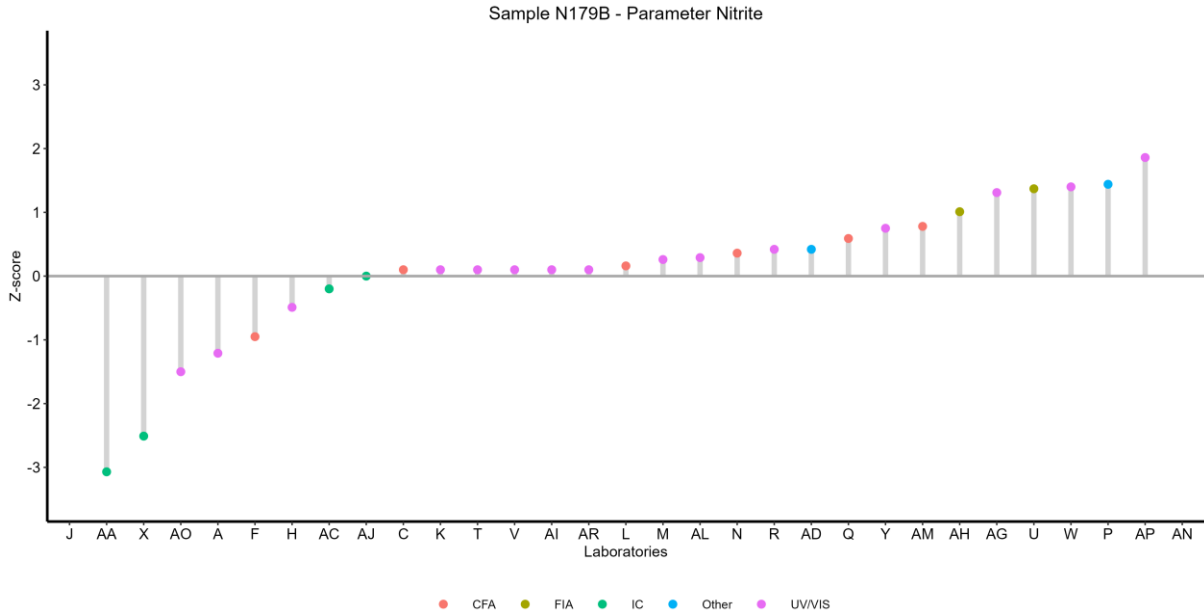
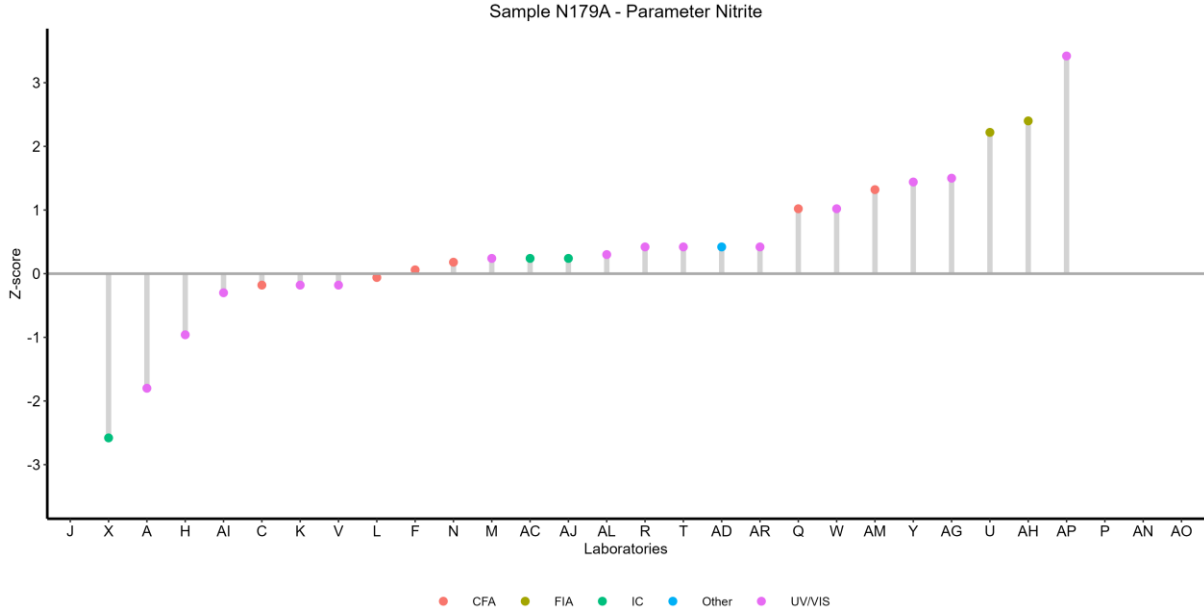
# Potassium



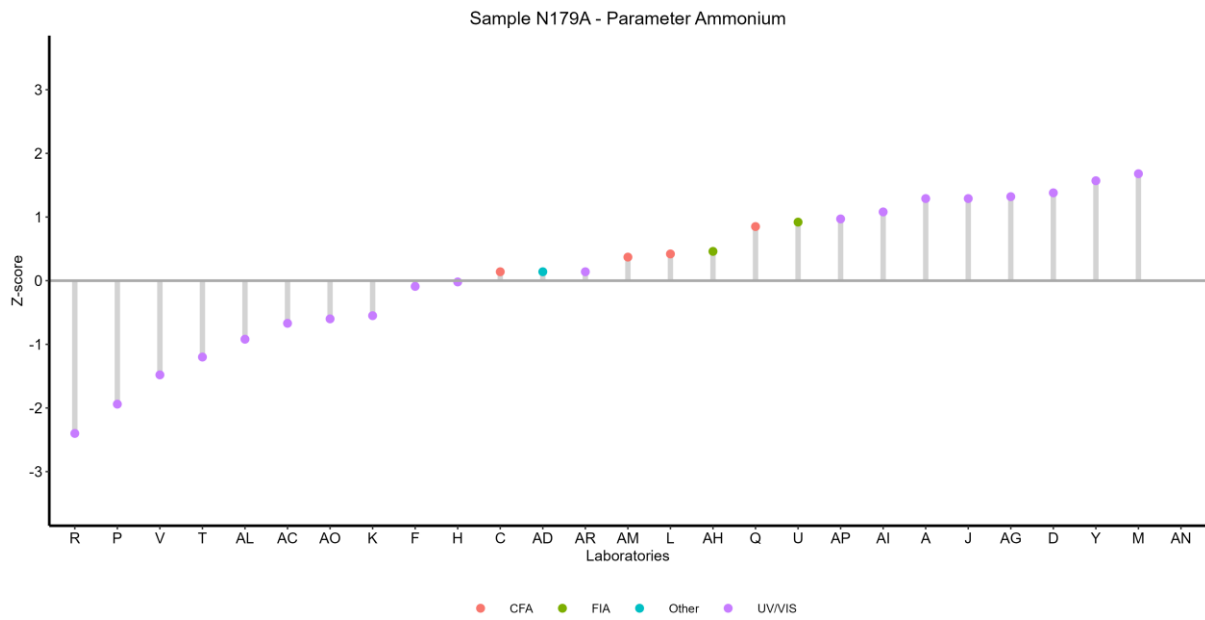
Nitrate (as NO<sub>3</sub><sup>-</sup>)



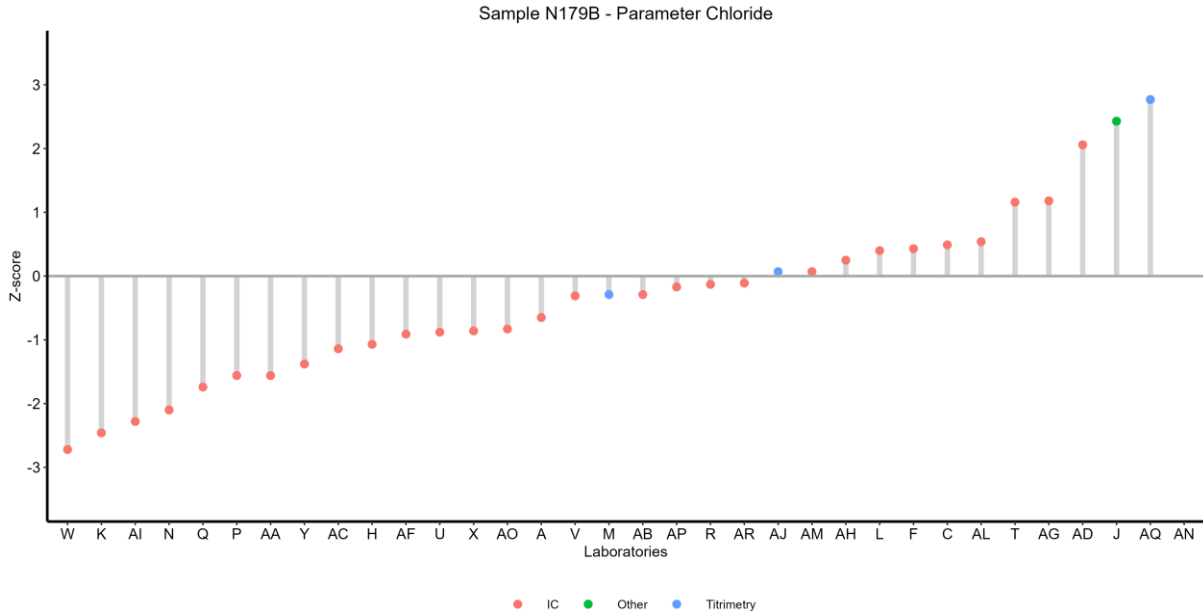
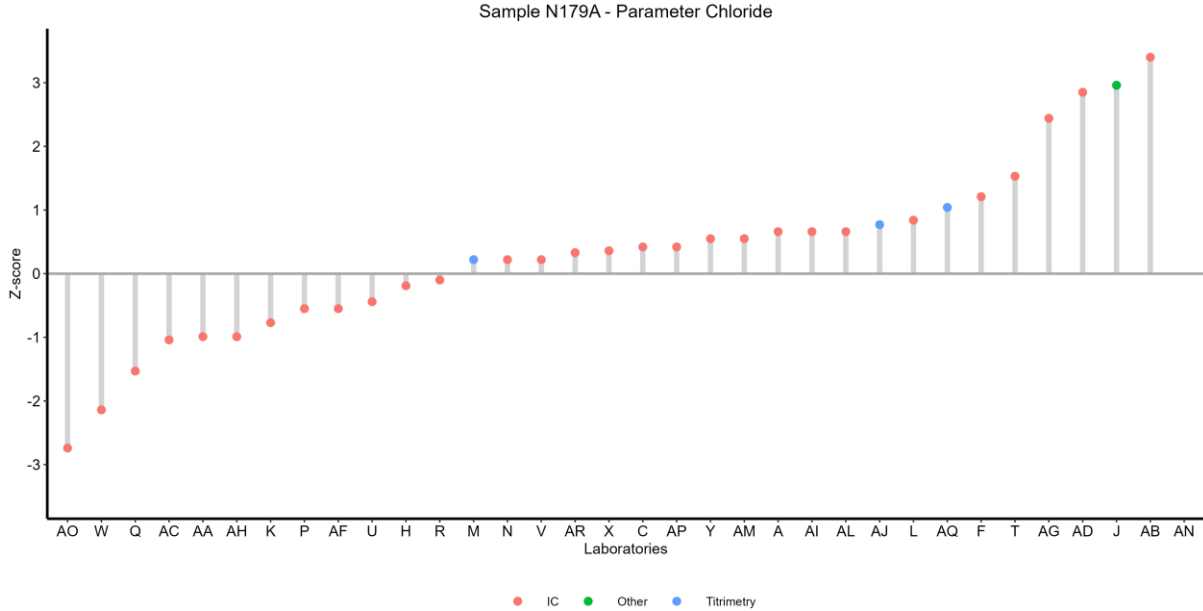
Nitrite (as NO<sub>2</sub><sup>-</sup>)



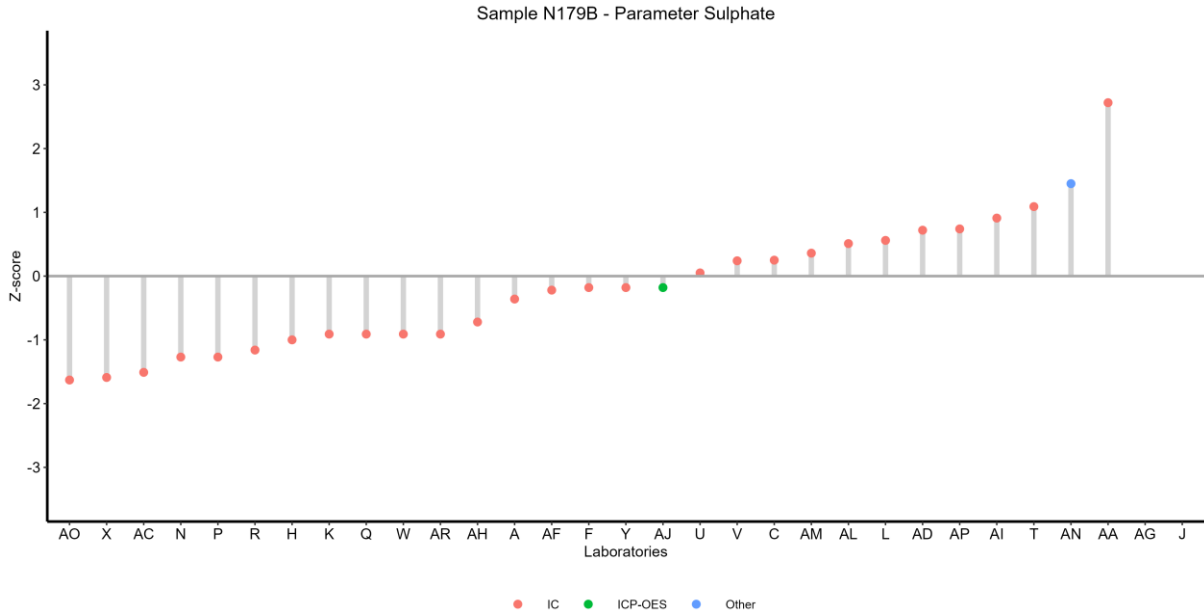
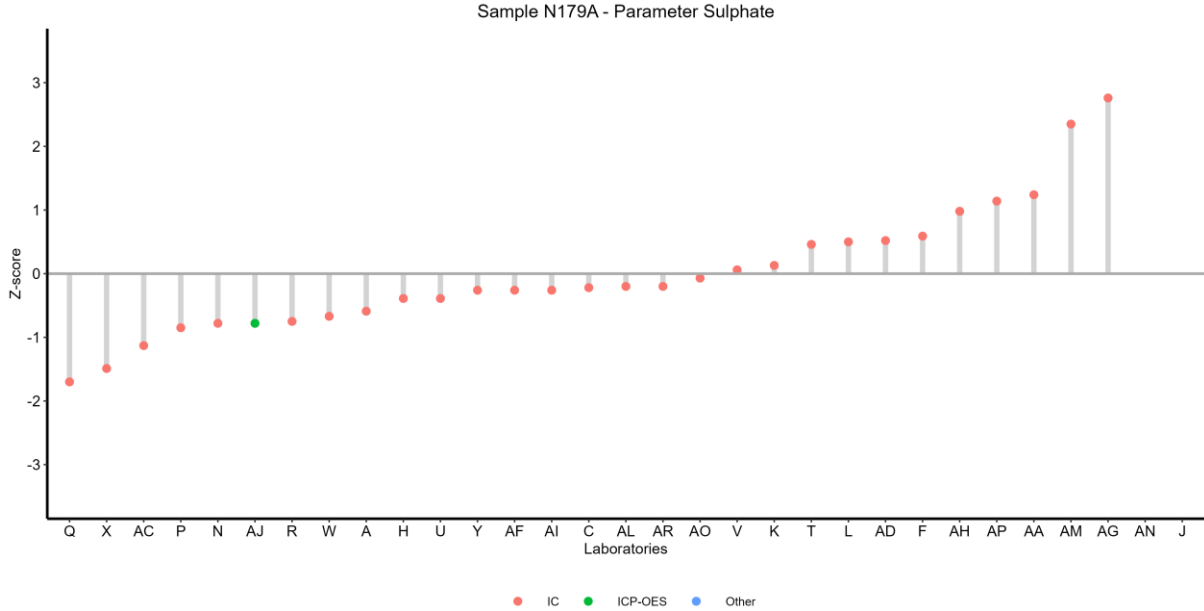
# Ammonium (as NH<sub>4</sub><sup>+</sup>)



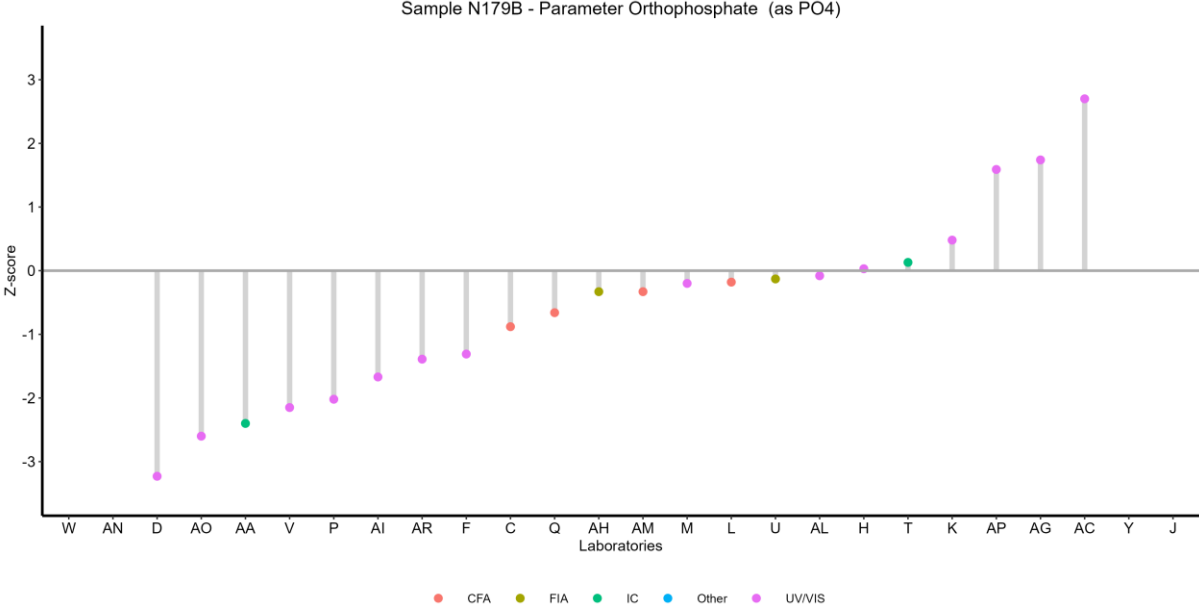
# Chloride



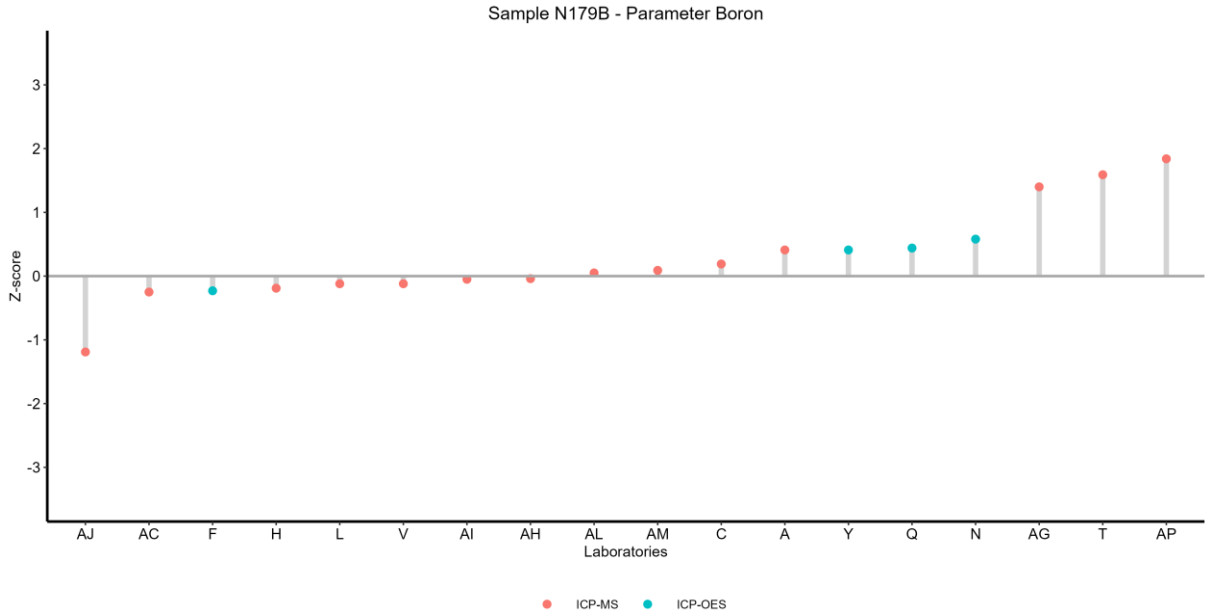
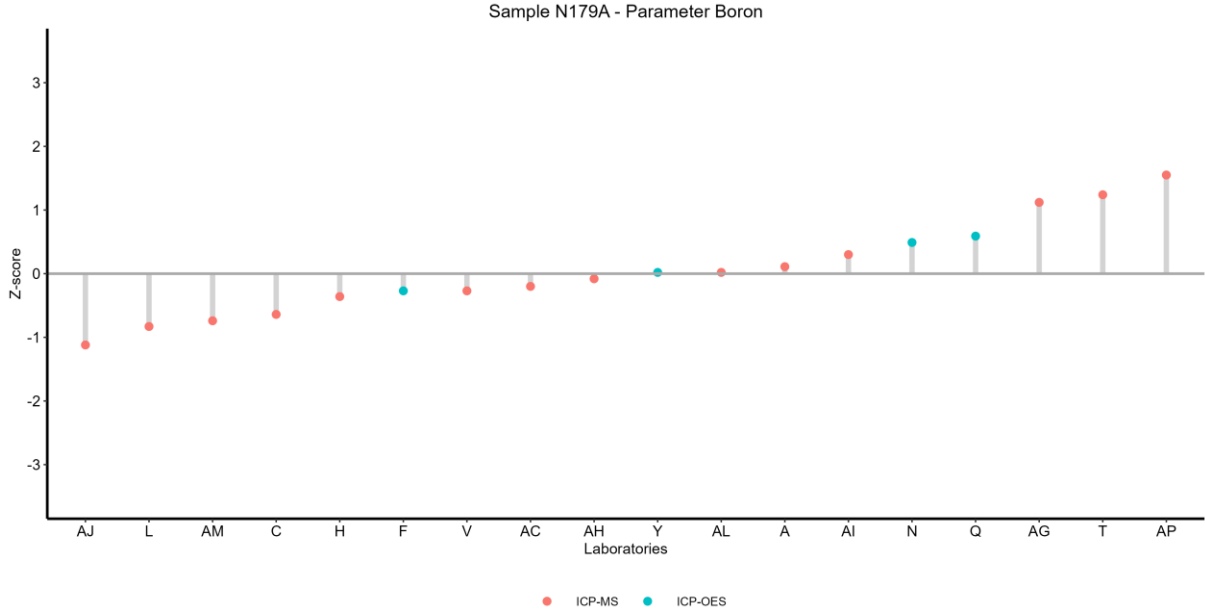
Sulphate (as SO<sub>4</sub><sup>2-</sup>)



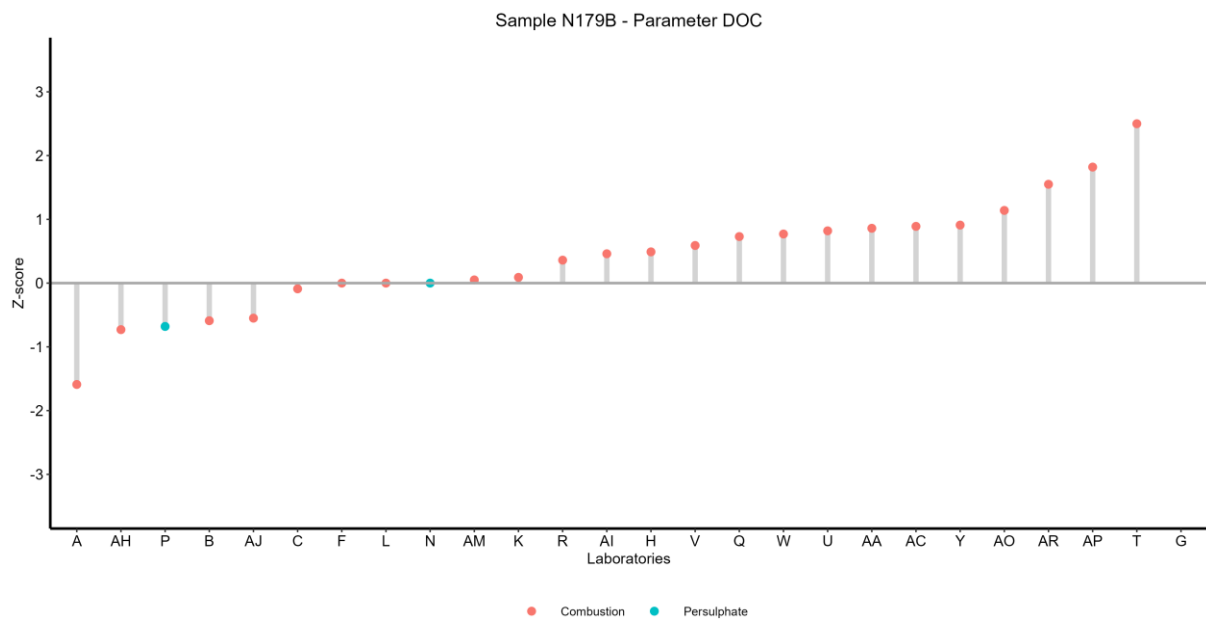
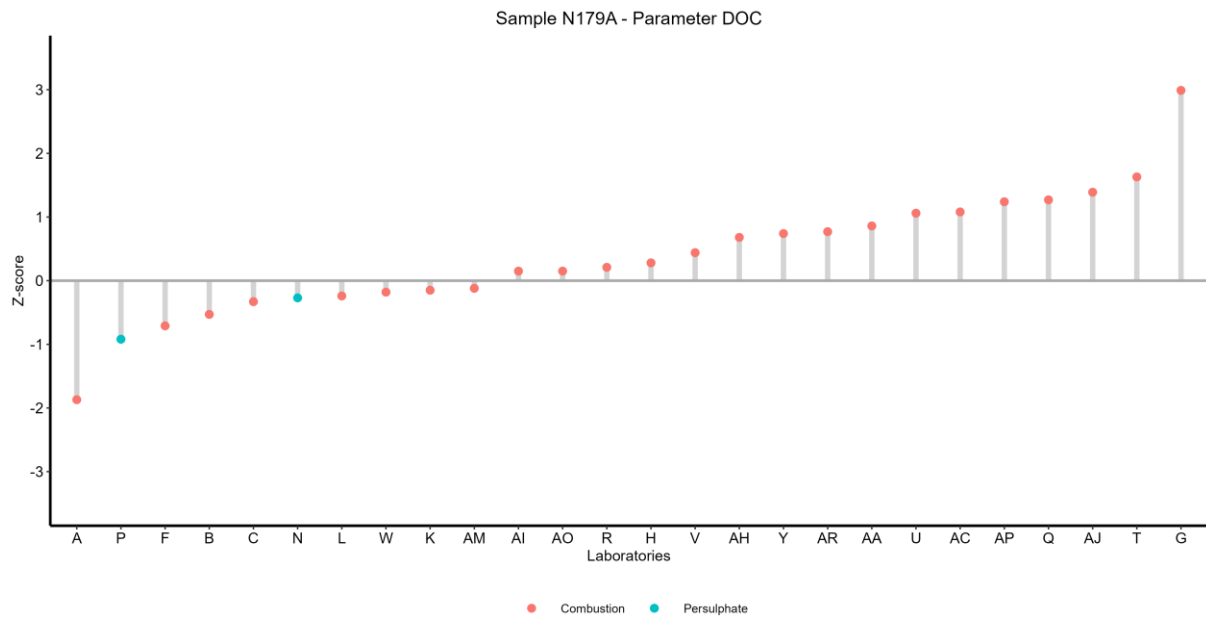
Orthophosphate (as PO<sub>4</sub><sup>3-</sup>)



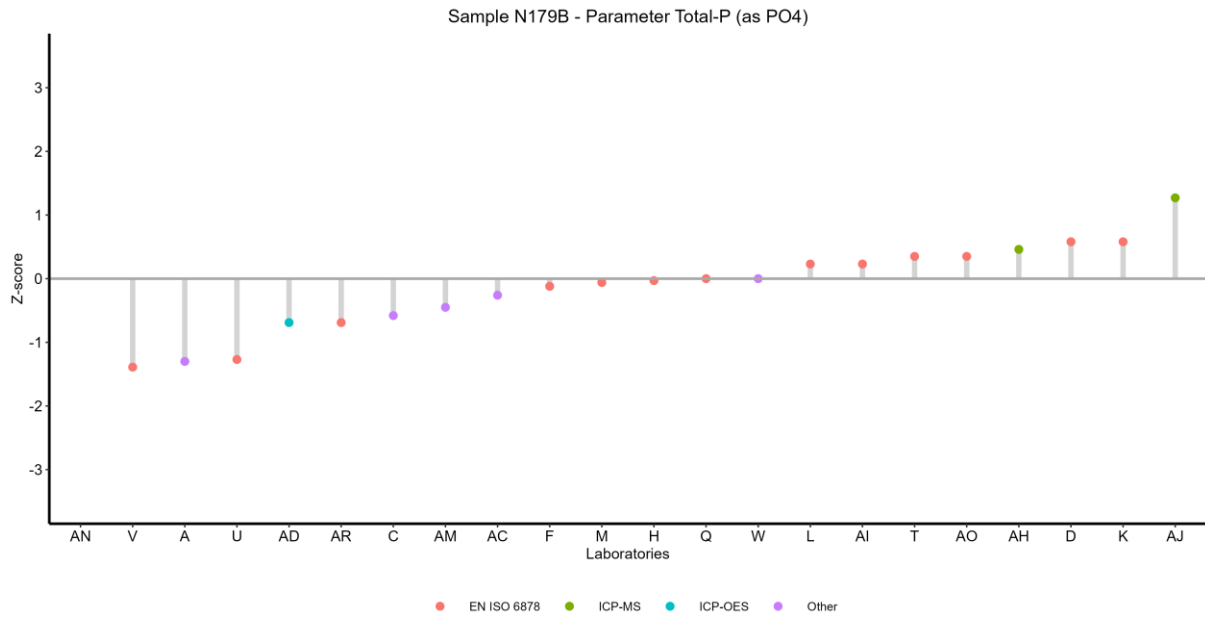
# Boron



# DOC (as C)



# Total-P (as PO<sub>4</sub><sup>3-</sup>)



# Permanganate index (as O<sub>2</sub>)

