ENVIRONMENT AGENCY AUSTRIA umweltbundesamt

Proficiency Testing Scheme Umweltanalytik

Abfall nach der Deponie-VO (Eluat Ionen) - AB09

Proficiency Testing Scheme Environmental Analysis

Waste according to landfill directive (eluate ions) - AB09

BERICHT / REPORT

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D1. Beschreibung des Ringversuchs

D1.1. Ausgestaltung und Durchführung

- Anzahl der Anmeldungen:25
- Anzahl der übermittelten Datensätze:25
- Probenversand: 22.09.2020
- Einsendeschluss der Daten: 20.10.2020

Die Ergebnisabgabe erfolgte auf elektronischem Weg mittels passwortgeschützter Online-Dateneingabe. Beim Abschluss der Dateneingabe bestätigte der Teilnehmer die vollständige und korrekte Eingabe aller Daten und die Freigabe der Ergebnisse zur Auswertung.

Zur Anonymisierung der Ergebnisse wurde jedem Labor willkürlich ein Laborcode zugeteilt.

D1.2. Beschreibung der Prüfgegenstände

Als Probenmaterial diente ein Abfalleluat (Mischung Bodenaushub, Aschen und Stäube).

Das Probenmaterial umfasste:

- 2 Proben Eluat (AB09 und AB09TOC)

Um homogene Probeneluate zu erzielen, wurde die Herstellung der Eluatprobe bereits am 19.08.2020 begonnen (gemäß ÖNORM EN 12457-4 L/S=10 l/kg TM). Nach der Elution wurde das Eluat über einen 0,45 µm Membranfilter am 13.09.2020 filtriert. Danach wurden die Proben bis zur Abfüllung gekühlt gelagert (4 +/- 3 °C). Die o.a. Proben wurden im Rührkessel unter ständigem Rühren zusätzlich mit einzelnen Substanzen dotiert.

Das Abfüllen der Proben erfolgte unter ständigem Rühren (Rührkessel). Die Stabilisierung erfolgte durch Kühlung bzw. durch Zusatz von 1 % Salzsäure (HCl) (Probe AB09TOC). Die Probe AB09 wurde durch Kühlung stabilisiert (kein Zusatz).

Die homogenen Prüfgegenstände wurden am 22.09.2020 verschickt.

Jedes Teilnehmerlabor erhielt:

- 2 Proben (insgesamt 600 ml), abgefüllt in je 1 x 100ml LDPE-Flasche (Probe AB09TOC) und in je 1 x 500ml PET-Flasche

D1.3. Anweisungen für die Teilnehmer

Aus Stabilitätsgründen wurde empfohlen bis spätestens 30.09.2020 mit den Analysen zu beginnen.

Den Teilnehmern stand die Wahl der Analysenmethode bzw. der verwendeten Norm frei, welche mit ihrem Routineverfahren übereinstimmen sollte. Eine Übersicht der angewendeten Methoden findet sich unter E9.

D1.4. Kontrollanalytik zur Bewertung der Homogenität

Im Zuge der Abfüllung wurden zu willkürlichen Zeitpunkten mehrere Aliquote pro Probe zur Kontrollanalytik entnommen.
Es wurden für beide Proben jeweils n=5 Kontrollproben sowie n=1 undotierte Realprobe dem Labor zur Analyse übergeben.

Die Bestimmung aller Parameter wurde an ein externes Labor (akkreditiert nach EN ISO/IEC 17025 für die o.a. Parameter) im Unterauftrag vergeben (verdeckte Vergabe, Proben anonymisiert) und erfolgte zeitnah zum Probenversand.

Im Zuge der Auswertung wurde die relative Standardabweichung zwischen den Kontrollprobenabfüllungen bewertet und mit der Vergleichsstandardabweichung beim aktuellen Ringversuch verglichen.
Die Ergebnisse der Kontrollanalytik sind in der parameterorientieren Auswertung (E.7.) in Form von Mittelwerten ± Messunsicherheit als Kontrollwert (control test value) ± U gelistet (jeweils angegeben als erweiterte Messunsicherheit, k=2).

D1.5. Trendtest zur Bewertung der Stabilität

Um die ausreichende Stabilität der Prüfgegenstände der aktuellen Eignungsprüfungsrunde bis zum Abgabetermin zu überprüfen, wurde die Darstellung der Teilnehmerergebnisse nach Analysendatum ausgewertet und auf systematische Trends geprüft (unauffällig). Durch Darstellung der Teilnehmerergebnisse nach Abfüllreihenfolge wurde auf das Vorliegen möglicher systematischer Trends der Ergebnisse geprüft (unauffällig).

Aufgrund der bisherigen Erfahrungen und aufgrund der Bewertungsgrundlagen der aktuellen Eignungsprüfungsrunde gilt die Stabilität der Prüfgegenstände im empfohlenen Zeitraum für die Analyse bis zum Abgabeschluss als gewährleistet.

D1.6. Ermittlung des zugewiesenen Wertes

Die Ergebnisse der Analysen mussten spätestens bis zum 22.10.2020 beim Veranstalter vorliegen. Später eingehende Werte wurden nicht berücksichtigt.

Im Zuge der Plausibilitätsprüfung der Daten (z.B. Check korrekte Einheiten, Messunsicherheitsangabe, …) wurden die Teilnehmer mit auffälligen Ergebnissen zum erneuten Datencheck der Eingabe und um Rückmeldung binnen 24 h aufgefordert.

Nach Abschluss der Plausibilitätsprüfung, wurde der Ausreißertest nach Hampel durchgeführt und die Ausreißer ermittelt. Die von diesem Test auffällig eingestuften Werte wurden in der Auswertung gekennzeichnet („H“). In begründeten Fällen, z.B. wenn der Ausreißertest nach Hampel nicht anwendbar ist (z.B. Ergebnisse liegen sehr eng beieinander oder überwiegend selber Zahlenwert bzw. bei wenig abgegebenen Daten mit sehr hoher Streuung), kann eine Ausreißereliminierung nach weiteren Kriterien erfolgen (z.B. Dean- und Dixon Test bzw. manuelle Ausreißerdefinition aufgrund Expertenbefund). Diese Vorgangsweise wird nach Anwendung unter Punkt D4 des Berichts dokumentiert.

Die weitere Auswertung erfolgte gemäß ISO 5725-2. Eine statistische Auswertung der Ringversuchsdaten erfolgte erst ab zumindest 6 gültigen, nummerischen Ergebnissen pro Parameter. Ergebnisse kleiner Bestimmungs- oder Nachweisgrenze wurden bei den Berechnungen nicht berücksichtigt.

Der zugewiesene Wert wird im Normalfall jeweils als der ausreißerbereinigte Mittelwert über alle übermittelten Ergebnisse gebildet.

Bei sehr hohen Streuungen der Teilnehmerergebnisse von über 50 % oder bei mangelhafter Rückführbarkeit der statistischen Kenndaten aus den ausreißerbereinigten Ergebnissen der Teilnehmer auf den Mittelwert des Kontrolllabores bzw. einer zu geringen Anzahl an ausreißerbereinigten Ergebnissen über die Gruppe der akkreditierten Labore, kann die Situation auftreten, dass kein zugewiesener Wert für den aktuellen Ringversuch festgelegt werden kann und daher keine Bewertung der Teilnehmerergebnisse für diesen Parameter möglich ist. Ein entsprechender Hinweis wird im Bericht unter E7 bei der informativen Auswertung angebracht. Im Rahmen der internen Qualitätssicherung der Teilnehmer kann ein Vergleich mit den Ergebnissen des Kontrolllabors durchgeführt werden. Diese Vorgehensweise wird bei Anwendung jeweils parameter- und probenbezogen unter Punkt D4 des Berichts dokumentiert.

D2. Kriterien der Leistungsbewertung

D2.1. Leistungskriterium z-Score

Als Basis zur Berechnung der Wiederfindungsraten sowie der z-Scores wurde der ausreißerbereinigte Mittelwert über alle übermittelten Ergebnisse herangezogen.

Die Ermittlung der z-Scores erfolgte gemäß nachfolgender Formel:

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

Dabei ist:

x_i	Messergebnis des teilnehmenden Labors
$\overline{X}$	zugewiesener Wert Sollwert für die Leistungsbewertung der Teilnehmer (angegeben auf 3 signifikante Stellen); im Regelfall: ausreißerbereinigter Mittelwert der Teilnehmerergebnisse. Eine davon abweichende Vorgehensweise wird unter Punkt D4 des Berichts beschrieben.
Kriterium	Vergleichsstandardabweichung berechnet aus den Statistiken der ausreißerbereinigten Teilnehmerergebnissen (sR) des aktuellen Ringversuchs. In begründeten Fällen (z.B. Ergebnisse nahe an Mindestbestimmungsgrenze oder regulatorischer Vorgaben) erfolgt die Festlegung nach Expertenbefund und die Vorgangsweise wird unter Punkt D4. des Berichts beschrieben.

D2.2. Leistungskriterium E_n-Score

Für die realen Wasserproben erfolgen seit 2019 zusätzliche Bewertungen unter Einbeziehung der erweiterten Messunsicherheiten der Teilnehmer und der erweiterten Messunsicherheit des zugewiesenen Wertes, gemäß E_n-Score. Diese Auswertungen werden für die Teilnehmer im Bericht unter Punkt E8, jeweils im Anschluss an die z-Score Auswertung dargestellt.

Die Ermittlung der E_n-Scores erfolgte gemäß nachfolgender Formel:

$$E_n - score = \frac{x_i - \bar{X}}{\sqrt{U(x_i)^2 + U(\bar{X})^2}}$$

Dabei ist:

x_i	Messergebnis des teilnehmenden Labors
$\overline{X}$	zugewiesener Wert Sollwert für die Leistungsbewertung der Teilnehmer (angegeben auf 3 signifikante Stellen); im Regelfall: ausreißerbereinigter Mittelwert der Teilnehmerergebnisse. Eine davon abweichende Vorgehensweise wird unter Punkt D4 des Berichts beschrieben.
U(x_i)	erweiterte Messunsicherheit des Messergebnisses (Teilnehmer-ergebnis), k=2
U($\bar{X}$)	erweiterte Messunsicherheit des zugewiesenen Wertes, k=2

D2.3. Leistungsbewertung z-Score und E_n-Score

Interpretation der z-Scores:

- |z-Score| ≤ 2.0 Ergebnis gut
- 2.0 < |z-Score| < 3.0 Ergebnis fragwürdig
- |z-Score| ≥ 3.0 Ergebnis nicht zufriedenstellend

Hinweis: Bei der Bewertung mittels z-Score wird die Messunsicherheit der Teilnehmer nicht mitberücksichtigt. Der Vergleich der Abweichung zum zugewiesenen Wert erfolgt über das Kriterium.

Interpretation der E_n-Scores:

- |E_n-Score| ≤ 1.0 zufriedenstellende Leistung
- |E_n-Score| > 1.0 nicht zufriedenstellende Leistung

Hinweis: Bei der Bewertung mittels E_n-Score erfolgt die Berücksichtigung der erweiterten Messunsicherheiten der Teilnehmer und des zugewiesenen Wertes. |E_n-Score| > 1.0 können darauf hinweisen, dass die Unsicherheitsschätzungen überprüft oder ein Messproblem korrigiert werden muss.

D3. Darstellung und Interpretation der Messergebnisse

In der parameterorientierten Auswertung ist eine tabellarische Übersicht mit den Messergebnissen inklusive der Unsicherheit (± U), der Wiederfindung zum zugewiesenen Wert und dem berechneten z-Score dargestellt. Weiterhin werden unter Anmerkungen die Ausreißer gekennzeichnet. Die in der Tabelle angeführten Ergebnisse werden auch grafisch dargestellt.

In der laborientierten Auswertung werden pro Labor in anonymisierter Form die Ergebnisse der einzelnen Labore als Messergebnis ± U sowie die Wiederfindungen und die ermittelten z-Scores bezugnehmend auf das Kriterium dargestellt. Weiters werden die E_n-Scores unter Berücksichtigung der erweiterten Unsicherheiten in

unabhängigen Tabellen ausgegeben. Die laborientierten Auswertungen enthalten jeweils die Bewertungsgrundlagen wie zugewiesener Wert samt erweiterter Messunsicherheit sowie das Kriterium.

Eine Erläuterung zu den Tabellen und Grafiken kann Punkt D.5. entnommen werden.

D4. Anmerkungen zur Auswertung

Wie unter Punkt D2 ersichtlich, können die z-Scores auch unter Einbeziehung der Vergleichsstandardabweichung der ausreißerbereinigten Teilnehmerergebnisse des aktuellen Ringversuchs berechnet werden. Das kann zur Folge haben, dass es bei Parametern mit hoher Ergebnisstreuung dazu kommen kann, dass der Bereich z-Score - 2 bis z-Score + 2 einen ungewöhnlich hohen Wiederfindungsbereich abdeckt. Umgekehrt führt eine sehr geringe Streuung der Teilnehmerergebnisse dazu, dass z-Score - 2 bis z-Score + 2 einen ungewöhnlich kleinen Wiederfindungsbereich abdeckt.

Die Wiederfindungsrate wird unabhängig von der Streuung der Ergebnisse, als prozentuelle Abweichung vom zugewiesenen Wert berechnet und sollte bei der Bewertung von Ergebnissen im Rahmen des internen Qualitätsmanagementsystems der teilnehmenden Labore berücksichtigt werden.

Als Kriterien wurden die relativen Vergleichsstandardabweichungen (vR) des aktuellen Ringversuchs verwendet.

Parameter NO_2 (als N), PO_4 (als P), Sulfat (als SO_4) und pH-Wert Probe AB09: Die auf Basis der Teilnehmerergebnisse berechneten Sollwerte lagen außerhalb der Messunsicherheit des Kontrollwertes und es ist über das Kontrolllabor keine Rückführbarkeit möglich. Der zugewiesene Wert wurde daher über die ausreißerbereinigten Mittelwerte aus der Gruppe der akkreditierten Teilnehmer berechnet.

Parameter NO_2 (als N), NO_3 (als N), Sulfat (als SO_4) und Chlorid Probe AB09: Diese Parameter wiesen geringe Streuungen auf (vR<5%), daher wurden relative Vergleichsstandardabweichungen (vR) von 5 % für die Bewertung gewählt.

Parameter pH-Wert und elektrische Leitfähigkeit Probe AB09: Diese Parameter wiesen Vergleichsstandardabweichungen unter 2 % auf. Für diese Parameter wurden relative Vergleichsstandardabweichungen (vR) von 2% für den pH-Wert und 1,5 % für die elektrische Leitfähigkeit gewählt.

D5. Erläuterung zu Tabellen und Grafiken

D5.1. Angaben und Abkürzungen in Tabellen

Parameter	Allgemeine Bezeichnung des Analysenparameters
Probe	Bezeichnung der übermittelten Probe
Einheit	Vorgegebene Einheit für Messwert und Ergebnisunsicherheit (z.B. µg/l)
Zugewiesener Wert	Sollwert für die Leistungsbewertung der Teilnehmer (angegeben auf 3 signifikante Stellen)
U (k=2)	erweiterte Unsicherheit (k=2) des zugewiesenen Wertes, (angegeben auf 3 signifikante Stellen)
Kriterium	Vorgabewert zur Ermittlung des z-Scores in der angegebenen Einheit (angegeben auf 3 signifikante Stellen)
Kriterium [%]	Vorgabewert zur Ermittlung des z-Scores in % des zugewiesenen Wertes (angegeben auf 2 signifikante Stellen)
Mittelwert	Ausreißerbereinigter Mittelwert über die Teilnehmer-ergebnisse (angegeben auf 3 signifikante Stellen)
VB (99%)	99% Vertrauensbereich (angegeben auf 3 signifikante Stellen)
Minimum	Minimales abgegebenes Messergebnis, ausreißerbereinigt (angegeben auf 3 signifikante Stellen)
Maximum	Maximales abgegebenes Messergebnis, ausreißerbereinigt (angegeben auf 3 signifikante Stellen)
sR	Vergleichsstandardabweichung, berechnet aus den ausreißerbereinigten Teilnehmerergebnissen des aktuellen Ringversuchs (angegeben auf 3 signifikante Stellen)
vR	relative Vergleichsstandardabweichung in %, berechnet aus den ausreißerbereinigten Teilnehmerergebnissen des aktuellen Ringversuchs bezogen auf den Mittelwert (angegeben auf 2 signifikante Stellen)
Kontrollwert ± U (k=2)	Mittelwert der Kontrollmessungen des Veranstalters ± erweiterte Ergebnisunsicherheit des Kontrollwertes (jeweils angegeben auf 3 signifikante Stellen)
Laborcode	anonymisierte, eindeutige Teilnehmerkennung im jeweiligen Ringversuch
Messwert	einzelne(r) Messwert(e) lt. Teilnehmerangabe (maximal 5 Nachkommastellen dargestellt)
Messergebnis	Für die Bewertung herangezogenes Ergebnis lt. Teilnehmerangabe (maximal 5 Nachkommastellen

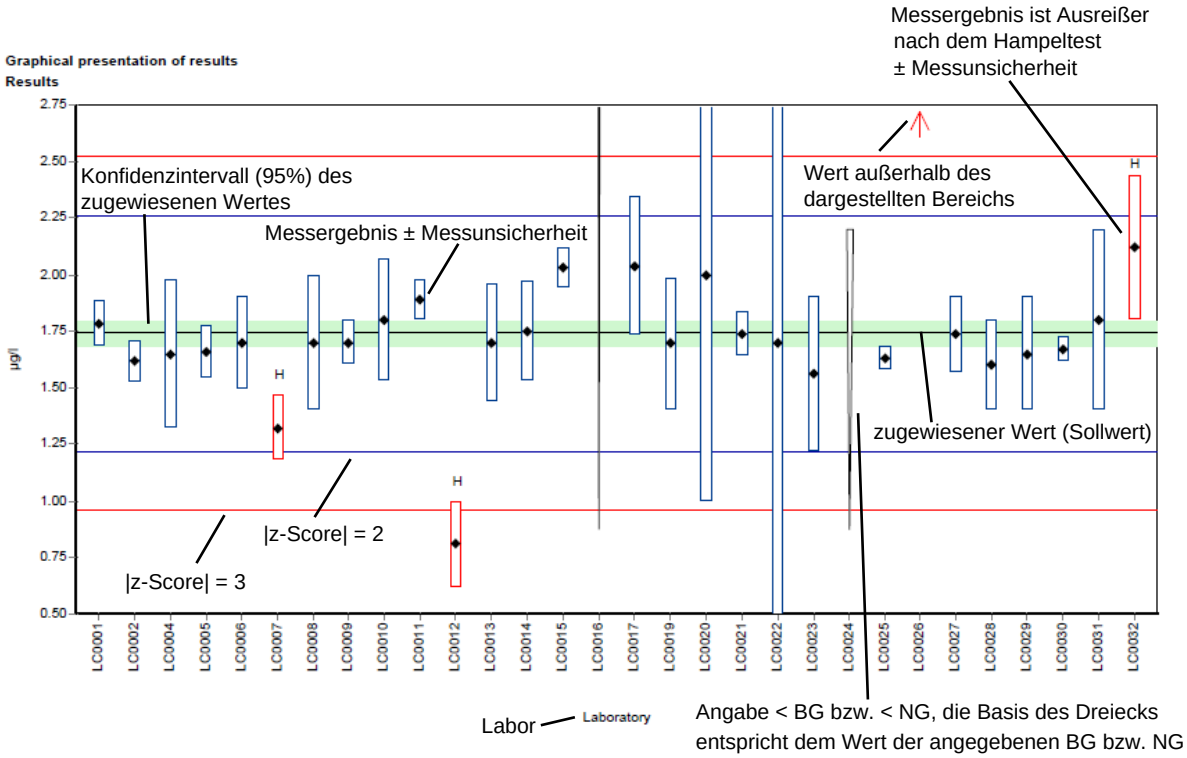
	dargestellt). Bei Eignungsprüfungsrunden mit Vorgabe von unabhängigen Mehrfachbestimmungen, entspricht dies dem berechneten Mittelwert aus den einzelnen Messwerten der Teilnehmer.
± U	kombinierte Messunsicherheit ohne Erweiterungsfaktor (k=1) lt. Teilnehmerangabe (maximal 5 Nachkommastellen dargestellt)
BG	Bestimmungsgrenze
NG	Nachweisgrenze
WF	Wiederfindungsrate in %, bezogen auf den zugewiesenen Wert (angegeben auf 3 signifikante Stellen, dargestellt maximal 1 Nachkommastelle)
MW	Mittelwert
z-Score	Abweichung des Messergebnisses zum zugewiesenen Wert, ausgedrückt als Vielfaches des Kriteriums (angegeben auf 3 signifikante Stellen, dargestellt maximal 2 Nachkommastellen)
E_n-Score	Abweichung des Messergebnisses zum zugewiesenen Wert, ausgedrückt als Vielfaches der kombinierten Messunsicherheiten, bestehend aus erweiterter Unsicherheit des zugewiesenen Wertes und der erweiterten Unsicherheit der Messergebnisse der Teilnehmer (angegeben auf 3 signifikante Stellen, dargestellt maximal 2 Nachkommastellen). Beim E_n-Score erfolgt die Berücksichtigung der Messunsicherheit der Teilnehmer.
-	Keine Daten übermittelt bzw. keine Berechnung möglich
Anmerkungen	Anmerkungen zum jeweiligen Messergebnis (z.B. H, FN, FP)
H	Ausreißer nach dem Hampel-Test
FN	Falsch negativ – Messergebnis kleiner Bestimmungs- bzw. Nachweisgrenze dessen Betrag die Bedingungen eines Ausreißers nach dem Hampeltest erfüllt.
FP	Falsch positiv – Falls aufgrund des geringen Analytgehalts kein zugewiesener Wert ermittelt werden kann (n < 6), wird der Median der Beträge der übermittelten Nachweis- bzw. Bestimmungsgrenzen ermittelt. Als falsch positiv wird ein Messergebnis bewertet, welches diesen Median um mehr als 100 % übersteigt.
Standardabweichung	Vergleichsstandardabweichung berechnet aus den Teilnehmerergebnissen des aktuellen Ringversuchs (angegeben auf 3 signifikante Stellen)

rel. Standardabweichung	relative Vergleichsstandardabweichung in %, berechnet aus den Teilnehmerergebnissen des aktuellen Ringversuchs bezogen auf den Mittelwert (angegeben auf 3 signifikante Stellen)
n	Anzahl der Messergebnisse

D5.2. Graphische Darstellung der Ergebnisse

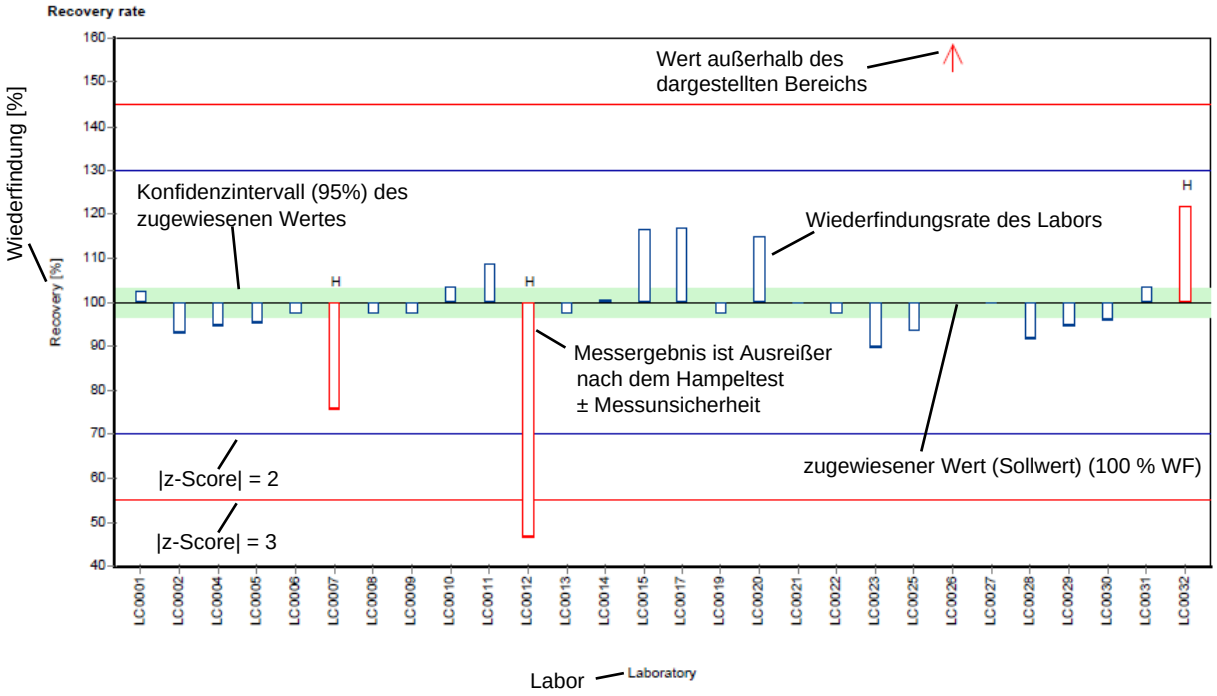
Nachfolgend wird die graphische Darstellung anhand von kommentierten Beispieldiagrammen erläutert.

Beispieldiagramm: Messwerte



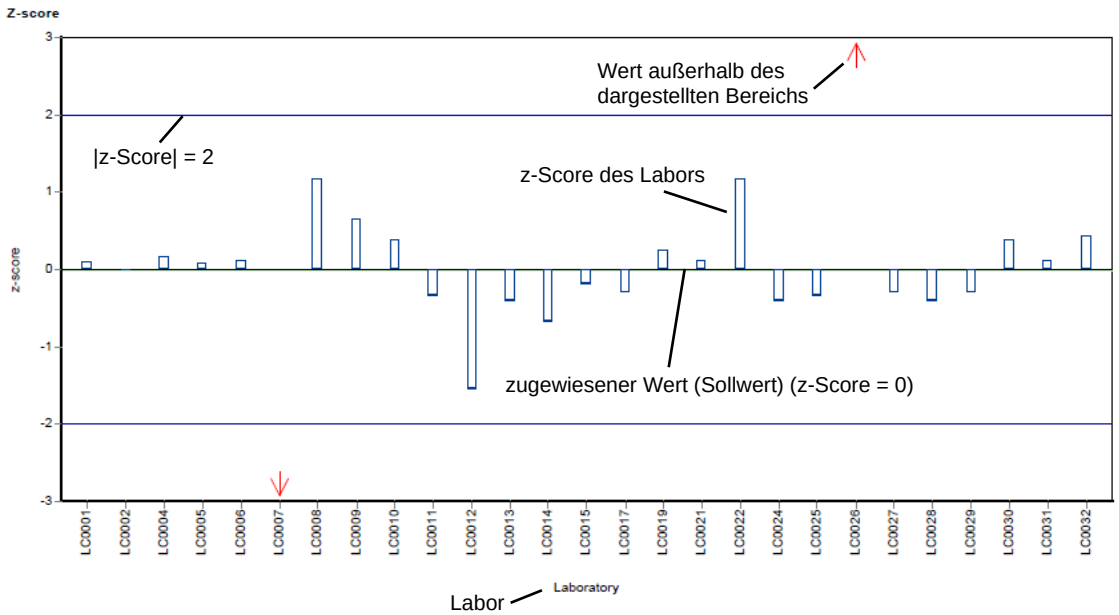
Unterschiedliche Analysenmethoden werden mit unterschiedlichen Farben kenntlich gemacht.

Beispieldiagramm: Wiederfindung zum zugewiesenen Wert



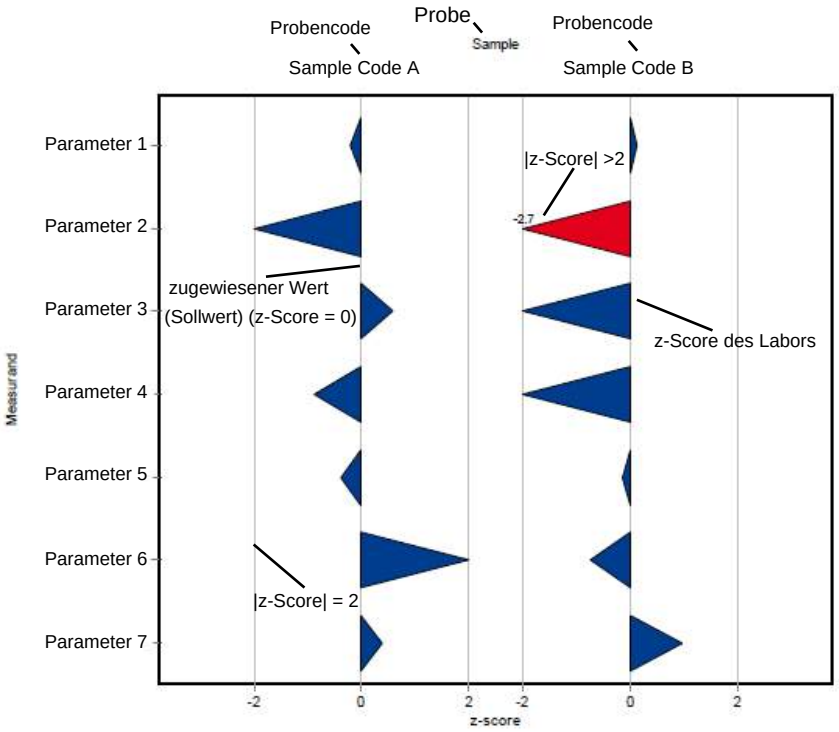
Unterschiedliche Analysenmethoden werden mit unterschiedlichen Farben kenntlich gemacht.

Beispieldiagramm: z-Score

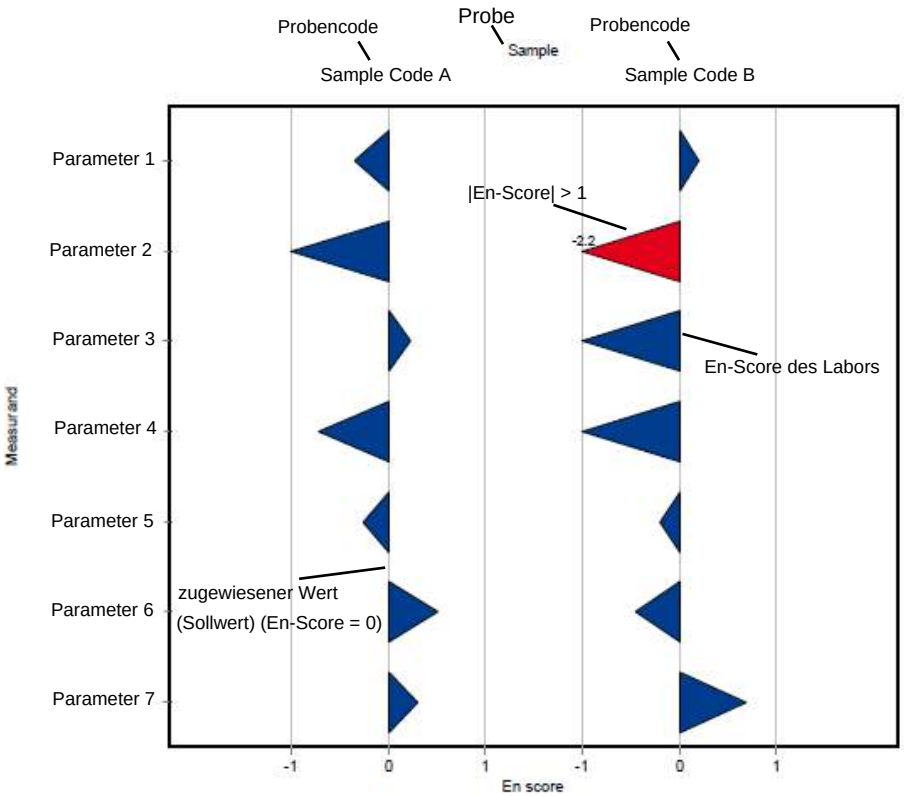


Unterschiedliche Analysenmethoden werden mit unterschiedlichen Farben kenntlich gemacht.

Beispieldiagramm: z-Score (laborientierte Auswertung)



Beispieldiagramm: En-Score (laborientierte Auswertung)



D6. Zusammenfassung

D6.1. Tabelle der zugewiesenen Werte

Parameter	Probe	Einheit	zugewiesener Wert	±	U (k=2)	Kriterium	Kriterium [%]
Abdampfrückstand	AB09	mg/l	325	±	7.82	17.2	5.3
Chlorid	AB09	mg/l	27.8	±	0.343	1.39	5
elektr. Leitfähigkeit (25°C)	AB09	mS/m	53.3	±	0.324	0.8	1.5
Fluorid	AB09	mg/l	0.523	±	0.0258	0.0627	12
NH4 (als N)	AB09	mg/l	1.26	±	0.0378	0.091	7.2
NO2 (als N)	AB09	mg/l	0.202	±	0.00318	0.0101	5
NO3 (als N)	AB09	mg/l	3.31	±	0.0693	0.166	5
pH-Wert	AB09		7.93	±	0.0361	0.159	2
PO4 (als P)	AB09	mg/l	0.111	±	0.0197	0.0387	35
Sulfat (als SO4)	AB09	mg/l	60.2	±	1.06	3.01	5
TOC (als C)	AB09-TOC	mg/l	7.38	±	0.359	0.886	12

D6.2. Zusammenfassung der ausreißerbereinigten Ringversuchsergebnisse

Parameter	Probe	Anzahl Labors für Berechnung	Anzahl Ausreißer Labors	Einheit	Mittelwert	± VB (99%)	Minimum	Maximum	sR	vR [%]
Abdampfrückstand	AB09	19	4	mg/l	325	± 11.7	286	355	17	5.3
Chlorid	AB09	21	4	mg/l	27.8	± 0.515	25.9	29.3	0.786	2.8
elektr. Leitfähigkeit (25°C)	AB09	22	3	mS/m	53.3	± 0.486	51.7	54.7	0.76	1.4
Fluorid	AB09	23	0	mg/l	0.523	± 0.0388	0.397	0.66	0.062	12
NH4 (als N)	AB09	23	2	mg/l	1.26	± 0.0567	1.01	1.47	0.0906	7.2
NO2 (als N)	AB09	21	3	mg/l	0.204	± 0.00576	0.185	0.225	0.0088	4.3
NO3 (als N)	AB09	20	4	mg/l	3.31	± 0.104	3.05	3.63	0.155	4.7
pH-Wert	AB09	24	1		7.93	± 0.0529	7.8	8.12	0.0864	1.1
PO4 (als P)	AB09	20	3	mg/l	0.113	± 0.0268	0.0121	0.17	0.0399	35
Sulfat (als SO4)	AB09	23	2	mg/l	60	± 1.4	56.6	65.3	2.24	3.7
TOC (als C)	AB09-TOC	23	0	mg/l	7.38	± 0.538	5.9	9.49	0.86	12

E1. Description of the proficiency test

E1.1. Design and implementation

- Number of registrations: 25
- Number of submitted data records: 25
- Dispatch of samples: 22nd September 2020
- Closing date for submission of data: 20th October 2020

The results were submitted electronically by a password-protected online data entry. Upon completion of the data entry, the participant confirmed the complete and correct entry of all data and the authorization of the results for evaluation.

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

E1.2. Description of the proficiency test items

The sample material was waste eluate (mixture of excavated soil, ashes and dust).

The following samples were made available

- 2 samples eluate (AB09 and AB09TOC)

To guarantee homogenous samples, the production of the eluate samples was started on 19th of August 2020 (eluate according to ÖNORM EN 12457-4; s : l = 1:10). After the elution, the eluate was filtered using 0.45 µm membrane disc filters on 13th of September 2020. Afterwards, the samples were stored at 4 +/- 3°C until further processing.

The samples were partly spiked with specific substances under continuous stirring in the stirring vessel.

The samples were filled into bottles under continuous stirring (stirring vessel) and stabilized by cooling and by addition of 1 % hydrochloric acid (HCl) (Sample AB09TOC, sample AB09 stabilization by cooling).

The homogeneous proficiency test items were dispatched on 22nd September 2020.

Each participant received:

- 2 samples (altogether 600ml), filled in 1 x 100 ml LDPE bottle (Sample AB09TOC) and 1 x 500 ml PET bottle

E1.3. Instructions for the participants

For reasons of stability, it was recommended to start the analysis by the 30th September 2020 at the latest.

The participants are expected to use the test method or measurement method of their choice, which should be consistent with their routine procedures. In E9. you will find the overview of applied methods in course of the proficiency testing.

E1.4. Control testing for homogeneity evaluation

During filling of the bottles, aliquots of each sample were collected randomly for control testing. From each of both samples, n=5 control test samples and n=1 unspiked real water sample were transferred to the laboratory for control testing.

The determination of all parameters was performed at an external laboratory (accredited by EN ISO/IEC 17025) in subcontract (anonymous submission) and testing was performed close to the time of sample dispatch.

During evaluation, the relative standard deviation between the individual results of the control test samples was assessed for each parameter by comparison with the reproducibility standard deviation of the actual proficiency test.

In the parameter-oriented evaluation (E.7.), the results of the control testing are given in the form of arithmetic means of the detected concentrations ± expanded measurement uncertainty as control test value ± U (expanded uncertainty, k=2).

E1.5. Trend test for stability evaluation

The assessment of the stability of the proficiency test items of the current round was carried out by evaluation of all participant results sorted by analysis date (until submission deadline): No systematic trends were identified.

Using all participants results, it was furthermore tested if systematic trends could be detected depending on the order in which the bottles were filled for the proficiency test: No systematic trends could be identified.

According to data obtained from previous rounds and based on the trend test evaluation of the current round, the stability of the test items for proficiency testing can be confirmed for the recommended analysis period until deadline for submission of data.

E1.6. Determination of the assigned values

The analytical results had to be made available to the organiser not later than 20th October 2020. Any values received at a later date were not considered.

In the course of the plausibility assessment of all received data (e.g. check for correct units, indication of measurement uncertainty, …) the participants with noticeable results were asked to perform a subsequent data check and to give a prompt feedback within 24 h.

After plausibility assessment an outlier test according to Hampel was performed to identify outliers. Values identified as conspicuous are marked specifically in the parameter-oriented evaluation ('H').

In justified cases, for instance, when the outlier test according to Hampel is not applicable (e.g. many similar or identical results of the participants or in case of a very limited number of highly scattering results) a different outlier identification method can be applied (e.g. Dean and Dixon outlier test or manual outlier elimination by expert judgement). In such a case, this procedure is documented in section E4 of the report.

Further data evaluation was performed in accordance with ISO 5725-2. A statistical evaluation of proficiency testing data was only carried out if at least 6 valid results per parameter were available. Results < LOQ or < LOD are not included in the calculation for the assigned value.

The assigned values are normally calculated as the mean over all submitted results, after removal of outliers.

For real water samples in some exceptional cases it might occur, that no assigned value based on participants' results can be calculated and no evaluation of the participants results can be made. E.g due to large variations in the participant results (vR > 50 %) and/or insufficient traceability of the calculated mean of all participants after outlier-clearing to the mean of control testing or if the number of results (without outliers) of the group of accredited testing laboratories is too low.

In this case, a clear statement in section E7 of the report is made and all provided statistical data are for information only. In section E4 further information is given, when applicable, for each parameter and proficiency test item. In course of the internal quality measures, the participants can compare their results with the control test values.

E2. Criteria of performance evaluation

E2.1. Performance criterion z-Score

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

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

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

In this context,

x_i	is the measurement value (result) of the participating laboratory;
$\overline{X}$	assigned value the target value for the assessment of the performance of the participants (3 significant digits), normally the average value of the participants' results after removal of outliers; if this approach is not applicable, the target value is assigned according to the procedure given in section E4
Criteria	is the reproducibility standard deviation calculated the participants' results after removal of outliers (sR) in the current round. Where justified (e.g. results are close to minimum quantification limit or in case of regulatory requirements) the criteria is defined by expert judgement and the procedure is clearly described in section E4. of the report.

E2.2. Performance criterion E_n-Score

Since 2019 additional assessment of the participants' results using E_n-Scores for proficiency testing of real water samples is performed. This additional assessment takes into account the expanded measurement uncertainties of the participants results and the expanded uncertainty of the assigned value and is provided in the laboratory oriented part of the report (see E8 after the z-scores evaluation).

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

$$E_n - score = \frac{x_i - \bar{X}}{\sqrt{U(x_i)^2 + U(\bar{X})^2}}$$

In this context,

x_i	is the measurement value (result) of the participating laboratory
$\overline{X}$	assigned value

the target value for the assessment of the performance of the participants (3 significant digits), normally the average value of the participants' results after removal of outliers; if this approach is not applicable, the target value is assigned according to the procedure given in section E4

$U(x_i)$ expanded measurement uncertainty for the result of the participating laboratory, k=2

$U(\bar{X})$ expanded measurement uncertainty for the assigned value, k=2

E2.3. Performance evaluation z-Score and E_n-Score

Interpretation of z-Scores:

- |z-Score| ≤ 2.0 good result
- 2.0 < |z-Score| < 3.0 questionable result
- |z-Score| ≥ 3.0 unsatisfactory result

Note: In case of assessment of the participants' performance by z-scores the measurement uncertainty of the participants' results is not taken into account. The difference between result of participants and the assigned value is evaluated by the criteria.

Interpretation of E_n-Scores:

- $|E_n$-Score| ≤ 1.0 satisfactory performance
- $|E_n$-Score| > 1.0 unsatisfactory performance

Note: In case of assessment of the participants' performance by E_n-Scores the expanded measurement uncertainties for the results and for the assigned values are taken into account. IE_n-ScoreI > 1.0 might indicate to check the measurement uncertainty estimation or might point out to correct a measurement problem.

E3. Representation and interpretation of measurement results

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

The laboratory oriented report shows the results of the individual laboratories (anonymous), including the measurement uncertainty (± U), recovery rates, z-Scores and additionally evaluation of E_n-Scores on separate pages.

The tables also contain the basis for the data assessment as the assigned values and expanded measurement uncertainties and the criteria.

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

E4. Explanatory notes

As explained in section E2, the z-Score can also be calculated using the reproducibility standard deviation, calculated from the participants' results (after removal of outliers) in the relevant test round. It might occur that the z-Score between -2 and 2 covers a large range of measurement values when the variance of the results is high. On the other hand, the range of good results can be very narrow, when the variation of the participants' results is small.

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

The relative reproducibility standard deviation (vR) of the current proficiency testing round was used as criteria.

Parameters NO_2 (as N), PO_4 (as P), Sulfate (as SO_4) and pH-value sample AB09: The assigned values calculated based on the participant results were outside the measurement uncertainty of the control value and thus traceability could not be proven by this procedure. Therefore, new assigned values were defined by the group of accredited participating laboratories after outlier-assessment.

Parameters NO_2 (as N), NO_3 (as N), Sulfate (as SO_4) and Chloride sample AB09: These parameters showed small standard deviations (vR <5 %), therefore a reproducibility standard deviaton (vR) of 5 % was chosen for assessment.

Parameters pH-value and el. conductivity (25°C) sample AB09: The reproducibility standard deviation was smaller than 2 %, therefore a reproducibility standard deviation

(vR) of 2 % for the parameter pH-value and of 1.5 % for the parameter el. conductivity (25°C) was chosen for assessment.

E5. Annotations on tables and charts

E5.1. Information and abbreviations in tables

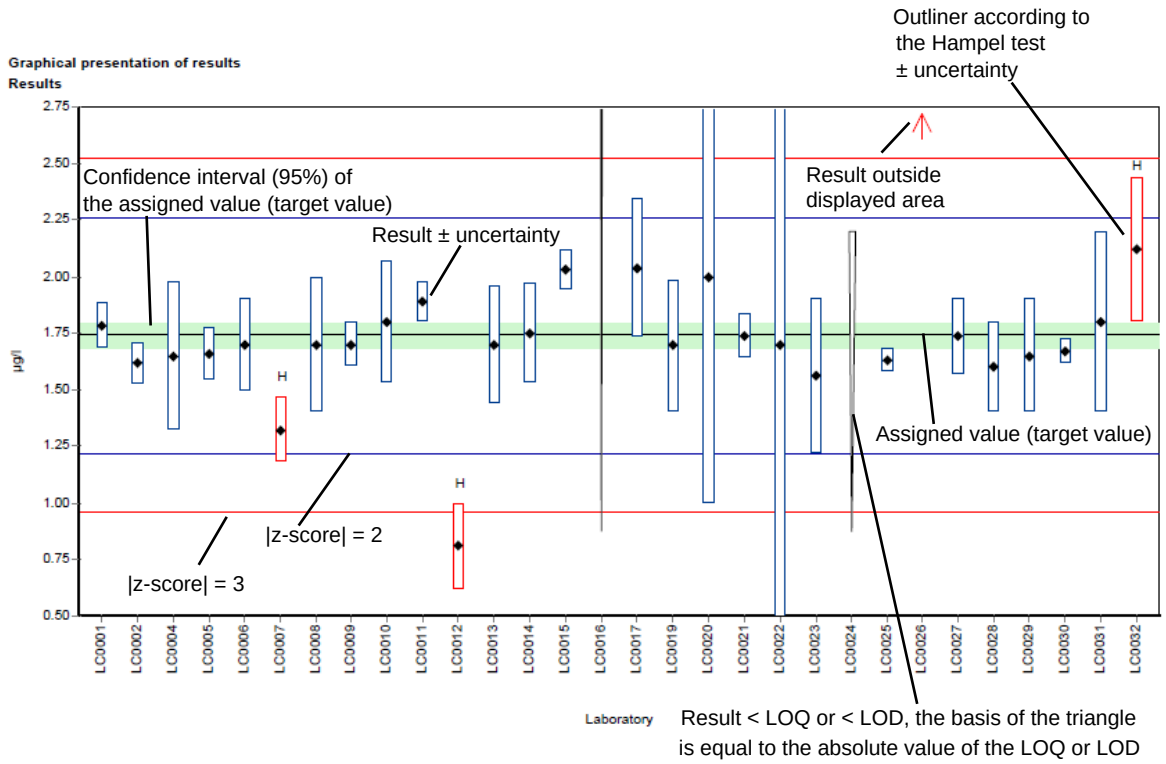
Parameter	Analyte identifier
Sample	Sample identifier
Unit	Given unit for result and uncertainty (e.g. µg/l)
Assigned value	Target value for proficiency assessment of the participants (3 significant digits)
U (k=2)	Expanded uncertainty (k=2) of the assigned value (3 significant digits)
Criteria	Specified value for the determination of the z-score in the given unit (3 significant digits)
Criteria [%]	Specified value for the determination of the z-score in % of the assigned value (2 significant digits)
Mean	Mean of the participants results, without outliers (3 significant digits)
CI (99 %)	99% confidence interval (3 significant digits)
Minimum	Minimum of all submitted results, after removal of outliers (3 significant digits)
Maximum	Maximum of all submitted results, after removal of outliers (3 significant digits)
SD	Reproducibility standard deviation, calculated from the participants results, after removal of outliers (3 significant digits)
RSD %	Reproducibility standard deviation, calculated from the participants results relative to the target value, given in %, after removal of outliers (2 significant digits)
Control test value ± U (k=2)	Mean of control test value ± expanded measurement uncertainty (3 significant digits)
Labcode	Laboratory identifier (anonymized)
Result	Result as indicated by participant (max. 5 decimal places)
± U	combined measurement uncertainty without expansion factor (k=1), as indicated by participant (max. 5 decimal places)
LOQ	Limit of quantification
LOD	Limit of detection
Recovery	Recovery rate in % based on assigned value (target value) (3 significant digits, max. one decimal place given)

z-Score	Deviation of result based on the assigned value (target value) given as a multiple of the criteria (3 significant digits, max. 2 decimal places given)
E_n-Score	Deviation of result based on the assigned value (target value) given as a multiple of the combined expanded measurement uncertainty of the participant's results and expanded measurement uncertainty for the assigned value (3 significant digits, max. 2 decimal places given). Note: E_n-Score assessment takes into account the measurement uncertainty of the participants.
-	No data available or no calculation possible
Comments	Comment on the respective result (e.g. H, FN, FP)
H	Outlier according to Hampel-Test
FN	False negative – for a result < LOQ or result < LOD: The absolute value of the LOQ or LOD fulfils the condition of an outlier according to the Hampel test.
FP	False positive – for parameters where no target value is available because of a too low analyte content (n < 6): Result that exceeds the median of the absolute values of the transmitted LOQs or LODs by more than 100 %.
Standard deviation	Reproducibility standard deviation, calculated from the participants results (3 significant digits)
Rel. standard deviation	Reproducibility standard deviation, calculated from the participants results relative to the target value, given in %, (3 significant digits)
n	Number of results

E5.2. Graphical presentation of results

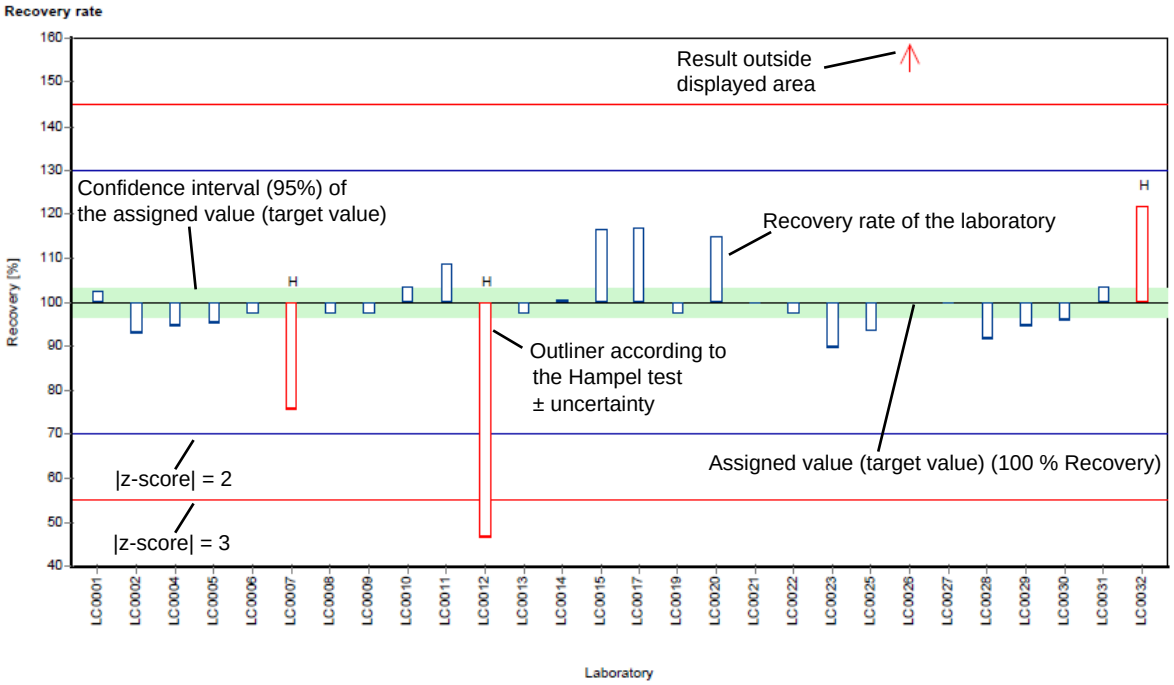
The graphic representation in the report is explained below by means of commented example diagrams:

Example chart: Results



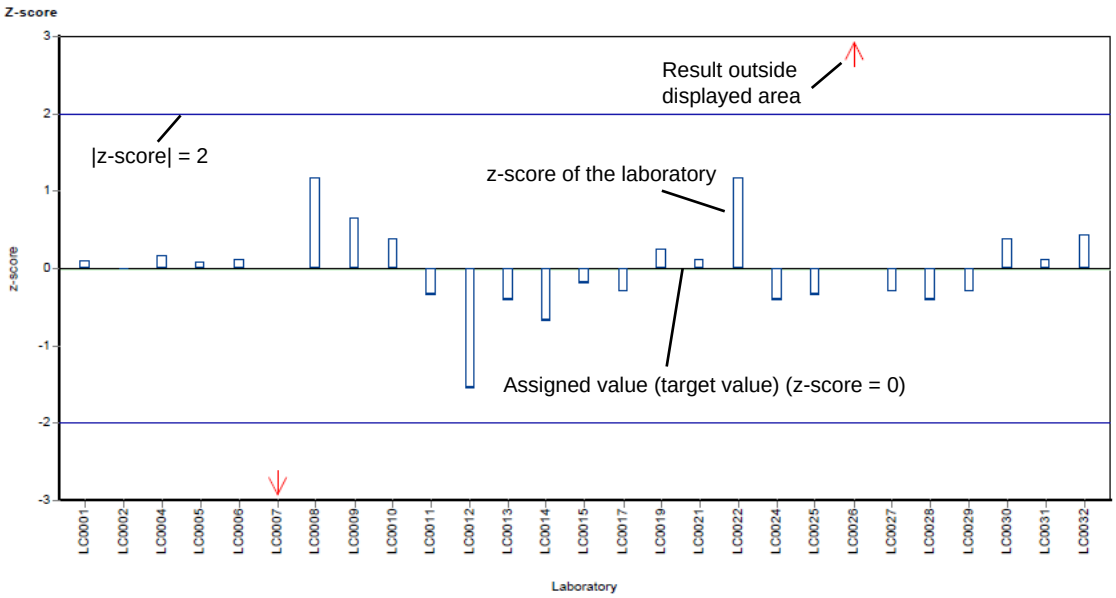
Different analysis methods are represented with different colors.

Example chart: Recovery



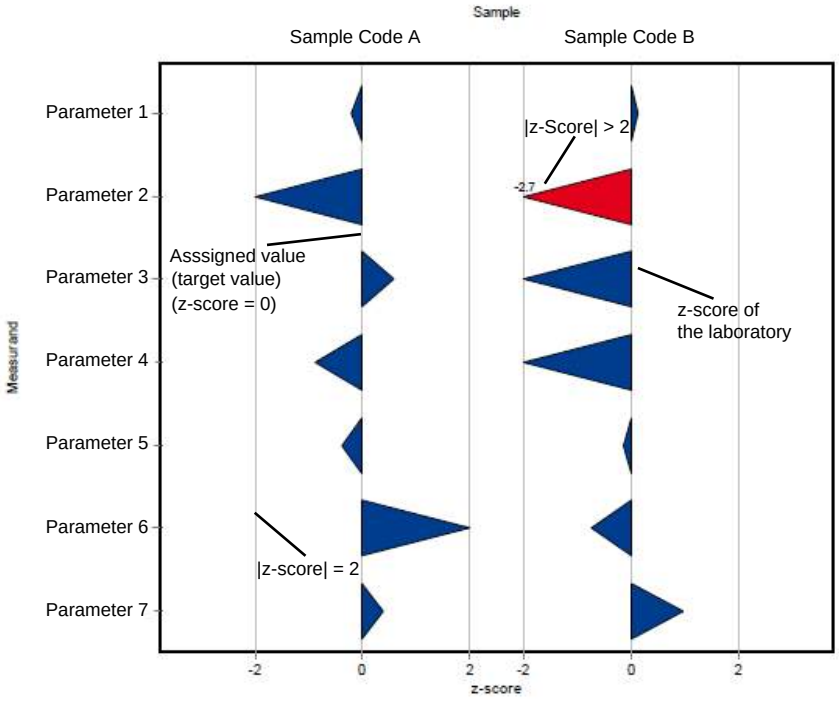
Different analysis methods are represented with different colors.

Example chart: z-score

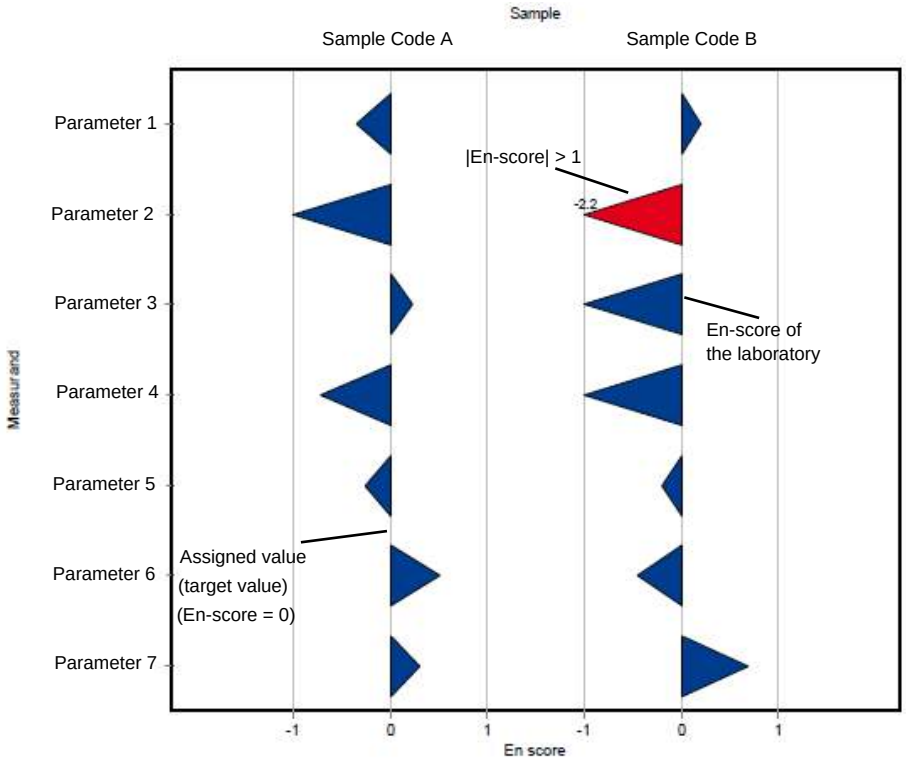


Different analysis methods are represented with different colors.

Example chart: z-score (laboratory oriented report)



Example chart: En-score (laboratory oriented report)



E6. Summary

E6.1. Table of assigned values

Parameter	Sample	Unit	Assigned value	±	U (k=2)	Criterion	Criterion [%]
Evaporation residue	AB09	mg/l	325	±	7.82	17.2	5.3
Chloride	AB09	mg/l	27.8	±	0.343	1.39	5
El. conductivity (25°C)	AB09	mS/m	53.3	±	0.324	0.8	1.5
Fluorid	AB09	mg/l	0.523	±	0.0258	0.0627	12
NH4 (as N)	AB09	mg/l	1.26	±	0.0378	0.091	7.2
NO2 (as N)	AB09	mg/l	0.202	±	0.00318	0.0101	5
NO3 (as N)	AB09	mg/l	3.31	±	0.0693	0.166	5
pH-value	AB09		7.93	±	0.0361	0.159	2
PO4 (as P)	AB09	mg/l	0.111	±	0.0197	0.0387	35
Sulfate (as SO4)	AB09	mg/l	60.2	±	1.06	3.01	5
TOC (as C)	AB09-TOC	mg/l	7.38	±	0.359	0.886	12

E6.2. Summary of results, after removal of outliers

Parameter	Sample	Number of results for calculation	Number of outliers	Unit	Mean	± CI (99%)	Minimum	Maximum	sR	vR [%]
Evaporation residue	AB09	19	4	mg/l	325	± 11.7	286	355	17	5.3
Chloride	AB09	21	4	mg/l	27.8	± 0.515	25.9	29.3	0.786	2.8
El. conductivity (25°C)	AB09	22	3	mS/m	53.3	± 0.486	51.7	54.7	0.76	1.4
Fluorid	AB09	23	0	mg/l	0.523	± 0.0388	0.397	0.66	0.062	12
NH4 (as N)	AB09	23	2	mg/l	1.26	± 0.0567	1.01	1.47	0.0906	7.2
NO2 (as N)	AB09	21	3	mg/l	0.204	± 0.00576	0.185	0.225	0.0088	4.3
NO3 (as N)	AB09	20	4	mg/l	3.31	± 0.104	3.05	3.63	0.155	4.7
pH-value	AB09	24	1		7.93	± 0.0529	7.8	8.12	0.0864	1.1
PO4 (as P)	AB09	20	3	mg/l	0.113	± 0.0268	0.0121	0.17	0.0399	35
Sulfate (as SO4)	AB09	23	2	mg/l	60	± 1.4	56.6	65.3	2.24	3.7
TOC (as C)	AB09-TOC	23	0	mg/l	7.38	± 0.538	5.9	9.49	0.86	12

E7. Parameterorientierte Auswertung / Parameter oriented report

Parameter oriented report

AB09

Evaporation residue

Unit	mg/l
Assigned value ± U (k=2)	325 ± 7.82
Criterion	17.2 (5.3 %)
Minimum - Maximum	286 - 355
Control test value ± U (k=2)	313 ± 31.3

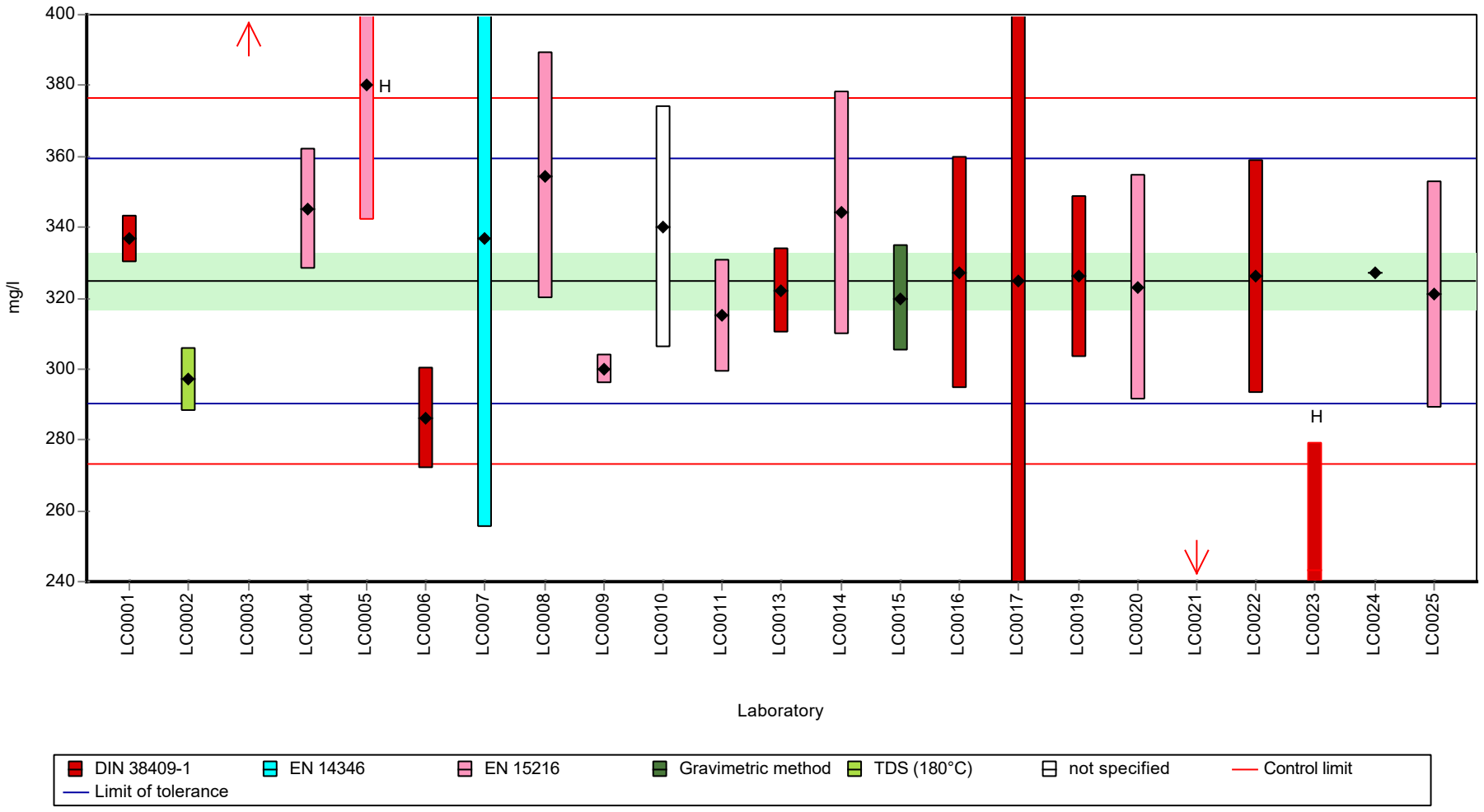
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	336.7	6.7	104	0.69	
LC0002	297	8.91	91.4	-1.62	
LC0003	423	12.5	130	5.7	H
LC0004	345	17	106	1.17	
LC0005	380	38	117	3.2	H
LC0006	286	14.3	88	-2.26	
LC0007	337	81.8	104	0.71	
LC0008	354.5	34.9	109	1.72	
LC0009	300	4	92.3	-1.44	
LC0010	340	34	105	0.88	
LC0011	315	16	97	-0.57	
LC0012	-	-	-	-	
LC0013	322	12	99.1	-0.17	
LC0014	344	34.4	106	1.11	
LC0015	320	15	98.5	-0.28	
LC0016	327	32.7	101	0.13	
LC0017	325	97.5	100	0.01	
LC0018	-	-	-	-	
LC0019	326	22.6	100	0.07	
LC0020	323	32	99.4	-0.11	
LC0021	215	1	66.2	-6.38	H
LC0022	326	33	100	0.07	
LC0023	243	36	74.8	-4.75	H
LC0024	327	0.327	101	0.13	
LC0025	321	32	98.8	-0.22	

Characteristics of parameter

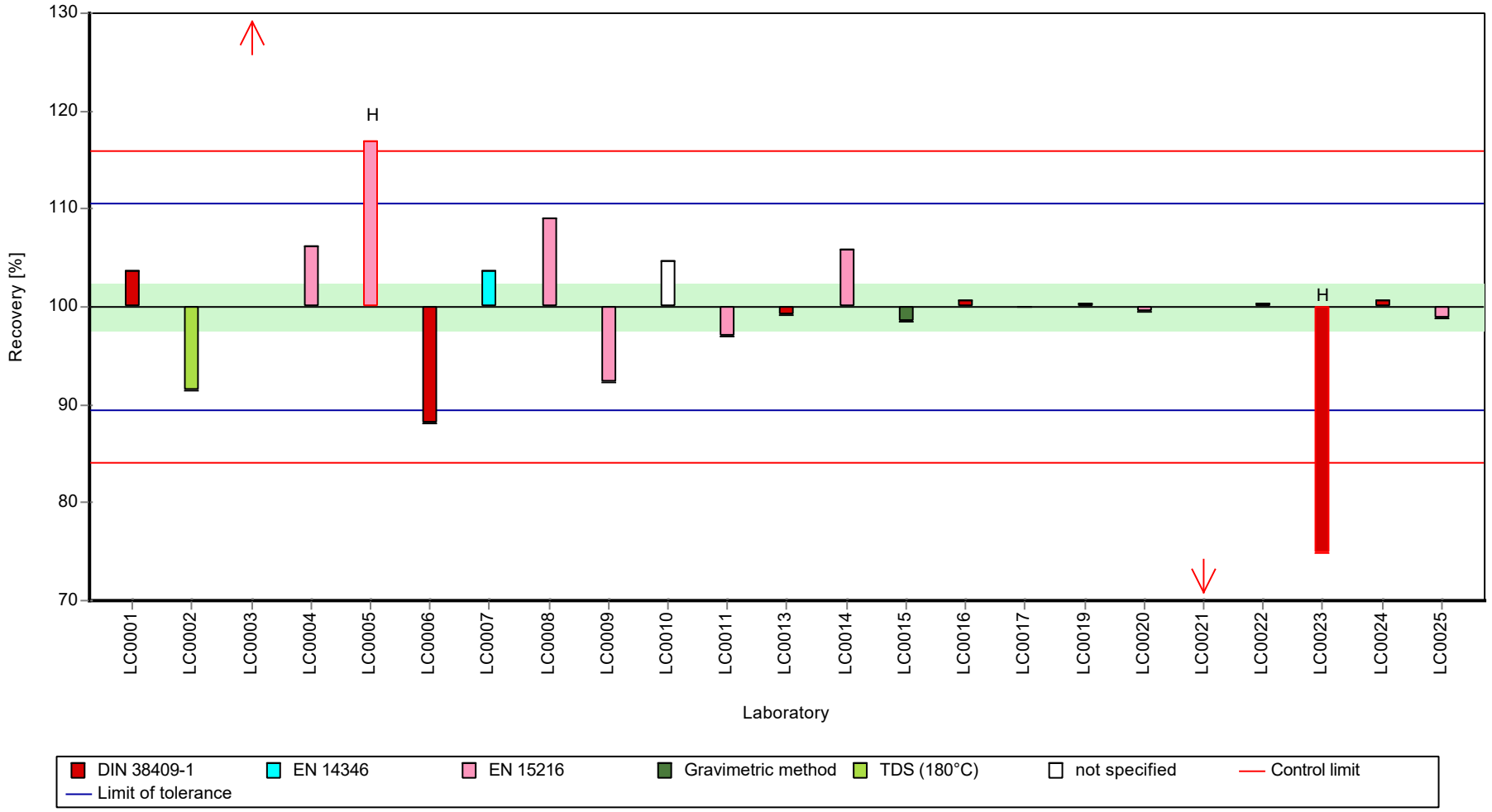
	all results	without outliers	Unit
Mean ± CI (99%)	323 ± 25.5	325 ± 11.7	mg/l
Minimum	215	286	mg/l
Maximum	423	355	mg/l
Standard deviation	40.8	17	mg/l
rel. standard deviation	12.6	5.25	%
n	23	19	-

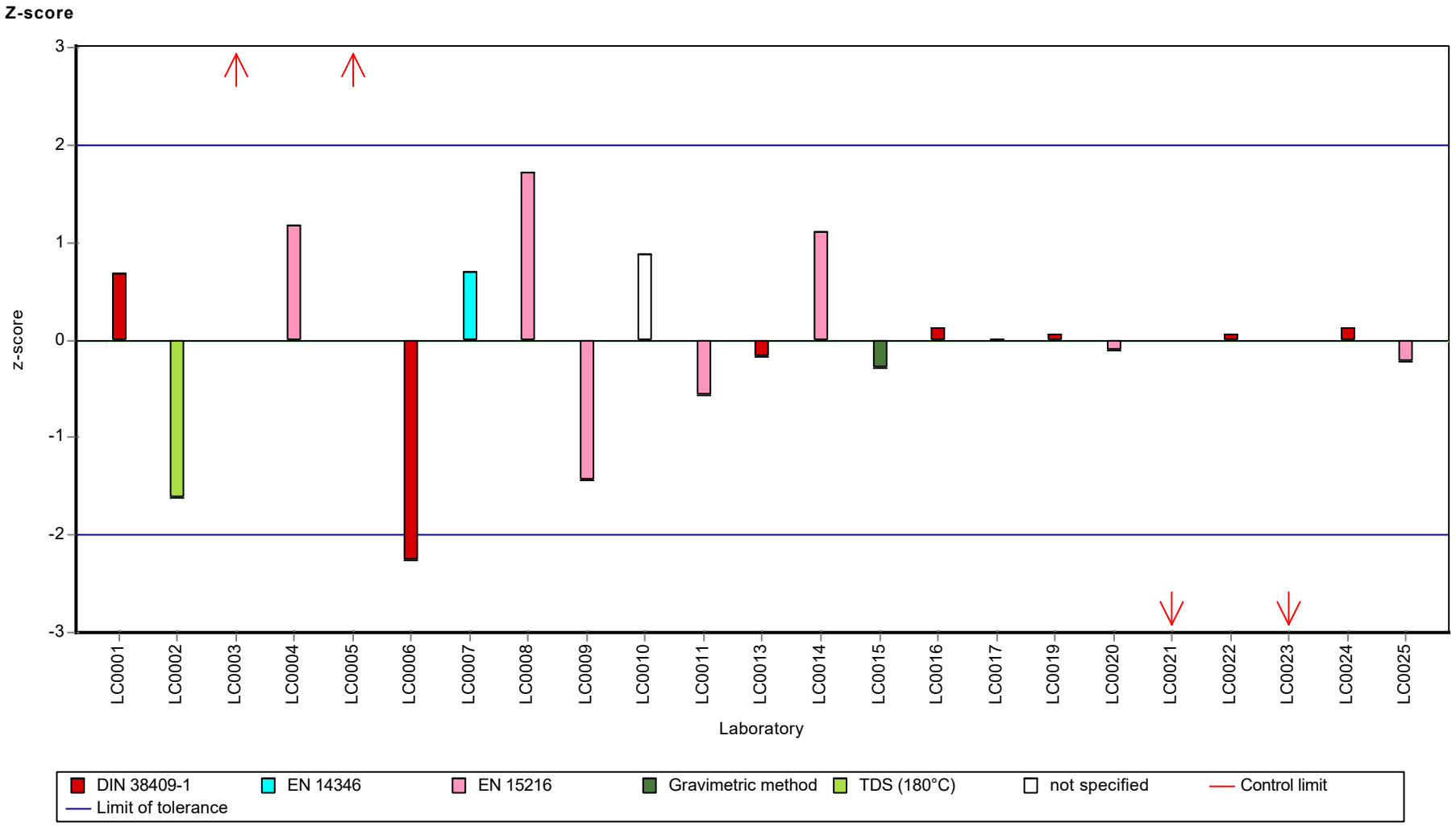
Graphical presentation of results

Results



Recovery rate




Z-score
z-score
3
2
1
0
-1
-2
-3
LC0001
LC0002
LC0003
LC0004
LC0005
LC0006
LC0007
LC0008
LC0009
LC0010
LC0011
LC0013
LC0014
LC0015
LC0016
LC0017
LC0019
LC0020
LC0021
LC0022
LC0023
LC0024
LC0025
Laboratory
DIN 38409-1
EN 14346
EN 15216
Gravimetric method
TDS (180°C)
not specified
Control limit
Limit of tolerance

Parameter oriented report

AB09

Chloride

Unit	mg/l
Assigned value ± U (k=2)	27.8 ± 0.343
Criterion	1.39 (5 %)
Minimum - Maximum	25.9 - 29.3
Control test value ± U (k=2)	28 ± 2.8

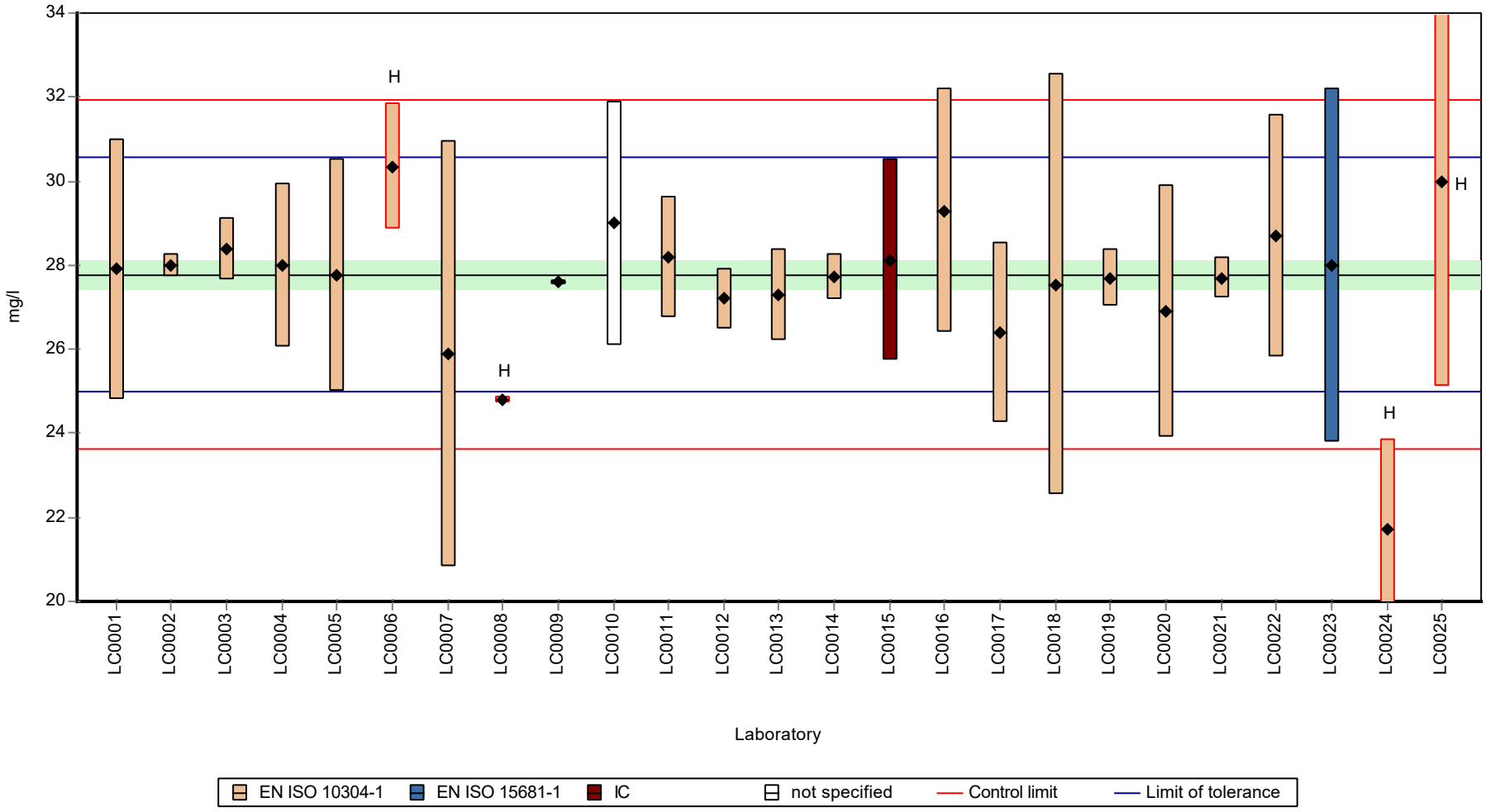
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	27.9	3.1	100	0.09	
LC0002	28	0.28	101	0.16	
LC0003	28.4	0.74	102	0.45	
LC0004	28	1.96	101	0.16	
LC0005	27.765	2.78	100	-0.01	
LC0006	30.35	1.5	109	1.85	H
LC0007	25.9	5.07	93.2	-1.35	
LC0008	24.8	0.07	89.3	-2.14	H
LC0009	27.6	0.058	99.4	-0.13	
LC0010	29	2.9	104	0.88	
LC0011	28.2	1.44	102	0.3	
LC0012	27.2	0.73	97.9	-0.42	
LC0013	27.3	1.1	98.3	-0.34	
LC0014	27.731	0.555	99.8	-0.03	
LC0015	28.12	2.4	101	0.25	
LC0016	29.3	2.9	105	1.1	
LC0017	26.4	2.14	95	-0.99	
LC0018	27.54	5	99.1	-0.17	
LC0019	27.7	0.666	99.7	-0.06	
LC0020	26.9	3	96.8	-0.63	
LC0021	27.7	0.5	99.7	-0.06	
LC0022	28.7	2.9	103	0.66	
LC0023	28	4.2	101	0.16	
LC0024	21.7005	2.17005	78.1	-4.38	H
LC0025	30	4.9	108	1.6	H

Characteristics of parameter

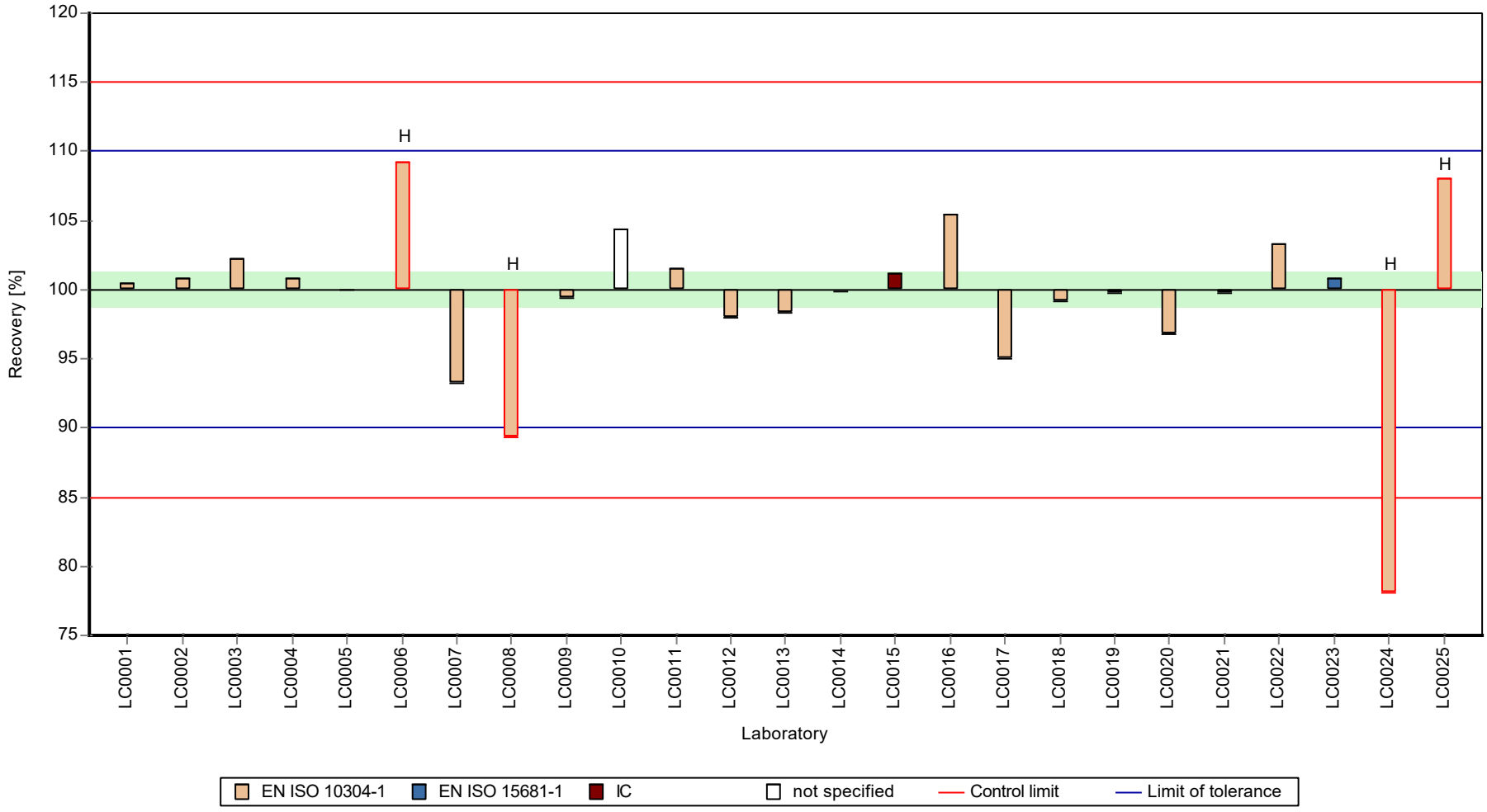
	all results	without outliers	Unit
Mean ± Cl (99%)	27.6 ± 1.02	27.8 ± 0.515	mg/l
Minimum	21.7	25.9	mg/l
Maximum	30.4	29.3	mg/l
Standard deviation	1.7	0.786	mg/l
rel. standard deviation	6.14	2.83	%
n	25	21	-

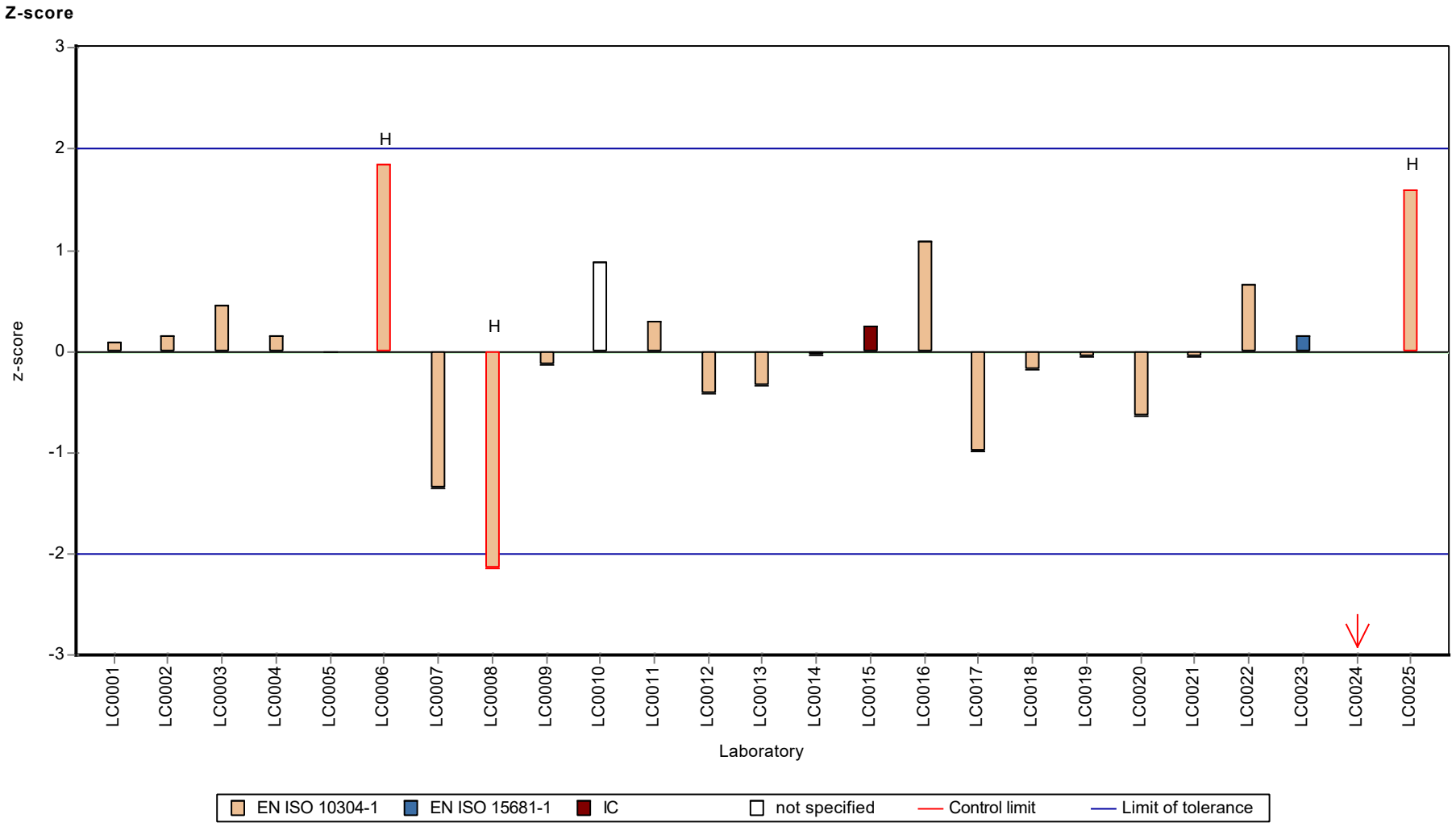
Graphical presentation of results

Results



Recovery rate




Z-score
3
2
1
0
-1
-2
-3
z-score
H
H
H
LC0001
LC0002
LC0003
LC0004
LC0005
LC0006
LC0007
LC0008
LC0009
LC0010
LC0011
LC0012
LC0013
LC0014
LC0015
LC0016
LC0017
LC0018
LC0019
LC0020
LC0021
LC0022
LC0023
LC0024
LC0025
Laboratory
EN ISO 10304-1
EN ISO 15681-1
IC
not specified
Control limit
Limit of tolerance

Parameter oriented report

AB09

El. conductivity (25°C)

Unit	mS/m
Assigned value ± U (k=2)	53.3 ± 0.324
Criterion	0.8 (1.5 %)
Minimum - Maximum	51.7 - 54.7
Control test value ± U (k=2)	52.6 ± 1.58

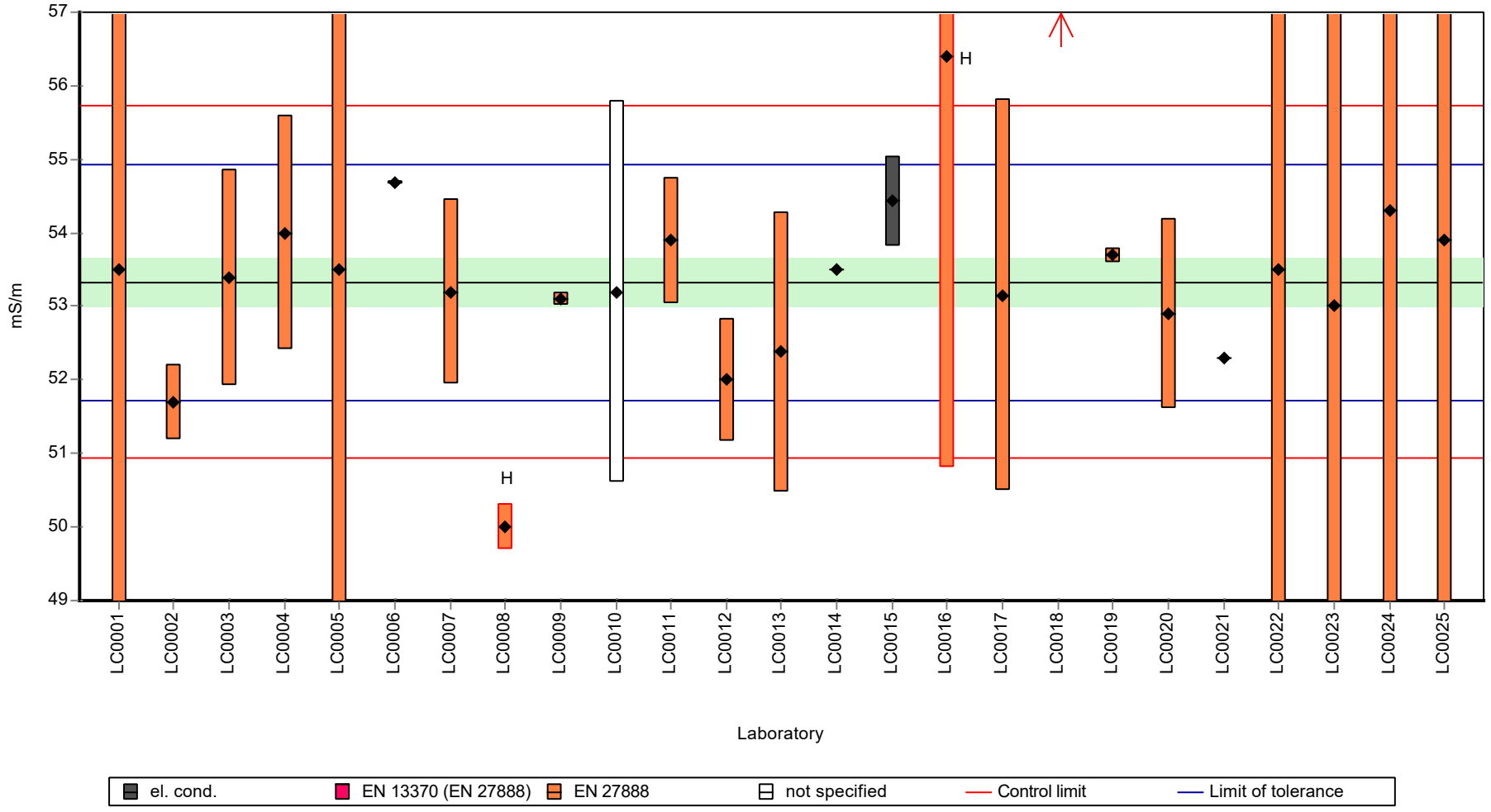
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	53.5	5.4	100	0.21	
LC0002	51.7	0.518	96.9	-2.04	
LC0003	53.4	1.47	100	0.09	
LC0004	54	1.6	101	0.84	
LC0005	53.5	5.35	100	0.21	
LC0006	54.68	0.027	103	1.69	
LC0007	53.2	1.26	99.8	-0.16	
LC0008	50	0.32	93.8	-4.16	H
LC0009	53.1	0.1	99.6	-0.29	
LC0010	53.2	2.6	99.8	-0.16	
LC0011	53.9	0.86	101	0.71	
LC0012	52	0.83	97.5	-1.66	
LC0013	52.38	1.9	98.2	-1.19	
LC0014	53.5	0.00214	100	0.21	
LC0015	54.43	0.62	102	1.38	
LC0016	56.4	5.6	106	3.84	H
LC0017	53.15	2.66	99.7	-0.22	
LC0018	61.2	20	115	9.84	H
LC0019	53.7	0.1	101	0.46	
LC0020	52.9	1.3	99.2	-0.54	
LC0021	52.3	0.01	98.1	-1.29	
LC0022	53.5	5.4	100	0.21	
LC0023	53	8	99.4	-0.41	
LC0024	54.3	5.43	102	1.21	
LC0025	53.9	5.39	101	0.71	

Characteristics of parameter

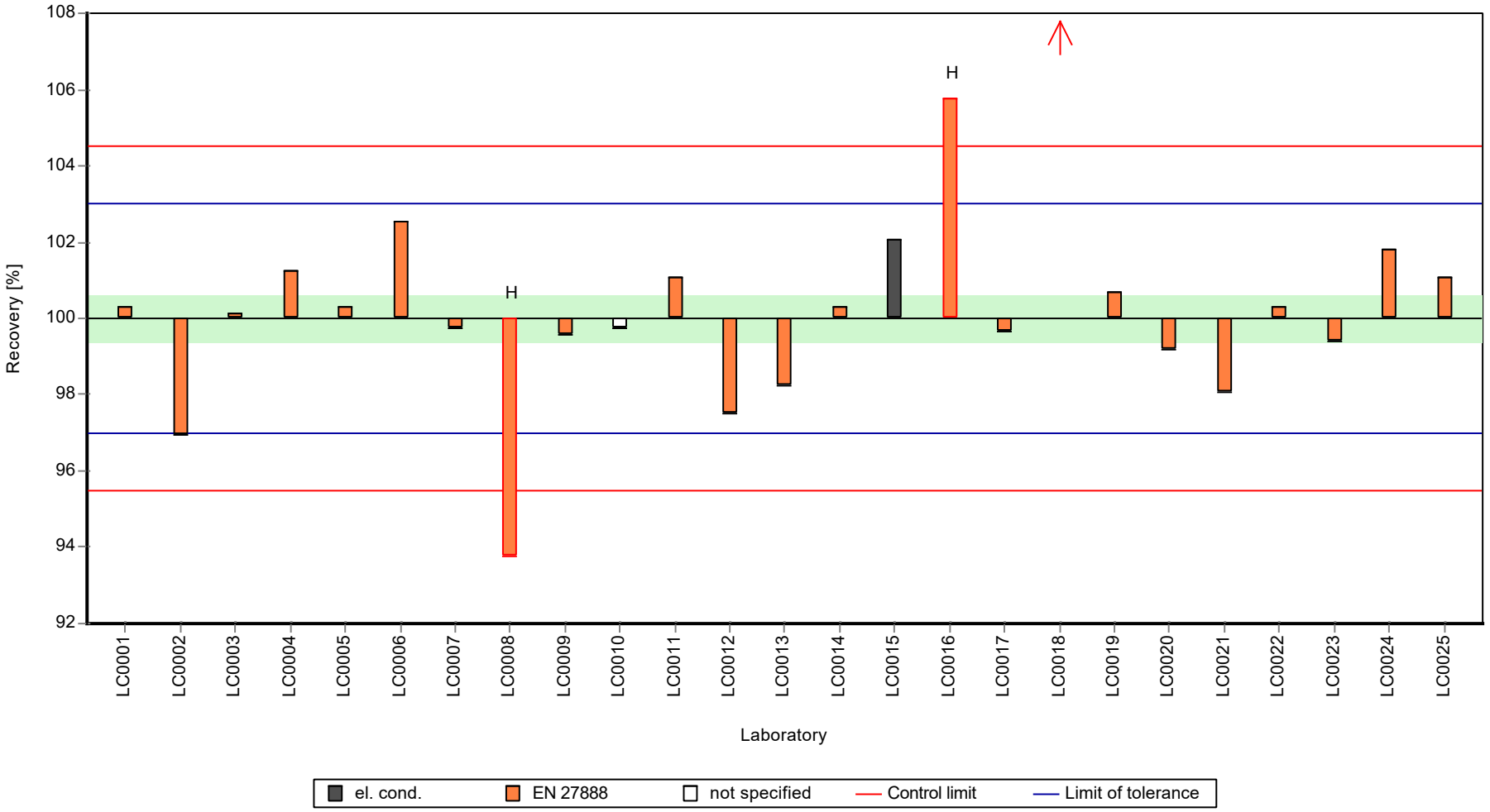
	all results	without outliers	Unit
Mean ± CI (99%)	53.6 ± 1.18	53.3 ± 0.486	mS/m
Minimum	50	51.7	mS/m
Maximum	61.2	54.7	mS/m
Standard deviation	1.96	0.76	mS/m
rel. standard deviation	3.66	1.43	%
n	25	22	-

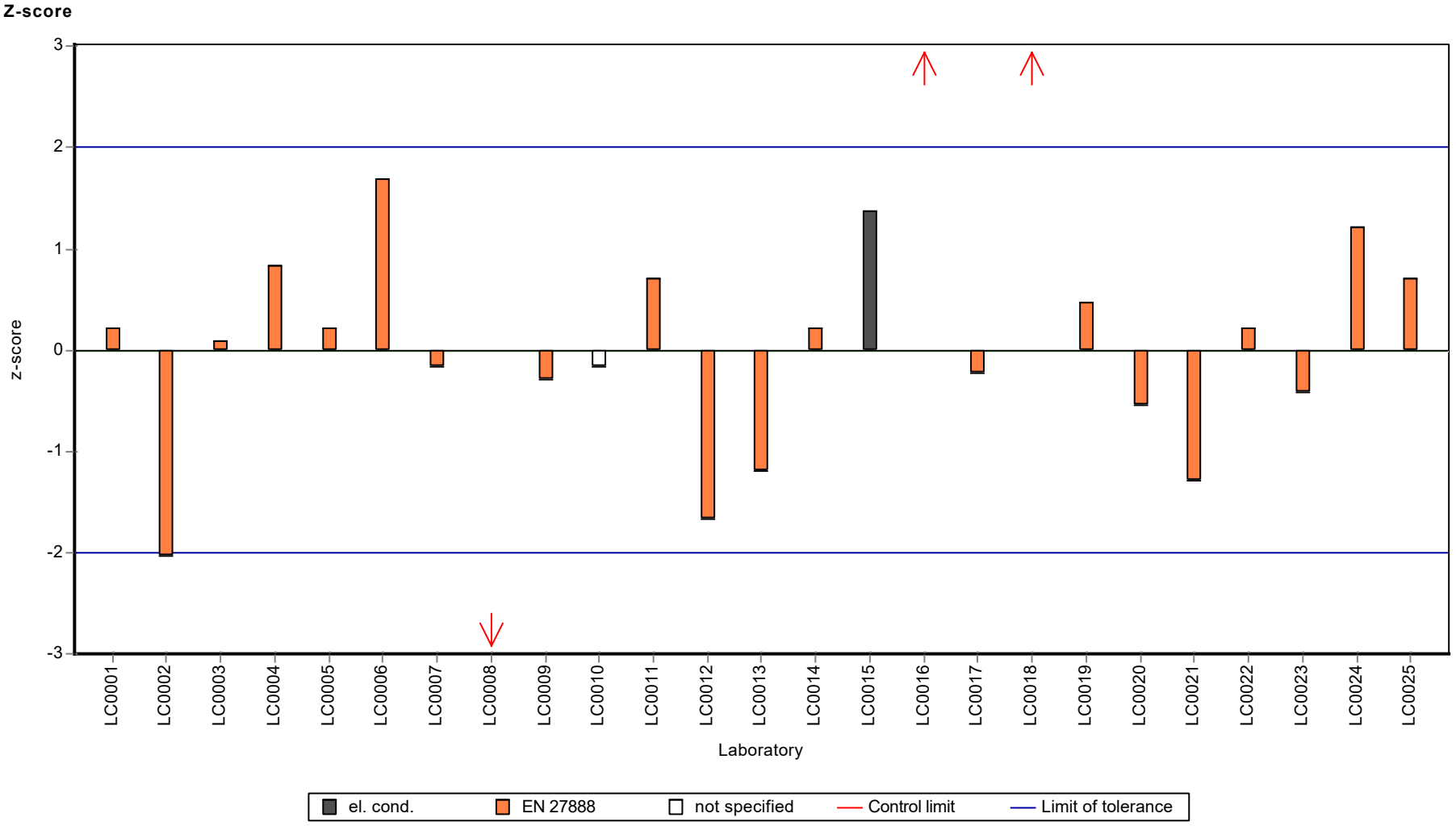
Graphical presentation of results

Results



Recovery rate




Z-score
z-score
3
2
1
0
-1
-2
-3
LC0001
LC0002
LC0003
LC0004
LC0005
LC0006
LC0007
LC0008
LC0009
LC0010
LC0011
LC0012
LC0013
LC0014
LC0015
LC0016
LC0017
LC0018
LC0019
LC0020
LC0021
LC0022
LC0023
LC0024
LC0025
Laboratory
el. cond.
EN 27888
not specified
Control limit
Limit of tolerance

Parameter oriented report

AB09

Fluorid

Unit	mg/l
Assigned value ± U (k=2)	0.523 ± 0.0258
Criterion	0.0627 (12 %)
Minimum - Maximum	0.397 - 0.66
Control test value ± U (k=2)	0.614 ± 0.0921

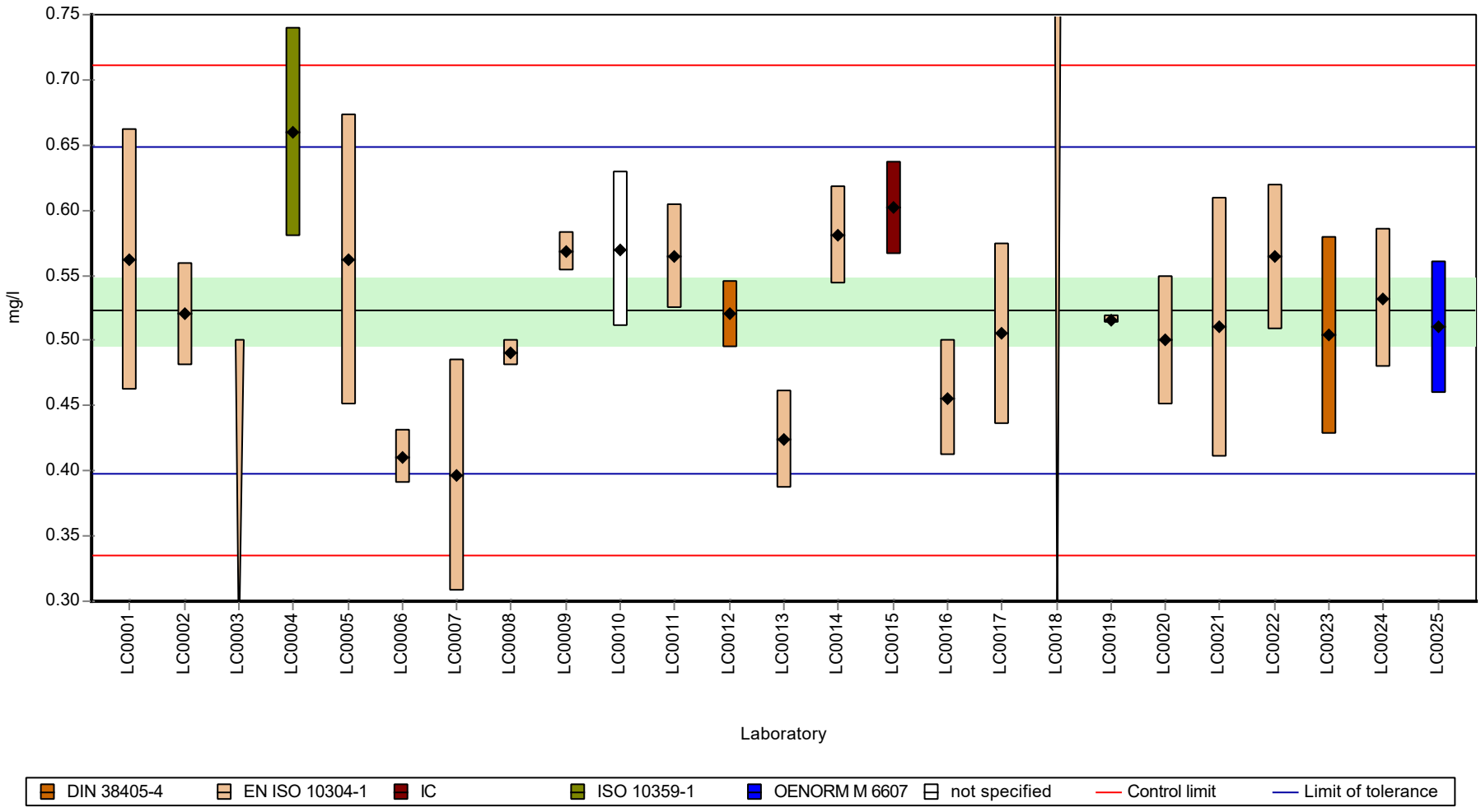
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	0.562	0.1	107	0.62	
LC0002	0.52	0.04	99.4	-0.05	
LC0003	< 0.5 (LOQ)	-	-	-	
LC0004	0.66	0.08	126	2.18	
LC0005	0.562	0.112	107	0.62	
LC0006	0.4108	0.021	78.6	-1.79	
LC0007	0.397	0.089	75.9	-2.01	
LC0008	0.49	0.01	93.7	-0.53	
LC0009	0.568	0.015	109	0.72	
LC0010	0.57	0.06	109	0.75	
LC0011	0.564	0.04	108	0.66	
LC0012	0.52	0.026	99.4	-0.05	
LC0013	0.424	0.038	81.1	-1.58	
LC0014	0.581	0.0378	111	0.93	
LC0015	0.6016	0.036	115	1.25	
LC0016	0.456	0.045	87.2	-1.07	
LC0017	0.505	0.07	96.6	-0.29	
LC0018	< 1 (LOQ)	-	-	-	
LC0019	0.516	0.003	98.7	-0.11	
LC0020	0.5	0.05	95.6	-0.36	
LC0021	0.51	0.1	97.5	-0.21	
LC0022	0.564	0.056	108	0.66	
LC0023	0.504	0.076	96.4	-0.3	
LC0024	0.532	0.0532	102	0.14	
LC0025	0.51	0.051	97.5	-0.21	

Characteristics of parameter

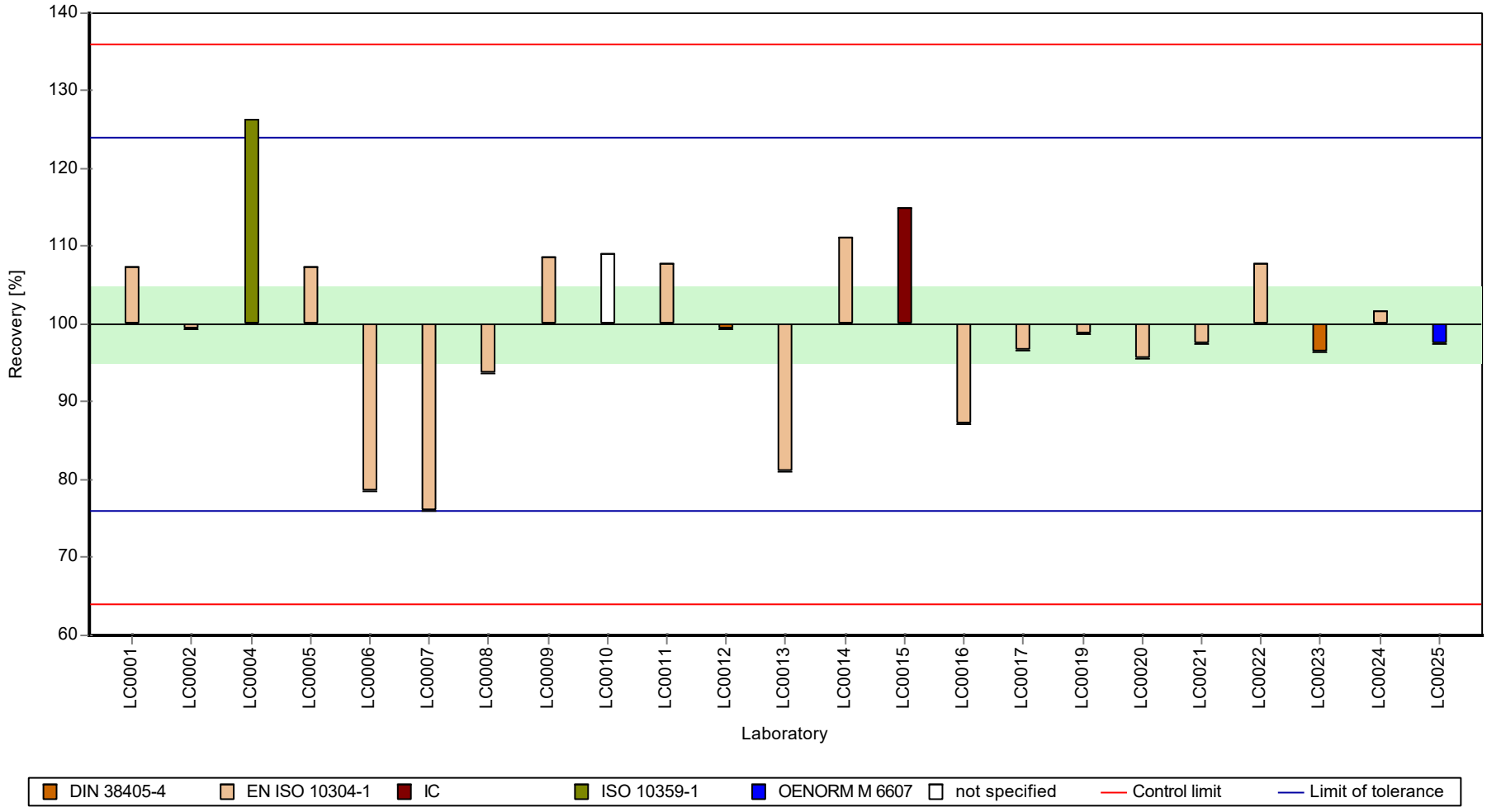
	all results	without outliers	Unit
Mean ± CI (99%)	0.523 ± 0.0388	0.523 ± 0.0388	mg/l
Minimum	0.397	0.397	mg/l
Maximum	0.66	0.66	mg/l
Standard deviation	0.062	0.062	mg/l
rel. standard deviation	11.9	11.9	%
n	23	23	-

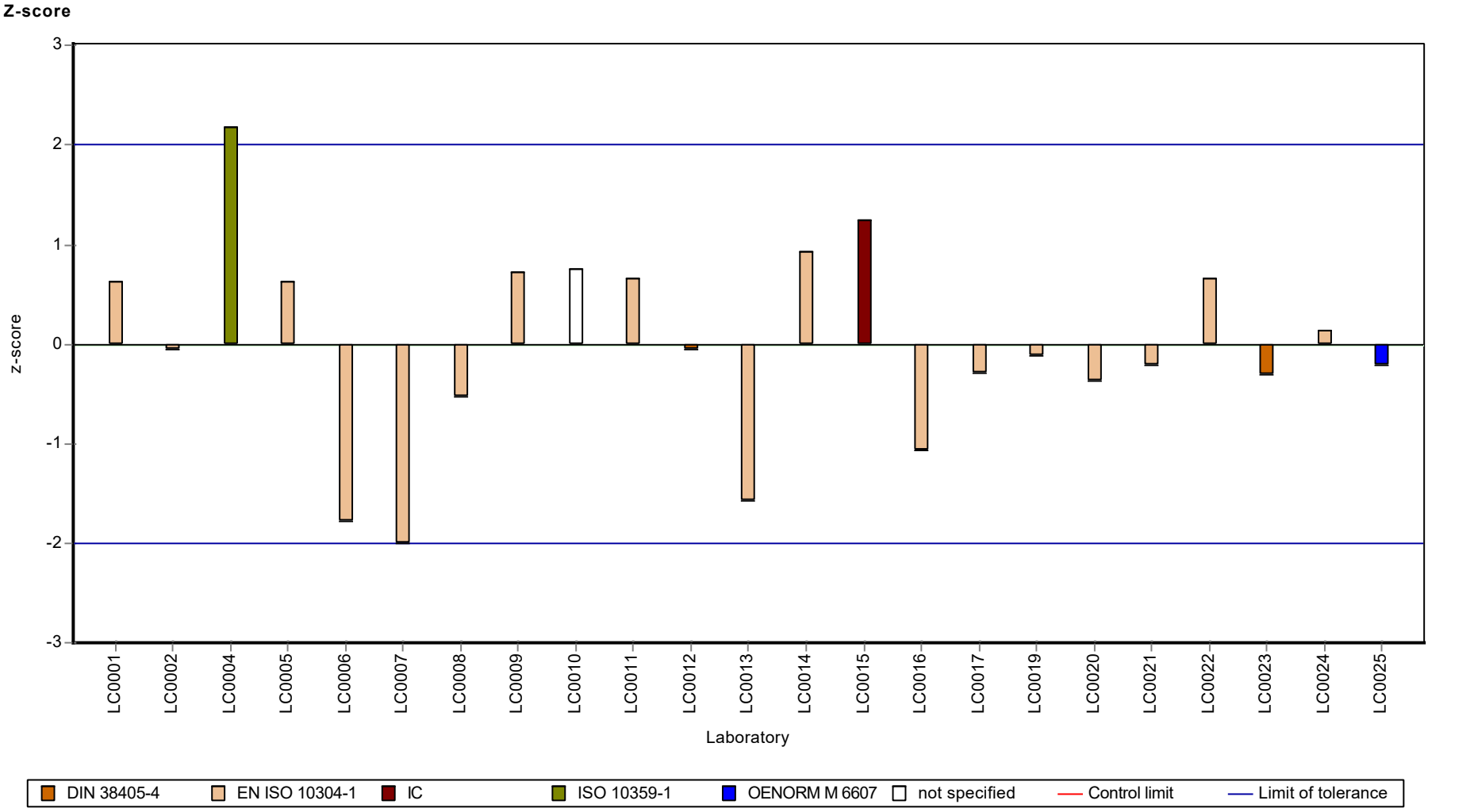
Graphical presentation of results

Results



Recovery rate




Z-score
3
2
1
0
-1
-2
-3
z-score
LC0001
LC0002
LC0004
LC0005
LC0006
LC0007
LC0008
LC0009
LC0010
LC0011
LC0012
LC0013
LC0014
LC0015
LC0016
LC0017
LC0019
LC0020
LC0021
LC0022
LC0023
LC0024
LC0025
Laboratory
DIN 38405-4
EN ISO 10304-1
IC
ISO 10359-1
OENORM M 6607
not specified
Control limit
Limit of tolerance

Parameter oriented report

AB09

NH4 (as N)

Unit	mg/l
Assigned value ± U (k=2)	1.26 ± 0.0378
Criterion	0.091 (7.2 %)
Minimum - Maximum	1.01 - 1.47
Control test value ± U (k=2)	1.3 ± 0.13

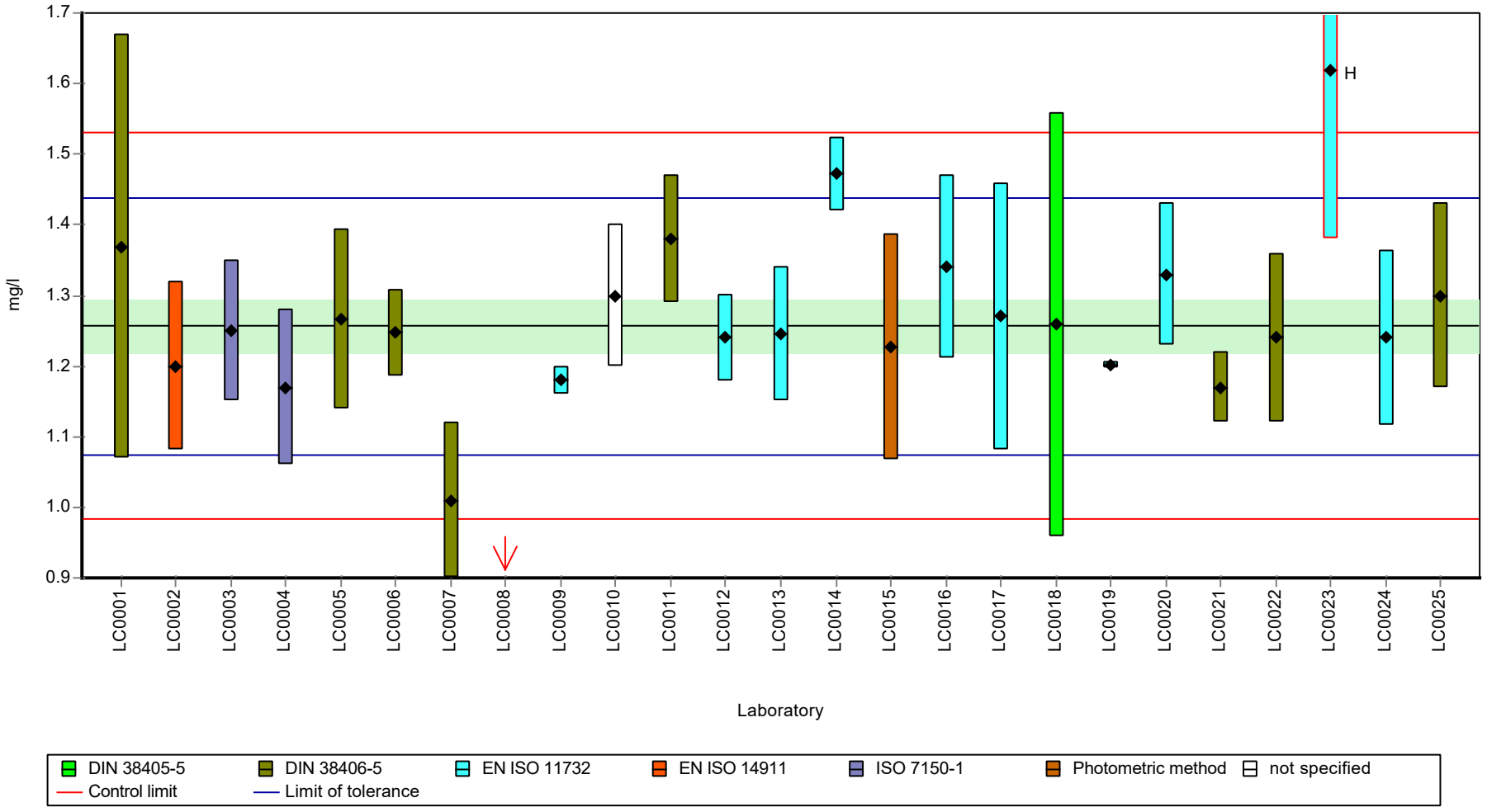
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	1.369	0.3	109	1.23	
LC0002	1.2	0.12	95.5	-0.62	
LC0003	1.25	0.1	99.5	-0.07	
LC0004	1.17	0.11	93.1	-0.95	
LC0005	1.267	0.127	101	0.11	
LC0006	1.247	0.062	99.2	-0.11	
LC0007	1.01	0.11	80.4	-2.71	
LC0008	0.14	0.004	11.1	-12.3	H
LC0009	1.18	0.02	93.9	-0.84	
LC0010	1.3	0.1	103	0.47	
LC0011	1.38	0.09	110	1.35	
LC0012	1.24	0.062	98.7	-0.18	
LC0013	1.245	0.095	99.1	-0.13	
LC0014	1.472	0.0515	117	2.36	
LC0015	1.226	0.16	97.5	-0.34	
LC0016	1.34	0.13	107	0.91	
LC0017	1.27	0.19	101	0.14	
LC0018	1.259	0.3	100	0.02	
LC0019	1.201	0.005	95.6	-0.61	
LC0020	1.33	0.1	106	0.8	
LC0021	1.17	0.05	93.1	-0.95	
LC0022	1.24	0.12	98.7	-0.18	
LC0023	1.62	0.24	129	3.99	H
LC0024	1.2405	0.12405	98.7	-0.18	
LC0025	1.3	0.13	103	0.47	

Characteristics of parameter

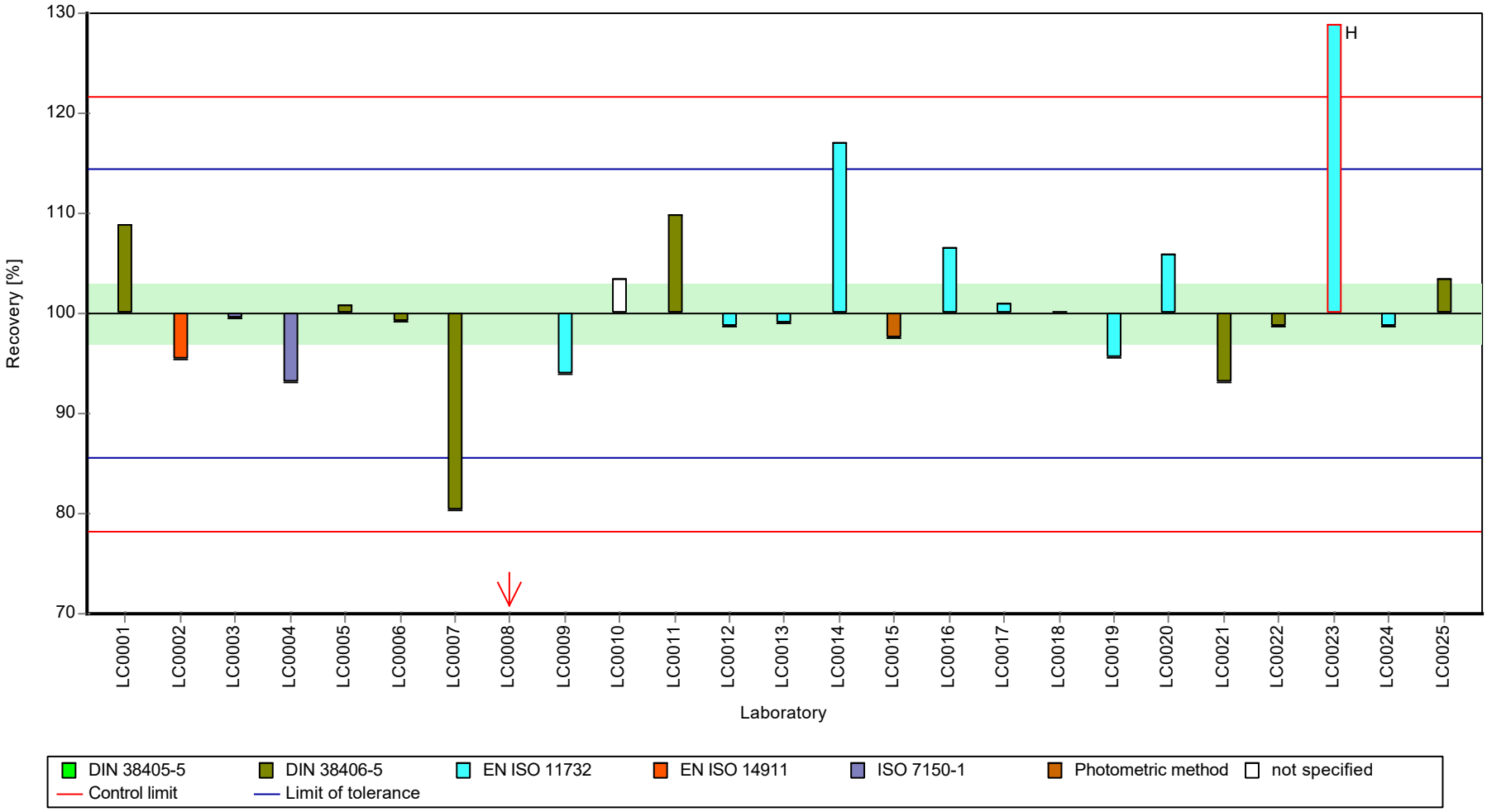
	all results	without outliers	Unit
Mean ± CI (99%)	1.23 ± 0.152	1.26 ± 0.0567	mg/l
Minimum	0.14	1.01	mg/l
Maximum	1.62	1.47	mg/l
Standard deviation	0.253	0.0906	mg/l
rel. standard deviation	20.6	7.21	%
n	25	23	-

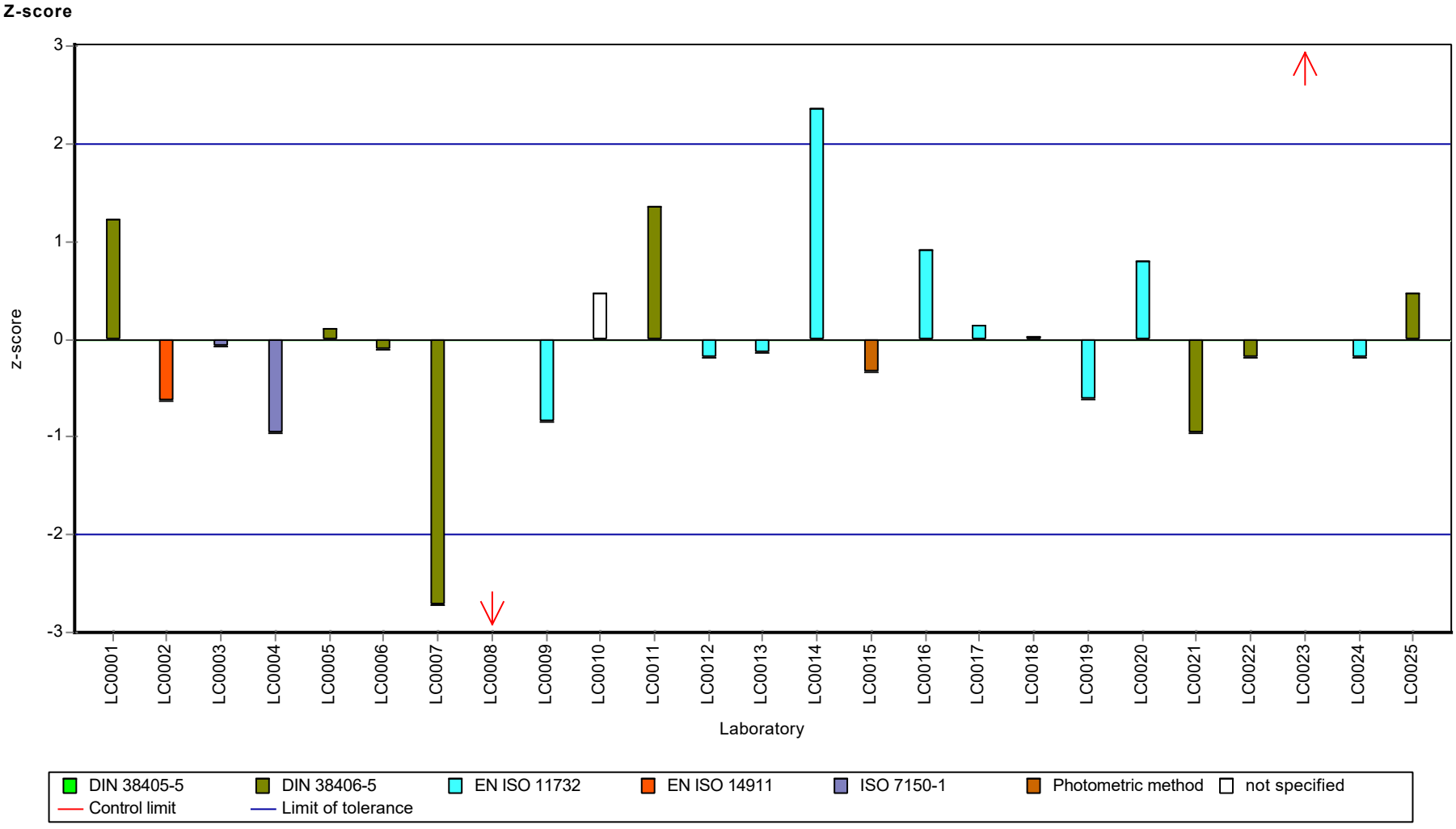
Graphical presentation of results

Results



Recovery rate




Z-score
z-score
3
2
1
0
-1
-2
-3
LC0001
LC0002
LC0003
LC0004
LC0005
LC0006
LC0007
LC0008
LC0009
LC0010
LC0011
LC0012
LC0013
LC0014
LC0015
LC0016
LC0017
LC0018
LC0019
LC0020
LC0021
LC0022
LC0023
LC0024
LC0025
Laboratory
DIN 38405-5
DIN 38406-5
EN ISO 11732
EN ISO 14911
ISO 7150-1
Photometric method
not specified
Control limit
Limit of tolerance

Parameter oriented report

AB09

NO2 (as N)

Unit	mg/l
Assigned value ± U (k=2)	0.202 ± 0.00318
Criterion	0.0101 (5 %)
Minimum - Maximum	0.185 - 0.225
Control test value ± U (k=2)	0.23 ± 0.023

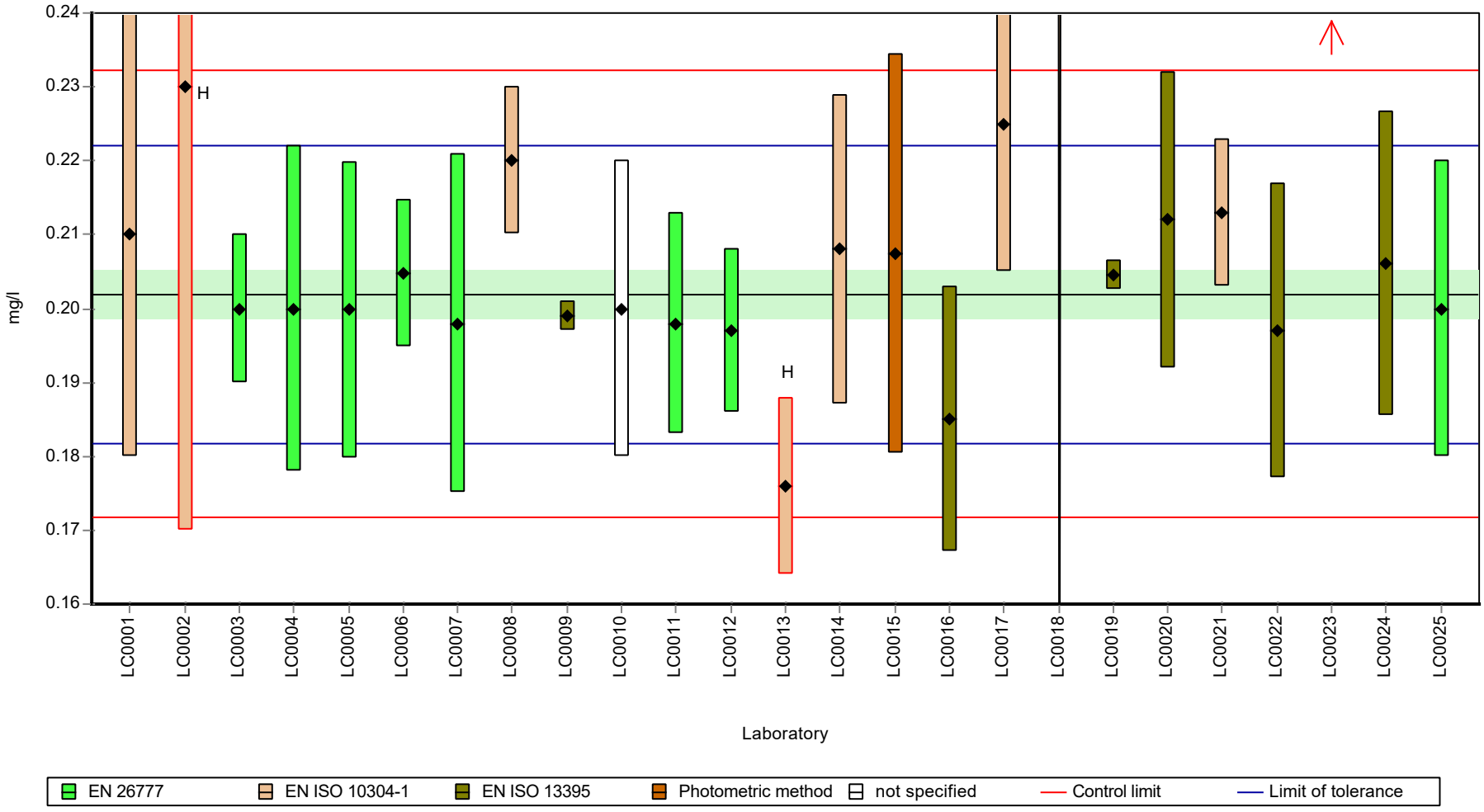
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	0.21	0.03	104	0.8	
LC0002	0.23	0.06	114	2.78	H
LC0003	0.2	0.01	99	-0.19	
LC0004	0.2	0.022	99	-0.19	
LC0005	0.1998	0.02	98.9	-0.21	
LC0006	0.2047	0.01	101	0.27	
LC0007	0.198	0.023	98.1	-0.39	
LC0008	0.22	0.01	109	1.79	
LC0009	0.199	0.0021	98.5	-0.29	
LC0010	0.2	0.02	99	-0.19	
LC0011	0.198	0.015	98.1	-0.39	
LC0012	0.197	0.011	97.6	-0.49	
LC0013	0.176	0.012	87.2	-2.57	H
LC0014	0.208	0.021	103	0.6	
LC0015	0.2074	0.027	103	0.54	
LC0016	0.185	0.018	91.6	-1.68	
LC0017	0.225	0.02	111	2.28	
LC0018	< 0.7 (LOQ)	-	-	-	
LC0019	0.2045	0.002	101	0.25	
LC0020	0.212	0.02	105	1	
LC0021	0.213	0.01	105	1.1	
LC0022	0.197	0.02	97.6	-0.49	
LC0023	0.68	0.1	337	47.3	H
LC0024	0.2061	0.02061	102	0.41	
LC0025	0.2	0.02	99	-0.19	

Characteristics of parameter

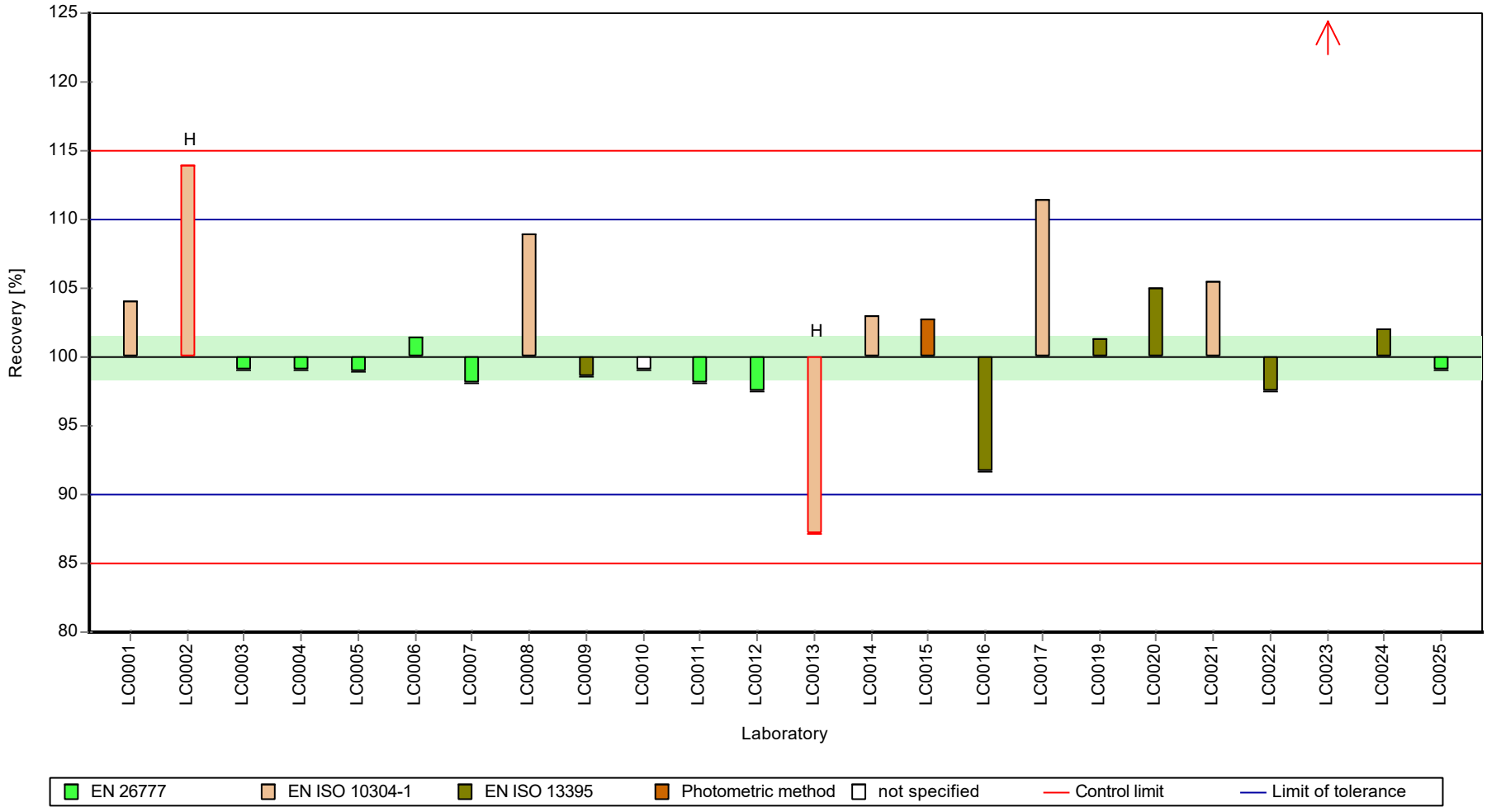
	all results	without outliers	Unit
Mean ± CI (99%)	0.224 ± 0.0599	0.204 ± 0.00576	mg/l
Minimum	0.176	0.185	mg/l
Maximum	0.68	0.225	mg/l
Standard deviation	0.0978	0.0088	mg/l
rel. standard deviation	43.7	4.31	%
n	24	21	-

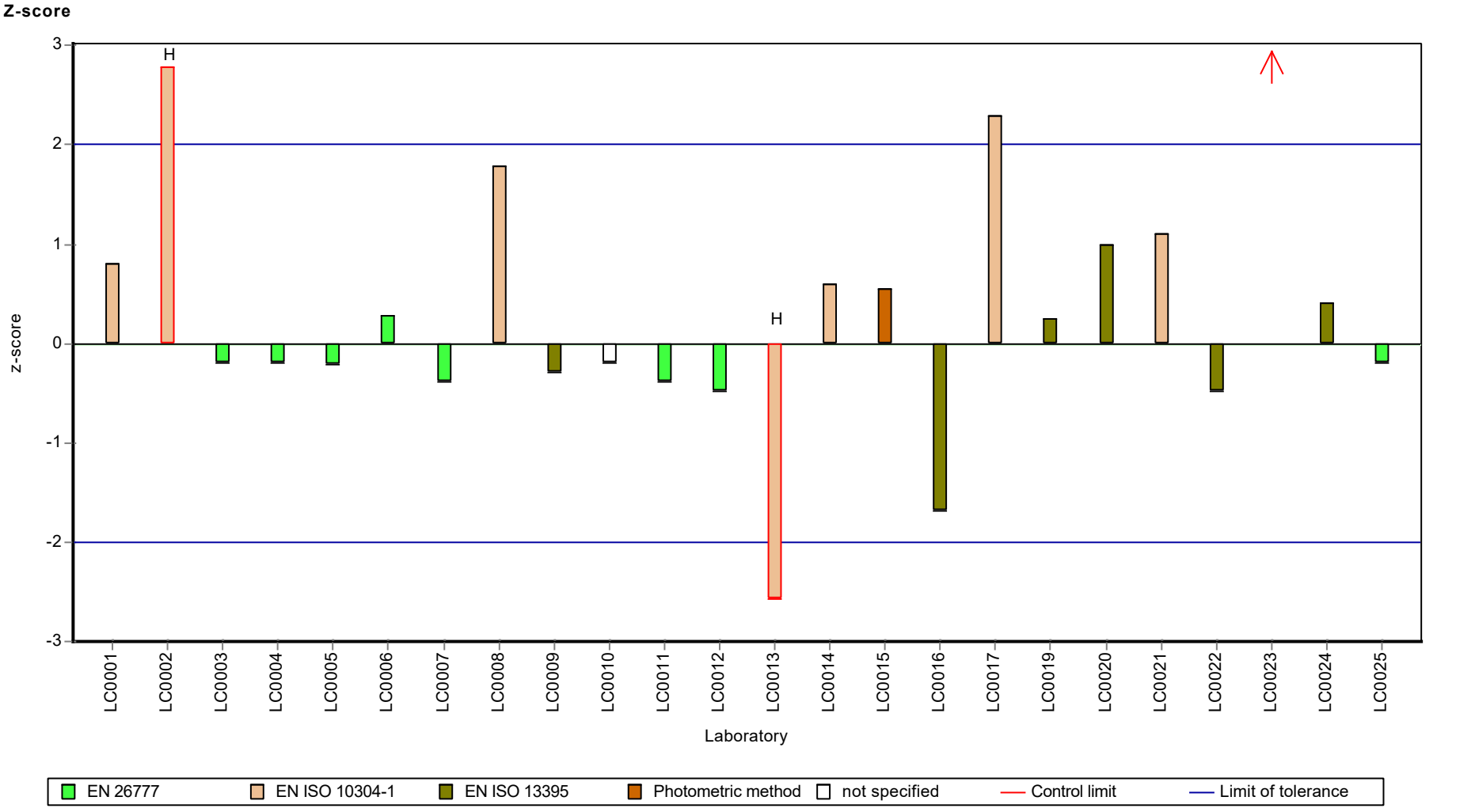
Graphical presentation of results

Results



Recovery rate




Z-score
z-score
3
2
1
0
-1
-2
-3
H
H
LC0001
LC0002
LC0003
LC0004
LC0005
LC0006
LC0007
LC0008
LC0009
LC0010
LC0011
LC0012
LC0013
LC0014
LC0015
LC0016
LC0017
LC0019
LC0020
LC0021
LC0022
LC0023
LC0024
LC0025
Laboratory
EN 26777
EN ISO 10304-1
EN ISO 13395
Photometric method
not specified
Control limit
Limit of tolerance

Parameter oriented report

AB09

NO3 (as N)

Unit	mg/l
Assigned value ± U (k=2)	3.31 ± 0.0693
Criterion	0.166 (5 %)
Minimum - Maximum	3.05 - 3.63
Control test value ± U (k=2)	3.46 ± 0.346

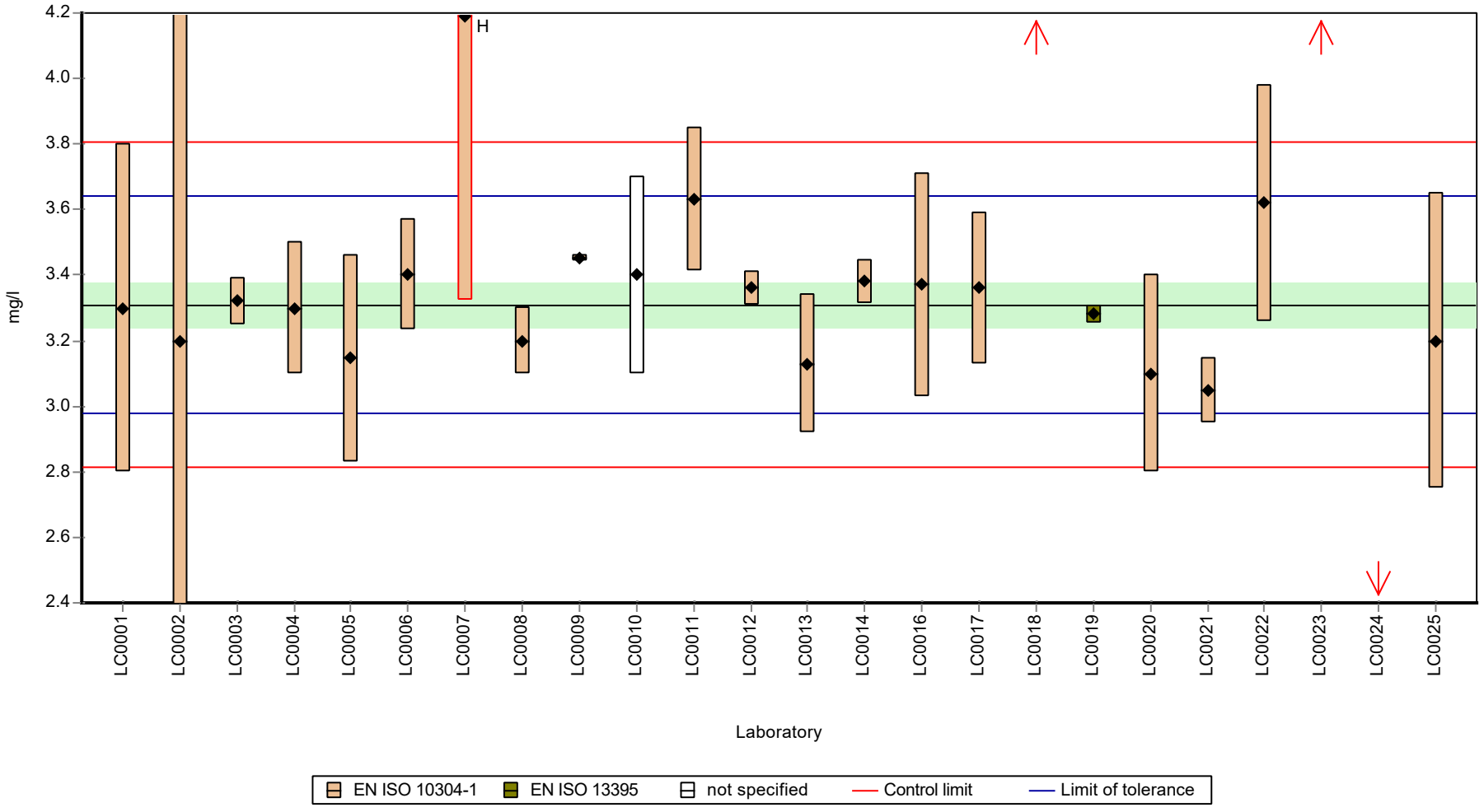
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	3.3	0.5	99.7	-0.06	
LC0002	3.2	2.7	96.7	-0.66	
LC0003	3.32	0.07	100	0.06	
LC0004	3.3	0.2	99.7	-0.06	
LC0005	3.1458	0.315	95	-0.99	
LC0006	3.402	0.17	103	0.56	
LC0007	4.19	0.87	127	5.32	H
LC0008	3.2	0.1	96.7	-0.66	
LC0009	3.45	0.01	104	0.85	
LC0010	3.4	0.3	103	0.54	
LC0011	3.63	0.22	110	1.93	
LC0012	3.36	0.051	102	0.3	
LC0013	3.13	0.21	94.6	-1.09	
LC0014	3.38	0.0676	102	0.42	
LC0015	-	-	-	-	
LC0016	3.37	0.34	102	0.36	
LC0017	3.36	0.23	102	0.3	
LC0018	12.68	2.5	383	56.6	H
LC0019	3.281	0.027	99.1	-0.17	
LC0020	3.1	0.3	93.7	-1.27	
LC0021	3.05	0.1	92.1	-1.57	
LC0022	3.62	0.36	109	1.87	
LC0023	15	2.3	453	70.6	H
LC0024	1.47	0.147	44.4	-11.1	H
LC0025	3.2	0.45	96.7	-0.66	

Characteristics of parameter

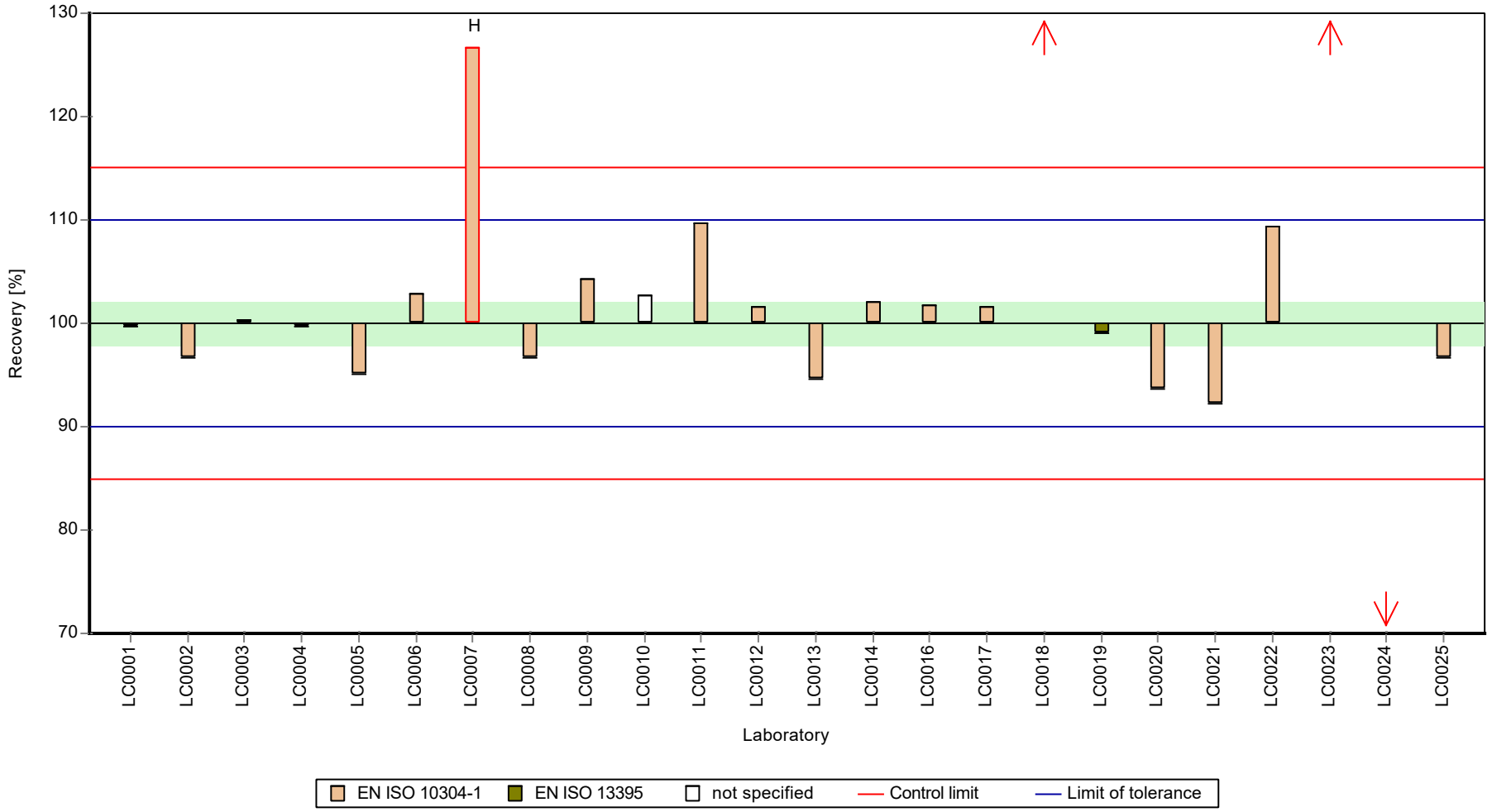
	all results	without outliers	Unit
Mean ± CI (99%)	4.15 ± 1.86	3.31 ± 0.104	mg/l
Minimum	1.47	3.05	mg/l
Maximum	15	3.63	mg/l
Standard deviation	3.04	0.155	mg/l
rel. standard deviation	73.2	4.68	%
n	24	20	-

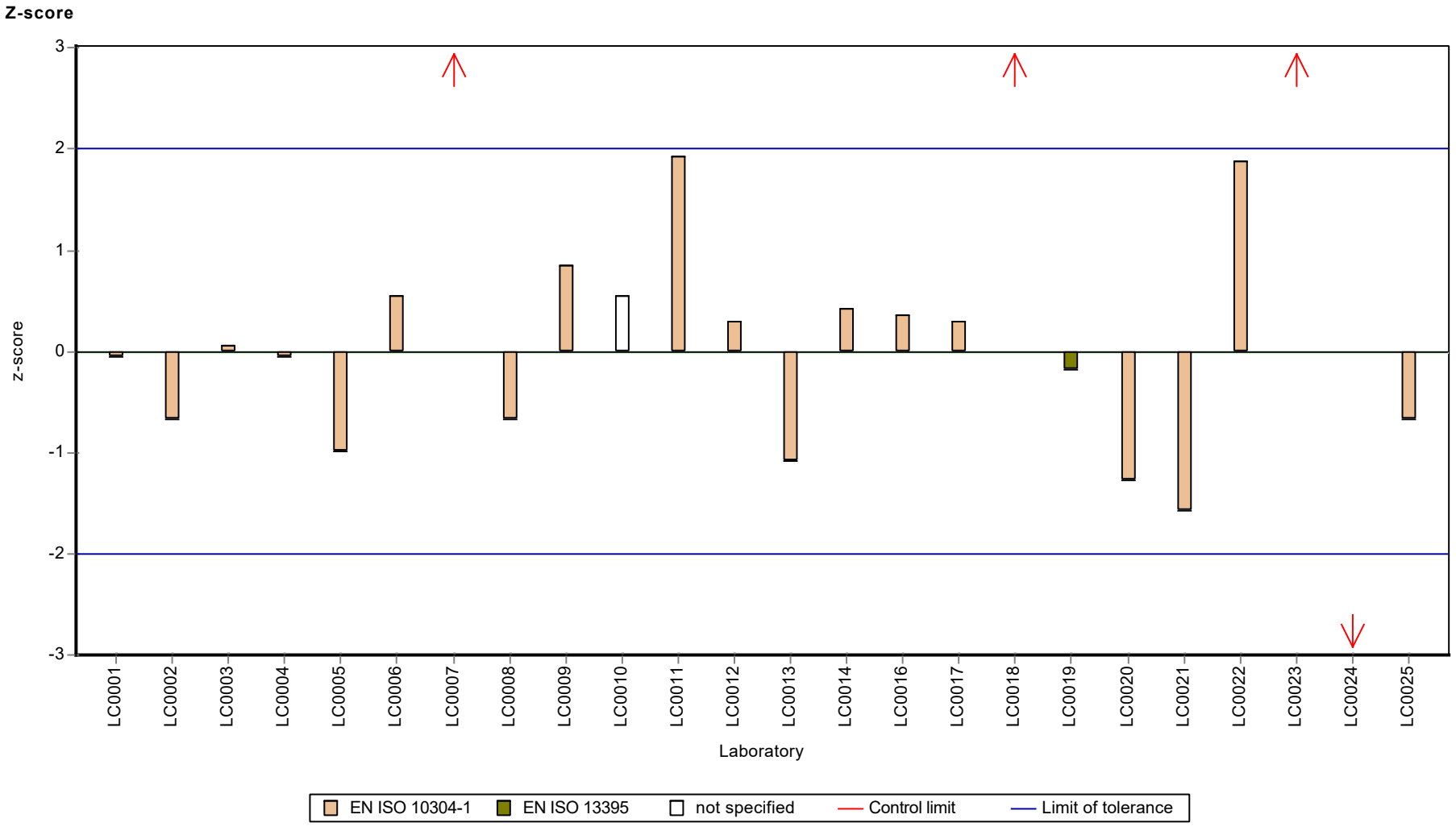
Graphical presentation of results

Results



Recovery rate




Z-score
z-score
3
2
1
0
-1
-2
-3
LC0001
LC0002
LC0003
LC0004
LC0005
LC0006
LC0007
LC0008
LC0009
LC0010
LC0011
LC0012
LC0013
LC0014
LC0016
LC0017
LC0018
LC0019
LC0020
LC0021
LC0022
LC0023
LC0024
LC0025
Laboratory
EN ISO 10304-1
EN ISO 13395
not specified
Control limit
Limit of tolerance

Parameter oriented report

AB09

pH-value

Unit

Assigned value ± U (k=2)	7.93 ± 0.0361
Criterion	0.159 (2 %)
Minimum - Maximum	7.8 - 8.12
Control test value ± U (k=2)	8 ± 0.016

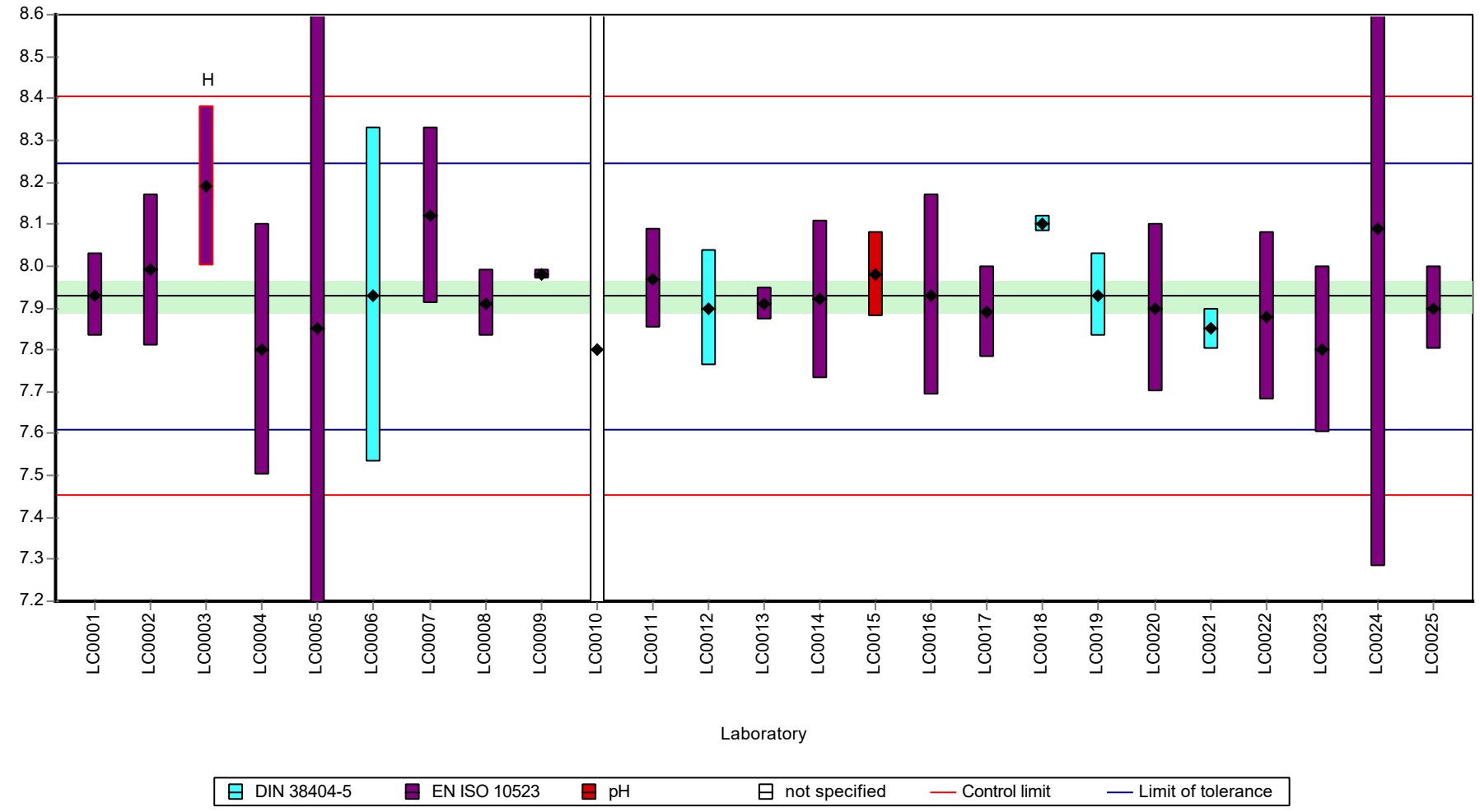
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	7.93	0.1	100	0.01	
LC0002	7.99	0.18	101	0.39	
LC0003	8.19	0.19	103	1.65	H
LC0004	7.8	0.3	98.4	-0.81	
LC0005	7.85	0.785	99	-0.49	
LC0006	7.931	0.4	100	0.02	
LC0007	8.12	0.21	102	1.21	
LC0008	7.91	0.08	99.8	-0.11	
LC0009	7.98	0.012	101	0.33	
LC0010	7.8	0.8	98.4	-0.81	
LC0011	7.97	0.12	101	0.27	
LC0012	7.9	0.14	99.6	-0.18	
LC0013	7.91	0.04	99.8	-0.11	
LC0014	7.92	0.19	99.9	-0.05	
LC0015	7.98	0.1	101	0.33	
LC0016	7.93	0.24	100	0.01	
LC0017	7.89	0.11	99.5	-0.24	
LC0018	8.1	0.02	102	1.08	
LC0019	7.93	0.1	100	0.01	
LC0020	7.9	0.2	99.6	-0.18	
LC0021	7.85	0.05	99	-0.49	
LC0022	7.88	0.2	99.4	-0.3	
LC0023	7.8	0.2	98.4	-0.81	
LC0024	8.09	0.809	102	1.02	
LC0025	7.9	0.1	99.6	-0.18	

Characteristics of parameter

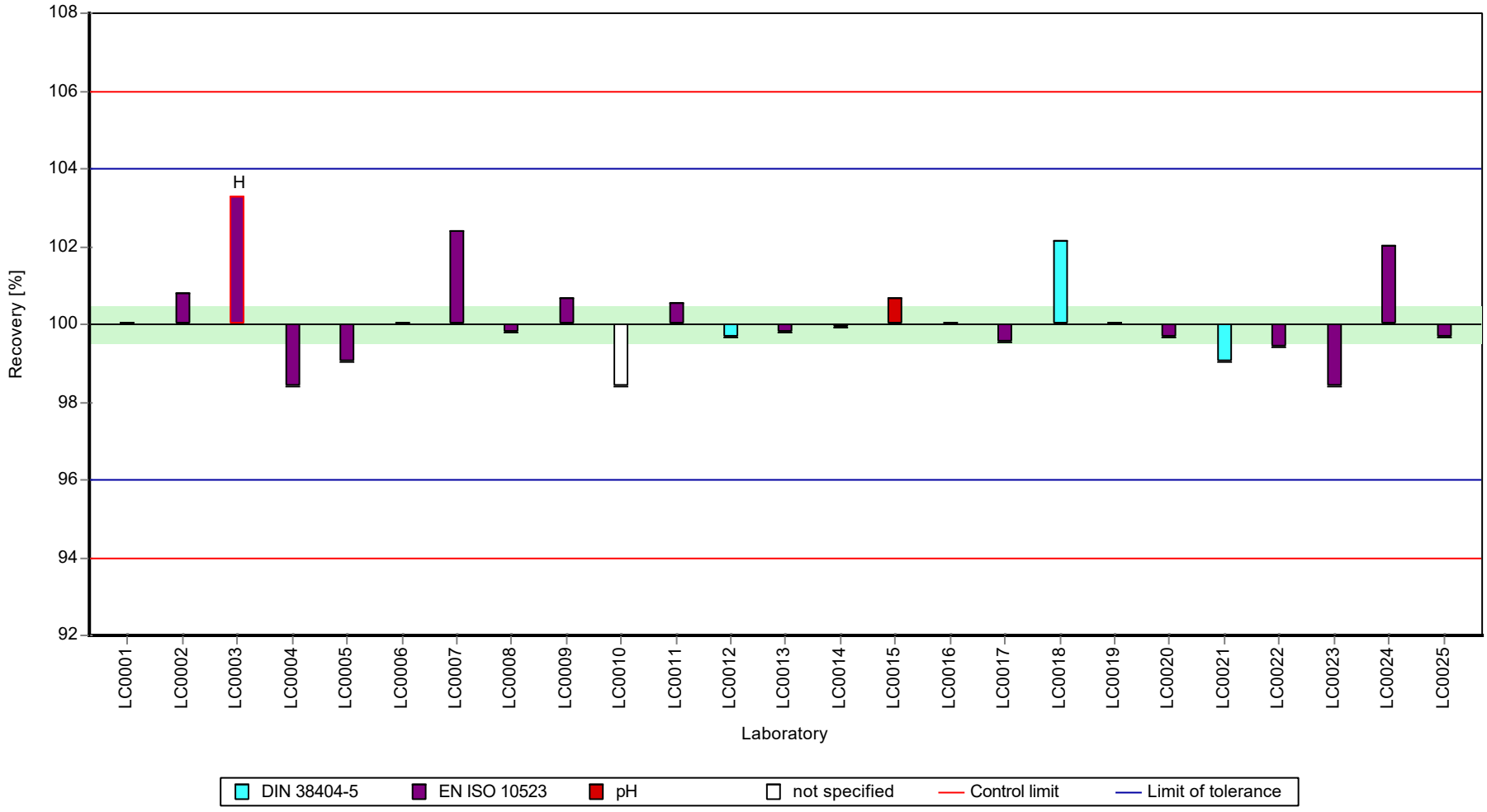
	all results	without outliers	Unit
Mean ± CI (99%)	7.94 ± 0.0597	7.93 ± 0.0529	
Minimum	7.8	7.8	
Maximum	8.19	8.12	
Standard deviation	0.0996	0.0864	
rel. standard deviation	1.25	1.09	%
n	25	24	-

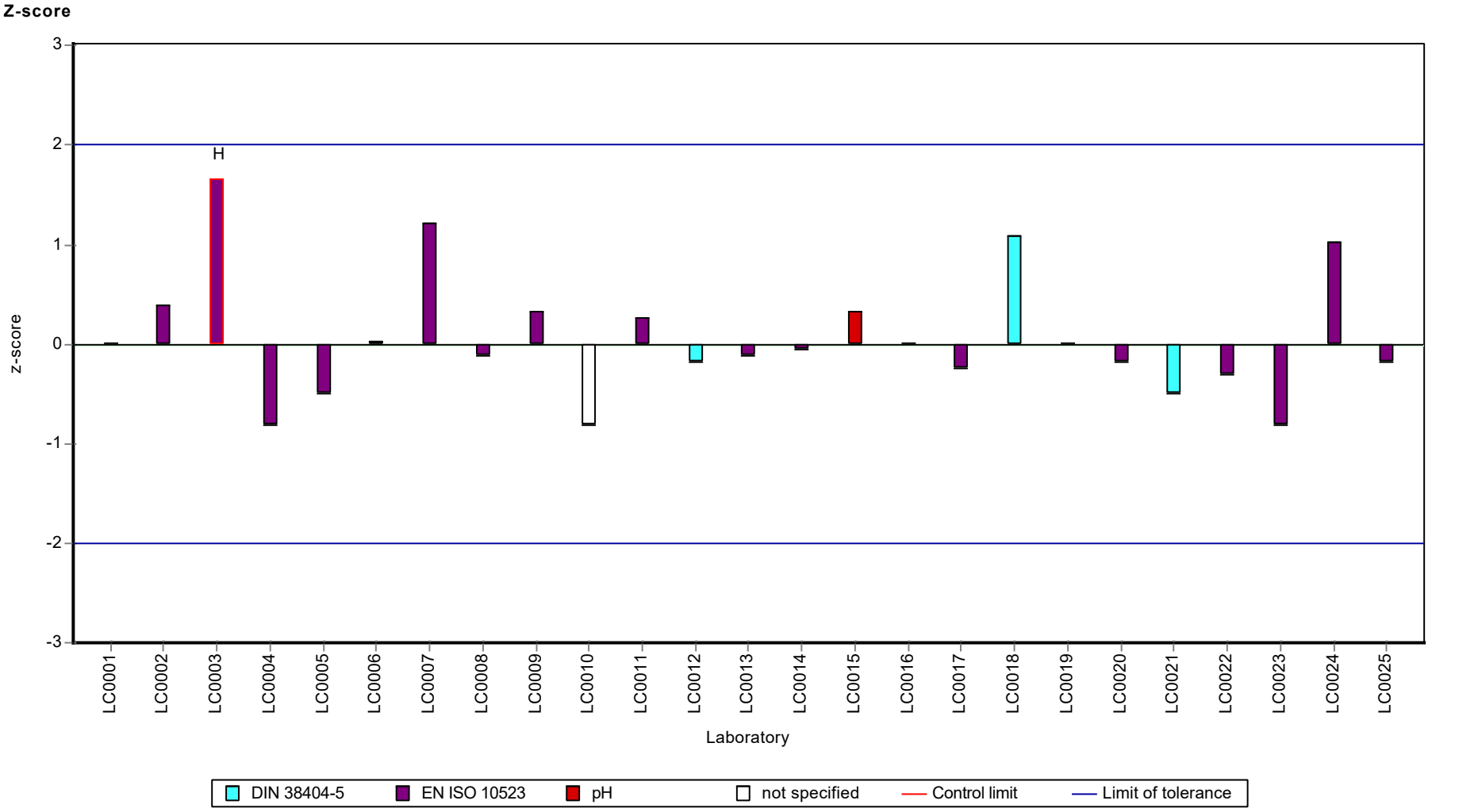
Graphical presentation of results

Results



Recovery rate




Z-score
3
2
1
0
-1
-2
-3
z-score
H
LC0001
LC0002
LC0003
LC0004
LC0005
LC0006
LC0007
LC0008
LC0009
LC0010
LC0011
LC0012
LC0013
LC0014
LC0015
LC0016
LC0017
LC0018
LC0019
LC0020
LC0021
LC0022
LC0023
LC0024
LC0025
Laboratory
DIN 38404-5
EN ISO 10523
pH
not specified
Control limit
Limit of tolerance

Parameter oriented report

AB09

PO4 (as P)

Unit	mg/l
Assigned value ± U (k=2)	0.111 ± 0.0197
Criterion	0.0387 (35 %)
Minimum - Maximum	0.0121 - 0.17
Control test value ± U (k=2)	<0.2 (LOQ)

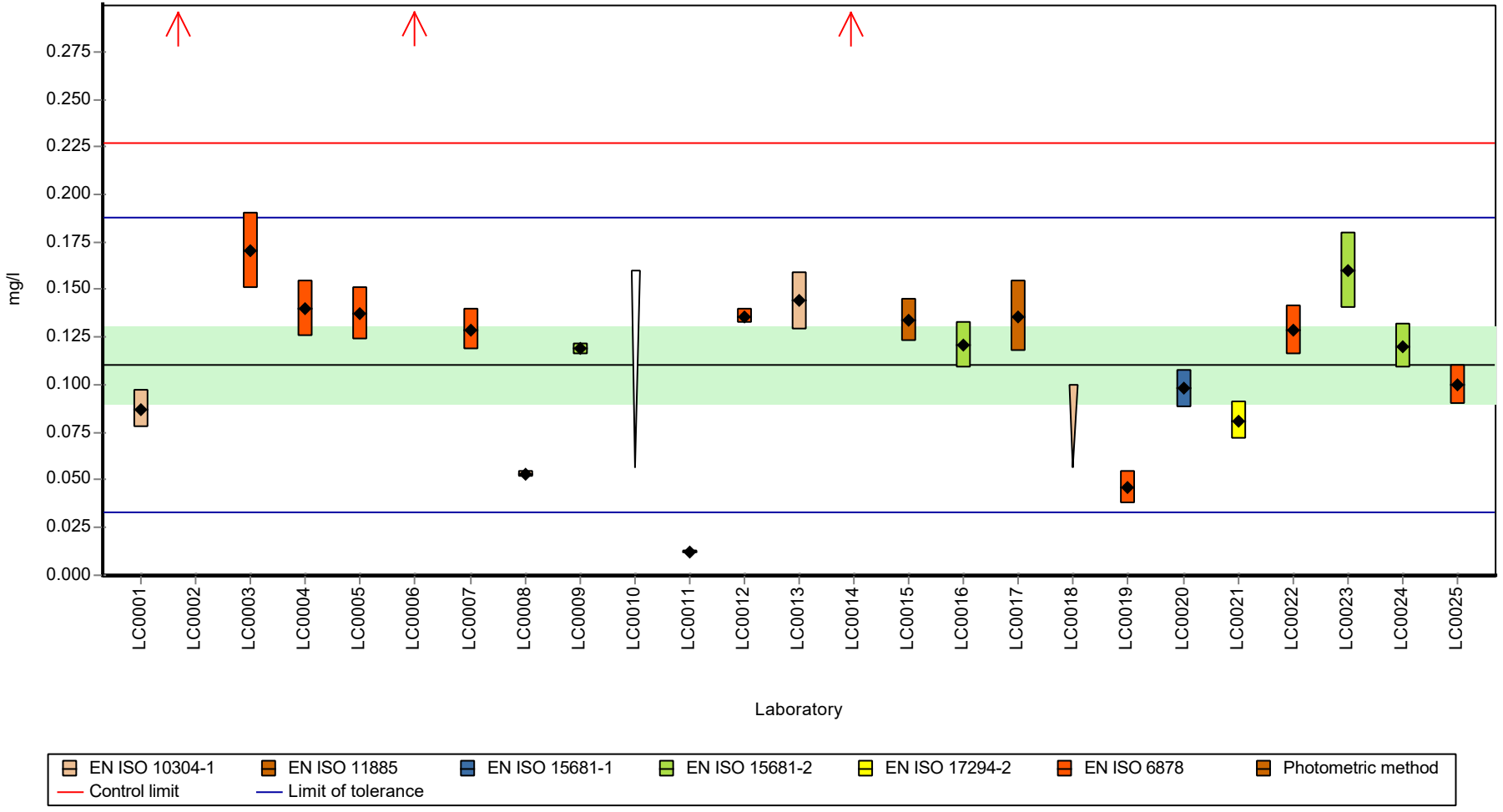
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	0.0873	0.01	79	-0.6	
LC0002	0.36	0.09	326	6.45	H
LC0003	0.17	0.02	154	1.54	
LC0004	0.14	0.015	127	0.76	
LC0005	0.1372	0.0137	124	0.69	
LC0006	0.4389	0.022	397	8.49	H
LC0007	0.129	0.011	117	0.48	
LC0008	0.053	0.002	48	-1.49	
LC0009	0.119	0.003	108	0.22	
LC0010	< 0.16 (LOQ)	-	-	-	
LC0011	0.0121	0.001	11	-2.54	
LC0012	0.136	0.004	123	0.66	
LC0013	0.144	0.015	130	0.87	
LC0014	0.421	0.223	381	8.03	H
LC0015	0.134	0.011	121	0.61	
LC0016	0.121	0.012	110	0.27	
LC0017	0.136	0.019	123	0.66	
LC0018	< 0.1 (LOQ)	-	-	-	
LC0019	0.046	0.009	41.6	-1.67	
LC0020	0.098	0.01	88.7	-0.32	
LC0021	0.081	0.01	73.3	-0.76	
LC0022	0.129	0.013	117	0.48	
LC0023	0.16	0.02	145	1.28	
LC0024	0.1204	0.01204	109	0.26	
LC0025	0.1	0.01	90.5	-0.27	

Characteristics of parameter

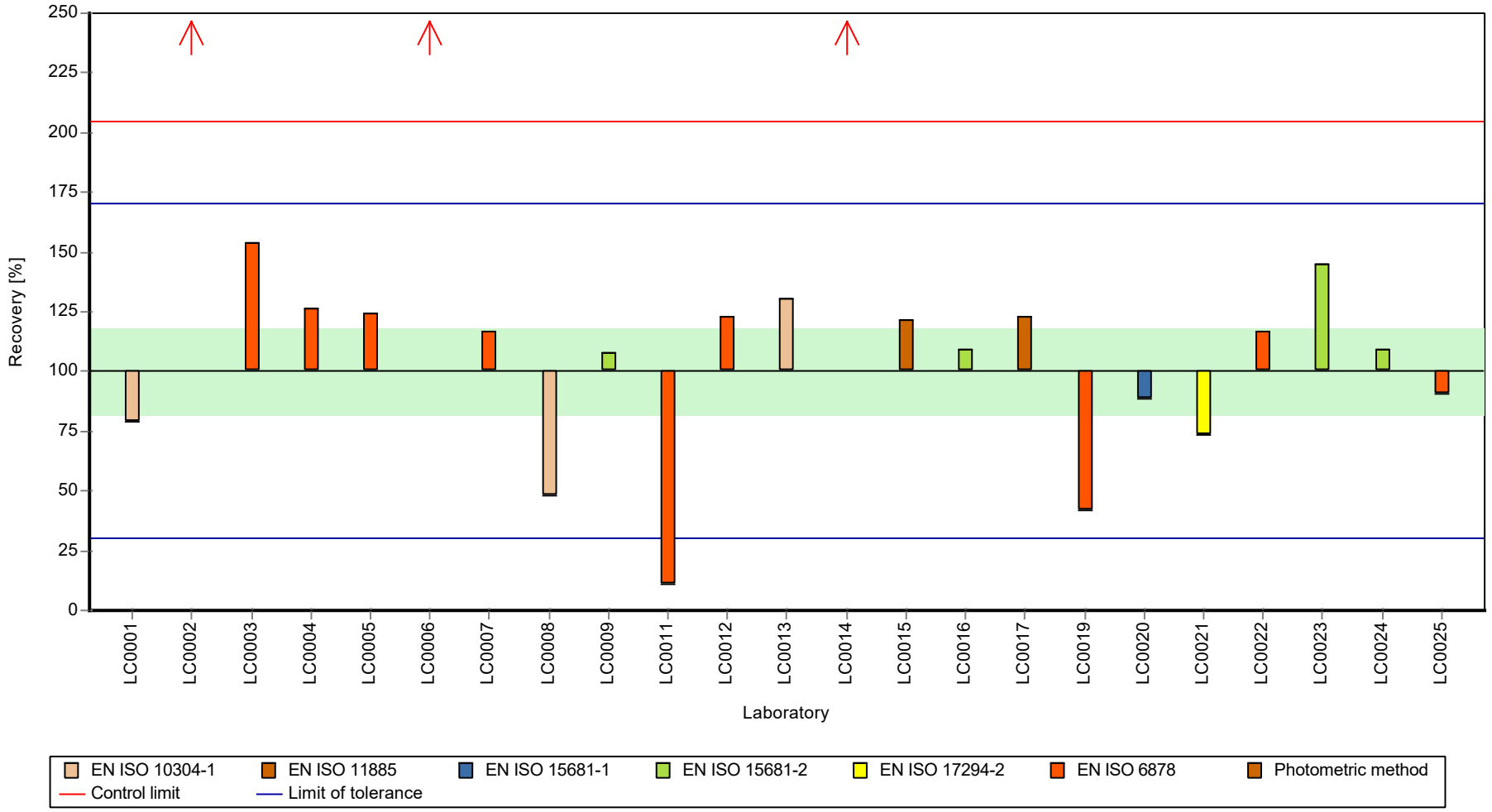
	all results	without outliers	Unit
Mean ± CI (99%)	0.151 ± 0.0679	0.113 ± 0.0268	mg/l
Minimum	0.0121	0.0121	mg/l
Maximum	0.439	0.17	mg/l
Standard deviation	0.109	0.0399	mg/l
rel. standard deviation	71.9	35.4	%
n	23	20	-

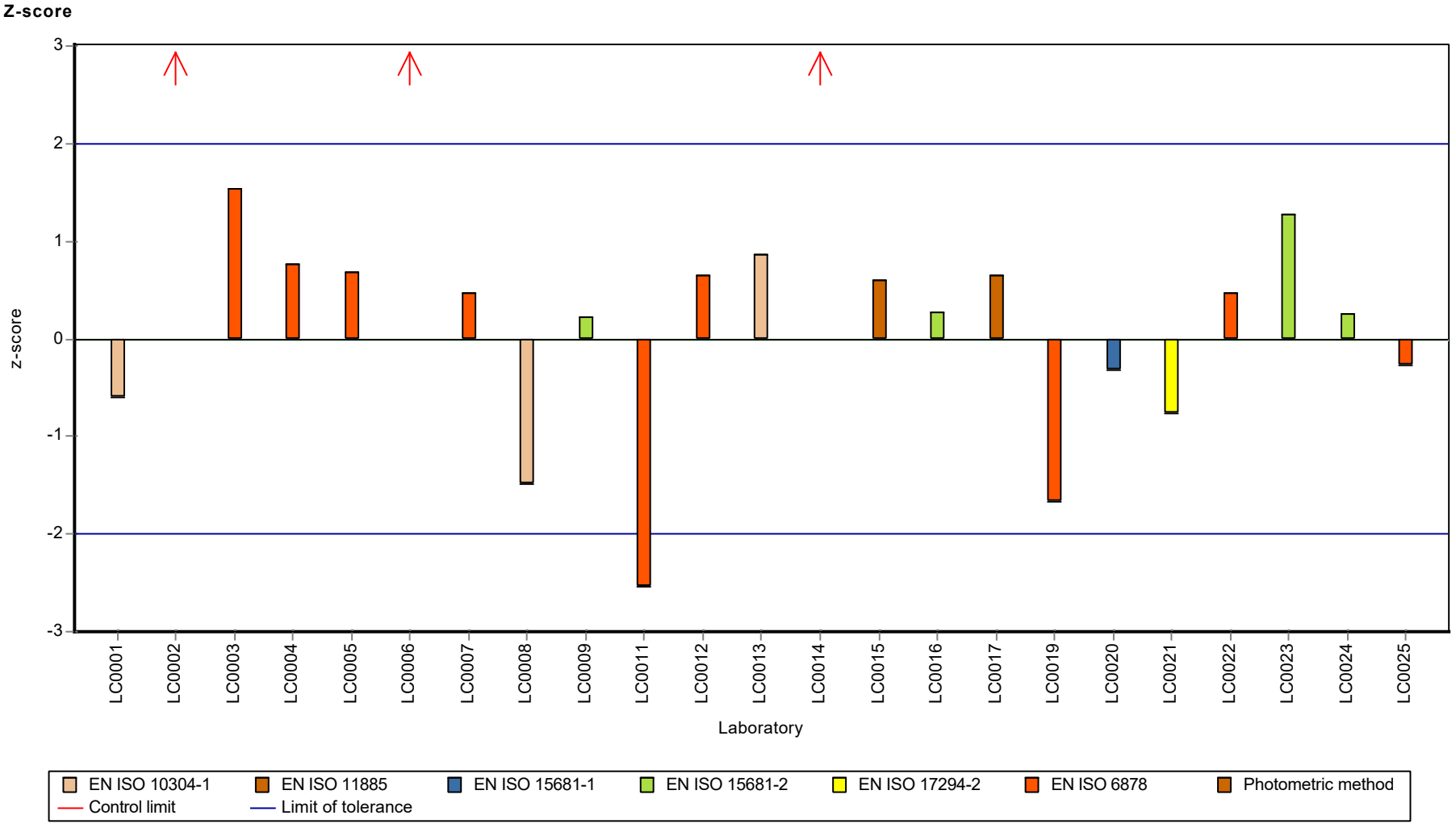
Graphical presentation of results

Results



Recovery rate




Z-score
z-score
3
2
1
0
-1
-2
-3
LC0001
LC0002
LC0003
LC0004
LC0005
LC0006
LC0007
LC0008
LC0009
LC0011
LC0012
LC0013
LC0014
LC0015
LC0016
LC0017
LC0019
LC0020
LC0021
LC0022
LC0023
LC0024
LC0025
Laboratory
EN ISO 10304-1
EN ISO 11885
EN ISO 15681-1
EN ISO 15681-2
EN ISO 17294-2
EN ISO 6878
Photometric method
Control limit
Limit of tolerance

Parameter oriented report

AB09

Sulfate (as SO4)

Unit	mg/l
Assigned value ± U (k=2)	60.2 ± 1.06
Criterion	3.01 (5 %)
Minimum - Maximum	56.6 - 65.3
Control test value ± U (k=2)	57 ± 5.7

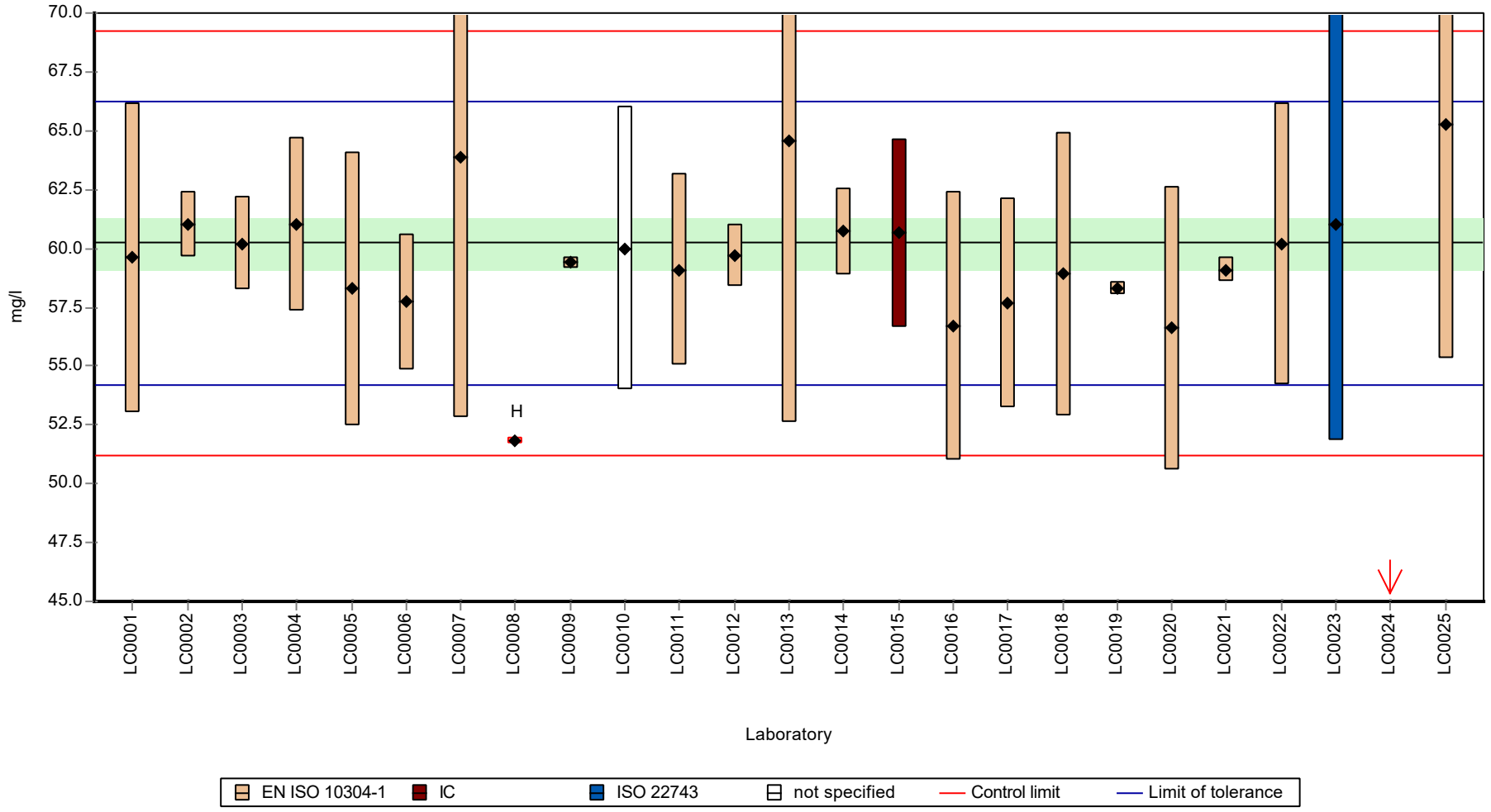
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	59.6	6.6	99	-0.21	
LC0002	61	1.4	101	0.26	
LC0003	60.2	1.99	100	-0.01	
LC0004	61	3.7	101	0.26	
LC0005	58.284	5.828	96.8	-0.65	
LC0006	57.73	2.9	95.9	-0.83	
LC0007	63.9	11.1	106	1.22	
LC0008	51.83	0.13	86.1	-2.79	H
LC0009	59.4	0.25	98.6	-0.28	
LC0010	60	6	99.6	-0.08	
LC0011	59.1	4.1	98.1	-0.37	
LC0012	59.7	1.31	99.1	-0.17	
LC0013	64.57	12	107	1.44	
LC0014	60.707	1.821	101	0.16	
LC0015	60.66	4	101	0.14	
LC0016	56.7	5.7	94.1	-1.17	
LC0017	57.7	4.45	95.8	-0.84	
LC0018	58.9	6	97.8	-0.44	
LC0019	58.3	0.298	96.8	-0.64	
LC0020	56.6	6	94	-1.2	
LC0021	59.1	0.5	98.1	-0.37	
LC0022	60.2	6	100	-0.01	
LC0023	61	9.2	101	0.26	
LC0024	32.1505	3.21505	53.4	-9.32	H
LC0025	65.3	10	108	1.68	

Characteristics of parameter

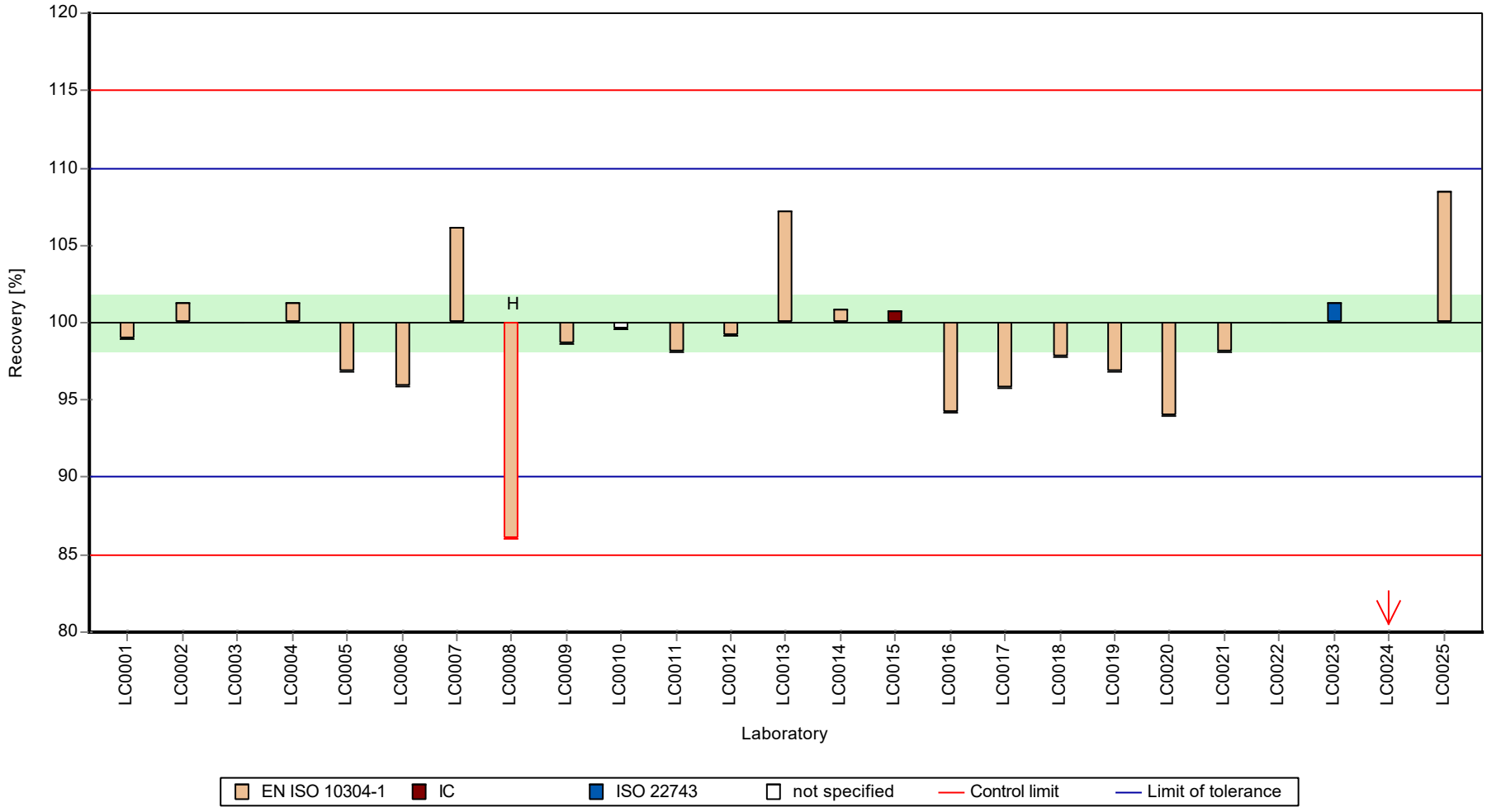
	all results	without outliers	Unit
Mean ± CI (99%)	58.5 ± 3.67	60 ± 1.4	mg/l
Minimum	32.2	56.6	mg/l
Maximum	65.3	65.3	mg/l
Standard deviation	6.12	2.24	mg/l
rel. standard deviation	10.5	3.73	%
n	25	23	-

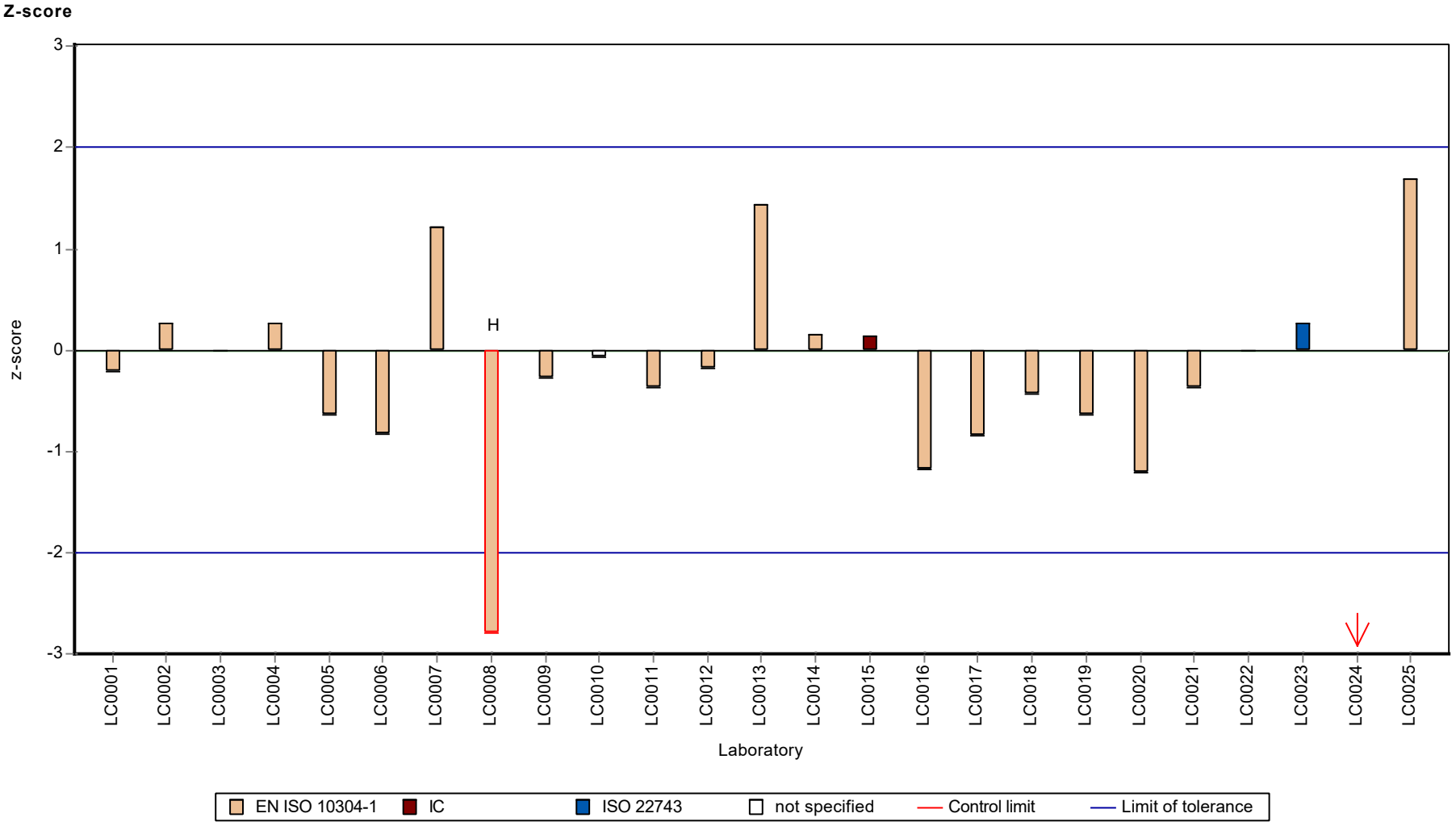
Graphical presentation of results

Results



Recovery rate




Z-score
z-score
3
2
1
0
-1
-2
-3
H
LC0001
LC0002
LC0003
LC0004
LC0005
LC0006
LC0007
LC0008
LC0009
LC0010
LC0011
LC0012
LC0013
LC0014
LC0015
LC0016
LC0017
LC0018
LC0019
LC0020
LC0021
LC0022
LC0023
LC0024
LC0025
Laboratory
EN ISO 10304-1
IC
ISO 22743
not specified
Control limit
Limit of tolerance

Parameter oriented report

AB09 - TOC

TOC (as C)

Unit	mg/l
Assigned value ± U (k=2)	7.38 ± 0.359
Criterion	0.886 (12 %)
Minimum - Maximum	5.9 - 9.49
Control test value ± U (k=2)	7.66 ± 1.53

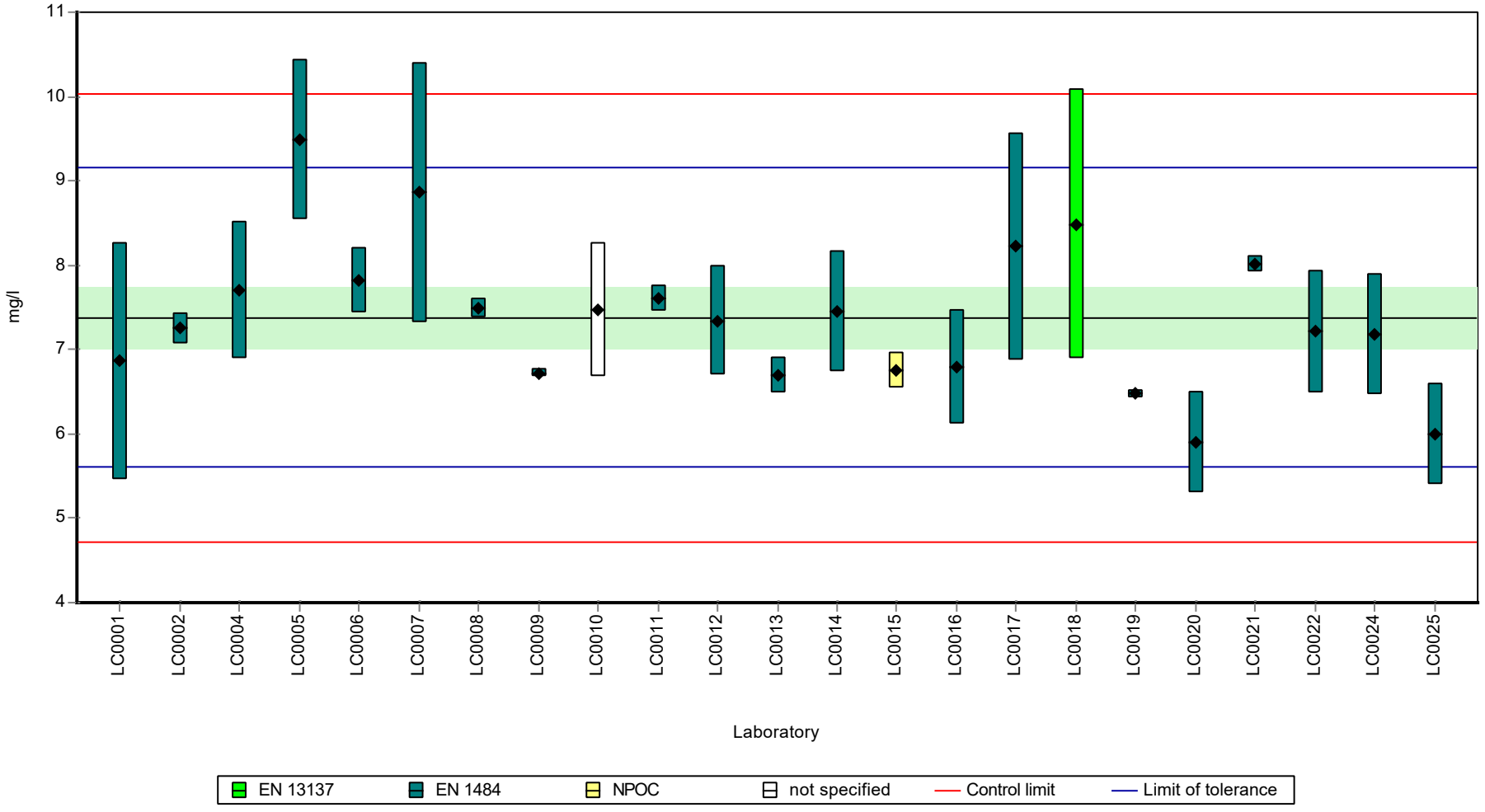
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	6.861	1.4	92.9	-0.59	
LC0002	7.25	0.183	98.2	-0.15	
LC0003	-	-	-	-	
LC0004	7.7	0.82	104	0.36	
LC0005	9.494	0.949	129	2.38	
LC0006	7.818	0.39	106	0.49	
LC0007	8.86	1.54	120	1.67	
LC0008	7.49	0.12	101	0.12	
LC0009	6.72	0.046	91	-0.75	
LC0010	7.47	0.8	101	0.1	
LC0011	7.61	0.152	103	0.26	
LC0012	7.34	0.649	99.4	-0.05	
LC0013	6.7	0.21	90.8	-0.77	
LC0014	7.454	0.716	101	0.08	
LC0015	6.75	0.21	91.4	-0.71	
LC0016	6.79	0.68	92	-0.67	
LC0017	8.22	1.35	111	0.94	
LC0018	8.485	1.6	115	1.24	
LC0019	6.48	0.05	87.8	-1.02	
LC0020	5.9	0.6	79.9	-1.67	
LC0021	8.01	0.1	109	0.71	
LC0022	7.21	0.72	97.7	-0.2	
LC0023	-	-	-	-	
LC0024	7.184	0.7184	97.3	-0.22	
LC0025	6	0.6	81.3	-1.56	

Characteristics of parameter

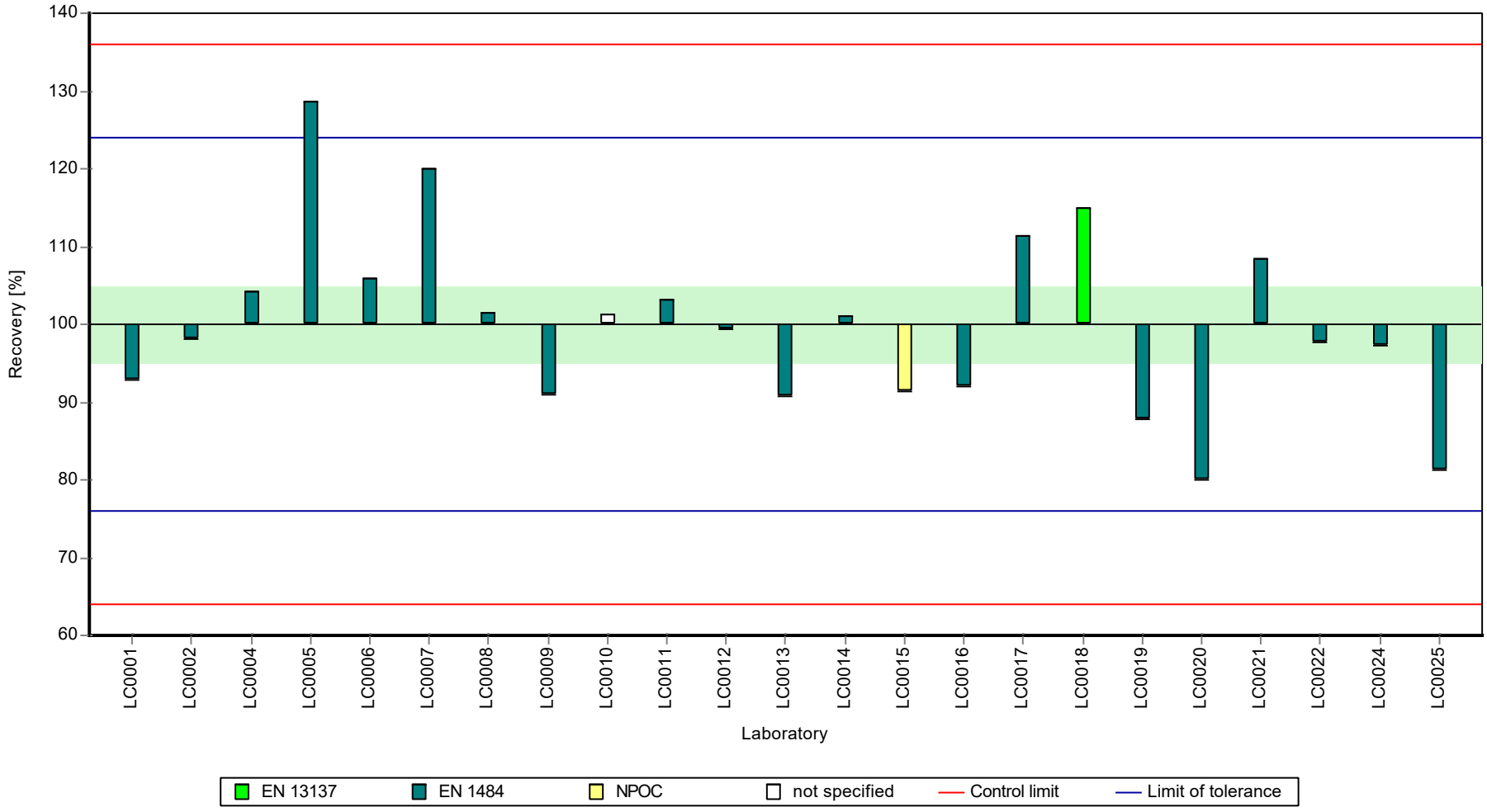
	all results	without outliers	Unit
Mean ± CI (99%)	7.38 ± 0.538	7.38 ± 0.538	mg/l
Minimum	5.9	5.9	mg/l
Maximum	9.49	9.49	mg/l
Standard deviation	0.86	0.86	mg/l
rel. standard deviation	11.6	11.6	%
n	23	23	-

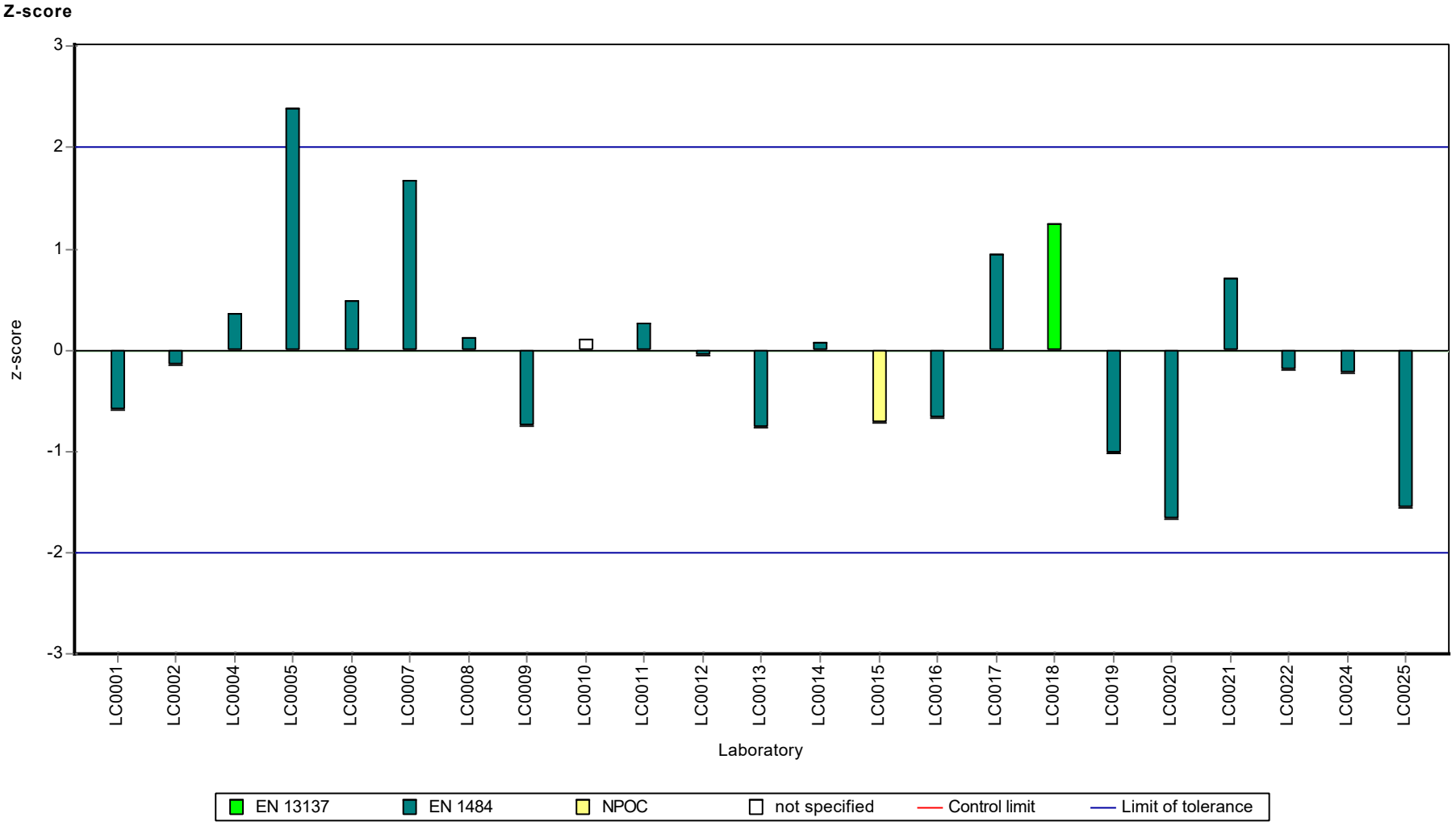
Graphical presentation of results

Results



Recovery rate




Z-score
z-score
3
2
1
0
-1
-2
-3
LC0001
LC0002
LC0004
LC0005
LC0006
LC0007
LC0008
LC0009
LC0010
LC0011
LC0012
LC0013
LC0014
LC0015
LC0016
LC0017
LC0018
LC0019
LC0020
LC0021
LC0022
LC0024
LC0025
Laboratory
EN 13137
EN 1484
NPOC
not specified
Control limit
Limit of tolerance

E8. Laborientierte Auswertung / Laboratory oriented report

Die Laborientierte Auswertung ist nach dem Laborcode sortiert.

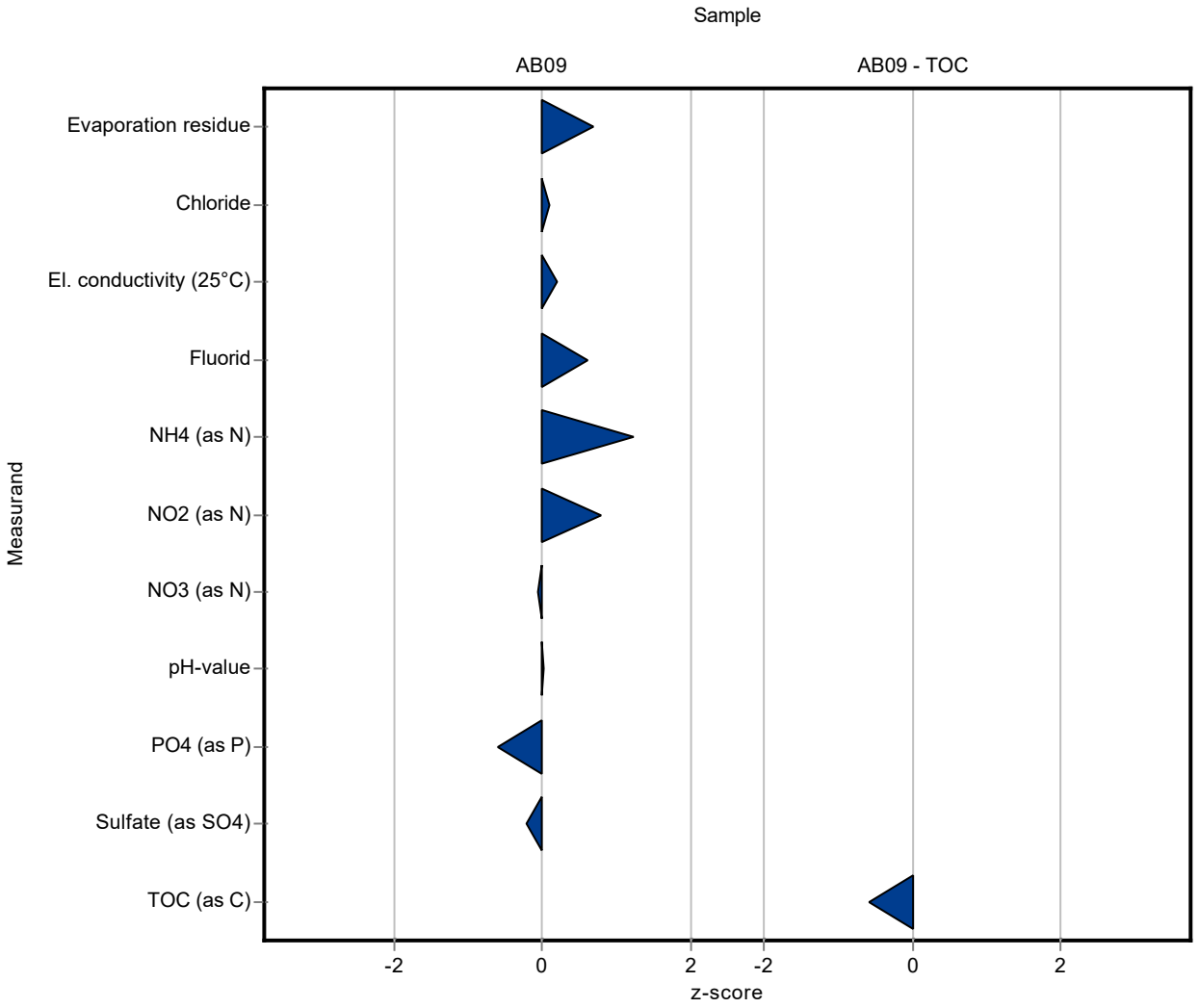
The laboratory oriented report is sorted by laboratory code.

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
Evaporation residue	mg/l	325 ± 7.82	336.7 ± 6.7	17.2	104	0.69
Chloride	mg/l	27.8 ± 0.343	27.9 ± 3.1	1.39	100	0.09
El. conductivity (25°C)	mS/m	53.3 ± 0.324	53.5 ± 5.4	0.8	100	0.21
Fluorid	mg/l	0.523 ± 0.0258	0.562 ± 0.1	0.0627	107	0.62
NH4 (as N)	mg/l	1.26 ± 0.0378	1.369 ± 0.3	0.091	109	1.23
NO2 (as N)	mg/l	0.202 ± 0.00318	0.21 ± 0.03	0.0101	104	0.80
NO3 (as N)	mg/l	3.31 ± 0.0693	3.3 ± 0.5	0.166	99.7	-0.06
pH-value		7.93 ± 0.0361	7.93 ± 0.1	0.159	100	0.01
PO4 (as P)	mg/l	0.111 ± 0.0197	0.0873 ± 0.01	0.0387	79	-0.60
Sulfate (as SO4)	mg/l	60.2 ± 1.06	59.6 ± 6.6	3.01	99	-0.21

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
TOC (as C)	mg/l	7.38 ± 0.359	6.861 ± 1.4	0.886	92.9	-0.59

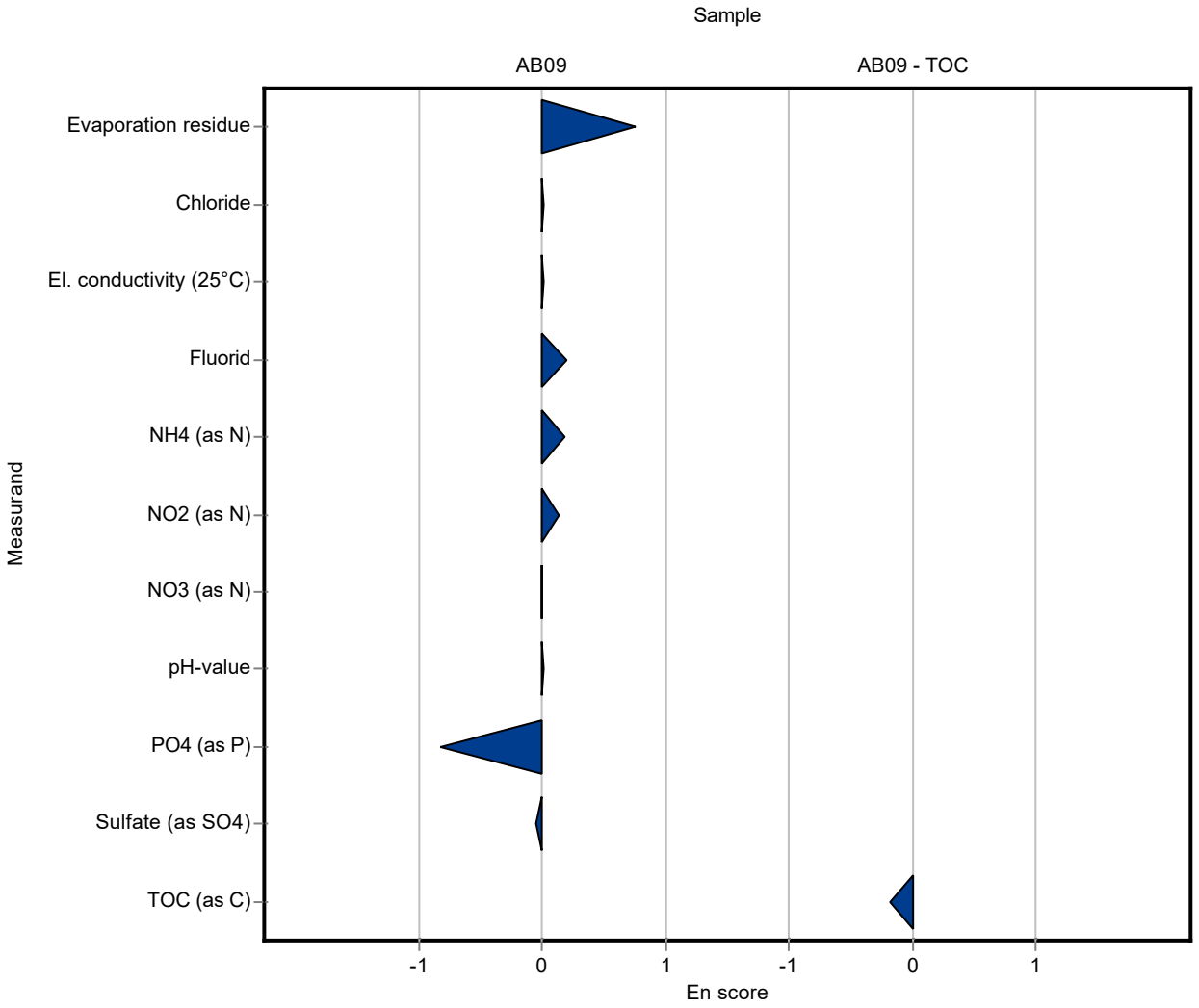

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-2
0
2
-2
0
2
z-score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Evaporation residue	mg/l	325 ± 7.82	336.7 ± 6.7	17.2	104	0.76
Chloride	mg/l	27.8 ± 0.343	27.9 ± 3.1	1.39	100	0.02
El. conductivity (25°C)	mS/m	53.3 ± 0.324	53.5 ± 5.4	0.8	100	0.02
Fluorid	mg/l	0.523 ± 0.0258	0.562 ± 0.1	0.0627	107	0.19
NH4 (as N)	mg/l	1.26 ± 0.0378	1.369 ± 0.3	0.091	109	0.19
NO2 (as N)	mg/l	0.202 ± 0.00318	0.21 ± 0.03	0.0101	104	0.13
NO3 (as N)	mg/l	3.31 ± 0.0693	3.3 ± 0.5	0.166	99.7	-0.01
pH-value		7.93 ± 0.0361	7.93 ± 0.1	0.159	100	0.01
PO4 (as P)	mg/l	0.111 ± 0.0197	0.0873 ± 0.01	0.0387	79	-0.83
Sulfate (as SO4)	mg/l	60.2 ± 1.06	59.6 ± 6.6	3.01	99	-0.05

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
TOC (as C)	mg/l	7.38 ± 0.359	6.861 ± 1.4	0.886	92.9	-0.18

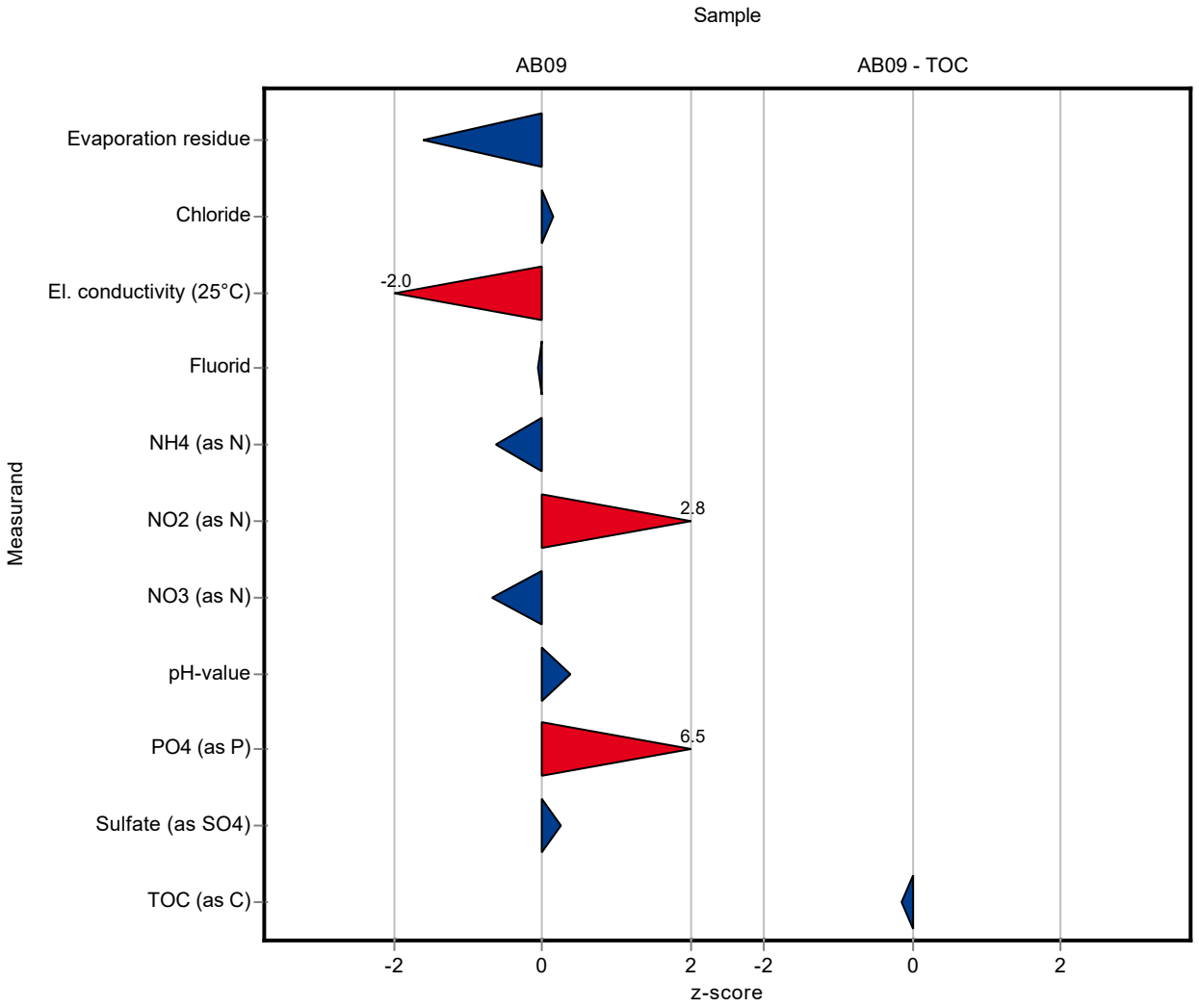

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-1
0
1
-1
0
1
En score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
Evaporation residue	mg/l	325 ± 7.82	297 ± 8.91	17.2	91.4	-1.62
Chloride	mg/l	27.8 ± 0.343	28 ± 0.28	1.39	101	0.16
El. conductivity (25°C)	mS/m	53.3 ± 0.324	51.7 ± 0.518	0.8	96.9	-2.04
Fluorid	mg/l	0.523 ± 0.0258	0.52 ± 0.04	0.0627	99.4	-0.05
NH4 (as N)	mg/l	1.26 ± 0.0378	1.2 ± 0.12	0.091	95.5	-0.62
NO2 (as N)	mg/l	0.202 ± 0.00318	0.23 ± 0.06	0.0101	114	2.78
NO3 (as N)	mg/l	3.31 ± 0.0693	3.2 ± 2.7	0.166	96.7	-0.66
pH-value		7.93 ± 0.0361	7.99 ± 0.18	0.159	101	0.39
PO4 (as P)	mg/l	0.111 ± 0.0197	0.36 ± 0.09	0.0387	326	6.45
Sulfate (as SO4)	mg/l	60.2 ± 1.06	61 ± 1.4	3.01	101	0.26

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
TOC (as C)	mg/l	7.38 ± 0.359	7.25 ± 0.183	0.886	98.2	-0.15

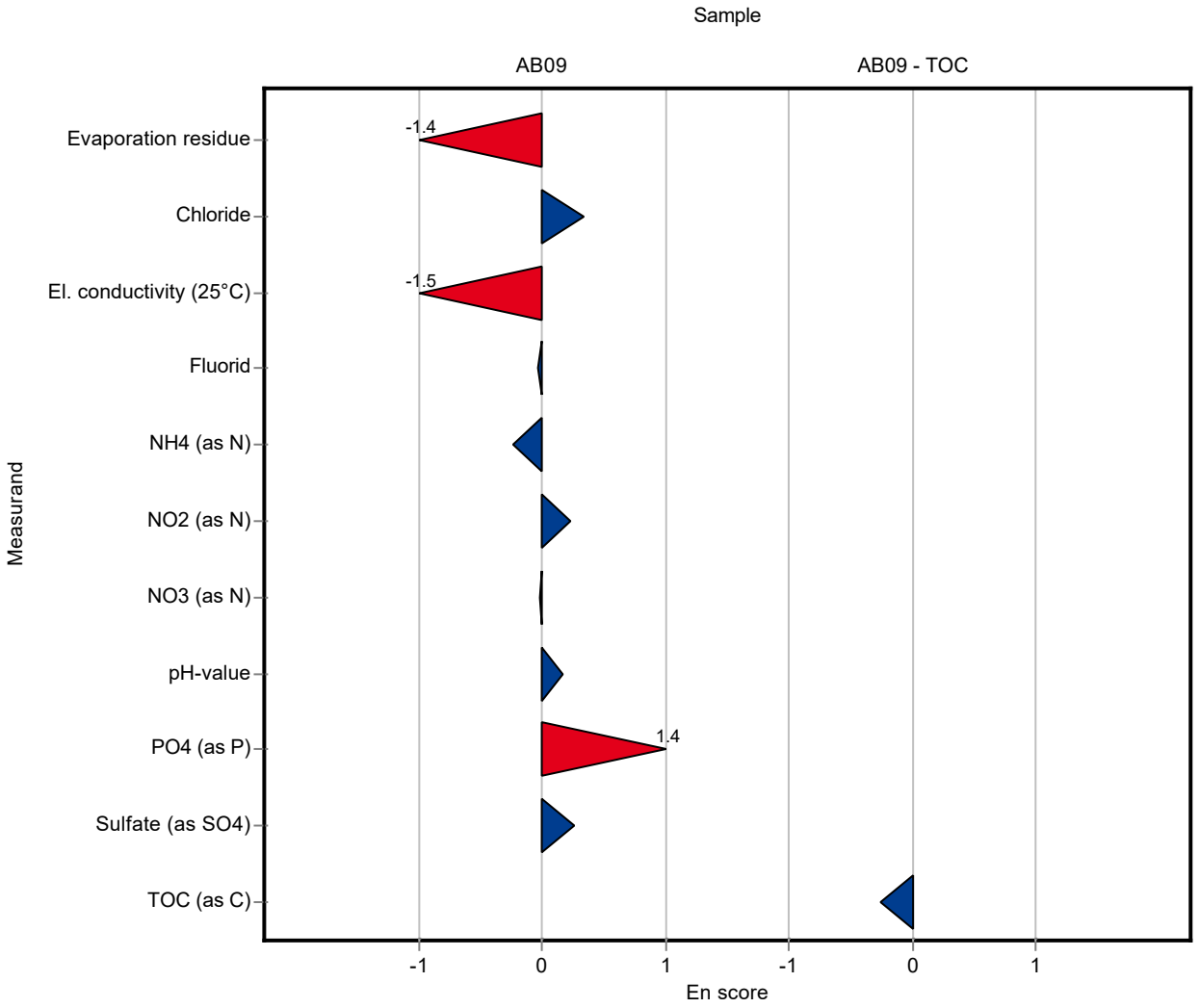

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-2.0
2.8
6.5
-2
0
2
-2
0
2
z-score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Evaporation residue	mg/l	325 ± 7.82	297 ± 8.91	17.2	91.4	-1.43
Chloride	mg/l	27.8 ± 0.343	28 ± 0.28	1.39	101	0.34
El. conductivity (25°C)	mS/m	53.3 ± 0.324	51.7 ± 0.518	0.8	96.9	-1.50
Fluorid	mg/l	0.523 ± 0.0258	0.52 ± 0.04	0.0627	99.4	-0.03
NH4 (as N)	mg/l	1.26 ± 0.0378	1.2 ± 0.12	0.091	95.5	-0.23
NO2 (as N)	mg/l	0.202 ± 0.00318	0.23 ± 0.06	0.0101	114	0.23
NO3 (as N)	mg/l	3.31 ± 0.0693	3.2 ± 2.7	0.166	96.7	-0.02
pH-value		7.93 ± 0.0361	7.99 ± 0.18	0.159	101	0.17
PO4 (as P)	mg/l	0.111 ± 0.0197	0.36 ± 0.09	0.0387	326	1.38
Sulfate (as SO4)	mg/l	60.2 ± 1.06	61 ± 1.4	3.01	101	0.26

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
TOC (as C)	mg/l	7.38 ± 0.359	7.25 ± 0.183	0.886	98.2	-0.26

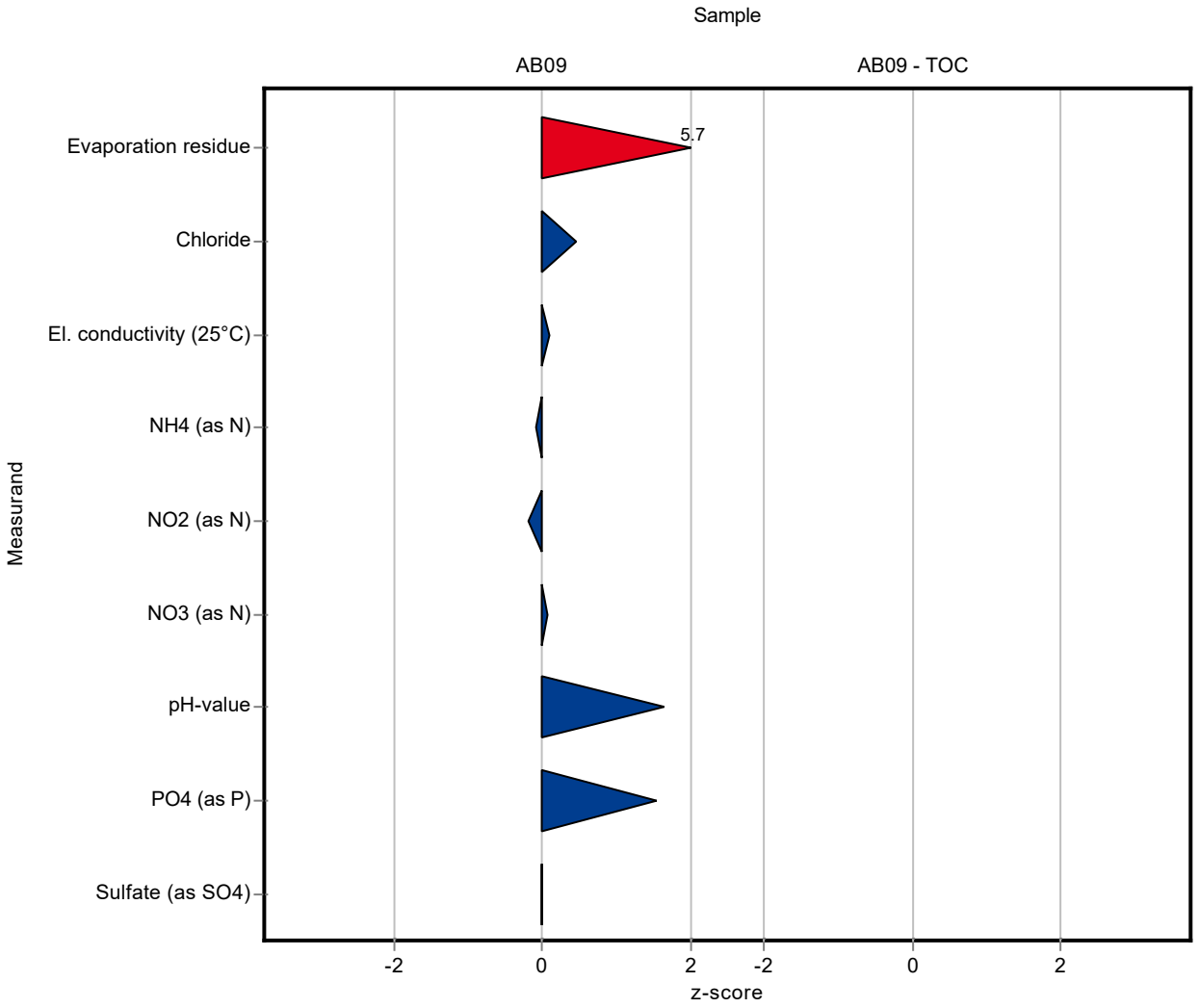

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-1.4
-1.5
1.4
-1
0
1
-1
0
1
En score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
Evaporation residue	mg/l	325 ± 7.82	423 ± 12.5	17.2	130	5.70
Chloride	mg/l	27.8 ± 0.343	28.4 ± 0.74	1.39	102	0.45
El. conductivity (25°C)	mS/m	53.3 ± 0.324	53.4 ± 1.47	0.8	100	0.09
Fluorid	mg/l	0.523 ± 0.0258	<0.5 (LOQ) ± -	0.0627	-	-
NH4 (as N)	mg/l	1.26 ± 0.0378	1.25 ± 0.1	0.091	99.5	-0.07
NO2 (as N)	mg/l	0.202 ± 0.00318	0.2 ± 0.01	0.0101	99	-0.19
NO3 (as N)	mg/l	3.31 ± 0.0693	3.32 ± 0.07	0.166	100	0.06
pH-value		7.93 ± 0.0361	8.19 ± 0.19	0.159	103	1.65
PO4 (as P)	mg/l	0.111 ± 0.0197	0.17 ± 0.02	0.0387	154	1.54
Sulfate (as SO4)	mg/l	60.2 ± 1.06	60.2 ± 1.99	3.01	100	-0.01

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
TOC (as C)	mg/l	7.38 ± 0.359	- ± -	0.886	-	-

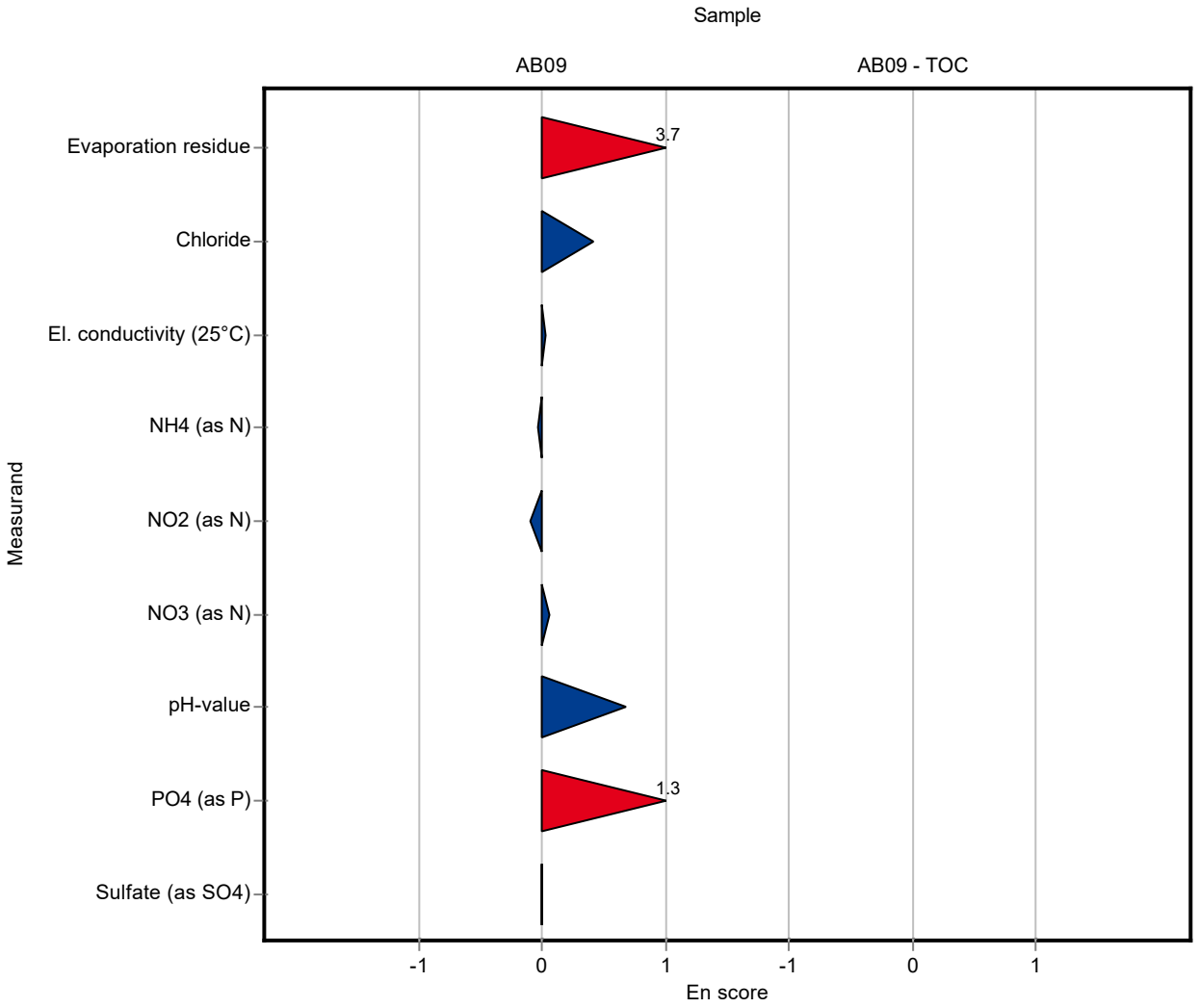

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
Measurand
5.7
-2
0
2
-2
0
2
z-score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Evaporation residue	mg/l	325 ± 7.82	423 ± 12.5	17.2	130	3.75
Chloride	mg/l	27.8 ± 0.343	28.4 ± 0.74	1.39	102	0.41
El. conductivity (25°C)	mS/m	53.3 ± 0.324	53.4 ± 1.47	0.8	100	0.02
Fluorid	mg/l	0.523 ± 0.0258	<0.5 (LOQ) ± -	0.0627	-	-
NH4 (as N)	mg/l	1.26 ± 0.0378	1.25 ± 0.1	0.091	99.5	-0.03
NO2 (as N)	mg/l	0.202 ± 0.00318	0.2 ± 0.01	0.0101	99	-0.10
NO3 (as N)	mg/l	3.31 ± 0.0693	3.32 ± 0.07	0.166	100	0.06
pH-value		7.93 ± 0.0361	8.19 ± 0.19	0.159	103	0.69
PO4 (as P)	mg/l	0.111 ± 0.0197	0.17 ± 0.02	0.0387	154	1.33
Sulfate (as SO4)	mg/l	60.2 ± 1.06	60.2 ± 1.99	3.01	100	-0.01

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
TOC (as C)	mg/l	7.38 ± 0.359	- ± -	0.886	-	-

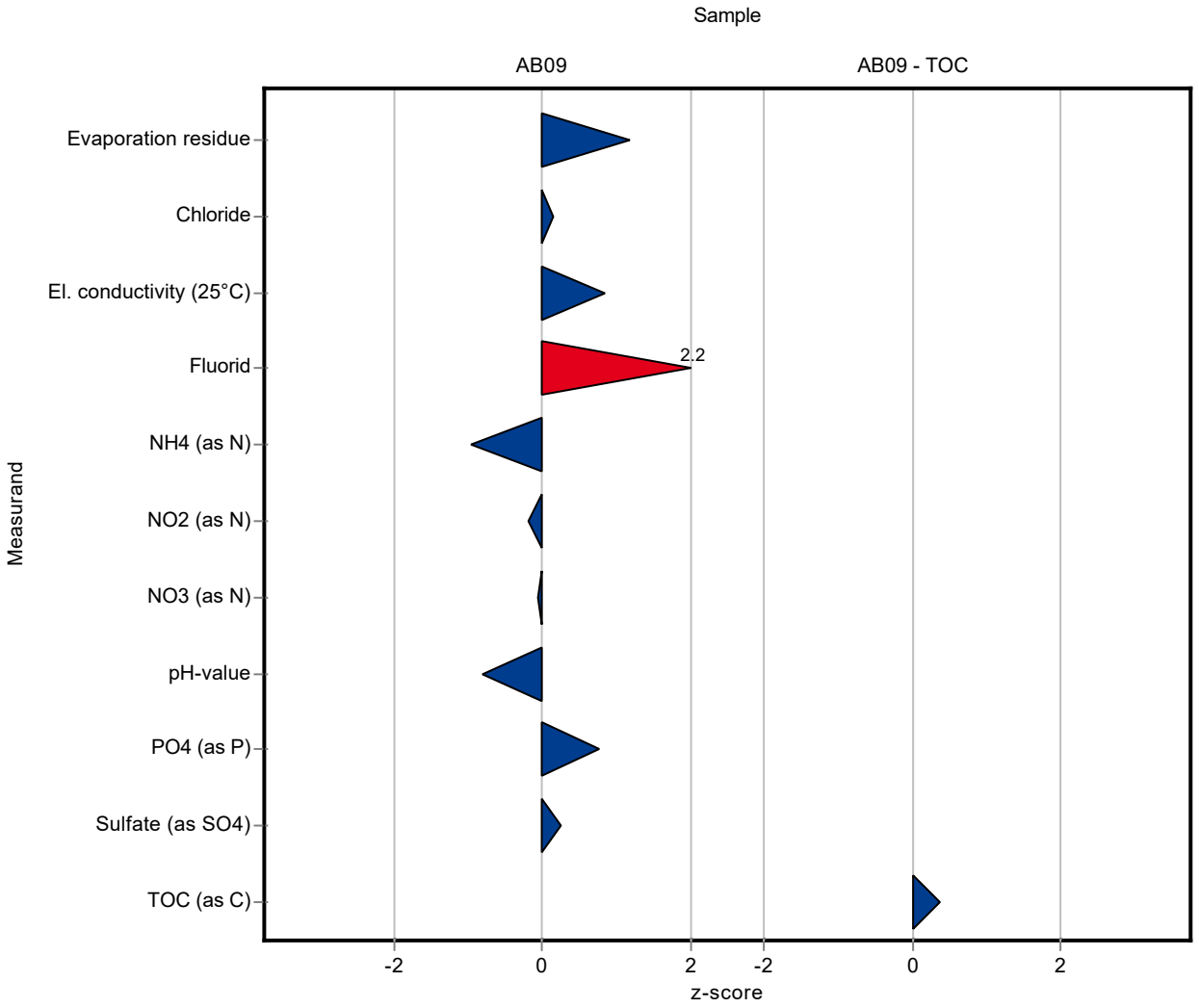

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
Measurand
3.7
1.3
-1
0
1
-1
0
1
En score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
Evaporation residue	mg/l	325 ± 7.82	345 ± 17	17.2	106	1.17
Chloride	mg/l	27.8 ± 0.343	28 ± 1.96	1.39	101	0.16
El. conductivity (25°C)	mS/m	53.3 ± 0.324	54 ± 1.6	0.8	101	0.84
Fluorid	mg/l	0.523 ± 0.0258	0.66 ± 0.08	0.0627	126	2.18
NH4 (as N)	mg/l	1.26 ± 0.0378	1.17 ± 0.11	0.091	93.1	-0.95
NO2 (as N)	mg/l	0.202 ± 0.00318	0.2 ± 0.022	0.0101	99	-0.19
NO3 (as N)	mg/l	3.31 ± 0.0693	3.3 ± 0.2	0.166	99.7	-0.06
pH-value		7.93 ± 0.0361	7.8 ± 0.3	0.159	98.4	-0.81
PO4 (as P)	mg/l	0.111 ± 0.0197	0.14 ± 0.015	0.0387	127	0.76
Sulfate (as SO4)	mg/l	60.2 ± 1.06	61 ± 3.7	3.01	101	0.26

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
TOC (as C)	mg/l	7.38 ± 0.359	7.7 ± 0.82	0.886	104	0.36

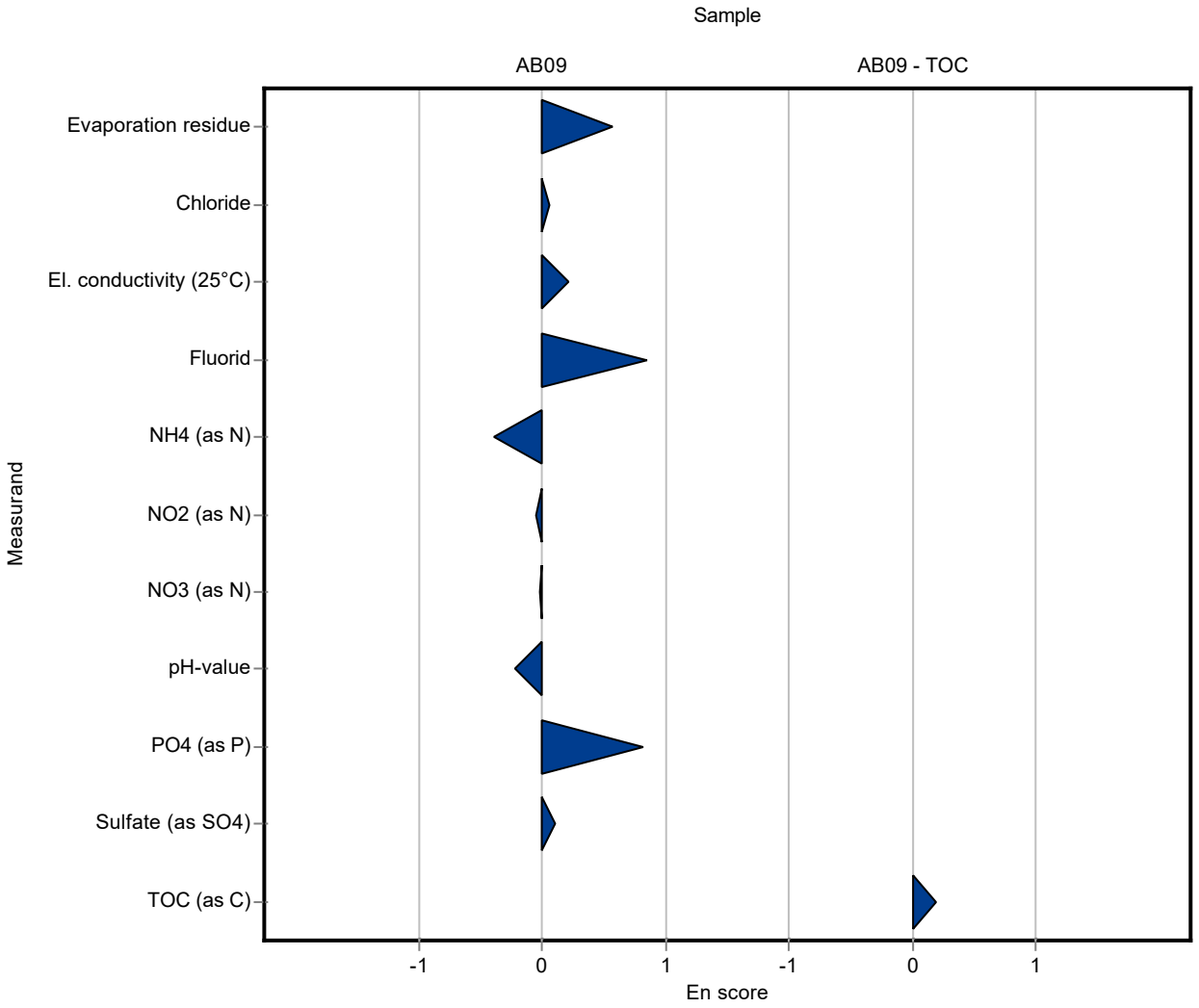

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
2.2
-2
0
2
-2
0
2
z-score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Evaporation residue	mg/l	325 ± 7.82	345 ± 17	17.2	106	0.58
Chloride	mg/l	27.8 ± 0.343	28 ± 1.96	1.39	101	0.06
El. conductivity (25°C)	mS/m	53.3 ± 0.324	54 ± 1.6	0.8	101	0.21
Fluorid	mg/l	0.523 ± 0.0258	0.66 ± 0.08	0.0627	126	0.85
NH4 (as N)	mg/l	1.26 ± 0.0378	1.17 ± 0.11	0.091	93.1	-0.39
NO2 (as N)	mg/l	0.202 ± 0.00318	0.2 ± 0.022	0.0101	99	-0.04
NO3 (as N)	mg/l	3.31 ± 0.0693	3.3 ± 0.2	0.166	99.7	-0.02
pH-value		7.93 ± 0.0361	7.8 ± 0.3	0.159	98.4	-0.21
PO4 (as P)	mg/l	0.111 ± 0.0197	0.14 ± 0.015	0.0387	127	0.82
Sulfate (as SO4)	mg/l	60.2 ± 1.06	61 ± 3.7	3.01	101	0.10

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
TOC (as C)	mg/l	7.38 ± 0.359	7.7 ± 0.82	0.886	104	0.19

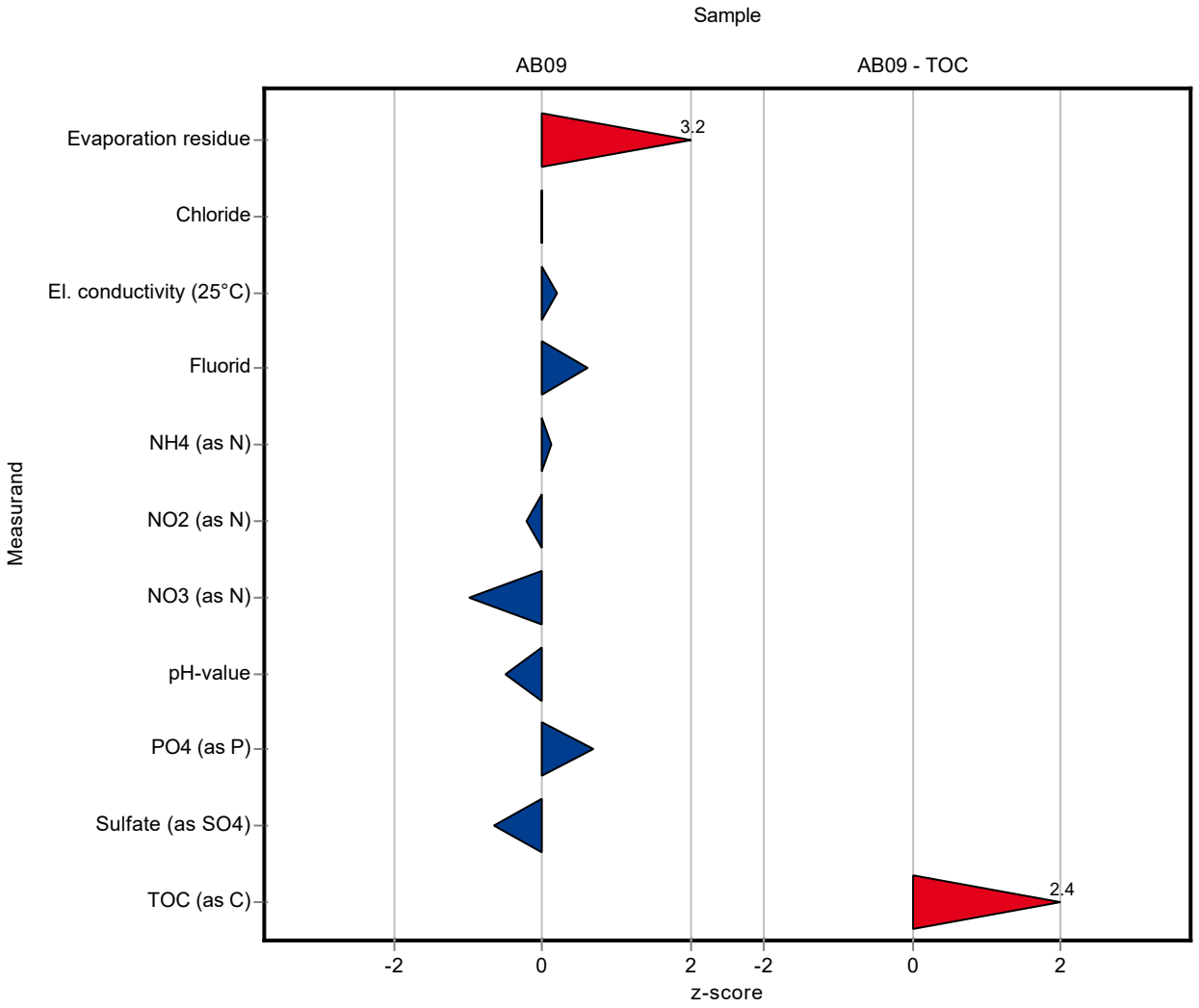

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-1
0
1
-1
0
1
En score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
Evaporation residue	mg/l	325 ± 7.82	380 ± 38	17.2	117	3.20
Chloride	mg/l	27.8 ± 0.343	27.765 ± 2.78	1.39	100	-0.01
El. conductivity (25°C)	mS/m	53.3 ± 0.324	53.5 ± 5.35	0.8	100	0.21
Fluorid	mg/l	0.523 ± 0.0258	0.562 ± 0.112	0.0627	107	0.62
NH4 (as N)	mg/l	1.26 ± 0.0378	1.267 ± 0.127	0.091	101	0.11
NO2 (as N)	mg/l	0.202 ± 0.00318	0.1998 ± 0.02	0.0101	98.9	-0.21
NO3 (as N)	mg/l	3.31 ± 0.0693	3.1458 ± 0.315	0.166	95	-0.99
pH-value		7.93 ± 0.0361	7.85 ± 0.785	0.159	99	-0.49
PO4 (as P)	mg/l	0.111 ± 0.0197	0.1372 ± 0.0137	0.0387	124	0.69
Sulfate (as SO4)	mg/l	60.2 ± 1.06	58.284 ± 5.828	3.01	96.8	-0.65

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
TOC (as C)	mg/l	7.38 ± 0.359	9.494 ± 0.949	0.886	129	2.38

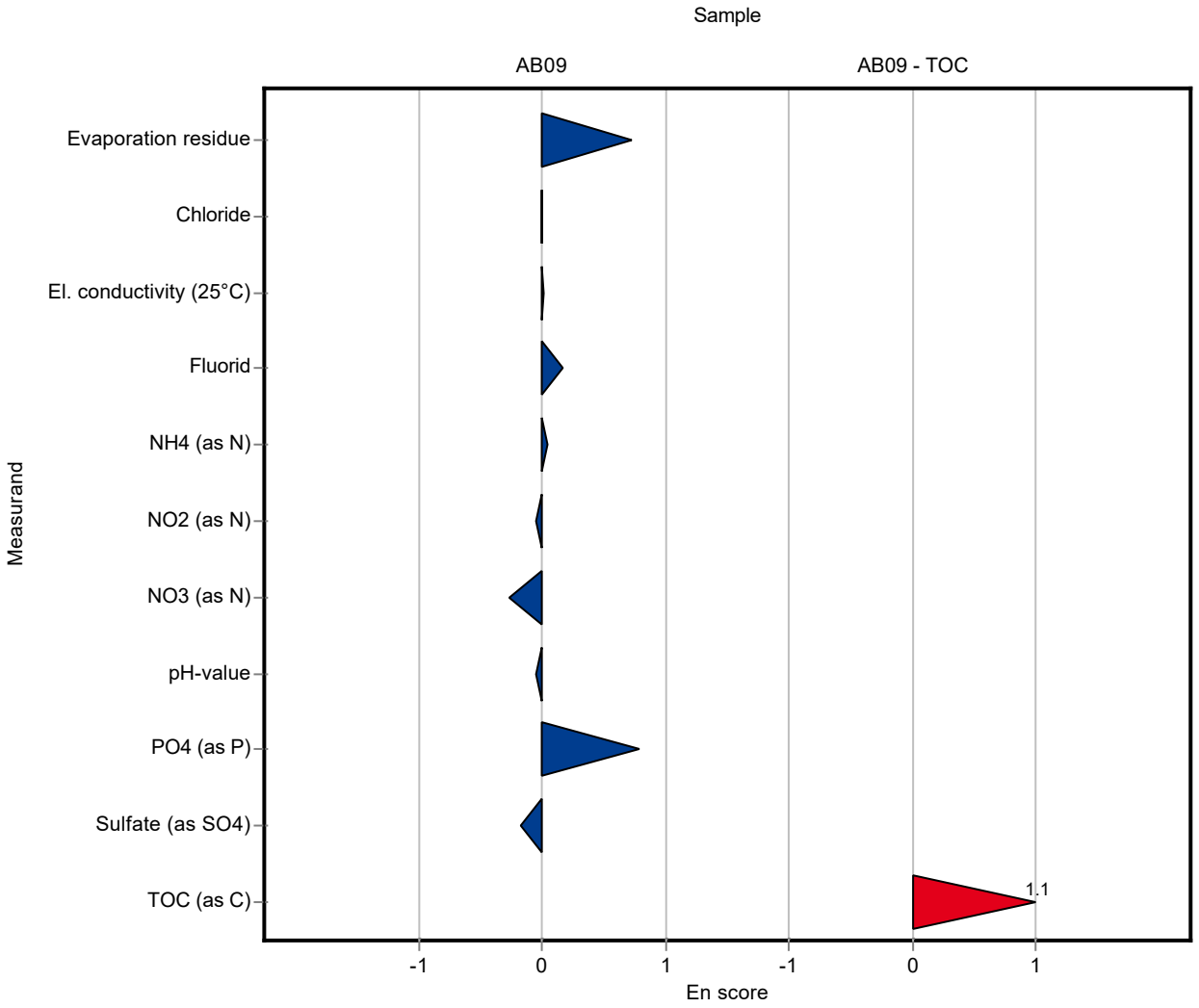

Sample
AB09
AB09 - TOC
Measurand
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
3.2
2.4
-2
0
2
-2
0
2
z-score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Evaporation residue	mg/l	325 ± 7.82	380 ± 38	17.2	117	0.72
Chloride	mg/l	27.8 ± 0.343	27.765 ± 2.78	1.39	100	0.00
El. conductivity (25°C)	mS/m	53.3 ± 0.324	53.5 ± 5.35	0.8	100	0.02
Fluorid	mg/l	0.523 ± 0.0258	0.562 ± 0.112	0.0627	107	0.17
NH4 (as N)	mg/l	1.26 ± 0.0378	1.267 ± 0.127	0.091	101	0.04
NO2 (as N)	mg/l	0.202 ± 0.00318	0.1998 ± 0.02	0.0101	98.9	-0.05
NO3 (as N)	mg/l	3.31 ± 0.0693	3.1458 ± 0.315	0.166	95	-0.26
pH-value		7.93 ± 0.0361	7.85 ± 0.785	0.159	99	-0.05
PO4 (as P)	mg/l	0.111 ± 0.0197	0.1372 ± 0.0137	0.0387	124	0.79
Sulfate (as SO4)	mg/l	60.2 ± 1.06	58.284 ± 5.828	3.01	96.8	-0.17

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
TOC (as C)	mg/l	7.38 ± 0.359	9.494 ± 0.949	0.886	129	1.09

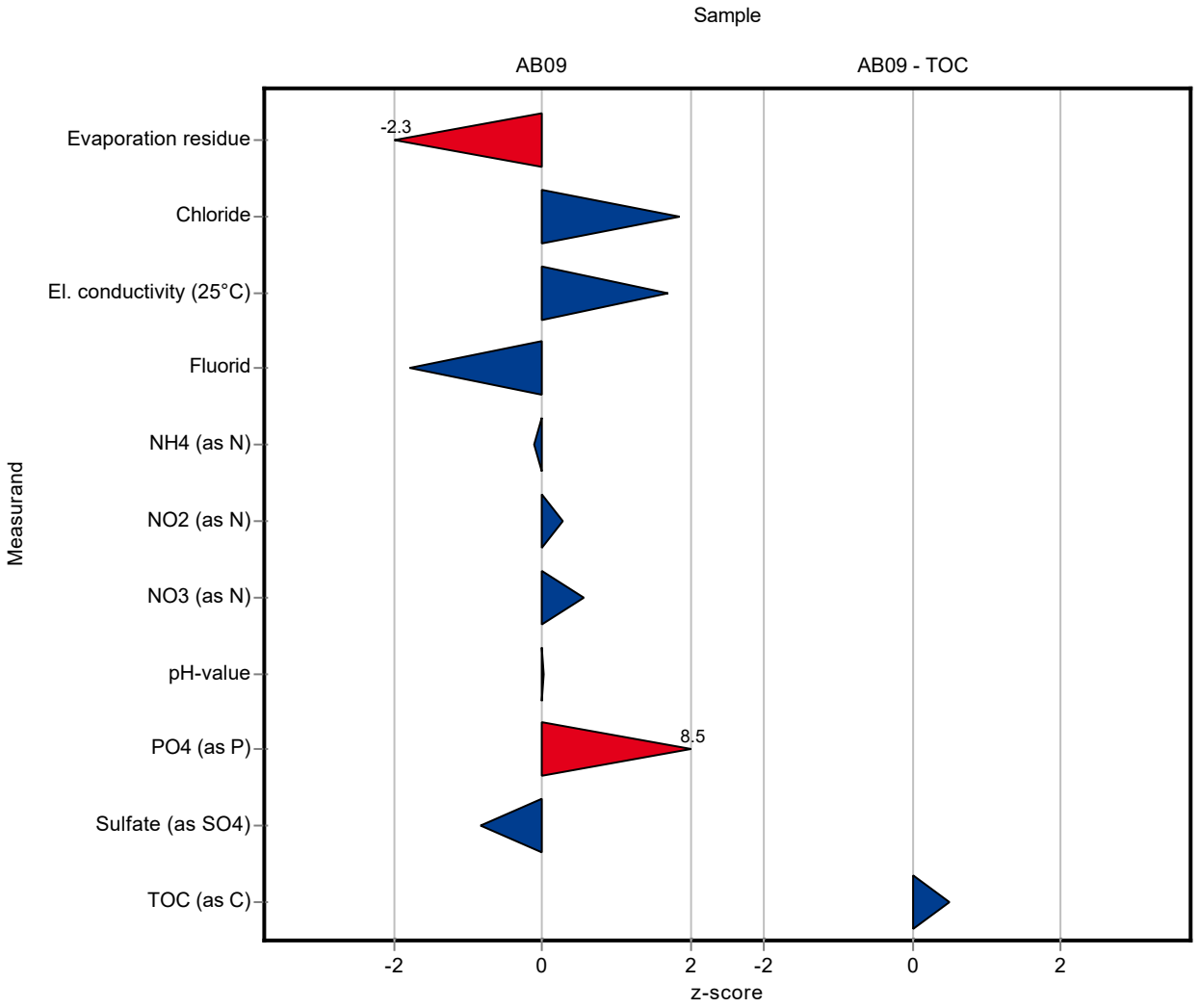

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
1.1
-1
0
1
-1
0
1
En score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
Evaporation residue	mg/l	325 ± 7.82	286 ± 14.3	17.2	88	-2.26
Chloride	mg/l	27.8 ± 0.343	30.35 ± 1.5	1.39	109	1.85
El. conductivity (25°C)	mS/m	53.3 ± 0.324	54.68 ± 0.027	0.8	103	1.69
Fluorid	mg/l	0.523 ± 0.0258	0.4108 ± 0.021	0.0627	78.6	-1.79
NH4 (as N)	mg/l	1.26 ± 0.0378	1.247 ± 0.062	0.091	99.2	-0.11
NO2 (as N)	mg/l	0.202 ± 0.00318	0.2047 ± 0.01	0.0101	101	0.27
NO3 (as N)	mg/l	3.31 ± 0.0693	3.402 ± 0.17	0.166	103	0.56
pH-value		7.93 ± 0.0361	7.931 ± 0.4	0.159	100	0.02
PO4 (as P)	mg/l	0.111 ± 0.0197	0.4389 ± 0.022	0.0387	397	8.49
Sulfate (as SO4)	mg/l	60.2 ± 1.06	57.73 ± 2.9	3.01	95.9	-0.83

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
TOC (as C)	mg/l	7.38 ± 0.359	7.818 ± 0.39	0.886	106	0.49

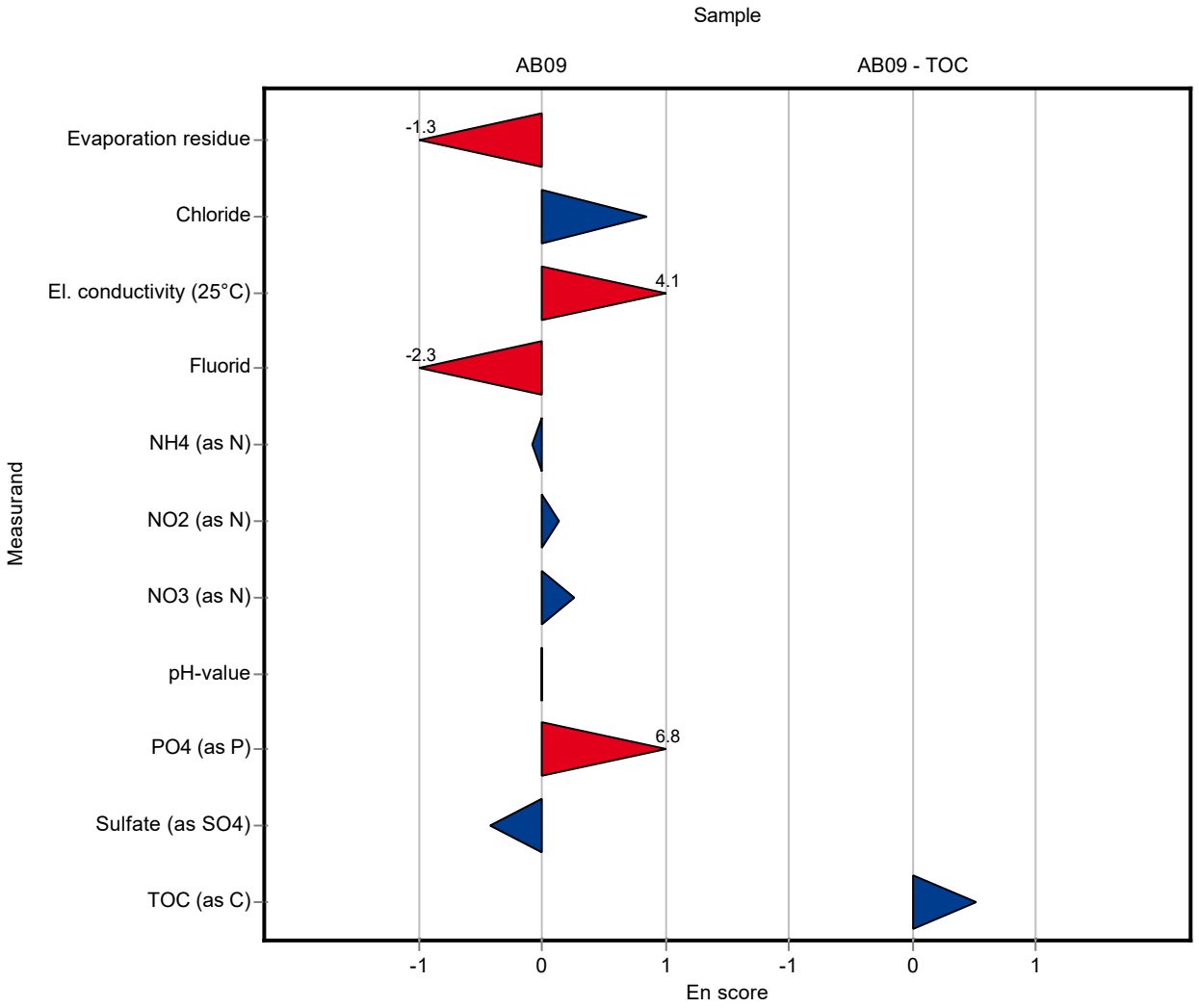

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-2.3
8.5
-2
0
2
-2
0
2
z-score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Evaporation residue	mg/l	325 ± 7.82	286 ± 14.3	17.2	88	-1.31
Chloride	mg/l	27.8 ± 0.343	30.35 ± 1.5	1.39	109	0.85
El. conductivity (25°C)	mS/m	53.3 ± 0.324	54.68 ± 0.027	0.8	103	4.11
Fluorid	mg/l	0.523 ± 0.0258	0.4108 ± 0.021	0.0627	78.6	-2.27
NH4 (as N)	mg/l	1.26 ± 0.0378	1.247 ± 0.062	0.091	99.2	-0.08
NO2 (as N)	mg/l	0.202 ± 0.00318	0.2047 ± 0.01	0.0101	101	0.14
NO3 (as N)	mg/l	3.31 ± 0.0693	3.402 ± 0.17	0.166	103	0.27
pH-value		7.93 ± 0.0361	7.931 ± 0.4	0.159	100	0.00
PO4 (as P)	mg/l	0.111 ± 0.0197	0.4389 ± 0.022	0.0387	397	6.81
Sulfate (as SO4)	mg/l	60.2 ± 1.06	57.73 ± 2.9	3.01	95.9	-0.42

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
TOC (as C)	mg/l	7.38 ± 0.359	7.818 ± 0.39	0.886	106	0.51

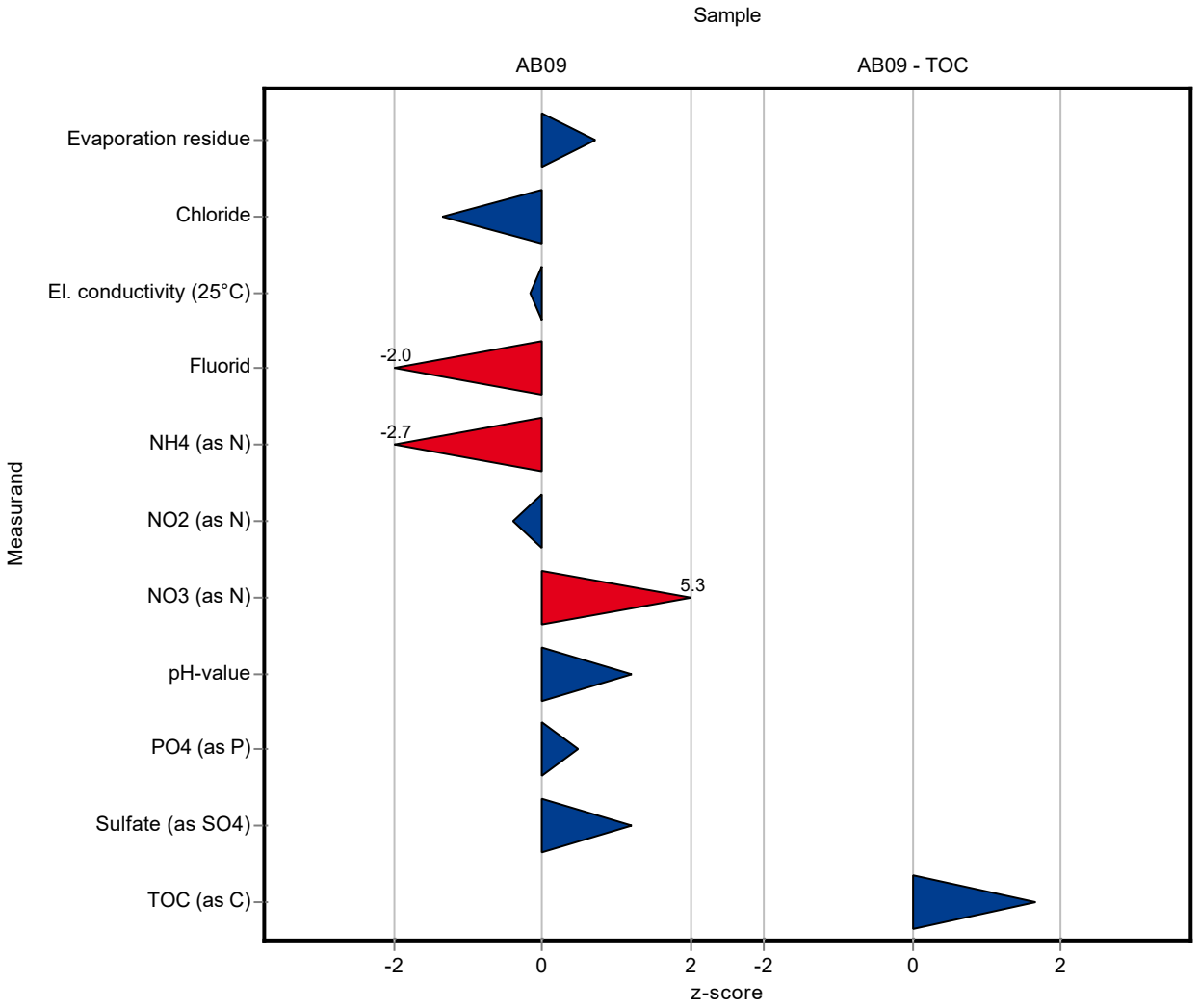

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-1.3
4.1
-2.3
6.8
-1
0
1
-1
0
1
En score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
Evaporation residue	mg/l	325 ± 7.82	337 ± 81.8	17.2	104	0.71
Chloride	mg/l	27.8 ± 0.343	25.9 ± 5.07	1.39	93.2	-1.35
El. conductivity (25°C)	mS/m	53.3 ± 0.324	53.2 ± 1.26	0.8	99.8	-0.16
Fluorid	mg/l	0.523 ± 0.0258	0.397 ± 0.089	0.0627	75.9	-2.01
NH4 (as N)	mg/l	1.26 ± 0.0378	1.01 ± 0.11	0.091	80.4	-2.71
NO2 (as N)	mg/l	0.202 ± 0.00318	0.198 ± 0.023	0.0101	98.1	-0.39
NO3 (as N)	mg/l	3.31 ± 0.0693	4.19 ± 0.87	0.166	127	5.32
pH-value		7.93 ± 0.0361	8.12 ± 0.21	0.159	102	1.21
PO4 (as P)	mg/l	0.111 ± 0.0197	0.129 ± 0.011	0.0387	117	0.48
Sulfate (as SO4)	mg/l	60.2 ± 1.06	63.9 ± 11.1	3.01	106	1.22

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
TOC (as C)	mg/l	7.38 ± 0.359	8.86 ± 1.54	0.886	120	1.67

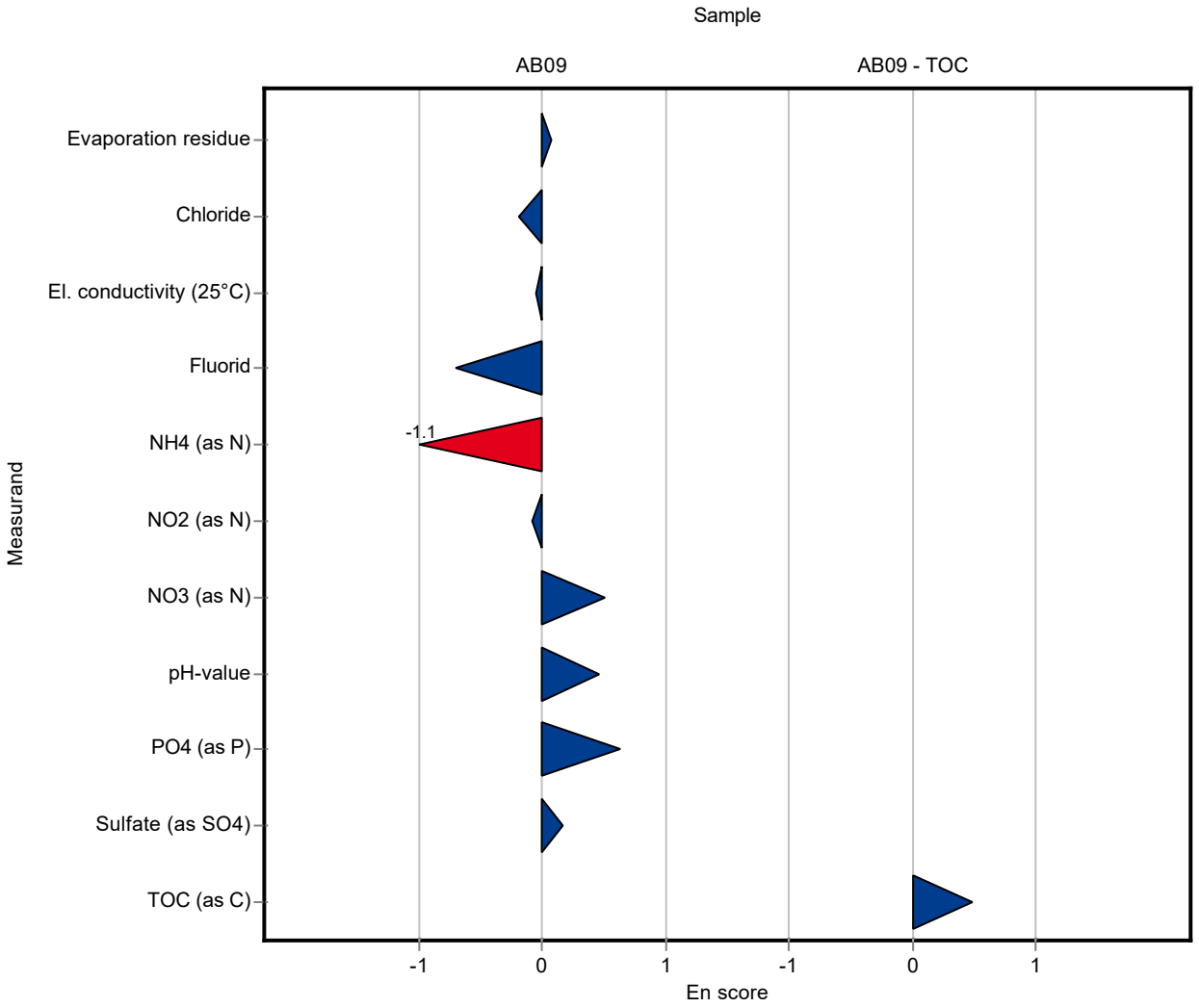

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-2.0
-2.7
5.3
-2
0
2
-2
0
2
z-score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Evaporation residue	mg/l	325 ± 7.82	337 ± 81.8	17.2	104	0.07
Chloride	mg/l	27.8 ± 0.343	25.9 ± 5.07	1.39	93.2	-0.18
El. conductivity (25°C)	mS/m	53.3 ± 0.324	53.2 ± 1.26	0.8	99.8	-0.05
Fluorid	mg/l	0.523 ± 0.0258	0.397 ± 0.089	0.0627	75.9	-0.70
NH4 (as N)	mg/l	1.26 ± 0.0378	1.01 ± 0.11	0.091	80.4	-1.11
NO2 (as N)	mg/l	0.202 ± 0.00318	0.198 ± 0.023	0.0101	98.1	-0.09
NO3 (as N)	mg/l	3.31 ± 0.0693	4.19 ± 0.87	0.166	127	0.51
pH-value		7.93 ± 0.0361	8.12 ± 0.21	0.159	102	0.46
PO4 (as P)	mg/l	0.111 ± 0.0197	0.129 ± 0.011	0.0387	117	0.63
Sulfate (as SO4)	mg/l	60.2 ± 1.06	63.9 ± 11.1	3.01	106	0.17

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
TOC (as C)	mg/l	7.38 ± 0.359	8.86 ± 1.54	0.886	120	0.48

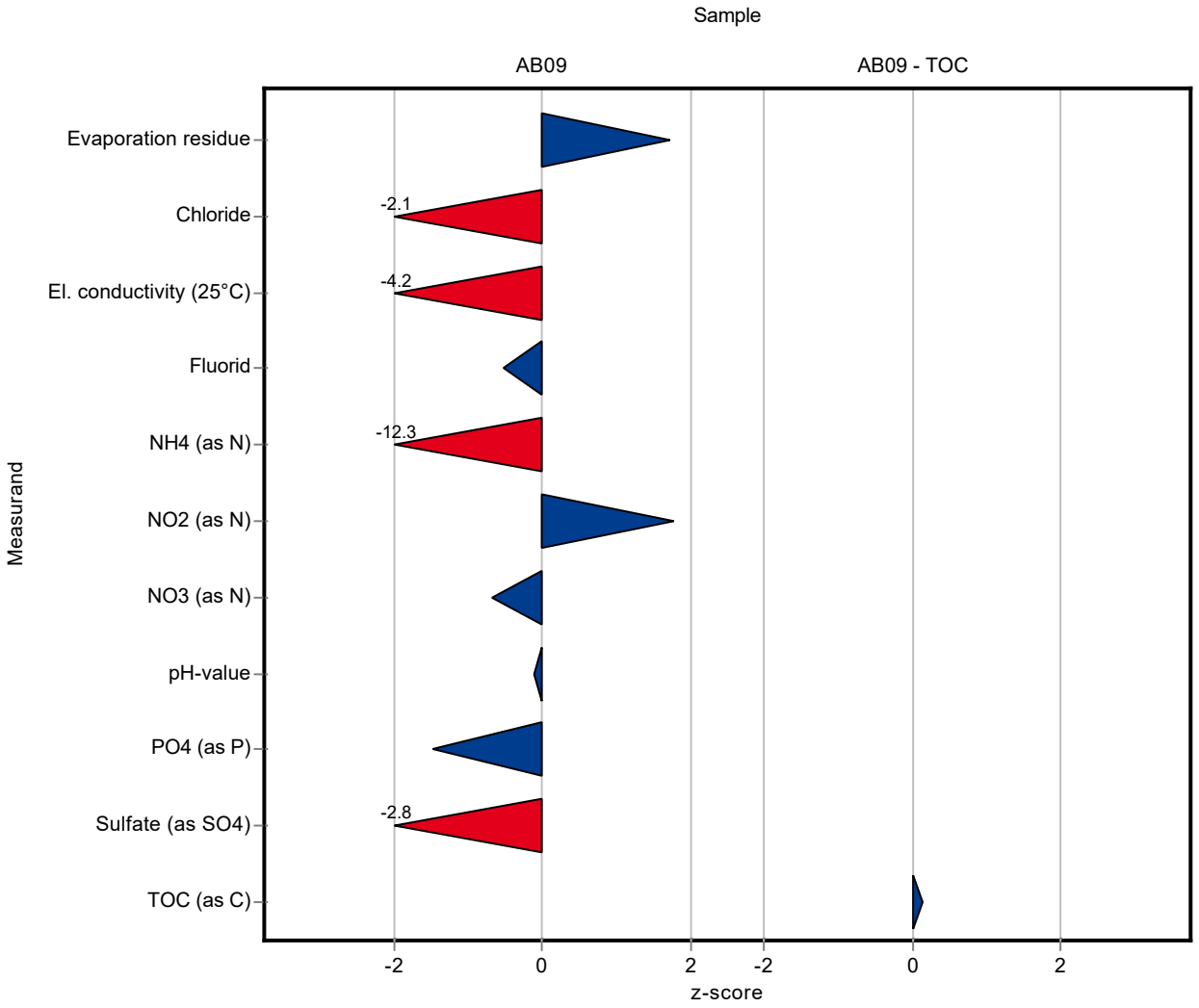

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-1.1
-1
0
1
-1
0
1
En score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
Evaporation residue	mg/l	325 ± 7.82	354.5 ± 34.9	17.2	109	1.72
Chloride	mg/l	27.8 ± 0.343	24.8 ± 0.07	1.39	89.3	-2.14
El. conductivity (25°C)	mS/m	53.3 ± 0.324	50 ± 0.32	0.8	93.8	-4.16
Fluorid	mg/l	0.523 ± 0.0258	0.49 ± 0.01	0.0627	93.7	-0.53
NH4 (as N)	mg/l	1.26 ± 0.0378	0.14 ± 0.004	0.091	11.1	-12.30
NO2 (as N)	mg/l	0.202 ± 0.00318	0.22 ± 0.01	0.0101	109	1.79
NO3 (as N)	mg/l	3.31 ± 0.0693	3.2 ± 0.1	0.166	96.7	-0.66
pH-value		7.93 ± 0.0361	7.91 ± 0.08	0.159	99.8	-0.11
PO4 (as P)	mg/l	0.111 ± 0.0197	0.053 ± 0.002	0.0387	48	-1.49
Sulfate (as SO4)	mg/l	60.2 ± 1.06	51.83 ± 0.13	3.01	86.1	-2.79

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
TOC (as C)	mg/l	7.38 ± 0.359	7.49 ± 0.12	0.886	101	0.12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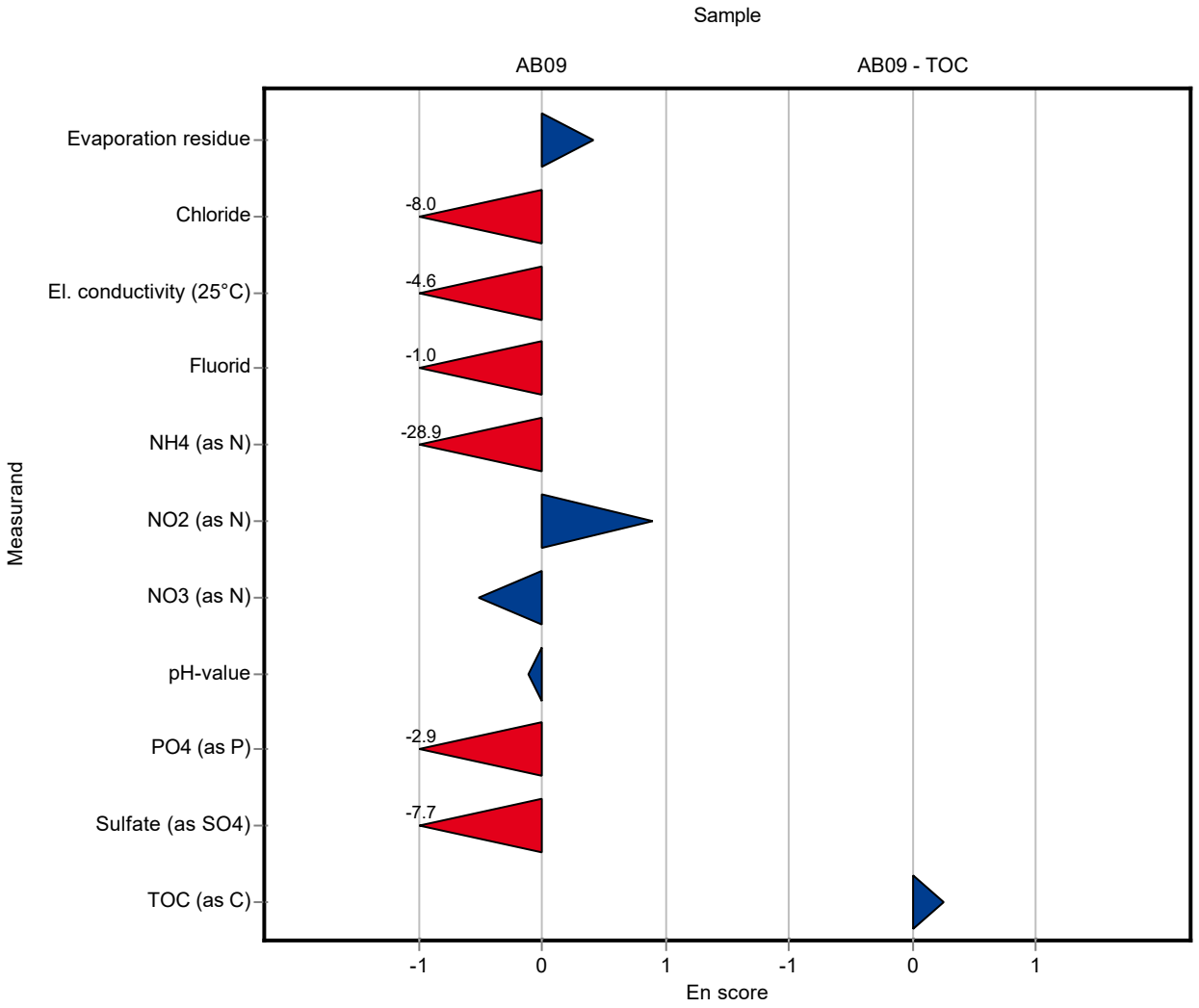
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-2.1
-4.2
-12.3
-2.8
-2
0
2
-2
0
2
z-score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Evaporation residue	mg/l	325 ± 7.82	354.5 ± 34.9	17.2	109	0.42
Chloride	mg/l	27.8 ± 0.343	24.8 ± 0.07	1.39	89.3	-8.04
El. conductivity (25°C)	mS/m	53.3 ± 0.324	50 ± 0.32	0.8	93.8	-4.64
Fluorid	mg/l	0.523 ± 0.0258	0.49 ± 0.01	0.0627	93.7	-1.01
NH4 (as N)	mg/l	1.26 ± 0.0378	0.14 ± 0.004	0.091	11.1	-28.90
NO2 (as N)	mg/l	0.202 ± 0.00318	0.22 ± 0.01	0.0101	109	0.89
NO3 (as N)	mg/l	3.31 ± 0.0693	3.2 ± 0.1	0.166	96.7	-0.52
pH-value		7.93 ± 0.0361	7.91 ± 0.08	0.159	99.8	-0.11
PO4 (as P)	mg/l	0.111 ± 0.0197	0.053 ± 0.002	0.0387	48	-2.86
Sulfate (as SO4)	mg/l	60.2 ± 1.06	51.83 ± 0.13	3.01	86.1	-7.67

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
TOC (as C)	mg/l	7.38 ± 0.359	7.49 ± 0.12	0.886	101	0.25

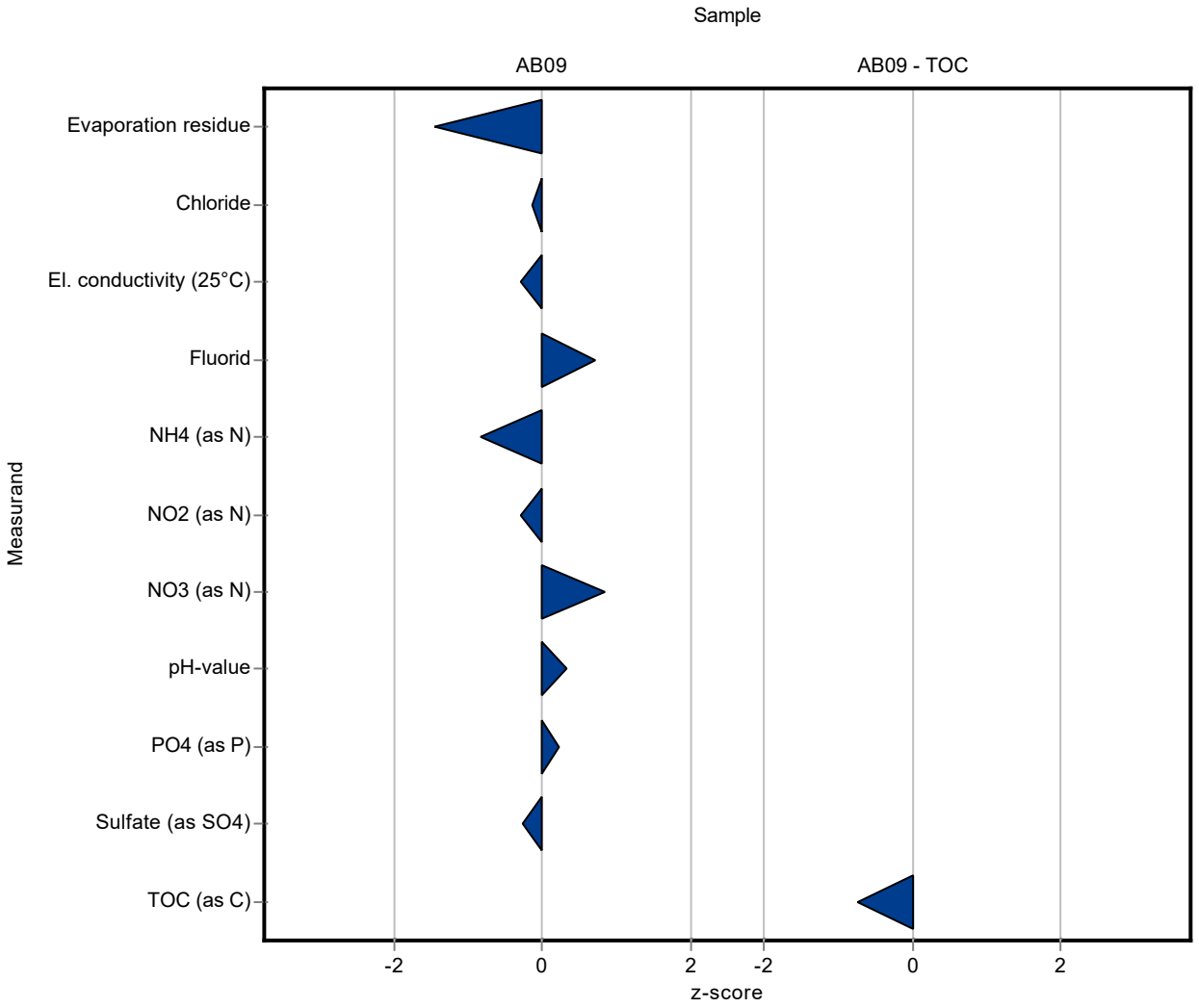

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-8.0
-4.6
-1.0
-28.9
-2.9
-7.7
-1
0
1
-1
0
1
En score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
Evaporation residue	mg/l	325 ± 7.82	300 ± 4	17.2	92.3	-1.44
Chloride	mg/l	27.8 ± 0.343	27.6 ± 0.058	1.39	99.4	-0.13
El. conductivity (25°C)	mS/m	53.3 ± 0.324	53.1 ± 0.1	0.8	99.6	-0.29
Fluorid	mg/l	0.523 ± 0.0258	0.568 ± 0.015	0.0627	109	0.72
NH4 (as N)	mg/l	1.26 ± 0.0378	1.18 ± 0.02	0.091	93.9	-0.84
NO2 (as N)	mg/l	0.202 ± 0.00318	0.199 ± 0.0021	0.0101	98.5	-0.29
NO3 (as N)	mg/l	3.31 ± 0.0693	3.45 ± 0.01	0.166	104	0.85
pH-value		7.93 ± 0.0361	7.98 ± 0.012	0.159	101	0.33
PO4 (as P)	mg/l	0.111 ± 0.0197	0.119 ± 0.003	0.0387	108	0.22
Sulfate (as SO4)	mg/l	60.2 ± 1.06	59.4 ± 0.25	3.01	98.6	-0.28

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
TOC (as C)	mg/l	7.38 ± 0.359	6.72 ± 0.046	0.886	91	-0.75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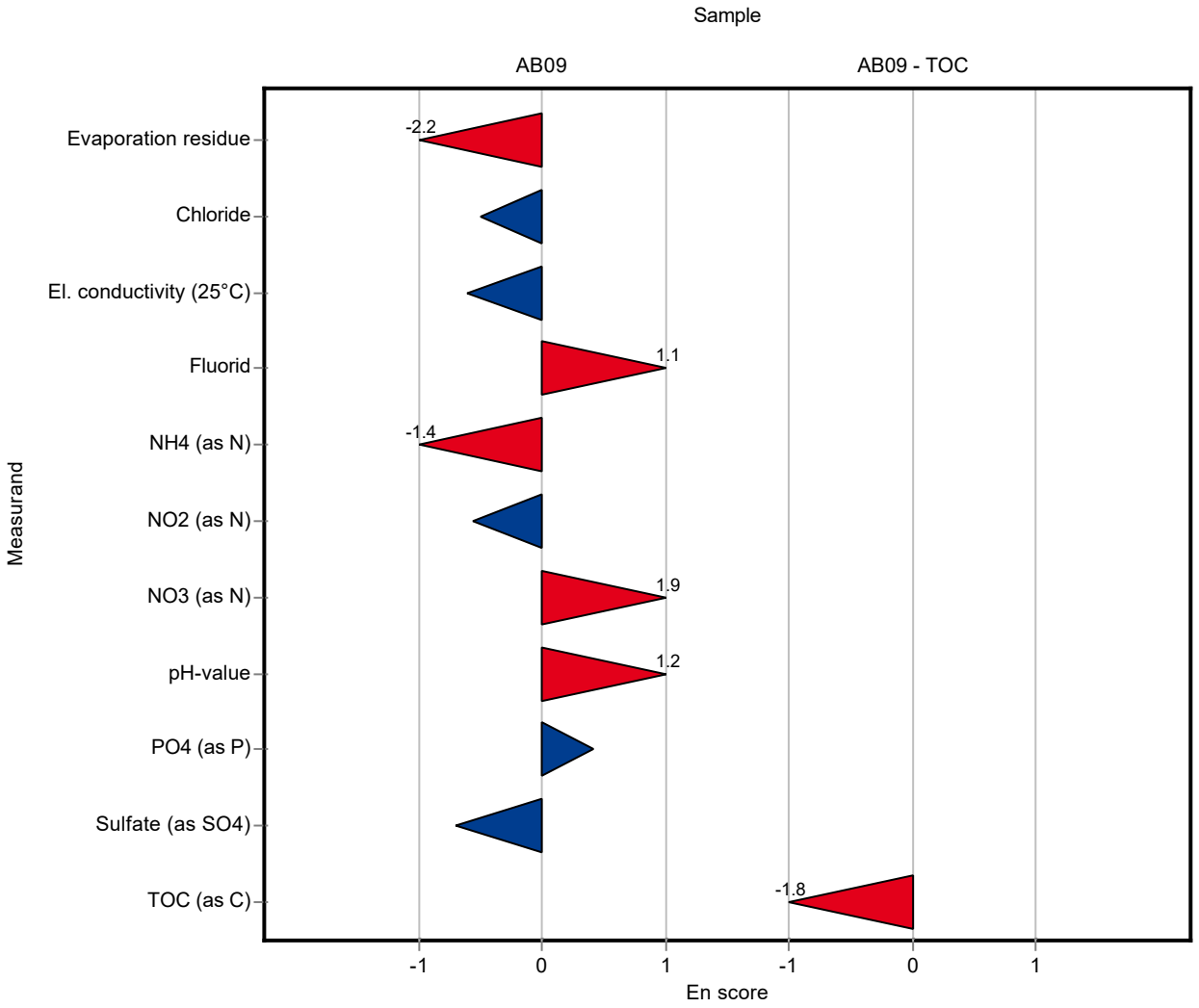
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-2
0
2
-2
0
2
z-score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Evaporation residue	mg/l	325 ± 7.82	300 ± 4	17.2	92.3	-2.22
Chloride	mg/l	27.8 ± 0.343	27.6 ± 0.058	1.39	99.4	-0.49
El. conductivity (25°C)	mS/m	53.3 ± 0.324	53.1 ± 0.1	0.8	99.6	-0.60
Fluorid	mg/l	0.523 ± 0.0258	0.568 ± 0.015	0.0627	109	1.14
NH4 (as N)	mg/l	1.26 ± 0.0378	1.18 ± 0.02	0.091	93.9	-1.40
NO2 (as N)	mg/l	0.202 ± 0.00318	0.199 ± 0.0021	0.0101	98.5	-0.56
NO3 (as N)	mg/l	3.31 ± 0.0693	3.45 ± 0.01	0.166	104	1.94
pH-value		7.93 ± 0.0361	7.98 ± 0.012	0.159	101	1.20
PO4 (as P)	mg/l	0.111 ± 0.0197	0.119 ± 0.003	0.0387	108	0.41
Sulfate (as SO4)	mg/l	60.2 ± 1.06	59.4 ± 0.25	3.01	98.6	-0.70

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
TOC (as C)	mg/l	7.38 ± 0.359	6.72 ± 0.046	0.886	91	-1.79

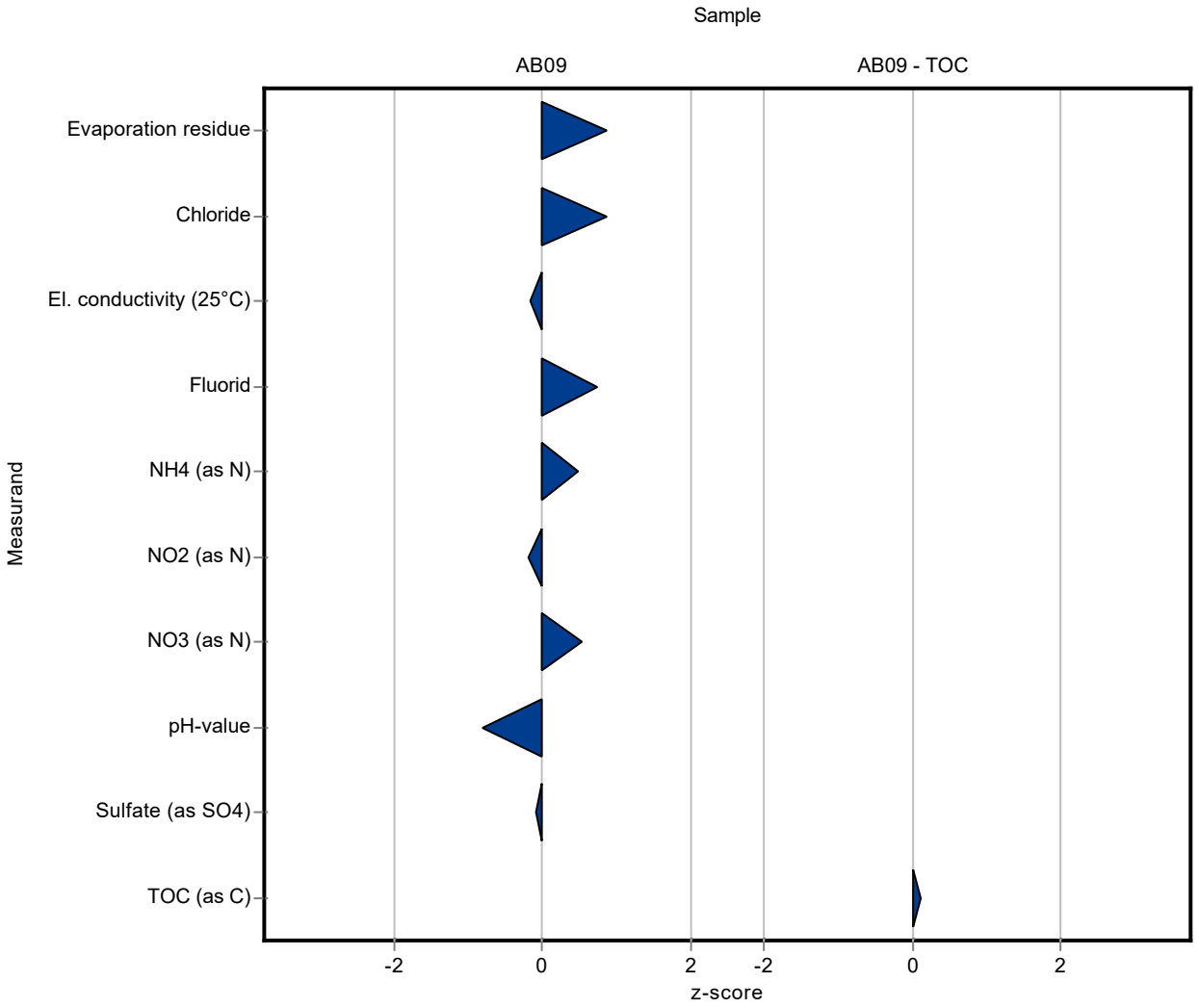

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-2.2
1.1
-1.4
1.9
1.2
-1.8
-1
0
1
-1
0
1
En score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
Evaporation residue	mg/l	325 ± 7.82	340 ± 34	17.2	105	0.88
Chloride	mg/l	27.8 ± 0.343	29 ± 2.9	1.39	104	0.88
El. conductivity (25°C)	mS/m	53.3 ± 0.324	53.2 ± 2.6	0.8	99.8	-0.16
Fluorid	mg/l	0.523 ± 0.0258	0.57 ± 0.06	0.0627	109	0.75
NH4 (as N)	mg/l	1.26 ± 0.0378	1.3 ± 0.1	0.091	103	0.47
NO2 (as N)	mg/l	0.202 ± 0.00318	0.2 ± 0.02	0.0101	99	-0.19
NO3 (as N)	mg/l	3.31 ± 0.0693	3.4 ± 0.3	0.166	103	0.54
pH-value		7.93 ± 0.0361	7.8 ± 0.8	0.159	98.4	-0.81
PO4 (as P)	mg/l	0.111 ± 0.0197	<0.16 (LOQ) ± -	0.0387	-	-
Sulfate (as SO4)	mg/l	60.2 ± 1.06	60 ± 6	3.01	99.6	-0.08

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
TOC (as C)	mg/l	7.38 ± 0.359	7.47 ± 0.8	0.886	101	0.10

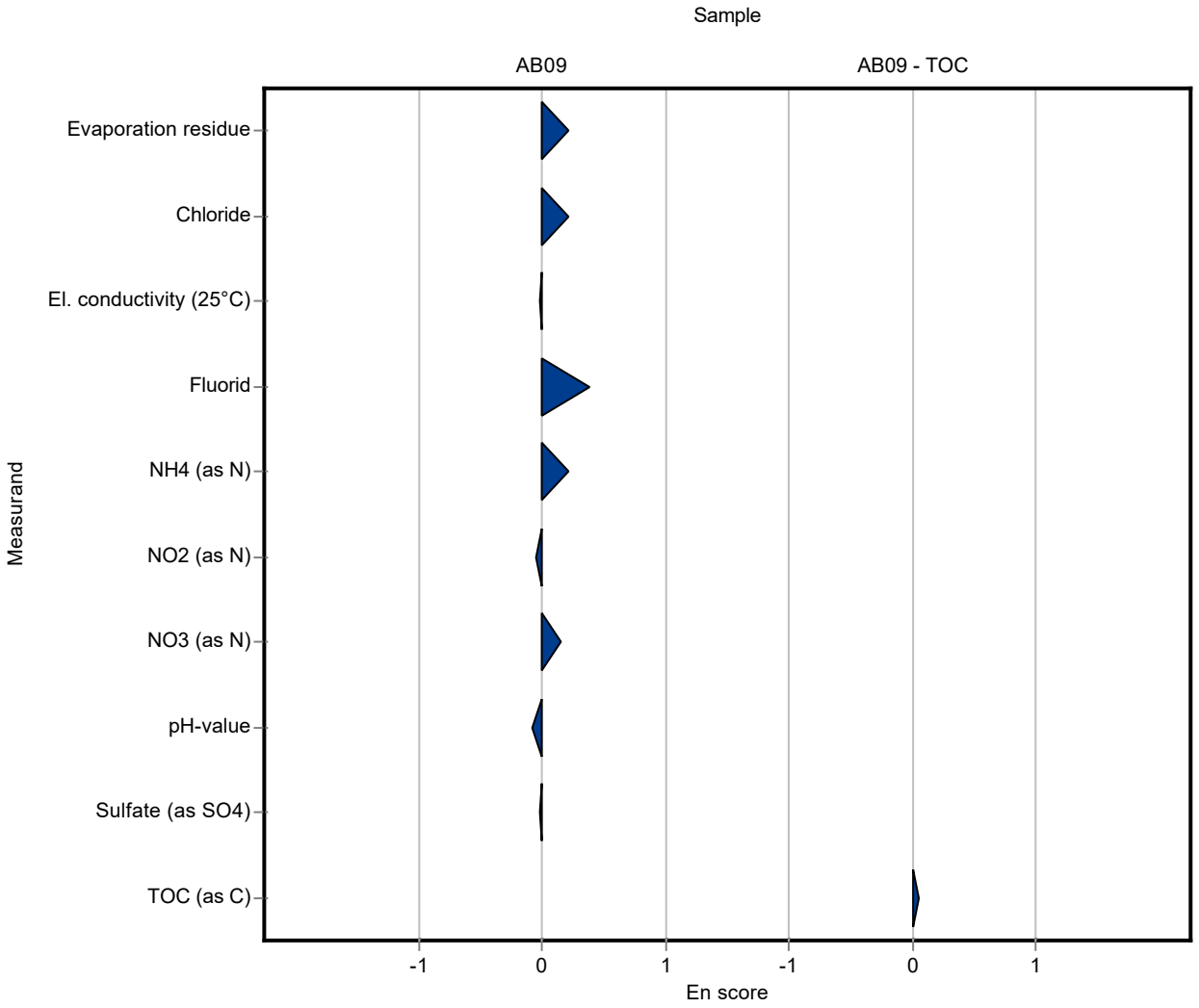

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
Sulfate (as SO4)
TOC (as C)
Measurand
-2
0
2
-2
0
2
z-score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Evaporation residue	mg/l	325 ± 7.82	340 ± 34	17.2	105	0.22
Chloride	mg/l	27.8 ± 0.343	29 ± 2.9	1.39	104	0.21
El. conductivity (25°C)	mS/m	53.3 ± 0.324	53.2 ± 2.6	0.8	99.8	-0.02
Fluorid	mg/l	0.523 ± 0.0258	0.57 ± 0.06	0.0627	109	0.38
NH4 (as N)	mg/l	1.26 ± 0.0378	1.3 ± 0.1	0.091	103	0.21
NO2 (as N)	mg/l	0.202 ± 0.00318	0.2 ± 0.02	0.0101	99	-0.05
NO3 (as N)	mg/l	3.31 ± 0.0693	3.4 ± 0.3	0.166	103	0.15
pH-value		7.93 ± 0.0361	7.8 ± 0.8	0.159	98.4	-0.08
PO4 (as P)	mg/l	0.111 ± 0.0197	<0.16 (LOQ) ± -	0.0387	-	-
Sulfate (as SO4)	mg/l	60.2 ± 1.06	60 ± 6	3.01	99.6	-0.02

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
TOC (as C)	mg/l	7.38 ± 0.359	7.47 ± 0.8	0.886	101	0.05

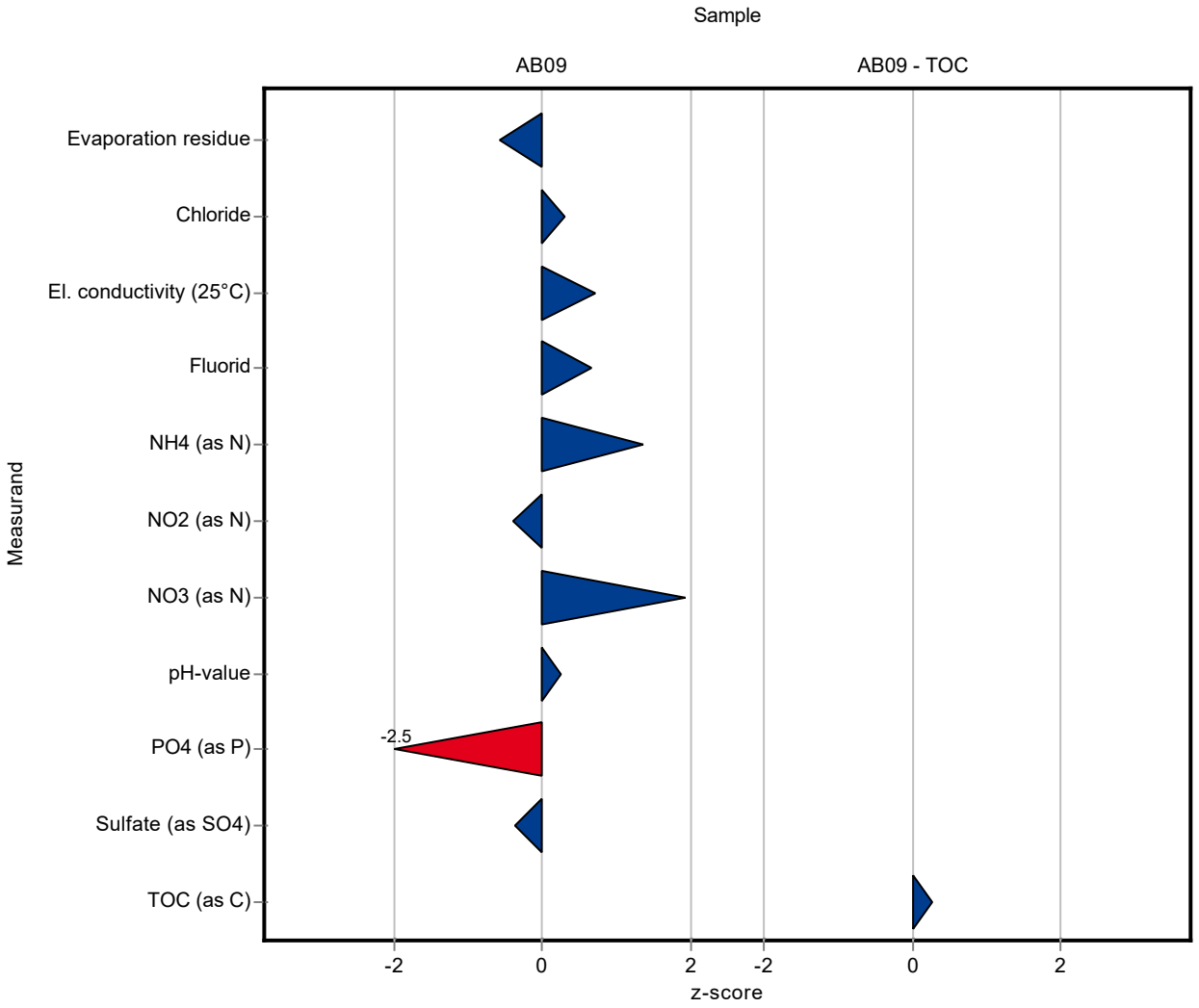

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
Sulfate (as SO4)
TOC (as C)
Measurand
-1
0
1
-1
0
1
En score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
Evaporation residue	mg/l	325 ± 7.82	315 ± 16	17.2	97	-0.57
Chloride	mg/l	27.8 ± 0.343	28.2 ± 1.44	1.39	102	0.30
El. conductivity (25°C)	mS/m	53.3 ± 0.324	53.9 ± 0.86	0.8	101	0.71
Fluorid	mg/l	0.523 ± 0.0258	0.564 ± 0.04	0.0627	108	0.66
NH4 (as N)	mg/l	1.26 ± 0.0378	1.38 ± 0.09	0.091	110	1.35
NO2 (as N)	mg/l	0.202 ± 0.00318	0.198 ± 0.015	0.0101	98.1	-0.39
NO3 (as N)	mg/l	3.31 ± 0.0693	3.63 ± 0.22	0.166	110	1.93
pH-value		7.93 ± 0.0361	7.97 ± 0.12	0.159	101	0.27
PO4 (as P)	mg/l	0.111 ± 0.0197	0.0121 ± 0.001	0.0387	11	-2.54
Sulfate (as SO4)	mg/l	60.2 ± 1.06	59.1 ± 4.1	3.01	98.1	-0.37

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
TOC (as C)	mg/l	7.38 ± 0.359	7.61 ± 0.152	0.886	103	0.26

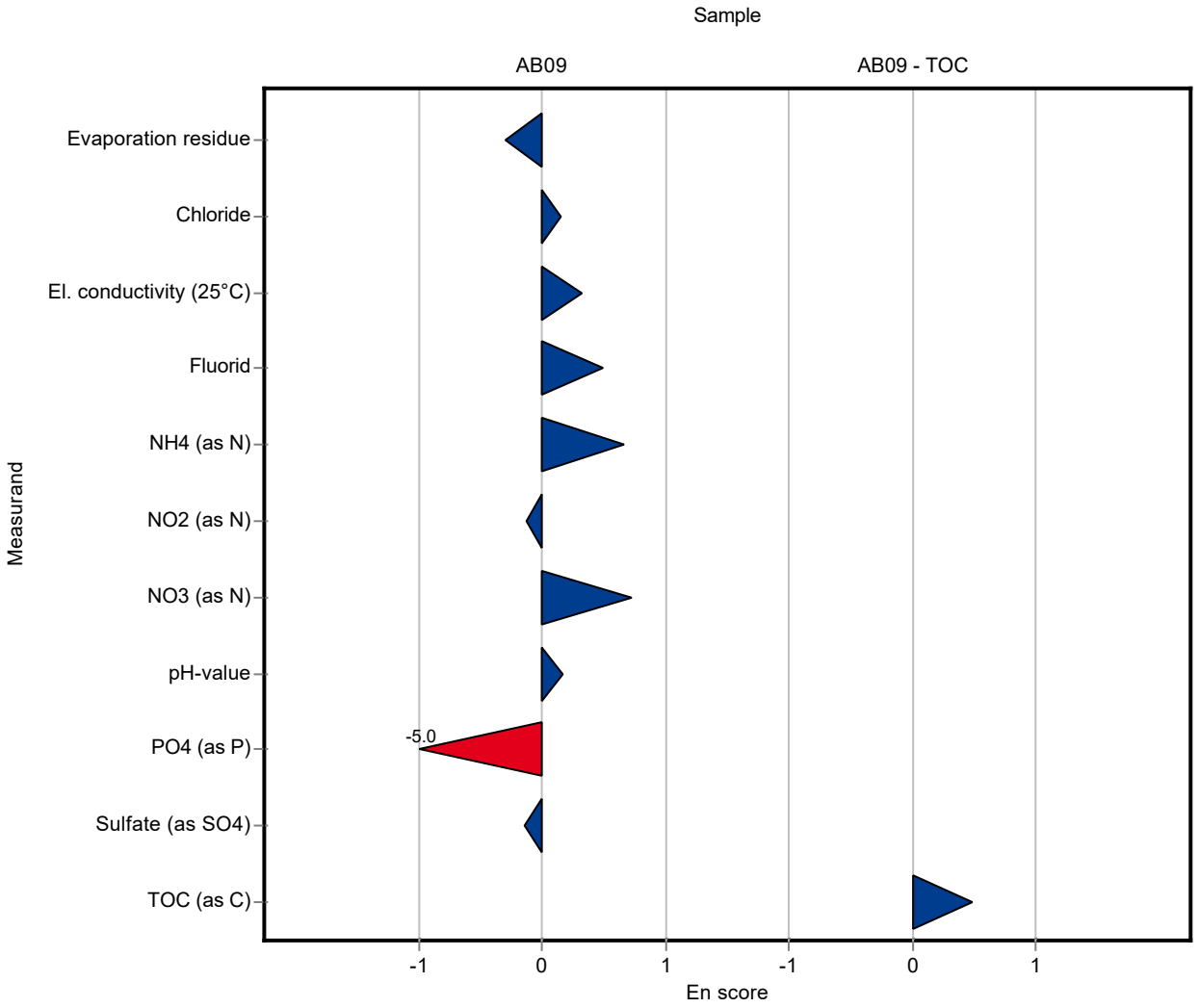

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-2.5
-2
0
2
-2
0
2
z-score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Evaporation residue	mg/l	325 ± 7.82	315 ± 16	17.2	97	-0.30
Chloride	mg/l	27.8 ± 0.343	28.2 ± 1.44	1.39	102	0.14
El. conductivity (25°C)	mS/m	53.3 ± 0.324	53.9 ± 0.86	0.8	101	0.33
Fluorid	mg/l	0.523 ± 0.0258	0.564 ± 0.04	0.0627	108	0.49
NH4 (as N)	mg/l	1.26 ± 0.0378	1.38 ± 0.09	0.091	110	0.67
NO2 (as N)	mg/l	0.202 ± 0.00318	0.198 ± 0.015	0.0101	98.1	-0.13
NO3 (as N)	mg/l	3.31 ± 0.0693	3.63 ± 0.22	0.166	110	0.72
pH-value		7.93 ± 0.0361	7.97 ± 0.12	0.159	101	0.17
PO4 (as P)	mg/l	0.111 ± 0.0197	0.0121 ± 0.001	0.0387	11	-4.97
Sulfate (as SO4)	mg/l	60.2 ± 1.06	59.1 ± 4.1	3.01	98.1	-0.14

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
TOC (as C)	mg/l	7.38 ± 0.359	7.61 ± 0.152	0.886	103	0.48

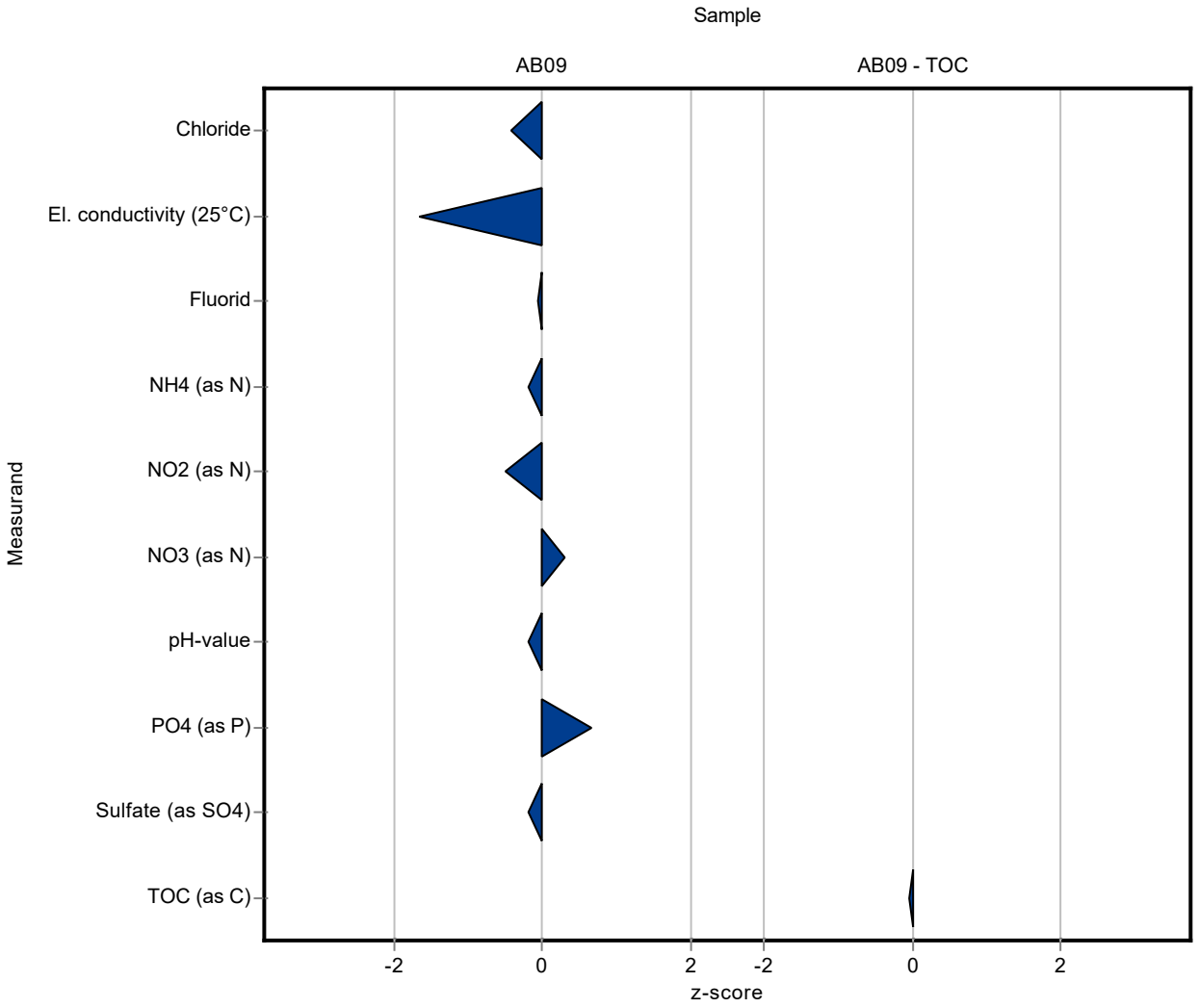

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-5.0
-1
0
1
-1
0
1
En score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
Evaporation residue	mg/l	325 ± 7.82	- ± -	17.2	-	-
Chloride	mg/l	27.8 ± 0.343	27.2 ± 0.73	1.39	97.9	-0.42
El. conductivity (25°C)	mS/m	53.3 ± 0.324	52 ± 0.83	0.8	97.5	-1.66
Fluorid	mg/l	0.523 ± 0.0258	0.52 ± 0.026	0.0627	99.4	-0.05
NH4 (as N)	mg/l	1.26 ± 0.0378	1.24 ± 0.062	0.091	98.7	-0.18
NO2 (as N)	mg/l	0.202 ± 0.00318	0.197 ± 0.011	0.0101	97.6	-0.49
NO3 (as N)	mg/l	3.31 ± 0.0693	3.36 ± 0.051	0.166	102	0.30
pH-value		7.93 ± 0.0361	7.9 ± 0.14	0.159	99.6	-0.18
PO4 (as P)	mg/l	0.111 ± 0.0197	0.136 ± 0.004	0.0387	123	0.66
Sulfate (as SO4)	mg/l	60.2 ± 1.06	59.7 ± 1.31	3.01	99.1	-0.17

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
TOC (as C)	mg/l	7.38 ± 0.359	7.34 ± 0.649	0.886	99.4	-0.05

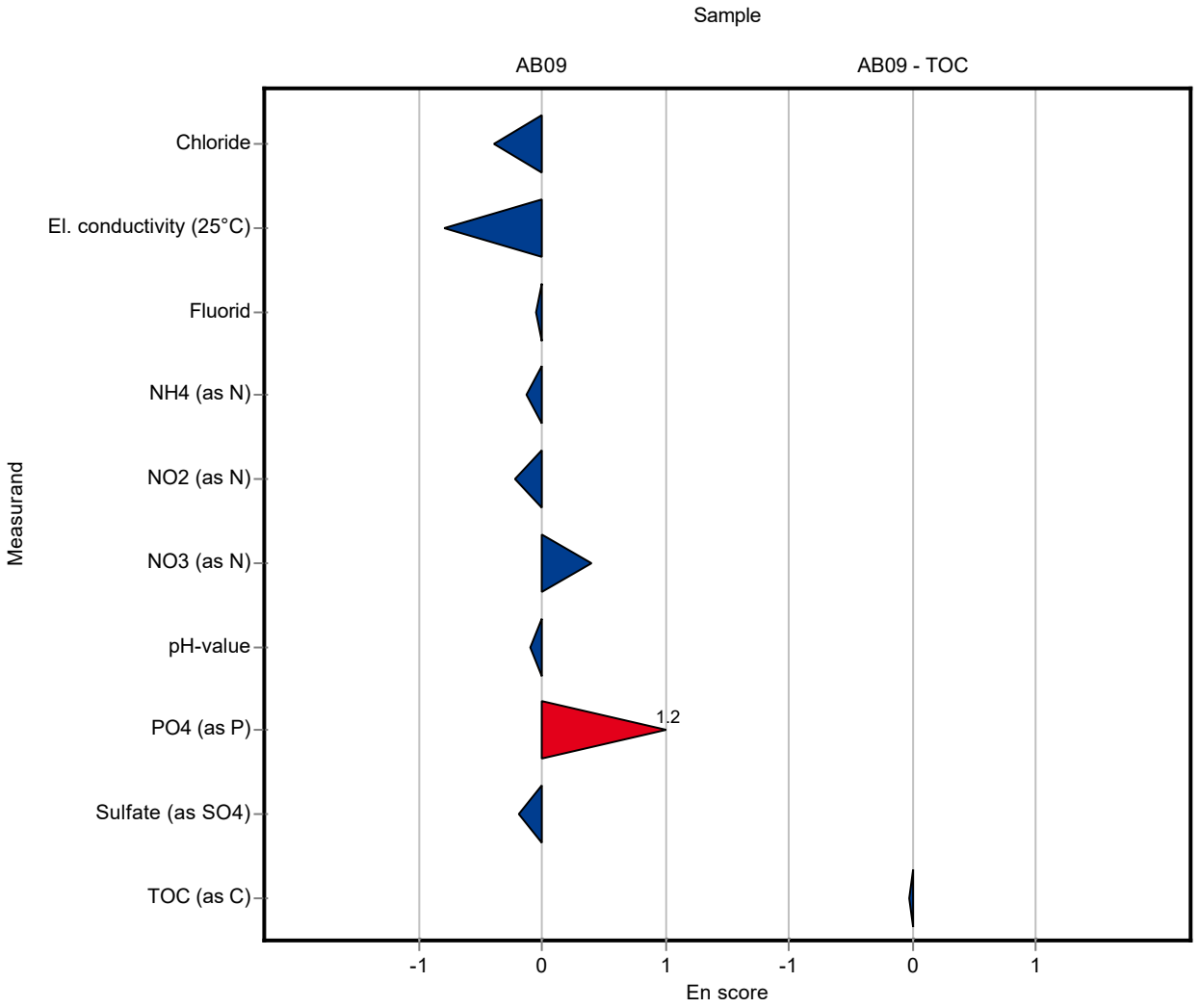

Sample
AB09
AB09 - TOC
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-2
0
2
-2
0
2
z-score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Evaporation residue	mg/l	325 ± 7.82	- ± -	17.2	-	-
Chloride	mg/l	27.8 ± 0.343	27.2 ± 0.73	1.39	97.9	-0.39
El. conductivity (25°C)	mS/m	53.3 ± 0.324	52 ± 0.83	0.8	97.5	-0.79
Fluorid	mg/l	0.523 ± 0.0258	0.52 ± 0.026	0.0627	99.4	-0.05
NH4 (as N)	mg/l	1.26 ± 0.0378	1.24 ± 0.062	0.091	98.7	-0.13
NO2 (as N)	mg/l	0.202 ± 0.00318	0.197 ± 0.011	0.0101	97.6	-0.22
NO3 (as N)	mg/l	3.31 ± 0.0693	3.36 ± 0.051	0.166	102	0.41
pH-value		7.93 ± 0.0361	7.9 ± 0.14	0.159	99.6	-0.10
PO4 (as P)	mg/l	0.111 ± 0.0197	0.136 ± 0.004	0.0387	123	1.20
Sulfate (as SO4)	mg/l	60.2 ± 1.06	59.7 ± 1.31	3.01	99.1	-0.19

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
TOC (as C)	mg/l	7.38 ± 0.359	7.34 ± 0.649	0.886	99.4	-0.03

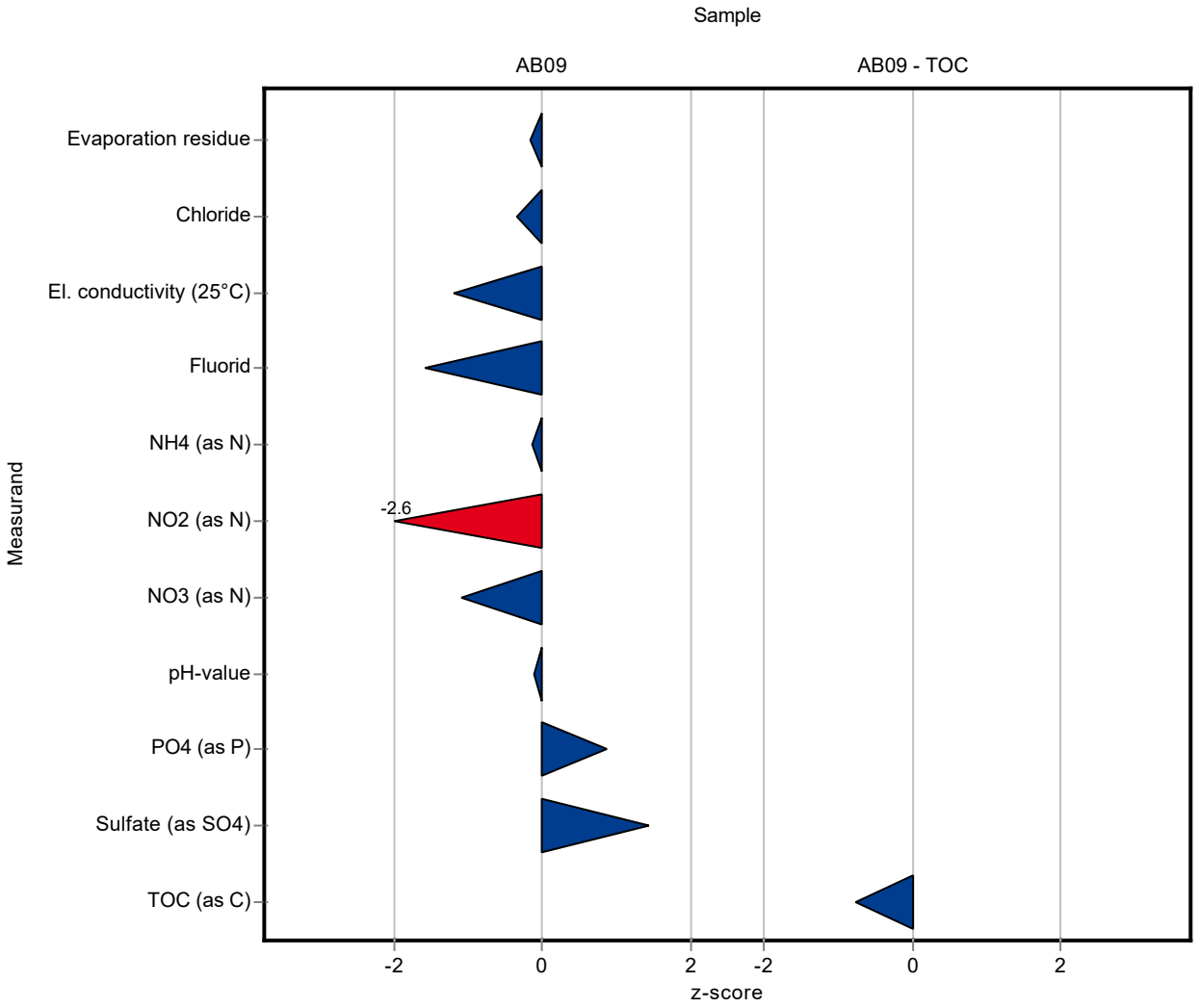

Sample
AB09
AB09 - TOC
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
1.2
-1
0
1
-1
0
1
En score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
Evaporation residue	mg/l	325 ± 7.82	322 ± 12	17.2	99.1	-0.17
Chloride	mg/l	27.8 ± 0.343	27.3 ± 1.1	1.39	98.3	-0.34
El. conductivity (25°C)	mS/m	53.3 ± 0.324	52.38 ± 1.9	0.8	98.2	-1.19
Fluorid	mg/l	0.523 ± 0.0258	0.424 ± 0.038	0.0627	81.1	-1.58
NH4 (as N)	mg/l	1.26 ± 0.0378	1.245 ± 0.095	0.091	99.1	-0.13
NO2 (as N)	mg/l	0.202 ± 0.00318	0.176 ± 0.012	0.0101	87.2	-2.57
NO3 (as N)	mg/l	3.31 ± 0.0693	3.13 ± 0.21	0.166	94.6	-1.09
pH-value		7.93 ± 0.0361	7.91 ± 0.04	0.159	99.8	-0.11
PO4 (as P)	mg/l	0.111 ± 0.0197	0.144 ± 0.015	0.0387	130	0.87
Sulfate (as SO4)	mg/l	60.2 ± 1.06	64.57 ± 12	3.01	107	1.44

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
TOC (as C)	mg/l	7.38 ± 0.359	6.7 ± 0.21	0.886	90.8	-0.77

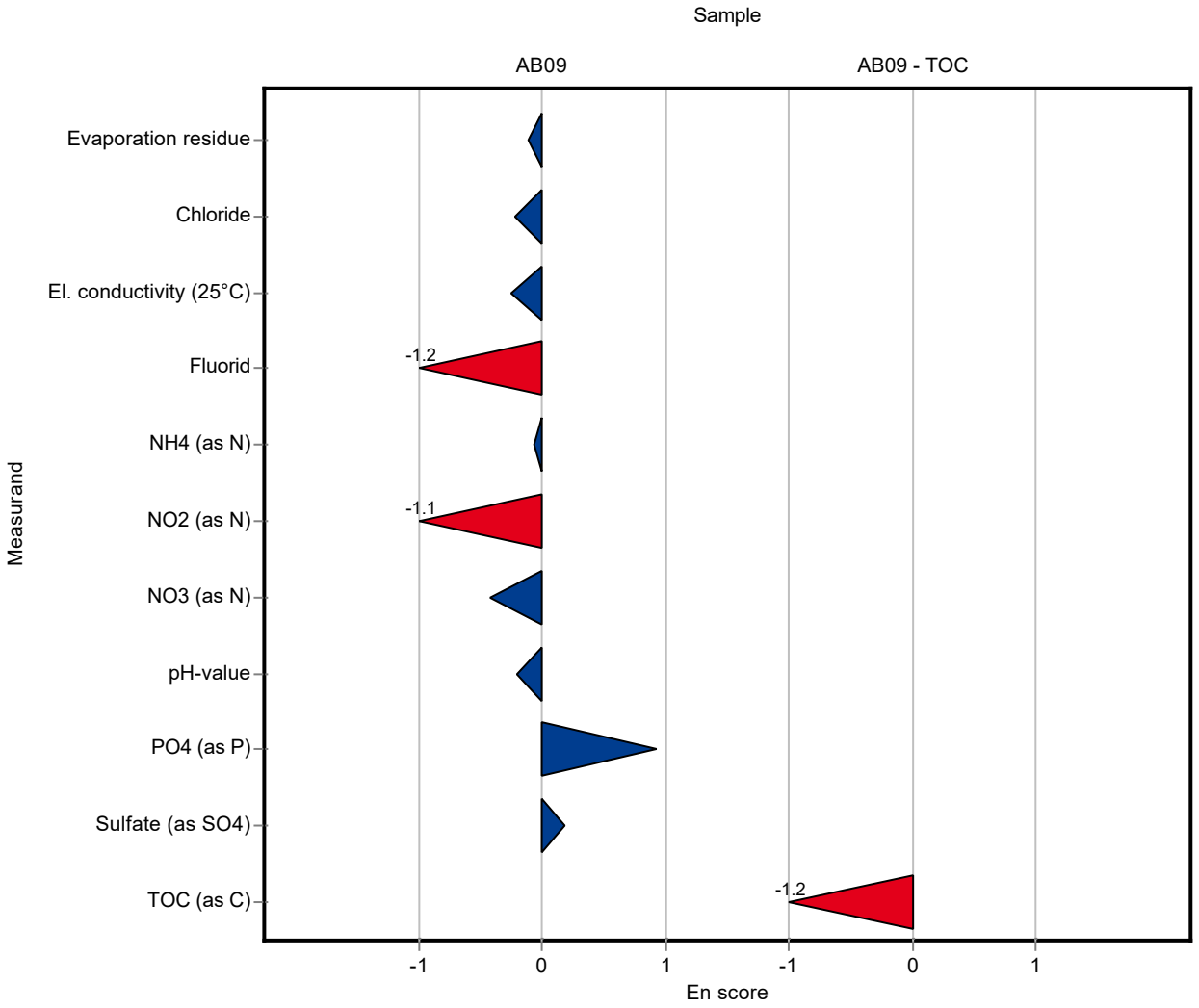

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-2.6
-2
0
2
-2
0
2
z-score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Evaporation residue	mg/l	325 ± 7.82	322 ± 12	17.2	99.1	-0.11
Chloride	mg/l	27.8 ± 0.343	27.3 ± 1.1	1.39	98.3	-0.21
El. conductivity (25°C)	mS/m	53.3 ± 0.324	52.38 ± 1.9	0.8	98.2	-0.25
Fluorid	mg/l	0.523 ± 0.0258	0.424 ± 0.038	0.0627	81.1	-1.23
NH4 (as N)	mg/l	1.26 ± 0.0378	1.245 ± 0.095	0.091	99.1	-0.06
NO2 (as N)	mg/l	0.202 ± 0.00318	0.176 ± 0.012	0.0101	87.2	-1.07
NO3 (as N)	mg/l	3.31 ± 0.0693	3.13 ± 0.21	0.166	94.6	-0.42
pH-value		7.93 ± 0.0361	7.91 ± 0.04	0.159	99.8	-0.21
PO4 (as P)	mg/l	0.111 ± 0.0197	0.144 ± 0.015	0.0387	130	0.93
Sulfate (as SO4)	mg/l	60.2 ± 1.06	64.57 ± 12	3.01	107	0.18

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
TOC (as C)	mg/l	7.38 ± 0.359	6.7 ± 0.21	0.886	90.8	-1.24

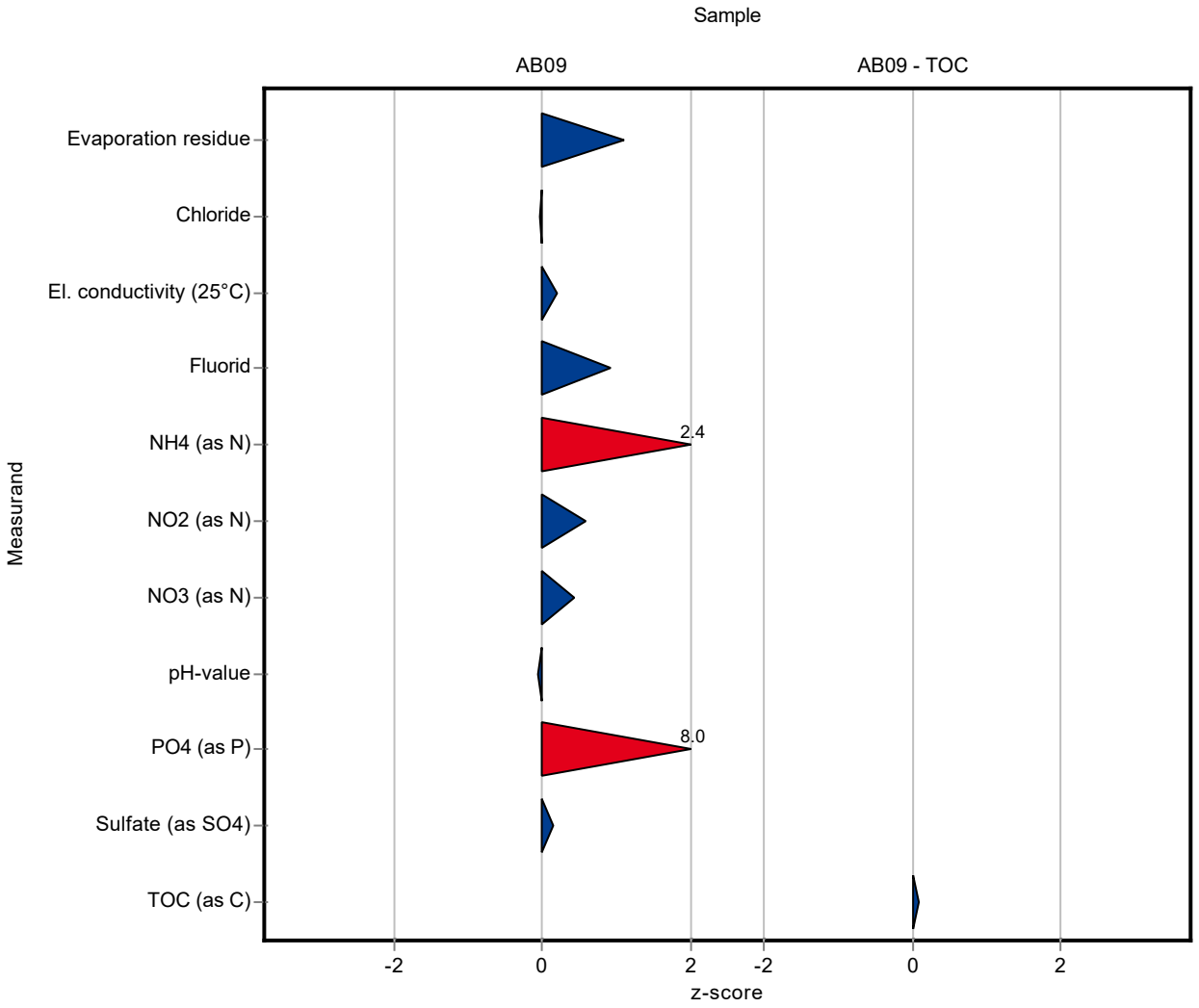

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-1.2
-1.1
-1.2
-1
0
1
-1
0
1
En score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
Evaporation residue	mg/l	325 ± 7.82	344 ± 34.4	17.2	106	1.11
Chloride	mg/l	27.8 ± 0.343	27.731 ± 0.555	1.39	99.8	-0.03
El. conductivity (25°C)	mS/m	53.3 ± 0.324	53.5 ± 0.00214	0.8	100	0.21
Fluorid	mg/l	0.523 ± 0.0258	0.581 ± 0.0378	0.0627	111	0.93
NH4 (as N)	mg/l	1.26 ± 0.0378	1.472 ± 0.0515	0.091	117	2.36
NO2 (as N)	mg/l	0.202 ± 0.00318	0.208 ± 0.021	0.0101	103	0.60
NO3 (as N)	mg/l	3.31 ± 0.0693	3.38 ± 0.0676	0.166	102	0.42
pH-value		7.93 ± 0.0361	7.92 ± 0.19	0.159	99.9	-0.05
PO4 (as P)	mg/l	0.111 ± 0.0197	0.421 ± 0.223	0.0387	381	8.03
Sulfate (as SO4)	mg/l	60.2 ± 1.06	60.707 ± 1.821	3.01	101	0.16

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
TOC (as C)	mg/l	7.38 ± 0.359	7.454 ± 0.716	0.886	101	0.08

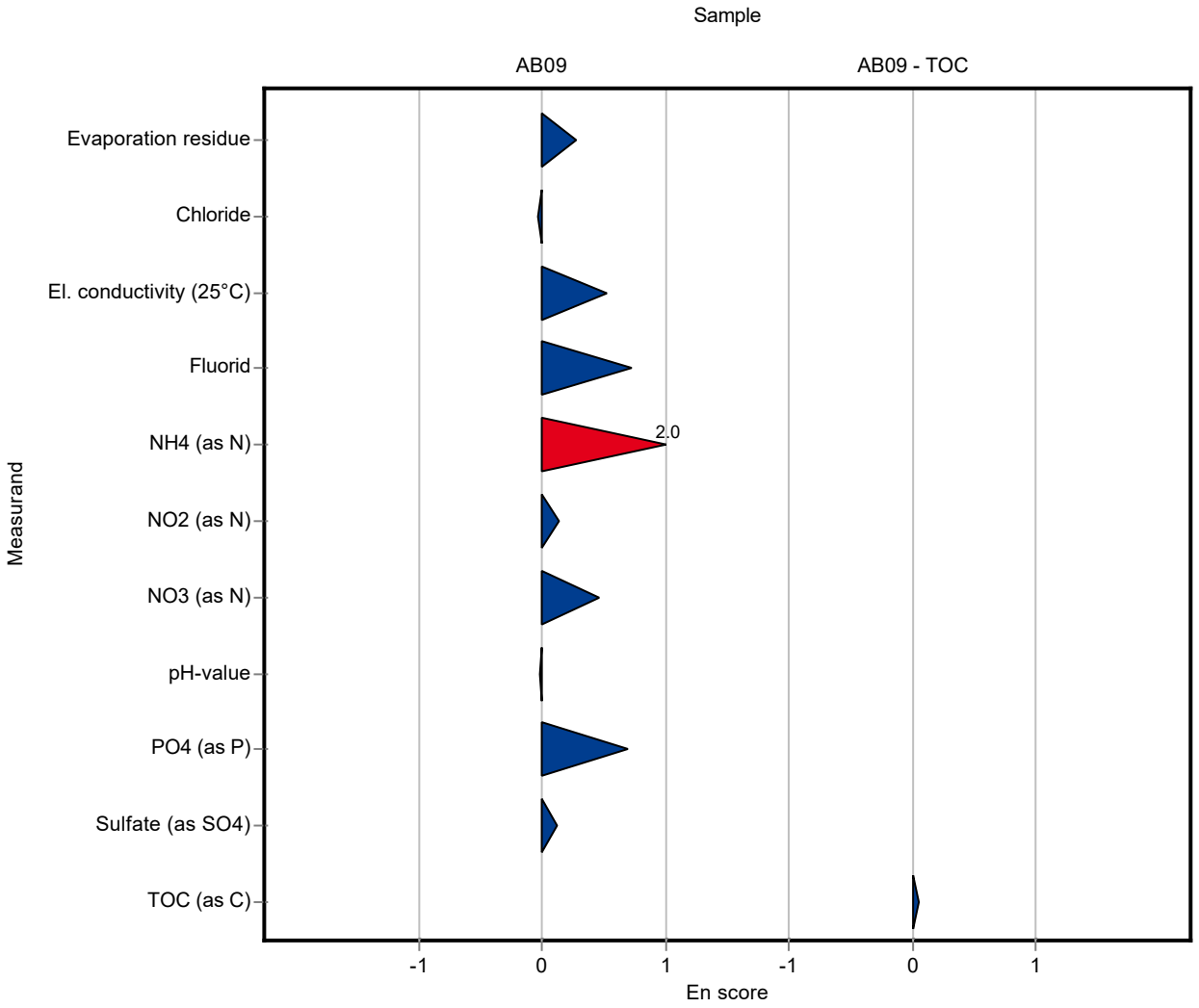

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
2.4
8.0
-2
0
2
-2
0
2
z-score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Evaporation residue	mg/l	325 ± 7.82	344 ± 34.4	17.2	106	0.28
Chloride	mg/l	27.8 ± 0.343	27.731 ± 0.555	1.39	99.8	-0.04
El. conductivity (25°C)	mS/m	53.3 ± 0.324	53.5 ± 0.00214	0.8	100	0.53
Fluorid	mg/l	0.523 ± 0.0258	0.581 ± 0.0378	0.0627	111	0.73
NH4 (as N)	mg/l	1.26 ± 0.0378	1.472 ± 0.0515	0.091	117	1.96
NO2 (as N)	mg/l	0.202 ± 0.00318	0.208 ± 0.021	0.0101	103	0.14
NO3 (as N)	mg/l	3.31 ± 0.0693	3.38 ± 0.0676	0.166	102	0.46
pH-value		7.93 ± 0.0361	7.92 ± 0.19	0.159	99.9	-0.02
PO4 (as P)	mg/l	0.111 ± 0.0197	0.421 ± 0.223	0.0387	381	0.70
Sulfate (as SO4)	mg/l	60.2 ± 1.06	60.707 ± 1.821	3.01	101	0.13

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
TOC (as C)	mg/l	7.38 ± 0.359	7.454 ± 0.716	0.886	101	0.05

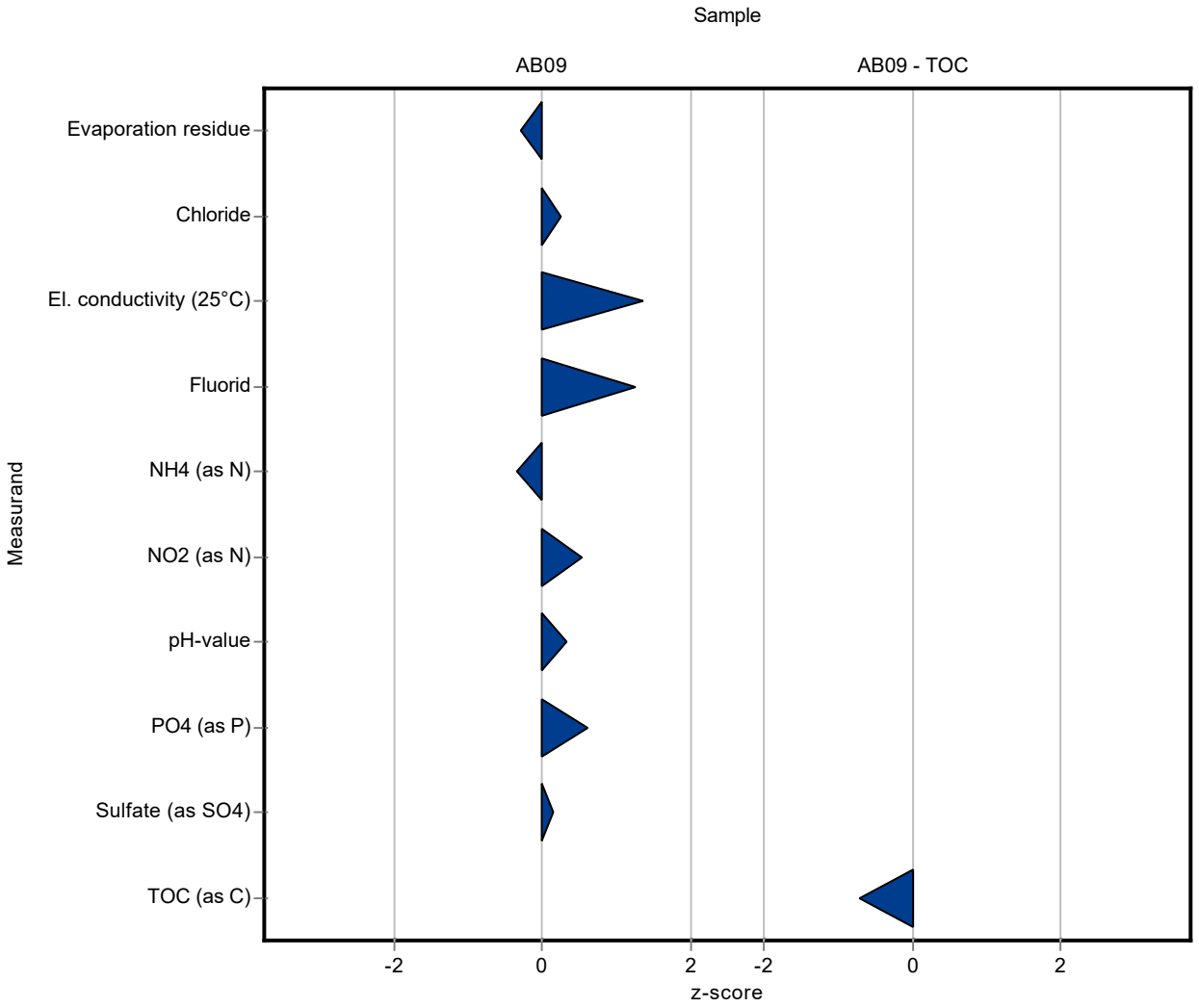

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
2.0
Measurand
-1
0
1
-1
0
1
En score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
Evaporation residue	mg/l	325 ± 7.82	320 ± 15	17.2	98.5	-0.28
Chloride	mg/l	27.8 ± 0.343	28.12 ± 2.4	1.39	101	0.25
El. conductivity (25°C)	mS/m	53.3 ± 0.324	54.43 ± 0.62	0.8	102	1.38
Fluorid	mg/l	0.523 ± 0.0258	0.6016 ± 0.036	0.0627	115	1.25
NH4 (as N)	mg/l	1.26 ± 0.0378	1.226 ± 0.16	0.091	97.5	-0.34
NO2 (as N)	mg/l	0.202 ± 0.00318	0.2074 ± 0.027	0.0101	103	0.54
NO3 (as N)	mg/l	3.31 ± 0.0693	- ± -	0.166	-	-
pH-value		7.93 ± 0.0361	7.98 ± 0.1	0.159	101	0.33
PO4 (as P)	mg/l	0.111 ± 0.0197	0.134 ± 0.011	0.0387	121	0.61
Sulfate (as SO4)	mg/l	60.2 ± 1.06	60.66 ± 4	3.01	101	0.14

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
TOC (as C)	mg/l	7.38 ± 0.359	6.75 ± 0.21	0.886	91.4	-0.71

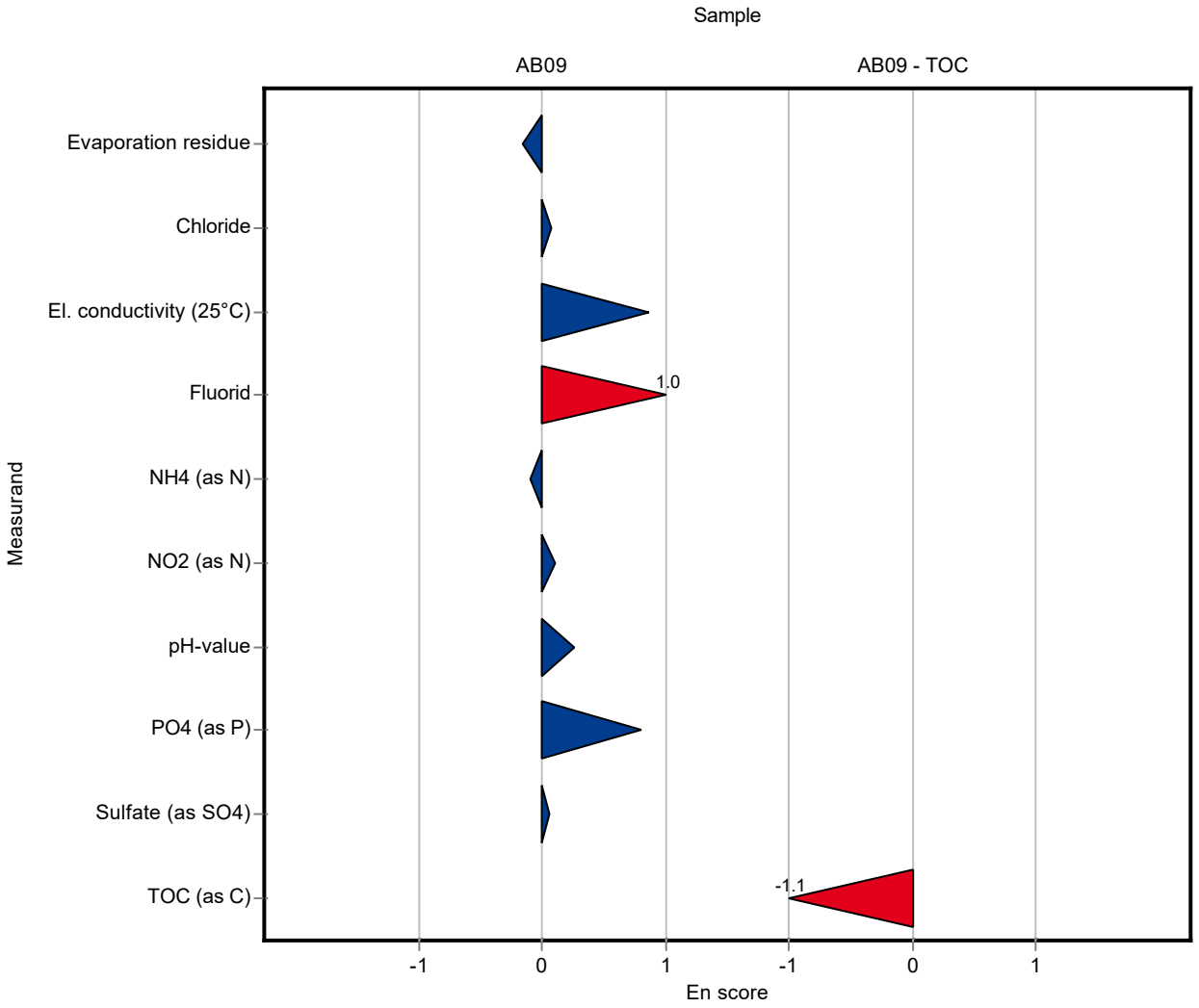

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-2
0
2
-2
0
2
z-score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Evaporation residue	mg/l	325 ± 7.82	320 ± 15	17.2	98.5	-0.16
Chloride	mg/l	27.8 ± 0.343	28.12 ± 2.4	1.39	101	0.07
El. conductivity (25°C)	mS/m	53.3 ± 0.324	54.43 ± 0.62	0.8	102	0.86
Fluorid	mg/l	0.523 ± 0.0258	0.6016 ± 0.036	0.0627	115	1.03
NH4 (as N)	mg/l	1.26 ± 0.0378	1.226 ± 0.16	0.091	97.5	-0.10
NO2 (as N)	mg/l	0.202 ± 0.00318	0.2074 ± 0.027	0.0101	103	0.10
NO3 (as N)	mg/l	3.31 ± 0.0693	- ± -	0.166	-	-
pH-value		7.93 ± 0.0361	7.98 ± 0.1	0.159	101	0.26
PO4 (as P)	mg/l	0.111 ± 0.0197	0.134 ± 0.011	0.0387	121	0.80
Sulfate (as SO4)	mg/l	60.2 ± 1.06	60.66 ± 4	3.01	101	0.05

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
TOC (as C)	mg/l	7.38 ± 0.359	6.75 ± 0.21	0.886	91.4	-1.15

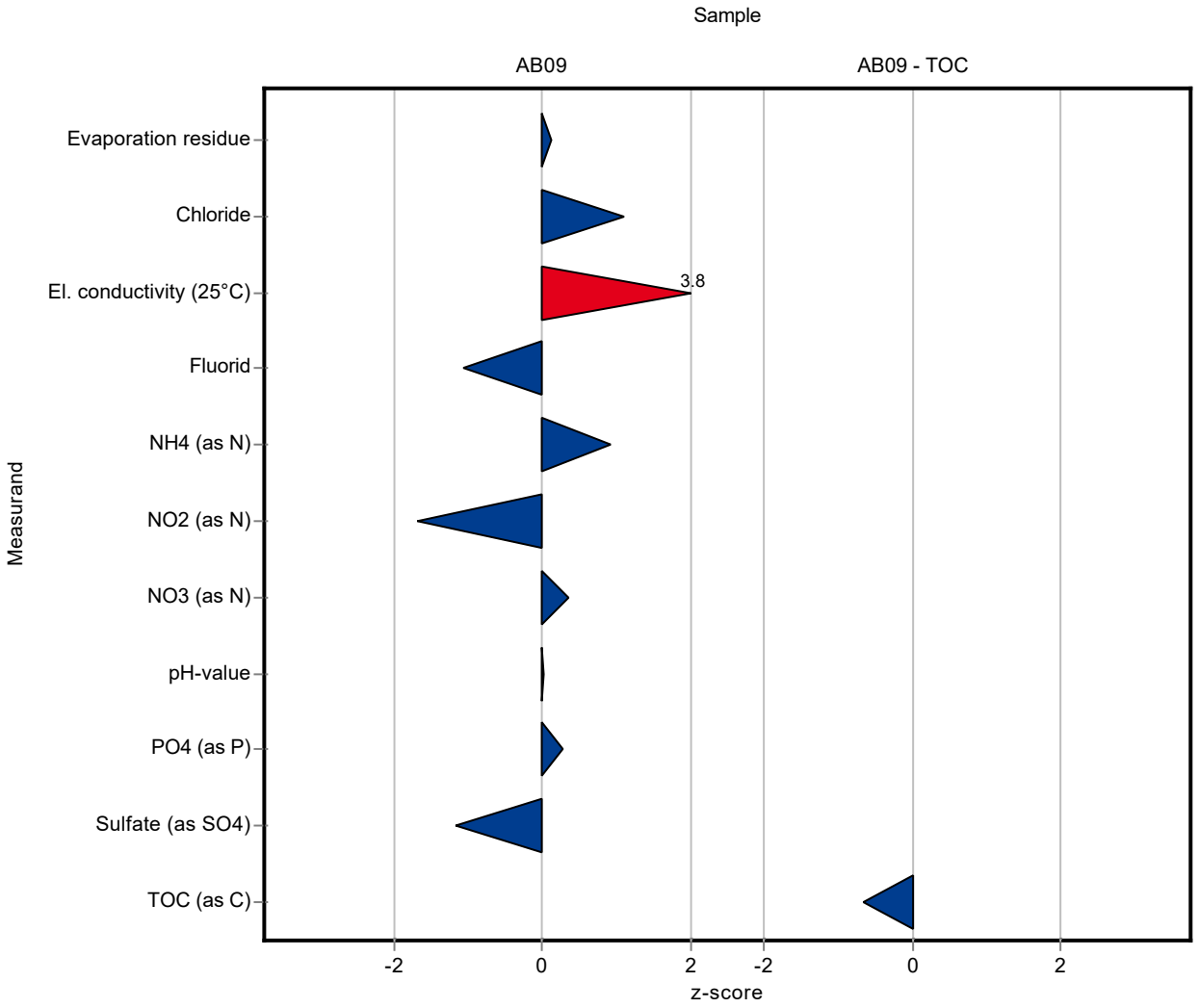

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
1.0
-1.1
-1
0
1
-1
0
1
En score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
Evaporation residue	mg/l	325 ± 7.82	327 ± 32.7	17.2	101	0.13
Chloride	mg/l	27.8 ± 0.343	29.3 ± 2.9	1.39	105	1.10
El. conductivity (25°C)	mS/m	53.3 ± 0.324	56.4 ± 5.6	0.8	106	3.84
Fluorid	mg/l	0.523 ± 0.0258	0.456 ± 0.045	0.0627	87.2	-1.07
NH4 (as N)	mg/l	1.26 ± 0.0378	1.34 ± 0.13	0.091	107	0.91
NO2 (as N)	mg/l	0.202 ± 0.00318	0.185 ± 0.018	0.0101	91.6	-1.68
NO3 (as N)	mg/l	3.31 ± 0.0693	3.37 ± 0.34	0.166	102	0.36
pH-value		7.93 ± 0.0361	7.93 ± 0.24	0.159	100	0.01
PO4 (as P)	mg/l	0.111 ± 0.0197	0.121 ± 0.012	0.0387	110	0.27
Sulfate (as SO4)	mg/l	60.2 ± 1.06	56.7 ± 5.7	3.01	94.1	-1.17

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
TOC (as C)	mg/l	7.38 ± 0.359	6.79 ± 0.68	0.886	92	-0.67

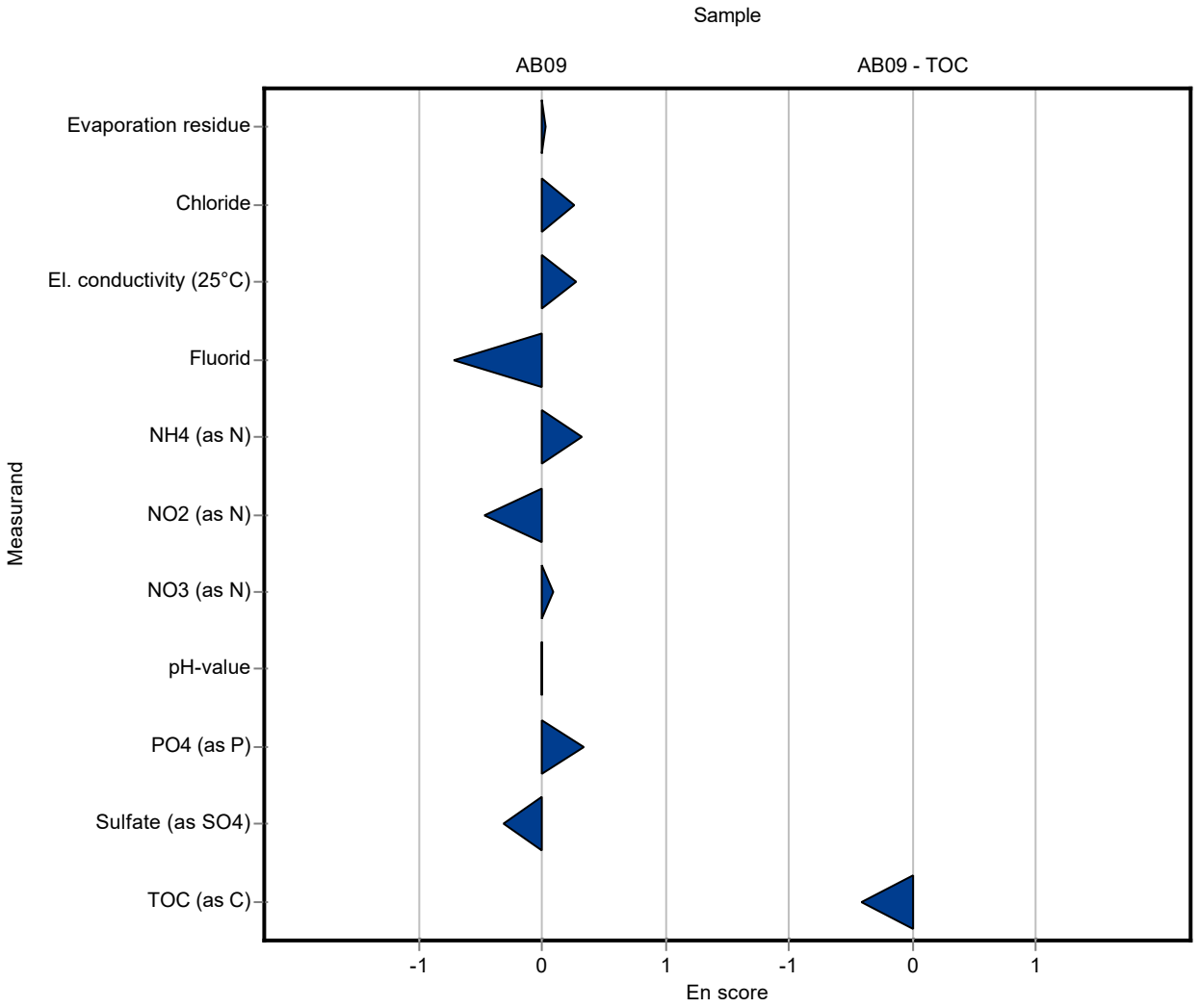

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
3.8
Measurand
-2
0
2
-2
0
2
z-score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Evaporation residue	mg/l	325 ± 7.82	327 ± 32.7	17.2	101	0.03
Chloride	mg/l	27.8 ± 0.343	29.3 ± 2.9	1.39	105	0.26
El. conductivity (25°C)	mS/m	53.3 ± 0.324	56.4 ± 5.6	0.8	106	0.27
Fluorid	mg/l	0.523 ± 0.0258	0.456 ± 0.045	0.0627	87.2	-0.71
NH4 (as N)	mg/l	1.26 ± 0.0378	1.34 ± 0.13	0.091	107	0.32
NO2 (as N)	mg/l	0.202 ± 0.00318	0.185 ± 0.018	0.0101	91.6	-0.47
NO3 (as N)	mg/l	3.31 ± 0.0693	3.37 ± 0.34	0.166	102	0.09
pH-value		7.93 ± 0.0361	7.93 ± 0.24	0.159	100	0.00
PO4 (as P)	mg/l	0.111 ± 0.0197	0.121 ± 0.012	0.0387	110	0.34
Sulfate (as SO4)	mg/l	60.2 ± 1.06	56.7 ± 5.7	3.01	94.1	-0.31

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
TOC (as C)	mg/l	7.38 ± 0.359	6.79 ± 0.68	0.886	92	-0.42

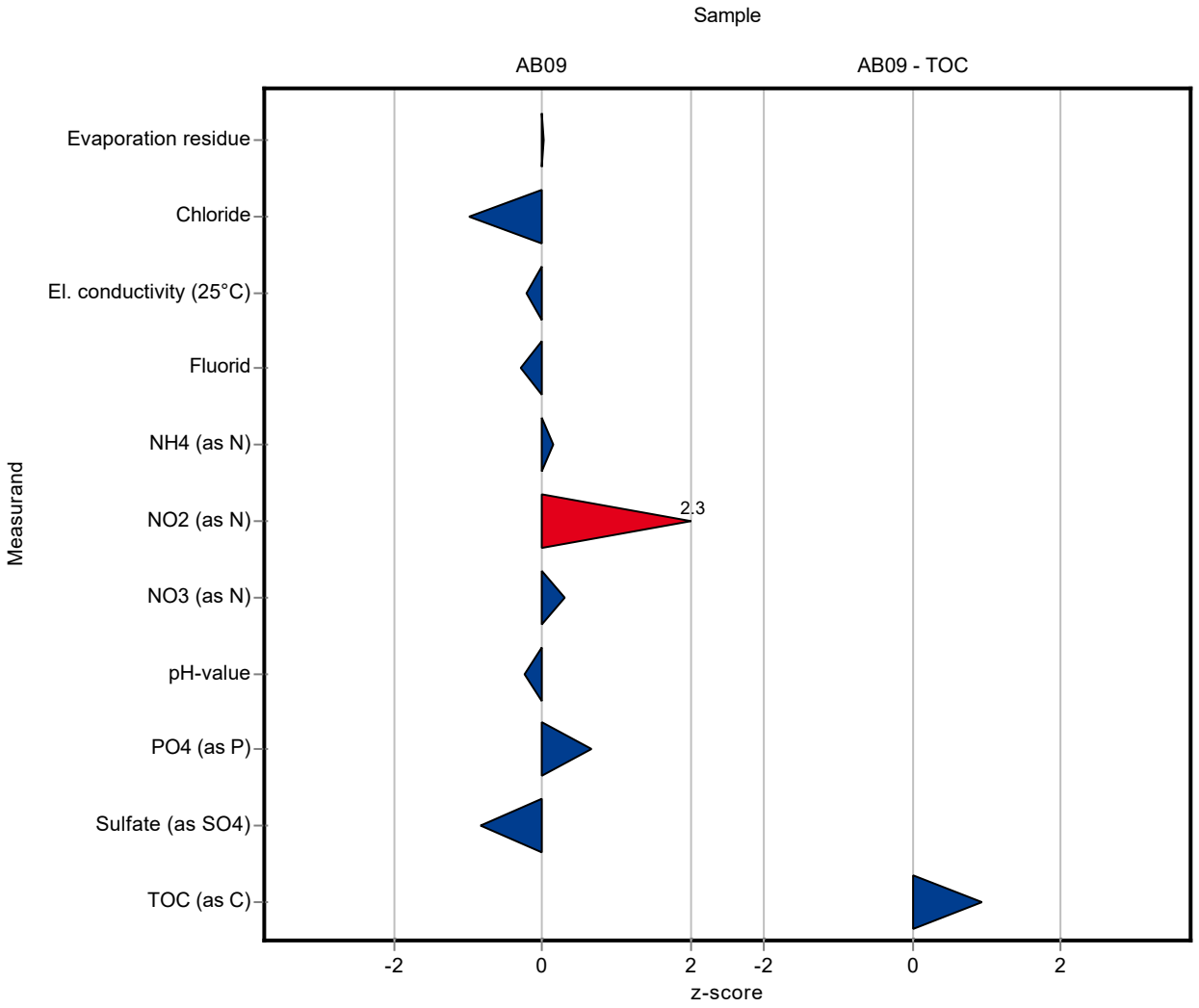

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-1
0
1
-1
0
1
En score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
Evaporation residue	mg/l	325 ± 7.82	325 ± 97.5	17.2	100	0.01
Chloride	mg/l	27.8 ± 0.343	26.4 ± 2.14	1.39	95	-0.99
El. conductivity (25°C)	mS/m	53.3 ± 0.324	53.15 ± 2.66	0.8	99.7	-0.22
Fluorid	mg/l	0.523 ± 0.0258	0.505 ± 0.07	0.0627	96.6	-0.29
NH4 (as N)	mg/l	1.26 ± 0.0378	1.27 ± 0.19	0.091	101	0.14
NO2 (as N)	mg/l	0.202 ± 0.00318	0.225 ± 0.02	0.0101	111	2.28
NO3 (as N)	mg/l	3.31 ± 0.0693	3.36 ± 0.23	0.166	102	0.30
pH-value		7.93 ± 0.0361	7.89 ± 0.11	0.159	99.5	-0.24
PO4 (as P)	mg/l	0.111 ± 0.0197	0.136 ± 0.019	0.0387	123	0.66
Sulfate (as SO4)	mg/l	60.2 ± 1.06	57.7 ± 4.45	3.01	95.8	-0.84

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
TOC (as C)	mg/l	7.38 ± 0.359	8.22 ± 1.35	0.886	111	0.94

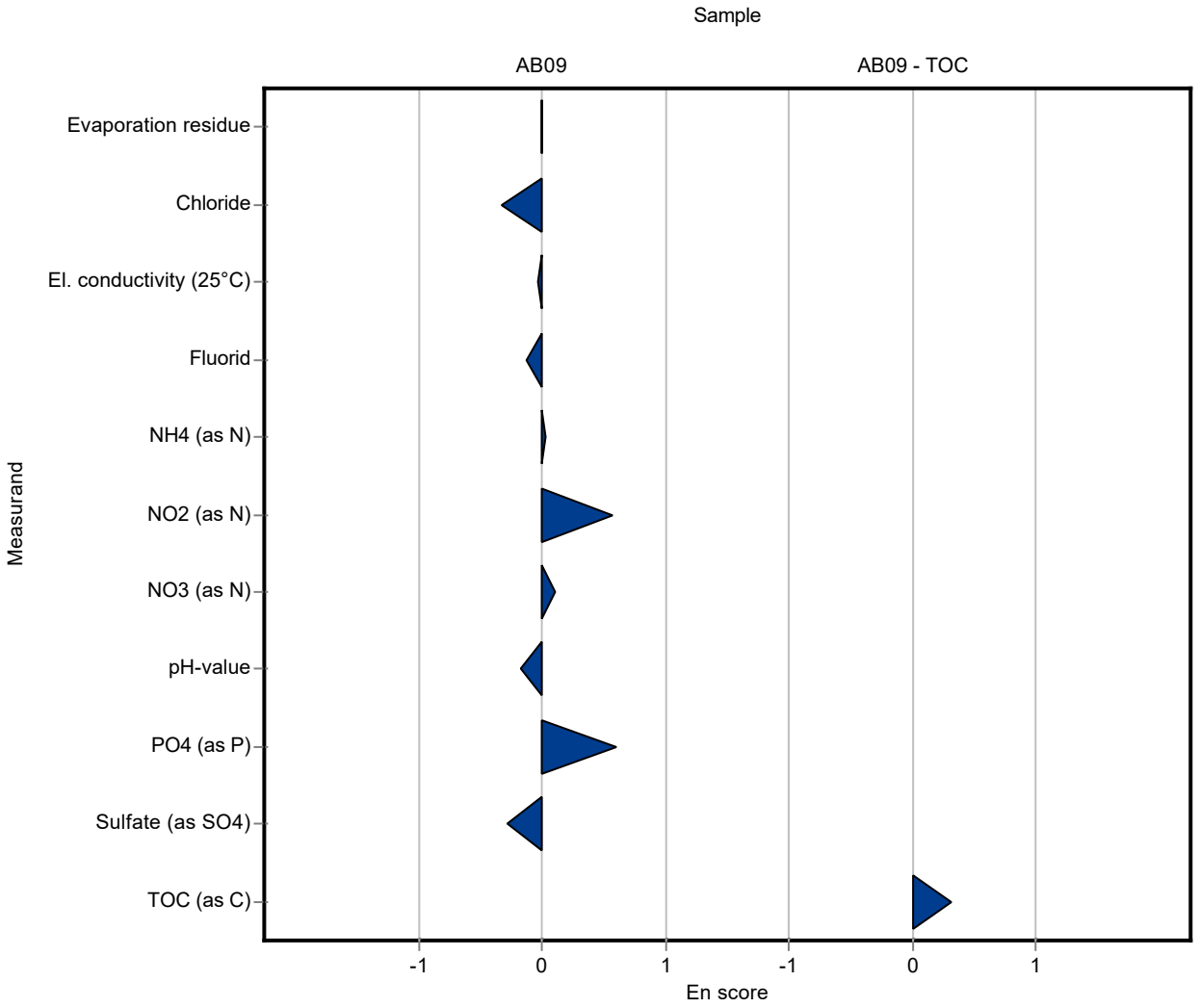

Sample
AB09
AB09 - TOC
Measurand
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
2.3
-2
0
2
-2
0
2
z-score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Evaporation residue	mg/l	325 ± 7.82	325 ± 97.5	17.2	100	0.00
Chloride	mg/l	27.8 ± 0.343	26.4 ± 2.14	1.39	95	-0.32
El. conductivity (25°C)	mS/m	53.3 ± 0.324	53.15 ± 2.66	0.8	99.7	-0.03
Fluorid	mg/l	0.523 ± 0.0258	0.505 ± 0.07	0.0627	96.6	-0.13
NH4 (as N)	mg/l	1.26 ± 0.0378	1.27 ± 0.19	0.091	101	0.03
NO2 (as N)	mg/l	0.202 ± 0.00318	0.225 ± 0.02	0.0101	111	0.57
NO3 (as N)	mg/l	3.31 ± 0.0693	3.36 ± 0.23	0.166	102	0.11
pH-value		7.93 ± 0.0361	7.89 ± 0.11	0.159	99.5	-0.17
PO4 (as P)	mg/l	0.111 ± 0.0197	0.136 ± 0.019	0.0387	123	0.60
Sulfate (as SO4)	mg/l	60.2 ± 1.06	57.7 ± 4.45	3.01	95.8	-0.28

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
TOC (as C)	mg/l	7.38 ± 0.359	8.22 ± 1.35	0.886	111	0.31

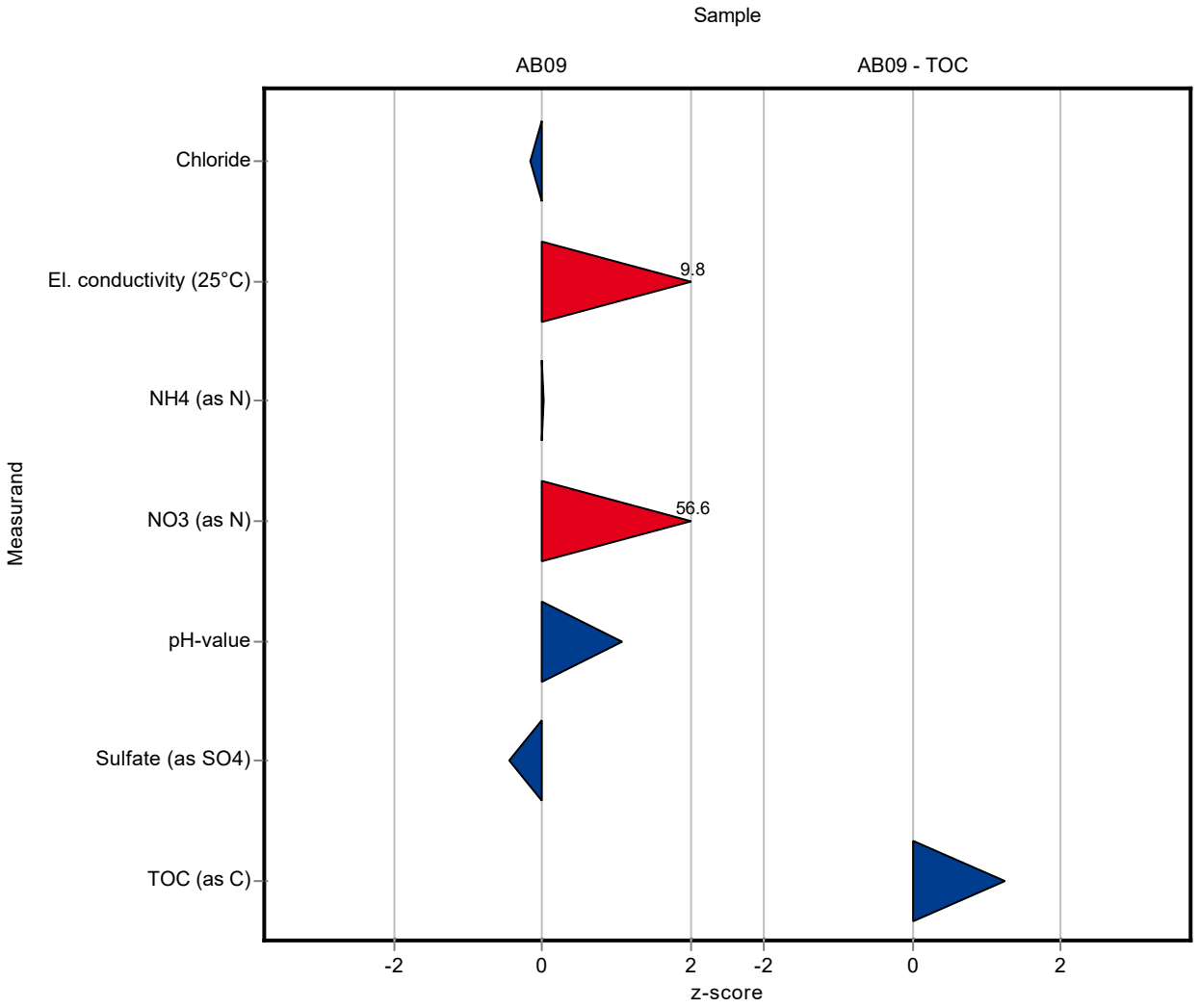

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-1
0
1
-1
0
1
En score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
Evaporation residue	mg/l	325 ± 7.82	- ± -	17.2	-	-
Chloride	mg/l	27.8 ± 0.343	27.54 ± 5	1.39	99.1	-0.17
El. conductivity (25°C)	mS/m	53.3 ± 0.324	61.2 ± 20	0.8	115	9.84
Fluorid	mg/l	0.523 ± 0.0258	<1 (LOQ) ± -	0.0627	-	-
NH4 (as N)	mg/l	1.26 ± 0.0378	1.259 ± 0.3	0.091	100	0.02
NO2 (as N)	mg/l	0.202 ± 0.00318	<0.7 (LOQ) ± -	0.0101	-	-
NO3 (as N)	mg/l	3.31 ± 0.0693	12.68 ± 2.5	0.166	383	56.60
pH-value		7.93 ± 0.0361	8.1 ± 0.02	0.159	102	1.08
PO4 (as P)	mg/l	0.111 ± 0.0197	<0.1 (LOQ) ± -	0.0387	-	-
Sulfate (as SO4)	mg/l	60.2 ± 1.06	58.9 ± 6	3.01	97.8	-0.44

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
TOC (as C)	mg/l	7.38 ± 0.359	8.485 ± 1.6	0.886	115	1.24

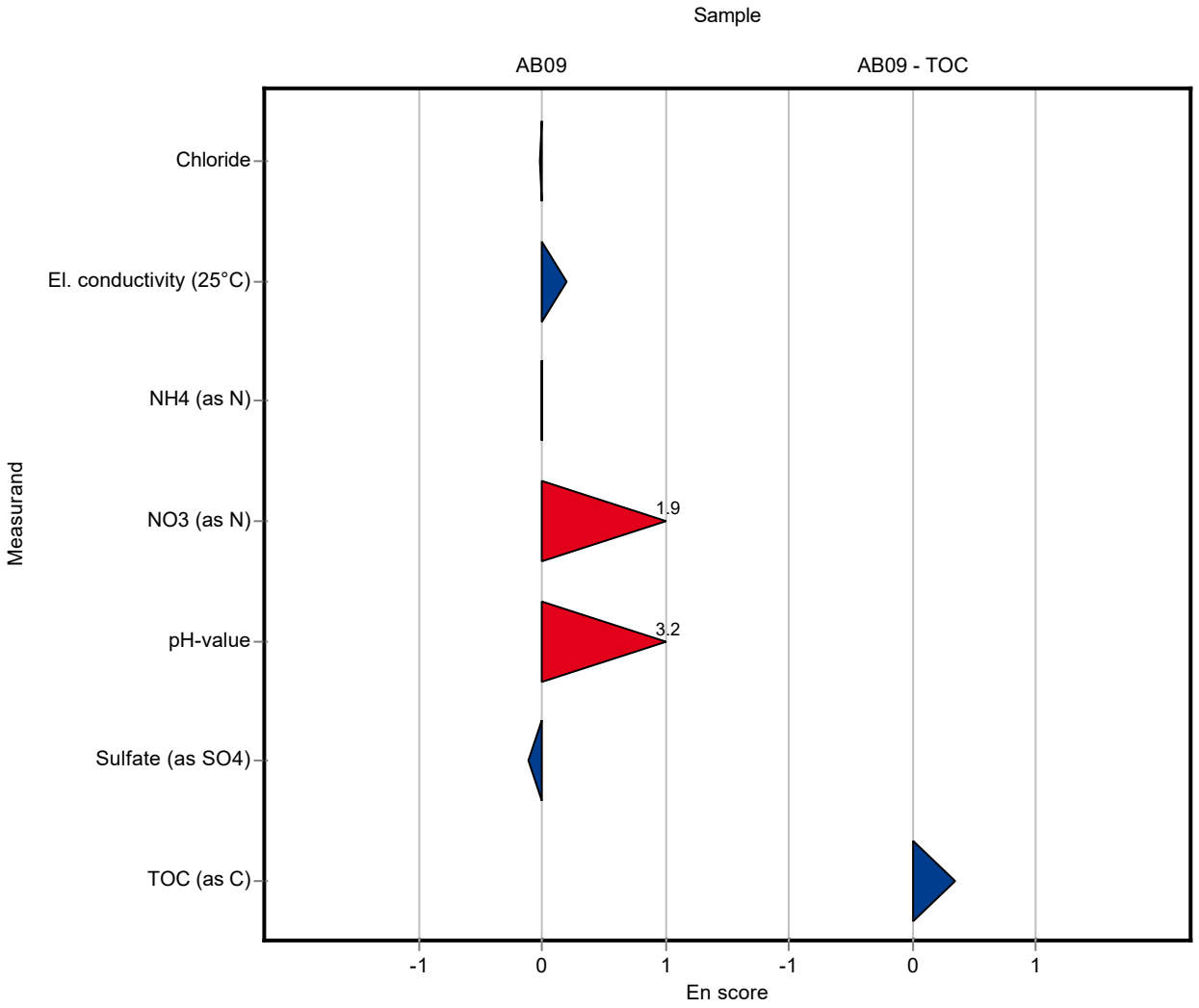

Sample
AB09
AB09 - TOC
Chloride
El. conductivity (25°C)
NH4 (as N)
NO3 (as N)
pH-value
Sulfate (as SO4)
TOC (as C)
Measurand
9.8
56.6
-2
0
2
-2
0
2
z-score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Evaporation residue	mg/l	325 ± 7.82	- ± -	17.2	-	-
Chloride	mg/l	27.8 ± 0.343	27.54 ± 5	1.39	99.1	-0.02
El. conductivity (25°C)	mS/m	53.3 ± 0.324	61.2 ± 20	0.8	115	0.20
Fluorid	mg/l	0.523 ± 0.0258	<1 (LOQ) ± -	0.0627	-	-
NH4 (as N)	mg/l	1.26 ± 0.0378	1.259 ± 0.3	0.091	100	0.00
NO2 (as N)	mg/l	0.202 ± 0.00318	<0.7 (LOQ) ± -	0.0101	-	-
NO3 (as N)	mg/l	3.31 ± 0.0693	12.68 ± 2.5	0.166	383	1.87
pH-value		7.93 ± 0.0361	8.1 ± 0.02	0.159	102	3.19
PO4 (as P)	mg/l	0.111 ± 0.0197	<0.1 (LOQ) ± -	0.0387	-	-
Sulfate (as SO4)	mg/l	60.2 ± 1.06	58.9 ± 6	3.01	97.8	-0.11

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
TOC (as C)	mg/l	7.38 ± 0.359	8.485 ± 1.6	0.886	115	0.34

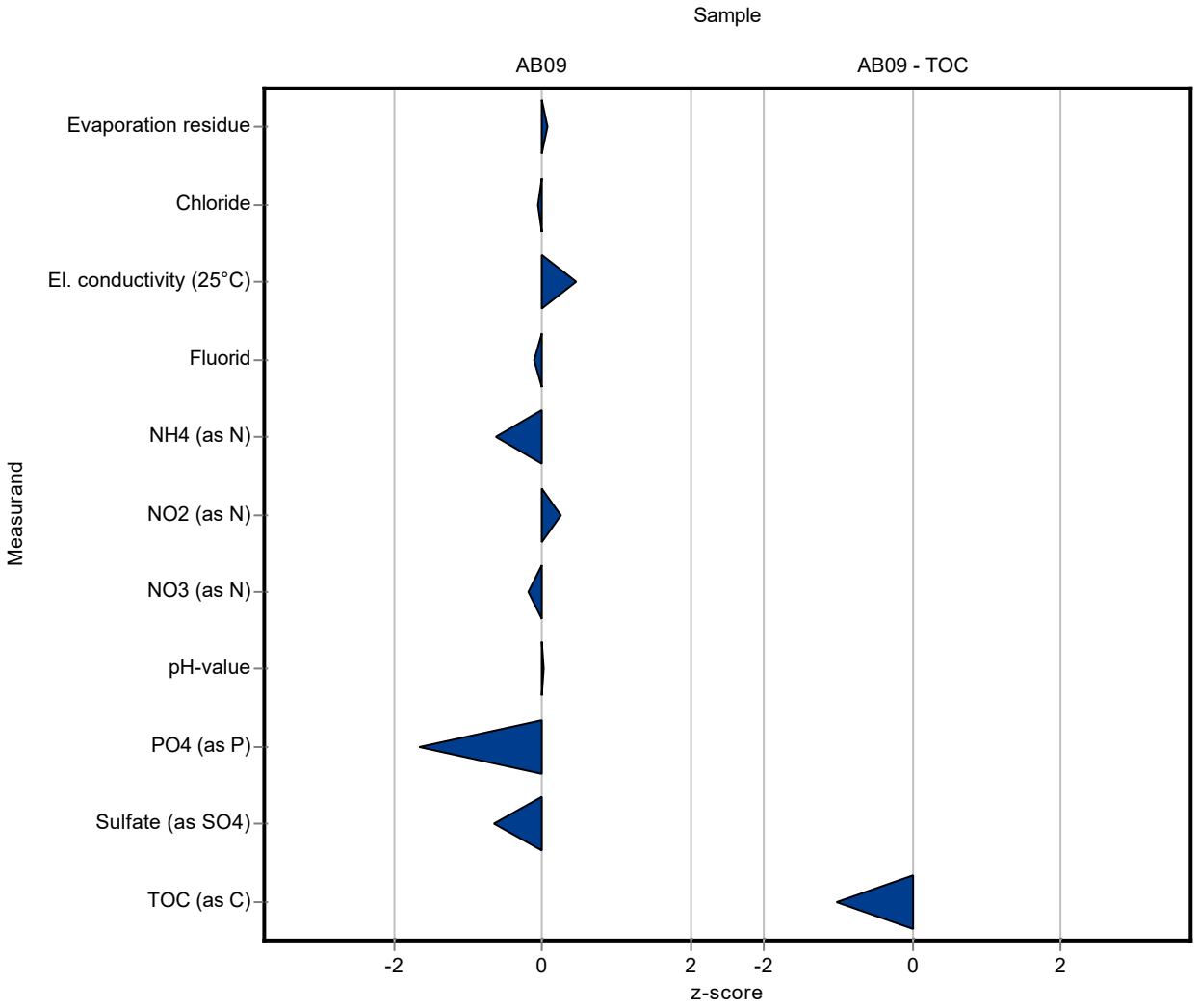

Sample
AB09
AB09 - TOC
Chloride
El. conductivity (25°C)
NH4 (as N)
NO3 (as N)
pH-value
Sulfate (as SO4)
TOC (as C)
Measurand
1.9
3.2
-1
0
1
-1
0
1
En score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
Evaporation residue	mg/l	325 ± 7.82	326 ± 22.6	17.2	100	0.07
Chloride	mg/l	27.8 ± 0.343	27.7 ± 0.666	1.39	99.7	-0.06
El. conductivity (25°C)	mS/m	53.3 ± 0.324	53.7 ± 0.1	0.8	101	0.46
Fluorid	mg/l	0.523 ± 0.0258	0.516 ± 0.003	0.0627	98.7	-0.11
NH4 (as N)	mg/l	1.26 ± 0.0378	1.201 ± 0.005	0.091	95.6	-0.61
NO2 (as N)	mg/l	0.202 ± 0.00318	0.2045 ± 0.002	0.0101	101	0.25
NO3 (as N)	mg/l	3.31 ± 0.0693	3.281 ± 0.027	0.166	99.1	-0.17
pH-value		7.93 ± 0.0361	7.93 ± 0.1	0.159	100	0.01
PO4 (as P)	mg/l	0.111 ± 0.0197	0.046 ± 0.009	0.0387	41.6	-1.67
Sulfate (as SO4)	mg/l	60.2 ± 1.06	58.3 ± 0.298	3.01	96.8	-0.64

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
TOC (as C)	mg/l	7.38 ± 0.359	6.48 ± 0.05	0.886	87.8	-1.02

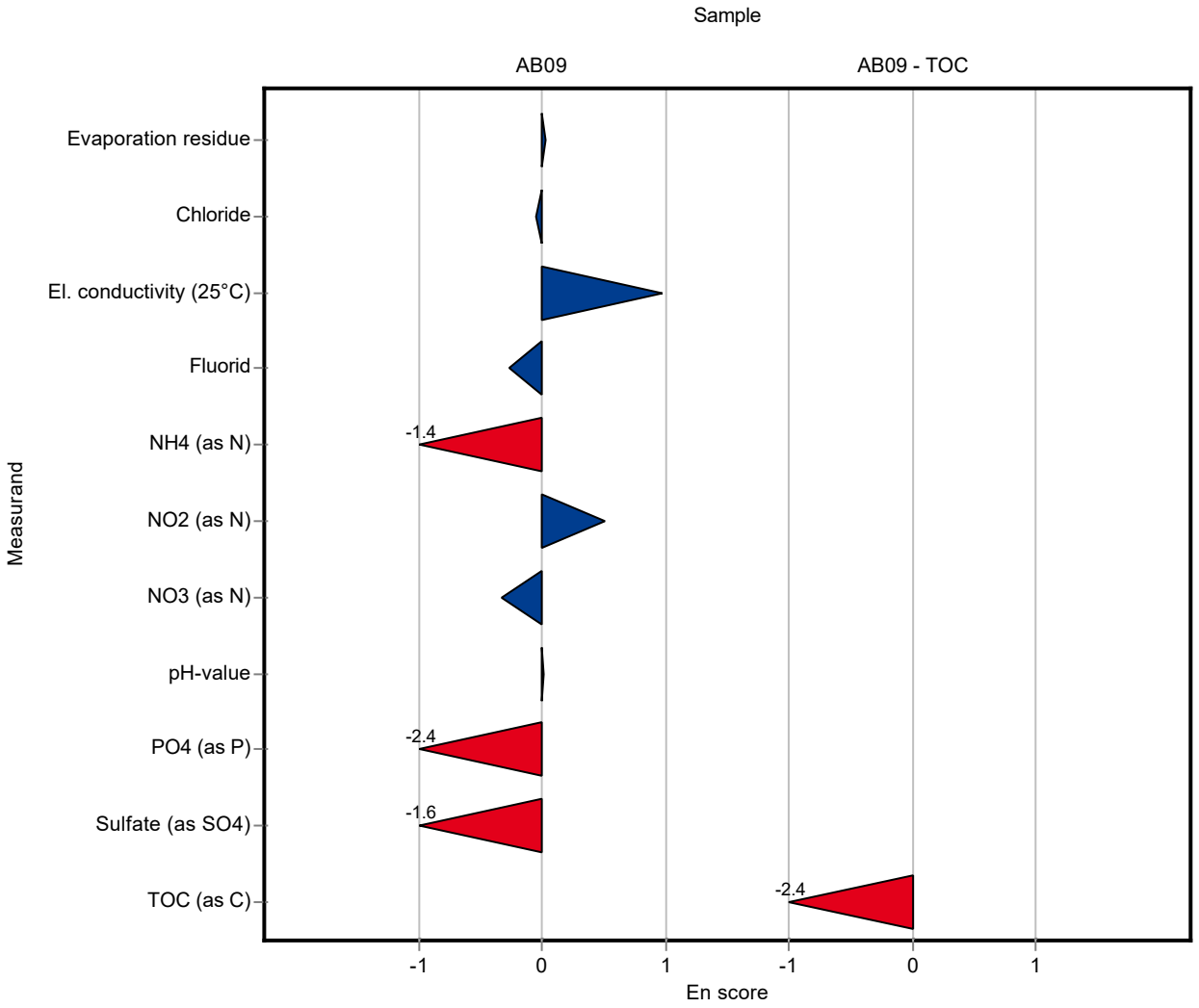

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-2
0
2
-2
0
2
z-score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Evaporation residue	mg/l	325 ± 7.82	326 ± 22.6	17.2	100	0.03
Chloride	mg/l	27.8 ± 0.343	27.7 ± 0.666	1.39	99.7	-0.06
El. conductivity (25°C)	mS/m	53.3 ± 0.324	53.7 ± 0.1	0.8	101	0.97
Fluorid	mg/l	0.523 ± 0.0258	0.516 ± 0.003	0.0627	98.7	-0.26
NH4 (as N)	mg/l	1.26 ± 0.0378	1.201 ± 0.005	0.091	95.6	-1.43
NO2 (as N)	mg/l	0.202 ± 0.00318	0.2045 ± 0.002	0.0101	101	0.50
NO3 (as N)	mg/l	3.31 ± 0.0693	3.281 ± 0.027	0.166	99.1	-0.33
pH-value		7.93 ± 0.0361	7.93 ± 0.1	0.159	100	0.01
PO4 (as P)	mg/l	0.111 ± 0.0197	0.046 ± 0.009	0.0387	41.6	-2.42
Sulfate (as SO4)	mg/l	60.2 ± 1.06	58.3 ± 0.298	3.01	96.8	-1.58

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
TOC (as C)	mg/l	7.38 ± 0.359	6.48 ± 0.05	0.886	87.8	-2.42

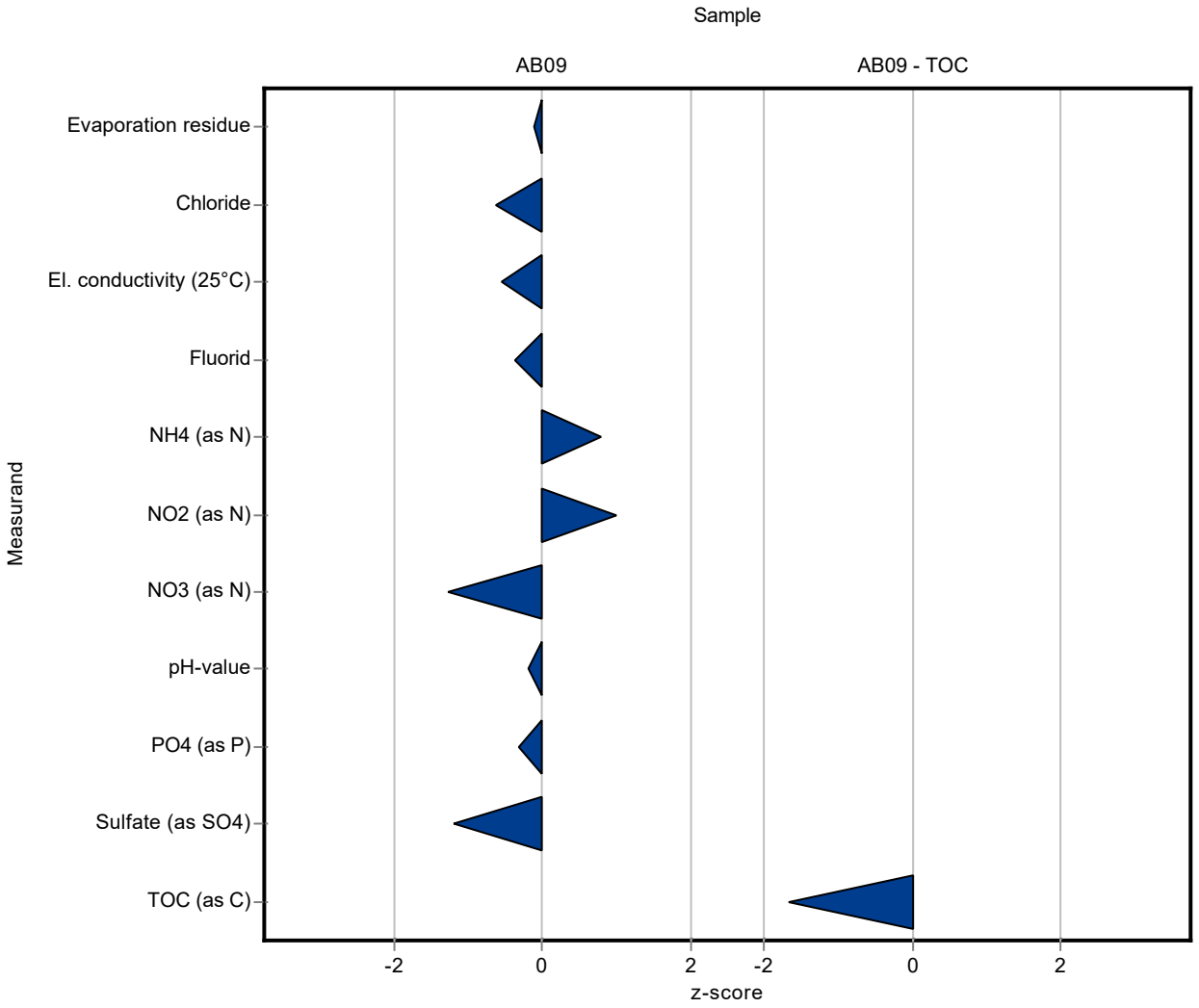

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-1.4
-2.4
-1.6
-2.4
-1
0
1
-1
0
1
En score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
Evaporation residue	mg/l	325 ± 7.82	323 ± 32	17.2	99.4	-0.11
Chloride	mg/l	27.8 ± 0.343	26.9 ± 3	1.39	96.8	-0.63
El. conductivity (25°C)	mS/m	53.3 ± 0.324	52.9 ± 1.3	0.8	99.2	-0.54
Fluorid	mg/l	0.523 ± 0.0258	0.5 ± 0.05	0.0627	95.6	-0.36
NH4 (as N)	mg/l	1.26 ± 0.0378	1.33 ± 0.1	0.091	106	0.80
NO2 (as N)	mg/l	0.202 ± 0.00318	0.212 ± 0.02	0.0101	105	1.00
NO3 (as N)	mg/l	3.31 ± 0.0693	3.1 ± 0.3	0.166	93.7	-1.27
pH-value		7.93 ± 0.0361	7.9 ± 0.2	0.159	99.6	-0.18
PO4 (as P)	mg/l	0.111 ± 0.0197	0.098 ± 0.01	0.0387	88.7	-0.32
Sulfate (as SO4)	mg/l	60.2 ± 1.06	56.6 ± 6	3.01	94	-1.20

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
TOC (as C)	mg/l	7.38 ± 0.359	5.9 ± 0.6	0.886	79.9	-1.67

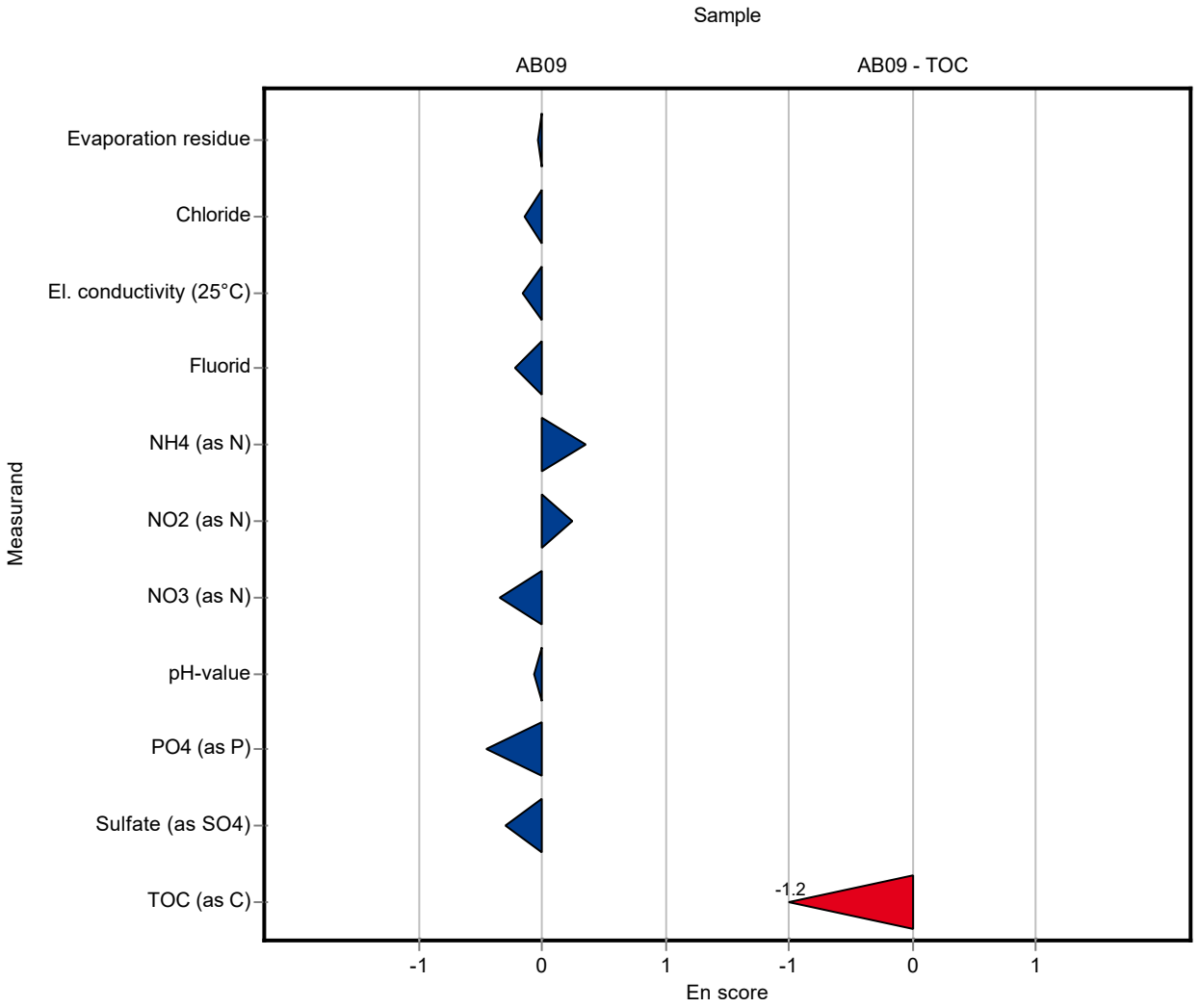

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-2
0
2
-2
0
2
z-score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Evaporation residue	mg/l	325 ± 7.82	323 ± 32	17.2	99.4	-0.03
Chloride	mg/l	27.8 ± 0.343	26.9 ± 3	1.39	96.8	-0.15
El. conductivity (25°C)	mS/m	53.3 ± 0.324	52.9 ± 1.3	0.8	99.2	-0.16
Fluorid	mg/l	0.523 ± 0.0258	0.5 ± 0.05	0.0627	95.6	-0.22
NH4 (as N)	mg/l	1.26 ± 0.0378	1.33 ± 0.1	0.091	106	0.36
NO2 (as N)	mg/l	0.202 ± 0.00318	0.212 ± 0.02	0.0101	105	0.25
NO3 (as N)	mg/l	3.31 ± 0.0693	3.1 ± 0.3	0.166	93.7	-0.35
pH-value		7.93 ± 0.0361	7.9 ± 0.2	0.159	99.6	-0.07
PO4 (as P)	mg/l	0.111 ± 0.0197	0.098 ± 0.01	0.0387	88.7	-0.45
Sulfate (as SO4)	mg/l	60.2 ± 1.06	56.6 ± 6	3.01	94	-0.30

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
TOC (as C)	mg/l	7.38 ± 0.359	5.9 ± 0.6	0.886	79.9	-1.18

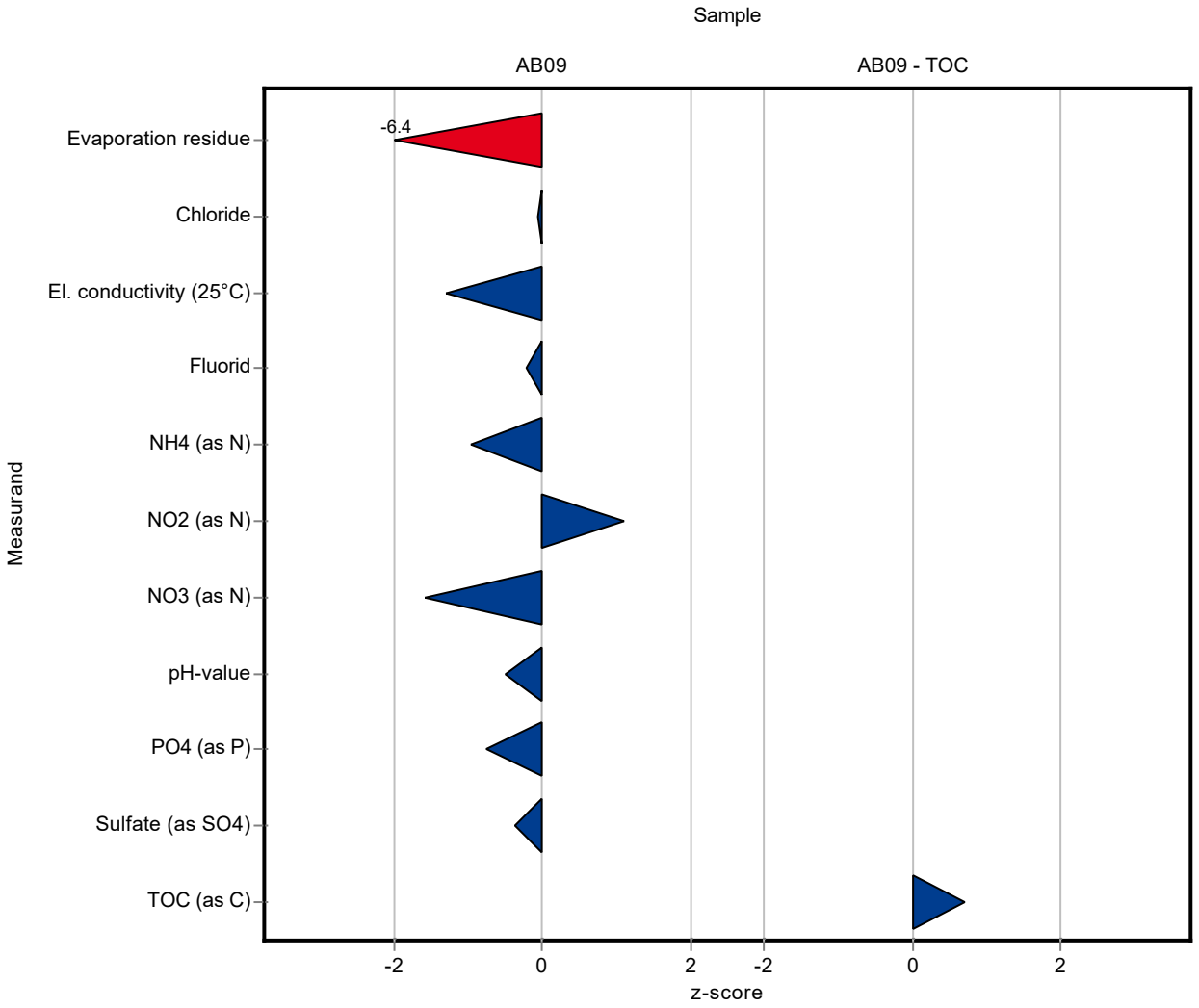

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-1.2
-1
0
1
-1
0
1
En score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
Evaporation residue	mg/l	325 ± 7.82	215 ± 1	17.2	66.2	-6.38
Chloride	mg/l	27.8 ± 0.343	27.7 ± 0.5	1.39	99.7	-0.06
El. conductivity (25°C)	mS/m	53.3 ± 0.324	52.3 ± 0.01	0.8	98.1	-1.29
Fluorid	mg/l	0.523 ± 0.0258	0.51 ± 0.1	0.0627	97.5	-0.21
NH4 (as N)	mg/l	1.26 ± 0.0378	1.17 ± 0.05	0.091	93.1	-0.95
NO2 (as N)	mg/l	0.202 ± 0.00318	0.213 ± 0.01	0.0101	105	1.10
NO3 (as N)	mg/l	3.31 ± 0.0693	3.05 ± 0.1	0.166	92.1	-1.57
pH-value		7.93 ± 0.0361	7.85 ± 0.05	0.159	99	-0.49
PO4 (as P)	mg/l	0.111 ± 0.0197	0.081 ± 0.01	0.0387	73.3	-0.76
Sulfate (as SO4)	mg/l	60.2 ± 1.06	59.1 ± 0.5	3.01	98.1	-0.37

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
TOC (as C)	mg/l	7.38 ± 0.359	8.01 ± 0.1	0.886	109	0.71

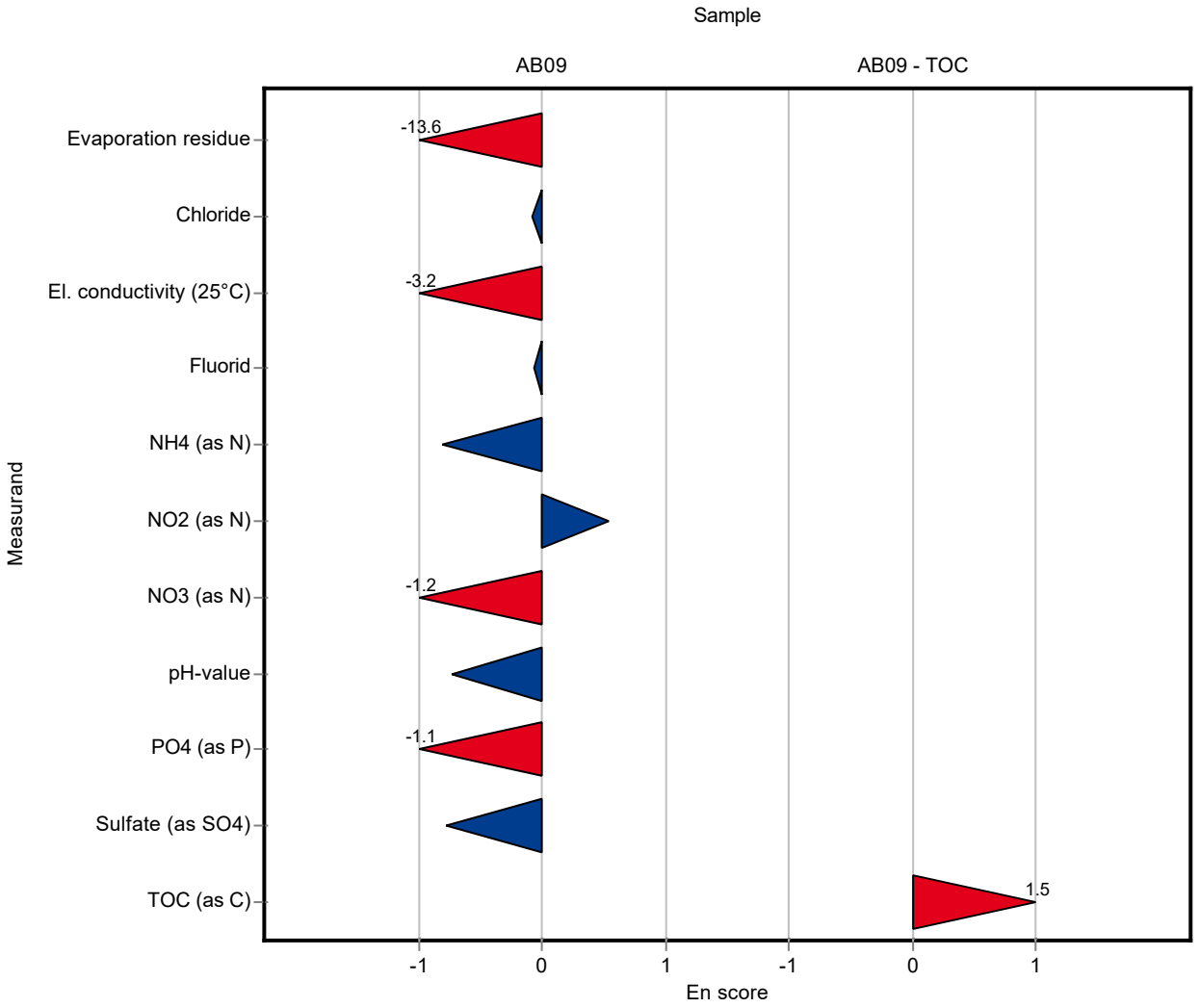

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-6.4
-2
0
2
-2
0
2
z-score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Evaporation residue	mg/l	325 ± 7.82	215 ± 1	17.2	66.2	-13.60
Chloride	mg/l	27.8 ± 0.343	27.7 ± 0.5	1.39	99.7	-0.07
El. conductivity (25°C)	mS/m	53.3 ± 0.324	52.3 ± 0.01	0.8	98.1	-3.17
Fluorid	mg/l	0.523 ± 0.0258	0.51 ± 0.1	0.0627	97.5	-0.06
NH4 (as N)	mg/l	1.26 ± 0.0378	1.17 ± 0.05	0.091	93.1	-0.81
NO2 (as N)	mg/l	0.202 ± 0.00318	0.213 ± 0.01	0.0101	105	0.55
NO3 (as N)	mg/l	3.31 ± 0.0693	3.05 ± 0.1	0.166	92.1	-1.23
pH-value		7.93 ± 0.0361	7.85 ± 0.05	0.159	99	-0.73
PO4 (as P)	mg/l	0.111 ± 0.0197	0.081 ± 0.01	0.0387	73.3	-1.05
Sulfate (as SO4)	mg/l	60.2 ± 1.06	59.1 ± 0.5	3.01	98.1	-0.77

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
TOC (as C)	mg/l	7.38 ± 0.359	8.01 ± 0.1	0.886	109	1.53

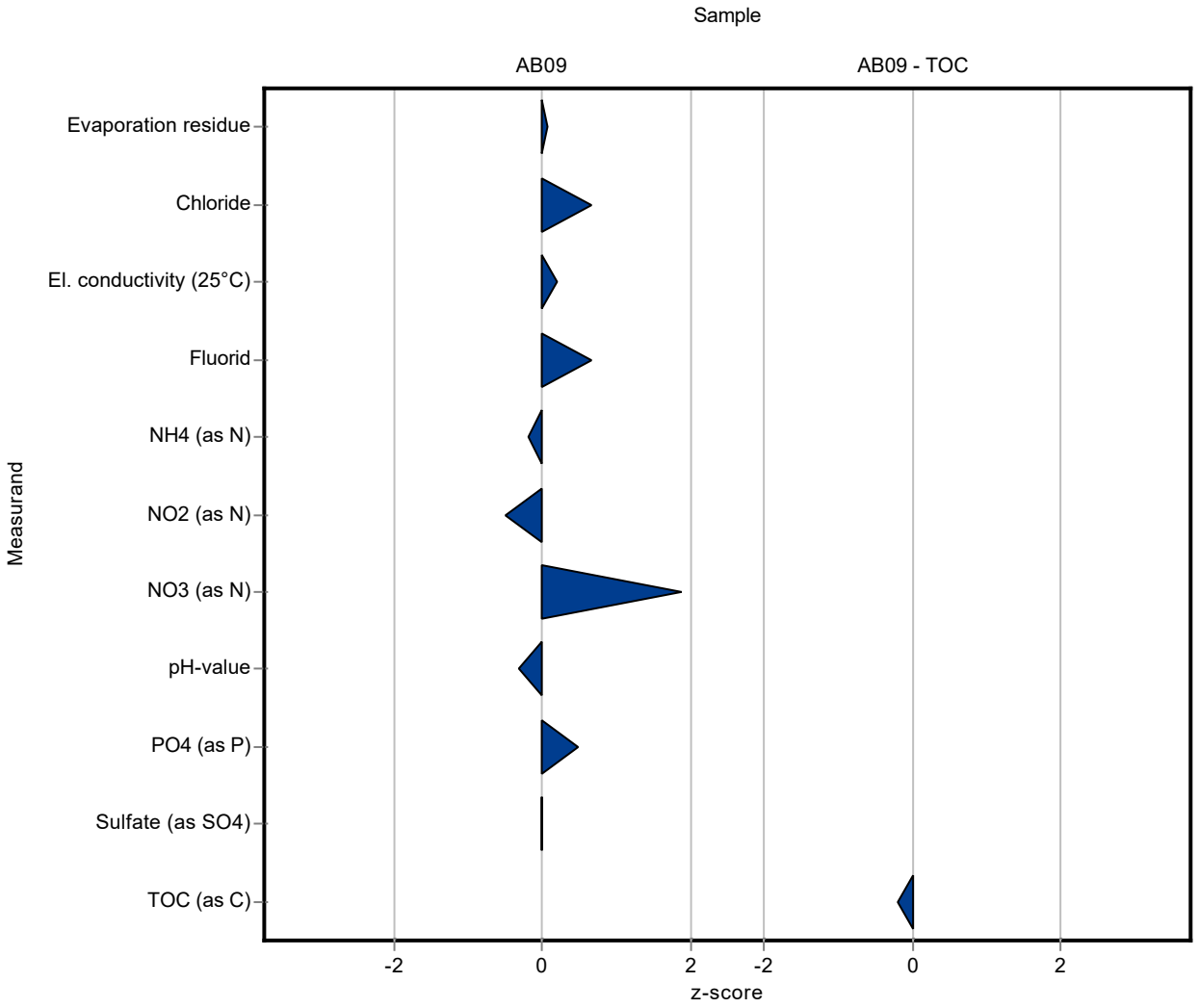

Sample
AB09
AB09 - TOC
Measurand
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
-13.6
-3.2
-1.2
-1.1
1.5
-1
0
1
-1
0
1
En score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
Evaporation residue	mg/l	325 ± 7.82	326 ± 33	17.2	100	0.07
Chloride	mg/l	27.8 ± 0.343	28.7 ± 2.9	1.39	103	0.66
El. conductivity (25°C)	mS/m	53.3 ± 0.324	53.5 ± 5.4	0.8	100	0.21
Fluorid	mg/l	0.523 ± 0.0258	0.564 ± 0.056	0.0627	108	0.66
NH4 (as N)	mg/l	1.26 ± 0.0378	1.24 ± 0.12	0.091	98.7	-0.18
NO2 (as N)	mg/l	0.202 ± 0.00318	0.197 ± 0.02	0.0101	97.6	-0.49
NO3 (as N)	mg/l	3.31 ± 0.0693	3.62 ± 0.36	0.166	109	1.87
pH-value		7.93 ± 0.0361	7.88 ± 0.2	0.159	99.4	-0.30
PO4 (as P)	mg/l	0.111 ± 0.0197	0.129 ± 0.013	0.0387	117	0.48
Sulfate (as SO4)	mg/l	60.2 ± 1.06	60.2 ± 6	3.01	100	-0.01

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
TOC (as C)	mg/l	7.38 ± 0.359	7.21 ± 0.72	0.886	97.7	-0.20

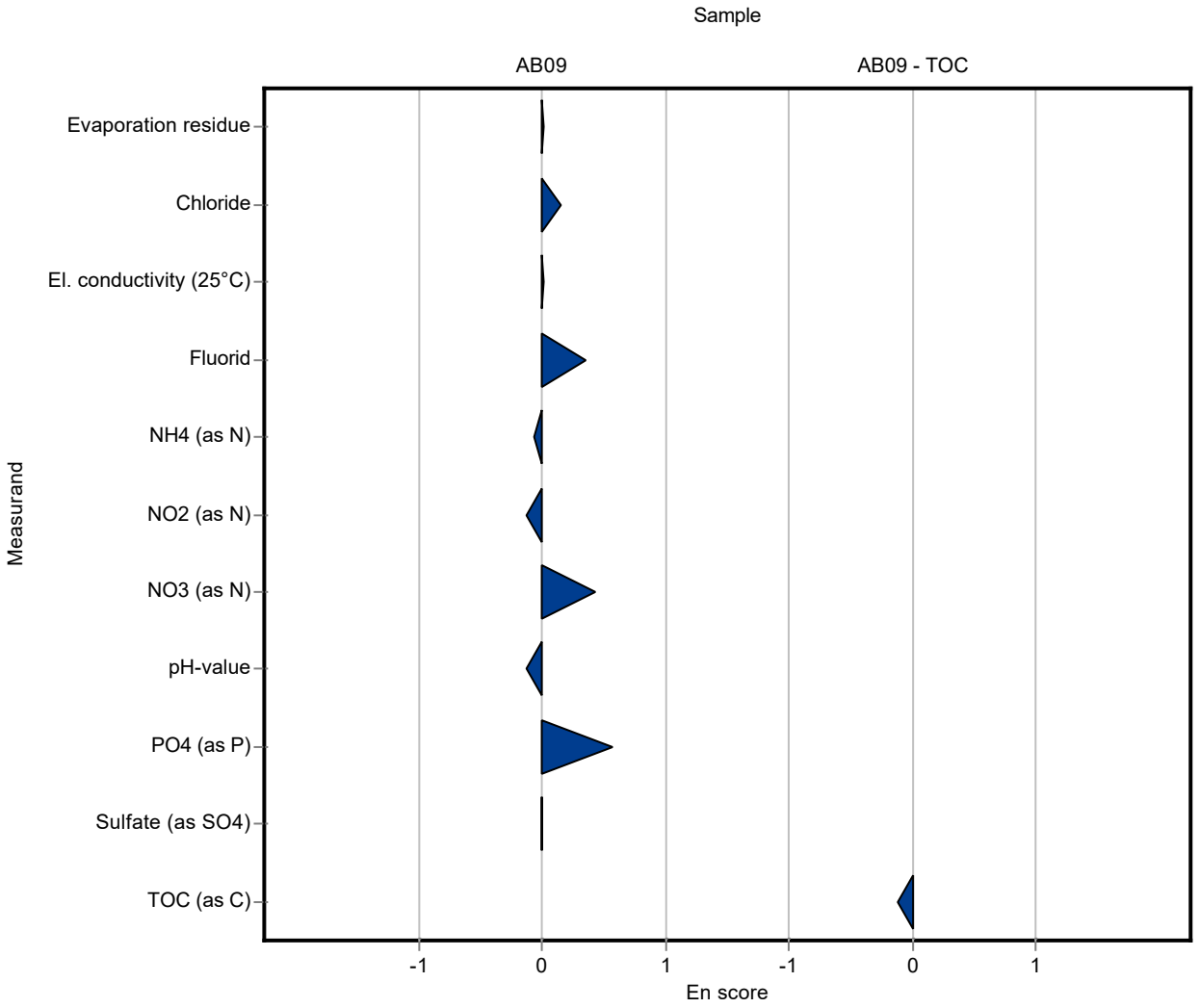

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-2
0
2
-2
0
2
z-score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Evaporation residue	mg/l	325 ± 7.82	326 ± 33	17.2	100	0.02
Chloride	mg/l	27.8 ± 0.343	28.7 ± 2.9	1.39	103	0.16
El. conductivity (25°C)	mS/m	53.3 ± 0.324	53.5 ± 5.4	0.8	100	0.02
Fluorid	mg/l	0.523 ± 0.0258	0.564 ± 0.056	0.0627	108	0.36
NH4 (as N)	mg/l	1.26 ± 0.0378	1.24 ± 0.12	0.091	98.7	-0.07
NO2 (as N)	mg/l	0.202 ± 0.00318	0.197 ± 0.02	0.0101	97.6	-0.12
NO3 (as N)	mg/l	3.31 ± 0.0693	3.62 ± 0.36	0.166	109	0.43
pH-value		7.93 ± 0.0361	7.88 ± 0.2	0.159	99.4	-0.12
PO4 (as P)	mg/l	0.111 ± 0.0197	0.129 ± 0.013	0.0387	117	0.57
Sulfate (as SO4)	mg/l	60.2 ± 1.06	60.2 ± 6	3.01	100	0.00

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
TOC (as C)	mg/l	7.38 ± 0.359	7.21 ± 0.72	0.886	97.7	-0.12

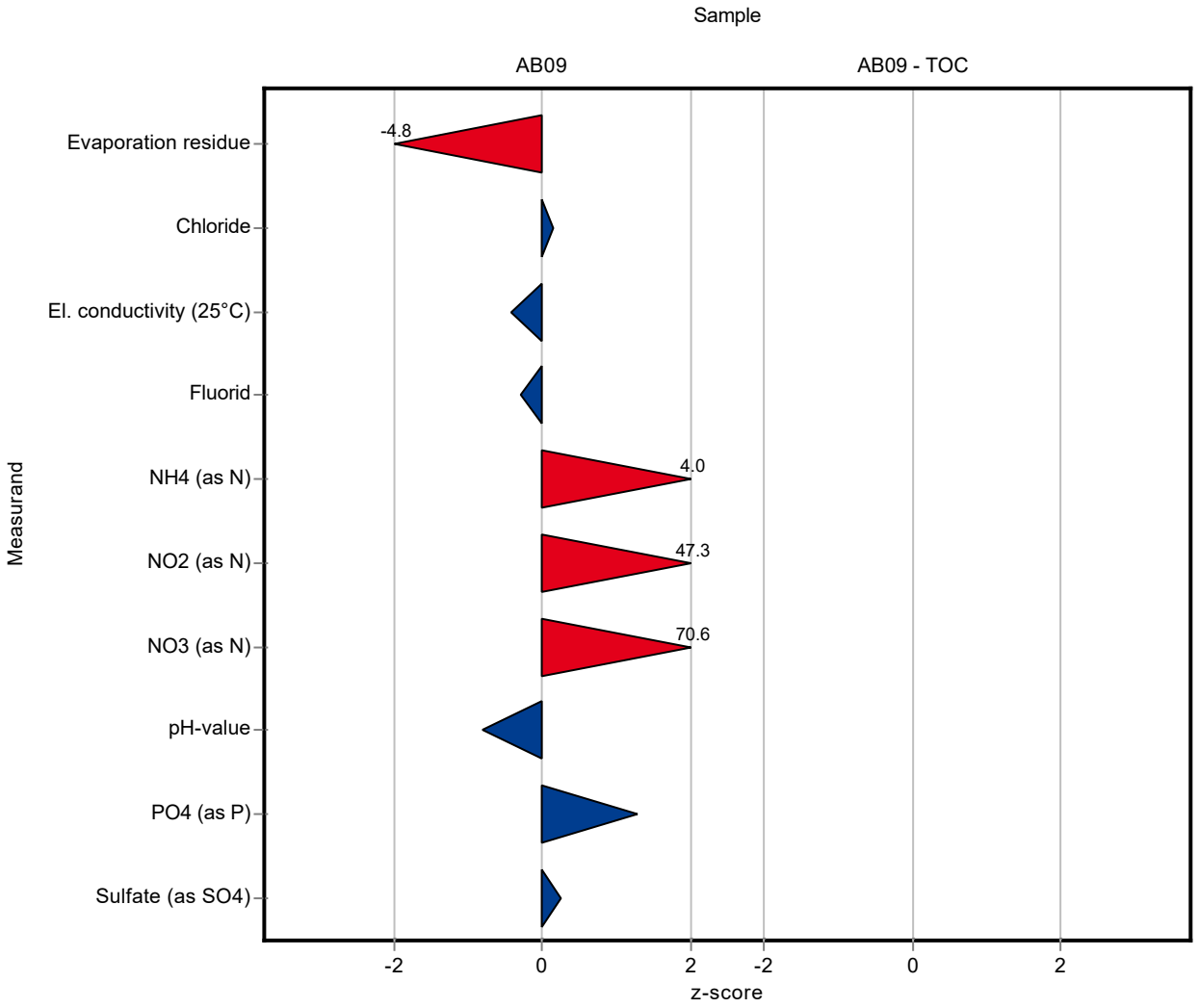

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-1
0
1
-1
0
1
En score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
Evaporation residue	mg/l	325 ± 7.82	243 ± 36	17.2	74.8	-4.75
Chloride	mg/l	27.8 ± 0.343	28 ± 4.2	1.39	101	0.16
El. conductivity (25°C)	mS/m	53.3 ± 0.324	53 ± 8	0.8	99.4	-0.41
Fluorid	mg/l	0.523 ± 0.0258	0.504 ± 0.076	0.0627	96.4	-0.30
NH4 (as N)	mg/l	1.26 ± 0.0378	1.62 ± 0.24	0.091	129	3.99
NO2 (as N)	mg/l	0.202 ± 0.00318	0.68 ± 0.1	0.0101	337	47.30
NO3 (as N)	mg/l	3.31 ± 0.0693	15 ± 2.3	0.166	453	70.60
pH-value		7.93 ± 0.0361	7.8 ± 0.2	0.159	98.4	-0.81
PO4 (as P)	mg/l	0.111 ± 0.0197	0.16 ± 0.02	0.0387	145	1.28
Sulfate (as SO4)	mg/l	60.2 ± 1.06	61 ± 9.2	3.01	101	0.26

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
TOC (as C)	mg/l	7.38 ± 0.359	- ± -	0.886	-	-

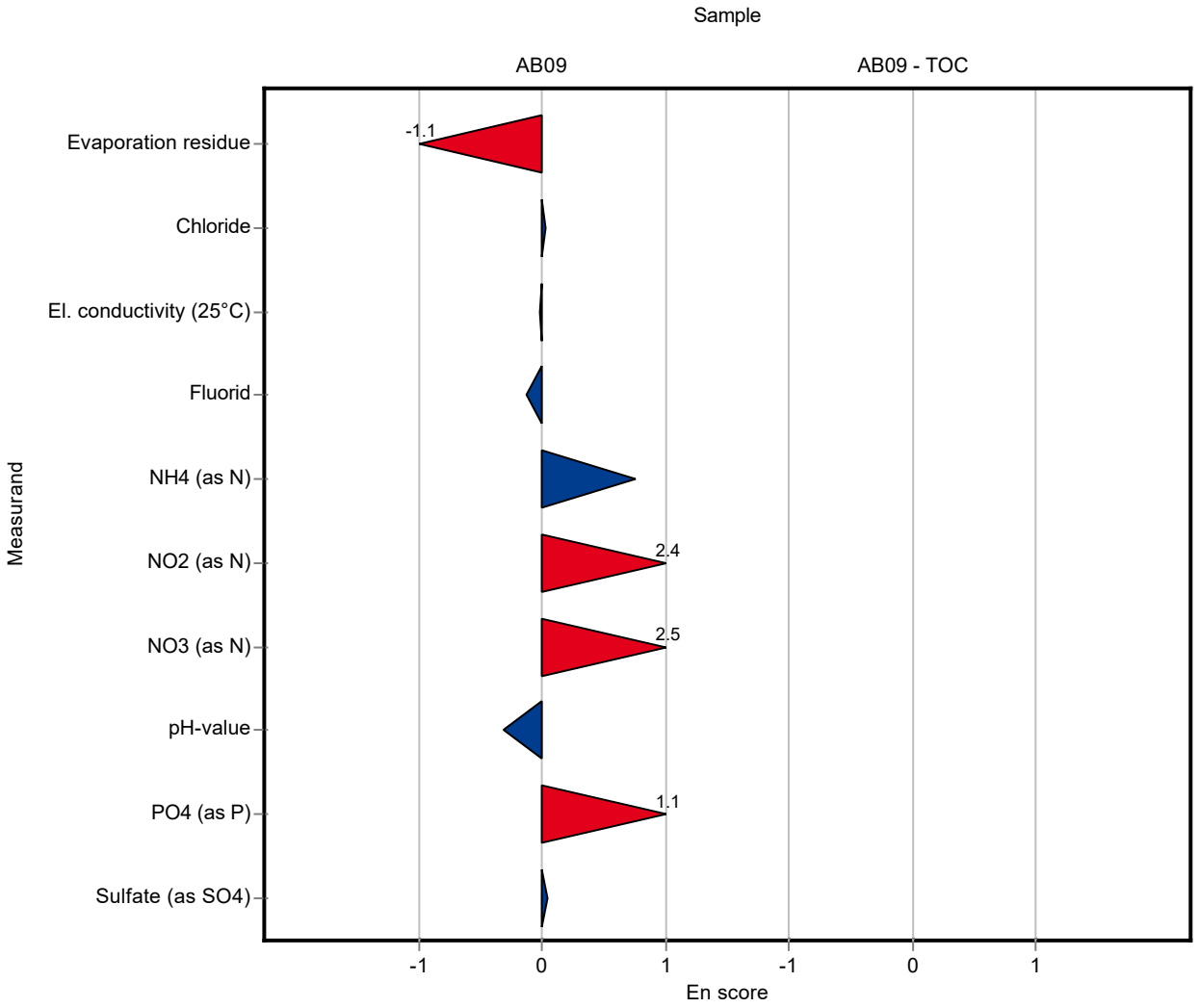

Sample
AB09
AB09 - TOC
Measurand
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
-4.8
4.0
47.3
70.6
-2
0
2
-2
0
2
z-score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Evaporation residue	mg/l	325 ± 7.82	243 ± 36	17.2	74.8	-1.13
Chloride	mg/l	27.8 ± 0.343	28 ± 4.2	1.39	101	0.03
El. conductivity (25°C)	mS/m	53.3 ± 0.324	53 ± 8	0.8	99.4	-0.02
Fluorid	mg/l	0.523 ± 0.0258	0.504 ± 0.076	0.0627	96.4	-0.12
NH4 (as N)	mg/l	1.26 ± 0.0378	1.62 ± 0.24	0.091	129	0.75
NO2 (as N)	mg/l	0.202 ± 0.00318	0.68 ± 0.1	0.0101	337	2.39
NO3 (as N)	mg/l	3.31 ± 0.0693	15 ± 2.3	0.166	453	2.54
pH-value		7.93 ± 0.0361	7.8 ± 0.2	0.159	98.4	-0.32
PO4 (as P)	mg/l	0.111 ± 0.0197	0.16 ± 0.02	0.0387	145	1.11
Sulfate (as SO4)	mg/l	60.2 ± 1.06	61 ± 9.2	3.01	101	0.04

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
TOC (as C)	mg/l	7.38 ± 0.359	- ± -	0.886	-	-

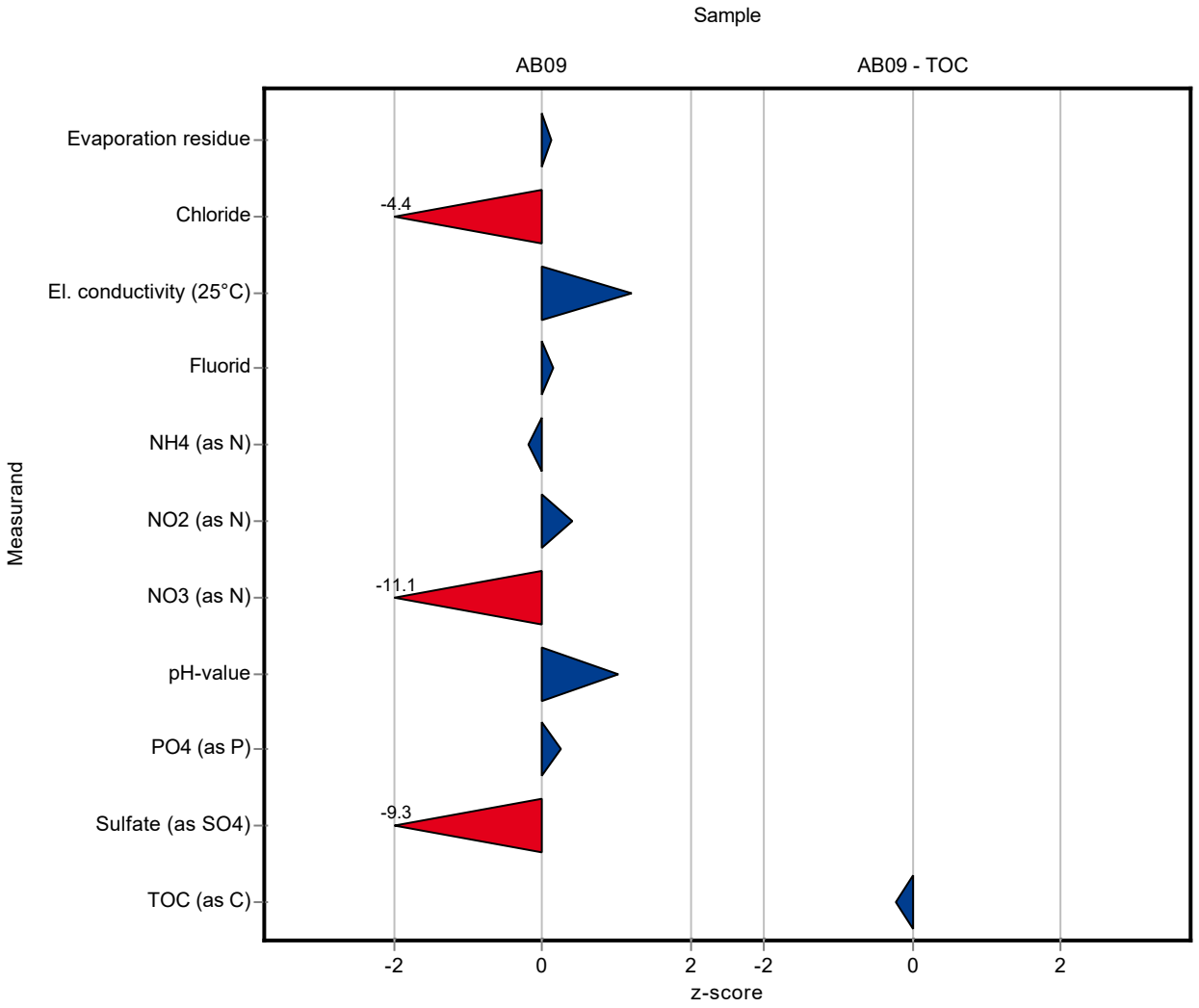

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
Measurand
-1.1
2.4
2.5
1.1
-1
0
1
-1
0
1
En score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
Evaporation residue	mg/l	325 ± 7.82	327 ± 0.327	17.2	101	0.13
Chloride	mg/l	27.8 ± 0.343	21.7005 ± 2.17005	1.39	78.1	-4.38
El. conductivity (25°C)	mS/m	53.3 ± 0.324	54.3 ± 5.43	0.8	102	1.21
Fluorid	mg/l	0.523 ± 0.0258	0.532 ± 0.0532	0.0627	102	0.14
NH4 (as N)	mg/l	1.26 ± 0.0378	1.2405 ± 0.12405	0.091	98.7	-0.18
NO2 (as N)	mg/l	0.202 ± 0.00318	0.2061 ± 0.02061	0.0101	102	0.41
NO3 (as N)	mg/l	3.31 ± 0.0693	1.47 ± 0.147	0.166	44.4	-11.10
pH-value		7.93 ± 0.0361	8.09 ± 0.809	0.159	102	1.02
PO4 (as P)	mg/l	0.111 ± 0.0197	0.1204 ± 0.01204	0.0387	109	0.26
Sulfate (as SO4)	mg/l	60.2 ± 1.06	32.1505 ± 3.21505	3.01	53.4	-9.32

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
TOC (as C)	mg/l	7.38 ± 0.359	7.184 ± 0.7184	0.886	97.3	-0.22

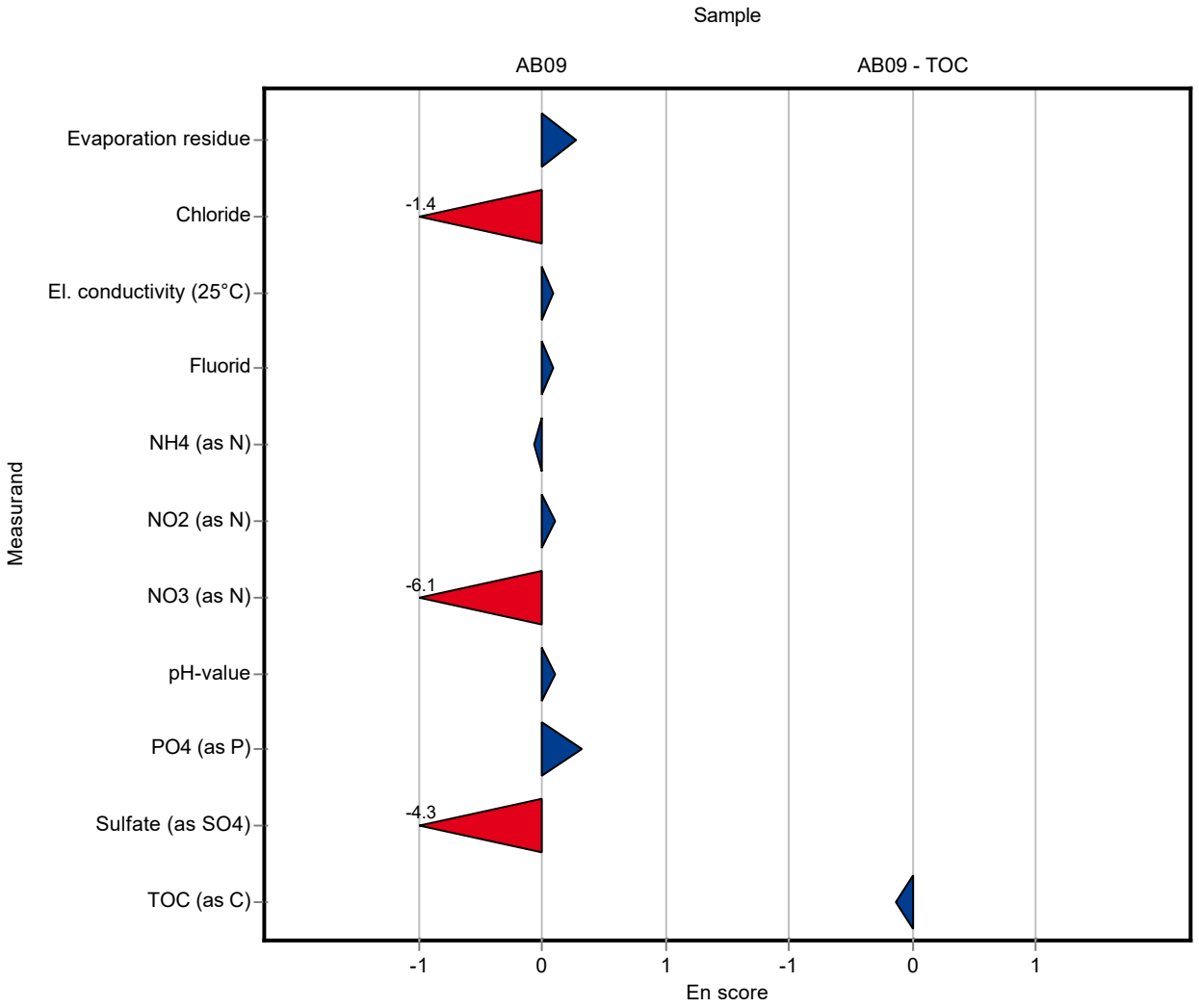

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-4.4
-11.1
-9.3
-2
0
2
-2
0
2
z-score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Evaporation residue	mg/l	325 ± 7.82	327 ± 0.327	17.2	101	0.27
Chloride	mg/l	27.8 ± 0.343	21.7005 ± 2.17005	1.39	78.1	-1.40
El. conductivity (25°C)	mS/m	53.3 ± 0.324	54.3 ± 5.43	0.8	102	0.09
Fluorid	mg/l	0.523 ± 0.0258	0.532 ± 0.0532	0.0627	102	0.08
NH4 (as N)	mg/l	1.26 ± 0.0378	1.2405 ± 0.12405	0.091	98.7	-0.07
NO2 (as N)	mg/l	0.202 ± 0.00318	0.2061 ± 0.02061	0.0101	102	0.10
NO3 (as N)	mg/l	3.31 ± 0.0693	1.47 ± 0.147	0.166	44.4	-6.09
pH-value		7.93 ± 0.0361	8.09 ± 0.809	0.159	102	0.10
PO4 (as P)	mg/l	0.111 ± 0.0197	0.1204 ± 0.01204	0.0387	109	0.32
Sulfate (as SO4)	mg/l	60.2 ± 1.06	32.1505 ± 3.21505	3.01	53.4	-4.31

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
TOC (as C)	mg/l	7.38 ± 0.359	7.184 ± 0.7184	0.886	97.3	-0.13

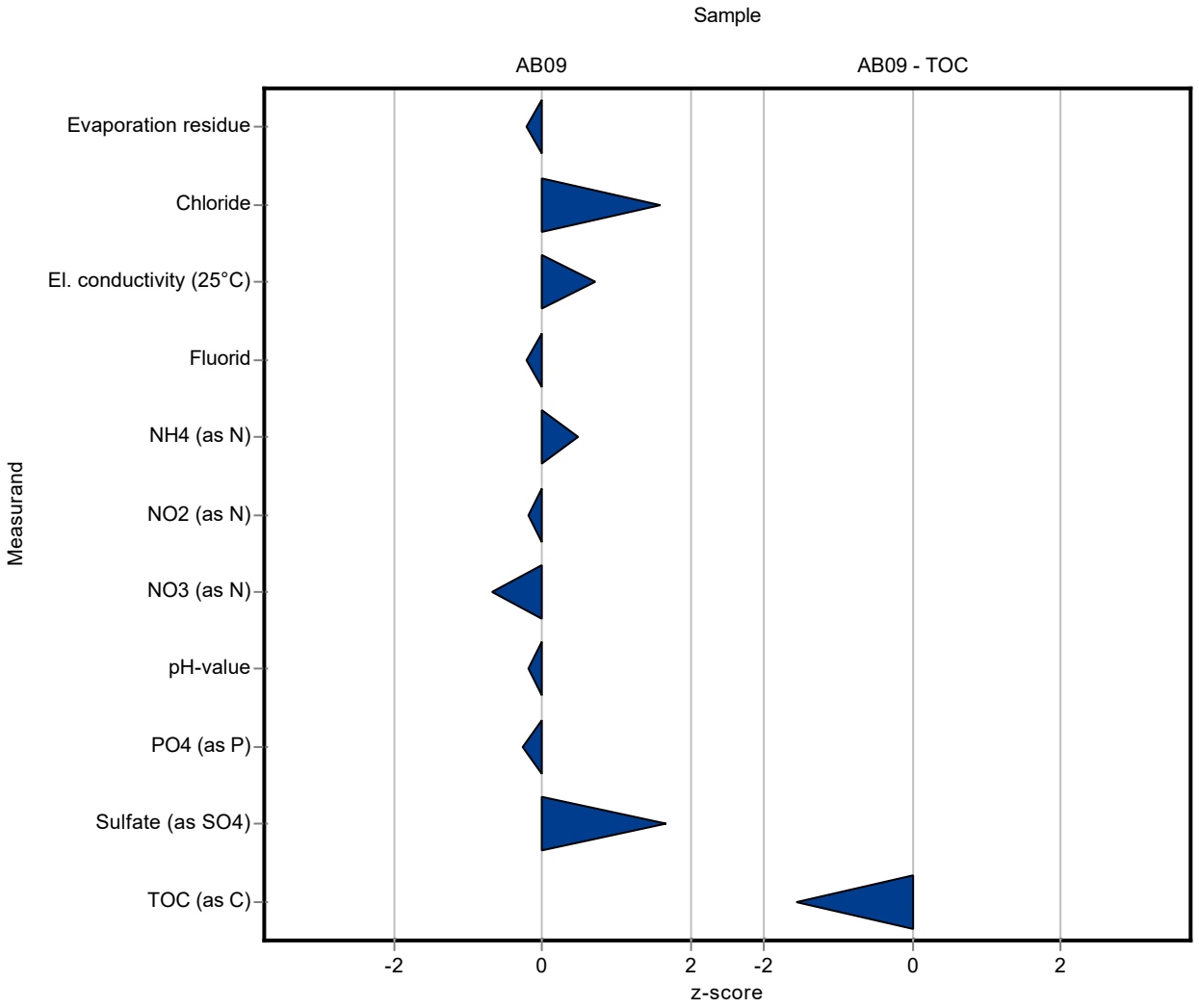

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-1.4
-6.1
-4.3
-1
0
1
-1
0
1
En score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
Evaporation residue	mg/l	325 ± 7.82	321 ± 32	17.2	98.8	-0.22
Chloride	mg/l	27.8 ± 0.343	30 ± 4.9	1.39	108	1.60
El. conductivity (25°C)	mS/m	53.3 ± 0.324	53.9 ± 5.39	0.8	101	0.71
Fluorid	mg/l	0.523 ± 0.0258	0.51 ± 0.051	0.0627	97.5	-0.21
NH4 (as N)	mg/l	1.26 ± 0.0378	1.3 ± 0.13	0.091	103	0.47
NO2 (as N)	mg/l	0.202 ± 0.00318	0.2 ± 0.02	0.0101	99	-0.19
NO3 (as N)	mg/l	3.31 ± 0.0693	3.2 ± 0.45	0.166	96.7	-0.66
pH-value		7.93 ± 0.0361	7.9 ± 0.1	0.159	99.6	-0.18
PO4 (as P)	mg/l	0.111 ± 0.0197	0.1 ± 0.01	0.0387	90.5	-0.27
Sulfate (as SO4)	mg/l	60.2 ± 1.06	65.3 ± 10	3.01	108	1.68

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
TOC (as C)	mg/l	7.38 ± 0.359	6 ± 0.6	0.886	81.3	-1.56

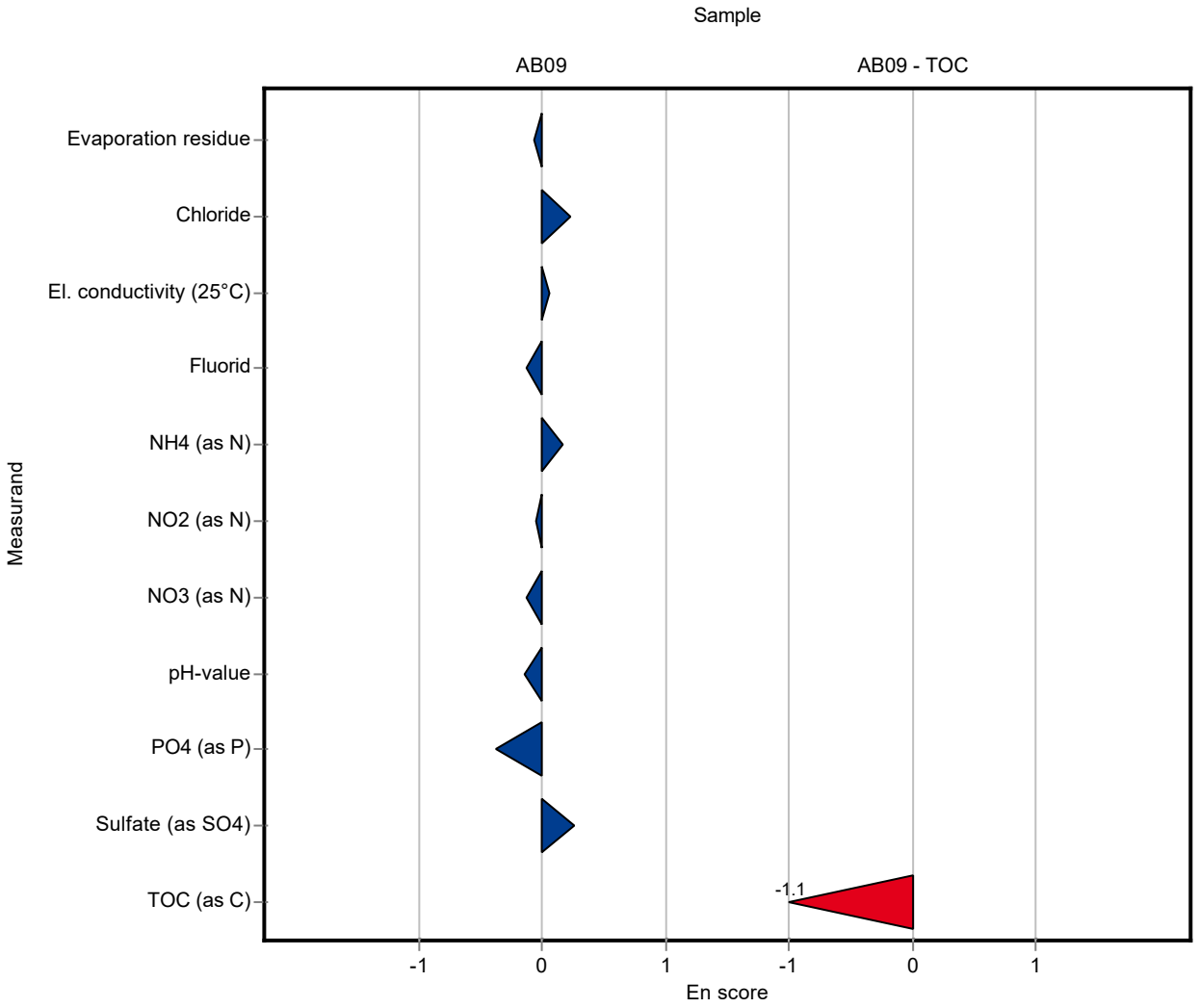

Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-2
0
2
-2
0
2
z-score

Sample: AB09

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Evaporation residue	mg/l	325 ± 7.82	321 ± 32	17.2	98.8	-0.06
Chloride	mg/l	27.8 ± 0.343	30 ± 4.9	1.39	108	0.23
El. conductivity (25°C)	mS/m	53.3 ± 0.324	53.9 ± 5.39	0.8	101	0.05
Fluorid	mg/l	0.523 ± 0.0258	0.51 ± 0.051	0.0627	97.5	-0.12
NH4 (as N)	mg/l	1.26 ± 0.0378	1.3 ± 0.13	0.091	103	0.16
NO2 (as N)	mg/l	0.202 ± 0.00318	0.2 ± 0.02	0.0101	99	-0.05
NO3 (as N)	mg/l	3.31 ± 0.0693	3.2 ± 0.45	0.166	96.7	-0.12
pH-value		7.93 ± 0.0361	7.9 ± 0.1	0.159	99.6	-0.14
PO4 (as P)	mg/l	0.111 ± 0.0197	0.1 ± 0.01	0.0387	90.5	-0.37
Sulfate (as SO4)	mg/l	60.2 ± 1.06	65.3 ± 10	3.01	108	0.25

Sample: AB09TOC

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
TOC (as C)	mg/l	7.38 ± 0.359	6 ± 0.6	0.886	81.3	-1.10


Sample
AB09
AB09 - TOC
Evaporation residue
Chloride
El. conductivity (25°C)
Fluorid
NH4 (as N)
NO2 (as N)
NO3 (as N)
pH-value
PO4 (as P)
Sulfate (as SO4)
TOC (as C)
Measurand
-1.1
-1
0
1
-1
0
1
En score

E9. Methodenübersicht / Overview of methods

LabCode	Sample	Chloride	El. conductivity (25°C)	Sulfate (as SO4)	pH-value	Evaporation residue
LC0001	AB09	EN ISO 10304-1; (D 20)	EN 27888;	EN ISO 10304-1; (D 20)	EN ISO 10523;	DIN 38409-1; (H 1)
LC0002	AB09	EN ISO 10304-1;	EN 27888;	EN ISO 10304-1;	EN ISO 10523;	TDS (180°C);
LC0003	AB09	EN ISO 10304-1; IC	EN 27888; el. Cond.	EN ISO 10304-1; IC	EN ISO 10523 ; (ISO 10523/Titrator)	DIN 38409-1;
LC0004	AB09	EN ISO 10304-1;	EN 27888;	EN ISO 10304-1;	EN ISO 10523; (ISO 10523)	EN 15216;
LC0005	AB09	EN ISO 10304-1; IC	EN 27888; Photometry	EN ISO 10304-1; IC	EN ISO 10523;	EN 15216;
LC0006	AB09	EN ISO 10304-1;	EN 27888;	EN ISO 10304-1;	DIN 38404-5;	DIN 38409-1;
LC0007	AB09	EN ISO 10304-1; (D 20)	EN 27888; (C 8)	EN ISO 10304-1; (D 20)	EN ISO 10523;	EN 14346;
LC0008	AB09	EN ISO 10304-1;	EN 27888;	EN ISO 10304-1;	EN ISO 10523; (ISO 10523)	EN 15216;
LC0009	AB09	EN ISO 10304-1;	EN 27888;	EN ISO 10304-1;	EN ISO 10523;	EN 15216;
LC0010	AB09					
LC0011	AB09	EN ISO 10304-1; (D 20)	EN 27888; (C 8)	EN ISO 10304-1; (D 20)	EN ISO 10523;	EN 15216;
LC0012	AB09	EN ISO 10304-1; IC	EN 27888;	EN ISO 10304-1; IC	DIN 38404-5;	
LC0013	AB09	EN ISO 10304-1; (D 19), IC	EN 27888; (C 8)	EN ISO 10304-1; (D 19), IC	EN ISO 10523; (C 5)	DIN 38409-1; (H 1)
LC0014	AB09	EN ISO 10304-1;	EN 27888;	EN ISO 10304-1;	EN ISO 10523;	EN 15216;
LC0015	AB09	IC;	el. cond. ;	IC;	pH;	Gravimetric method;
LC0016	AB09	EN ISO 10304-1;	EN 27888;	EN ISO 10304-1;	EN ISO 10523;	DIN 38409-1;
LC0017	AB09	EN ISO 10304-1;	EN 27888;	EN ISO 10304-1;	EN ISO 10523;	DIN 38409-1;
LC0018	AB09	EN ISO 10304-1;	EN 13370 (EN 27888);	EN ISO 10304-1;	DIN 38404-5;	
LC0019	AB09	EN ISO 10304-1; IC	EN 27888;	EN ISO 10304-1; IC	DIN 38404-5; (C 5)	DIN 38409-1; (H 1)
LC0020	AB09	EN ISO 10304-1;	EN 27888;	EN ISO 10304-1;	EN ISO 10523;	EN 15216;
LC0021	AB09	EN ISO 10304-1;	EN 27888;	EN ISO 10304-1;	DIN 38404-5; (C 5)	DIN 38409-1;
LC0022	AB09	EN ISO 10304-1;	EN 27888;	EN ISO 10304-1;	EN ISO 10523;	DIN 38409-1;
LC0023	AB09	EN ISO 15682;	EN 27888;	ISO 22743;	EN ISO 10523;	DIN 38409-1;
LC0024	AB09	EN ISO 10304-1;	EN 27888;	EN ISO 10304-1;	EN ISO 10523;	DIN 38409-1;
LC0025	AB09	EN ISO 10304-1;	EN 27888;	EN ISO 10304-1;	EN ISO 10523;	EN 15216;

LabCode	Sample	Fluorid	NH4 (as N)	PO4 (as P)	NO3 (as N)	NO2 (as N)
LC0001	AB09	EN ISO 10304-1; (D 20)	DIN 38406-5; (E 5)	EN ISO 10304-1; (D 20)	EN ISO 10304-1; (D 20)	EN ISO 10304-1; (D 20)
LC0002	AB09	EN ISO 10304-1;	EN ISO 14911;	EN ISO 10304-1;	EN ISO 10304-1;	EN ISO 10304-1;
LC0003	AB09	EN ISO 10304-1; IC	ISO 7150-1; Photometry	EN ISO 6878; Photometry	EN ISO 10304-1; IC	EN 26777; Photometry
LC0004	AB09	ISO 10359-1;	ISO 7150-1;	EN ISO 6878;	EN ISO 10304-1;	EN 26777;
LC0005	AB09	EN ISO 10304-1; IC	DIN 38406-5; (E 5) Photometry	EN ISO 6878; Photometry	EN ISO 10304-1; IC	EN 26777; Photometry
LC0006	AB09	EN ISO 10304-1;	DIN 38406-5; (E 5)	EN ISO 6878; (D 11)	EN ISO 10304-1; (D 20)	EN 26777; (D 10)
LC0007	AB09	EN ISO 10304-1; (D 20)	DIN 38406-5; (E 5)	EN ISO 6878; (D 11)	EN ISO 10304-1; (D 20)	EN 26777; (D 10)
LC0008	AB09	EN ISO 10304-1;	ISO 7150-1;	EN ISO 10304-1;	EN ISO 10304-1;	EN ISO 10304-1;
LC0009	AB09	EN ISO 10304-1;	EN ISO 11732;	EN ISO 15681-2;	EN ISO 10304-1;	EN ISO 13395;
LC0010	AB09					
LC0011	AB09	EN ISO 10304-1; (D 20)	DIN 38406-5; (E 5)	EN ISO 6878; (D 11)	EN ISO 10304-1; (D 20)	EN 26777; (D 10)
LC0012	AB09	DIN 38405-4 ; Ionmeter	EN ISO 11732; CFA	EN ISO 6878; Photometry	EN ISO 10304-1; IC	EN 26777; Photometry
LC0013	AB09	EN ISO 10304-1; (D 19), IC	EN ISO 11732; (E 23), FIA	EN ISO 10304-1; (D 19), IC	EN ISO 10304-1; (D 19), IC	EN ISO 10304-1; (D 19), IC
LC0014	AB09	EN ISO 10304-1;	EN ISO 11732; (E 23)	EN ISO 11885; (E 22)	EN ISO 10304-1;	EN ISO 10304-1;
LC0015	AB09	IC;	Photometric method;	Photometric method;		Photometric method;
LC0016	AB09	EN ISO 10304-1;	EN ISO 11732;	EN ISO 15681-2; CFA	EN ISO 10304-1;	EN ISO 13395;
LC0017	AB09	EN ISO 10304-1;	EN ISO 11732;	EN ISO 11885;	EN ISO 10304-1;	EN ISO 10304-1;
LC0018	AB09	EN ISO 10304-1;	DIN 38405-5; (E5-1)	EN ISO 10304-1;	EN ISO 10304-1;	EN ISO 10304-1;
LC0019	AB09	EN ISO 10304-1; IC	EN ISO 11732; CFA	EN ISO 6878; UV-VIS	EN ISO 13395; CFA	EN ISO 13395; CFA
LC0020	AB09	EN ISO 10304-1;	EN ISO 11732;	EN ISO 15681-1; FIA	EN ISO 10304-1;	EN ISO 13395;
LC0021	AB09	EN ISO 10304-1;	DIN 38406-5;	EN ISO 17294-2;	EN ISO 10304-1;	EN ISO 10304-1;
LC0022	AB09	EN ISO 10304-1;	DIN 38406-5;	EN ISO 6878;	EN ISO 10304-1;	EN ISO 13395;
LC0023	AB09	DIN 38405-4 ;	EN ISO 11732;	EN ISO 15681-2;	EN ISO 13395;	EN ISO 13395;
LC0024	AB09	EN ISO 10304-1;	EN ISO 11732;	EN ISO 15681-2; CFA	EN ISO 10304-1;	EN ISO 13395;
LC0025	AB09	OENORM M 6607;	DIN 38406-5;	EN ISO 6878;	EN ISO 10304-1;	EN 26777;

LabCode	Sample	TOC (as C)
LC0001	AB09TOC	EN 1484; (H 3)
LC0002	AB09TOC	EN 1484;
LC0003	AB09TOC	
LC0004	AB09TOC	EN 1484;
LC0005	AB09TOC	EN 1484; direct method
LC0006	AB09TOC	EN 1484;
LC0007	AB09TOC	EN 1484; (H 3)
LC0008	AB09TOC	EN 1484;
LC0009	AB09TOC	EN 1484;
LC0010	AB09TOC	
LC0011	AB09TOC	EN 1484; (H 3)
LC0012	AB09TOC	EN 1484;
LC0013	AB09TOC	EN 1484; (H 3), IR-Det.
LC0014	AB09TOC	EN 1484; (H 3)
LC0015	AB09TOC	NPOC;
LC0016	AB09TOC	EN 1484;
LC0017	AB09TOC	EN 1484;
LC0018	AB09TOC	EN 13137;
LC0019	AB09TOC	EN 1484;
LC0020	AB09TOC	EN 1484;
LC0021	AB09TOC	EN 1484;
LC0022	AB09TOC	EN 1484;
LC0023	AB09TOC	
LC0024	AB09TOC	EN 1484;
LC0025	AB09TOC	EN 1484;