umweltbundesamt
ENVIRONMENT AGENCY AUSTRIA

Proficiency Testing Scheme für die Wasseranalytik - Realproben

C71 Leichtflüchtige halogenierte Kohlenwasserstoffe (LHKW)

Proficiency Testing Scheme for Water Analysis - natural water samples

C71 Volatile halogenated hydrocarbons (VHH)

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D1. Beschreibung des Ringversuchs

D1.1. Ausgestaltung und Durchführung

- Anzahl der Anmeldungen: 18
- Anzahl der übermittelten Datensätze: 18
- Probenversand: 21.05.2024
- Einsendeschluss der Daten: 25.06.2024

Die Ergebnisabgabe erfolgte auf elektronischem Weg mittels passwortgeschützter Online-Dateneingabe. Beim Abschluss der Dateneingabe bestätigten die Teilnehmenden 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

Die Probenahme von Grundwasser und Oberflächenwasser erfolgte am 16.05.2024.

- 1 Probe Grundwasser (C71 A)
- 1 Probe Oberflächenwasser (C71 B)

Alle Proben wurden anschließend bis zur weiteren Verarbeitung gekühlt gelagert (4 +/- 3°C). Die o.a. Proben wurden bei 40 µm filtriert und im Rührkessel zusätzlich mit einzelnen Substanzen dotiert.

Das Abfüllen der Proben erfolgte unter ständigem Rühren (Rührkessel). Die Stabilisierung erfolgte durch Kühlung.

Die homogenen Prüfgegenstände wurden am 21.05.2024 verschickt.

Jedes Teilnehmerlabor erhielt:

- 2 Proben zu je ca. 600 ml, abgefüllt in je 1 x 600 ml Aluminium-Flaschen

D1.3. Anweisungen für die Teilnehmenden

Aus Stabilitätsgründen wurde empfohlen bis spätestens 29.05.2024 mit den Analysen zu beginnen.

Den Teilnehmenden 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 die A- bzw. B-Probe jeweils n=5 Kontrollproben sowie n=1 undotierte Realprobe dem Labor zur Analyse übergeben.

Die Bestimmung der 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 (E7) 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

Die Bewertung der Stabilität der Prüfgegenstände (Realproben) erfolgte auf Basis der Datenstatistik aus den vergangenen Runden für Realproben im Zeitraum 2013 bis 2023.

Um die ausreichende Stabilität der Prüfgegenstände der aktuellen Eignungsprüfungsrunde bis zum Abgabetermin zu überprüfen, wurde die Darstellung der Ergebnisse der Teilnehmenden nach Analysendatum ausgewertet und auf systematische Trends geprüft (unauffällig). Durch Darstellung der Ergebnisse der Teilnehmenden 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 25.06.2024 beim Veranstalter vorliegen. Später eingehende Werte wurden nicht berücksichtigt.

Im Zuge der Plausibilitätsprüfung der Daten (z.B. Check korrekte Einheiten, Messunsicherheitsangabe, …) wurden die Teilnehmenden 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 Ergebnisse der Teilnehmenden von über 50 % oder bei mangelhafter Rückführbarkeit der statistischen Kenndaten aus den ausreißerbereinigten Ergebnissen der Teilnehmenden 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 Ergebnisse der Teilnehmenden für diesen Parameter möglich ist. Ein entsprechender Hinweis wird im Bericht unter E7 bei der informativen Auswertung angebracht. Im Rahmen der internen Qualitätssicherung der Teilnehmenden 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 Teilnehmenden (angegeben auf 3 signifikante Stellen); im Regelfall: ausreißerbereinigter Mittelwert der Ergebnisse der Teilnehmenden. Eine davon abweichende Vorgehensweise wird unter Punkt D4 des Berichts beschrieben.
Kriterium	Vergleichsstandardabweichung berechnet aus den Statistiken für reale Wasserproben der vorangegangenen Runden im Zeitraum 2013 bis 2023 (RSDpooled). In begründeten Fällen (z.B. Ergebnisse Realproben 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 Teilnehmenden und der erweiterten Messunsicherheit des zugewiesenen Wertes, gemäß E_n-Score. Diese Auswertungen werden für die Teilnehmenden 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 Teilnehmenden (angegeben auf 3 signifikante Stellen); im Regelfall: ausreißerbereinigter Mittelwert der Ergebnisse der Teilnehmenden. Eine davon abweichende Vorgehensweise wird unter Punkt D4 des Berichts beschrieben.

U(x_i) erweiterte Messunsicherheit des Messergebnisses (Ergebnisse der Teilnehmenden), 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 Teilnehmenden 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 Teilnehmenden 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 D5 entnommen werden.

D4. Anmerkungen zur Auswertung

Wie unter Punkt D2 ersichtlich, können die z-Scores auch unter Einbeziehung der Vergleichsstandardabweichung der ausreißerbereinigten Ergebnisse der Teilnehmenden 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 Ergebnisse der Teilnehmenden 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 Ergebnis einer Langzeitauswertung über aktuell 11 Eignungsprüfungsrunden (2013–2023) in Realproben wurden Kriterien (RSDpool) zur Ergebnisbewertung berechnet. Diese wurden im Zuge der Auswertung den relativen Vergleichs-standardabweichungen (vR) des aktuellen Ringversuchs gegenübergestellt.

Bei allen Parametern erfolgte die Berechnung der Scores nach D2.

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 Teilnehmenden (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 Ergebnisse der Teilnehmenden (angegeben auf 3 signifikante Stellen)

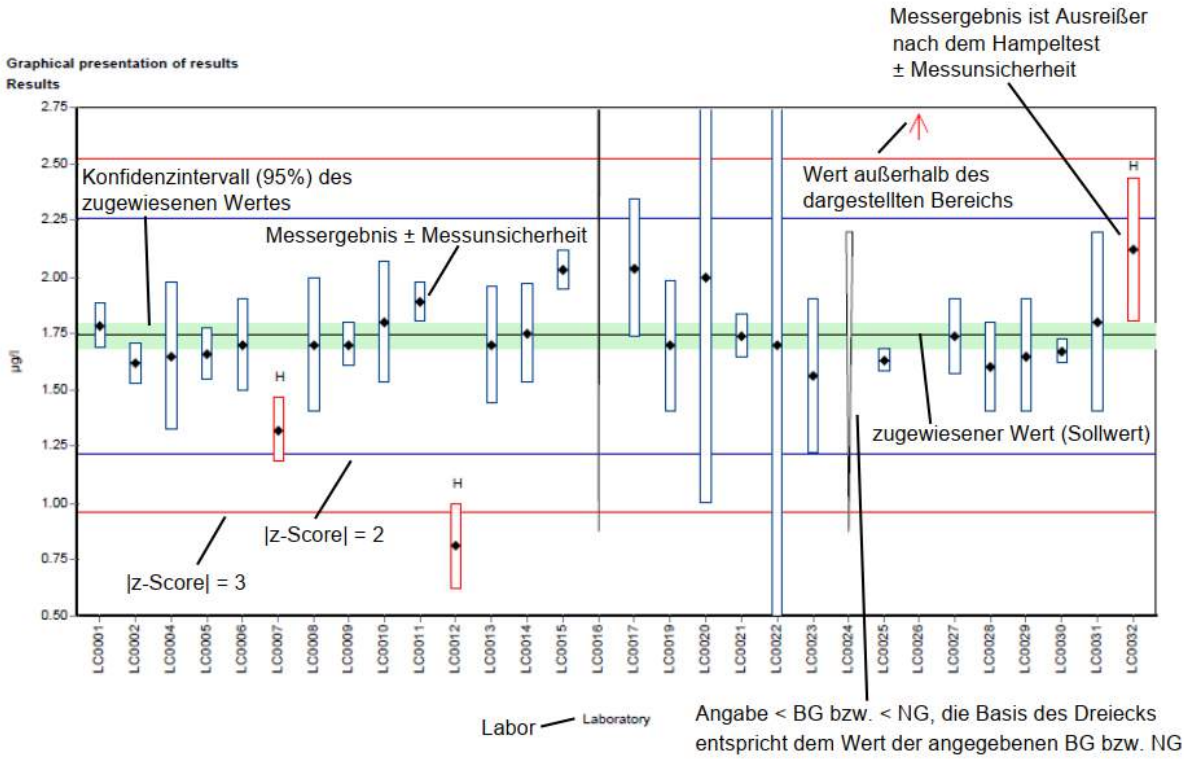
VB (99%)	99 % Vertrauensbereich (angegeben auf 3 signifikante Stellen)
Minimum	Minimales abgegebenes Messergebnis, ausreißerbereinigt (angegeben auf 3 signifikante Stellen)
Maximum	Maximales abgegebenes Messergebnis, ausreißer-bereinigt (angegeben auf 3 signifikante Stellen)
sR	Vergleichsstandardabweichung, berechnet aus den ausreißerbereinigten Ergebnissen der Teilnehmenden des aktuellen Ringversuchs (angegeben auf 3 signifikante Stellen)
vR	relative Vergleichsstandardabweichung in %, berechnet aus den ausreißerbereinigten Ergebnissen der Teilnehmenden 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 Kennung des teilnehmenden Labors im jeweiligen Ringversuch
Messwert	einzelne(r) Messwert(e) lt. Angabe der Teilnehmenden (maximal 5 Nachkommastellen dargestellt)
Messergebnis	Für die Bewertung herangezogenes Ergebnis lt. Angabe der Teilnehmenden (maximal 5 Nachkommastellen dargestellt). Bei Eignungsprüfungsrunden mit Vorgabe von unabhängigen Mehrfachbestimmungen, entspricht dies dem berechneten Mittelwert aus den einzelnen Messwerten der Teilnehmenden.
± U	kombinierte Messunsicherheit ohne Erweiterungsfaktor (k=1) lt. Angabe der Teilnehmenden (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 Teilnehmenden (angegeben auf 3 signifikante Stellen, dargestellt maximal 2 Nachkommastellen). Beim E_n-Score erfolgt die Berücksichtigung der Messunsicherheit der Teilnehmenden.
-	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 Ergebnissen der Teilnehmenden des aktuellen Ringversuchs (angegeben auf 3 signifikante Stellen)
rel. Standardabweichung	relative Vergleichsstandardabweichung in %, berechnet aus den Ergebnissen der Teilnehmenden des aktuellen Ringversuchs bezogen auf den Mittelwert (angegeben auf 3 signifikante Stellen)
n	Anzahl der Messergebnisse
*	Kennzeichnung für Hinweise zur Erläuterung

D5.2. Graphische Darstellung der Ergebnisse

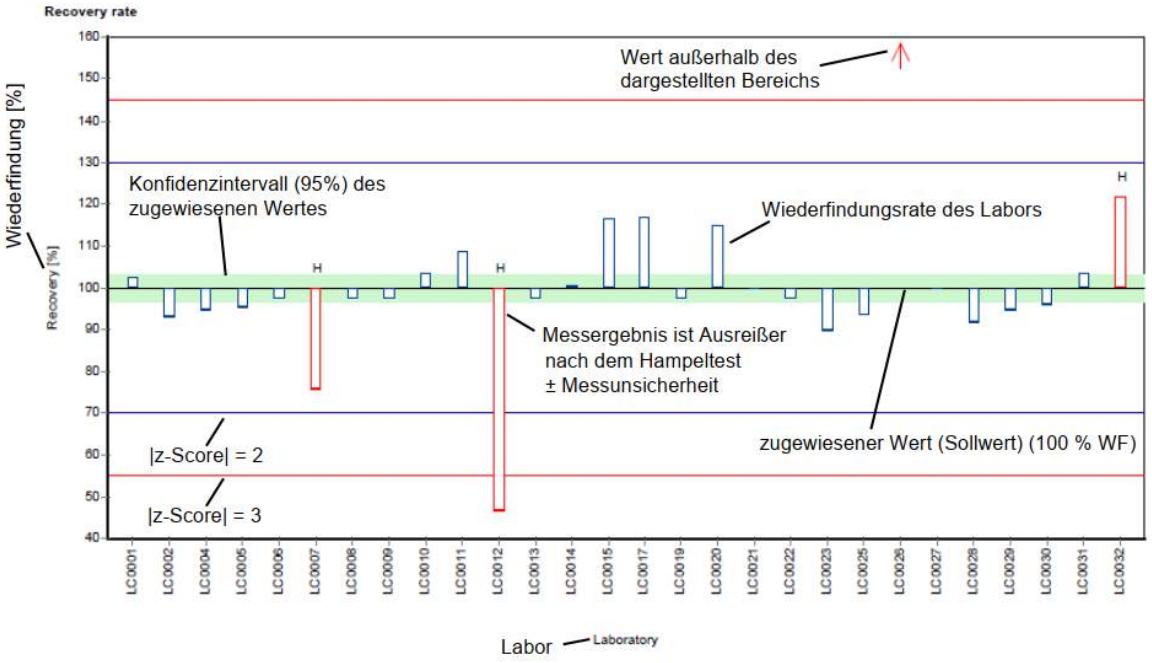
Nachfolgend wird die graphische Darstellung anhand von kommentierten Beispieldiagrammen erläutert.

Beispieldiagramm: Messwerte



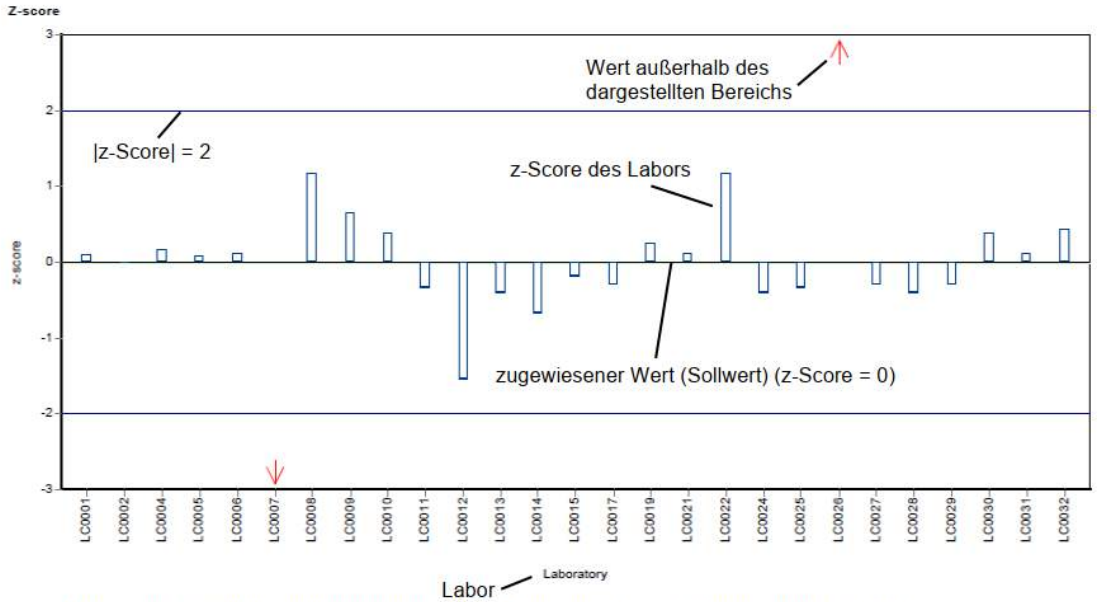
Unterschiedliche Analysenmethoden werden mit unterschiedlichen Farben kenntlich gemacht.

Beispieldiagramm: Wiederfindung zum zugewiesenen Wert



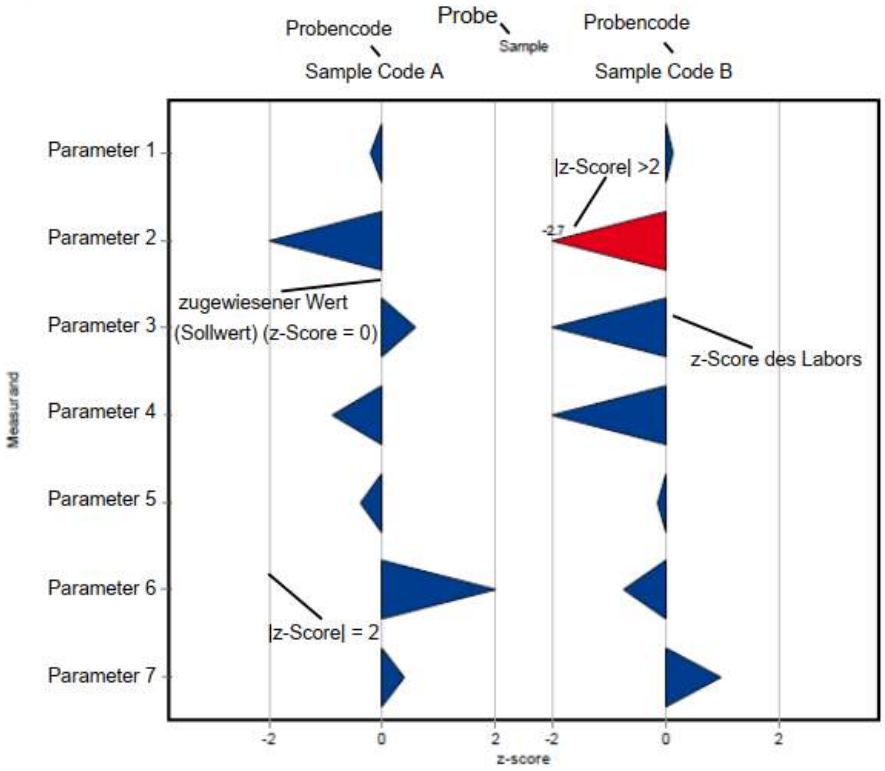
Unterschiedliche Analysenmethoden werden mit unterschiedlichen Farben kenntlich gemacht.

Beispieldiagramm: z-Score

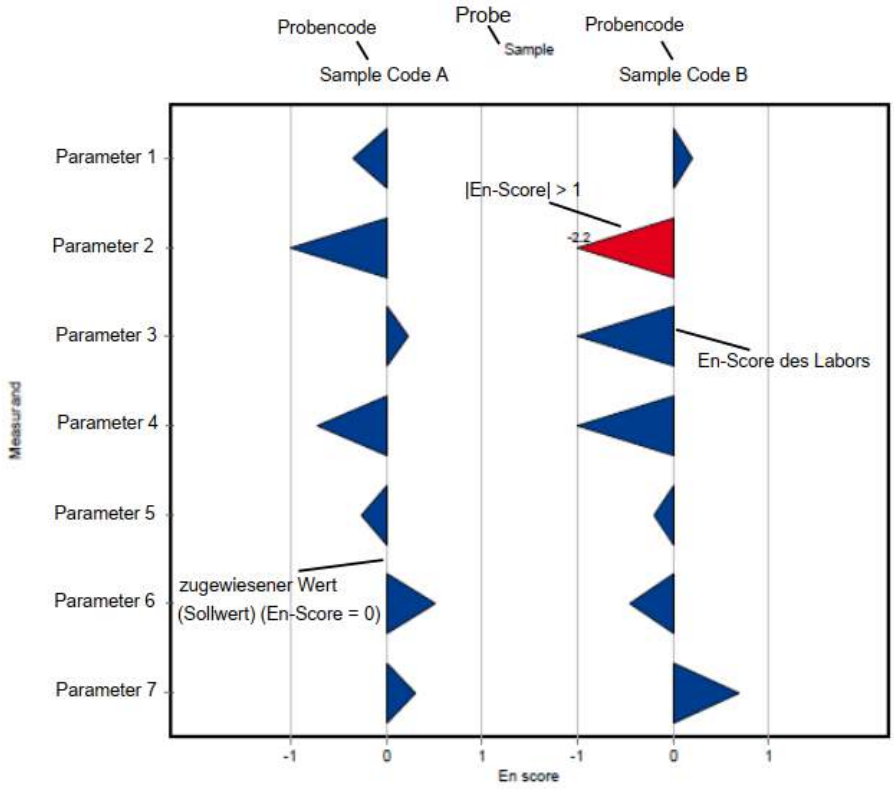


Unterschiedliche Analysenmethoden werden mit unterschiedlichen Farben kenntlich gemacht.

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 [%]
1,1,1-Trichlorethan	C71 A	µg/l	0.801	±	0.0416	0.12	15
	C71 B	µg/l	4.34	±	0.189	0.65	15
1,1-Dichlorethen	C71 A	µg/l	0.682	±	0.0722	0.116	17
	C71 B	µg/l	3.74	±	0.238	0.636	17
1,2-Dichlorethan	C71 A	µg/l	1.09	±	0.0621	0.142	13
	C71 B	µg/l	5.14	±	0.243	0.669	13
Bromdichlormethan	C71 A	µg/l	1.65	±	0.0725	0.165	10
	C71 B	µg/l	7.97	±	0.324	0.797	10
cis-1,2-Dichlorethen	C71 A	µg/l	0.967	±	0.0708	0.0967	10
	C71 B	µg/l	4.76	±	0.368	0.476	10
Dibromchlormethan	C71 A	µg/l	1.31	±	0.0681	0.158	12
	C71 B	µg/l	6.54	±	0.309	0.785	12
Dichlormethan	C71 A	µg/l	7.5	±	0.503	0.975	13
	C71 B	µg/l	9.04	±	0.398	1.18	13
Tetrachlorethen	C71 A	µg/l	0.584	±	0.0417	0.0993	17
	C71 B	µg/l	2.95	±	0.244	0.501	17
Tetrachlormethan	C71 A	µg/l	0.489	±	0.0301	0.0783	16
	C71 B	µg/l	2.73	±	0.089	0.438	16
trans-1,2-Dichlorethen	C71 A	µg/l	0.763	±	0.0642	0.153	20
	C71 B	µg/l	4.04	±	0.186	0.808	20
Tribrommethan	C71 A	µg/l	1.42	±	0.0951	0.17	12
	C71 B	µg/l	7.12	±	0.429	0.854	12
Trichlorethen	C71 A	µg/l	0.677	±	0.0456	0.102	15
	C71 B	µg/l	3.13	±	0.16	0.47	15
Trichlormethan	C71 A	µg/l	0.932	±	0.039	0.121	13
	C71 B	µg/l	4.15	±	0.173	0.539	13

D6.2. Zusammenfassung der ausreißerbereinigten Ringversuchsergebnisse

Parameter	Probe	Anzahl Labors für Berechnung	Anzahl Ausreißer Labors	Einheit	Mittelwert	±	VB (99%)	Minimum	Maximum	sR	vR [%]
1,1,1-Trichlorethan	C71 A	12	3	µg/l	0.801	±	0.0624	0.69	0.9	0.0721	9
	C71 B	14	1	µg/l	4.34	±	0.283	3.74	4.96	0.353	8.1
1,1-Dichlorethen	C71 A	13	0	µg/l	0.682	±	0.108	0.563	0.97	0.13	19
	C71 B	13	0	µg/l	3.74	±	0.357	3.11	4.7	0.429	11
1,2-Dichlorethan	C71 A	14	1	µg/l	1.09	±	0.0931	0.92	1.31	0.116	11
	C71 B	15	0	µg/l	5.14	±	0.364	4.3	6.05	0.471	9.1
Bromdichlormethan	C71 A	15	1	µg/l	1.65	±	0.109	1.45	1.97	0.14	8.5
	C71 B	16	0	µg/l	7.97	±	0.486	6.7	9.3	0.648	8.1
cis-1,2-Dichlorethen	C71 A	12	0	µg/l	0.967	±	0.106	0.762	1.13	0.123	13
	C71 B	12	0	µg/l	4.76	±	0.553	3.85	5.99	0.638	13
Dibromchlormethan	C71 A	14	2	µg/l	1.31	±	0.102	1.1	1.63	0.127	9.7
	C71 B	15	1	µg/l	6.54	±	0.464	5.5	7.71	0.599	9.2
Dichlormethan	C71 A	14	0	µg/l	7.5	±	0.754	5.62	9.25	0.941	13
	C71 B	12	2	µg/l	9.04	±	0.598	7.72	10.3	0.69	7.6
Tetrachlorethen	C71 A	13	1	µg/l	0.584	±	0.0625	0.438	0.74	0.0752	13
	C71 B	12	3	µg/l	2.95	±	0.366	2.2	3.76	0.422	14
Tetrachlormethan	C71 A	12	3	µg/l	0.489	±	0.0451	0.435	0.61	0.0521	11
	C71 B	14	1	µg/l	2.73	±	0.133	2.39	2.99	0.166	6.1
trans-1,2-Dichlorethen	C71 A	10	1	µg/l	0.763	±	0.0963	0.6	0.929	0.101	13
	C71 B	11	0	µg/l	4.04	±	0.279	3.46	4.6	0.309	7.6
Tribrommethan	C71 A	16	0	µg/l	1.42	±	0.143	1.03	1.85	0.19	13
	C71 B	14	2	µg/l	7.12	±	0.644	5.36	8.57	0.803	11
Trichlorethen	C71 A	14	2	µg/l	0.677	±	0.0684	0.543	0.86	0.0852	13
	C71 B	14	2	µg/l	3.13	±	0.24	2.6	3.62	0.299	9.5
Trichlormethan	C71 A	13	2	µg/l	0.932	±	0.0586	0.802	1.03	0.0704	7.5
	C71 B	14	2	µg/l	4.15	±	0.259	3.7	4.98	0.323	7.8

E1. Description of the proficiency test

E1.1. Design and implementation

- Number of registrations: 18
- Number of submitted data records: 18
- Dispatch of samples: May 21st, 2024
- Closing date for submission of data: June 25th, 2024

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 sampling of ground water and surface water was carried out on the 16th of May 2024. The following samples were made available

- 1 sample ground water (C71 A)
- 1 sample surface water (C71 B)

Both samples were stored at 4 +/- 3°C until further processing. The samples were filtered (40 µm) and partly spiked with specific substances in the stirring vessel.

The samples were filled into bottles under continuous stirring (stirring vessel) and stabilized by cooling.

The homogeneous proficiency test items were dispatched on the 21st of May 2024.

Each participant received:

- 2 samples each 600 ml, filled in 600 ml aluminium bottles

E1.3. Instructions for the participants

For reasons of stability, it was recommended to start the analysis by the 29th of May 2024 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 the samples A and B, n=5 control test samples and n=1 unspiked real water sample were transferred to the laboratory for control testing.

The determination of the 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 (E7), 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 evaluation of stability of the proficiency test items was performed using the data statistics of the results of previous proficiency testing rounds for real water samples of the period from 2013 to 2023.

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 of real water samples 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 25th of June 2024. 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 from previous rounds for proficiency testing for real water samples from 2013 to 2023 (as RSD pooled).
Where justified (e.g. results for real water samples 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. $|E_n$-Score| > 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 E5.

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.

As a result of a long-term evaluation of 11 proficiency testing rounds (2013–2023 in real samples, evaluation criteria (RSDpool) were calculated.
These criteria were compared with the relative reproducibility standard deviation (vR) of the current proficiency testing.

Scores for all listed parameters were calculated according to E2.

E5. Annotations on tables and charts

E5.1. Information and abbreviations in tables

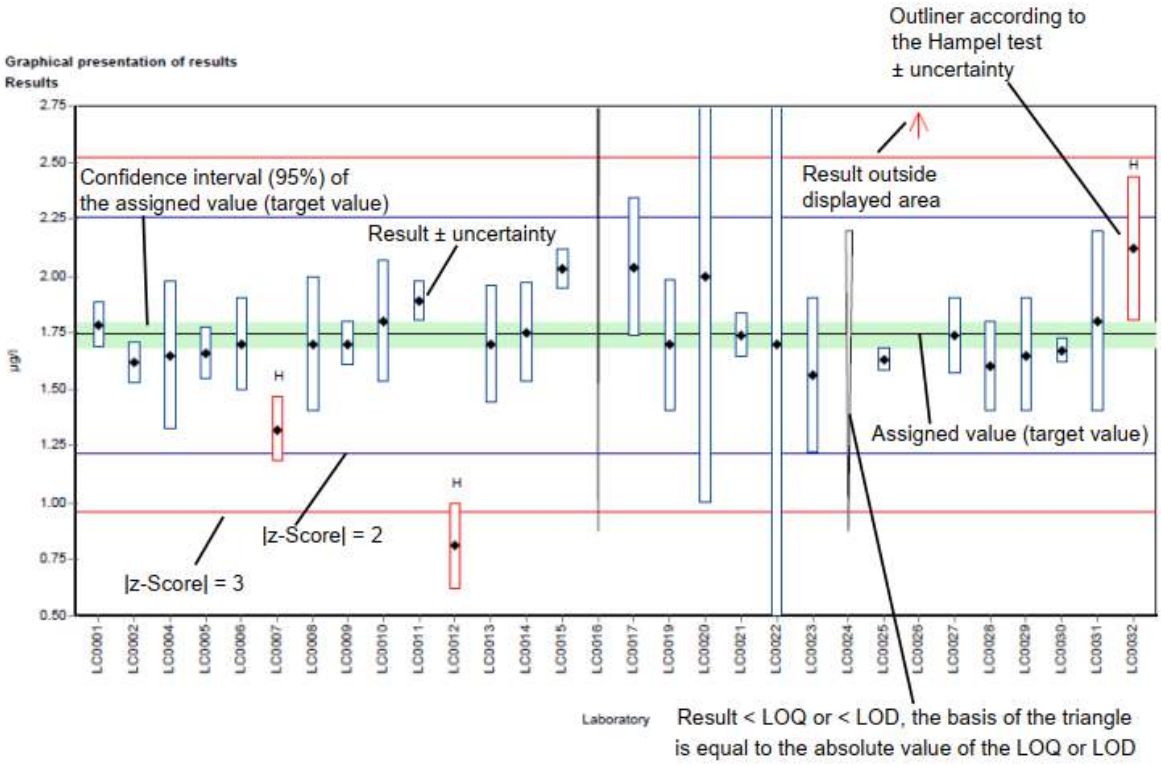
Parameter	Analyte identifier
Sample	Sample identifier
Unit	Given unit for result and uncertainty (e.g. µg/l)
Assigned value	Target value for proficiency assessment of the participants (3 significant digits)
U (k=2)	Expanded uncertainty (k=2) of the assigned value (3 significant digits)
Criteria	Specified 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
*	mark for additional comments

E5.2. Graphical presentation of results

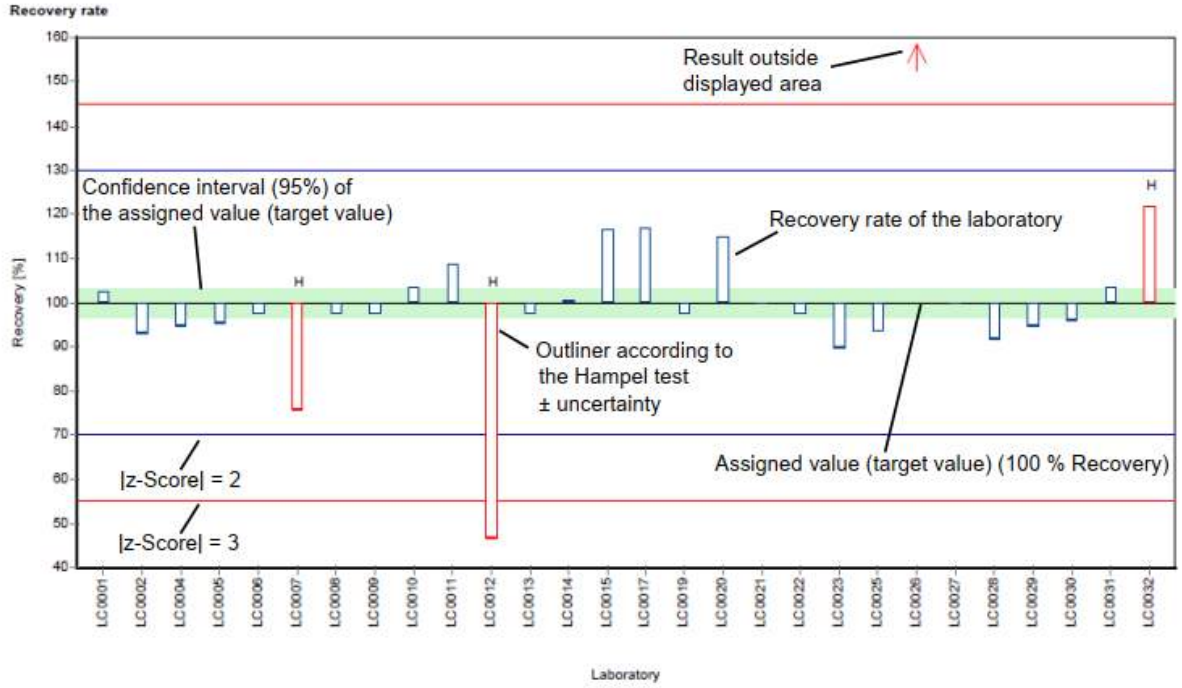
The graphic representation in the report is explained below by means of commented example diagrams:

Example chart: Results



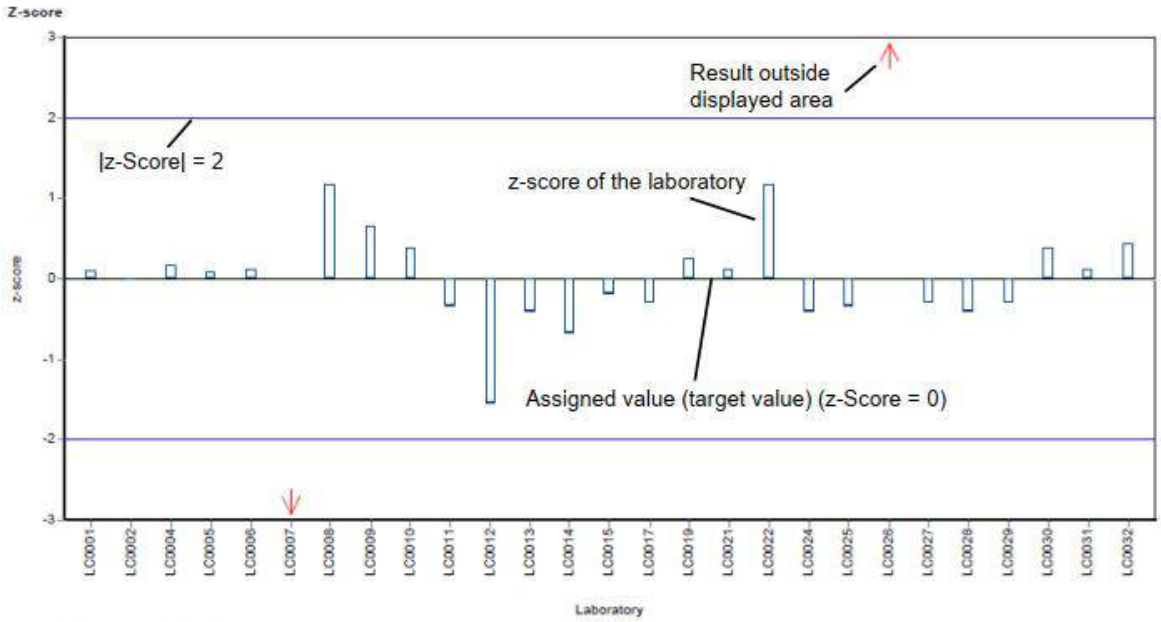
Different analysis methods are represented with different colors.

Example chart: Recovery



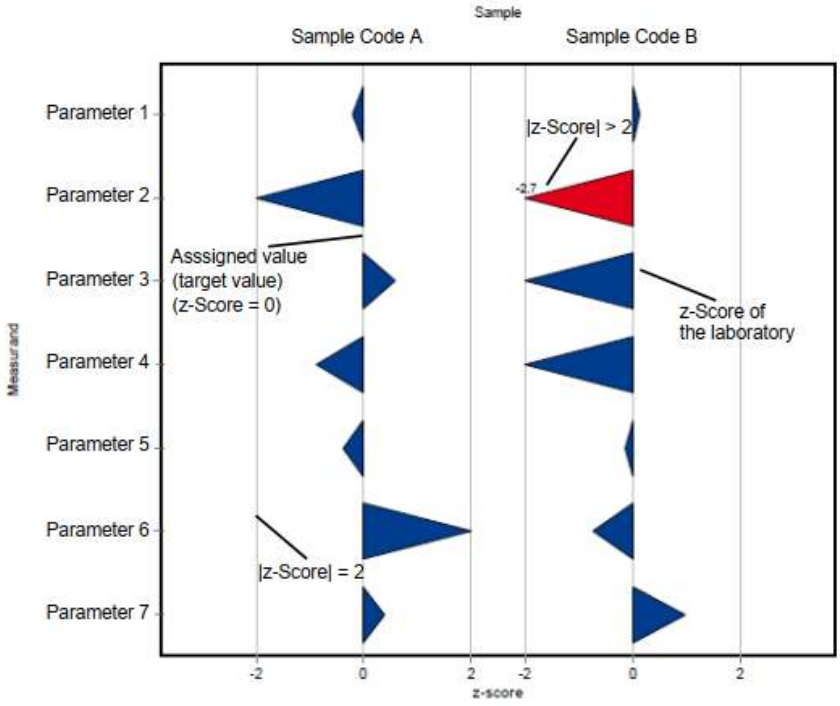
Different analysis methods are represented with different colors.

Example chart: z-Score

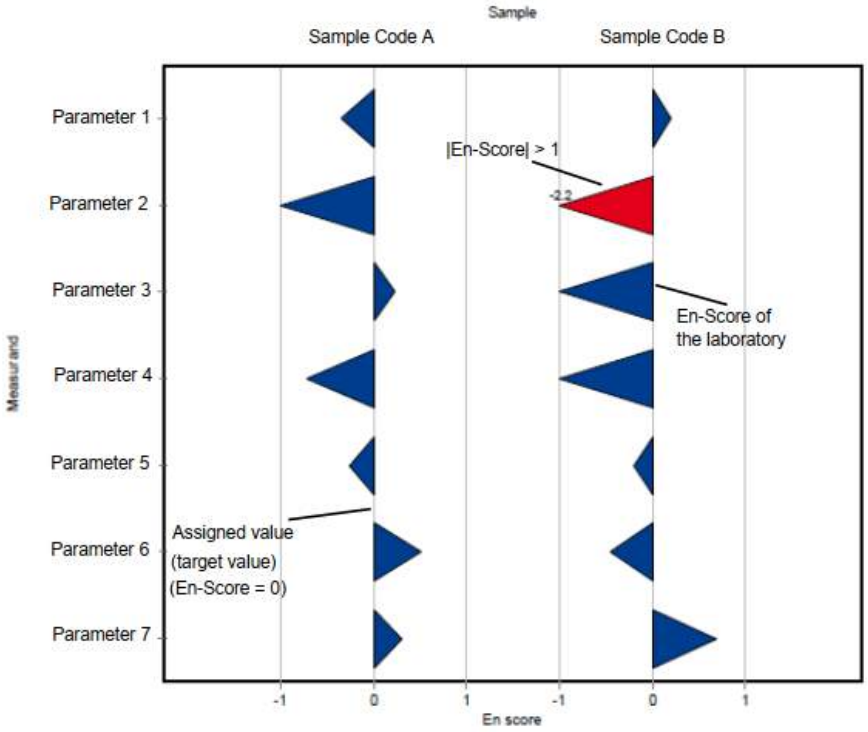


Different analysis methods are represented with different colors.

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 [%]
1,1,1-Trichloroethane	C71 A	µg/l	0.801	±	0.0416	0.12	15
	C71 B	µg/l	4.34	±	0.189	0.65	15
1,1-Dichloroethene	C71 A	µg/l	0.682	±	0.0722	0.116	17
	C71 B	µg/l	3.74	±	0.238	0.636	17
1,2-Dichloroethane	C71 A	µg/l	1.09	±	0.0621	0.142	13
	C71 B	µg/l	5.14	±	0.243	0.669	13
Bromodichloromethane	C71 A	µg/l	1.65	±	0.0725	0.165	10
	C71 B	µg/l	7.97	±	0.324	0.797	10
cis-1,2-Dichloroethene	C71 A	µg/l	0.967	±	0.0708	0.0967	10
	C71 B	µg/l	4.76	±	0.368	0.476	10
Dibromochloromethane	C71 A	µg/l	1.31	±	0.0681	0.158	12
	C71 B	µg/l	6.54	±	0.309	0.785	12
Dichloromethane	C71 A	µg/l	7.5	±	0.503	0.975	13
	C71 B	µg/l	9.04	±	0.398	1.18	13
Tetrachloroethene	C71 A	µg/l	0.584	±	0.0417	0.0993	17
	C71 B	µg/l	2.95	±	0.244	0.501	17
Tetrachloromethane	C71 A	µg/l	0.489	±	0.0301	0.0783	16
	C71 B	µg/l	2.73	±	0.089	0.438	16
trans-1,2-Dichloroethene	C71 A	µg/l	0.763	±	0.0642	0.153	20
	C71 B	µg/l	4.04	±	0.186	0.808	20
Tribromomethane	C71 A	µg/l	1.42	±	0.0951	0.17	12
	C71 B	µg/l	7.12	±	0.429	0.854	12
Trichloroethene	C71 A	µg/l	0.677	±	0.0456	0.102	15
	C71 B	µg/l	3.13	±	0.16	0.47	15
Trichloromethane	C71 A	µg/l	0.932	±	0.039	0.121	13
	C71 B	µg/l	4.15	±	0.173	0.539	13

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 [%]
1,1,1-Trichloroethane	C71 A	12	3	µg/l	0.801	±	0.0624	0.69	0.9	0.0721	9
	C71 B	14	1	µg/l	4.34	±	0.283	3.74	4.96	0.353	8.1
1,1-Dichloroethene	C71 A	13	0	µg/l	0.682	±	0.108	0.563	0.97	0.13	19
	C71 B	13	0	µg/l	3.74	±	0.357	3.11	4.7	0.429	11
1,2-Dichloroethane	C71 A	14	1	µg/l	1.09	±	0.0931	0.92	1.31	0.116	11
	C71 B	15	0	µg/l	5.14	±	0.364	4.3	6.05	0.471	9.1
Bromodichloromethane	C71 A	15	1	µg/l	1.65	±	0.109	1.45	1.97	0.14	8.5
	C71 B	16	0	µg/l	7.97	±	0.486	6.7	9.3	0.648	8.1
cis-1,2-Dichloroethene	C71 A	12	0	µg/l	0.967	±	0.106	0.762	1.13	0.123	13
	C71 B	12	0	µg/l	4.76	±	0.553	3.85	5.99	0.638	13
Dibromochloromethane	C71 A	14	2	µg/l	1.31	±	0.102	1.1	1.63	0.127	9.7
	C71 B	15	1	µg/l	6.54	±	0.464	5.5	7.71	0.599	9.2
Dichloromethane	C71 A	14	0	µg/l	7.5	±	0.754	5.62	9.25	0.941	13
	C71 B	12	2	µg/l	9.04	±	0.598	7.72	10.3	0.69	7.6
Tetrachloroethene	C71 A	13	1	µg/l	0.584	±	0.0625	0.438	0.74	0.0752	13
	C71 B	12	3	µg/l	2.95	±	0.366	2.2	3.76	0.422	14
Tetrachloromethane	C71 A	12	3	µg/l	0.489	±	0.0451	0.435	0.61	0.0521	11
	C71 B	14	1	µg/l	2.73	±	0.133	2.39	2.99	0.166	6.1
trans-1,2-Dichloroethene	C71 A	10	1	µg/l	0.763	±	0.0963	0.6	0.929	0.101	13
	C71 B	11	0	µg/l	4.04	±	0.279	3.46	4.6	0.309	7.6
Tribromomethane	C71 A	16	0	µg/l	1.42	±	0.143	1.03	1.85	0.19	13
	C71 B	14	2	µg/l	7.12	±	0.644	5.36	8.57	0.803	11
Trichloroethene	C71 A	14	2	µg/l	0.677	±	0.0684	0.543	0.86	0.0852	13
	C71 B	14	2	µg/l	3.13	±	0.24	2.6	3.62	0.299	9.5
Trichloromethane	C71 A	13	2	µg/l	0.932	±	0.0586	0.802	1.03	0.0704	7.5
	C71 B	14	2	µg/l	4.15	±	0.259	3.7	4.98	0.323	7.8

E7. Parameterorientierte Auswertung / Parameter oriented report

1,1,1-Trichloroethane 32
1,1-Dichloroethene 40
1,2-Dichloroethane 48
Bromodichloromethane 56
cis-1,2-Dichloroethene.....64
Dibromochloromethane 72
Dichloromethane 80
Tetrachloroethene 88
Tetrachloromethane 96
trans-1,2-Dichloroethene 104
Tribromomethane 112
Trichloroethene 120
Trichloromethane 128

Parameter oriented report

C71 A

1,1,1-Trichloroethane

Unit	µg/l
Assigned value ± U (k=2)	0.801 ± 0.0416
Criterion	0.12 (15 %)
Minimum - Maximum	0.69 - 0.9
Control test value ± U (k=2)	0.839 ± 0.252

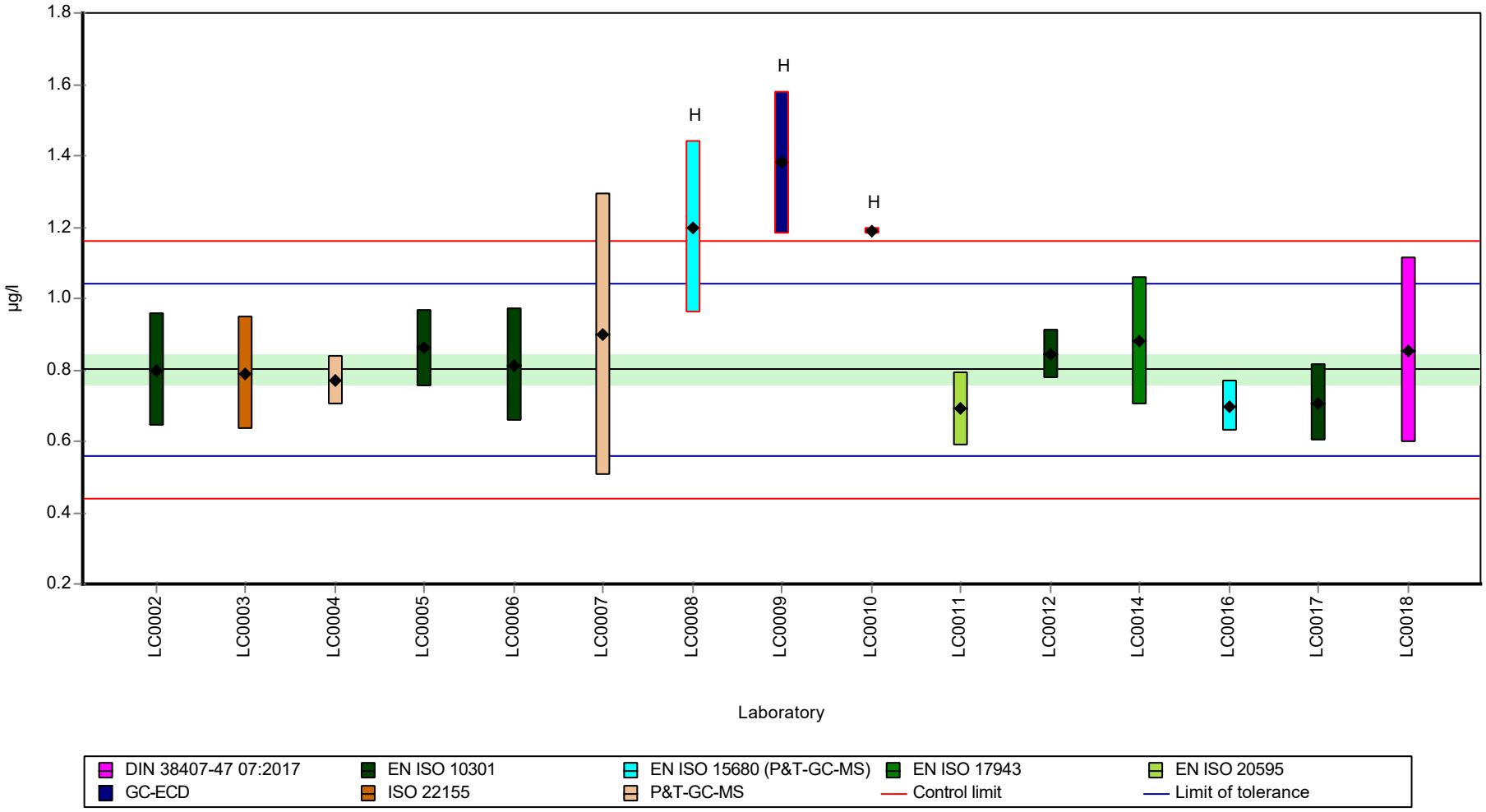
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	-	-	-	-	
LC0002	0.8	0.16	99.9	-0.01	
LC0003	0.79	0.16	98.7	-0.09	
LC0004	0.77	0.069	96.2	-0.26	
LC0005	0.861	0.108	108	0.5	
LC0006	0.813	0.16	102	0.1	
LC0007	0.9	0.396	112	0.83	
LC0008	1.2	0.24	150	3.33	H
LC0009	1.38	0.2	172	4.82	H
LC0010	1.19	0.00942	149	3.24	H
LC0011	0.69	0.1035	86.2	-0.92	
LC0012	0.843	0.07	105	0.35	
LC0013	-	-	-	-	
LC0014	0.88	0.18	110	0.66	
LC0015	-	-	-	-	
LC0016	0.698	0.07	87.2	-0.85	
LC0017	0.708	0.106	88.4	-0.77	
LC0018	0.855	0.26	107	0.45	

Characteristics of parameter

	all results	w ithout outliers	Unit
Mean ± CI (99%)	0.892 ± 0.158	0.801 ± 0.0624	µg/l
Minimum	0.69	0.69	µg/l
Maximum	1.38	0.9	µg/l
Standard deviation	0.203	0.0721	µg/l
rel. standard deviation	22.8	9	%
n	15	12	-

Graphical presentation of results

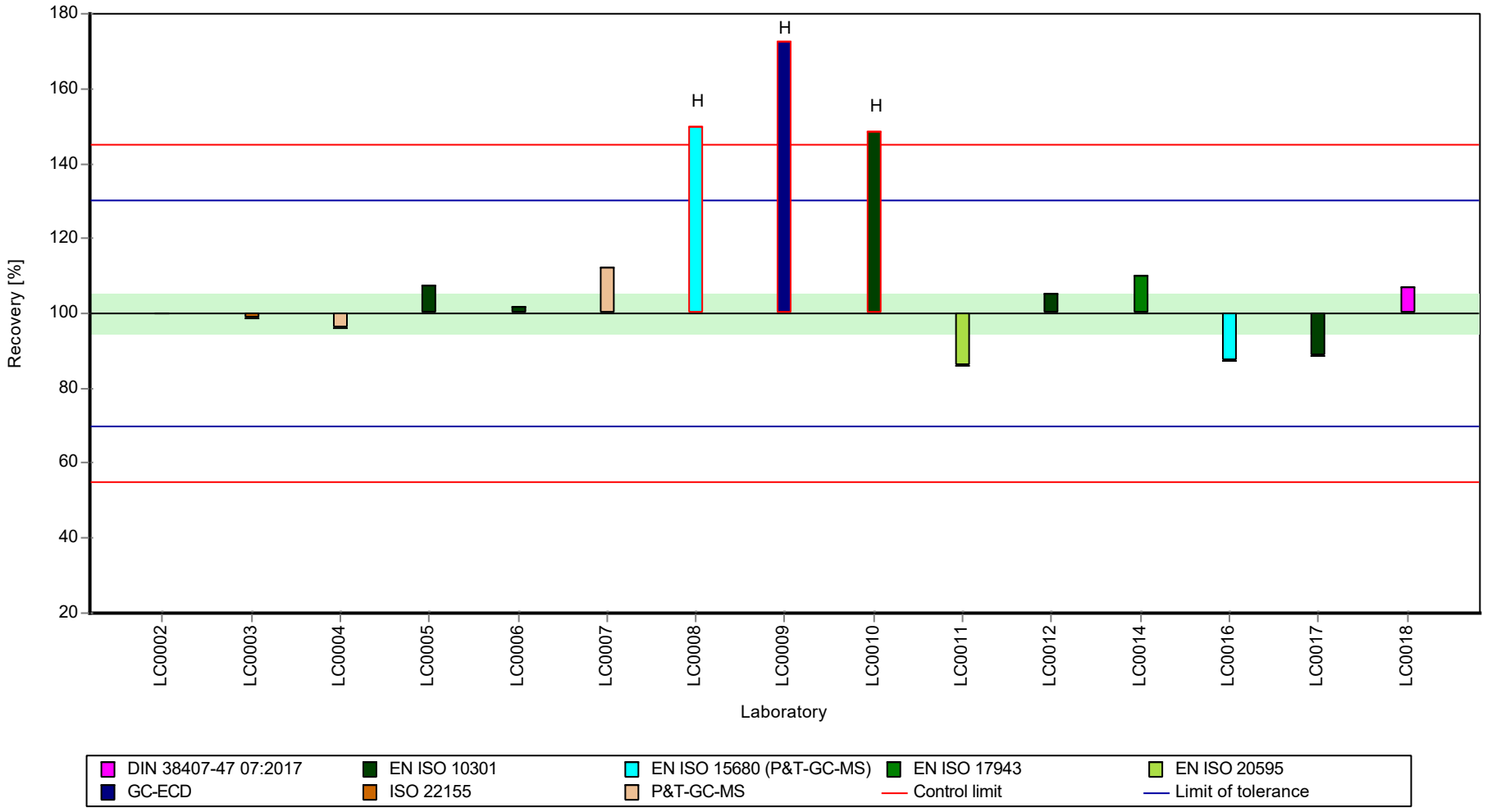
Results



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

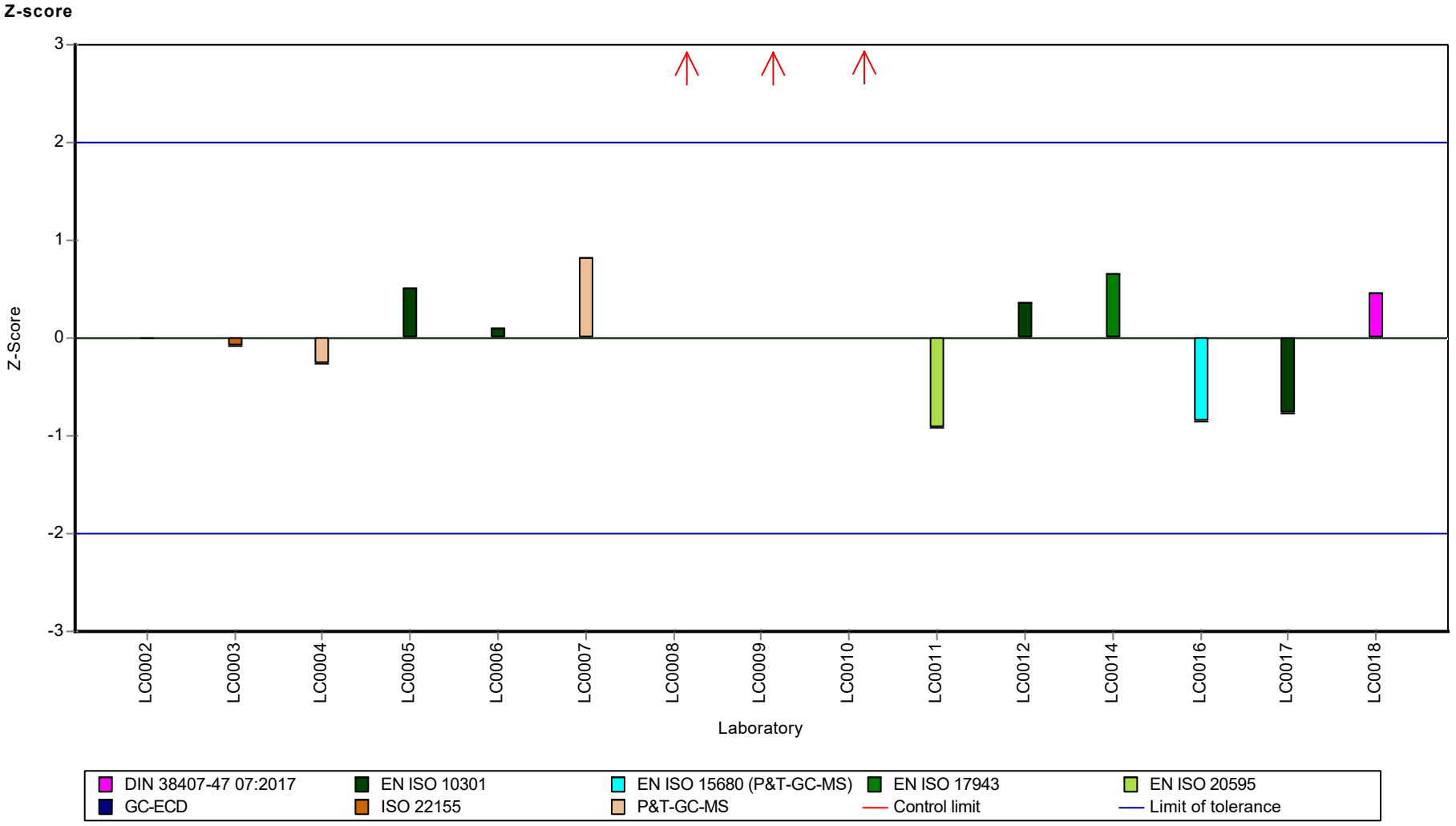
Sample: C71A, Parameter: 1,1,1-Trichloroethane

Recovery rate



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71A, Parameter: 1,1,1-Trichloroethane



Parameter oriented report

C71 B

1,1,1-Trichloroethane

Unit	µg/l
Assigned value ± U (k=2)	4.34 ± 0.189
Criterion	0.65 (15 %)
Minimum - Maximum	3.74 - 4.96
Control test value ± U (k=2)	4.46 ± 1.34

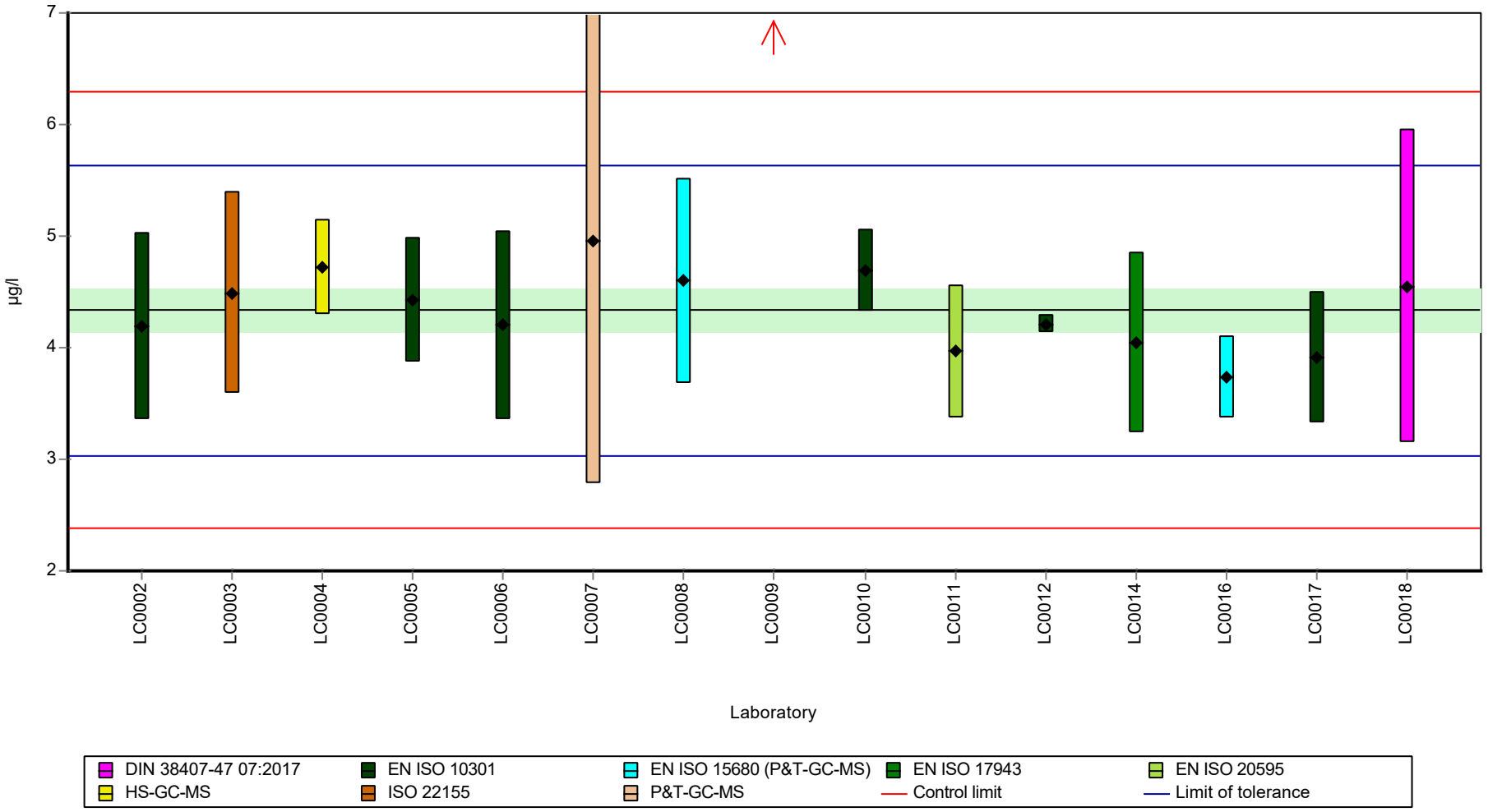
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	-	-	-	-	
LC0002	4.19	0.838	96.6	-0.22	
LC0003	4.49	0.9	104	0.24	
LC0004	4.72	0.42	109	0.59	
LC0005	4.43	0.558	102	0.14	
LC0006	4.2	0.84	96.9	-0.21	
LC0007	4.96	2.18	114	0.96	
LC0008	4.6	0.92	106	0.41	
LC0009	7.93	0.2	183	5.53	H
LC0010	4.69	0.371	108	0.54	
LC0011	3.967	0.59505	91.5	-0.57	
LC0012	4.21	0.077	97.1	-0.19	
LC0013	-	-	-	-	
LC0014	4.05	0.81	93.4	-0.44	
LC0015	-	-	-	-	
LC0016	3.74	0.37	86.3	-0.92	
LC0017	3.91	0.59	90.2	-0.66	
LC0018	4.55	1.4	105	0.33	

Characteristics of parameter

	all results	w ithout outliers	Unit
Mean ± CI (99%)	4.58 ± 0.766	4.34 ± 0.283	µg/l
Minimum	3.74	3.74	µg/l
Maximum	7.93	4.96	µg/l
Standard deviation	0.988	0.353	µg/l
rel. standard deviation	21.6	8.14	%
n	15	14	-

Graphical presentation of results

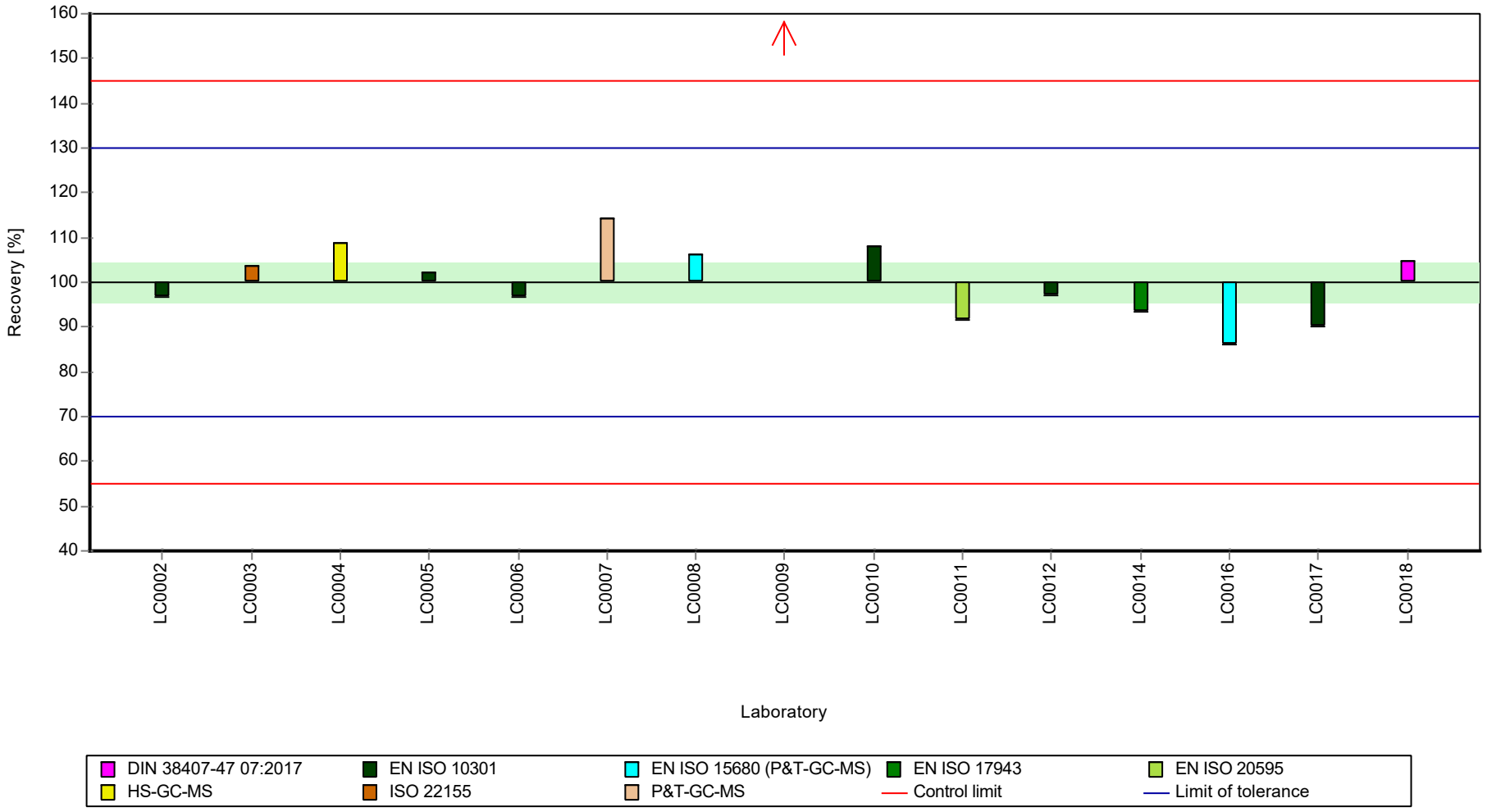
Results



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

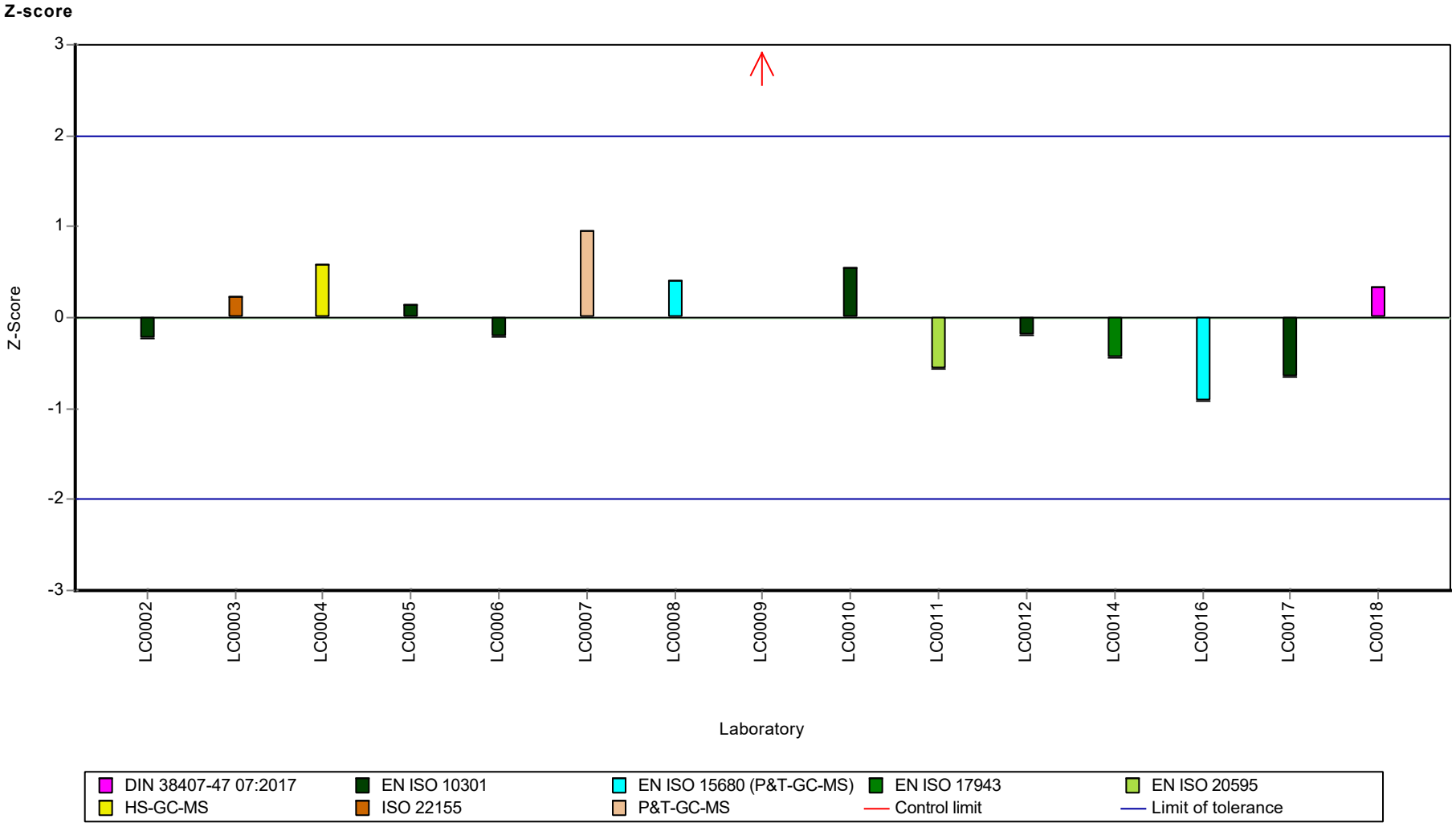
Sample: C71B, Parameter: 1,1,1-Trichloroethane

Recovery rate



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71B, Parameter: 1,1,1-Trichloroethane



Parameter oriented report

C71 A

1,1-Dichloroethene

Unit	µg/l
Assigned value ± U (k=2)	0.682 ± 0.0722
Criterion	0.116 (17 %)
Minimum - Maximum	0.563 - 0.97
Control test value ± U (k=2)	0.690 ± 0.207

Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	-	-	-	-	
LC0002	0.58	0.116	85.1	-0.88	
LC0003	0.59	0.12	86.6	-0.79	
LC0004	0.646	0.058	94.8	-0.31	
LC0005	-	-	-	-	
LC0006	0.661	0.13	97	-0.18	
LC0007	0.78	0.343	114	0.85	
LC0008	0.97	0.19	142	2.49	
LC0009	-	-	-	-	
LC0010	0.902	0.058	132	1.9	
LC0011	0.57	0.0855	83.6	-0.96	
LC0012	0.651	0.067	95.5	-0.26	
LC0013	-	-	-	-	
LC0014	0.67	0.13	98.3	-0.1	
LC0015	-	-	-	-	
LC0016	0.563	0.056	82.6	-1.02	
LC0017	0.568	0.085	83.3	-0.98	
LC0018	0.71	0.21	104	0.24	

Characteristics of parameter

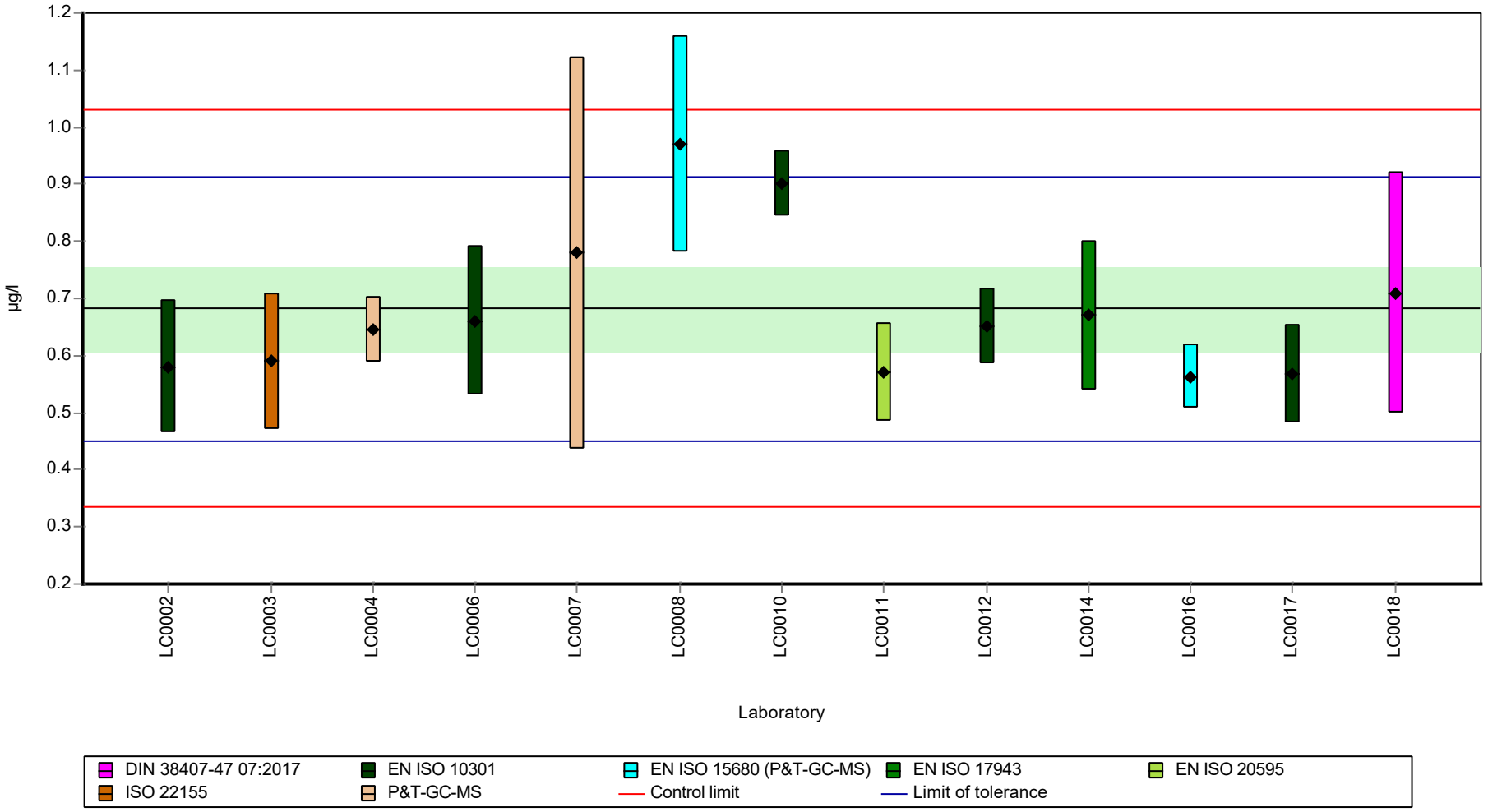
	all results	w ithout outliers	Unit
Mean ± CI (99%)	0.682 ± 0.108	0.682 ± 0.108	µg/l
Minimum	0.563	0.563	µg/l
Maximum	0.97	0.97	µg/l
Standard deviation	0.13	0.13	µg/l
rel. standard deviation	19.1	19.1	%
n	13	13	-

Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71A, Parameter: 1,1-Dichloroethene

Graphical presentation of results

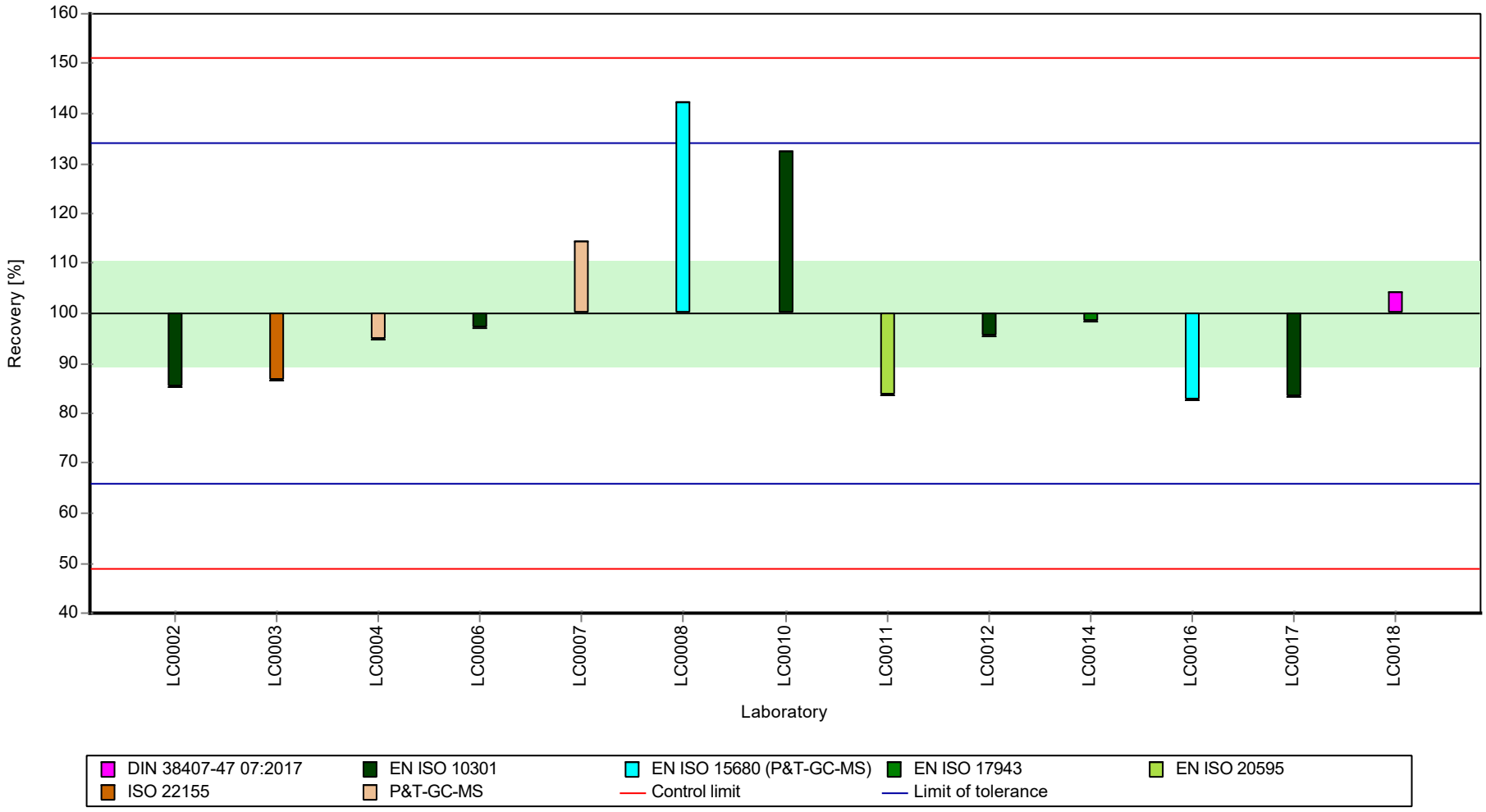
Results



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

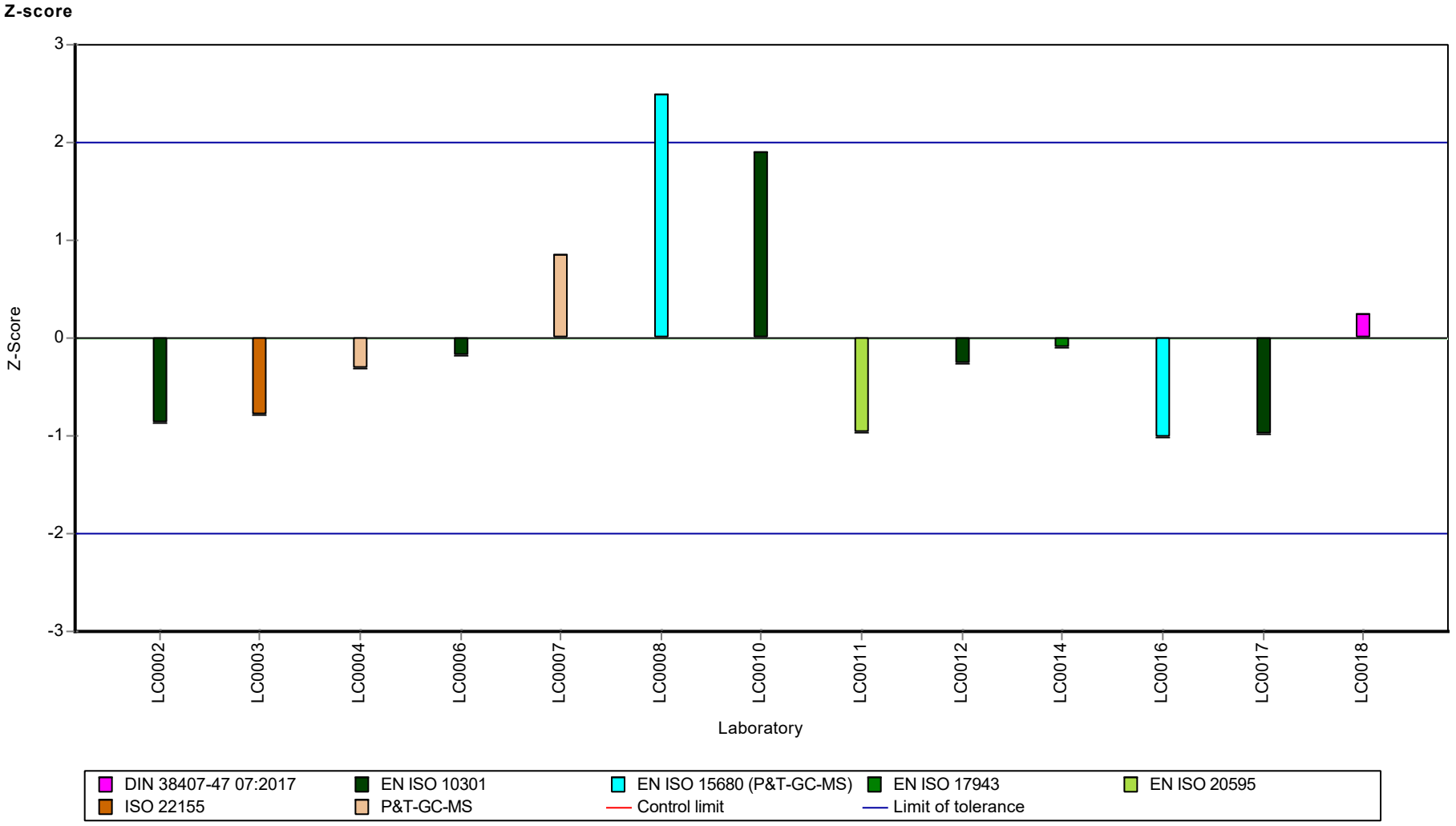
Sample: C71A, Parameter: 1,1-Dichloroethene

Recovery rate



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71A, Parameter: 1,1-Dichloroethene



Parameter oriented report

C71 B

1,1-Dichloroethene

Unit	µg/l
Assigned value ± U (k=2)	3.74 ± 0.238
Criterion	0.636 (17 %)
Minimum - Maximum	3.11 - 4.7
Control test value ± U (k=2)	4.10 ± 1.23

Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	-	-	-	-	
LC0002	3.55	0.71	94.9	-0.3	
LC0003	4	0.8	107	0.41	
LC0004	3.72	0.33	99.5	-0.03	
LC0005	-	-	-	-	
LC0006	3.95	0.79	106	0.33	
LC0007	4.7	2.07	126	1.51	
LC0008	3.9	0.78	104	0.25	
LC0009	-	-	-	-	
LC0010	3.11	0.2	83.2	-0.99	
LC0011	3.469	0.52035	92.8	-0.42	
LC0012	3.73	0.104	99.8	-0.01	
LC0013	-	-	-	-	
LC0014	3.6	0.72	96.3	-0.22	
LC0015	-	-	-	-	
LC0016	3.35	0.34	89.6	-0.61	
LC0017	3.28	0.49	87.7	-0.72	
LC0018	4.25	1.3	114	0.8	

Characteristics of parameter

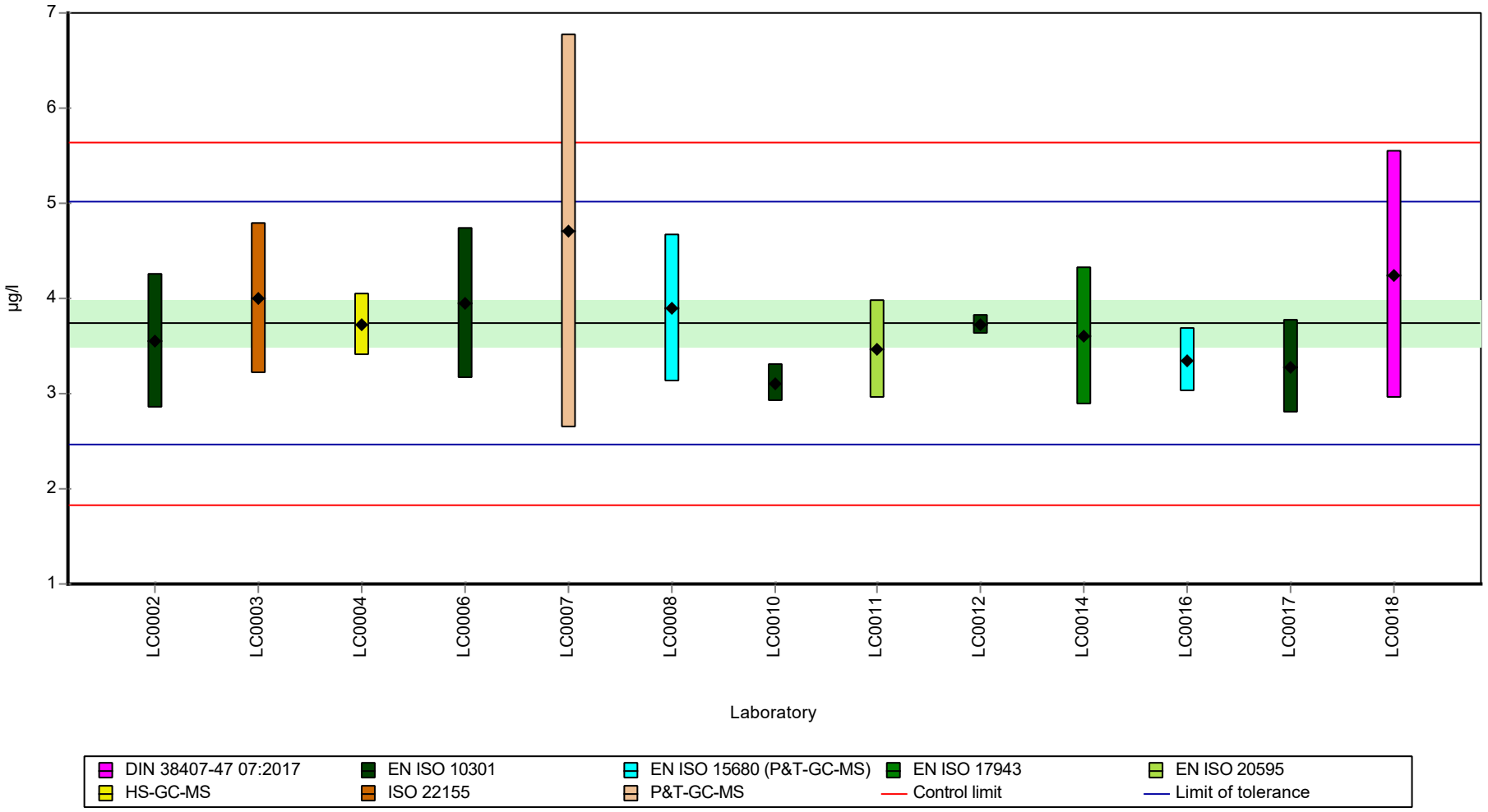
	all results	w ithout outliers	Unit
Mean ± CI (99%)	3.74 ± 0.357	3.74 ± 0.357	µg/l
Minimum	3.11	3.11	µg/l
Maximum	4.7	4.7	µg/l
Standard deviation	0.429	0.429	µg/l
rel. standard deviation	11.5	11.5	%
n	13	13	-

Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71B, Parameter: 1,1-Dichloroethene

Graphical presentation of results

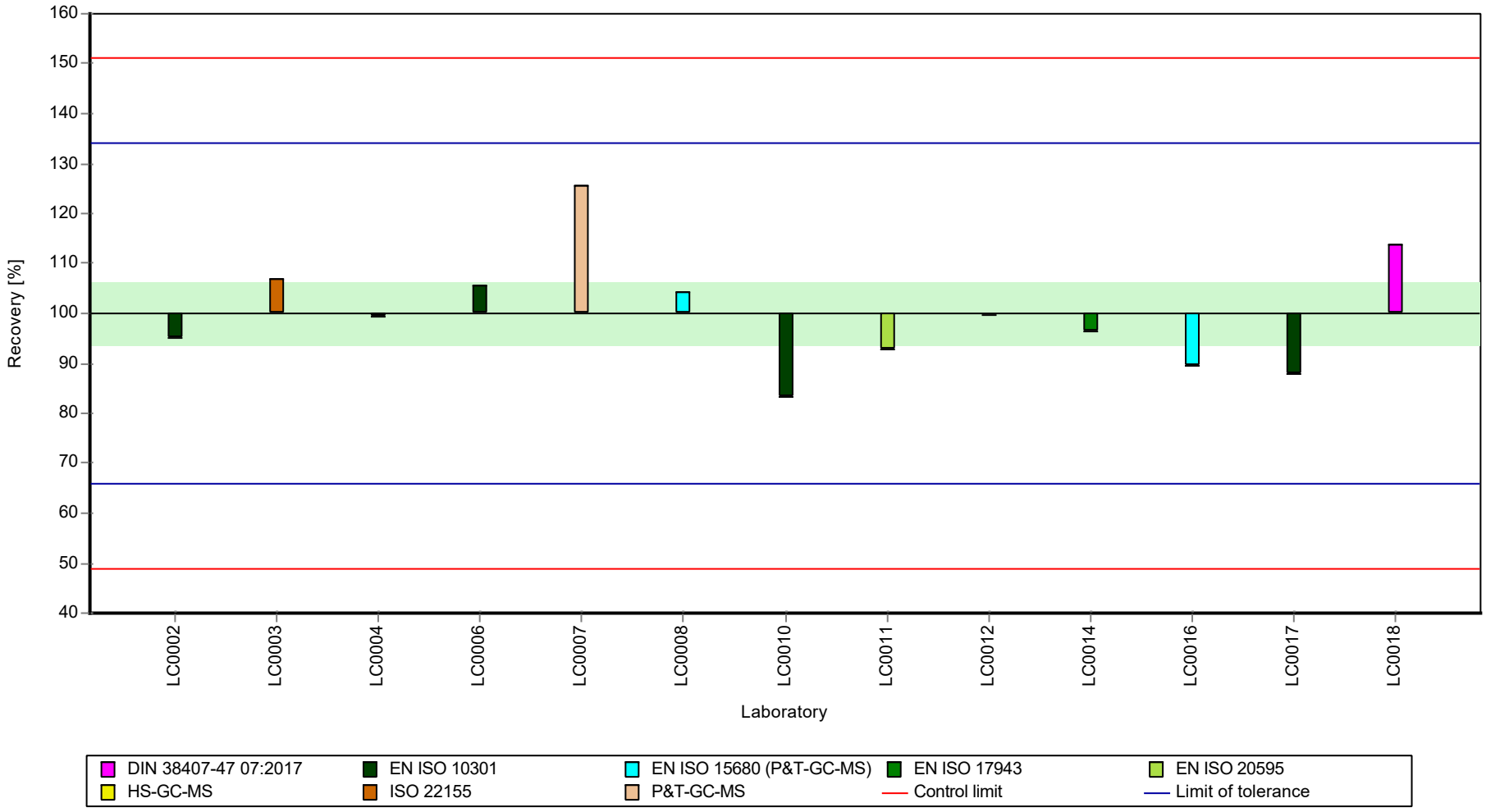
Results



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

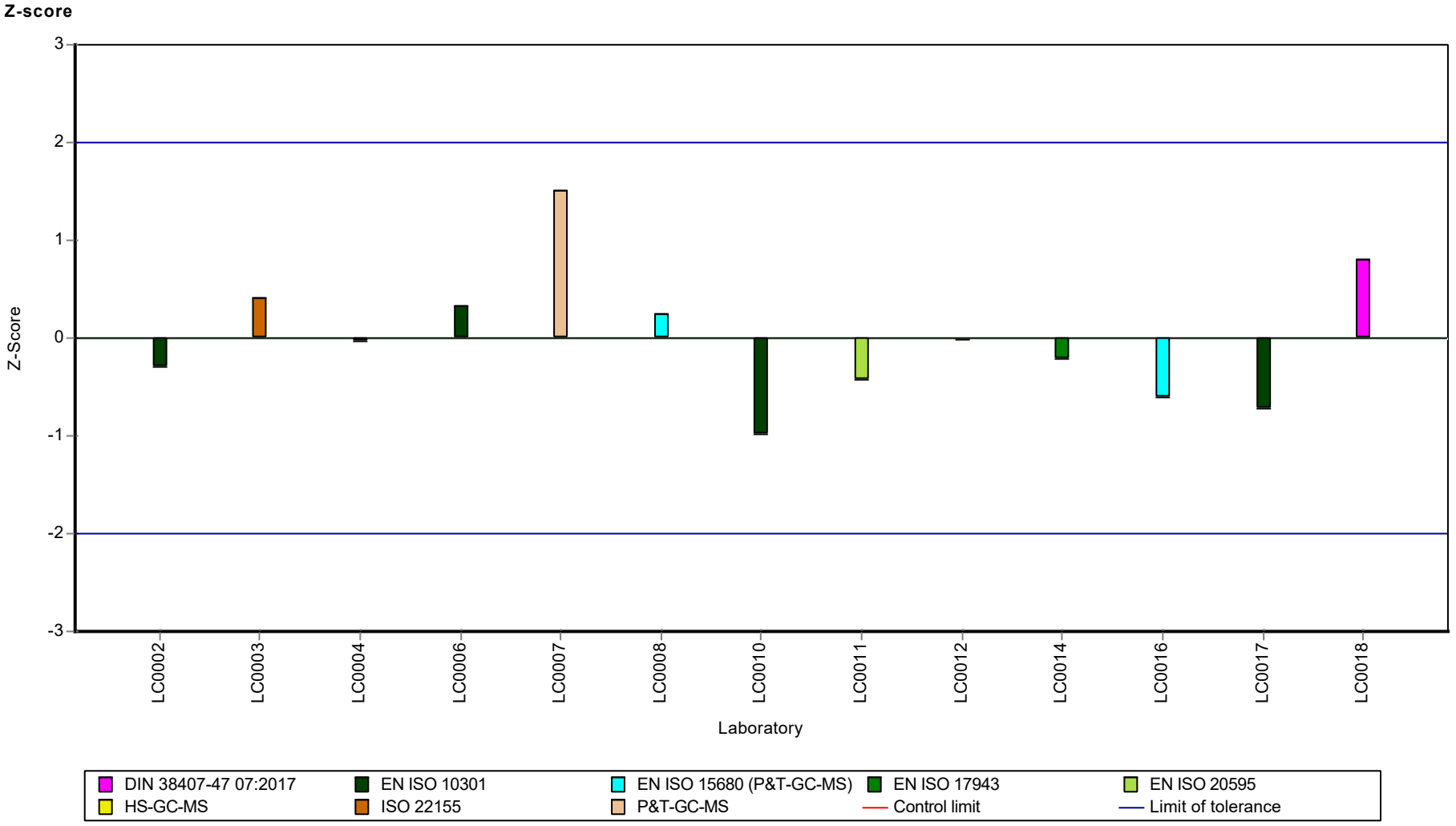
Sample: C71B, Parameter: 1,1-Dichloroethene

Recovery rate



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71B, Parameter: 1,1-Dichloroethene



Parameter oriented report

C71 A

1,2-Dichloroethane

Unit	µg/l
Assigned value ± U (k=2)	1.09 ± 0.0621
Criterion	0.142 (13 %)
Minimum - Maximum	0.92 - 1.31
Control test value ± U (k=2)	1.14 ± 0.343

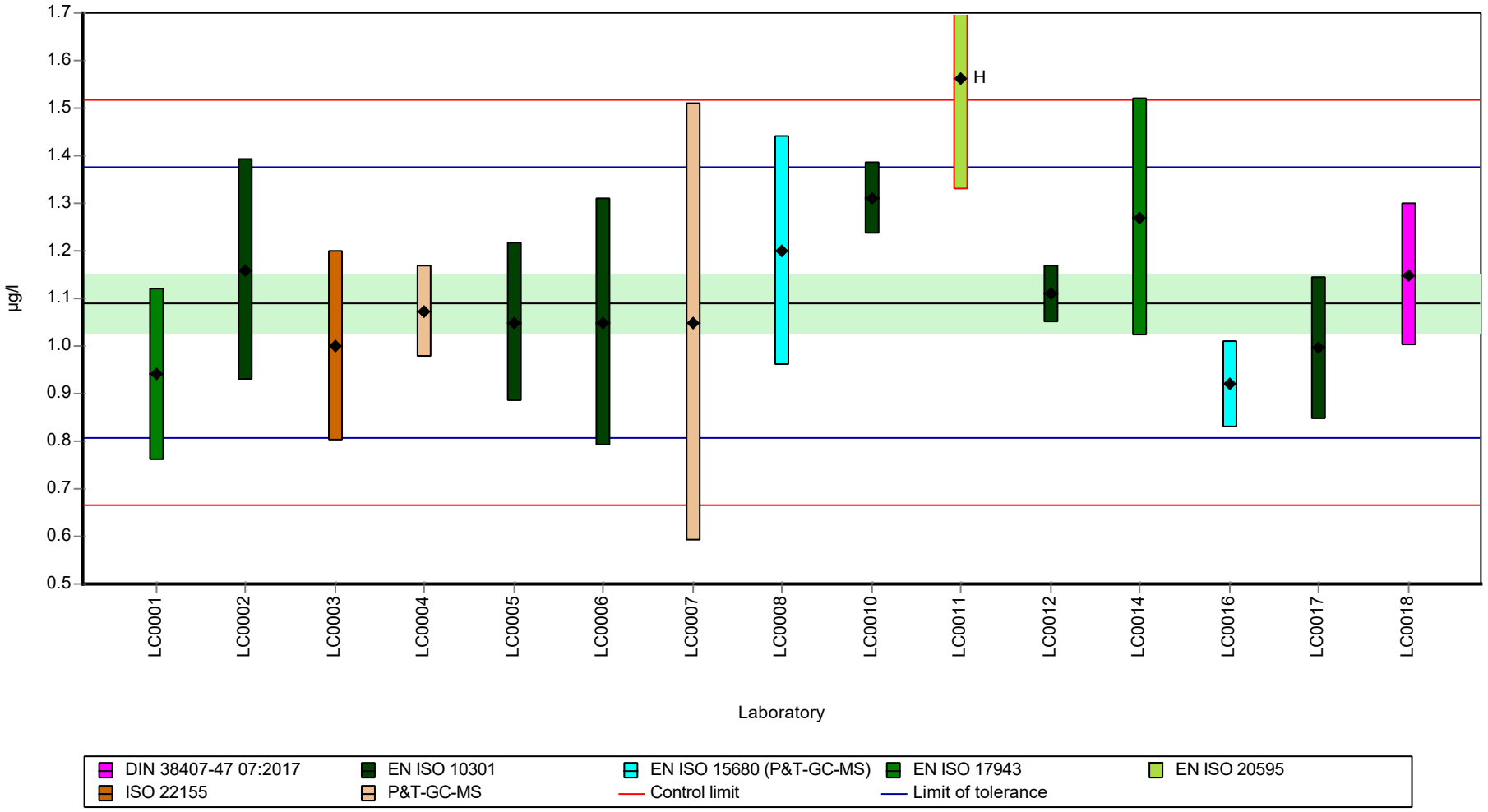
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	0.94	0.18	86.1	-1.07	
LC0002	1.16	0.232	106	0.48	
LC0003	1	0.2	91.6	-0.64	
LC0004	1.073	0.097	98.3	-0.13	
LC0005	1.05	0.166	96.2	-0.29	
LC0006	1.05	0.26	96.2	-0.29	
LC0007	1.05	0.462	96.2	-0.29	
LC0008	1.2	0.24	110	0.77	
LC0009	-	-	-	-	
LC0010	1.31	0.0746	120	1.54	
LC0011	1.563	0.23445	143	3.33	H
LC0012	1.11	0.06	102	0.13	
LC0013	-	-	-	-	
LC0014	1.27	0.25	116	1.26	
LC0015	-	-	-	-	
LC0016	0.92	0.092	84.3	-1.21	
LC0017	0.995	0.149	91.2	-0.68	
LC0018	1.15	0.15	105	0.41	

Characteristics of parameter

	all results	w ithout outliers	Unit
Mean ± Cl (99%)	1.12 ± 0.128	1.09 ± 0.0931	µg/l
Minimum	0.92	0.92	µg/l
Maximum	1.56	1.31	µg/l
Standard deviation	0.165	0.116	µg/l
rel. standard deviation	14.7	10.6	%
n	15	14	-

Graphical presentation of results

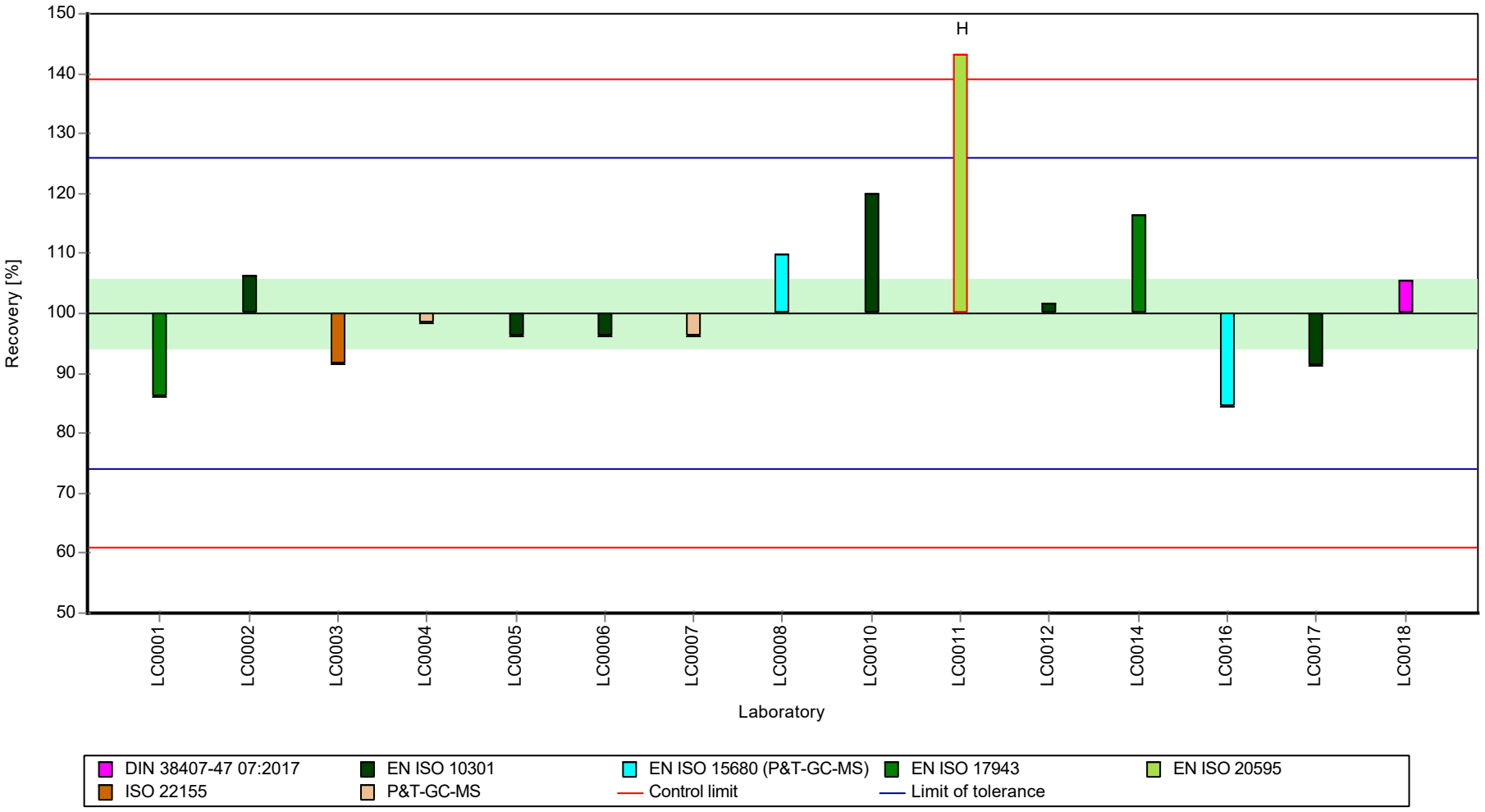
Results



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

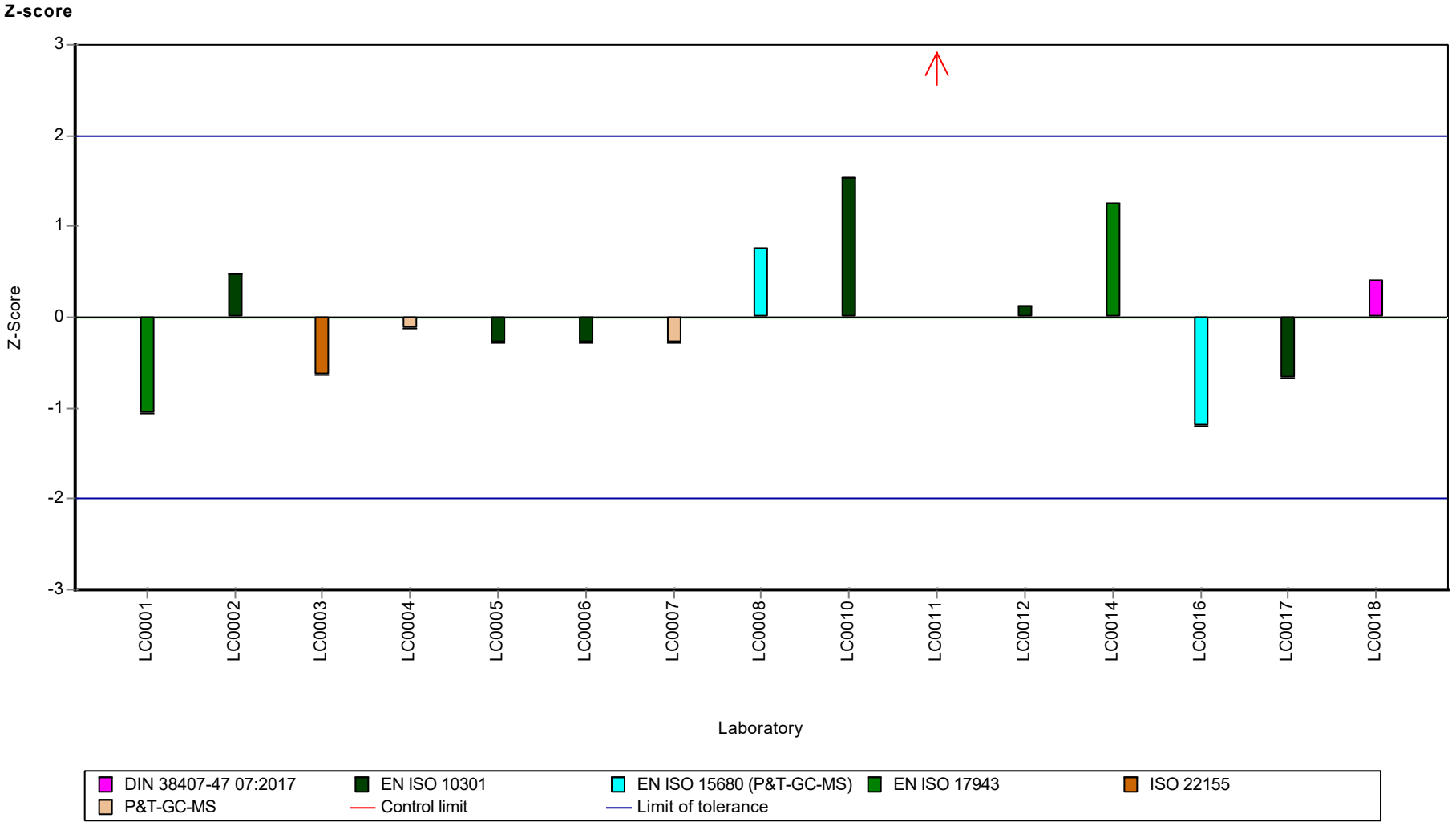
Sample: C71A, Parameter: 1,2-Dichloroethane

Recovery rate



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71A, Parameter: 1,2-Dichloroethane



Parameter oriented report

C71 B

1,2-Dichloroethane

Unit	µg/l
Assigned value ± U (k=2)	5.14 ± 0.243
Criterion	0.669 (13 %)
Minimum - Maximum	4.3 - 6.05
Control test value ± U (k=2)	5.64 ± 1.69

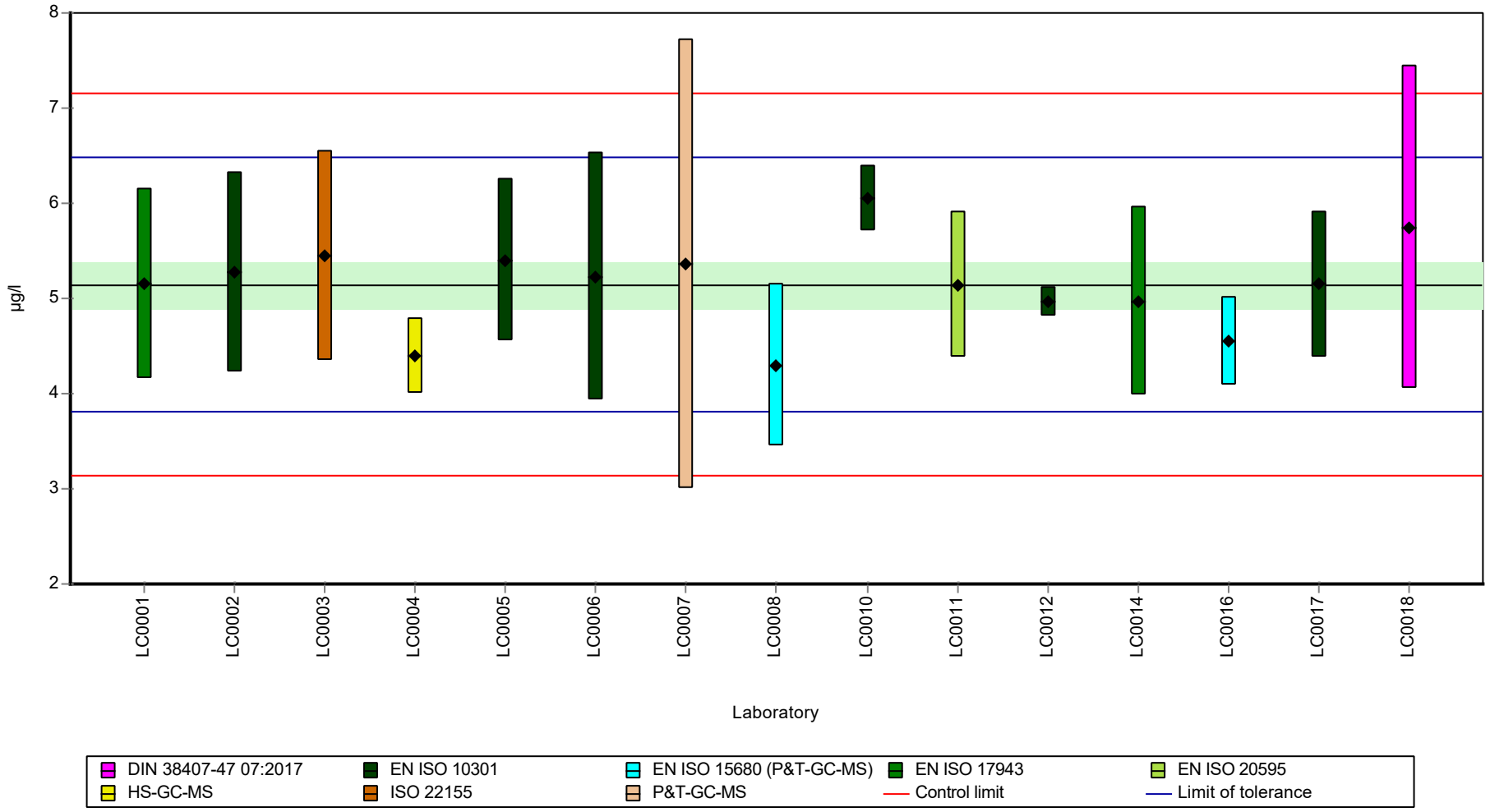
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	5.15	1	100	0.01	
LC0002	5.28	1.056	103	0.2	
LC0003	5.45	1.1	106	0.46	
LC0004	4.4	0.4	85.5	-1.11	
LC0005	5.4	0.853	105	0.38	
LC0006	5.23	1.3	102	0.13	
LC0007	5.36	2.36	104	0.32	
LC0008	4.3	0.86	83.6	-1.26	
LC0009	-	-	-	-	
LC0010	6.05	0.345	118	1.36	
LC0011	5.146	0.7719	100	0.00	
LC0012	4.97	0.152	96.6	-0.26	
LC0013	-	-	-	-	
LC0014	4.97	0.99	96.6	-0.26	
LC0015	-	-	-	-	
LC0016	4.55	0.46	88.5	-0.89	
LC0017	5.15	0.77	100	0.01	
LC0018	5.75	1.7	112	0.91	

Characteristics of parameter

	all results	w ithout outliers	Unit
Mean ± Cl (99%)	5.14 ± 0.364	5.14 ± 0.364	µg/l
Minimum	4.3	4.3	µg/l
Maximum	6.05	6.05	µg/l
Standard deviation	0.47	0.471	µg/l
rel. standard deviation	9.15	9.15	%
n	15	15	-

Graphical presentation of results

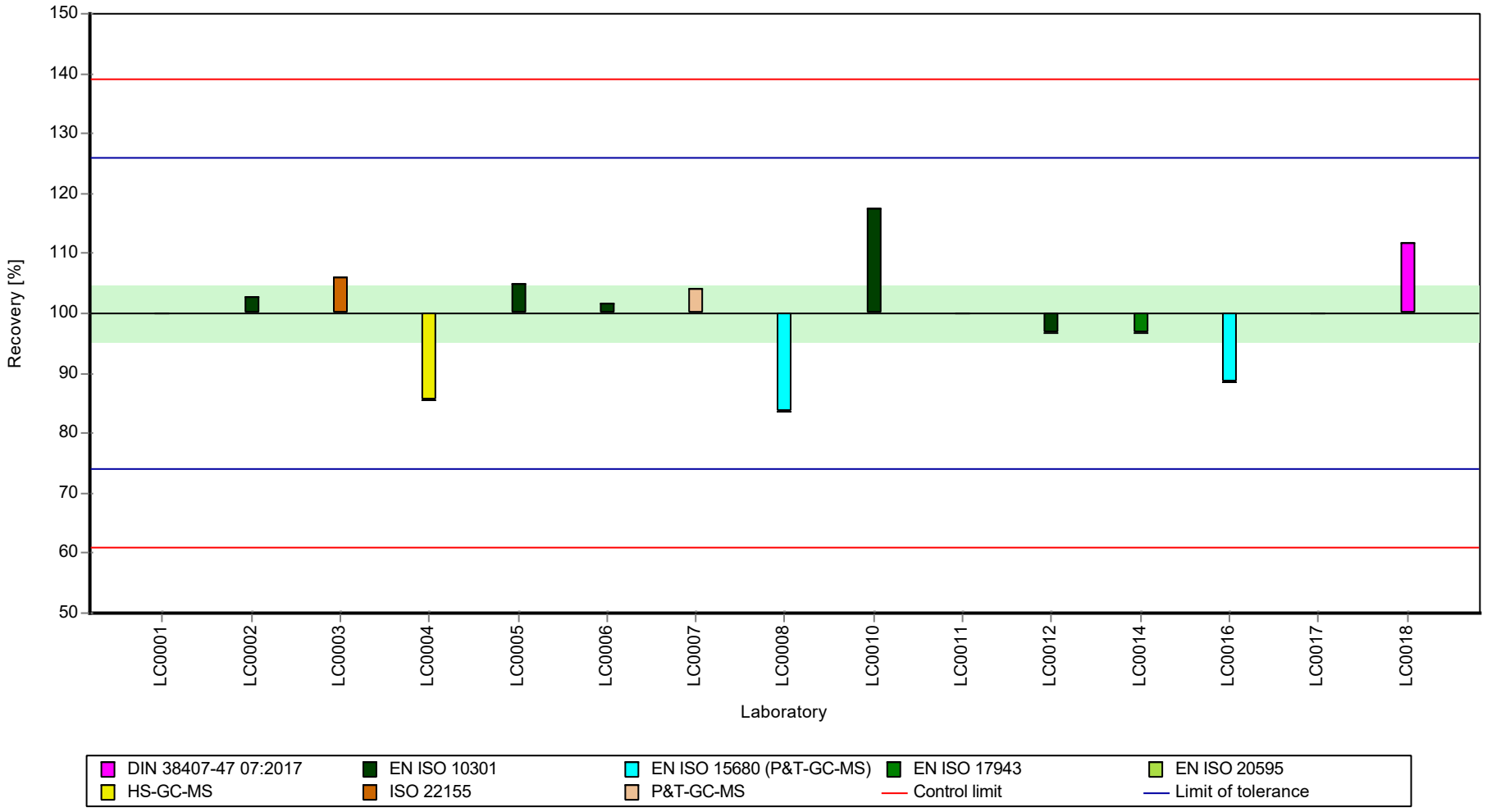
Results



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

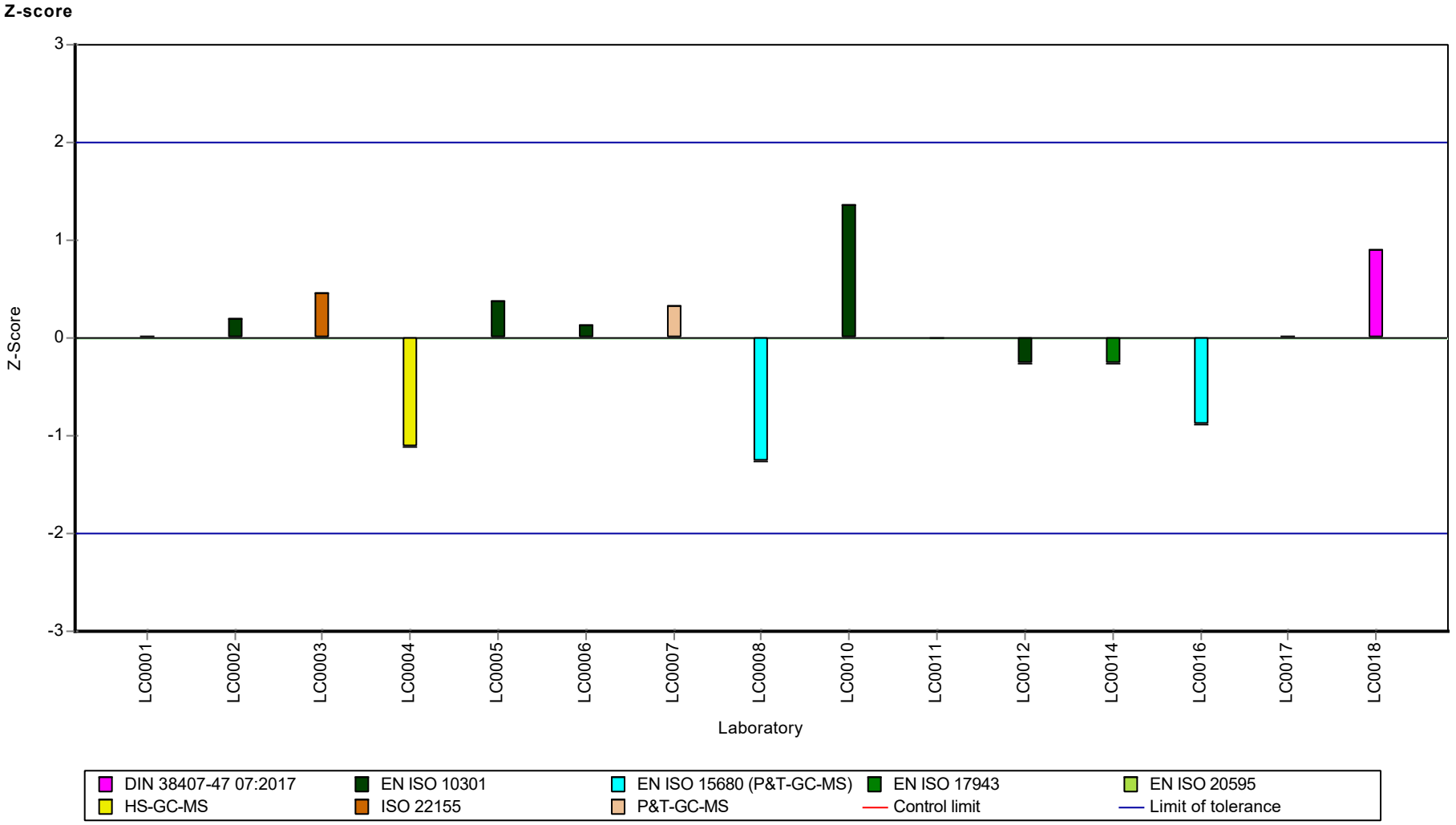
Sample: C71B, Parameter: 1,2-Dichloroethane

Recovery rate



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71B, Parameter: 1,2-Dichloroethane



Parameter oriented report

C71 A

Bromodichloromethane

Unit	µg/l
Assigned value ± U (k=2)	1.65 ± 0.0725
Criterion	0.165 (10 %)
Minimum - Maximum	1.45 - 1.97
Control test value ± U (k=2)	1.68 ± 0.505

Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	1.45	0.27	87.7	-1.23	
LC0002	1.68	0.336	102	0.16	
LC0003	1.69	0.34	102	0.22	
LC0004	1.603	0.144	96.9	-0.31	
LC0005	1.523	0.177	92.1	-0.79	
LC0006	1.56	0.39	94.3	-0.57	
LC0007	1.97	0.867	119	1.91	
LC0008	2.3	0.46	139	3.91	H
LC0009	1.86	0.2	112	1.25	
LC0010	-	-	-	-	
LC0011	1.563	0.23445	94.5	-0.55	
LC0012	1.64	0.08	99.2	-0.08	
LC0013	-	-	-	-	
LC0014	1.81	0.36	109	0.94	
LC0015	1.657	0.424	100	0.02	
LC0016	1.5	0.15	90.7	-0.93	
LC0017	1.6	0.24	96.8	-0.32	
LC0018	1.7	0.51	103	0.28	

Characteristics of parameter

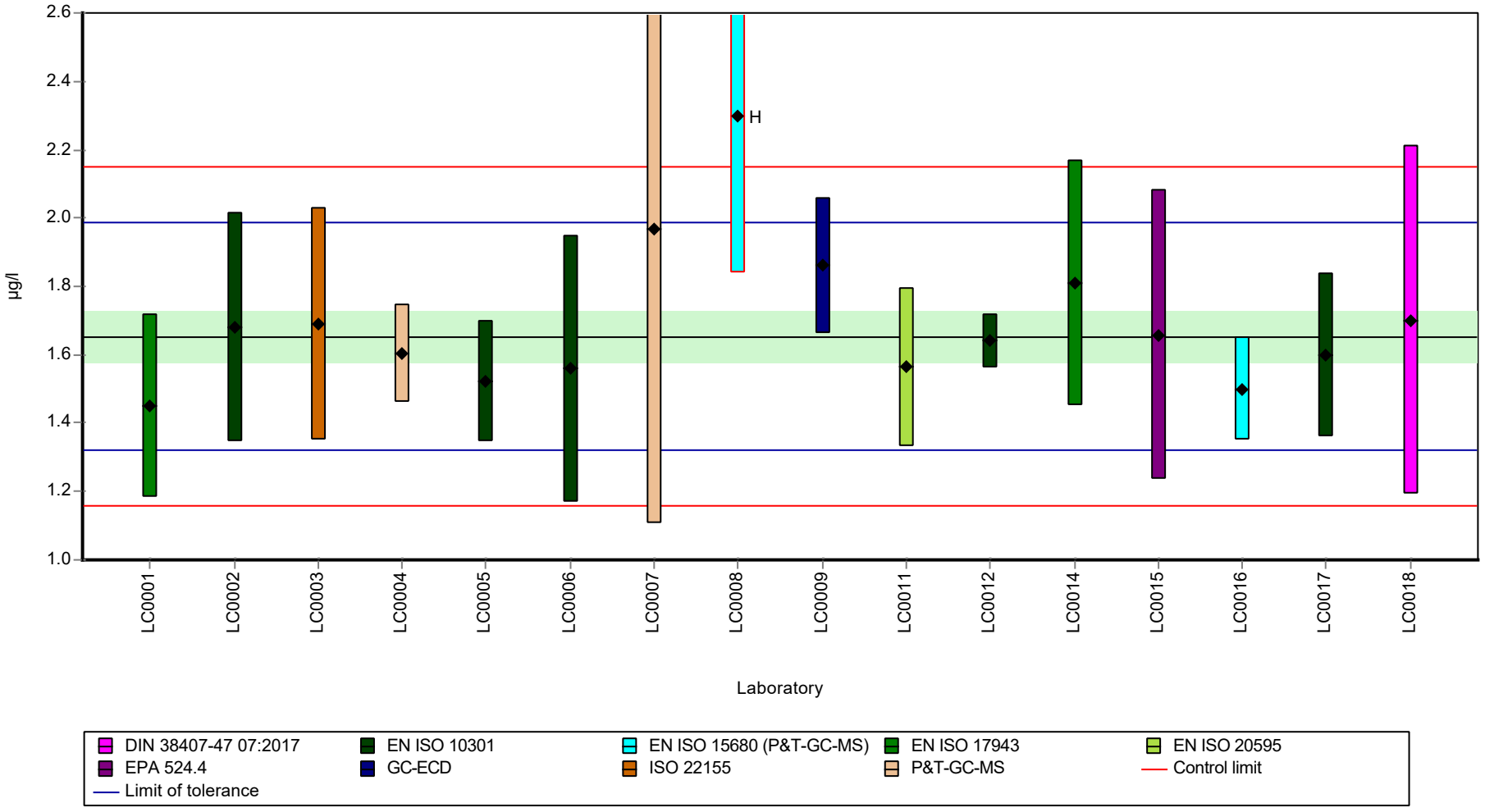
	all results	w ithout outliers	Unit
Mean ± Cl (99%)	1.69 ± 0.158	1.65 ± 0.109	µg/l
Minimum	1.45	1.45	µg/l
Maximum	2.3	1.97	µg/l
Standard deviation	0.211	0.14	µg/l
rel. standard deviation	12.5	8.49	%
n	16	15	-

Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71A, Parameter: Bromodichloromethane

Graphical presentation of results

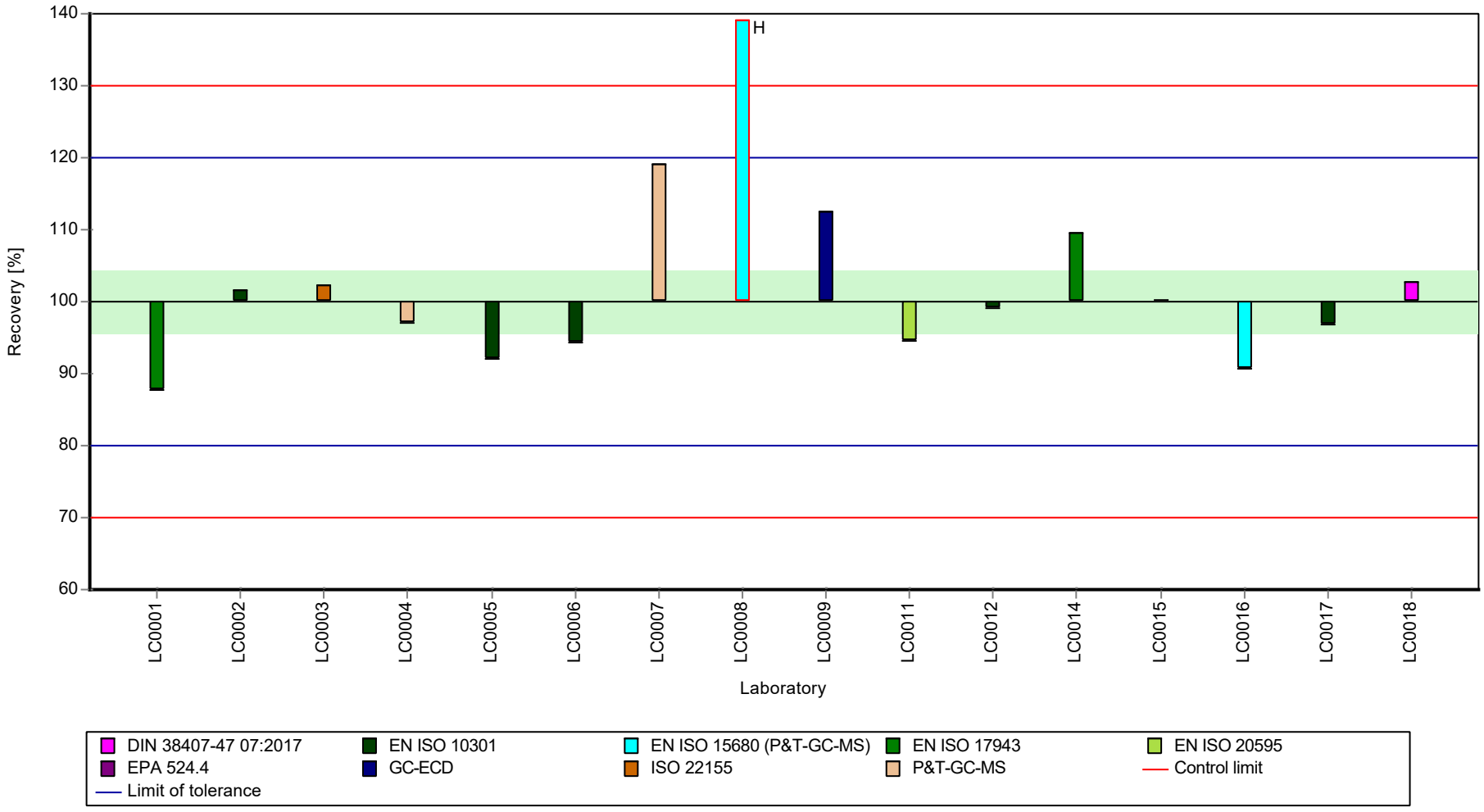
Results



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

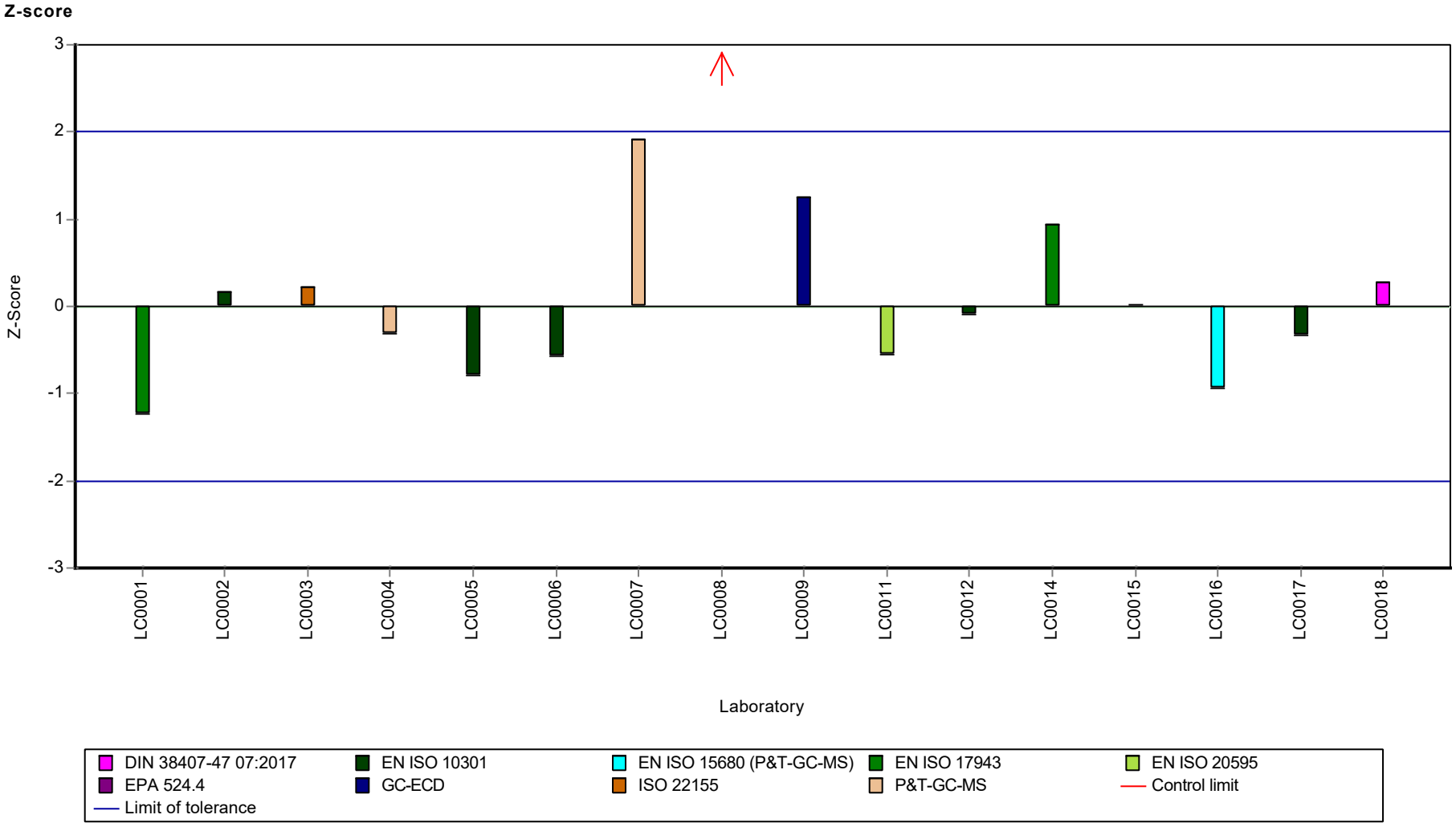
Sample: C71A, Parameter: Bromodichloromethane

Recovery rate



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71A, Parameter: Bromodichloromethane



Parameter oriented report

C71 B

Bromodichloromethane

Unit	µg/l
Assigned value ± U (k=2)	7.97 ± 0.324
Criterion	0.797 (10 %)
Minimum - Maximum	6.7 - 9.3
Control test value ± U (k=2)	8.21 ± 2.46

Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	7.97	1.47	100	0	
LC0002	8.46	1.692	106	0.61	
LC0003	9.06	1.8	114	1.37	
LC0004	7.96	0.72	99.9	-0.01	
LC0005	7.72	0.896	96.9	-0.31	
LC0006	7.66	1.9	96.1	-0.39	
LC0007	9.3	4.09	117	1.67	
LC0008	6.7	1.34	84.1	-1.59	
LC0009	7.16	0.2	89.8	-1.02	
LC0010	-	-	-	-	
LC0011	8.013	1.20195	101	0.05	
LC0012	7.52	0.142	94.3	-0.57	
LC0013	-	-	-	-	
LC0014	7.98	1.6	100	0.01	
LC0015	8.214	0.789	103	0.31	
LC0016	7.64	0.76	95.9	-0.41	
LC0017	7.72	1.16	96.9	-0.31	
LC0018	8.45	2.5	106	0.6	

Characteristics of parameter

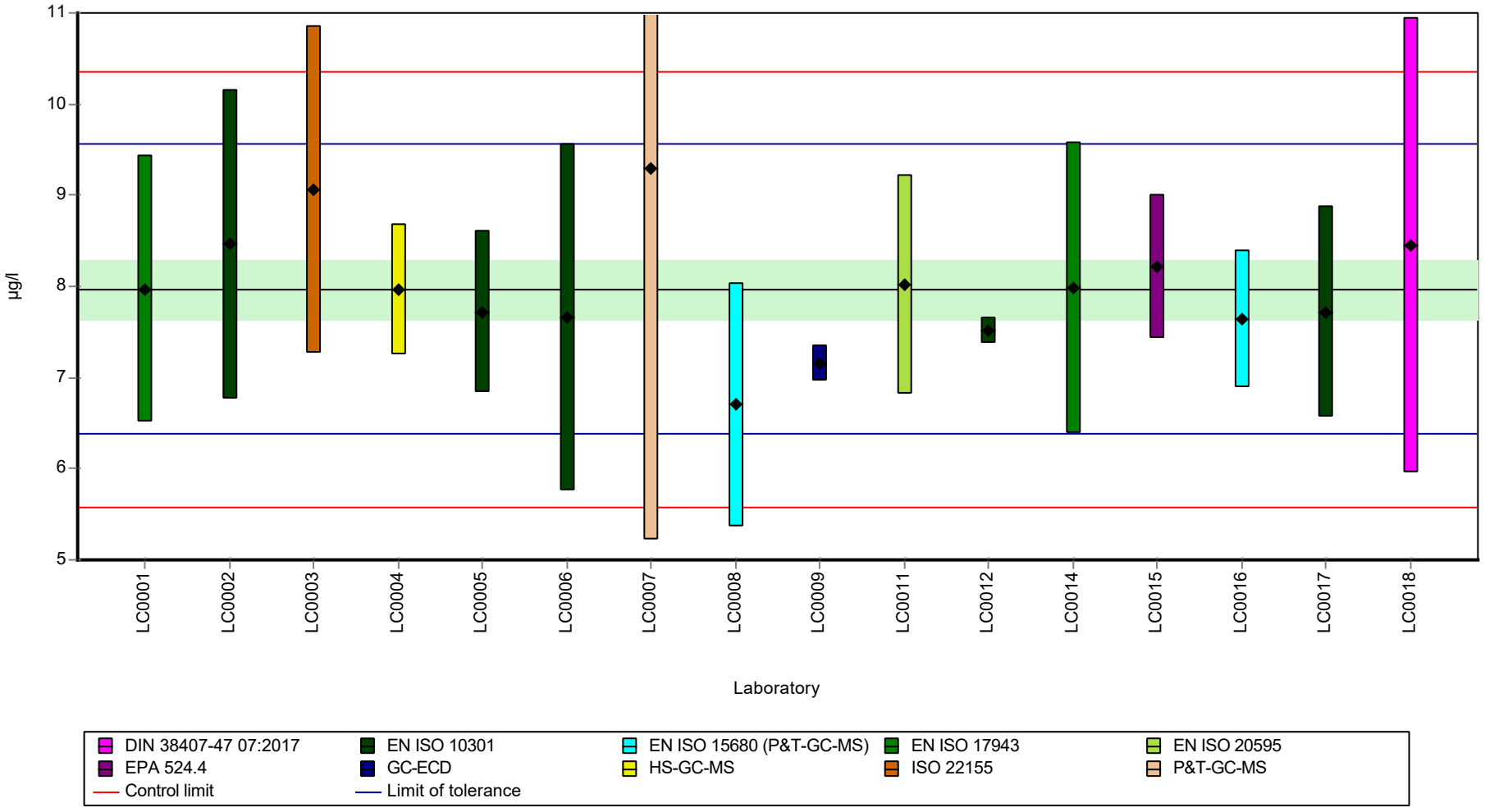
	all results	w ithout outliers	Unit
Mean ± Cl (99%)	7.97 ± 0.486	7.97 ± 0.486	µg/l
Minimum	6.7	6.7	µg/l
Maximum	9.3	9.3	µg/l
Standard deviation	0.648	0.648	µg/l
rel. standard deviation	8.12	8.12	%
n	16	16	-

Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71B, Parameter: Bromodichloromethane

Graphical presentation of results

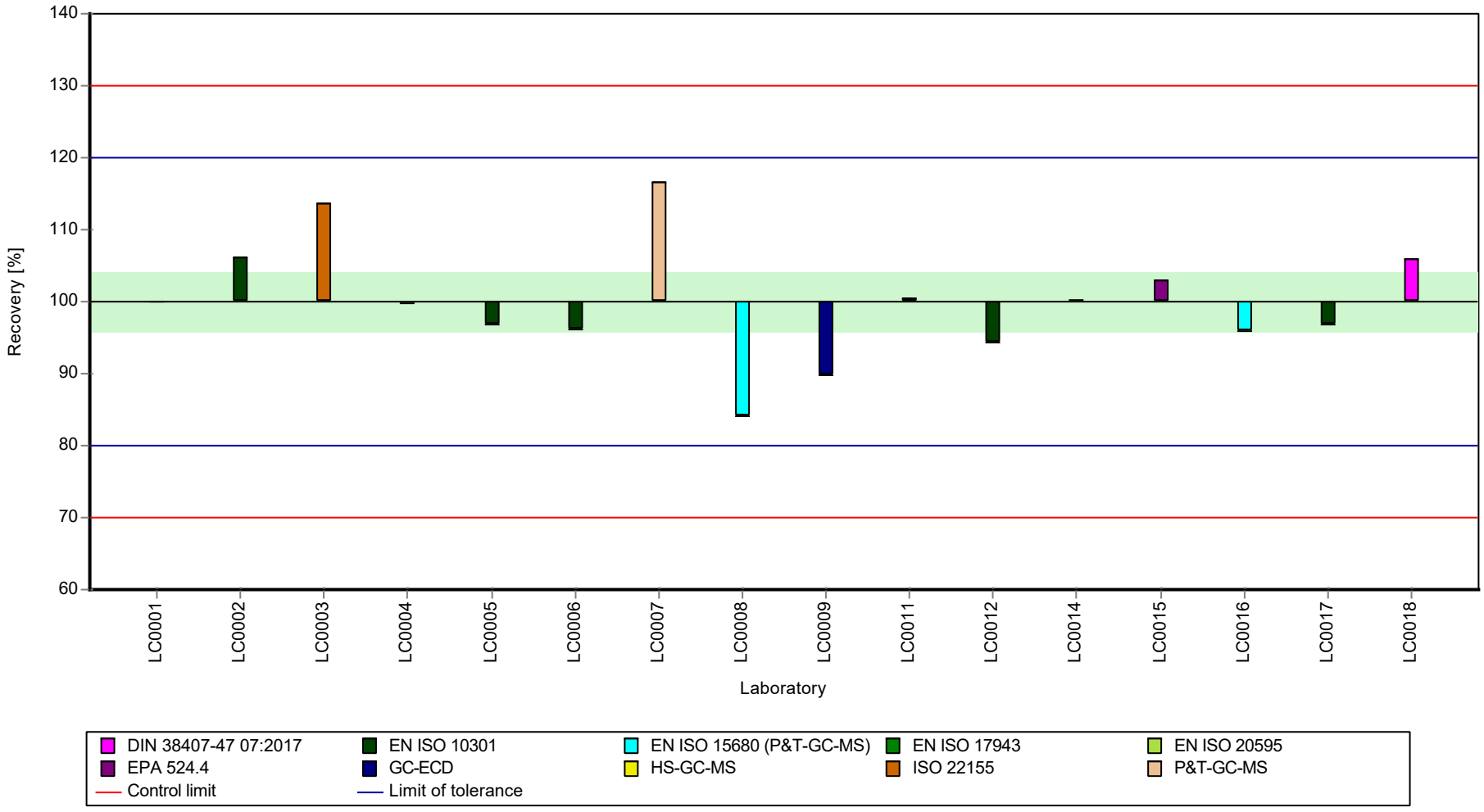
Results



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

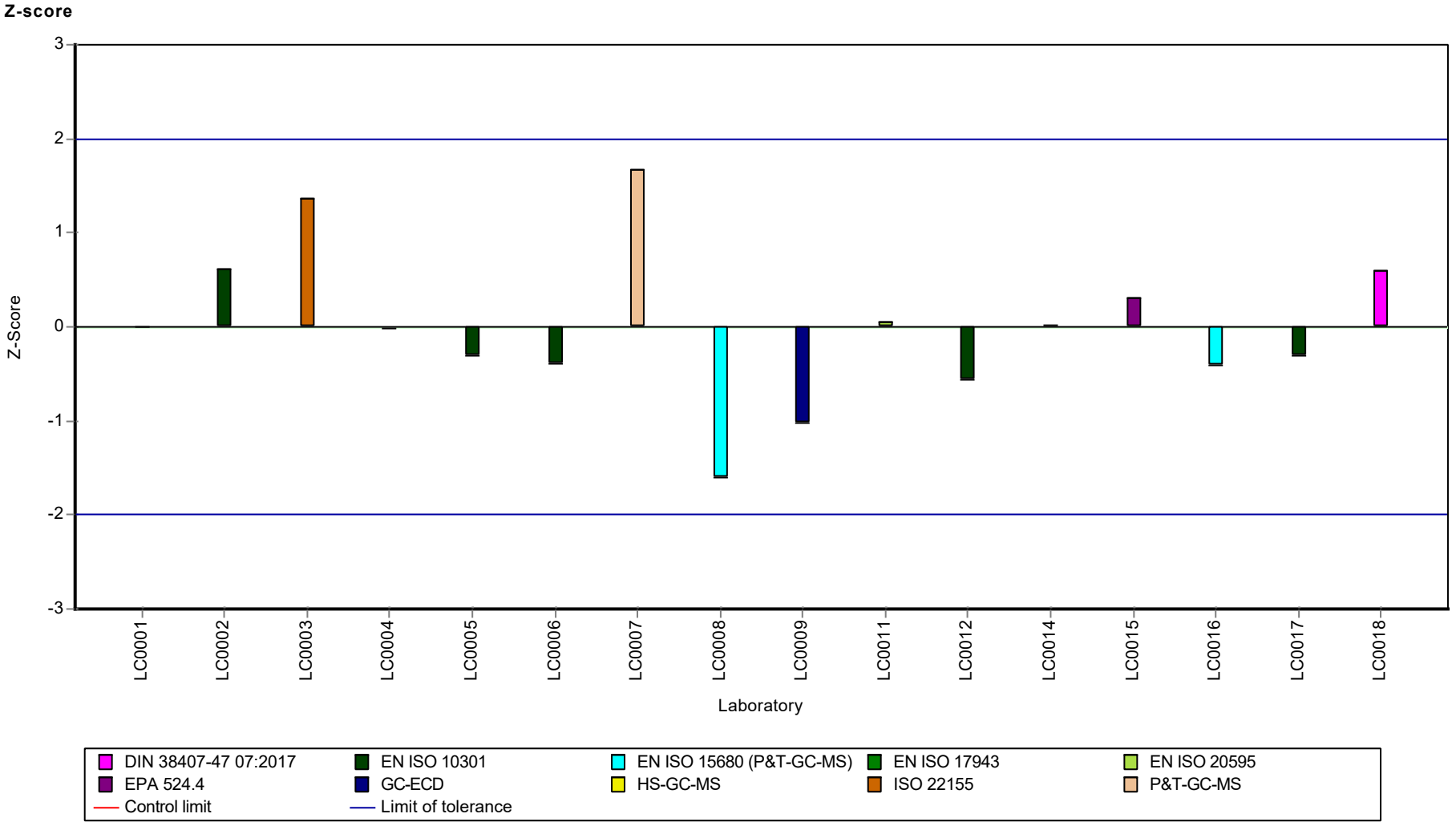
Sample: C71B, Parameter: Bromodichloromethane

Recovery rate



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71B, Parameter: Bromodichloromethane



Parameter oriented report

C71 A

cis-1,2-Dichloroethene

Unit	µg/l
Assigned value ± U (k=2)	0.967 ± 0.0708
Criterion	0.0967 (10 %)
Minimum - Maximum	0.762 - 1.13
Control test value ± U (k=2)	1.05 ± 0.316

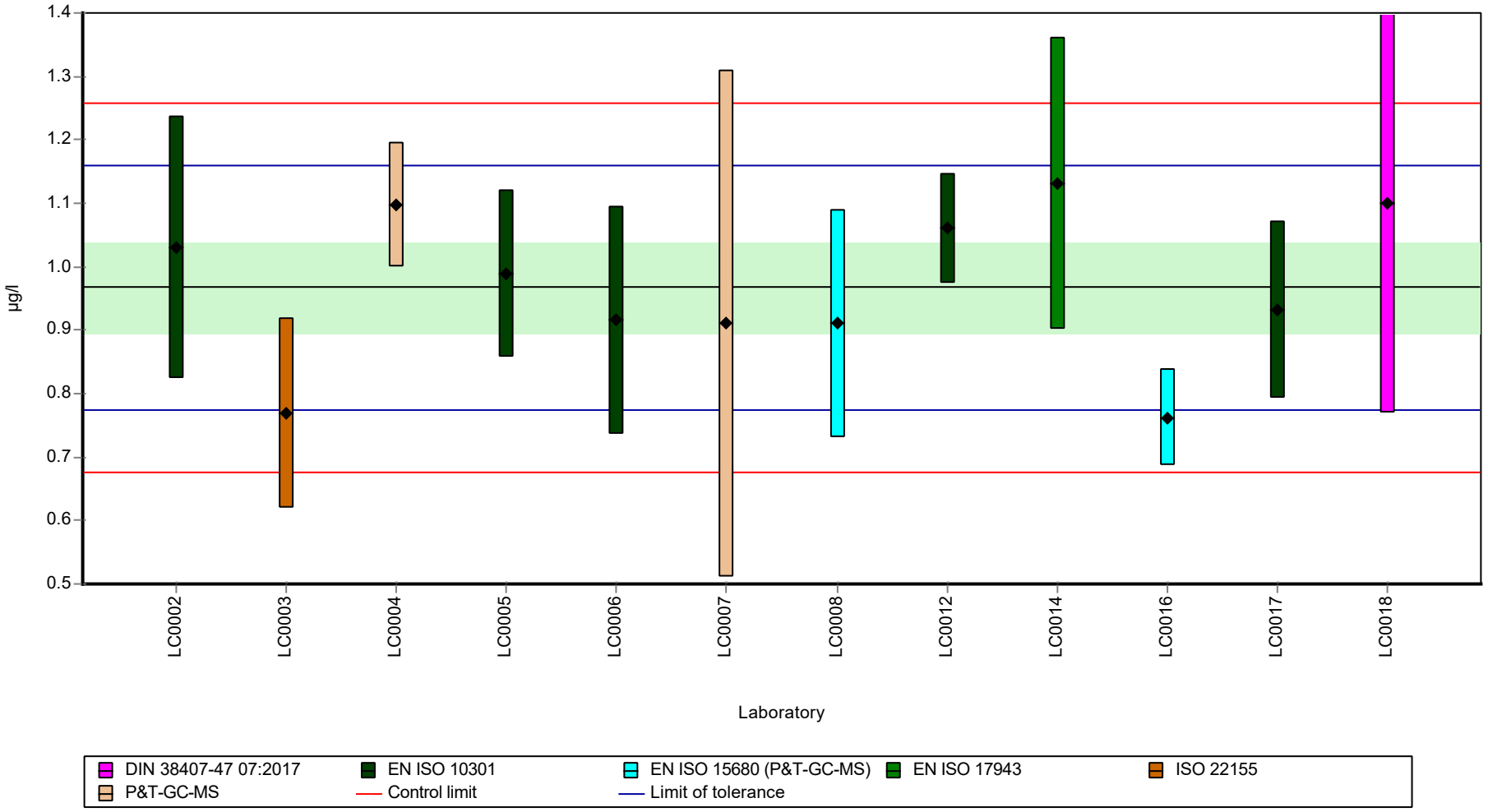
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	-	-	-	-	
LC0002	1.03	0.206	107	0.65	
LC0003	0.77	0.15	79.6	-2.04	
LC0004	1.097	0.099	113	1.34	
LC0005	0.988	0.132	102	0.22	
LC0006	0.916	0.18	94.7	-0.53	
LC0007	0.91	0.4	94.1	-0.59	
LC0008	0.91	0.18	94.1	-0.59	
LC0009	-	-	-	-	
LC0010	-	-	-	-	
LC0011	-	-	-	-	
LC0012	1.06	0.086	110	0.96	
LC0013	-	-	-	-	
LC0014	1.13	0.23	117	1.69	
LC0015	-	-	-	-	
LC0016	0.762	0.076	78.8	-2.12	
LC0017	0.931	0.14	96.3	-0.37	
LC0018	1.1	0.33	114	1.38	

Characteristics of parameter

	all results	w ithout outliers	Unit
Mean ± Cl (99%)	0.967 ± 0.106	0.967 ± 0.106	µg/l
Minimum	0.762	0.762	µg/l
Maximum	1.13	1.13	µg/l
Standard deviation	0.123	0.123	µg/l
rel. standard deviation	12.7	12.7	%
n	12	12	-

Graphical presentation of results

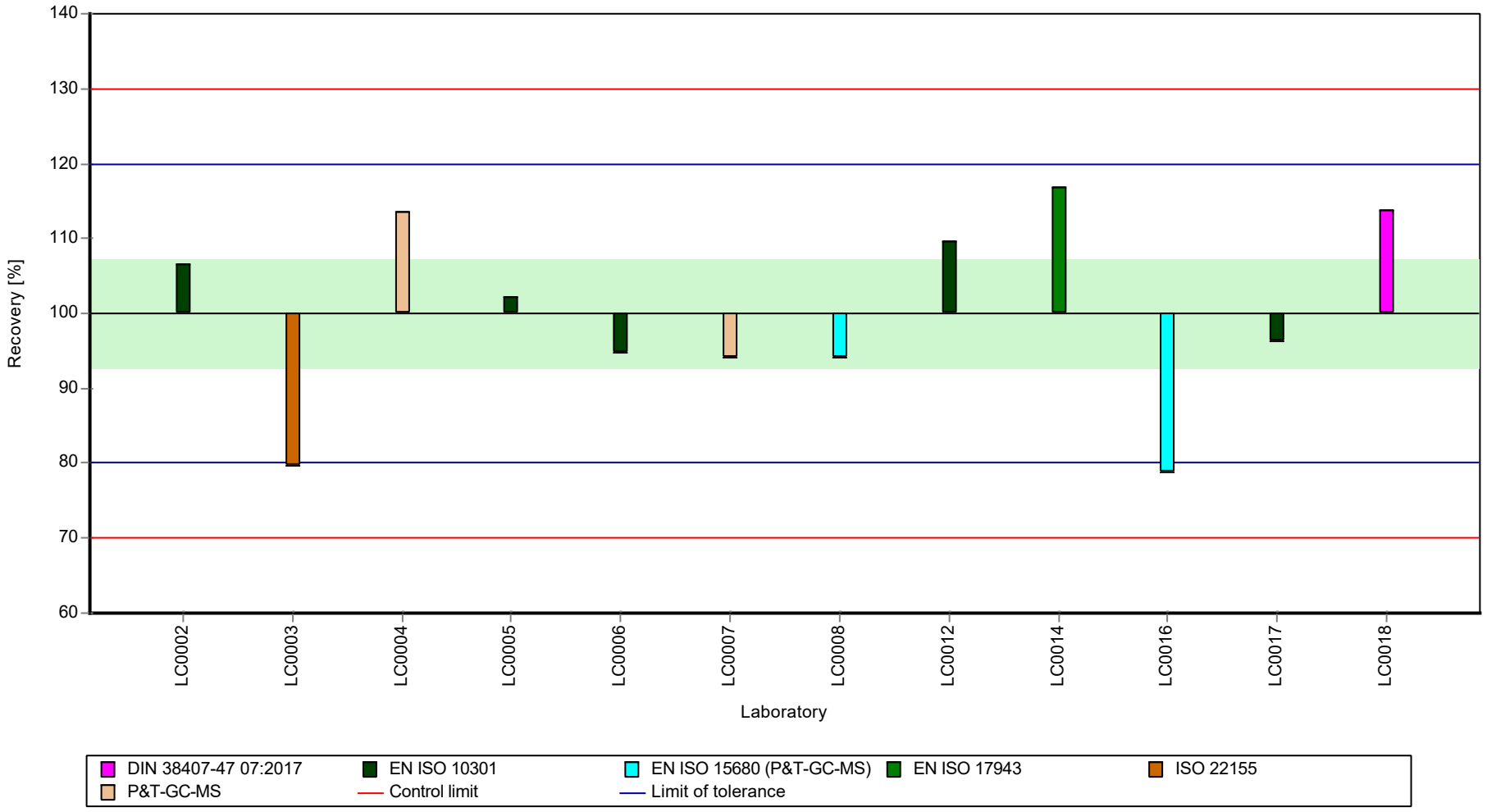
Results



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

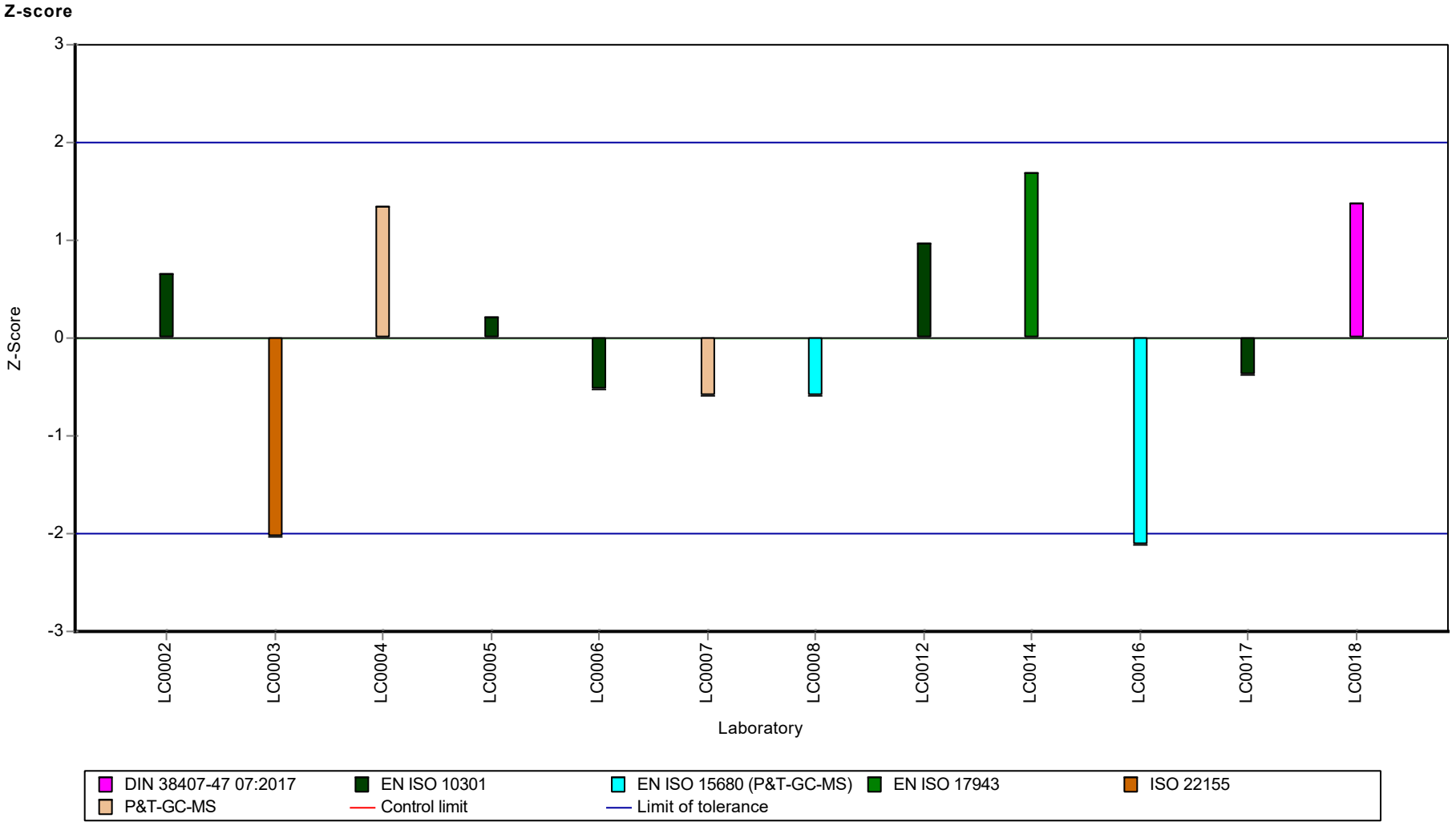
Sample: C71A, Parameter: cis-1,2-Dichloroethene

Recovery rate



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71A, Parameter: cis-1,2-Dichloroethene



Parameter oriented report

C71 B

cis-1,2-Dichloroethene

Unit	µg/l
Assigned value ± U (k=2)	4.76 ± 0.368
Criterion	0.476 (10 %)
Minimum - Maximum	3.85 - 5.99
Control test value ± U (k=2)	5.20 ± 1.56

Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	-	-	-	-	
LC0002	4.97	0.994	104	0.44	
LC0003	4.14	0.82	87	-1.3	
LC0004	5.99	0.54	126	2.59	
LC0005	5	0.667	105	0.51	
LC0006	4.6	0.92	96.7	-0.33	
LC0007	5.02	2.21	105	0.55	
LC0008	3.9	0.78	82	-1.8	
LC0009	-	-	-	-	
LC0010	-	-	-	-	
LC0011	-	-	-	-	
LC0012	4.98	0.167	105	0.47	
LC0013	-	-	-	-	
LC0014	4.25	0.85	89.3	-1.07	
LC0015	-	-	-	-	
LC0016	3.85	0.39	80.9	-1.91	
LC0017	4.95	0.74	104	0.4	
LC0018	5.45	1.6	115	1.45	

Characteristics of parameter

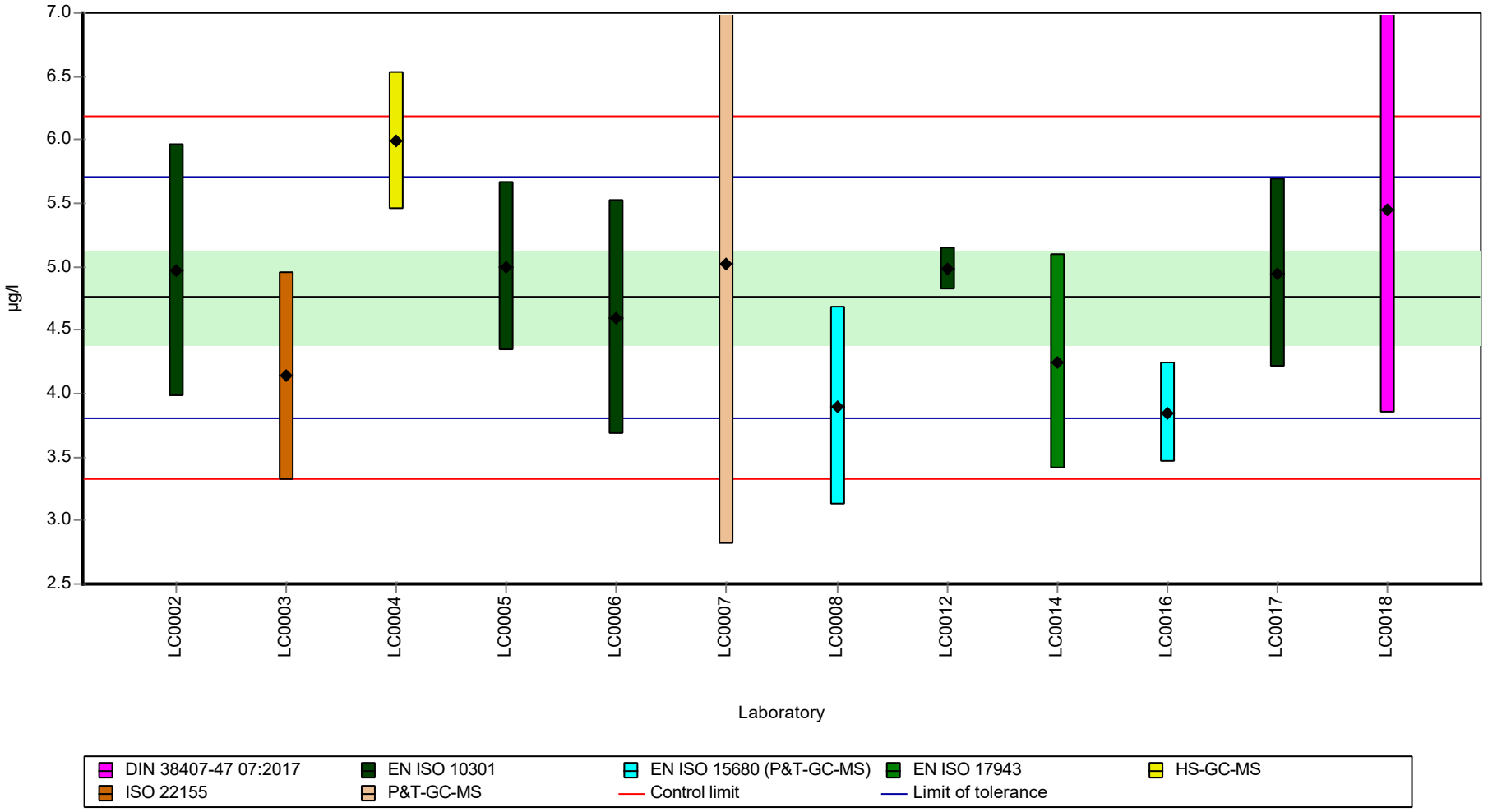
	all results	w ithout outliers	Unit
Mean ± CI (99%)	4.76 ± 0.553	4.76 ± 0.553	µg/l
Minimum	3.85	3.85	µg/l
Maximum	5.99	5.99	µg/l
Standard deviation	0.638	0.638	µg/l
rel. standard deviation	13.4	13.4	%
n	12	12	-

Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71B, Parameter: cis-1,2-Dichloroethene

Graphical presentation of results

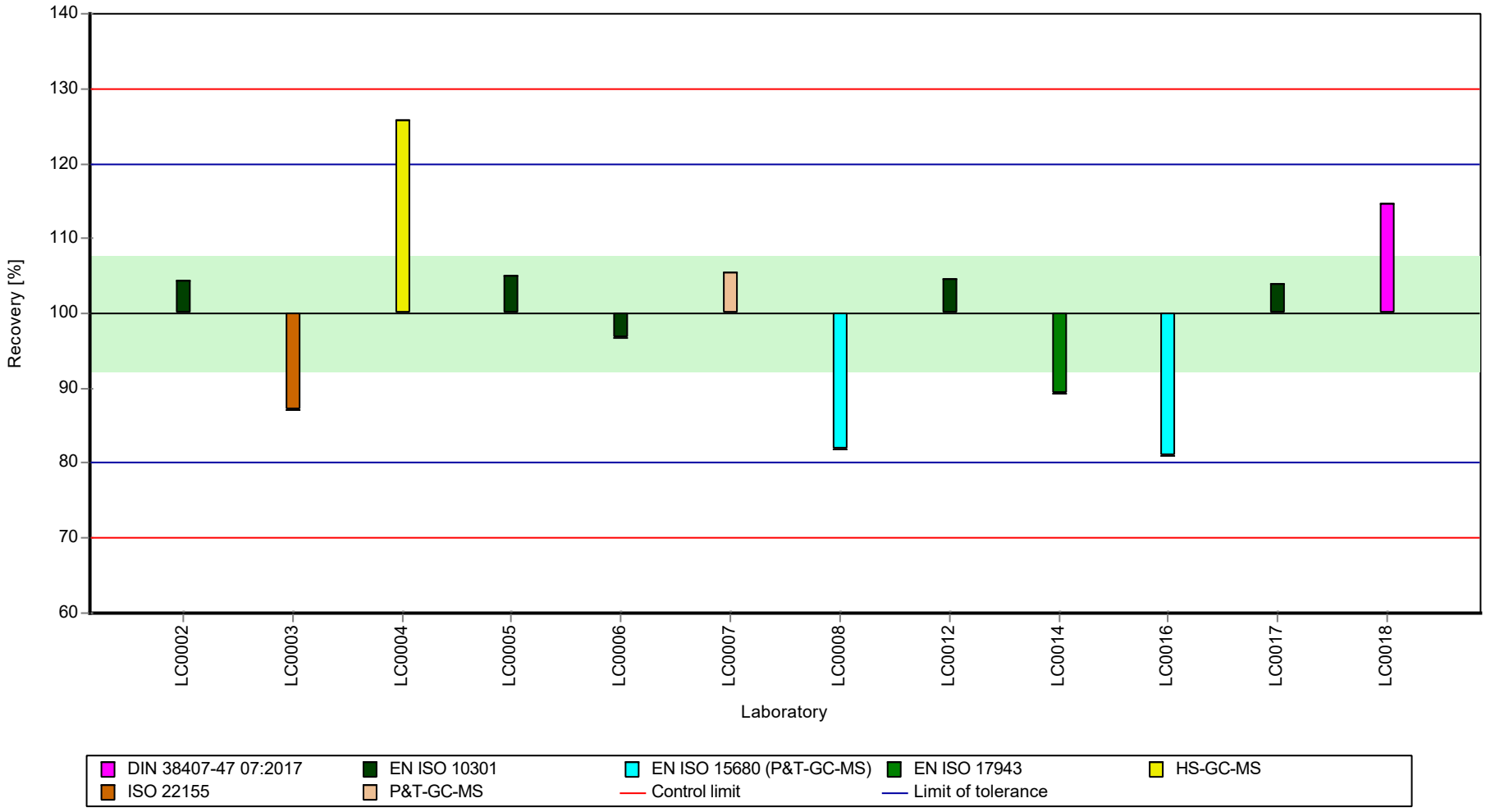
Results



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

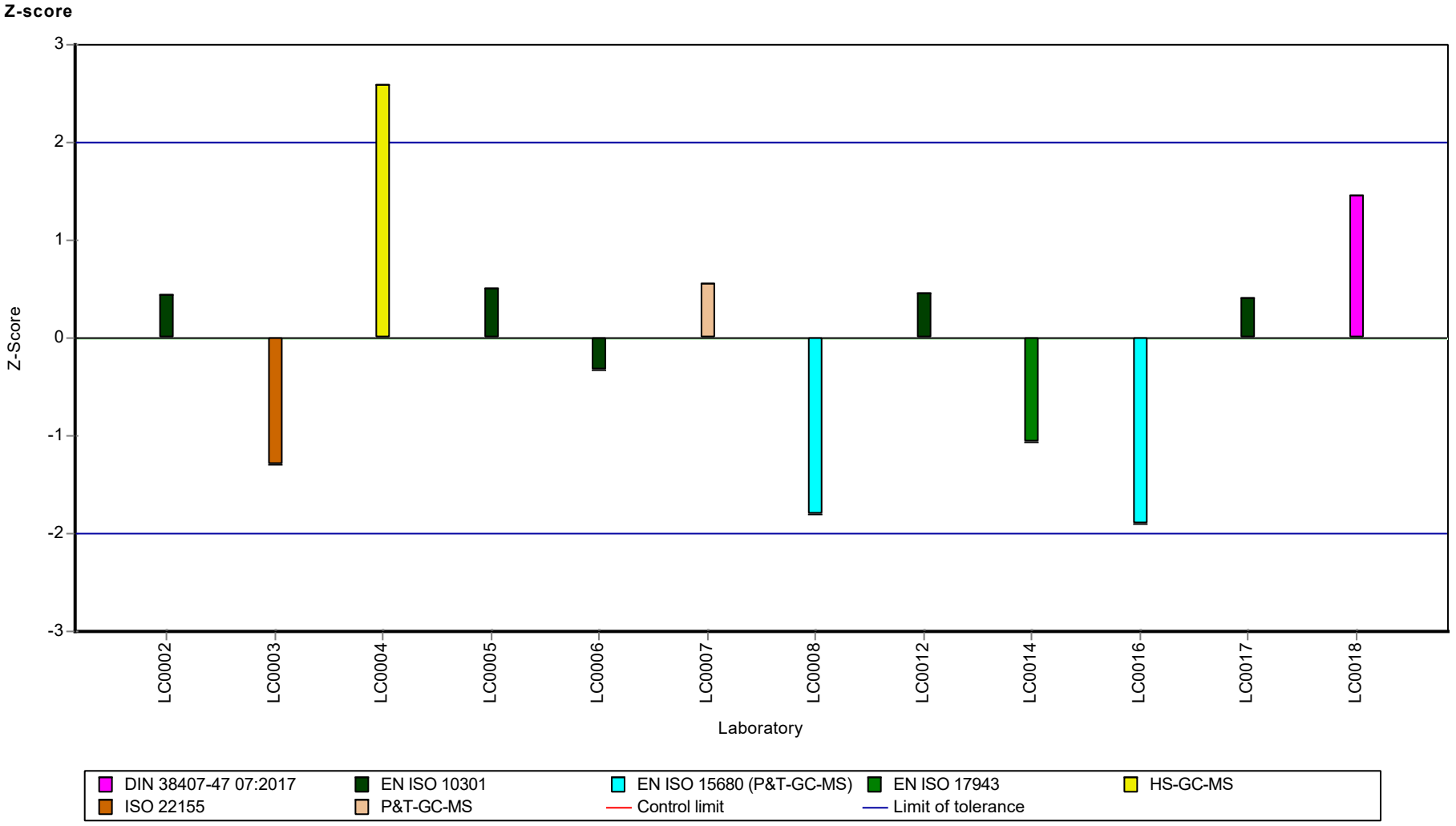
Sample: C71B, Parameter: cis-1,2-Dichloroethene

Recovery rate



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71B, Parameter: cis-1,2-Dichloroethene



Parameter oriented report

C71 A

Dibromochloromethane

Unit	µg/l
Assigned value ± U (k=2)	1.31 ± 0.0681
Criterion	0.158 (12 %)
Minimum - Maximum	1.1 - 1.63
Control test value ± U (k=2)	1.37 ± 0.412

Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	1.1	0.14	83.7	-1.35	
LC0002	1.39	0.278	106	0.48	
LC0003	1.35	0.27	103	0.23	
LC0004	1.37	0.123	104	0.36	
LC0005	1.24	0.216	94.4	-0.47	
LC0006	1.3	0.33	99	-0.09	
LC0007	1.29	0.568	98.2	-0.15	
LC0008	1.7	0.34	129	2.45	H
LC0009	1.67	0.5	127	2.26	H
LC0010	-	-	-	-	
LC0011	1.246	0.1869	94.9	-0.43	
LC0012	1.34	0.053	102	0.17	
LC0013	-	-	-	-	
LC0014	1.63	0.33	124	2.01	
LC0015	1.334	0.304	102	0.13	
LC0016	1.13	0.11	86	-1.16	
LC0017	1.27	0.19	96.7	-0.28	
LC0018	1.4	0.42	107	0.55	

Characteristics of parameter

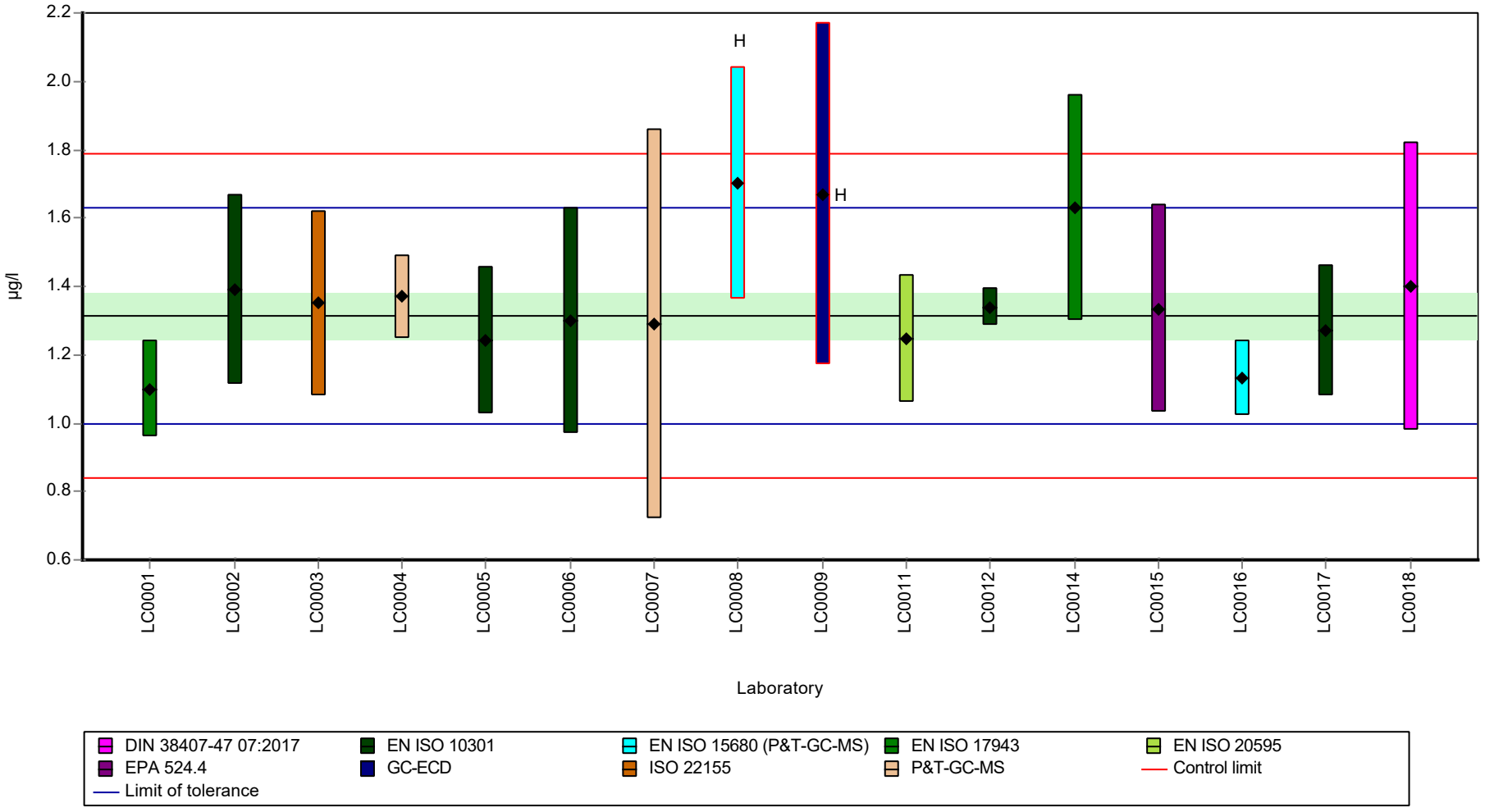
	all results	w ithout outliers	Unit
Mean ± Cl (99%)	1.36 ± 0.13	1.31 ± 0.102	µg/l
Minimum	1.1	1.1	µg/l
Maximum	1.7	1.63	µg/l
Standard deviation	0.174	0.127	µg/l
rel. standard deviation	12.8	9.7	%
n	16	14	-

Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71A, Parameter: Dibromochloromethane

Graphical presentation of results

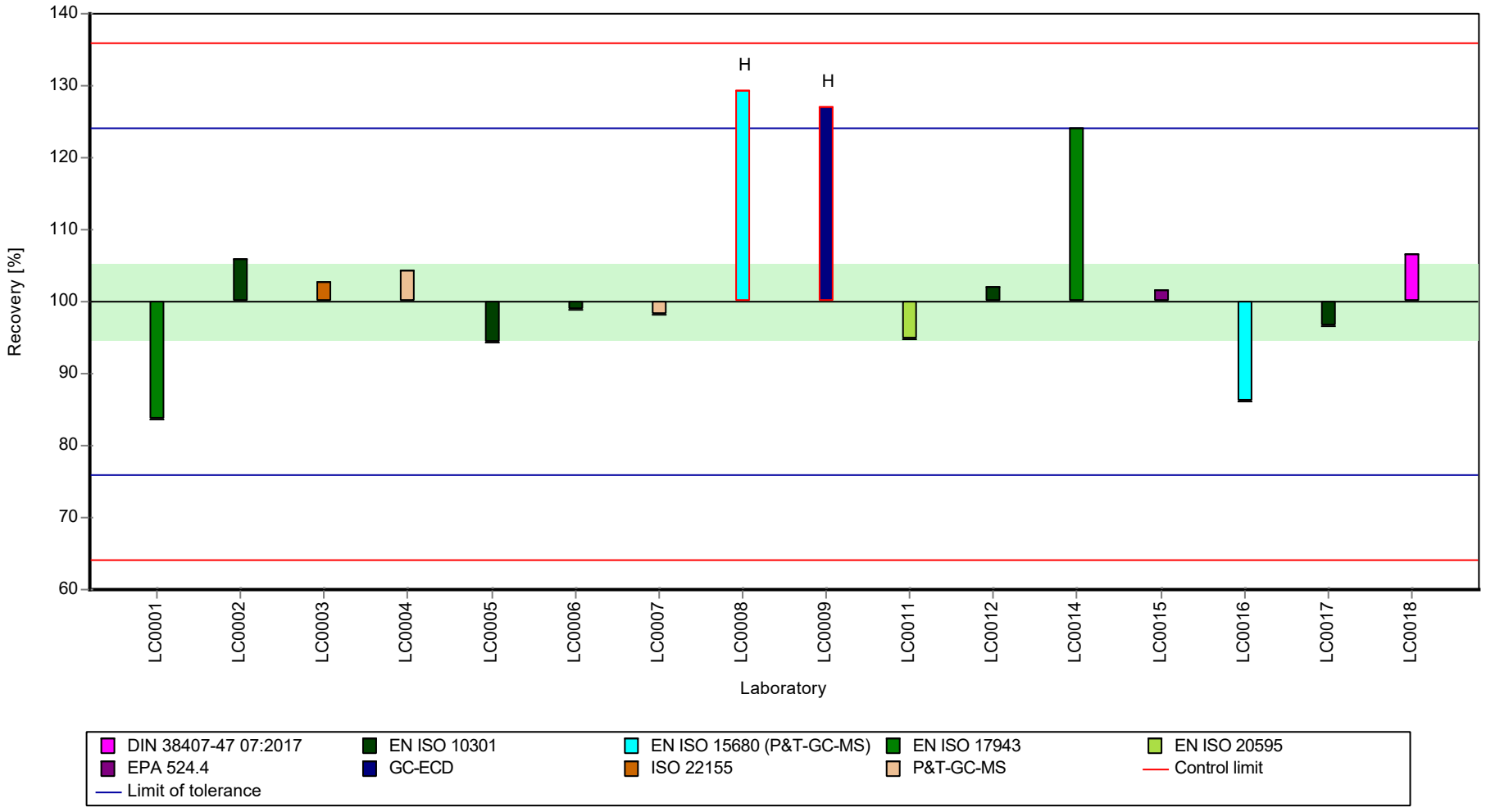
Results



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

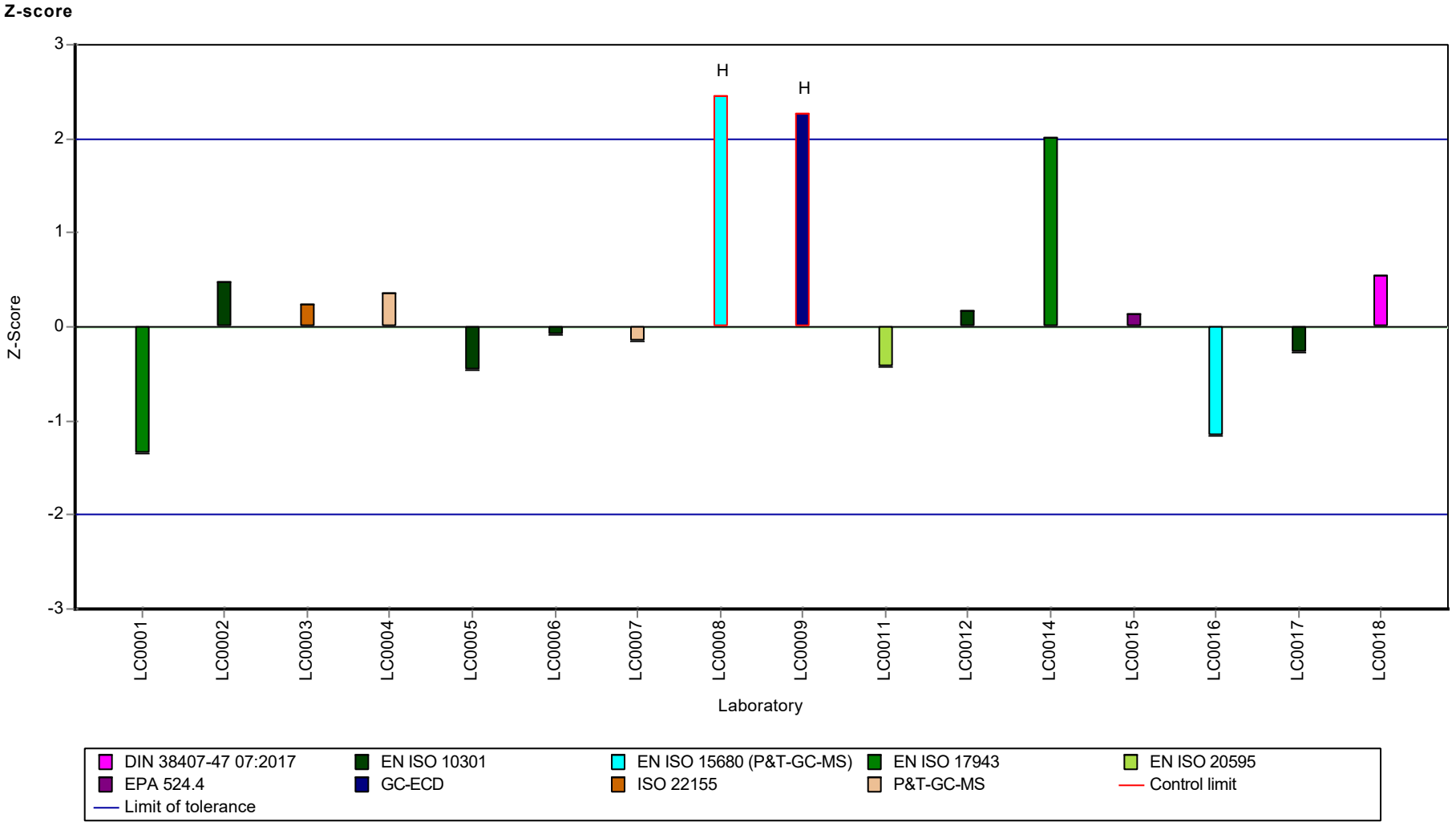
Sample: C71A, Parameter: Dibromochloromethane

Recovery rate



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71A, Parameter: Dibromochloromethane



Parameter oriented report

C71 B

Dibromochloromethane

Unit	µg/l
Assigned value ± U (k=2)	6.54 ± 0.309
Criterion	0.785 (12 %)
Minimum - Maximum	5.5 - 7.71
Control test value ± U (k=2)	6.93 ± 2.08

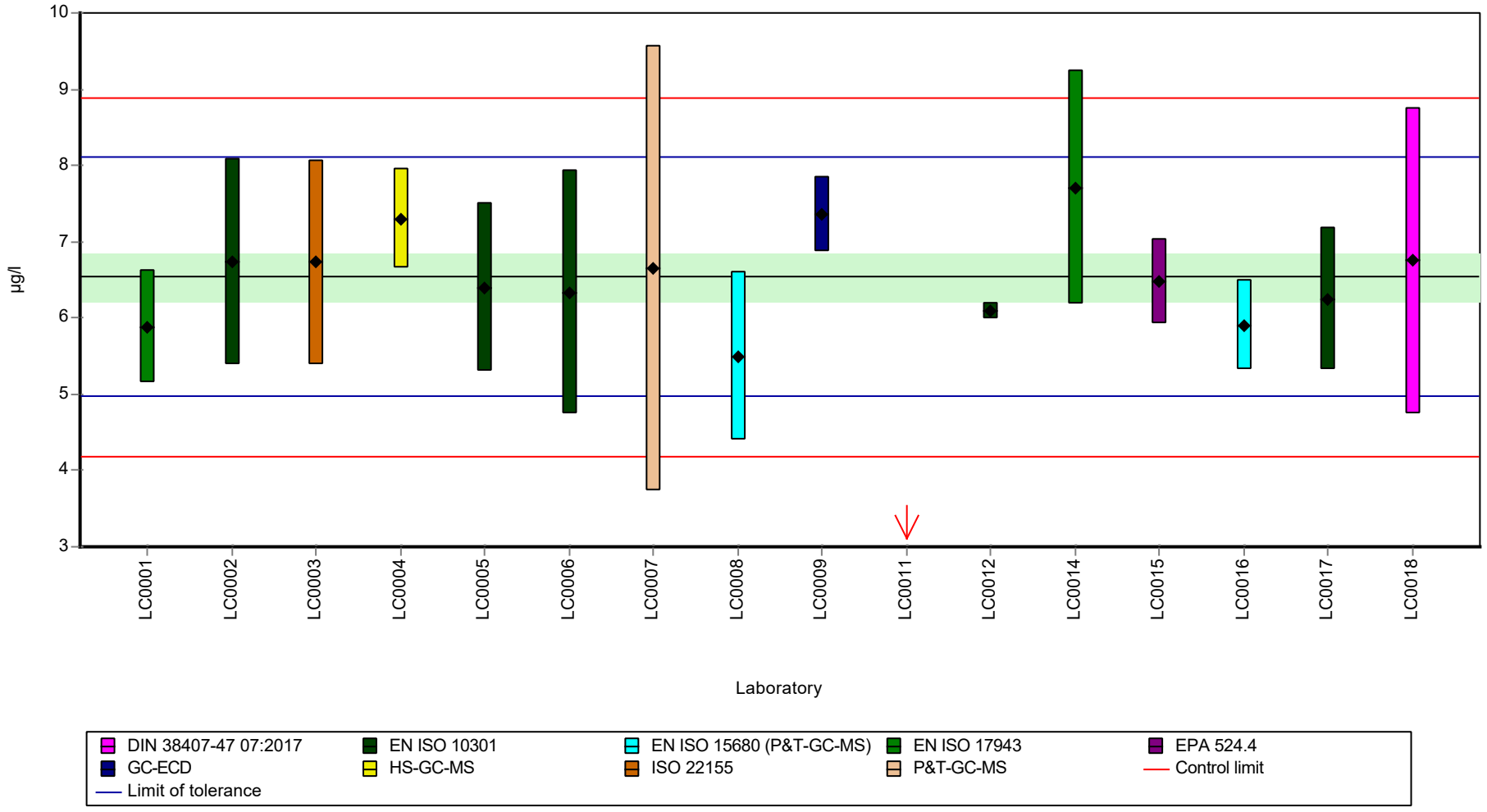
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	5.88	0.74	89.9	-0.84	
LC0002	6.74	1.348	103	0.26	
LC0003	6.73	1.34	103	0.24	
LC0004	7.3	0.66	112	0.97	
LC0005	6.4	1.11	97.9	-0.18	
LC0006	6.33	1.6	96.8	-0.27	
LC0007	6.64	2.92	102	0.13	
LC0008	5.5	1.1	84.1	-1.32	
LC0009	7.36	0.5	113	1.05	
LC0010	-	-	-	-	
LC0011	1.246	0.1869	19.1	-6.75	H
LC0012	6.1	0.107	93.3	-0.56	
LC0013	-	-	-	-	
LC0014	7.71	1.54	118	1.49	
LC0015	6.482	0.553	99.1	-0.07	
LC0016	5.9	0.59	90.2	-0.81	
LC0017	6.25	0.94	95.6	-0.37	
LC0018	6.75	2	103	0.27	

Characteristics of parameter

	all results	w ithout outliers	Unit
Mean ± Cl (99%)	6.21 ± 1.08	6.54 ± 0.464	µg/l
Minimum	1.25	5.5	µg/l
Maximum	7.71	7.71	µg/l
Standard deviation	1.44	0.599	µg/l
rel. standard deviation	23.3	9.16	%
n	16	15	-

Graphical presentation of results

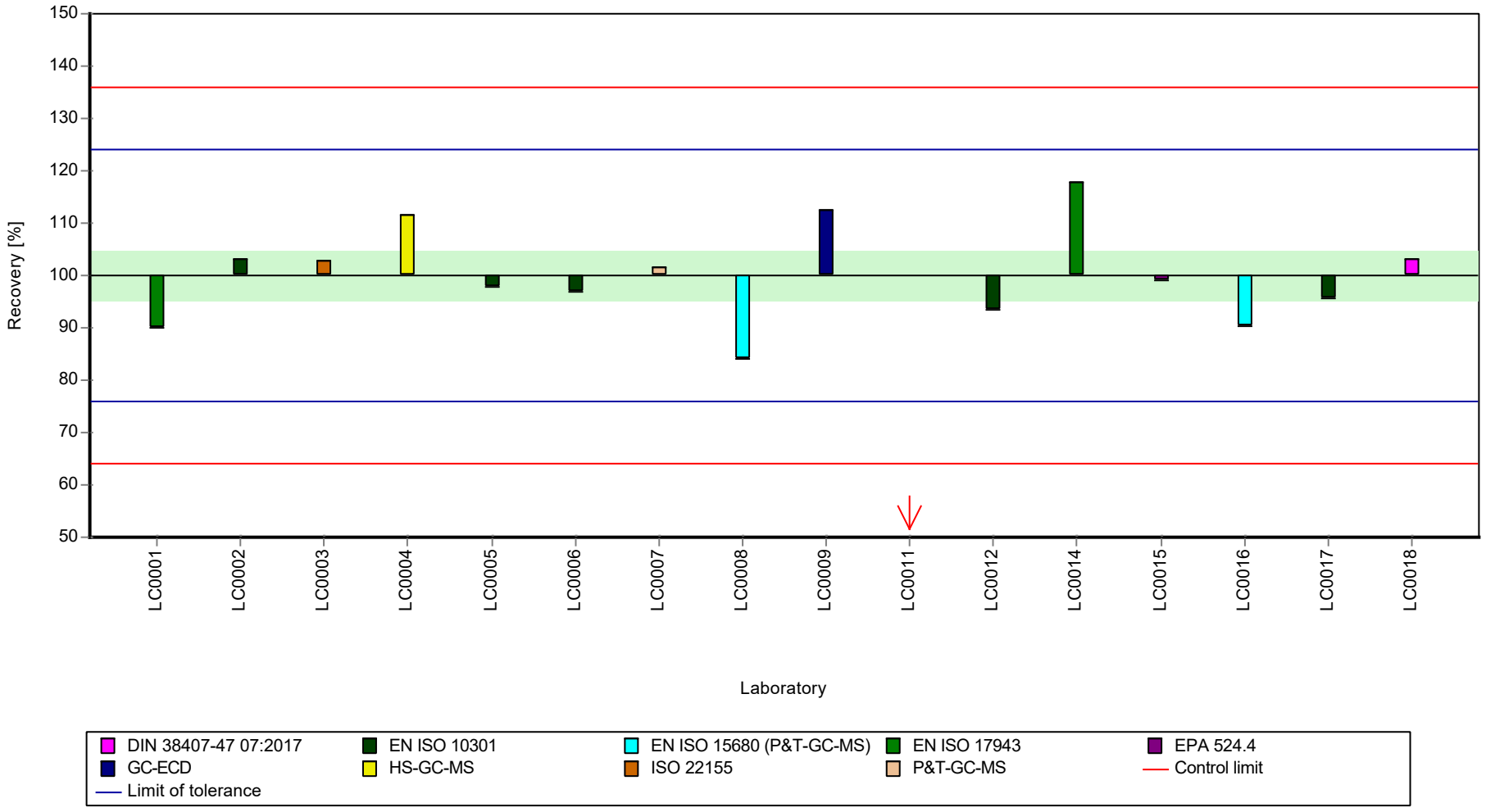
Results



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

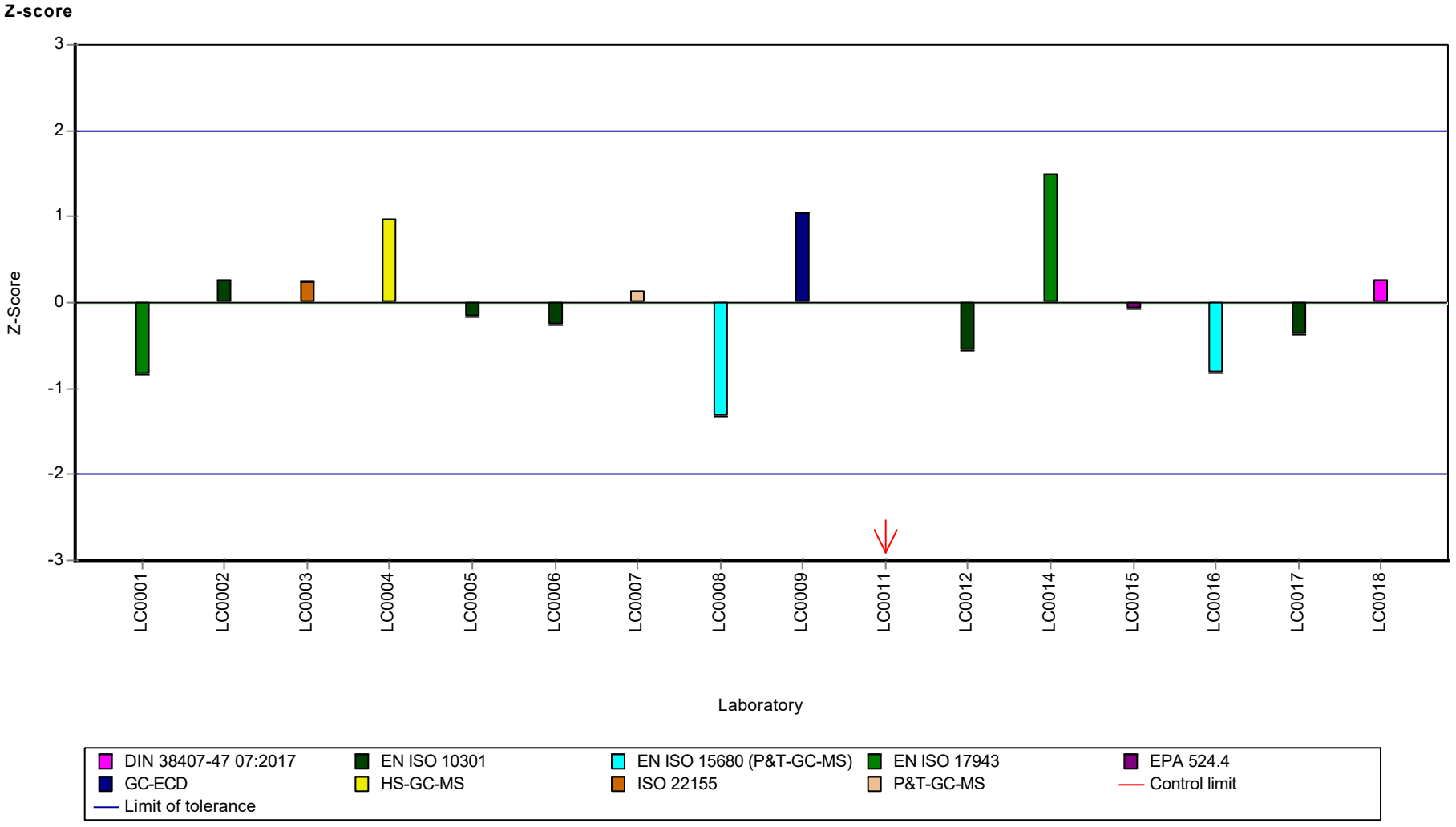
Sample: C71B, Parameter: Dibromochloromethane

Recovery rate



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71B, Parameter: Dibromochloromethane



Parameter oriented report

C71 A

Dichloromethane

Unit	µg/l
Assigned value ± U (k=2)	7.5 ± 0.503
Criterion	0.975 (13 %)
Minimum - Maximum	5.62 - 9.25
Control test value ± U (k=2)	7.17 ± 2.15

Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	-	-	-	-	
LC0002	7.34	1.468	97.8	-0.17	
LC0003	8.08	1.62	108	0.59	
LC0004	8.173	0.736	109	0.69	
LC0005	6.69	0.783	89.2	-0.83	
LC0006	6.83	1.7	91	-0.69	
LC0007	9.25	4.07	123	1.79	
LC0008	8.7	1.74	116	1.23	
LC0009	-	-	-	-	
LC0010	7.84	0.425	104	0.34	
LC0011	5.62	0.843	74.9	-1.93	
LC0012	6.98	0.193	93	-0.54	
LC0013	-	-	-	-	
LC0014	7.72	1.54	103	0.22	
LC0015	-	-	-	-	
LC0016	6.7	0.67	89.3	-0.82	
LC0017	7.08	1.06	94.4	-0.43	
LC0018	8.05	2.4	107	0.56	

Characteristics of parameter

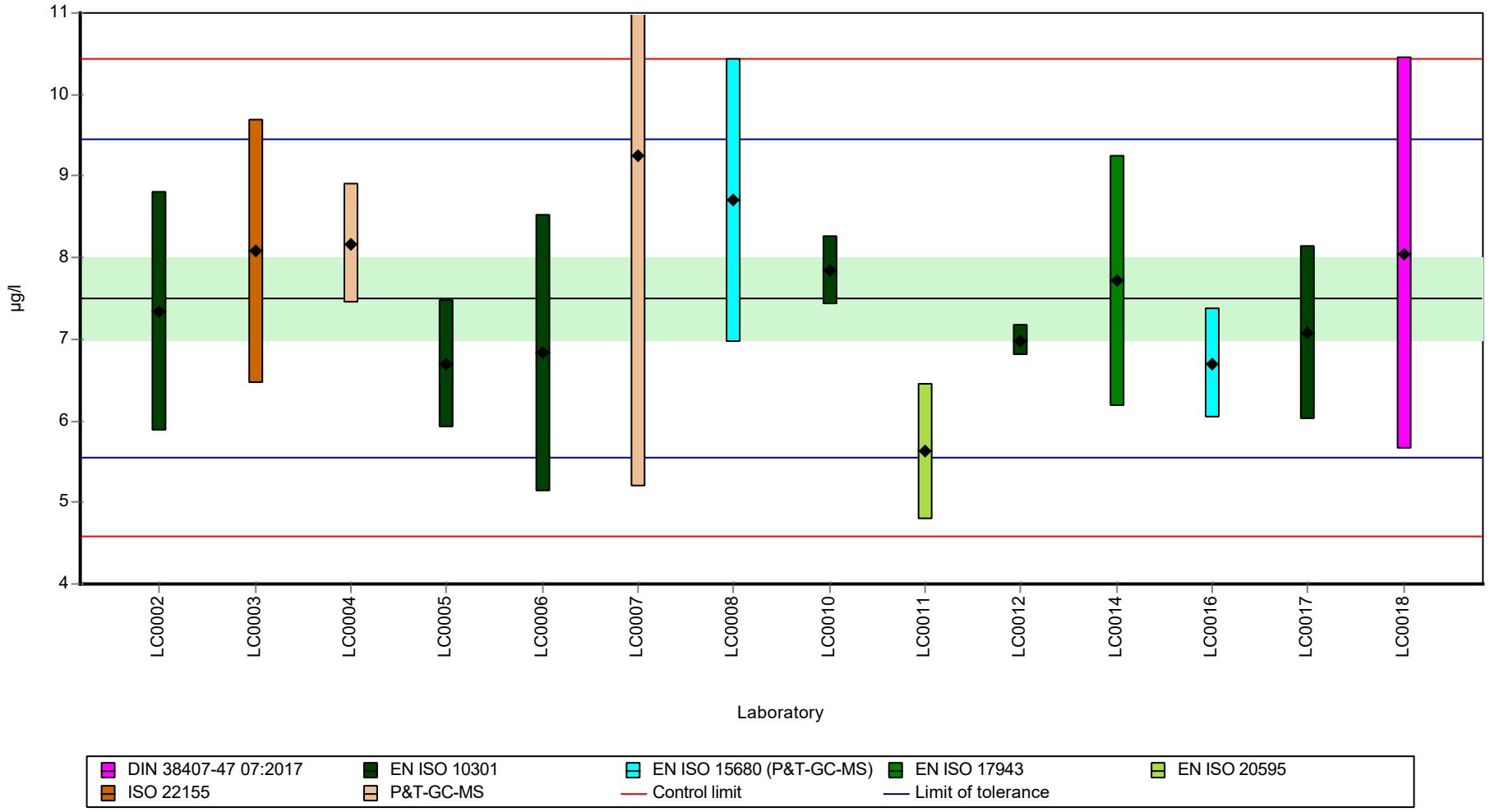
	all results	w ithout outliers	Unit
Mean ± Cl (99%)	7.5 ± 0.754	7.5 ± 0.754	µg/l
Minimum	5.62	5.62	µg/l
Maximum	9.25	9.25	µg/l
Standard deviation	0.941	0.941	µg/l
rel. standard deviation	12.5	12.5	%
n	14	14	-

Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71A, Parameter: Dichloromethane

Graphical presentation of results

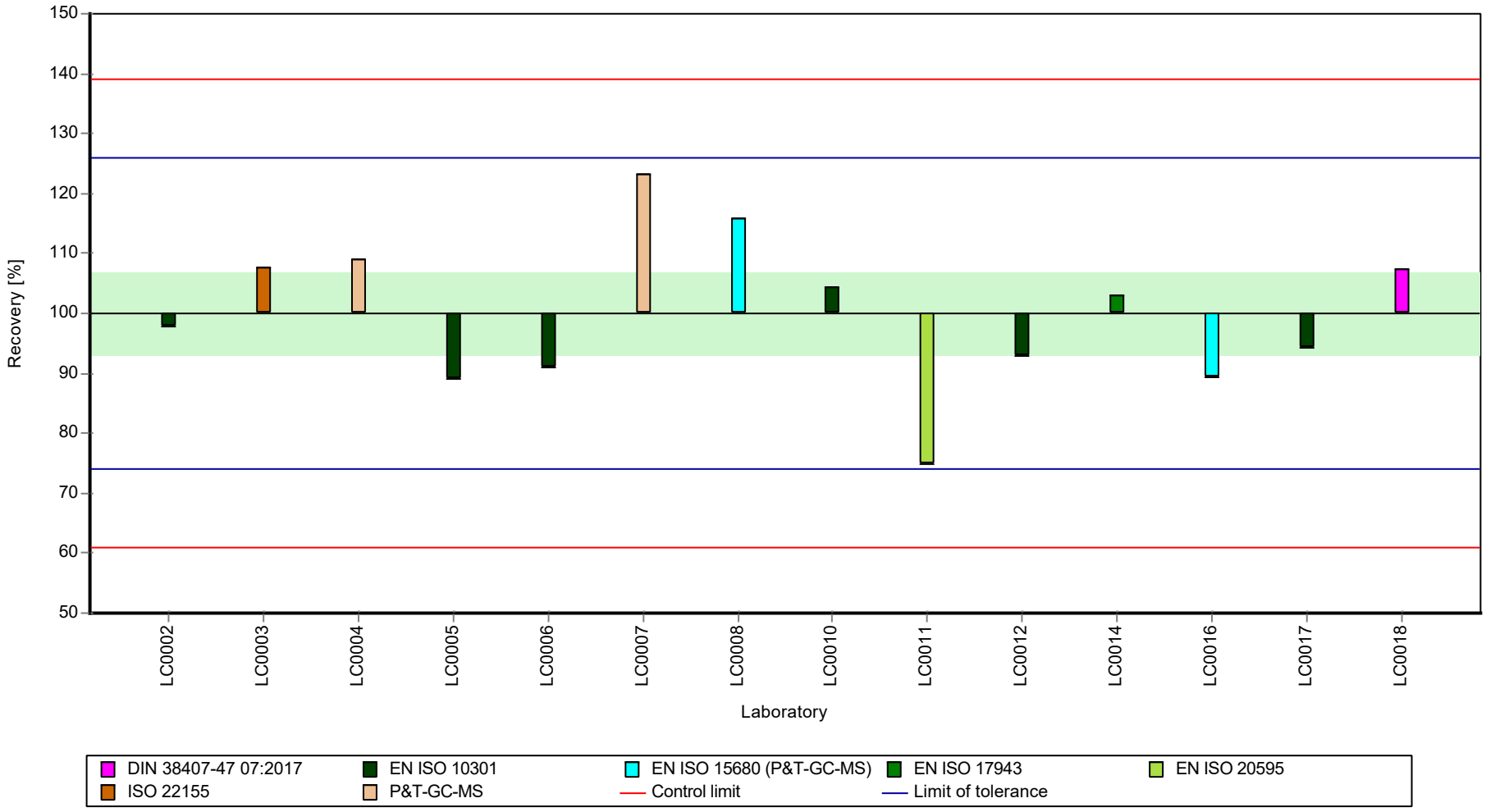
Results



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

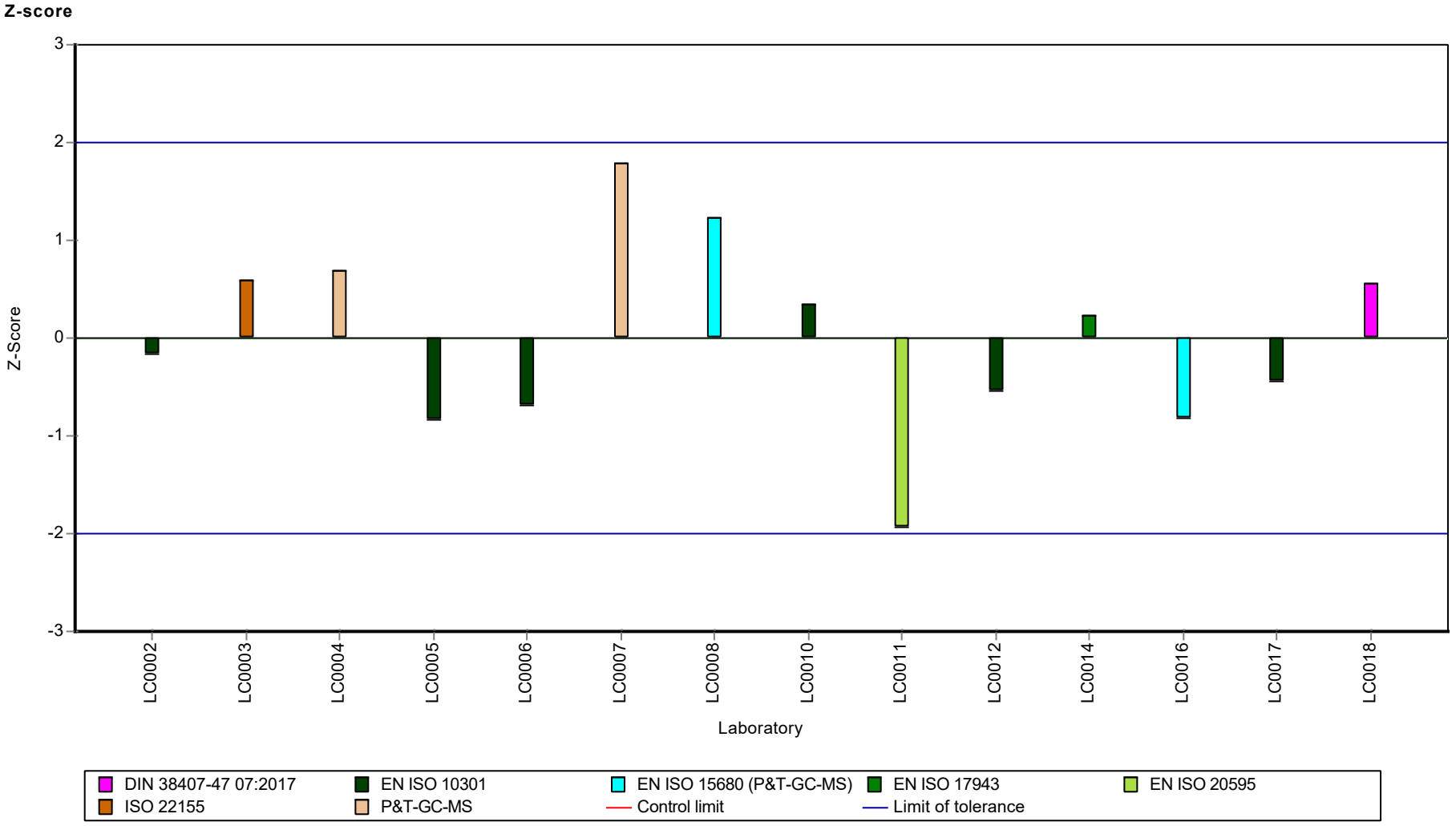
Sample: C71A, Parameter: Dichloromethane

Recovery rate



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71A, Parameter: Dichloromethane



Parameter oriented report

C71 B

Dichloromethane

Unit	µg/l
Assigned value ± U (k=2)	9.04 ± 0.398
Criterion	1.18 (13 %)
Minimum - Maximum	7.72 - 10.3
Control test value ± U (k=2)	9.14 ± 2.74

Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	-	-	-	-	
LC0002	9.57	1.914	106	0.45	
LC0003	10.3	2.1	114	1.07	
LC0004	9.46	0.85	105	0.36	
LC0005	8.81	1.03	97.4	-0.2	
LC0006	8.96	2.2	99.1	-0.07	
LC0007	13.02	5.73	144	3.39	H
LC0008	8	1.6	88.5	-0.89	
LC0009	-	-	-	-	
LC0010	9.55	0.518	106	0.43	
LC0011	7.724	1.1586	85.4	-1.12	
LC0012	9.15	0.397	101	0.09	
LC0013	-	-	-	-	
LC0014	9.14	1.83	101	0.08	
LC0015	-	-	-	-	
LC0016	8.85	0.89	97.9	-0.16	
LC0017	8.98	1.35	99.3	-0.05	
LC0018	11	3.3	122	1.67	H

Characteristics of parameter

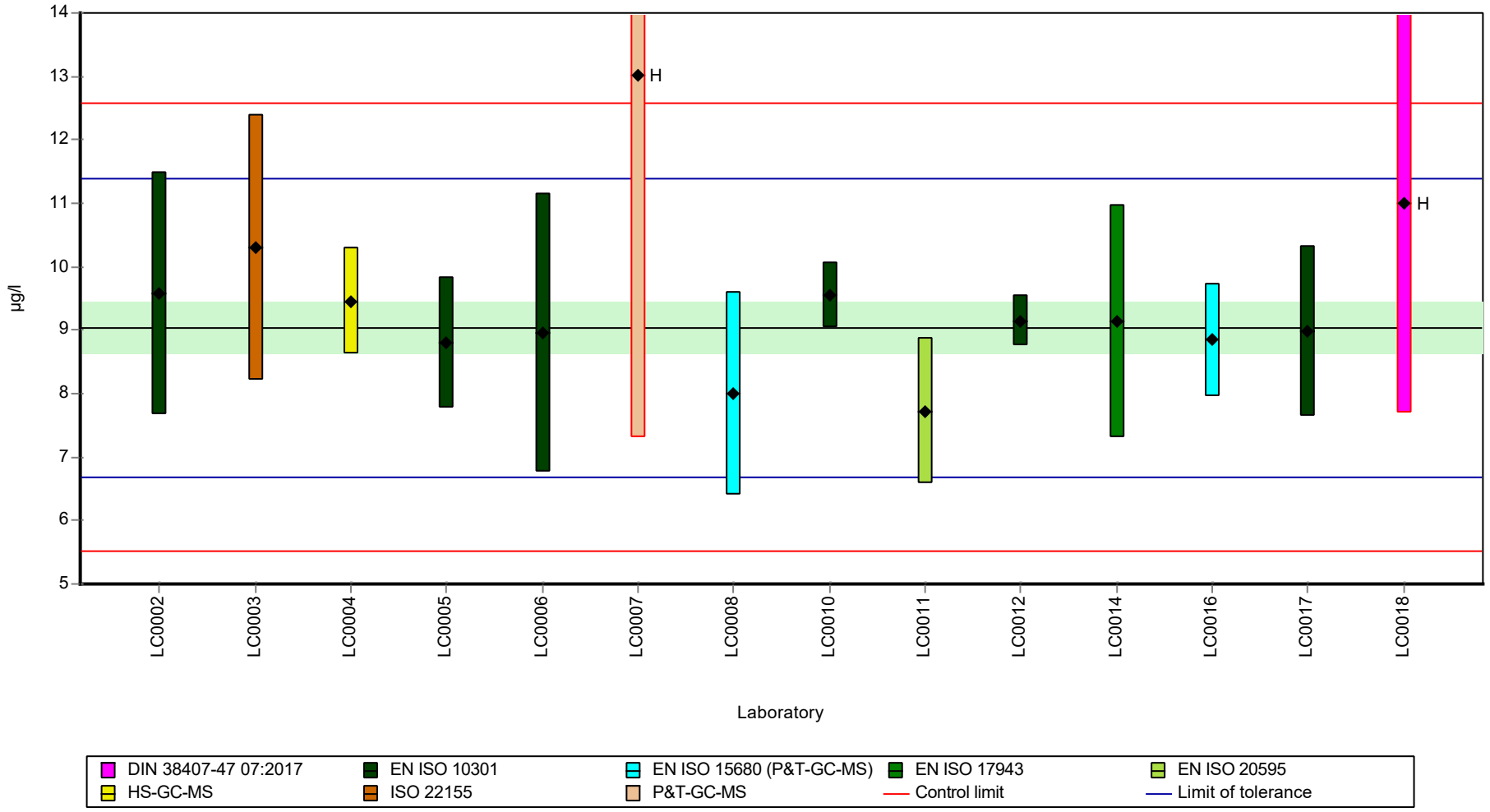
	all results	w ithout outliers	Unit
Mean ± Cl (99%)	9.47 ± 1.05	9.04 ± 0.598	µg/l
Minimum	7.72	7.72	µg/l
Maximum	13	10.3	µg/l
Standard deviation	1.31	0.69	µg/l
rel. standard deviation	13.9	7.63	%
n	14	12	-

Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71B, Parameter: Dichloromethane

Graphical presentation of results

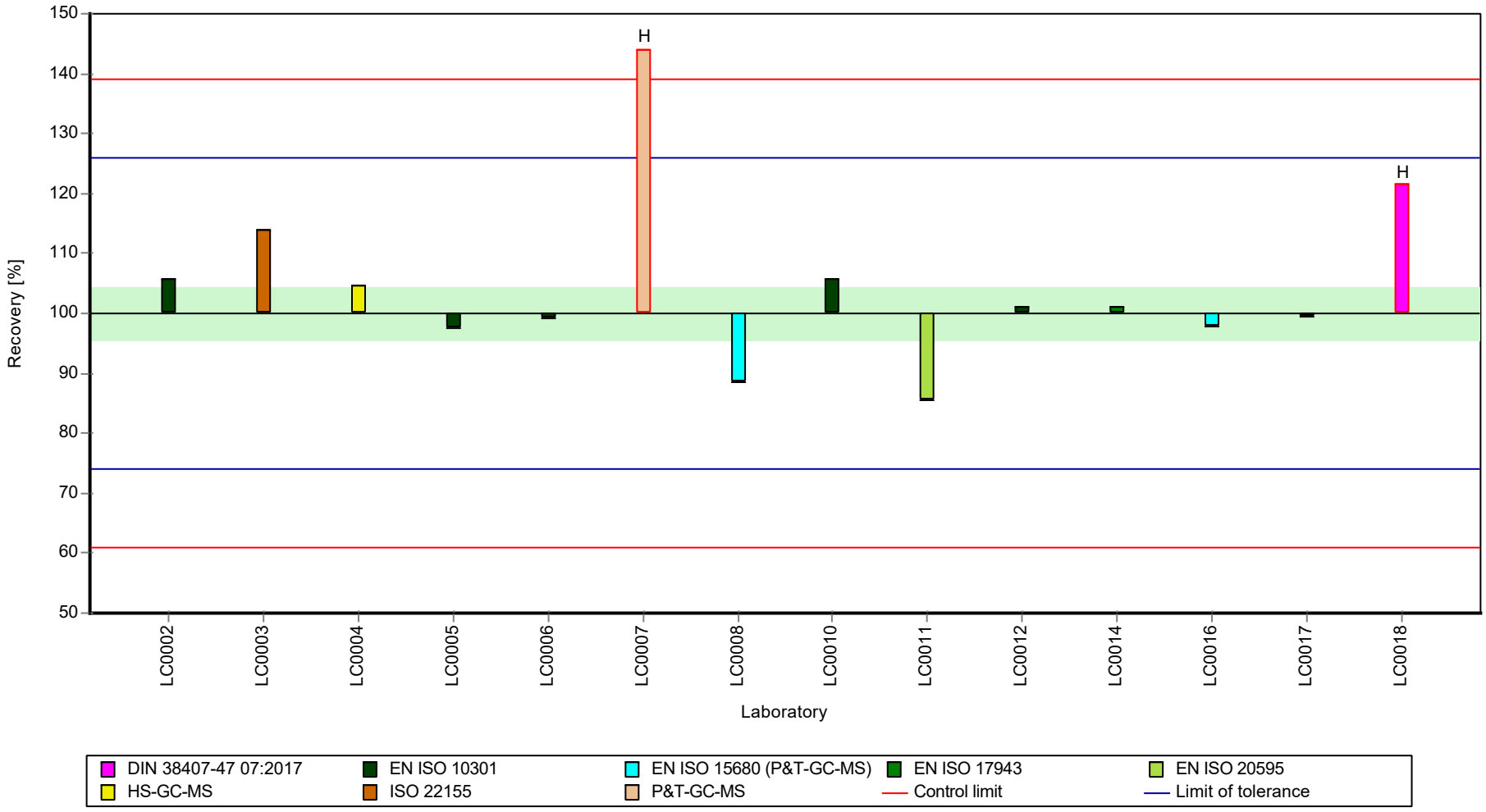
Results



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

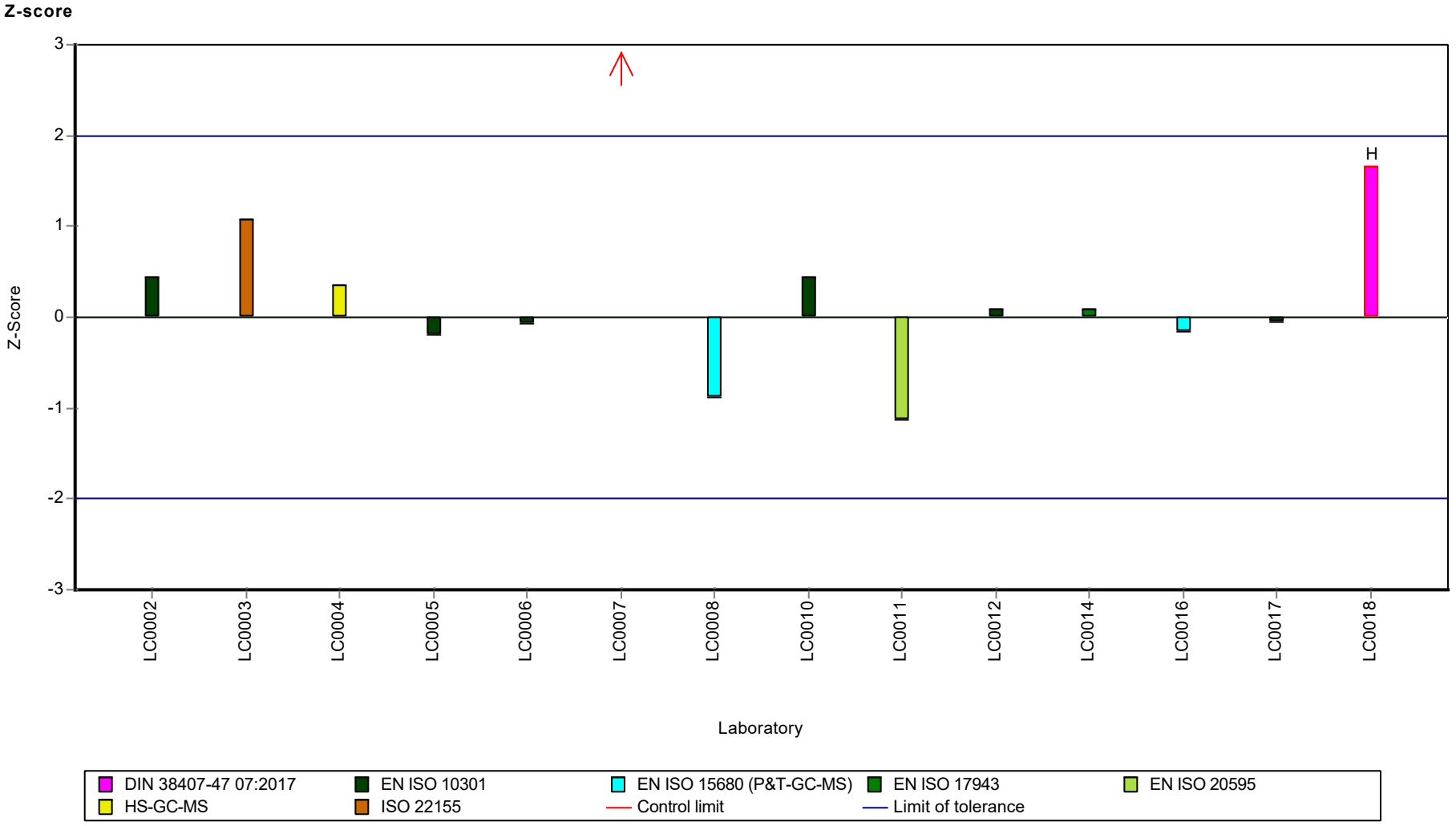
Sample: C71B, Parameter: Dichloromethane

Recovery rate



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71B, Parameter: Dichloromethane



Parameter oriented report

C71 A

Tetrachloroethene

Unit	µg/l
Assigned value ± U (k=2)	0.584 ± 0.0417
Criterion	0.0993 (17 %)
Minimum - Maximum	0.438 - 0.74
Control test value ± U (k=2)	0.636 ± 0.191

Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	0.74	0.1	127	1.57	
LC0002	0.58	0.116	99.2	-0.04	
LC0003	< 0.2 (LOQ)	-	-	-	FN
LC0004	0.509	0.046	87.1	-0.76	
LC0005	0.623	0.0797	107	0.39	
LC0006	0.584	0.058	99.9	0.00	
LC0007	0.58	0.255	99.2	-0.04	
LC0008	0.61	0.12	104	0.26	
LC0009	1.29	0.2	221	7.1	H
LC0010	-	-	-	-	
LC0011	0.576	0.0864	98.6	-0.08	
LC0012	0.62	0.11	106	0.36	
LC0013	-	-	-	-	
LC0014	0.65	0.13	111	0.66	
LC0015	-	-	-	-	
LC0016	0.438	0.044	75	-1.47	
LC0017	0.492	0.074	84.2	-0.93	
LC0018	0.595	0.18	102	0.11	

Characteristics of parameter

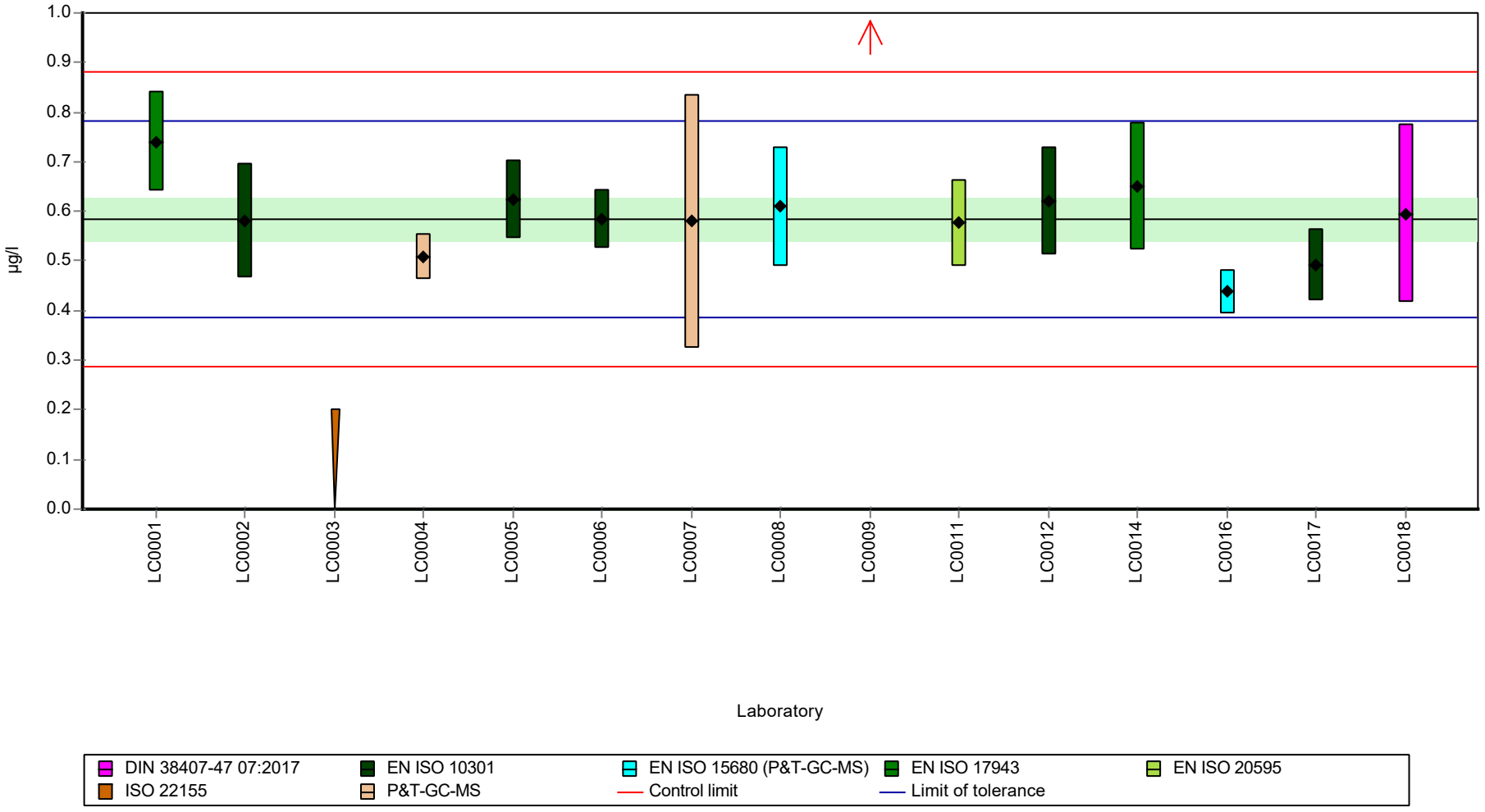
	all results	w ithout outliers	Unit
Mean ± Cl (99%)	0.635 ± 0.162	0.584 ± 0.0625	µg/l
Minimum	0.438	0.438	µg/l
Maximum	1.29	0.74	µg/l
Standard deviation	0.202	0.0752	µg/l
rel. standard deviation	31.8	12.9	%
n	14	13	-

Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71A, Parameter: Tetrachloroethene

Graphical presentation of results

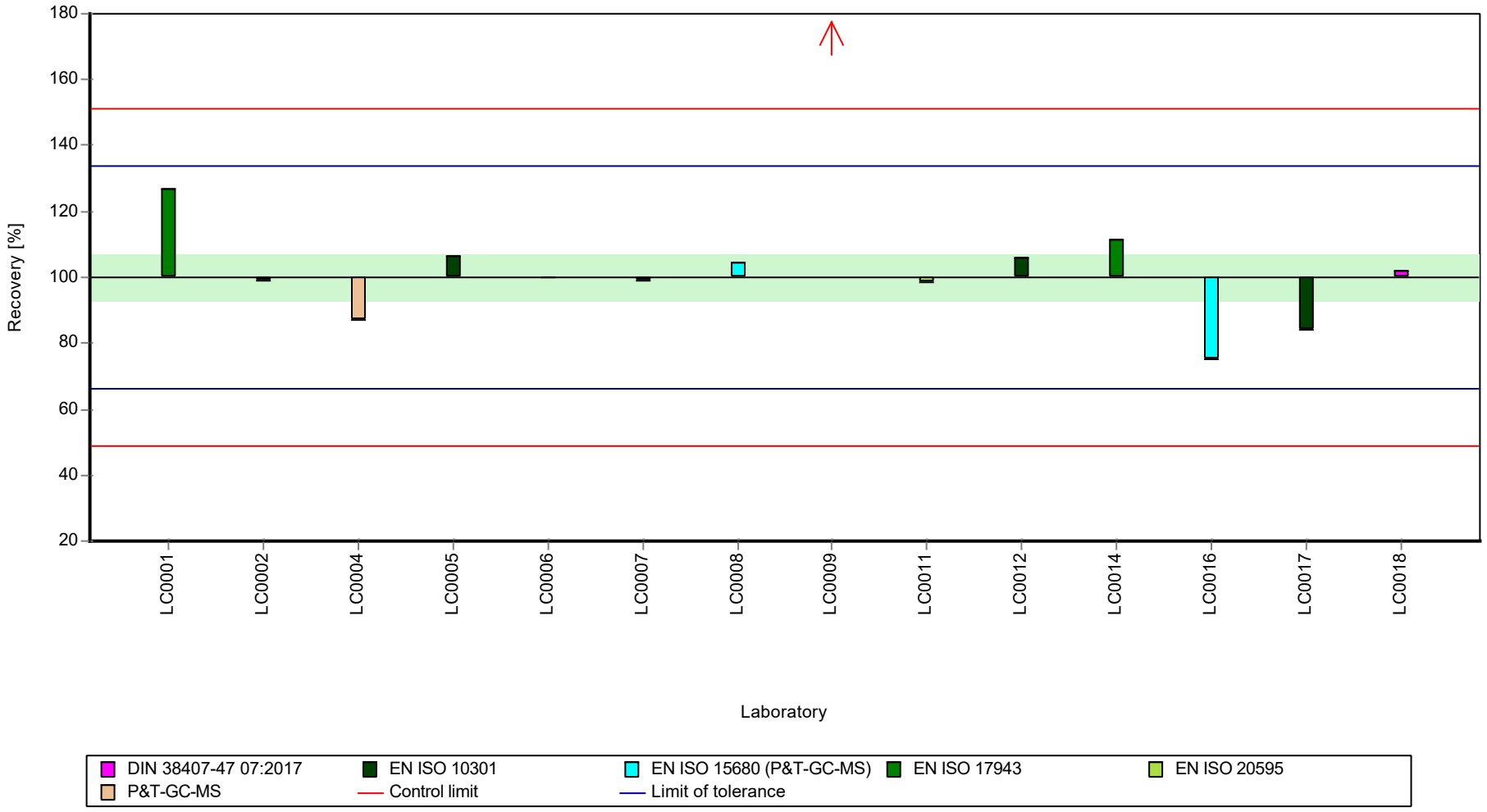
Results



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

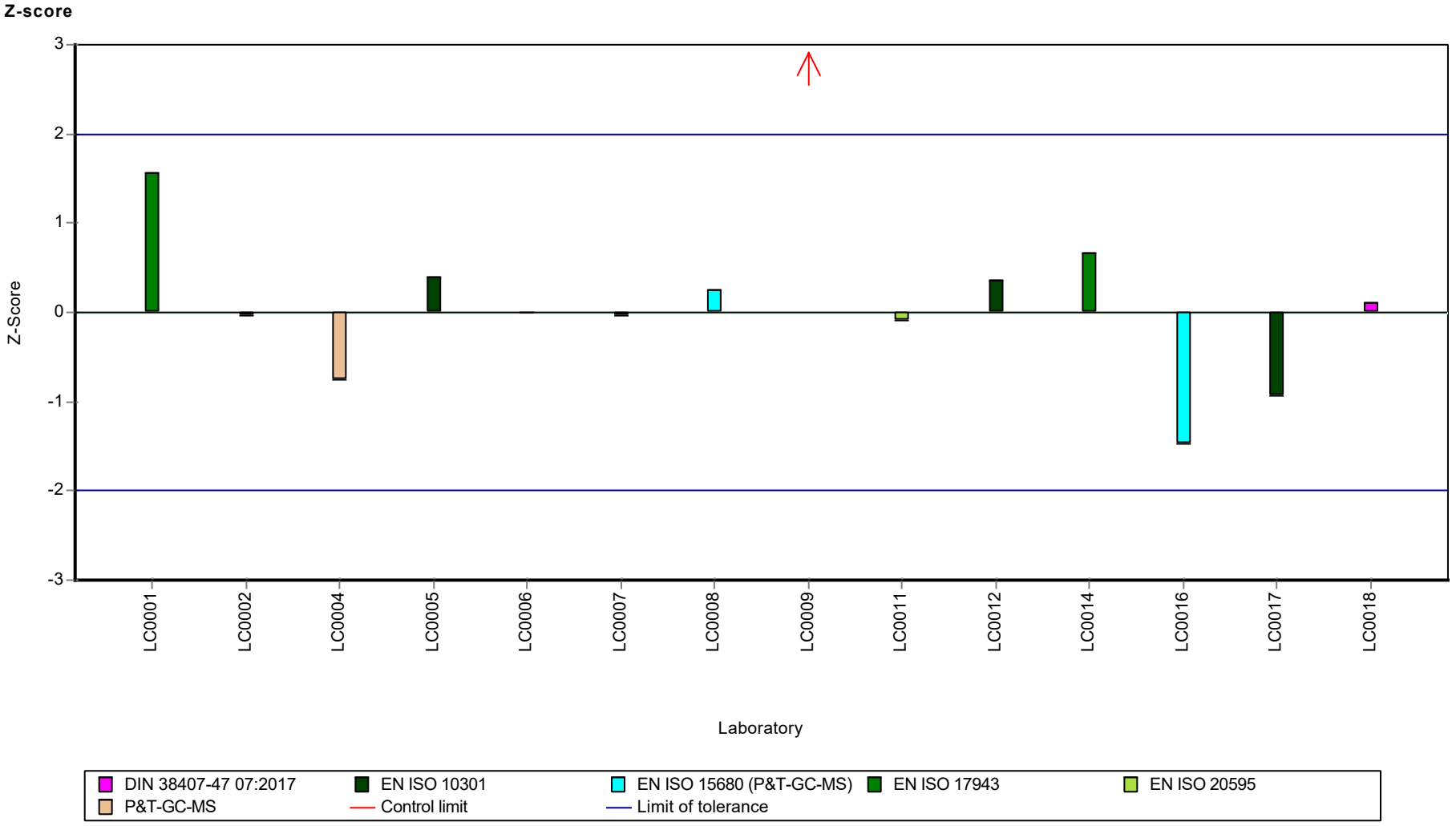
Sample: C71A, Parameter: Tetrachloroethene

Recovery rate



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71A, Parameter: Tetrachloroethene



Parameter oriented report

C71 B

Tetrachloroethene

Unit	µg/l
Assigned value ± U (k=2)	2.95 ± 0.244
Criterion	0.501 (17 %)
Minimum - Maximum	2.2 - 3.76
Control test value ± U (k=2)	3.38 ± 1.01

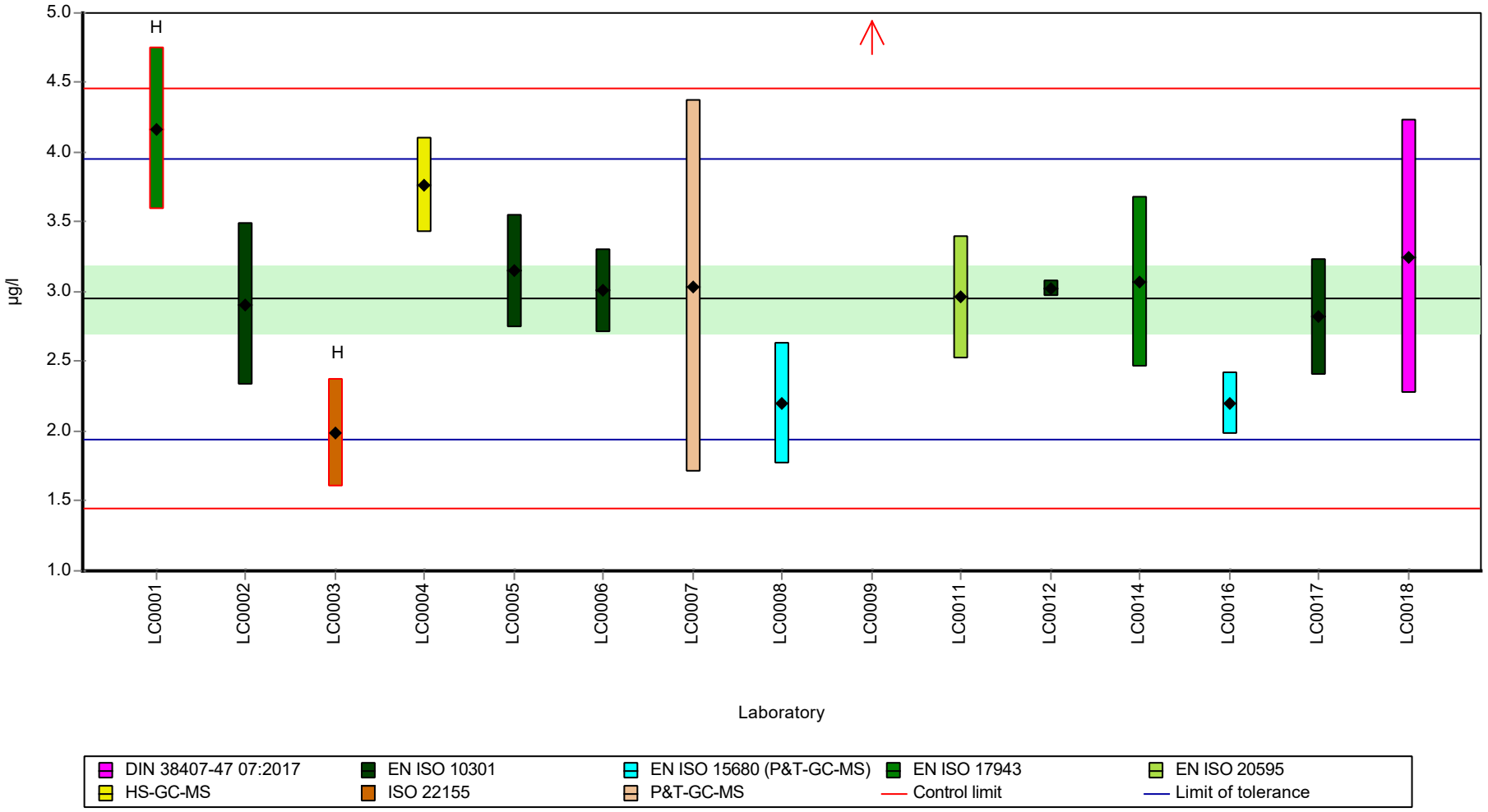
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	4.17	0.58	141	2.43	H
LC0002	2.91	0.582	98.7	-0.08	
LC0003	1.99	0.39	67.5	-1.91	H
LC0004	3.76	0.34	127	1.62	
LC0005	3.15	0.403	107	0.4	
LC0006	3.01	0.3	102	0.12	
LC0007	3.04	1.34	103	0.18	
LC0008	2.2	0.44	74.6	-1.49	
LC0009	6.26	0.2	212	6.6	H
LC0010	-	-	-	-	
LC0011	2.961	0.44415	100	0.02	
LC0012	3.02	0.061	102	0.14	
LC0013	-	-	-	-	
LC0014	3.07	0.61	104	0.24	
LC0015	-	-	-	-	
LC0016	2.2	0.22	74.6	-1.49	
LC0017	2.82	0.42	95.6	-0.26	
LC0018	3.25	0.98	110	0.6	

Characteristics of parameter

	all results	w ithout outliers	Unit
Mean ± Cl (99%)	3.19 ± 0.788	2.95 ± 0.366	µg/l
Minimum	1.99	2.2	µg/l
Maximum	6.26	3.76	µg/l
Standard deviation	1.02	0.422	µg/l
rel. standard deviation	31.9	14.3	%
n	15	12	-

Graphical presentation of results

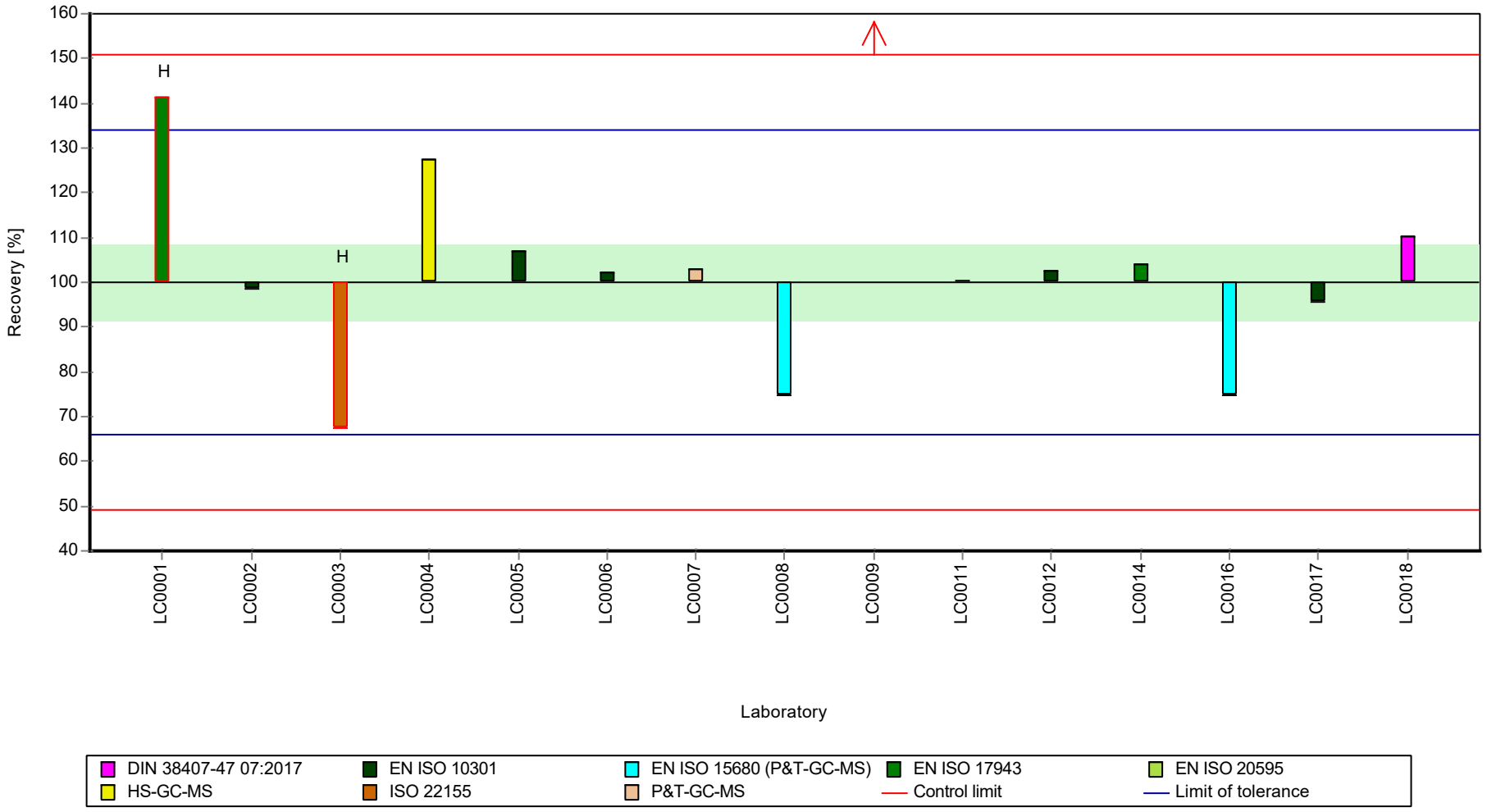
Results



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

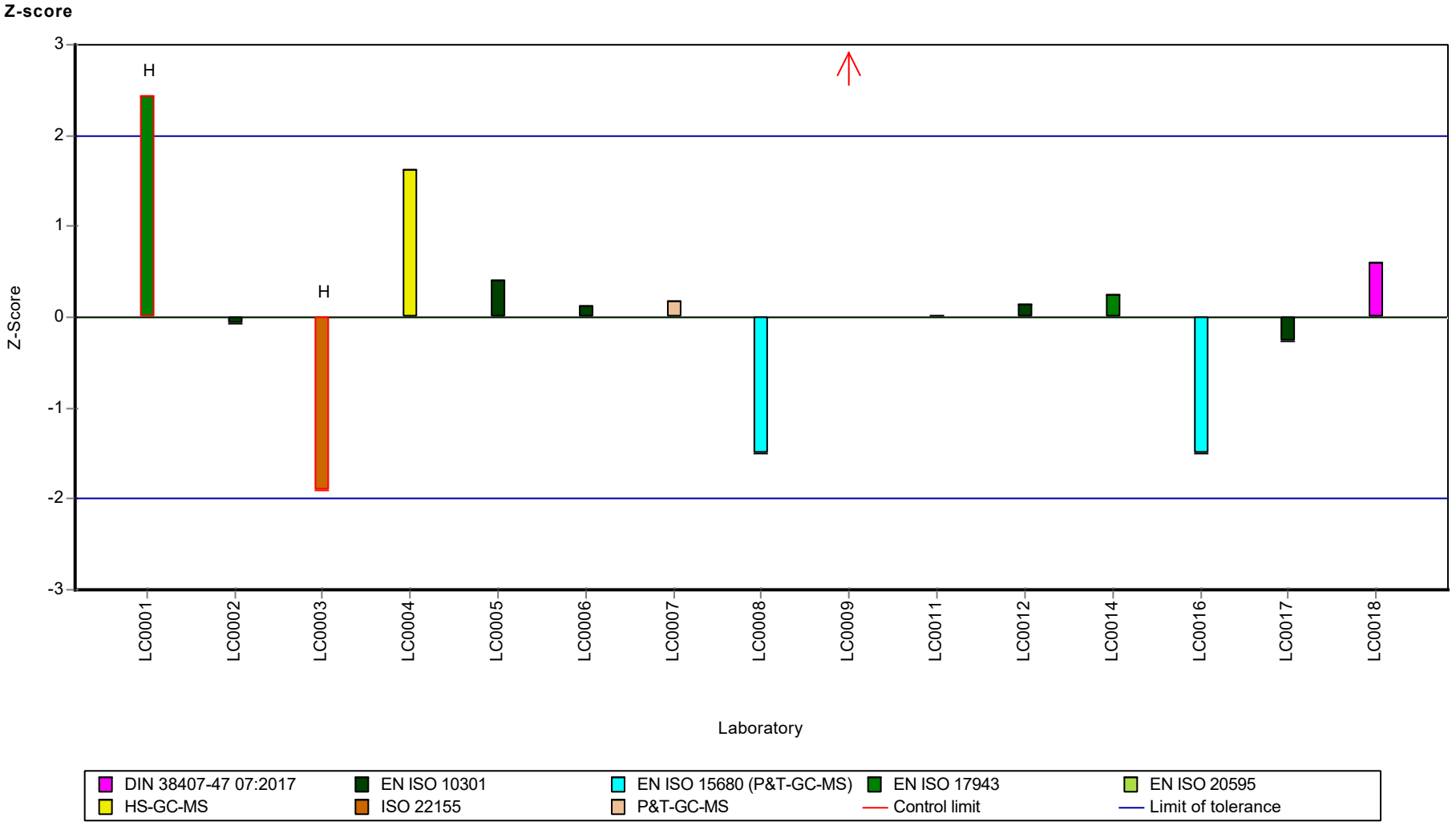
Sample: C71B, Parameter: Tetrachloroethene

Recovery rate



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71B, Parameter: Tetrachloroethene



Parameter oriented report

C71 A

Tetrachloromethane

Unit	µg/l
Assigned value ± U (k=2)	0.489 ± 0.0301
Criterion	0.0783 (16 %)
Minimum - Maximum	0.435 - 0.61
Control test value ± U (k=2)	0.572 ± 0.172

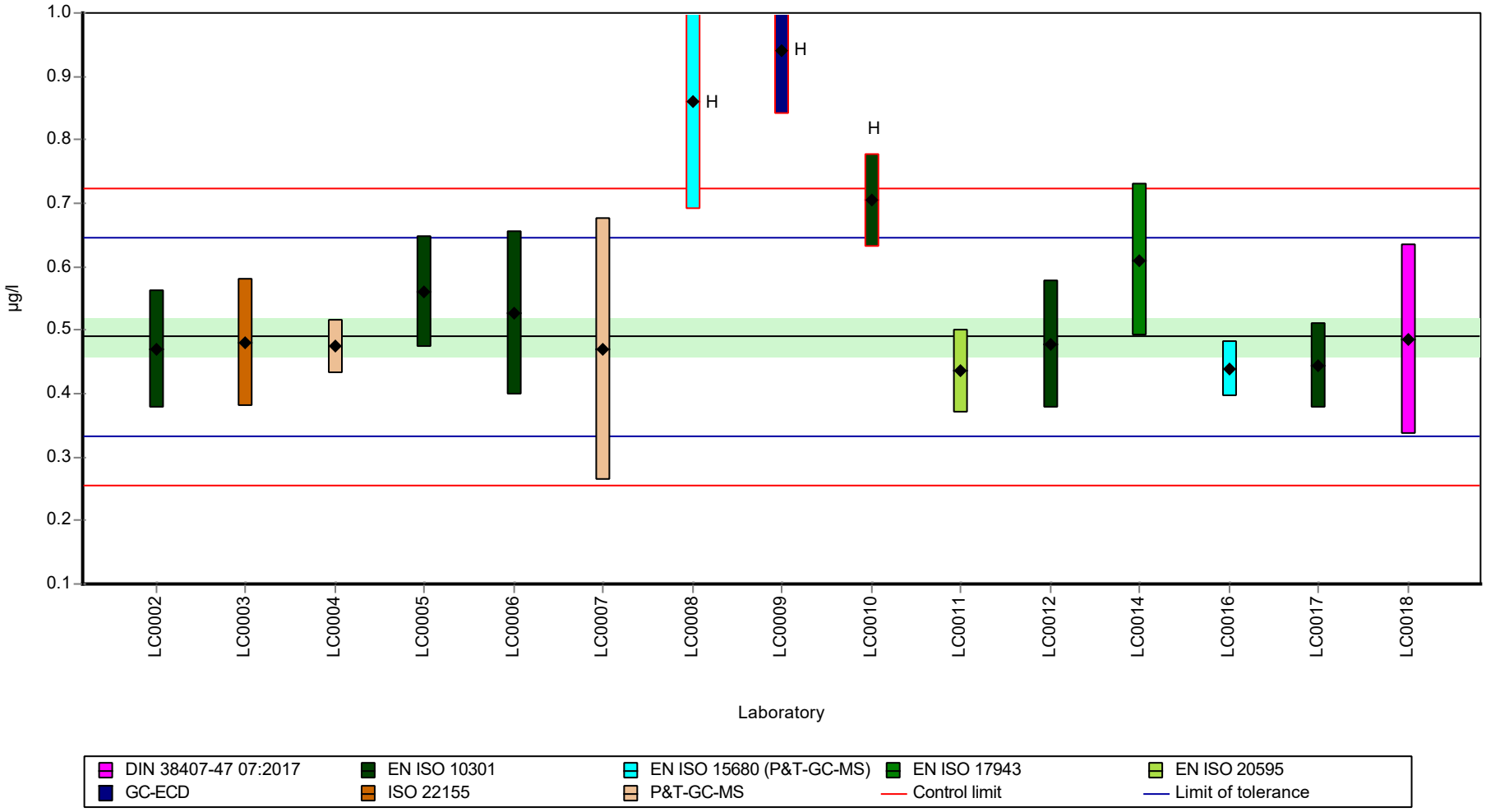
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	-	-	-	-	
LC0002	0.47	0.094	96	-0.25	
LC0003	0.48	0.1	98.1	-0.12	
LC0004	0.474	0.043	96.8	-0.2	
LC0005	0.561	0.0875	115	0.91	
LC0006	0.527	0.13	108	0.48	
LC0007	0.47	0.207	96	-0.25	
LC0008	0.86	0.17	176	4.73	H
LC0009	0.94	0.1	192	5.75	H
LC0010	0.704	0.0745	144	2.74	H
LC0011	0.435	0.06525	88.9	-0.69	
LC0012	0.478	0.101	97.7	-0.15	
LC0013	-	-	-	-	
LC0014	0.61	0.12	125	1.54	
LC0015	-	-	-	-	
LC0016	0.438	0.044	89.5	-0.66	
LC0017	0.445	0.067	90.9	-0.57	
LC0018	0.485	0.15	99.1	-0.06	

Characteristics of parameter

	all results	w ithout outliers	Unit
Mean ± Cl (99%)	0.558 ± 0.122	0.489 ± 0.0451	µg/l
Minimum	0.435	0.435	µg/l
Maximum	0.94	0.61	µg/l
Standard deviation	0.157	0.0521	µg/l
rel. standard deviation	28.1	10.7	%
n	15	12	-

Graphical presentation of results

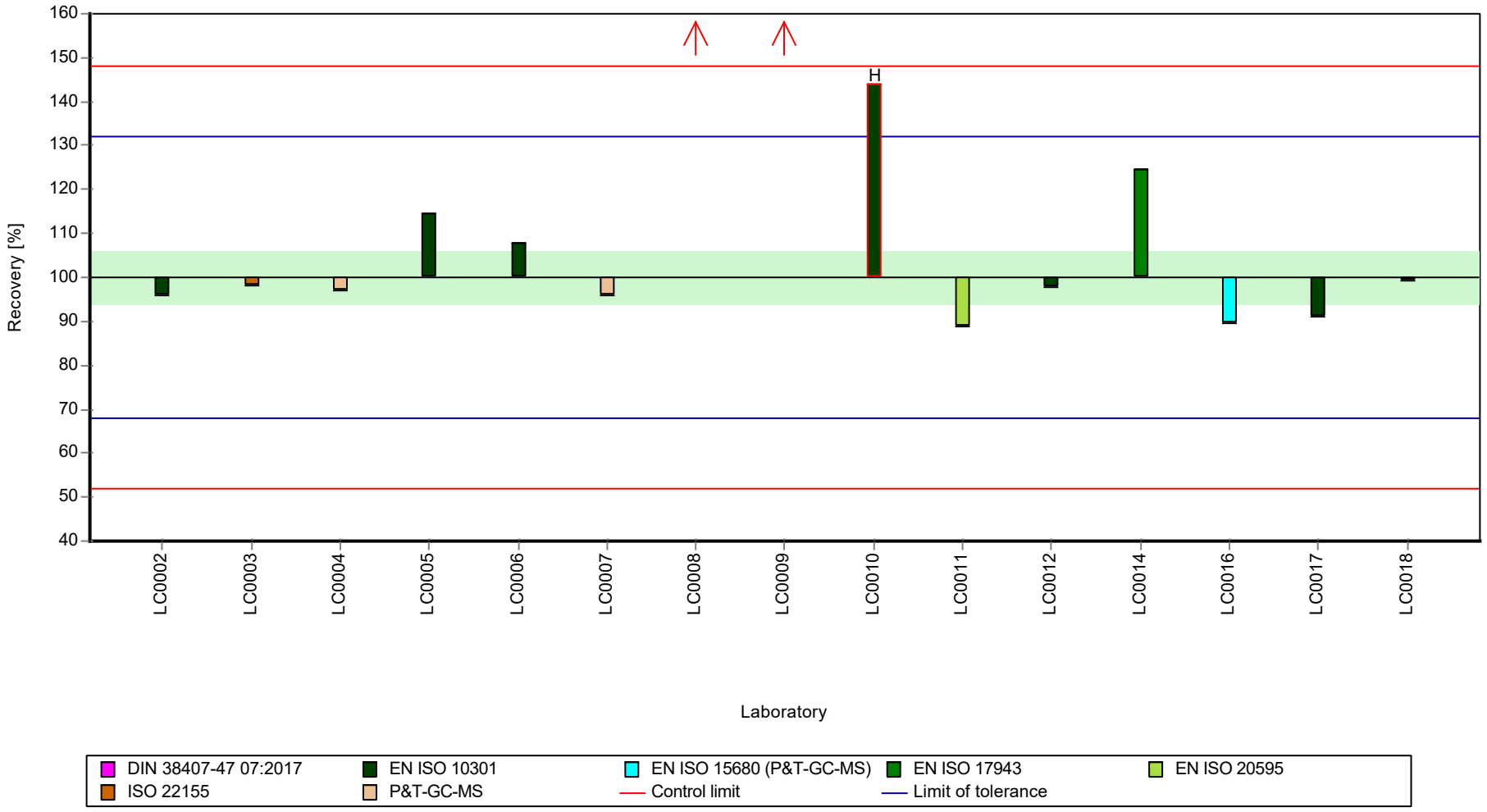
Results



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

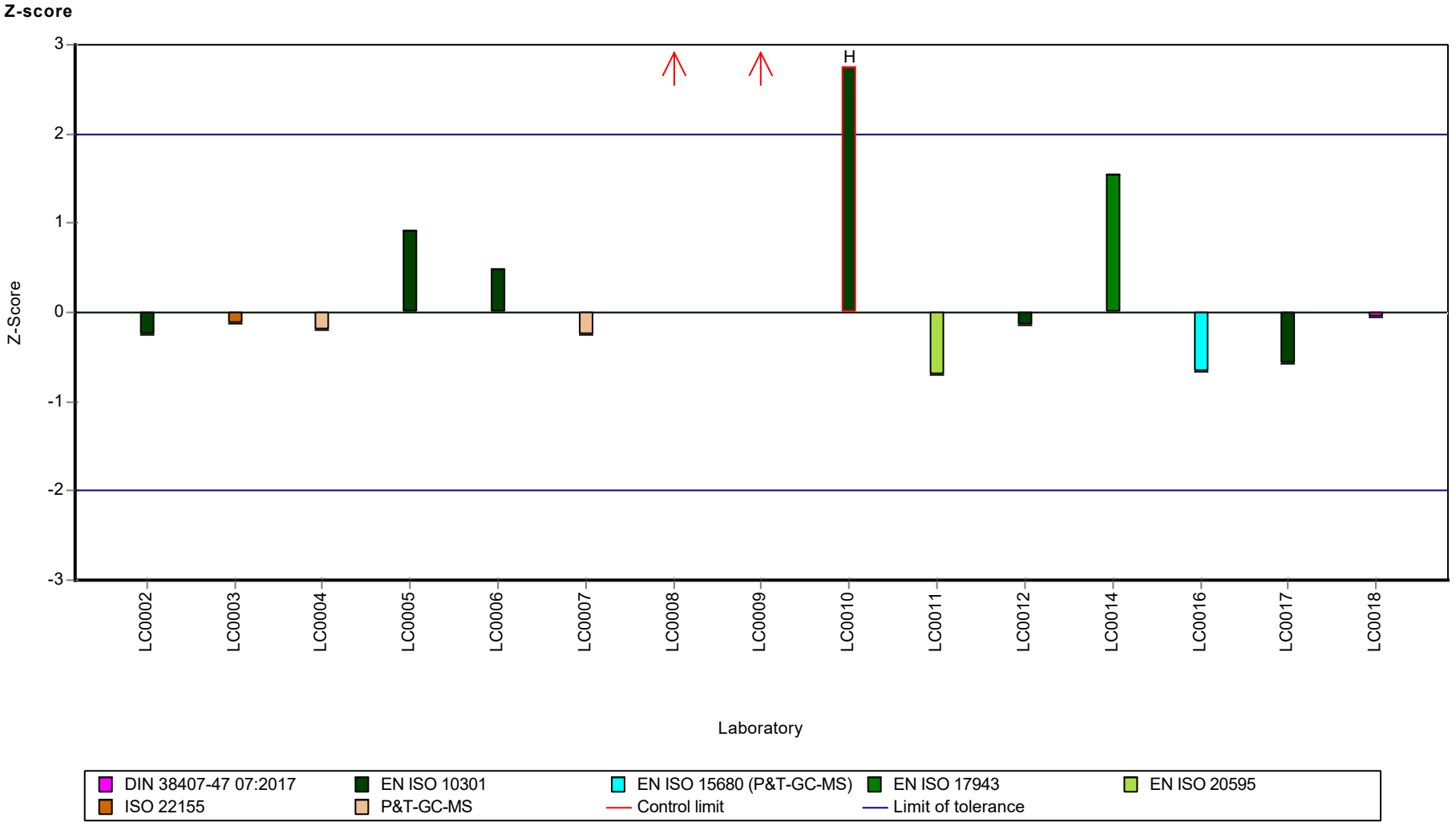
Sample: C71A, Parameter: Tetrachloromethane

Recovery rate



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71A, Parameter: Tetrachloromethane



Parameter oriented report

C71 B

Tetrachloromethane

Unit	µg/l
Assigned value ± U (k=2)	2.73 ± 0.089
Criterion	0.438 (16 %)
Minimum - Maximum	2.39 - 2.99
Control test value ± U (k=2)	3.16 ± 0.947

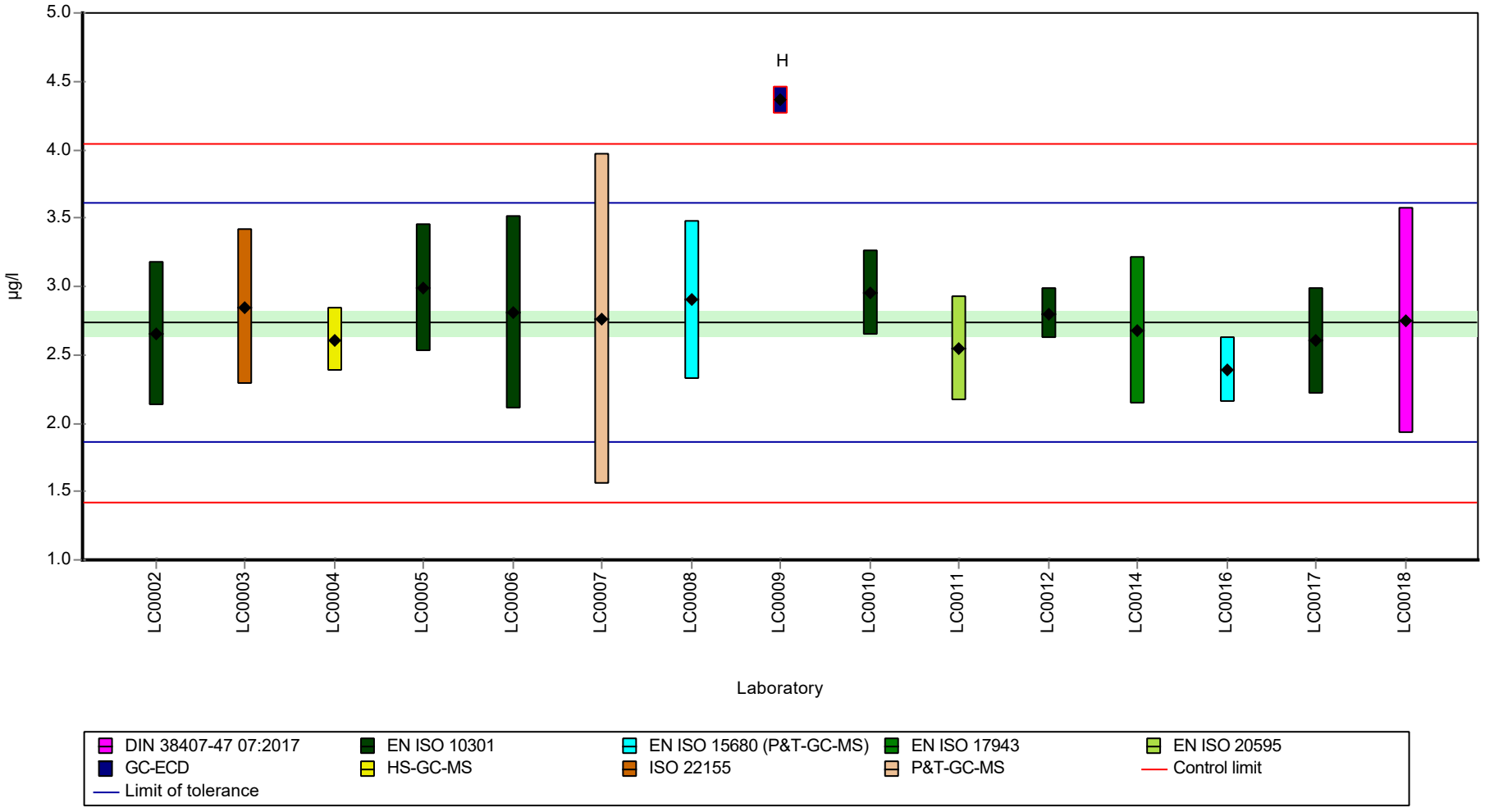
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	-	-	-	-	
LC0002	2.65	0.53	96.9	-0.19	
LC0003	2.85	0.57	104	0.26	
LC0004	2.61	0.23	95.4	-0.29	
LC0005	2.99	0.467	109	0.58	
LC0006	2.81	0.71	103	0.17	
LC0007	2.76	1.21	101	0.06	
LC0008	2.9	0.58	106	0.38	
LC0009	4.36	0.1	159	3.71	H
LC0010	2.95	0.312	108	0.49	
LC0011	2.549	0.38235	93.2	-0.42	
LC0012	2.8	0.187	102	0.15	
LC0013	-	-	-	-	
LC0014	2.68	0.54	98	-0.13	
LC0015	-	-	-	-	
LC0016	2.39	0.24	87.4	-0.79	
LC0017	2.6	0.39	95.1	-0.31	
LC0018	2.75	0.83	101	0.03	

Characteristics of parameter

	all results	w ithout outliers	Unit
Mean ± Cl (99%)	2.84 ± 0.348	2.73 ± 0.133	µg/l
Minimum	2.39	2.39	µg/l
Maximum	4.36	2.99	µg/l
Standard deviation	0.449	0.166	µg/l
rel. standard deviation	15.8	6.09	%
n	15	14	-

Graphical presentation of results

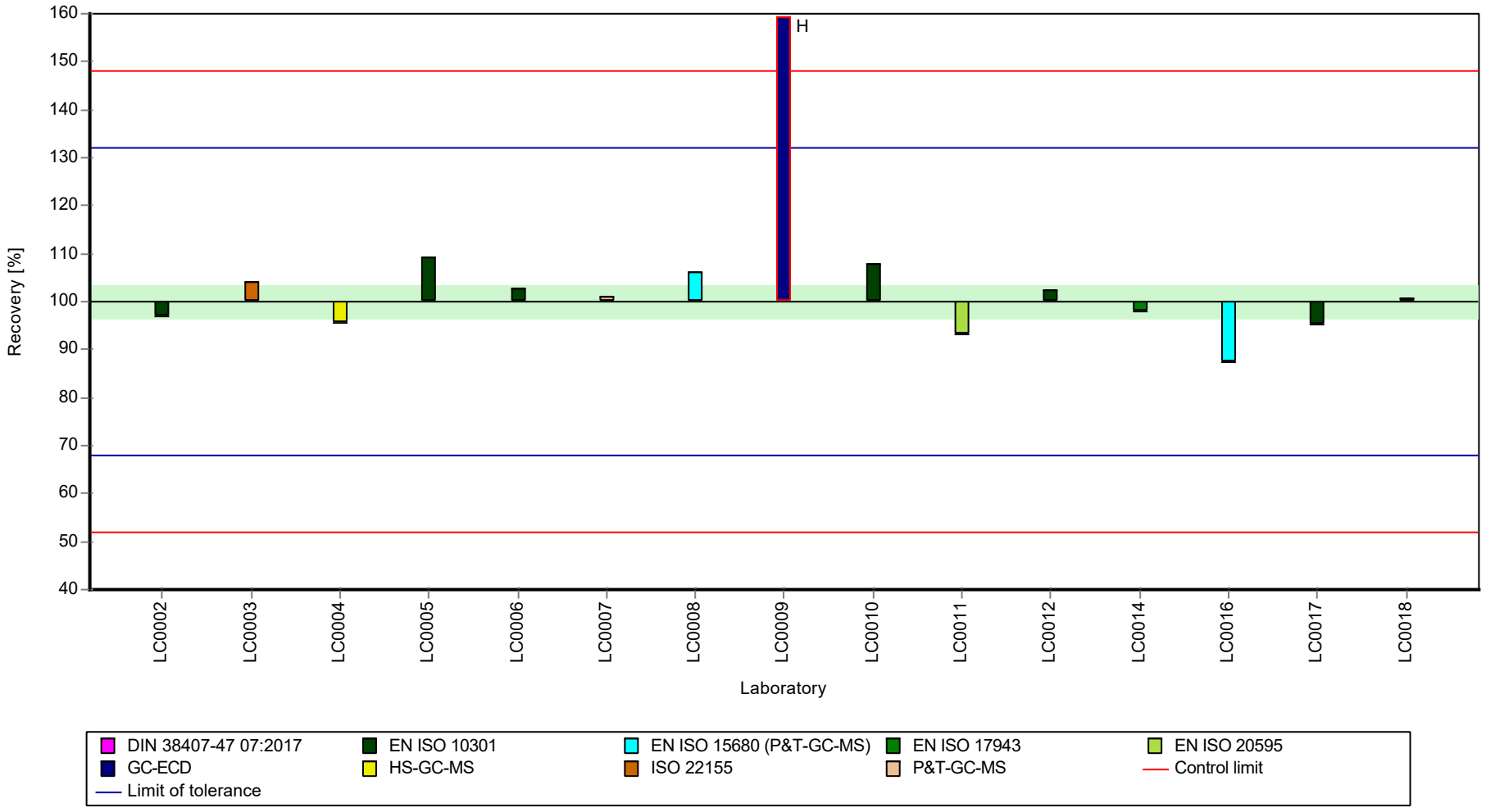
Results



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

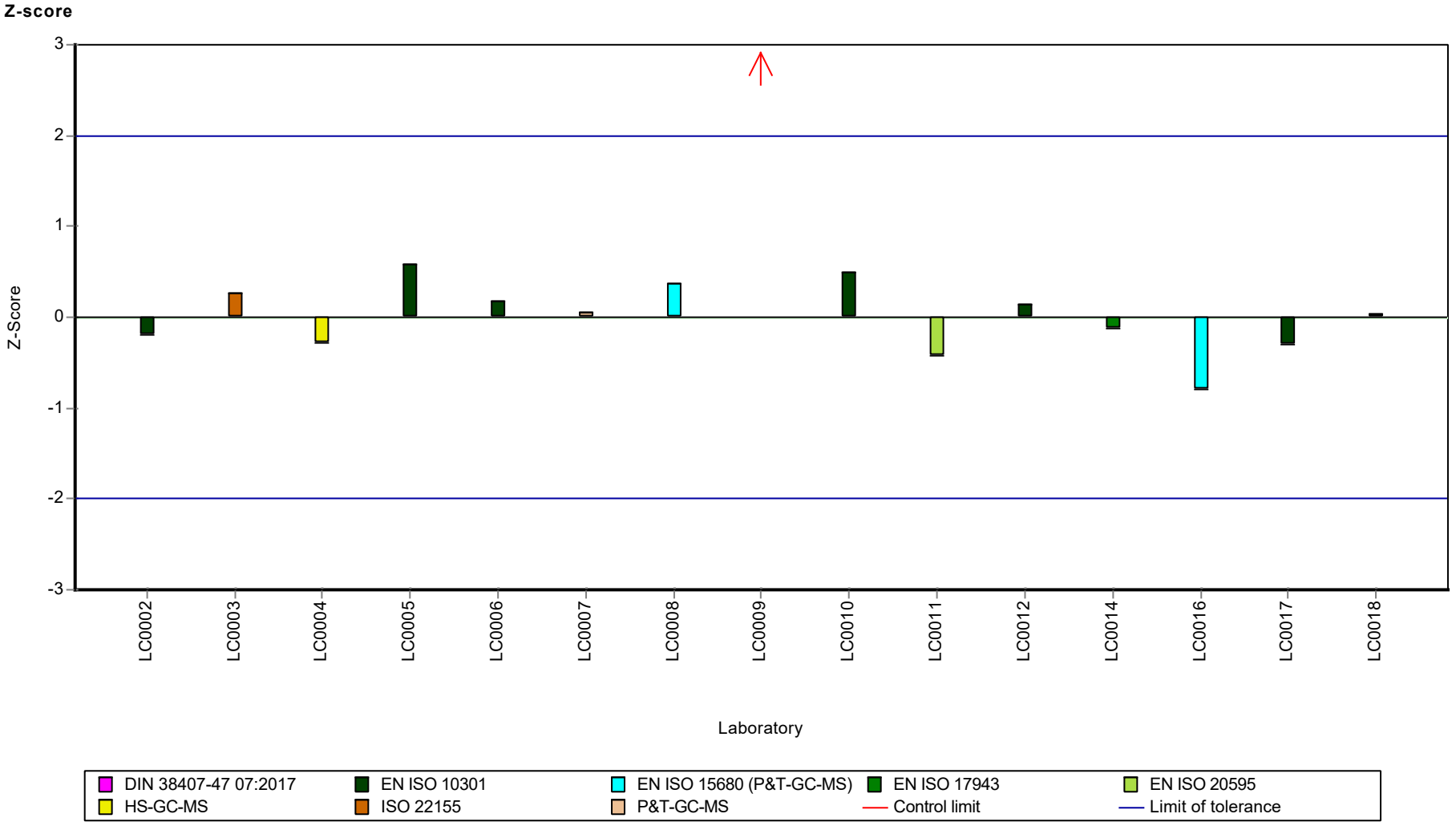
Sample: C71B, Parameter: Tetrachloromethane

Recovery rate



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71B, Parameter: Tetrachloromethane



Parameter oriented report

C71 A

trans-1,2-Dichloroethene

Unit	µg/l
Assigned value ± U (k=2)	0.763 ± 0.0642
Criterion	0.153 (20 %)
Minimum - Maximum	0.6 - 0.929
Control test value ± U (k=2)	0.814 ± 0.244

Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	-	-	-	-	
LC0002	0.77	0.154	101	0.05	
LC0003	0.6	0.12	78.7	-1.07	
LC0004	0.771	0.069	101	0.05	
LC0005	-	-	-	-	
LC0006	0.783	0.16	103	0.13	
LC0007	0.73	0.321	95.7	-0.21	
LC0008	1.3	0.26	170	3.52	H
LC0009	-	-	-	-	
LC0010	-	-	-	-	
LC0011	-	-	-	-	
LC0012	0.929	0.073	122	1.09	
LC0013	-	-	-	-	
LC0014	0.83	0.17	109	0.44	
LC0015	-	-	-	-	
LC0016	0.654	0.065	85.7	-0.71	
LC0017	0.68	0.102	89.2	-0.54	
LC0018	0.88	0.26	115	0.77	

Characteristics of parameter

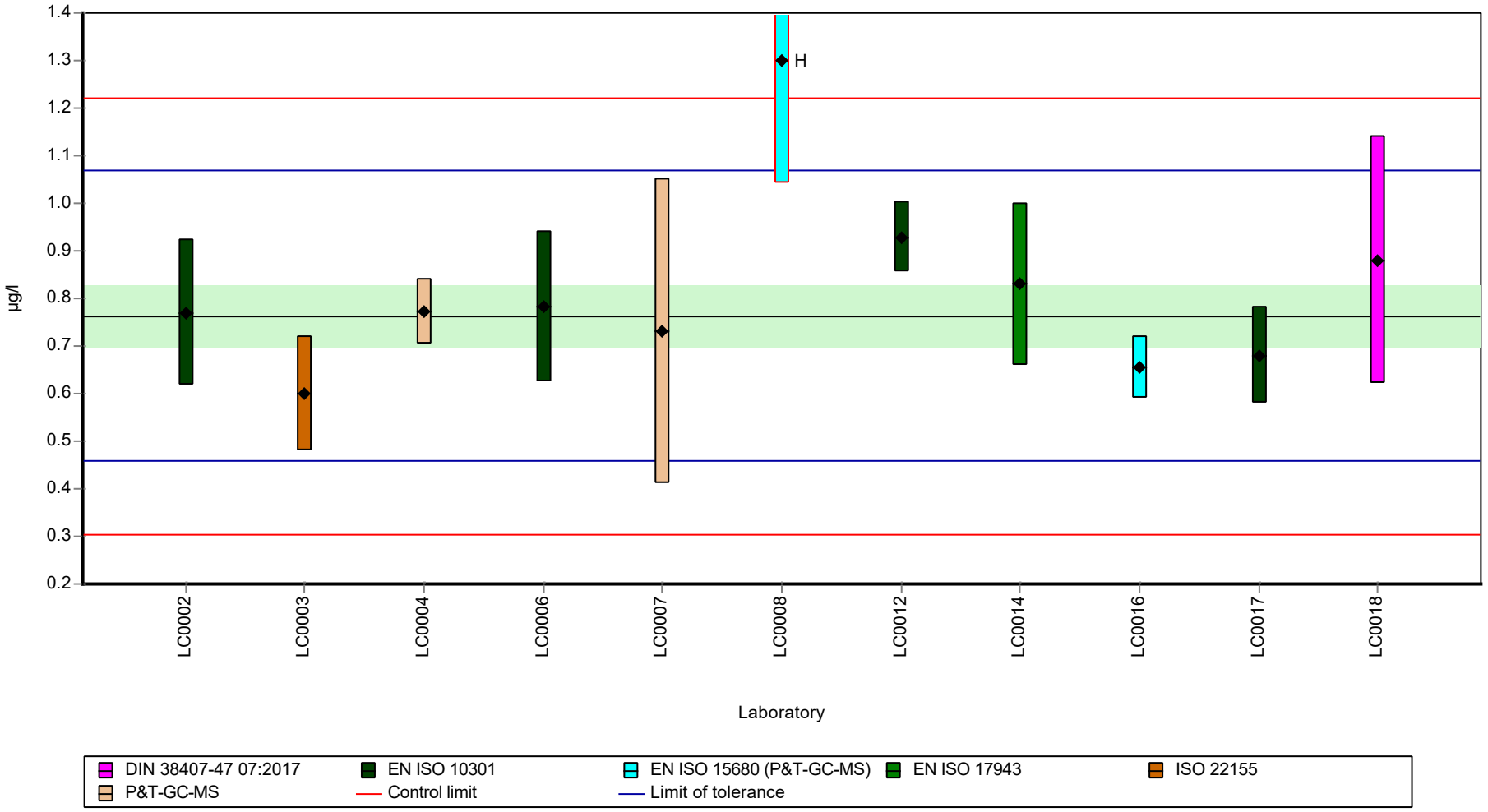
	all results	w ithout outliers	Unit
Mean ± Cl (99%)	0.812 ± 0.17	0.763 ± 0.0963	µg/l
Minimum	0.6	0.6	µg/l
Maximum	1.3	0.929	µg/l
Standard deviation	0.188	0.101	µg/l
rel. standard deviation	23.2	13.3	%
n	11	10	-

Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71A, Parameter: trans-1,2-Dichloroethene

Graphical presentation of results

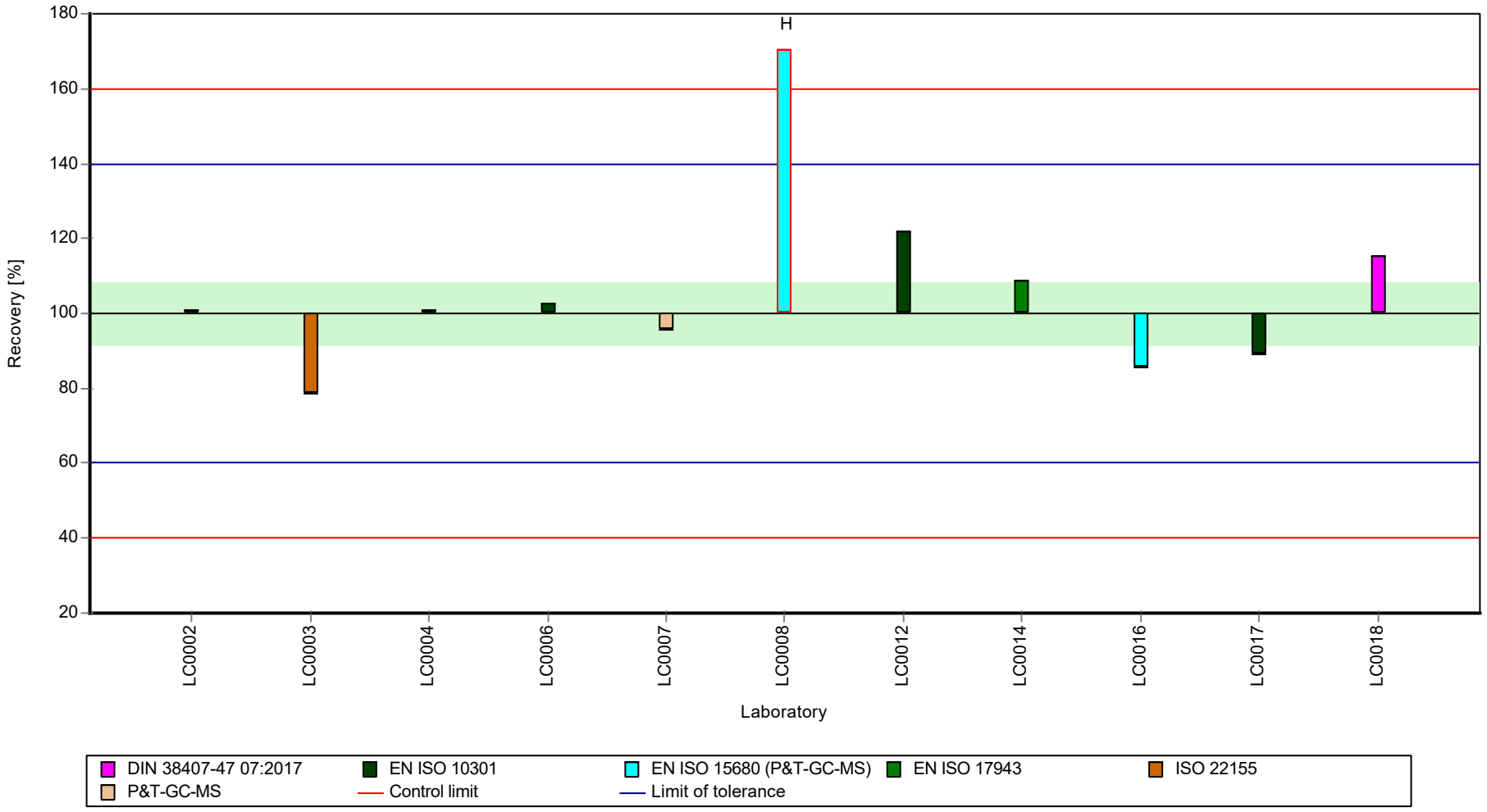
Results



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

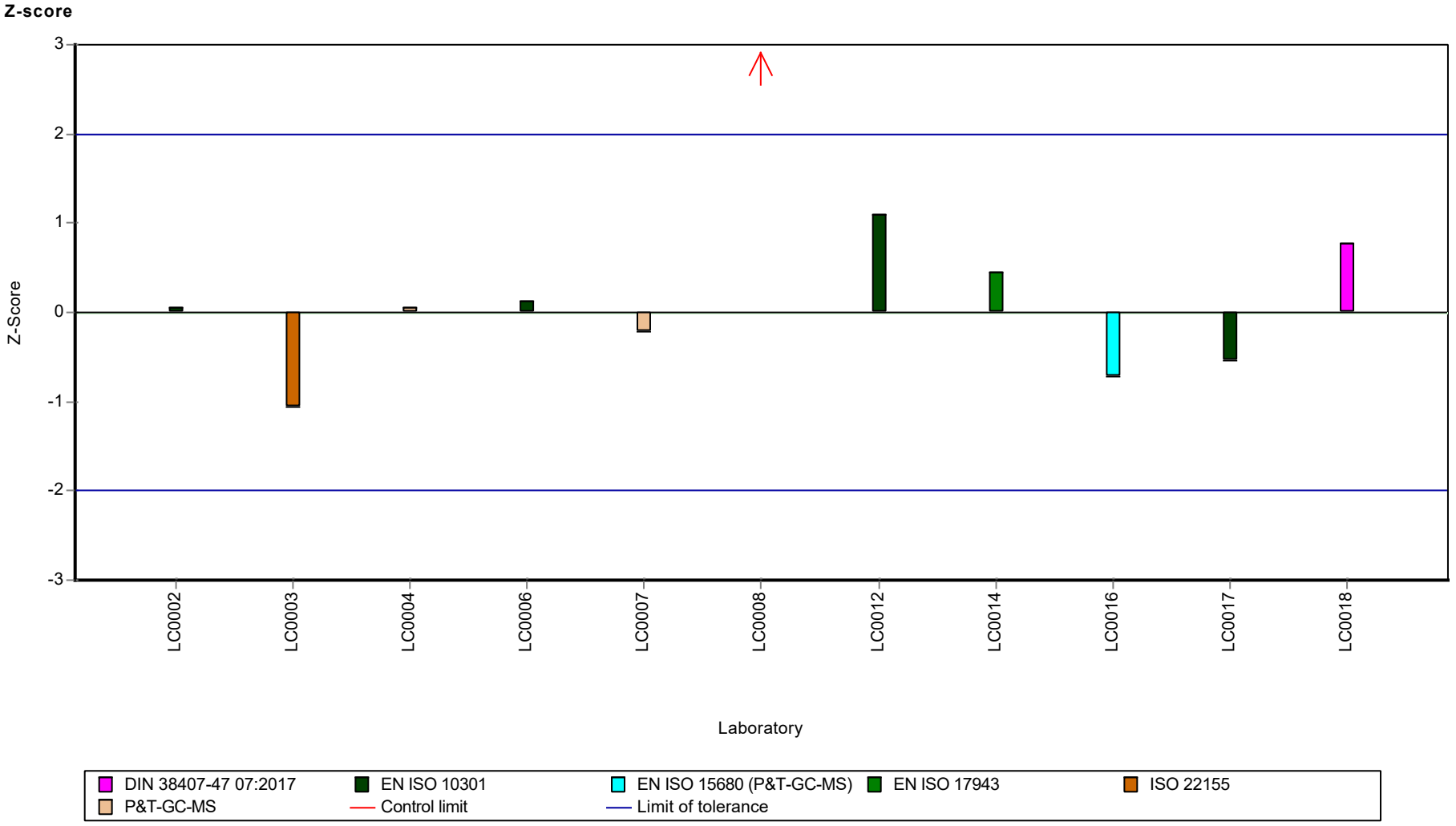
Sample: C71A, Parameter: trans-1,2-Dichloroethene

Recovery rate



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71A, Parameter: trans-1,2-Dichloroethene



Parameter oriented report

C71 B

trans-1,2-Dichloroethene

Unit	µg/l
Assigned value ± U (k=2)	4.04 ± 0.186
Criterion	0.808 (20 %)
Minimum - Maximum	3.46 - 4.6
Control test value ± U (k=2)	4.18 ± 1.25

Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	-	-	-	-	
LC0002	4	0.8	99	-0.05	
LC0003	4.04	0.8	100	0.00	
LC0004	4.19	0.38	104	0.18	
LC0005	-	-	-	-	
LC0006	4.04	0.81	100	0.00	
LC0007	4.12	1.81	102	0.1	
LC0008	4.3	0.86	106	0.32	
LC0009	-	-	-	-	
LC0010	-	-	-	-	
LC0011	-	-	-	-	
LC0012	4.21	0.086	104	0.21	
LC0013	-	-	-	-	
LC0014	3.77	0.75	93.3	-0.34	
LC0015	-	-	-	-	
LC0016	3.46	0.35	85.6	-0.72	
LC0017	3.72	0.56	92.1	-0.4	
LC0018	4.6	1.4	114	0.69	

Characteristics of parameter

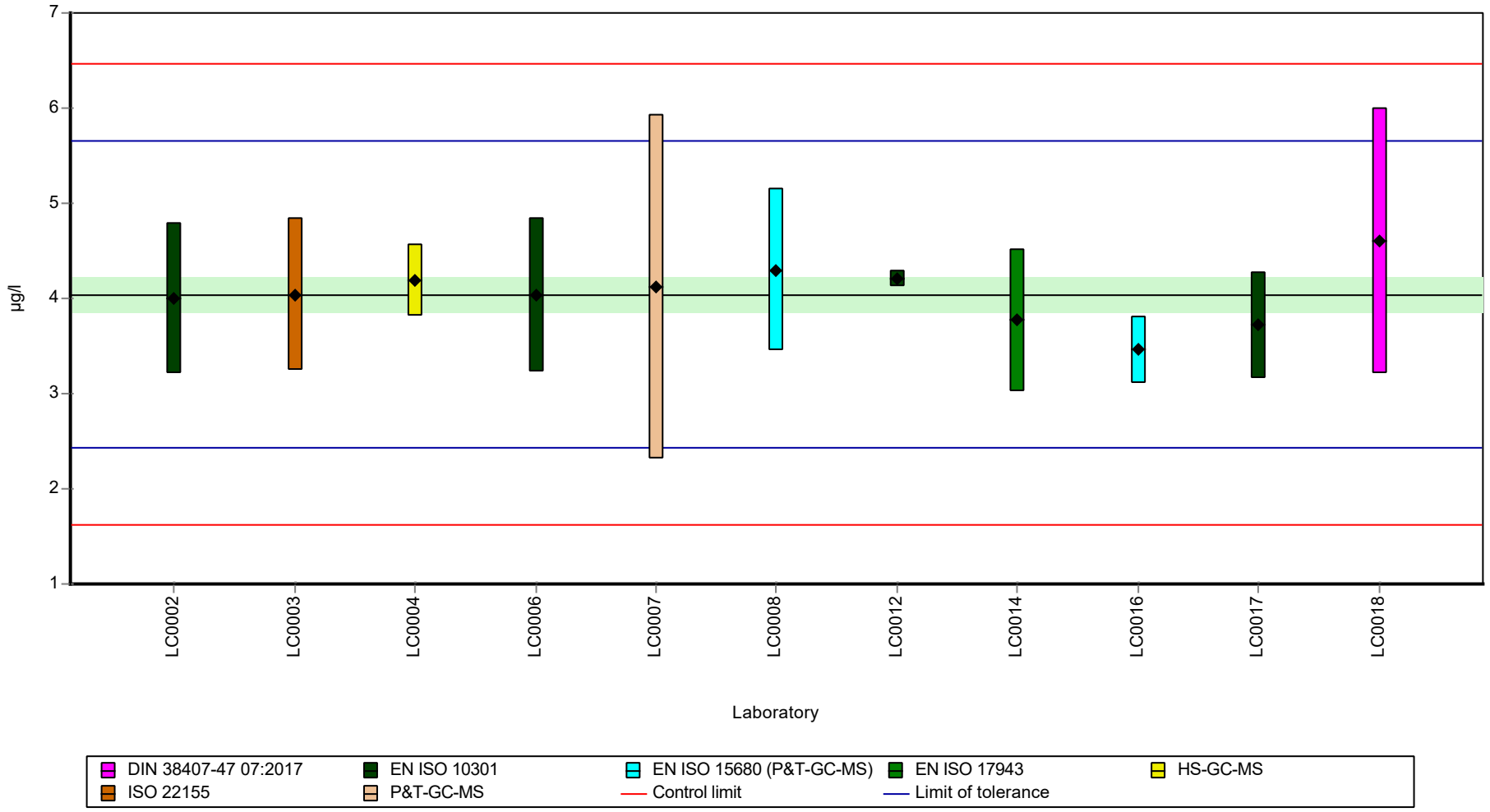
	all results	w ithout outliers	Unit
Mean ± Cl (99%)	4.04 ± 0.279	4.04 ± 0.279	µg/l
Minimum	3.46	3.46	µg/l
Maximum	4.6	4.6	µg/l
Standard deviation	0.309	0.309	µg/l
rel. standard deviation	7.64	7.64	%
n	11	11	-

Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71B, Parameter: trans-1,2-Dichloroethene

Graphical presentation of results

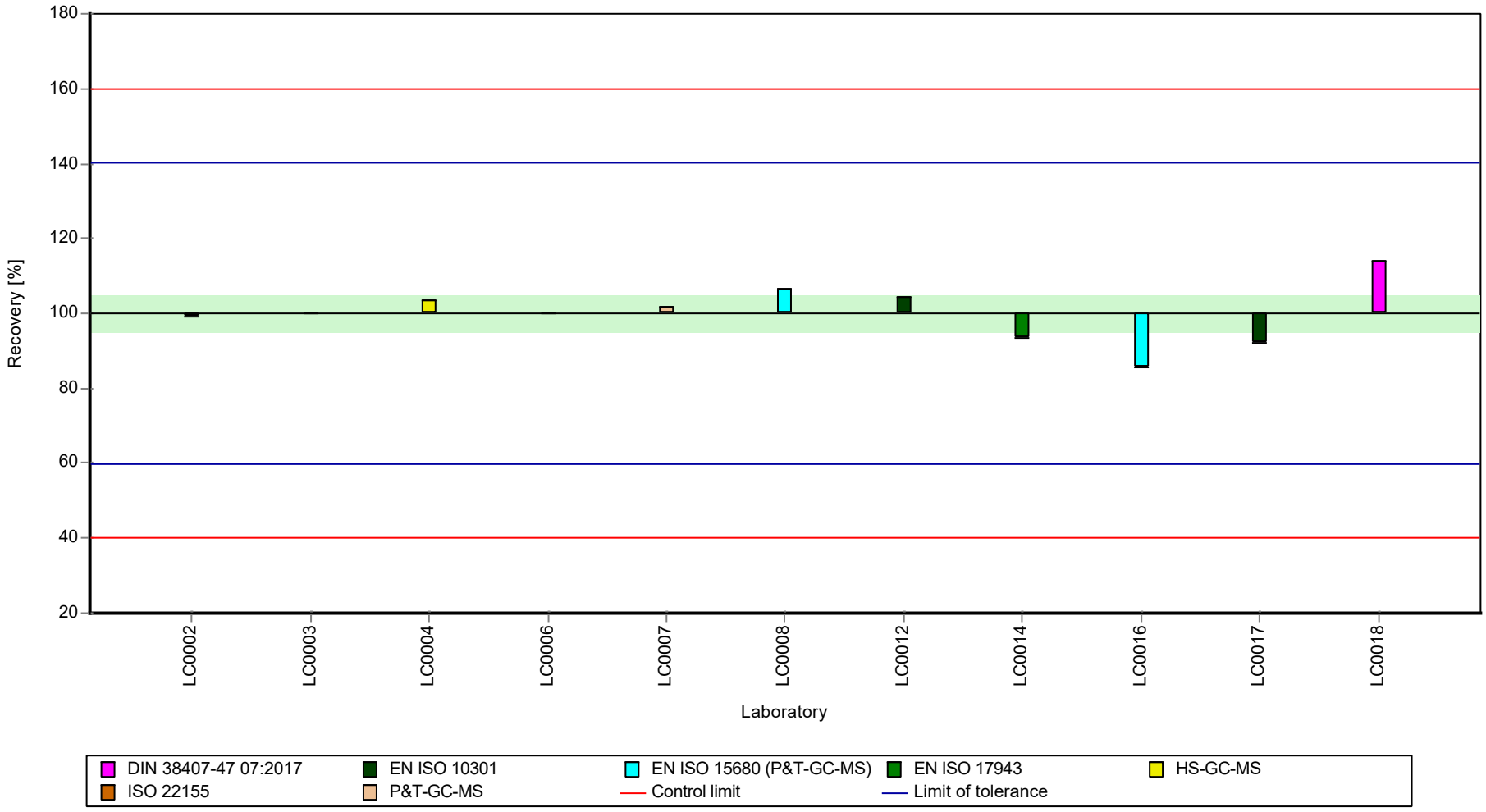
Results



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

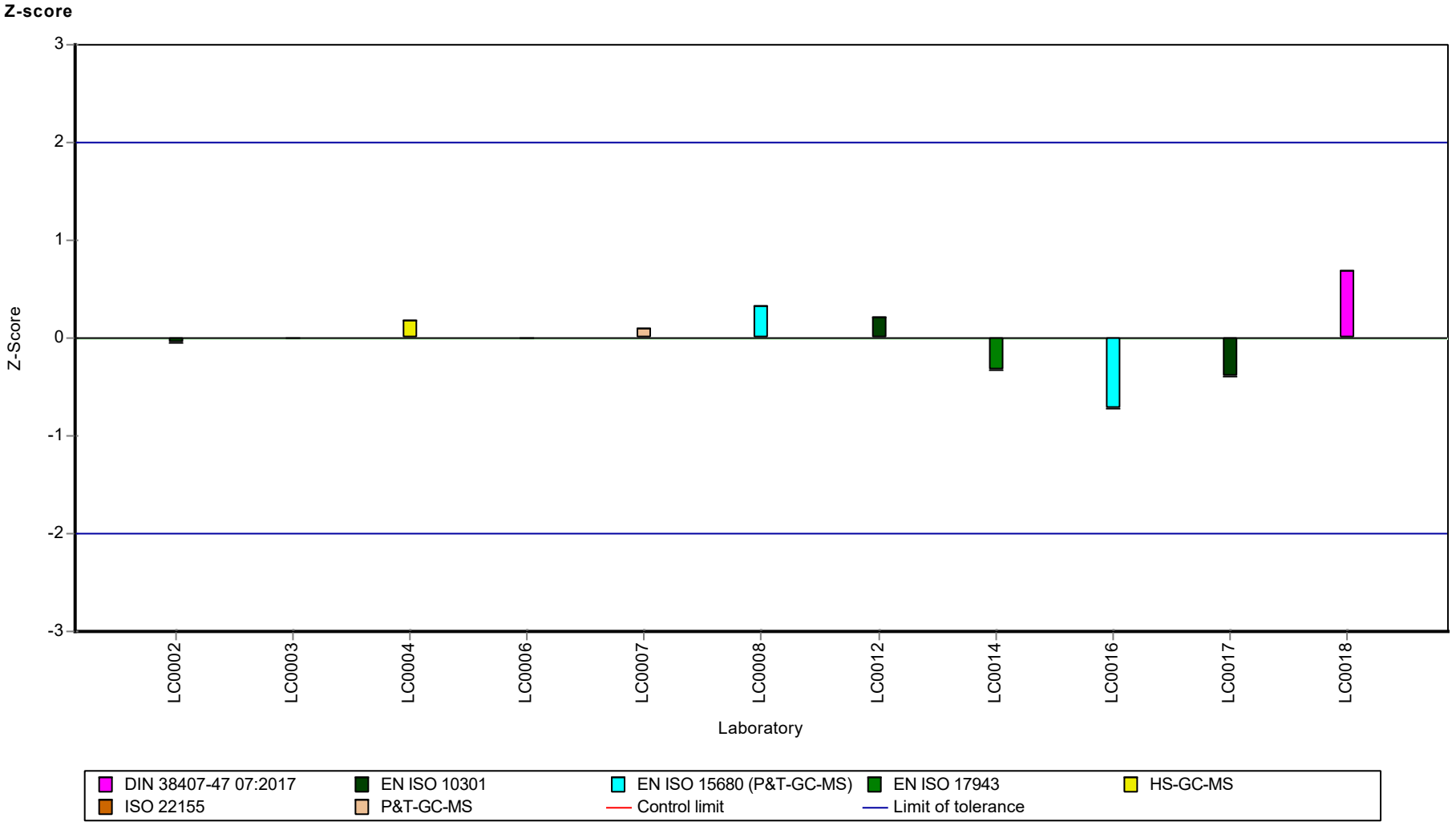
Sample: C71B, Parameter: trans-1,2-Dichloroethene

Recovery rate



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71B, Parameter: trans-1,2-Dichloroethene



Parameter oriented report

C71 A

Tribromomethane

Unit	µg/l
Assigned value ± U (k=2)	1.42 ± 0.0951
Criterion	0.17 (12 %)
Minimum - Maximum	1.03 - 1.85
Control test value ± U (k=2)	1.49 ± 0.446

Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	1.11	0.17	78.4	-1.8	
LC0002	1.54	0.308	109	0.73	
LC0003	1.46	0.29	103	0.26	
LC0004	1.547	0.139	109	0.77	
LC0005	1.32	0.205	93.2	-0.56	
LC0006	1.25	0.31	88.3	-0.98	
LC0007	1.33	0.585	93.9	-0.5	
LC0008	1.5	0.45	106	0.5	
LC0009	1.85	0.6	131	2.56	
LC0010	-	-	-	-	
LC0011	1.404	0.2106	99.2	-0.07	
LC0012	1.44	0.04	102	0.14	
LC0013	-	-	-	-	
LC0014	1.55	0.31	109	0.79	
LC0015	1.4	0.313	98.9	-0.09	
LC0016	1.03	0.1	72.8	-2.27	
LC0017	1.42	0.21	100	0.03	
LC0018	1.5	0.45	106	0.5	

Characteristics of parameter

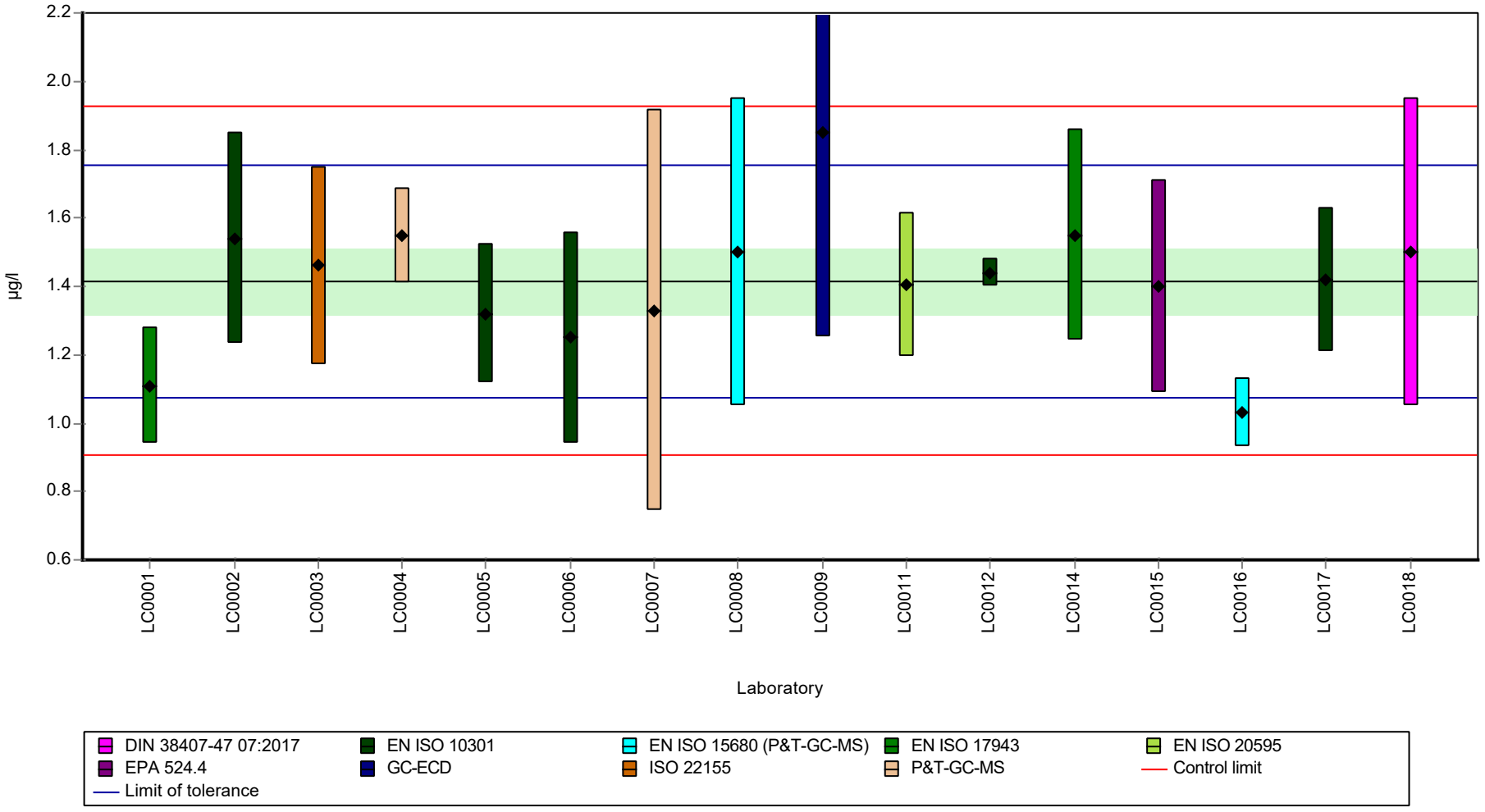
	all results	w ithout outliers	Unit
Mean ± Cl (99%)	1.42 ± 0.143	1.42 ± 0.143	µg/l
Minimum	1.03	1.03	µg/l
Maximum	1.85	1.85	µg/l
Standard deviation	0.19	0.19	µg/l
rel. standard deviation	13.4	13.4	%
n	16	16	-

Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71A, Parameter: Tribromomethane

Graphical presentation of results

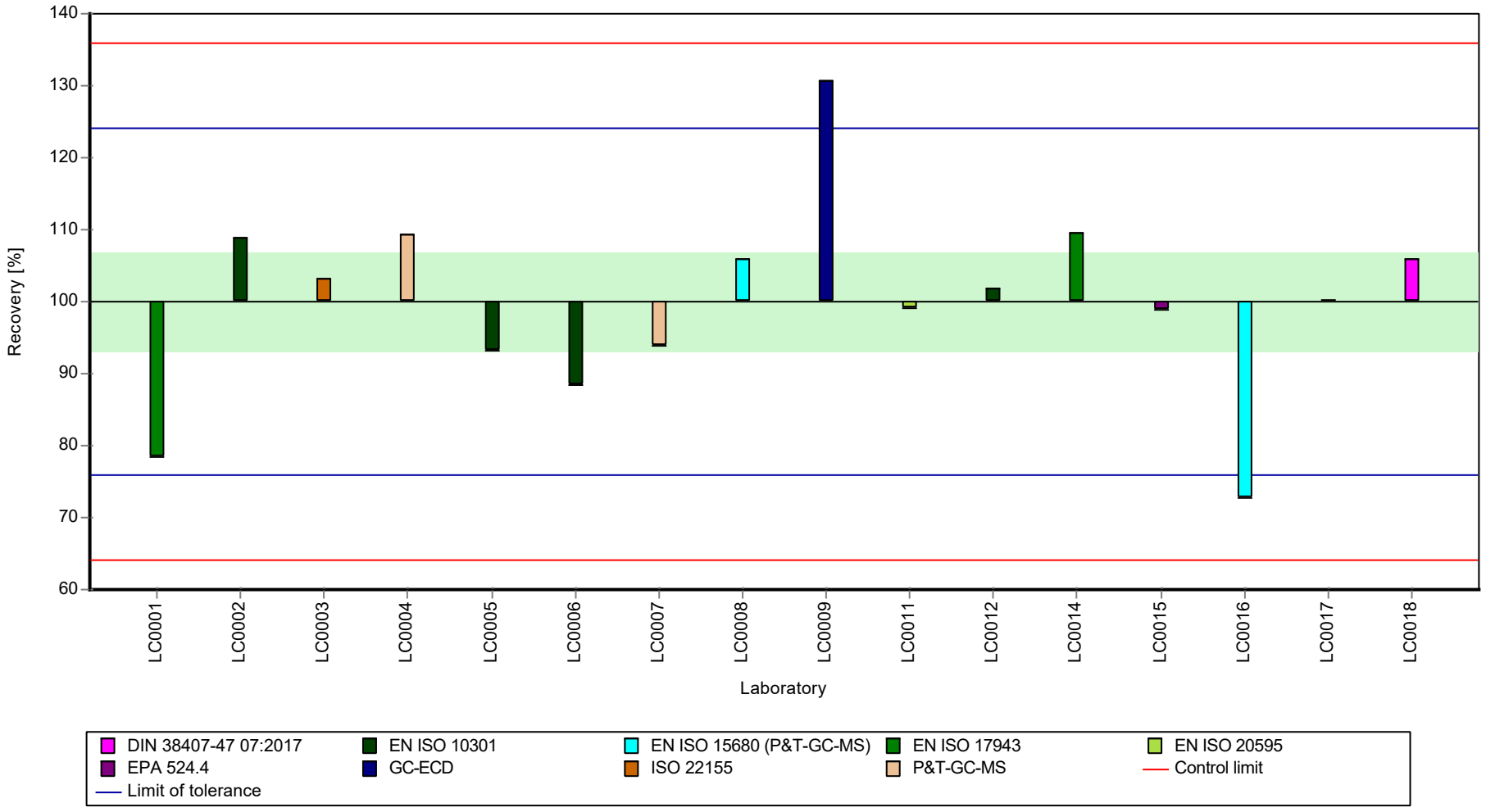
Results



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

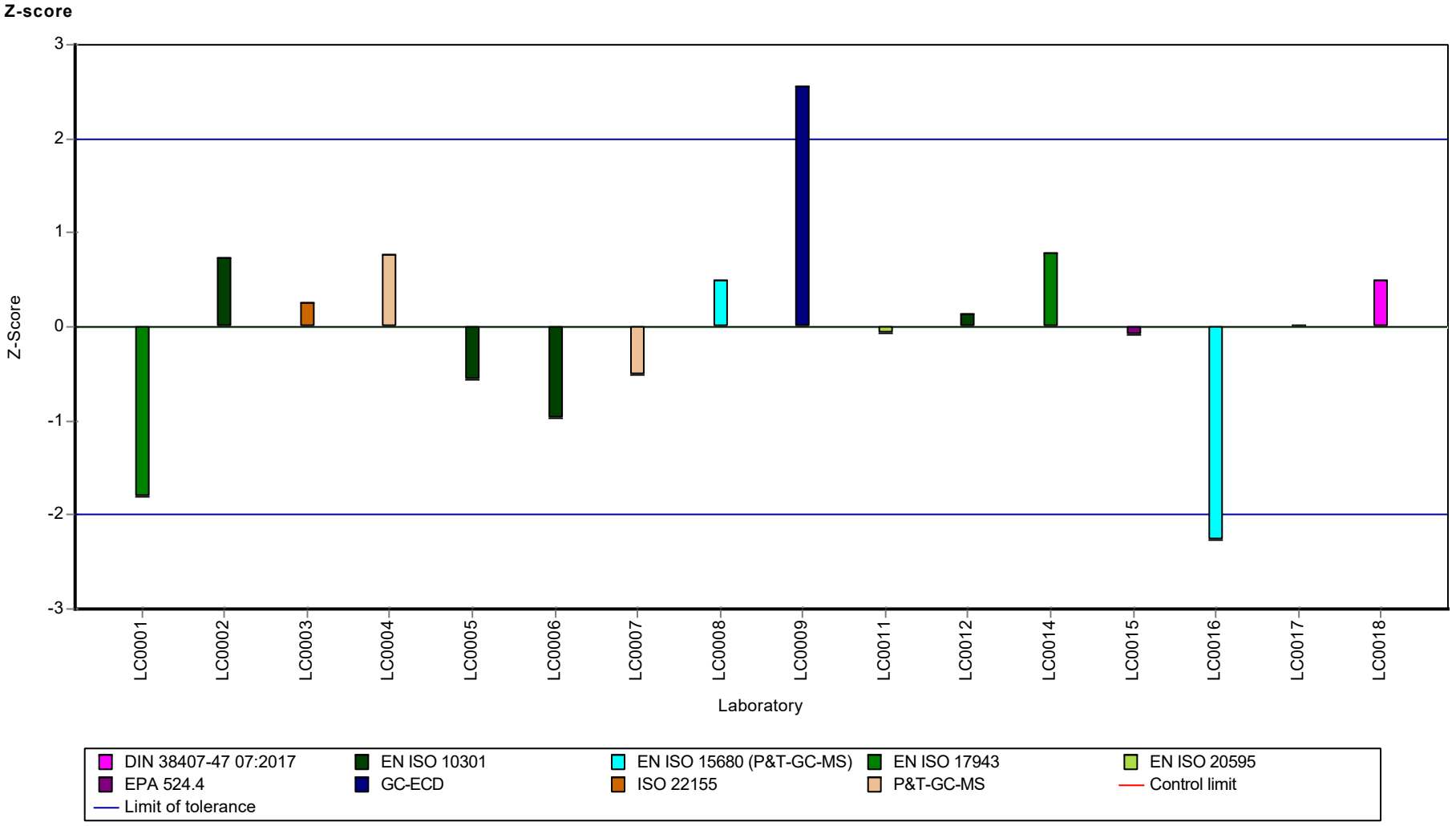
Sample: C71A, Parameter: Tribromomethane

Recovery rate



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71A, Parameter: Tribromomethane



Parameter oriented report

C71 B

Tribromomethane

Unit	µg/l
Assigned value ± U (k=2)	7.12 ± 0.429
Criterion	0.854 (12 %)
Minimum - Maximum	5.36 - 8.57
Control test value ± U (k=2)	7.61 ± 2.28

Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	6.12	0.95	86	-1.17	
LC0002	7.2	1.44	101	0.09	
LC0003	7.67	1.53	108	0.64	
LC0004	9.82	0.88	138	3.16	H
LC0005	6.85	1.06	96.2	-0.32	
LC0006	6.85	1.7	96.2	-0.32	
LC0007	7.27	3.2	102	0.18	
LC0008	4.7	1.41	66	-2.83	H
LC0009	8.57	0.6	120	1.7	
LC0010	-	-	-	-	
LC0011	8.018	1.2027	113	1.05	
LC0012	6.59	0.095	92.6	-0.62	
LC0013	-	-	-	-	
LC0014	7.53	1.51	106	0.48	
LC0015	6.733	0.527	94.6	-0.45	
LC0016	5.36	0.54	75.3	-2.06	
LC0017	7.27	1.09	102	0.18	
LC0018	7.65	2.3	107	0.62	

Characteristics of parameter

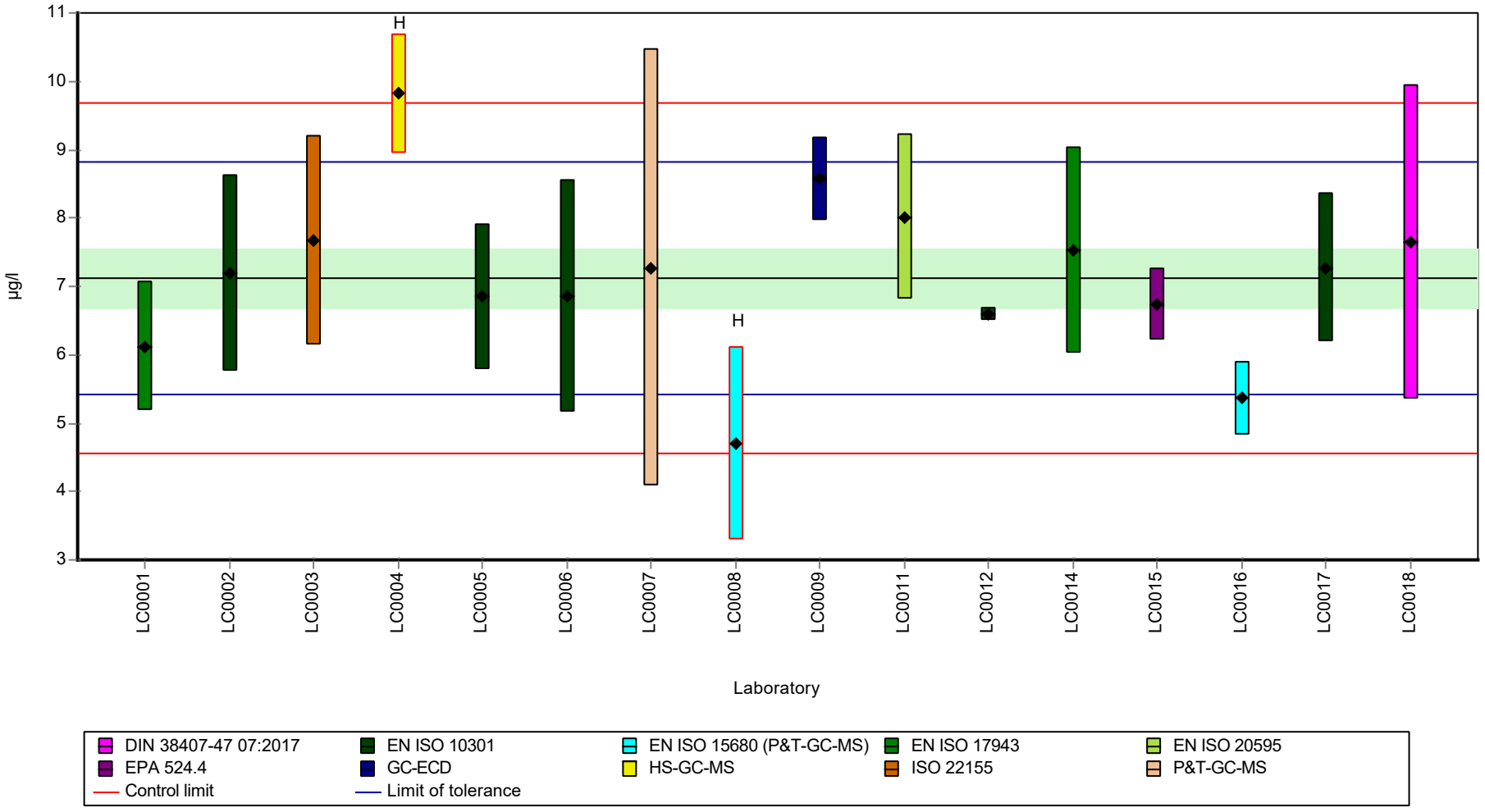
	all results	w ithout outliers	Unit
Mean ± Cl (99%)	7.14 ± 0.898	7.12 ± 0.644	µg/l
Minimum	4.7	5.36	µg/l
Maximum	9.82	8.57	µg/l
Standard deviation	1.2	0.803	µg/l
rel. standard deviation	16.8	11.3	%
n	16	14	-

Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71B, Parameter: Tribromomethane

Graphical presentation of results

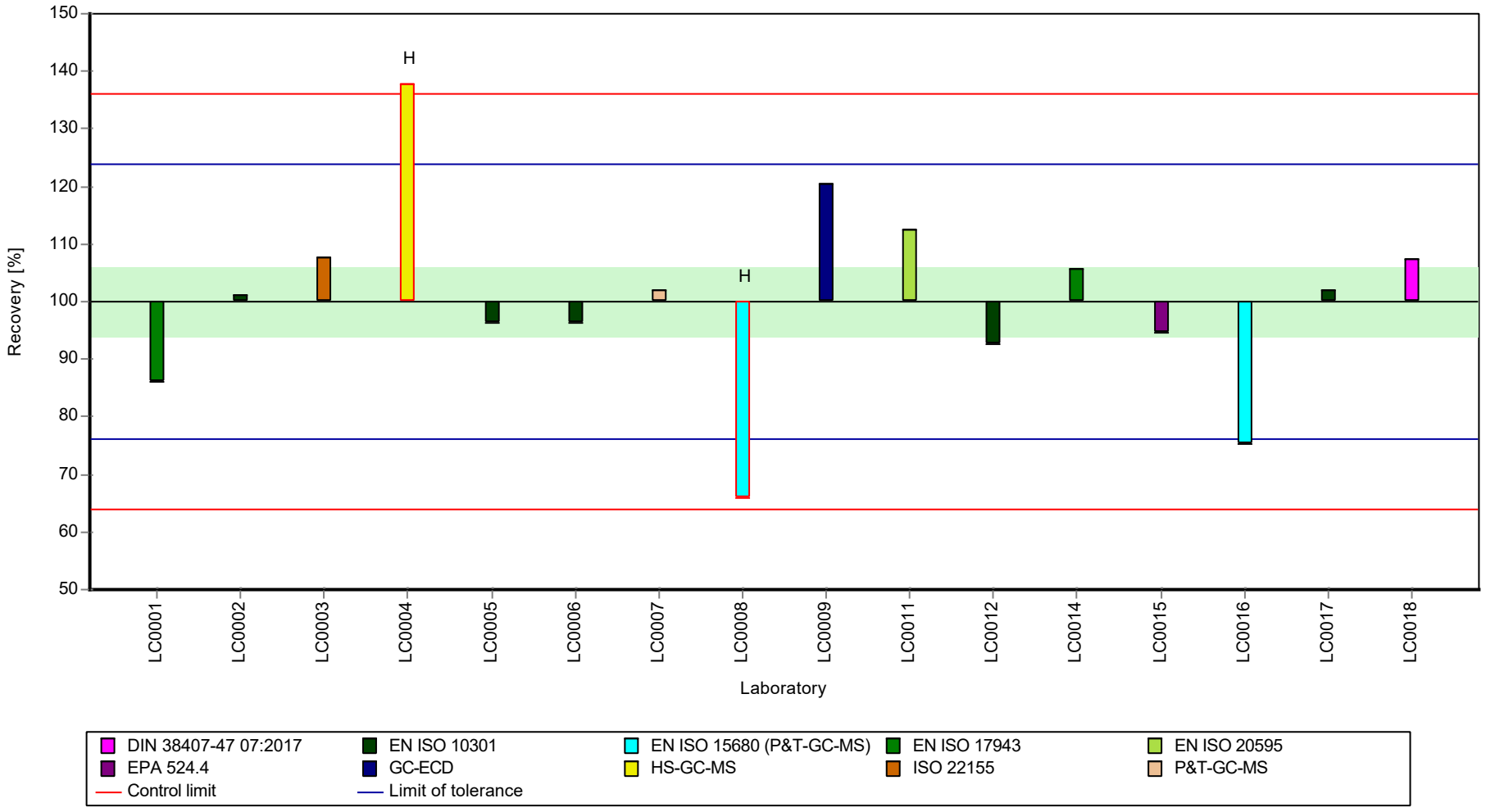
Results



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

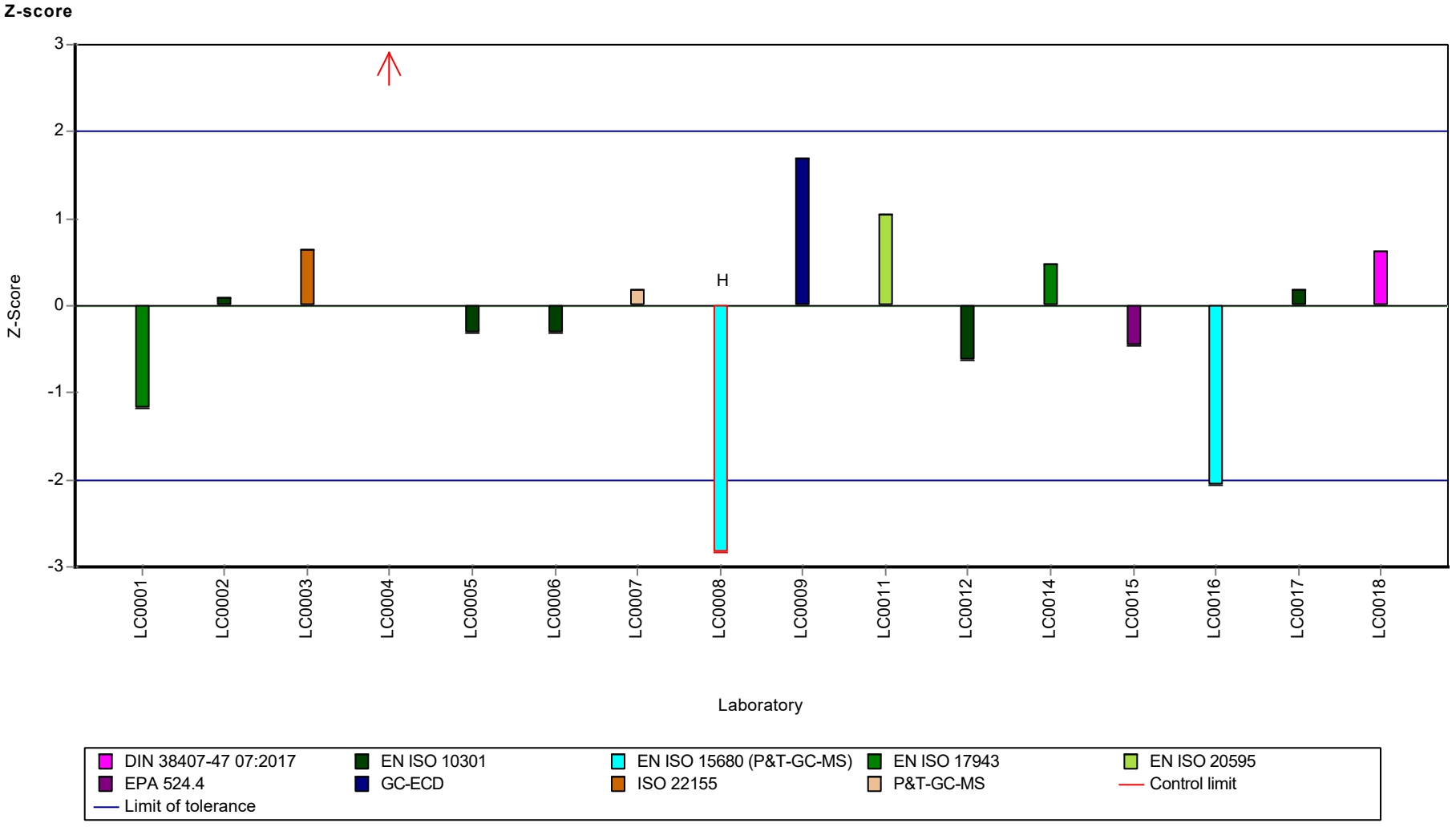
Sample: C71B, Parameter: Tribromomethane

Recovery rate



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71B, Parameter: Tribromomethane



Parameter oriented report

C71 A

Trichloroethene

Unit	µg/l
Assigned value ± U (k=2)	0.677 ± 0.0456
Criterion	0.102 (15 %)
Minimum - Maximum	0.543 - 0.86
Control test value ± U (k=2)	0.731 ± 0.219

Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	0.7	0.13	103	0.23	
LC0002	0.71	0.142	105	0.33	
LC0003	0.59	0.12	87.2	-0.85	
LC0004	0.735	0.066	109	0.57	
LC0005	0.725	0.0899	107	0.47	
LC0006	0.687	0.069	102	0.1	
LC0007	0.74	0.326	109	0.62	
LC0008	0.86	0.17	127	1.8	
LC0009	1	0.2	148	3.18	H
LC0010	-	-	-	-	
LC0011	0.581	0.08715	85.8	-0.94	
LC0012	0.731	0.077	108	0.53	
LC0013	0.131	0.0085	19.4	-5.38	H
LC0014	0.65	0.13	96	-0.26	
LC0015	-	-	-	-	
LC0016	0.543	0.054	80.2	-1.32	
LC0017	0.648	0.097	95.7	-0.28	
LC0018	0.575	0.17	85	-1	

Characteristics of parameter

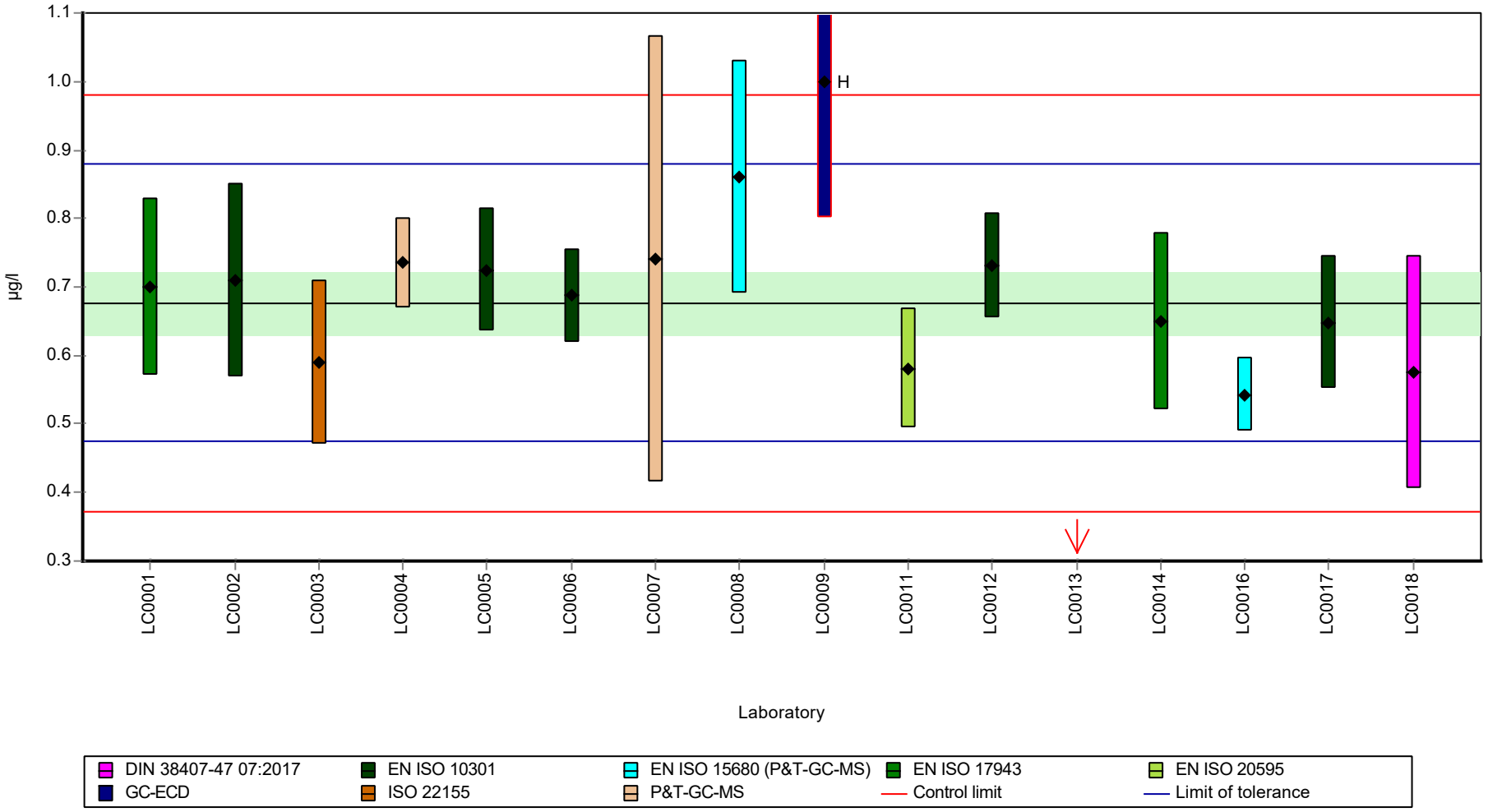
	all results	w ithout outliers	Unit
Mean ± Cl (99%)	0.663 ± 0.136	0.677 ± 0.0684	µg/l
Minimum	0.131	0.543	µg/l
Maximum	1	0.86	µg/l
Standard deviation	0.181	0.0852	µg/l
rel. standard deviation	27.4	12.6	%
n	16	14	-

Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71A, Parameter: Trichloroethene

Graphical presentation of results

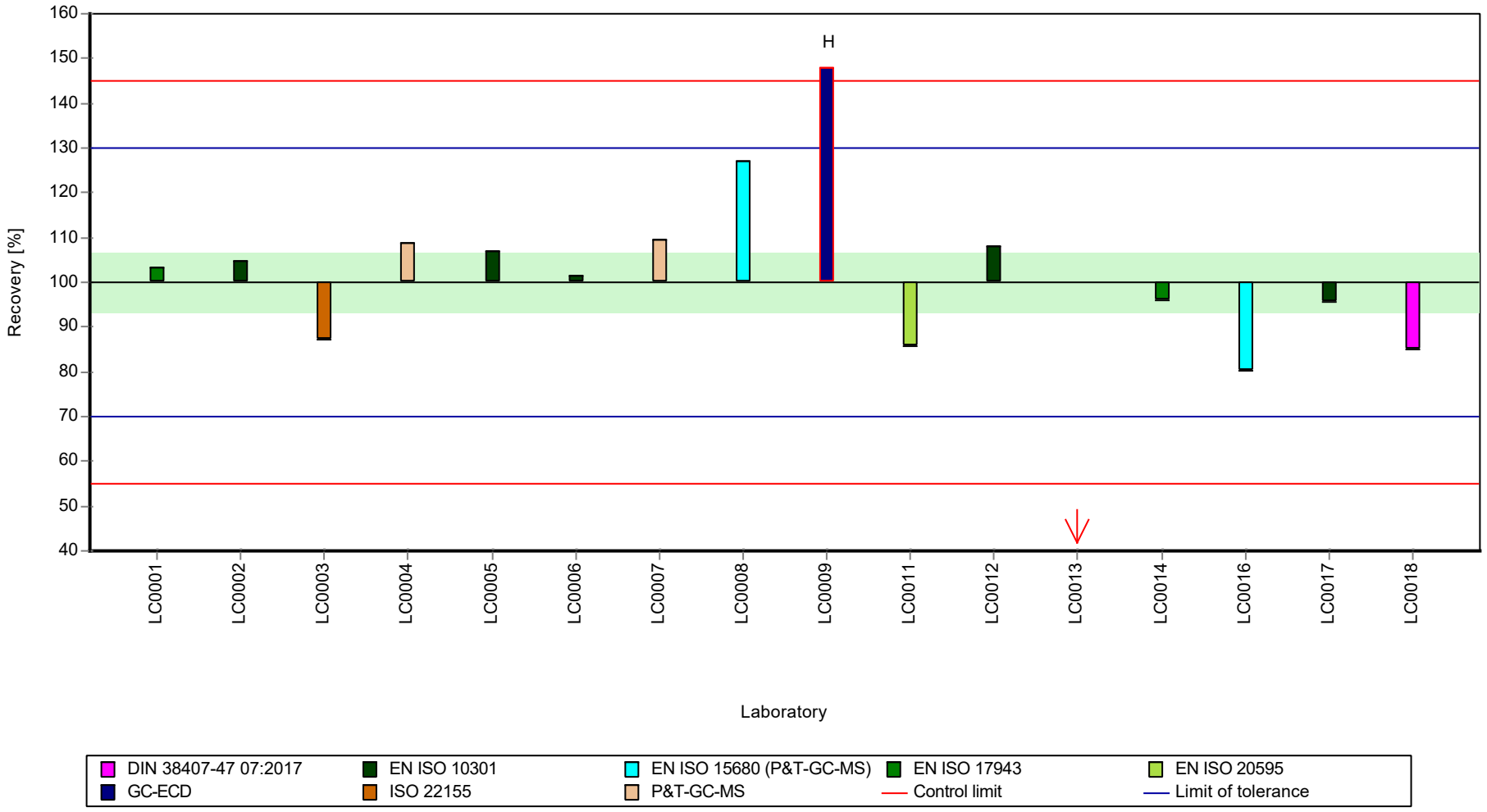
Results



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

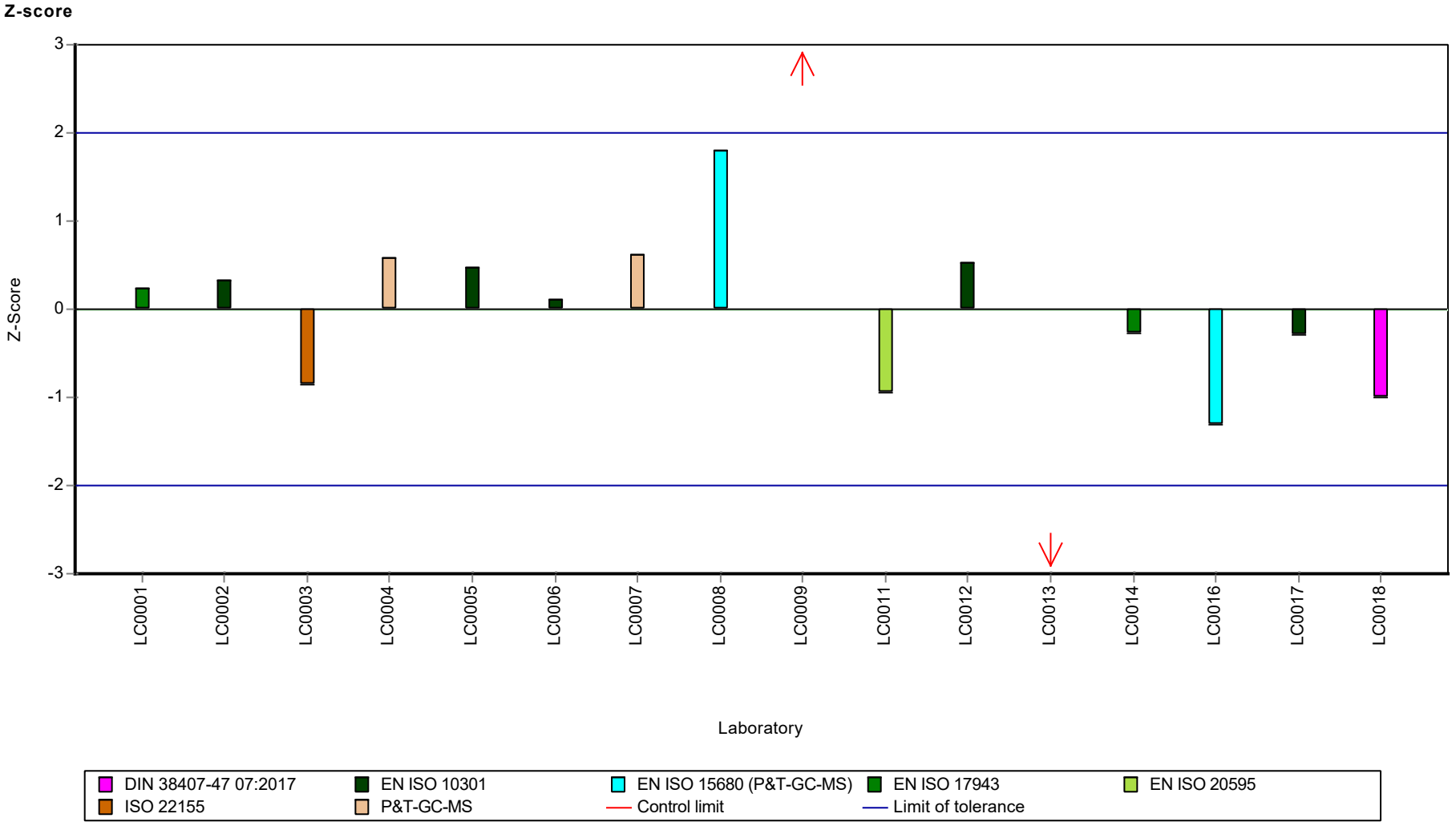
Sample: C71A, Parameter: Trichloroethene

Recovery rate



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71A, Parameter: Trichloroethene



Parameter oriented report

C71 B

Trichloroethene

Unit	µg/l
Assigned value ± U (k=2)	3.13 ± 0.16
Criterion	0.47 (15 %)
Minimum - Maximum	2.6 - 3.62
Control test value ± U (k=2)	3.42 ± 1.03

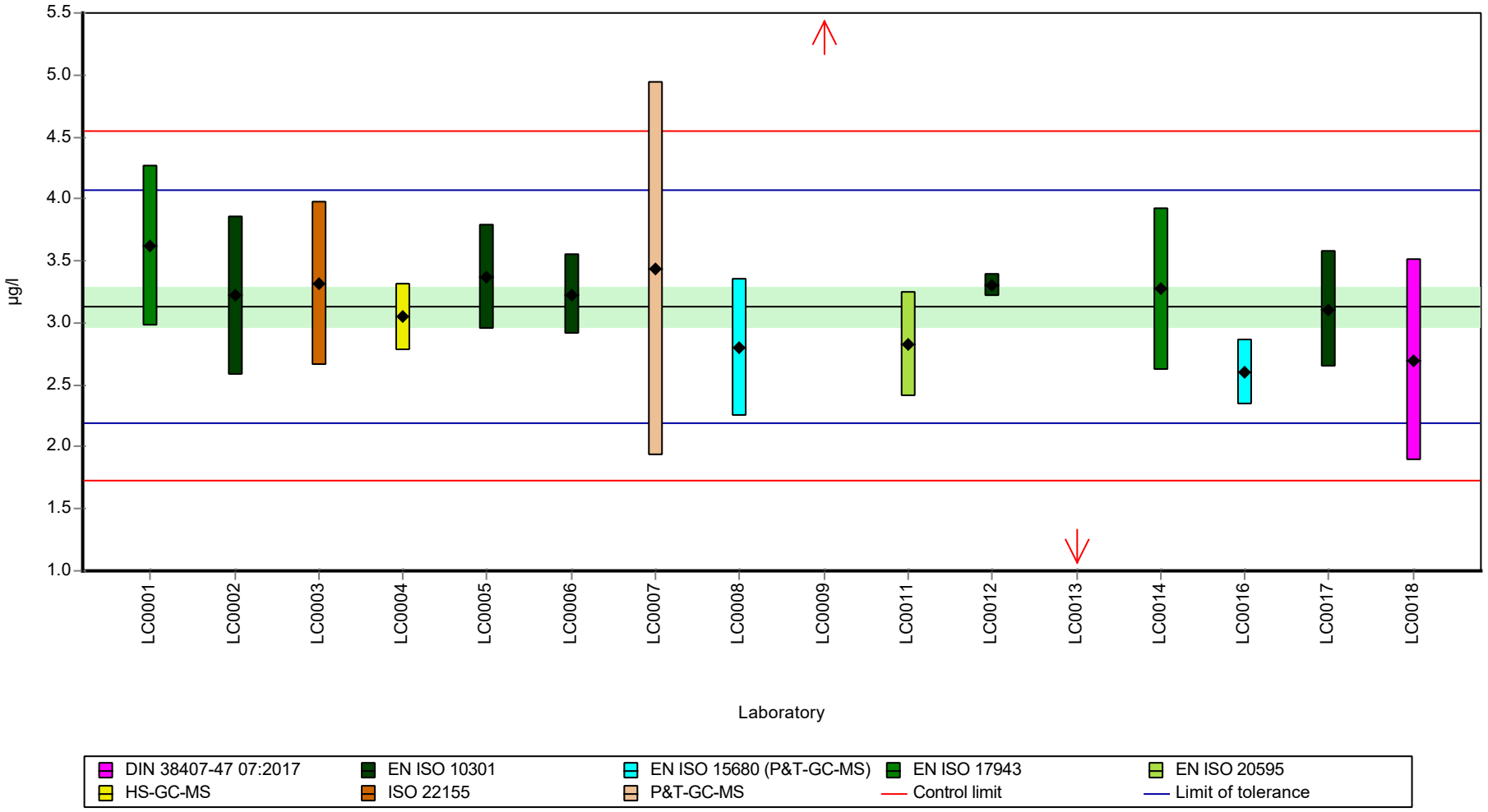
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	3.62	0.65	116	1.04	
LC0002	3.22	0.644	103	0.19	
LC0003	3.32	0.66	106	0.4	
LC0004	3.05	0.27	97.4	-0.17	
LC0005	3.37	0.418	108	0.51	
LC0006	3.23	0.32	103	0.21	
LC0007	3.43	1.51	110	0.63	
LC0008	2.8	0.56	89.4	-0.71	
LC0009	5.26	0.2	168	4.53	H
LC0010	-	-	-	-	
LC0011	2.829	0.42435	90.3	-0.65	
LC0012	3.3	0.089	105	0.36	
LC0013	0.701	0.046	22.4	-5.17	H
LC0014	3.27	0.65	104	0.29	
LC0015	-	-	-	-	
LC0016	2.6	0.26	83	-1.13	
LC0017	3.11	0.47	99.3	-0.05	
LC0018	2.7	0.81	86.2	-0.92	

Characteristics of parameter

	all results	w ithout outliers	Unit
Mean ± Cl (99%)	3.11 ± 0.659	3.13 ± 0.24	µg/l
Minimum	0.701	2.6	µg/l
Maximum	5.26	3.62	µg/l
Standard deviation	0.879	0.299	µg/l
rel. standard deviation	28.2	9.55	%
n	16	14	-

Graphical presentation of results

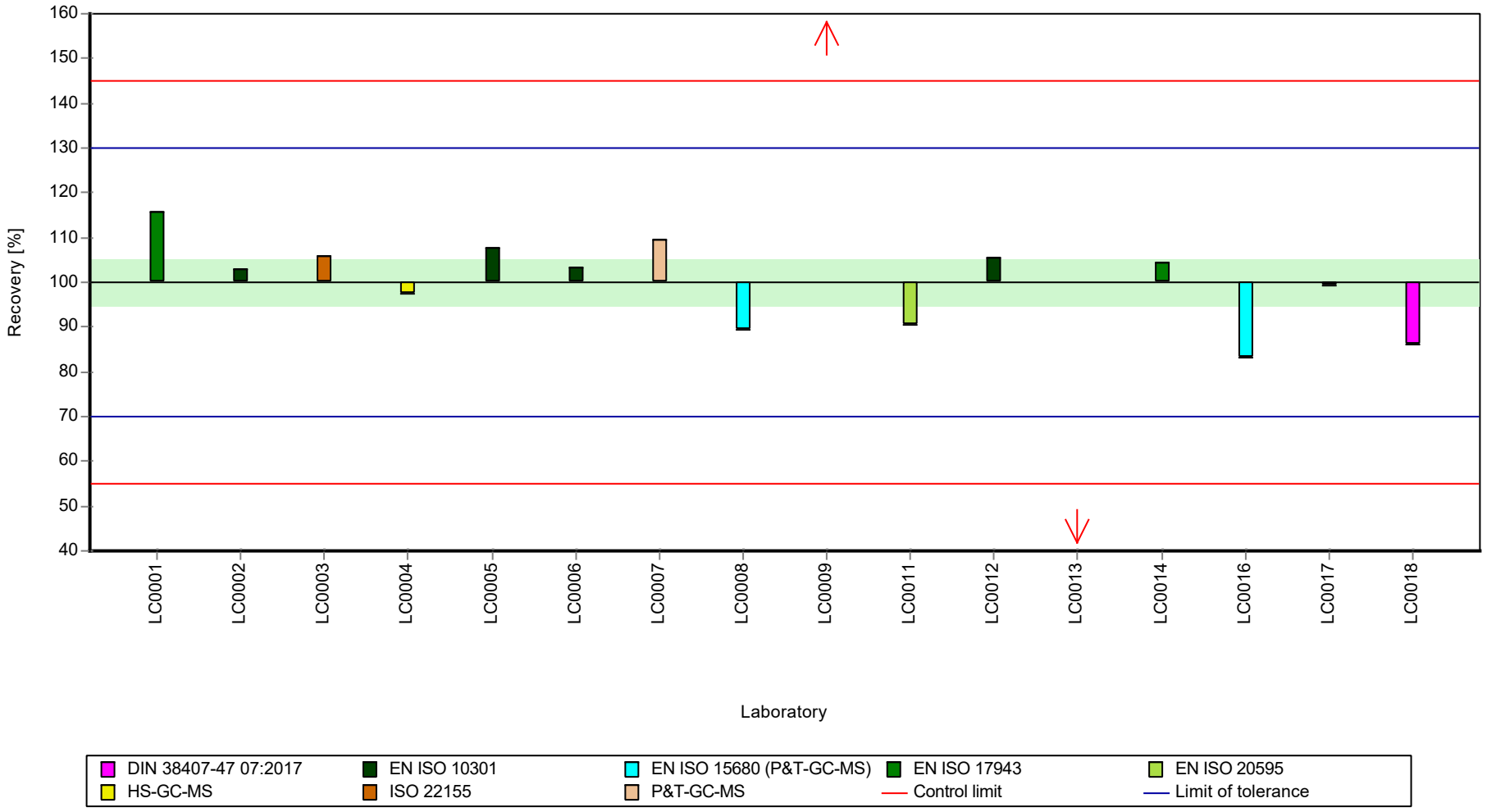
Results



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

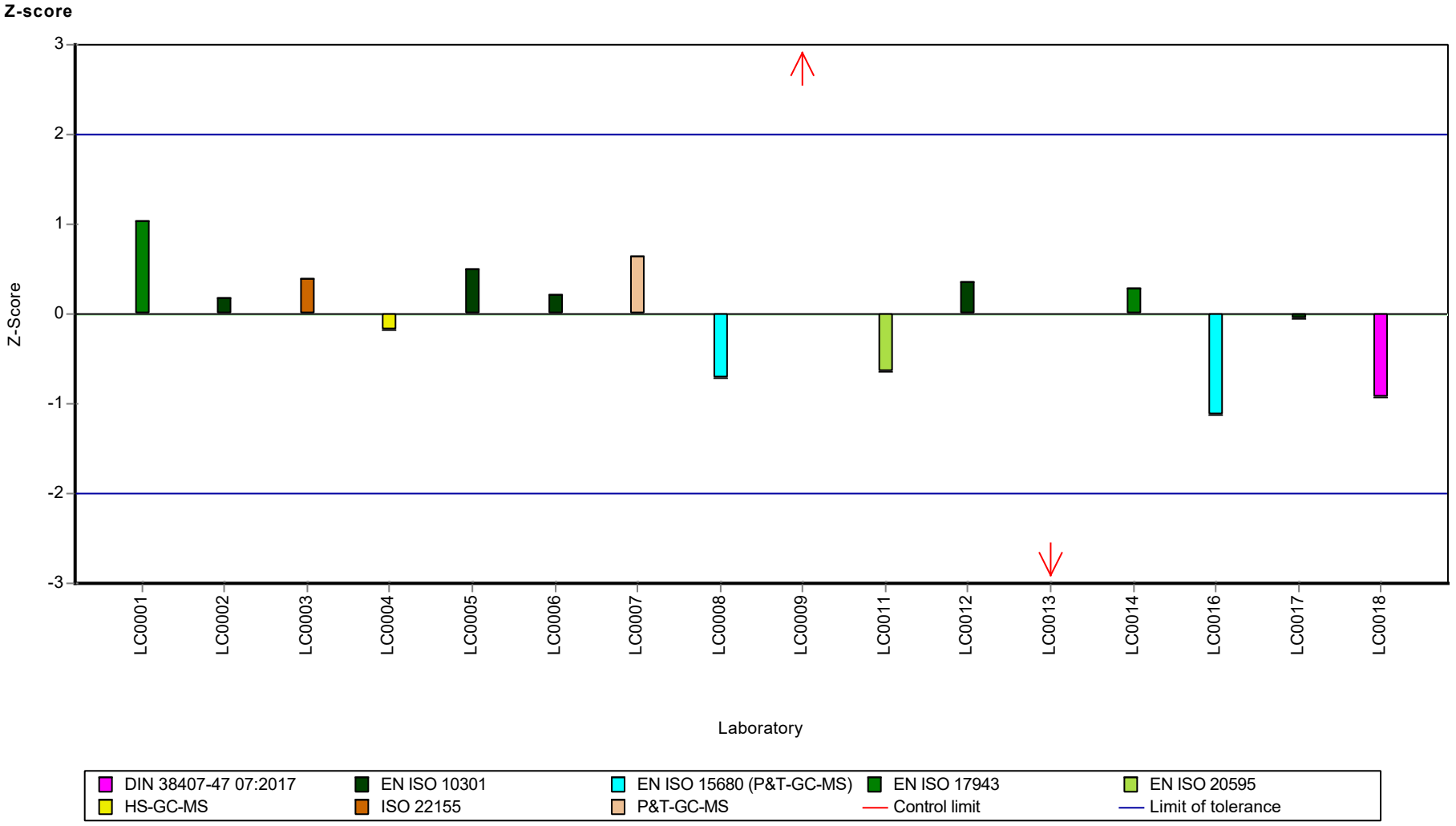
Sample: C71B, Parameter: Trichloroethene

Recovery rate



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71B, Parameter: Trichloroethene



Parameter oriented report

C71 A

Trichloromethane

Unit	µg/l
Assigned value ± U (k=2)	0.932 ± 0.039
Criterion	0.121 (13 %)
Minimum - Maximum	0.802 - 1.03
Control test value ± U (k=2)	0.979 ± 0.294

Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	0.92	0.18	98.7	-0.1	
LC0002	0.95	0.19	102	0.15	
LC0003	< 0.2 (LOQ)	-	-	-	FN
LC0004	0.956	0.086	103	0.2	
LC0005	0.919	0.0947	98.6	-0.11	
LC0006	0.913	0.18	97.9	-0.16	
LC0007	1.03	0.453	110	0.81	
LC0008	1.4	0.28	150	3.86	H
LC0009	1.19	0.4	128	2.13	H
LC0010	-	-	-	-	
LC0011	0.802	0.1203	86	-1.07	
LC0012	0.939	0.093	101	0.06	
LC0013	-	-	-	-	
LC0014	1.03	0.21	110	0.81	
LC0015	0.992	0.283	106	0.49	
LC0016	0.819	0.082	87.9	-0.93	
LC0017	0.873	0.131	93.7	-0.49	
LC0018	0.975	0.29	105	0.35	

Characteristics of parameter

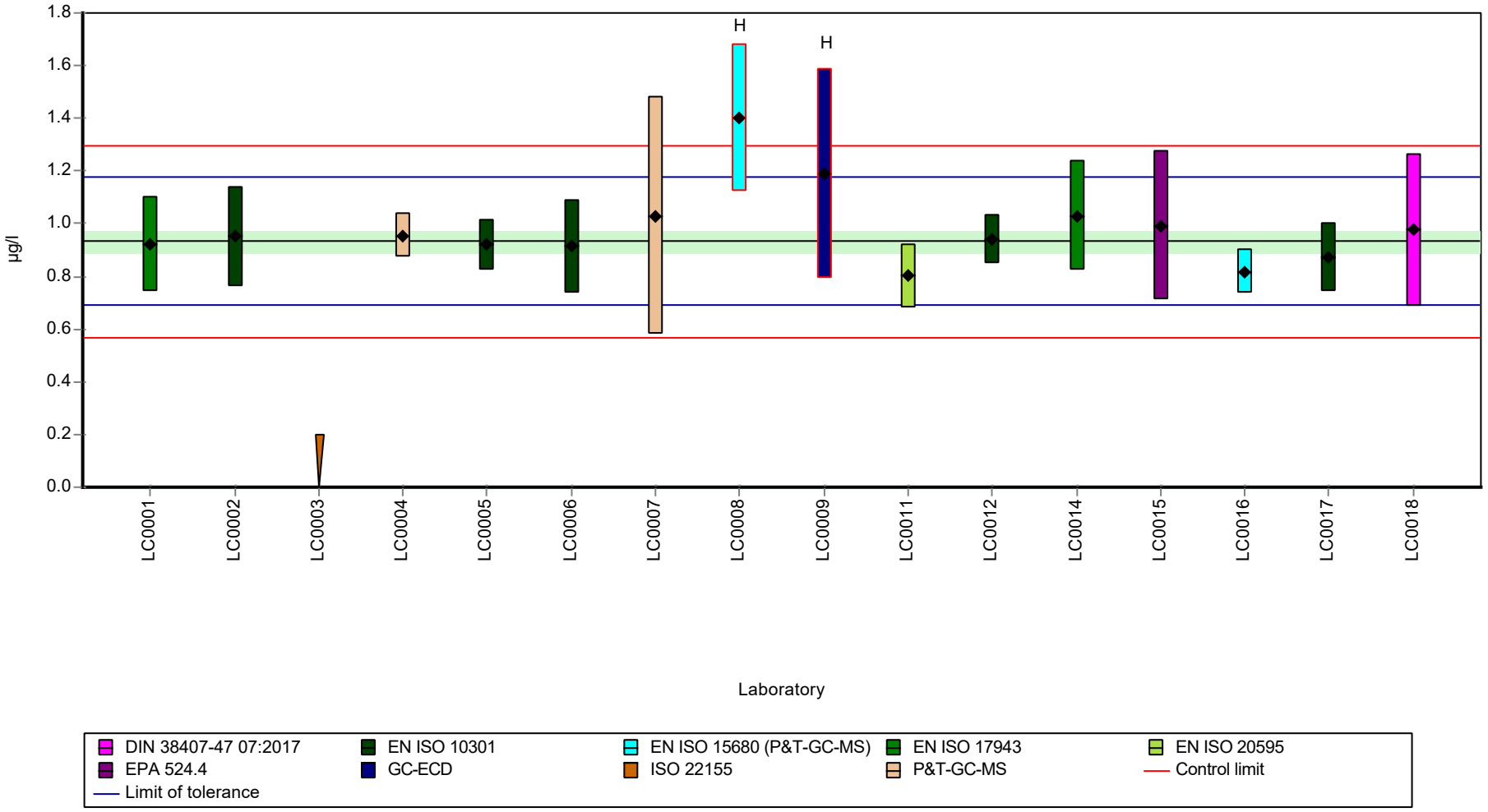
	all results	w ithout outliers	Unit
Mean ± CI (99%)	0.981 ± 0.115	0.932 ± 0.0586	µg/l
Minimum	0.802	0.802	µg/l
Maximum	1.4	1.03	µg/l
Standard deviation	0.149	0.0704	µg/l
rel. standard deviation	15.2	7.55	%
n	15	13	-

Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71A, Parameter: Trichloromethane

Graphical presentation of results

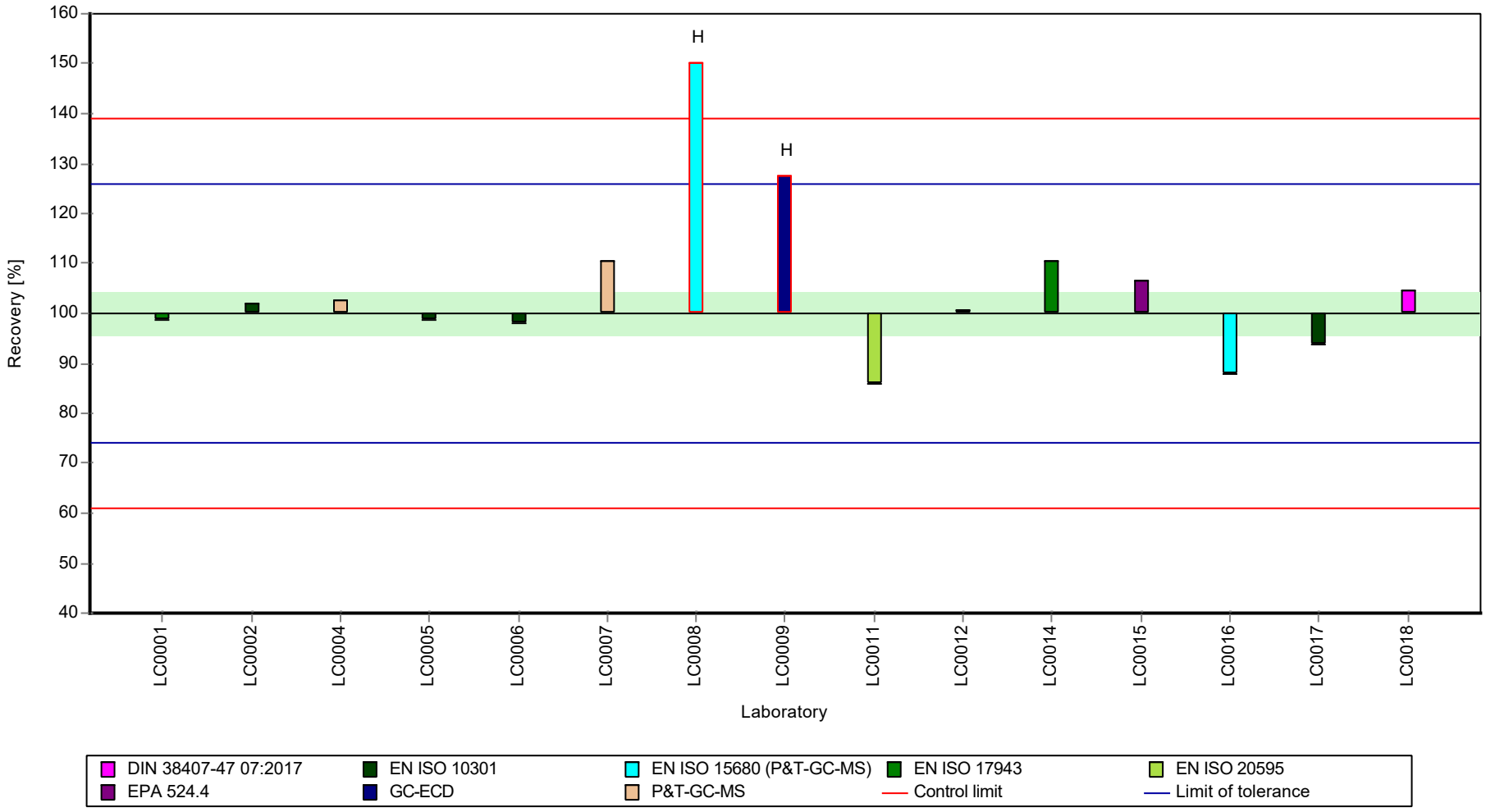
Results



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

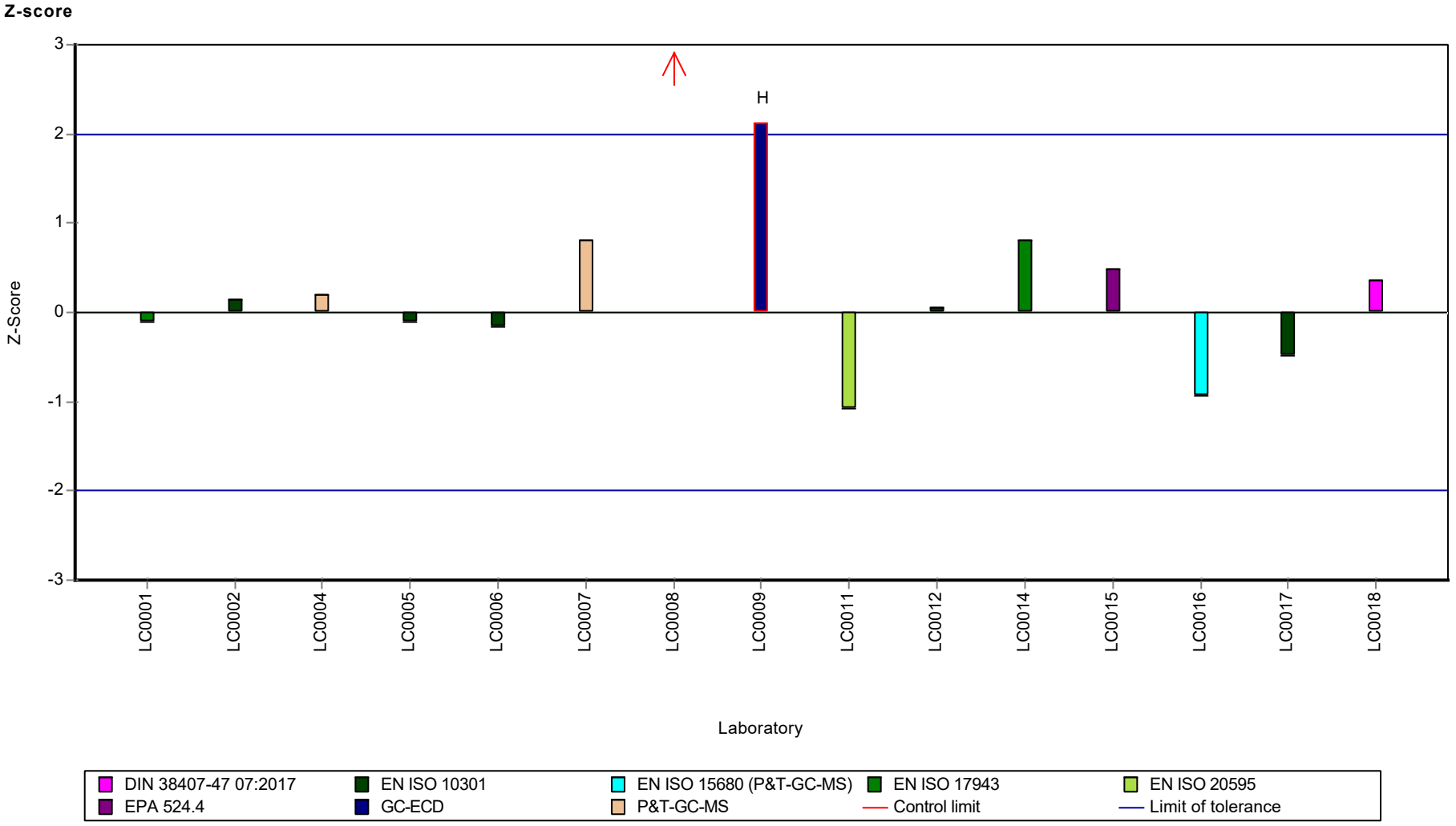
Sample: C71A, Parameter: Trichloromethane

Recovery rate



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71A, Parameter: Trichloromethane



Parameter oriented report

C71 B

Trichloromethane

Unit	µg/l
Assigned value ± U (k=2)	4.15 ± 0.173
Criterion	0.539 (13 %)
Minimum - Maximum	3.7 - 4.98
Control test value ± U (k=2)	4.25 ± 1.28

Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	4.24	0.85	102	0.17	
LC0002	4.08	0.816	98.4	-0.12	
LC0003	2.12	0.42	51.1	-3.76	H
LC0004	4.12	0.37	99.4	-0.05	
LC0005	4.08	0.42	98.4	-0.12	
LC0006	4.05	0.81	97.7	-0.18	
LC0007	4.98	2.19	120	1.55	
LC0008	4.3	0.86	104	0.29	
LC0009	5.63	0.4	136	2.75	H
LC0010	-	-	-	-	
LC0011	3.866	0.5799	93.2	-0.52	
LC0012	3.89	0.102	93.8	-0.47	
LC0013	-	-	-	-	
LC0014	3.97	0.79	95.8	-0.33	
LC0015	4.476	0.394	108	0.61	
LC0016	3.7	0.37	89.2	-0.83	
LC0017	3.89	0.58	93.8	-0.47	
LC0018	4.4	1.3	106	0.47	

Characteristics of parameter

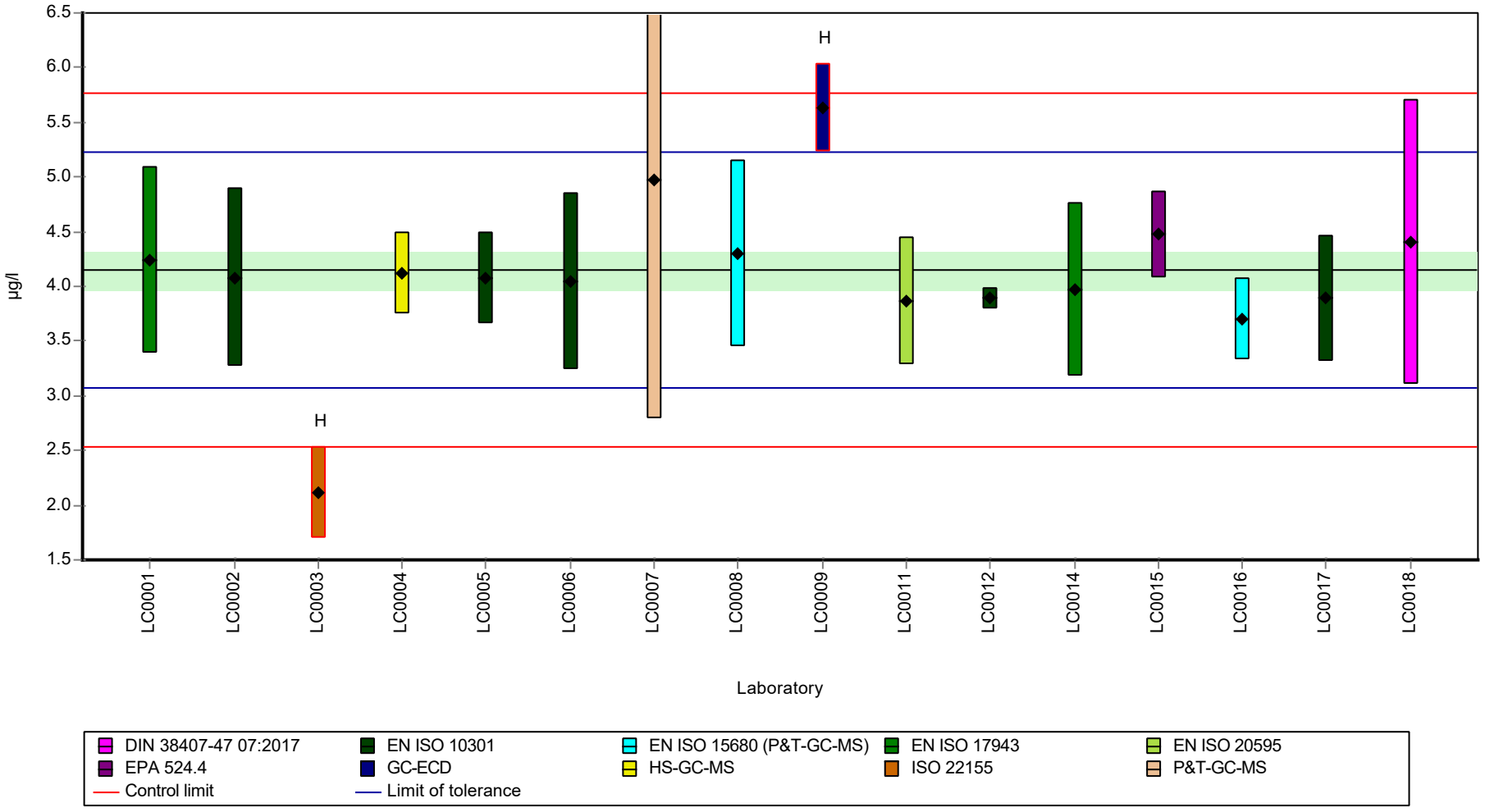
	all results	w ithout outliers	Unit
Mean ± Cl (99%)	4.11 ± 0.536	4.15 ± 0.259	µg/l
Minimum	2.12	3.7	µg/l
Maximum	5.63	4.98	µg/l
Standard deviation	0.714	0.323	µg/l
rel. standard deviation	17.4	7.8	%
n	16	14	-

Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71B, Parameter: Trichloromethane

Graphical presentation of results

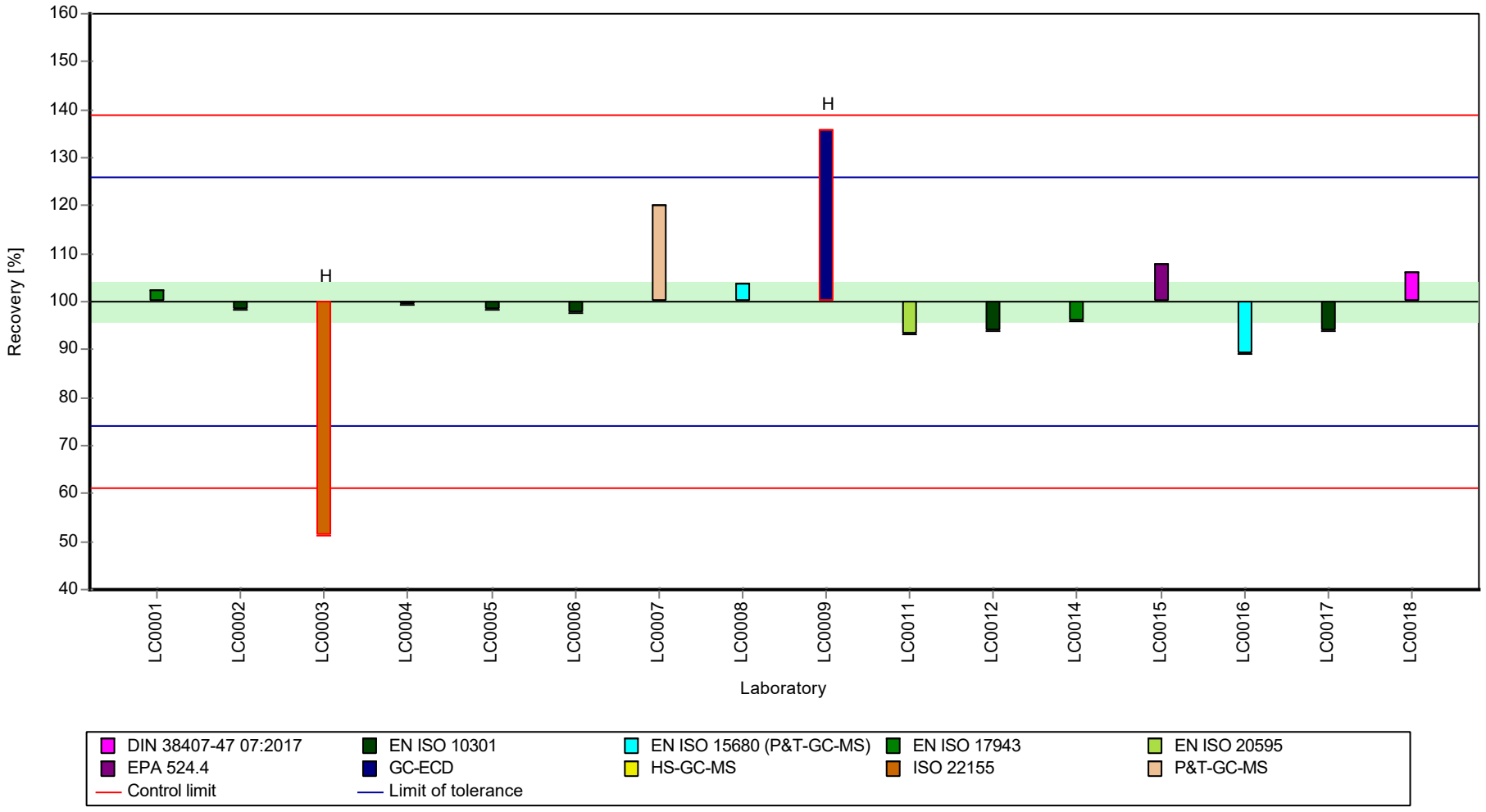
Results



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

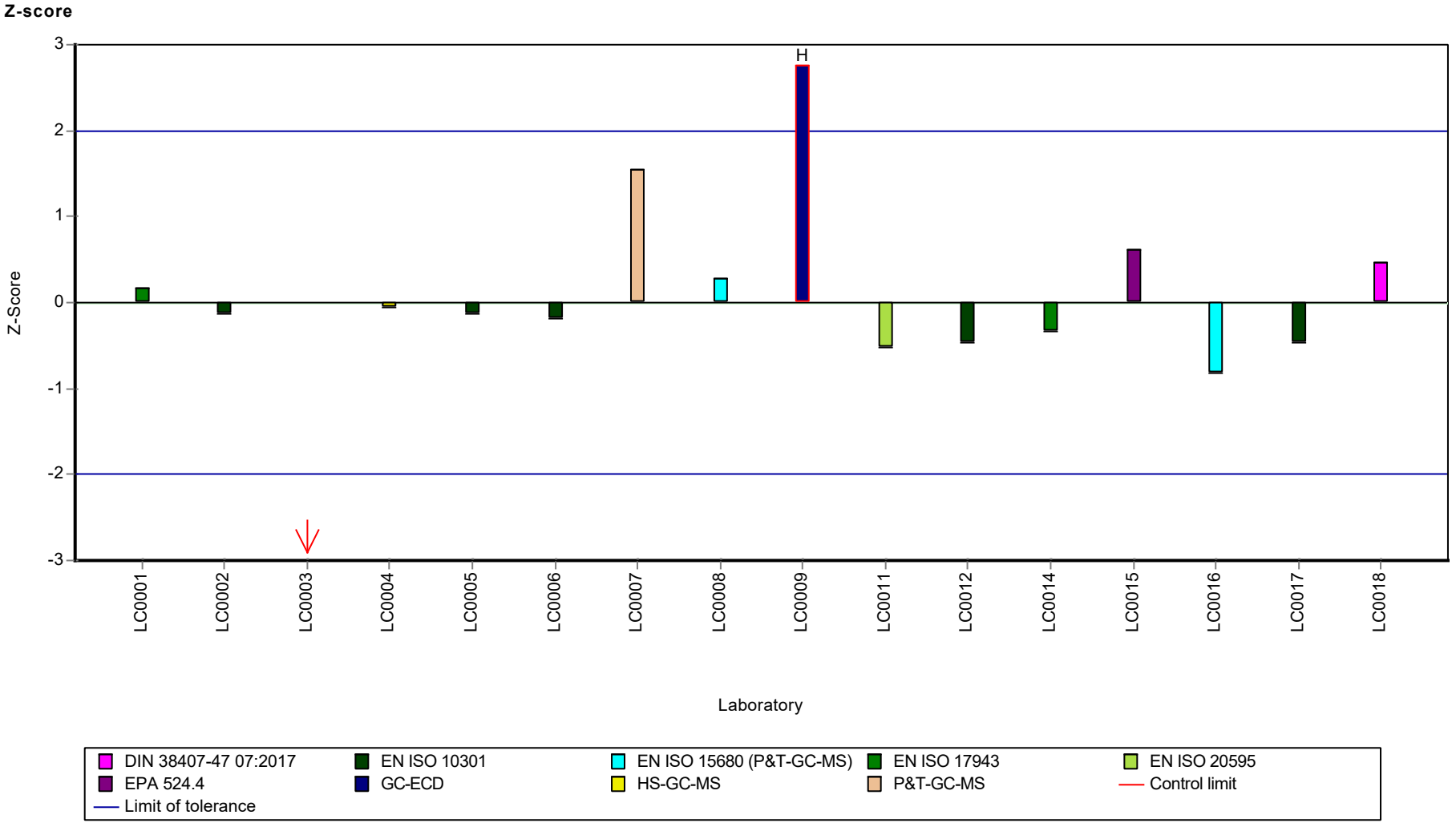
Sample: C71B, Parameter: Trichloromethane

Recovery rate



Parameter oriented report Volatile halogenated hydrocarbons (VHH) - C71

Sample: C71B, Parameter: Trichloromethane



E8. Laborientierte Auswertung / Laboratory oriented report

Die Laborientierte Auswertung ist nach dem Laborcode sortiert.

The laboratory oriented report is sorted by laboratory code.

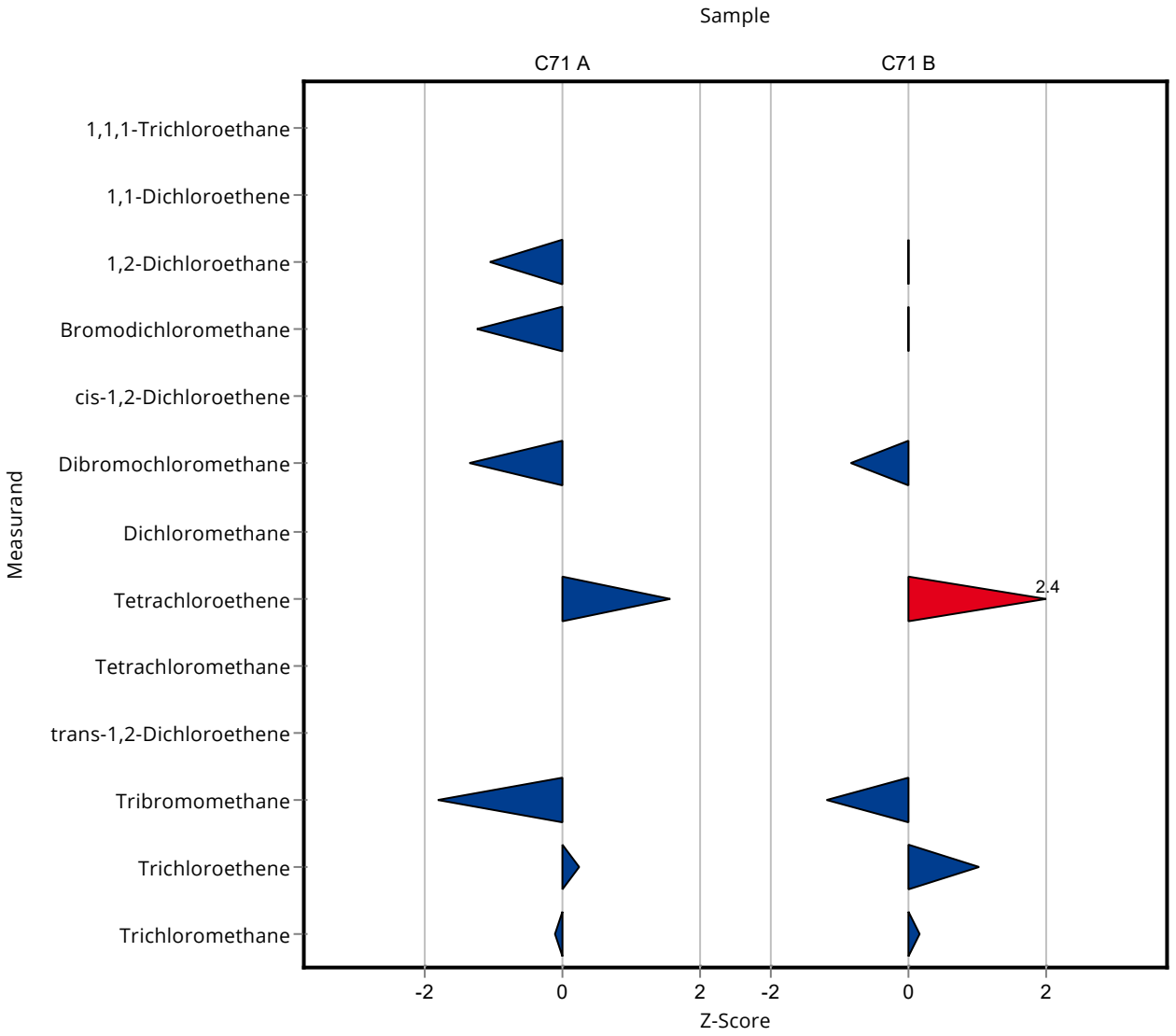
Summary of results Volatile halogenated hydrocarbons (VHH) - C71 Labcode: LC0001

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	- ± -	0.12	-	-
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	- ± -	0.116	-	-
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	0.94 ± 0.18	0.142	86.1	-1.07
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.45 ± 0.27	0.165	87.7	-1.23
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	- ± -	0.0967	-	-
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.1 ± 0.14	0.158	83.7	-1.35
Dichloromethane	µg/l	7.5 ± 0.503	- ± -	0.975	-	-
Tetrachloroethene	µg/l	0.584 ± 0.0417	0.74 ± 0.1	0.0993	127	1.57
Tetrachloromethane	µg/l	0.489 ± 0.0301	- ± -	0.0783	-	-
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	- ± -	0.153	-	-
Tribromomethane	µg/l	1.42 ± 0.0951	1.11 ± 0.17	0.17	78.4	-1.80
Trichloroethene	µg/l	0.677 ± 0.0456	0.7 ± 0.13	0.102	103	0.23
Trichloromethane	µg/l	0.932 ± 0.039	0.92 ± 0.18	0.121	98.7	-0.10

Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	- ± -	0.65	-	-
1,1-Dichloroethene	µg/l	3.74 ± 0.238	- ± -	0.636	-	-
1,2-Dichloroethane	µg/l	5.14 ± 0.243	5.15 ± 1	0.669	100	0.01
Bromodichloromethane	µg/l	7.97 ± 0.324	7.97 ± 1.47	0.797	100	0.00
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	- ± -	0.476	-	-
Dibromochloromethane	µg/l	6.54 ± 0.309	5.88 ± 0.74	0.785	89.9	-0.84
Dichloromethane	µg/l	9.04 ± 0.398	- ± -	1.18	-	-
Tetrachloroethene	µg/l	2.95 ± 0.244	4.17 ± 0.58	0.501	141	2.43
Tetrachloromethane	µg/l	2.73 ± 0.089	- ± -	0.438	-	-
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	- ± -	0.808	-	-
Tribromomethane	µg/l	7.12 ± 0.429	6.12 ± 0.95	0.854	86	-1.17
Trichloroethene	µg/l	3.13 ± 0.16	3.62 ± 0.65	0.47	116	1.04
Trichloromethane	µg/l	4.15 ± 0.173	4.24 ± 0.85	0.539	102	0.17


Sample
C71 A
C71 B
1,1,1-Trichloroethane
1,1-Dichloroethene
1,2-Dichloroethane
Bromodichloromethane
cis-1,2-Dichloroethene
Dibromochloromethane
Dichloromethane
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Tribromomethane
Trichloroethene
Trichloromethane
Measurand
2.4
-2
0
2
-2
0
2
Z-Score

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0001

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	- ± -	0.12	-	-
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	- ± -	0.116	-	-
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	0.94 ± 0.18	0.142	86.1	-0.41
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.45 ± 0.27	0.165	87.7	-0.37
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	- ± -	0.0967	-	-
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.1 ± 0.14	0.158	83.7	-0.74
Dichloromethane	µg/l	7.5 ± 0.503	- ± -	0.975	-	-
Tetrachloroethene	µg/l	0.584 ± 0.0417	0.74 ± 0.1	0.0993	127	0.76
Tetrachloromethane	µg/l	0.489 ± 0.0301	- ± -	0.0783	-	-
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	- ± -	0.153	-	-
Tribromomethane	µg/l	1.42 ± 0.0951	1.11 ± 0.17	0.17	78.4	-0.87
Trichloroethene	µg/l	0.677 ± 0.0456	0.7 ± 0.13	0.102	103	0.09
Trichloromethane	µg/l	0.932 ± 0.039	0.92 ± 0.18	0.121	98.7	-0.03

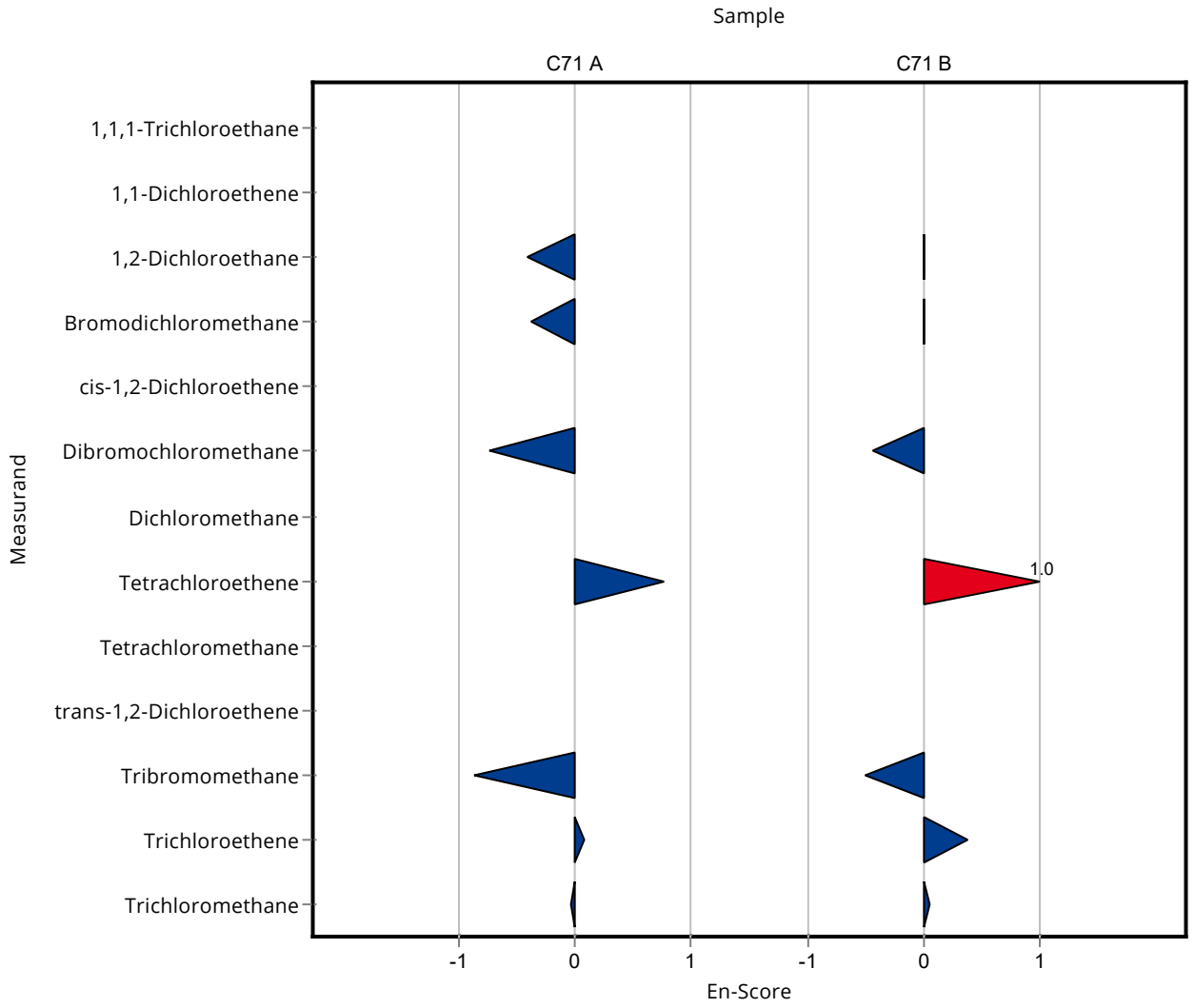
Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	- ± -	0.65	-	-
1,1-Dichloroethene	µg/l	3.74 ± 0.238	- ± -	0.636	-	-
1,2-Dichloroethane	µg/l	5.14 ± 0.243	5.15 ± 1	0.669	100	0.00
Bromodichloromethane	µg/l	7.97 ± 0.324	7.97 ± 1.47	0.797	100	0.00
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	- ± -	0.476	-	-
Dibromochloromethane	µg/l	6.54 ± 0.309	5.88 ± 0.74	0.785	89.9	-0.44
Dichloromethane	µg/l	9.04 ± 0.398	- ± -	1.18	-	-

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0001

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Tetrachloroethene	µg/l	2.95 ± 0.244	4.17 ± 0.58	0.501	141	1.03
Tetrachloromethane	µg/l	2.73 ± 0.089	- ± -	0.438	-	-
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	- ± -	0.808	-	-
Tribromomethane	µg/l	7.12 ± 0.429	6.12 ± 0.95	0.854	86	-0.51
Trichloroethene	µg/l	3.13 ± 0.16	3.62 ± 0.65	0.47	116	0.37
Trichloromethane	µg/l	4.15 ± 0.173	4.24 ± 0.85	0.539	102	0.06



Summary of results Volatile halogenated hydrocarbons (VHH) - C71 Labcode: LC0002

Sample: C71A

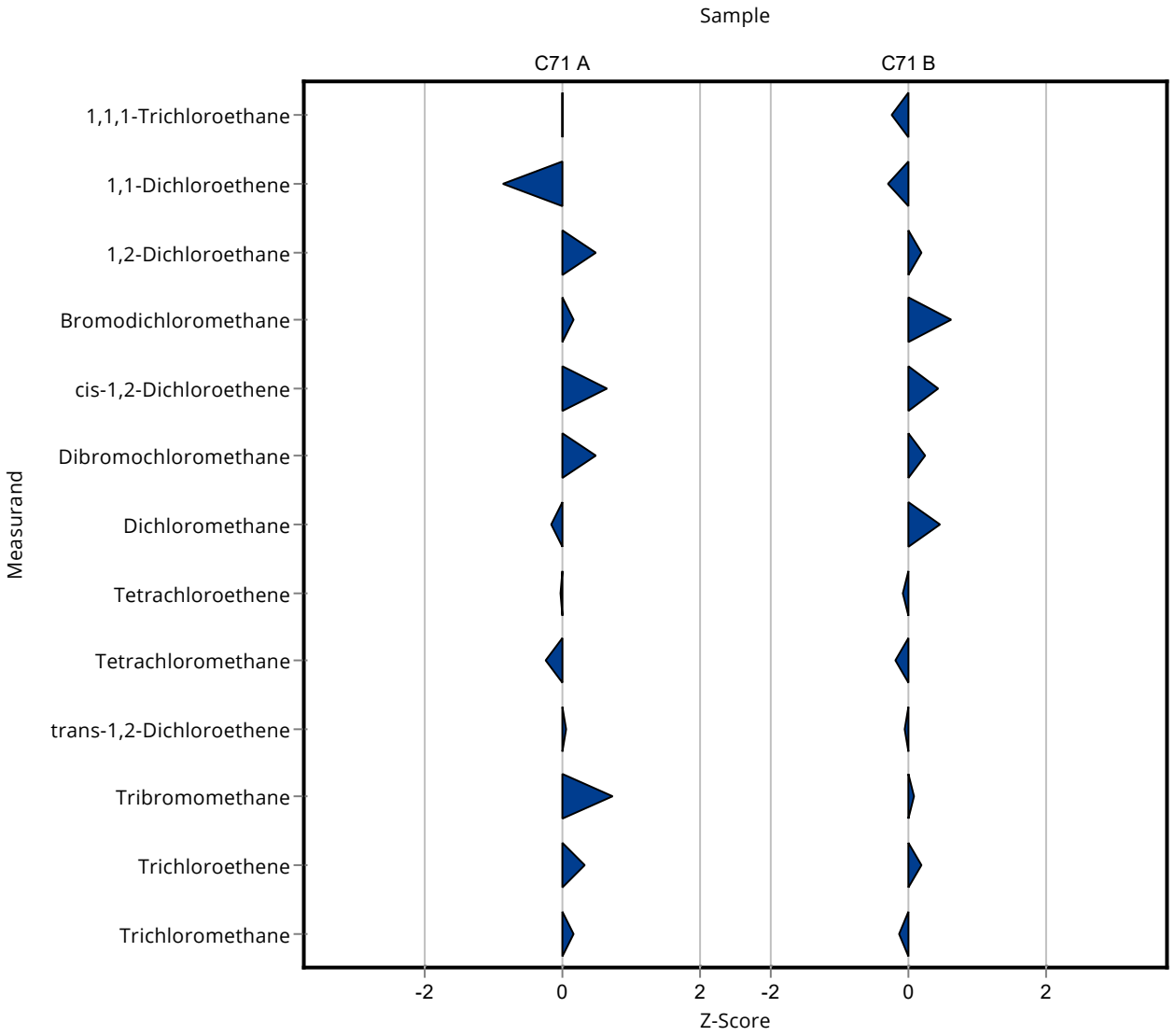
Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	0.8 ± 0.16	0.12	99.9	-0.01
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	0.58 ± 0.116	0.116	85.1	-0.88
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	1.16 ± 0.232	0.142	106	0.48
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.68 ± 0.336	0.165	102	0.16
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	1.03 ± 0.206	0.0967	107	0.65
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.39 ± 0.278	0.158	106	0.48
Dichloromethane	µg/l	7.5 ± 0.503	7.34 ± 1.468	0.975	97.8	-0.17
Tetrachloroethene	µg/l	0.584 ± 0.0417	0.58 ± 0.116	0.0993	99.2	-0.04
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.47 ± 0.094	0.0783	96	-0.25
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	0.77 ± 0.154	0.153	101	0.05
Tribromomethane	µg/l	1.42 ± 0.0951	1.54 ± 0.308	0.17	109	0.73
Trichloroethene	µg/l	0.677 ± 0.0456	0.71 ± 0.142	0.102	105	0.33
Trichloromethane	µg/l	0.932 ± 0.039	0.95 ± 0.19	0.121	102	0.15

Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	4.19 ± 0.838	0.65	96.6	-0.22
1,1-Dichloroethene	µg/l	3.74 ± 0.238	3.55 ± 0.71	0.636	94.9	-0.30
1,2-Dichloroethane	µg/l	5.14 ± 0.243	5.28 ± 1.056	0.669	103	0.20
Bromodichloromethane	µg/l	7.97 ± 0.324	8.46 ± 1.692	0.797	106	0.61
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	4.97 ± 0.994	0.476	104	0.44
Dibromochloromethane	µg/l	6.54 ± 0.309	6.74 ± 1.348	0.785	103	0.26
Dichloromethane	µg/l	9.04 ± 0.398	9.57 ± 1.914	1.18	106	0.45
Tetrachloroethene	µg/l	2.95 ± 0.244	2.91 ± 0.582	0.501	98.7	-0.08
Tetrachloromethane	µg/l	2.73 ± 0.089	2.65 ± 0.53	0.438	96.9	-0.19
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	4 ± 0.8	0.808	99	-0.05
Tribromomethane	µg/l	7.12 ± 0.429	7.2 ± 1.44	0.854	101	0.09
Trichloroethene	µg/l	3.13 ± 0.16	3.22 ± 0.644	0.47	103	0.19
Trichloromethane	µg/l	4.15 ± 0.173	4.08 ± 0.816	0.539	98.4	-0.12

Summary of results Volatile halogenated hydrocarbons (VHH) - C71

Labcode: LC0002



Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0002

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	0.8 ± 0.16	0.12	99.9	0.00
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	0.58 ± 0.116	0.116	85.1	-0.42
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	1.16 ± 0.232	0.142	106	0.15
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.68 ± 0.336	0.165	102	0.04
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	1.03 ± 0.206	0.0967	107	0.15
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.39 ± 0.278	0.158	106	0.14
Dichloromethane	µg/l	7.5 ± 0.503	7.34 ± 1.468	0.975	97.8	-0.05
Tetrachloroethene	µg/l	0.584 ± 0.0417	0.58 ± 0.116	0.0993	99.2	-0.02
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.47 ± 0.094	0.0783	96	-0.10
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	0.77 ± 0.154	0.153	101	0.02
Tribromomethane	µg/l	1.42 ± 0.0951	1.54 ± 0.308	0.17	109	0.20
Trichloroethene	µg/l	0.677 ± 0.0456	0.71 ± 0.142	0.102	105	0.12
Trichloromethane	µg/l	0.932 ± 0.039	0.95 ± 0.19	0.121	102	0.05

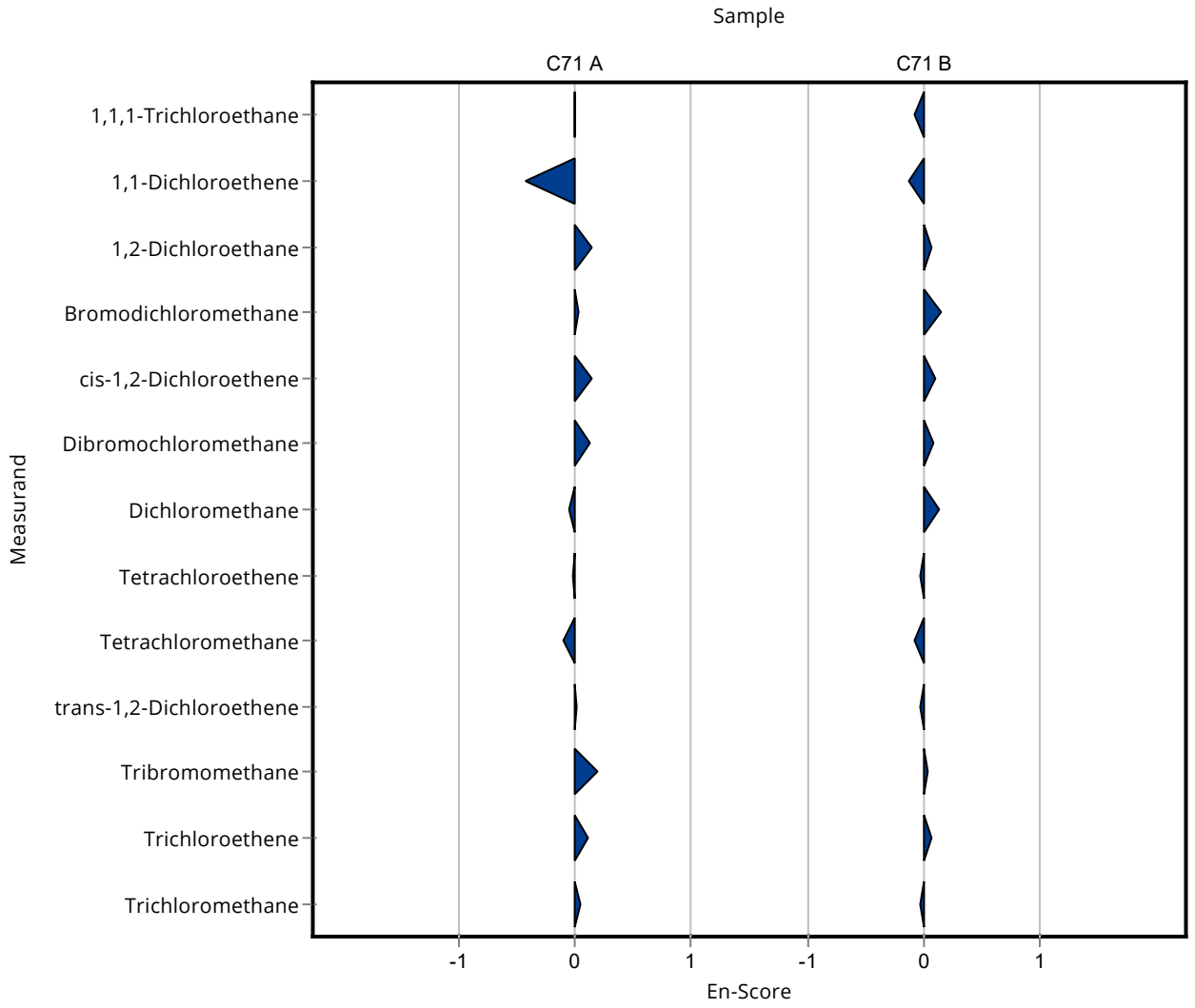
Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	4.19 ± 0.838	0.65	96.6	-0.09
1,1-Dichloroethene	µg/l	3.74 ± 0.238	3.55 ± 0.71	0.636	94.9	-0.13
1,2-Dichloroethane	µg/l	5.14 ± 0.243	5.28 ± 1.056	0.669	103	0.06
Bromodichloromethane	µg/l	7.97 ± 0.324	8.46 ± 1.692	0.797	106	0.14
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	4.97 ± 0.994	0.476	104	0.10
Dibromochloromethane	µg/l	6.54 ± 0.309	6.74 ± 1.348	0.785	103	0.07
Dichloromethane	µg/l	9.04 ± 0.398	9.57 ± 1.914	1.18	106	0.14

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0002

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Tetrachloroethene	µg/l	2.95 ± 0.244	2.91 ± 0.582	0.501	98.7	-0.03
Tetrachloromethane	µg/l	2.73 ± 0.089	2.65 ± 0.53	0.438	96.9	-0.08
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	4 ± 0.8	0.808	99	-0.03
Tribromomethane	µg/l	7.12 ± 0.429	7.2 ± 1.44	0.854	101	0.03
Trichloroethene	µg/l	3.13 ± 0.16	3.22 ± 0.644	0.47	103	0.07
Trichloromethane	µg/l	4.15 ± 0.173	4.08 ± 0.816	0.539	98.4	-0.04



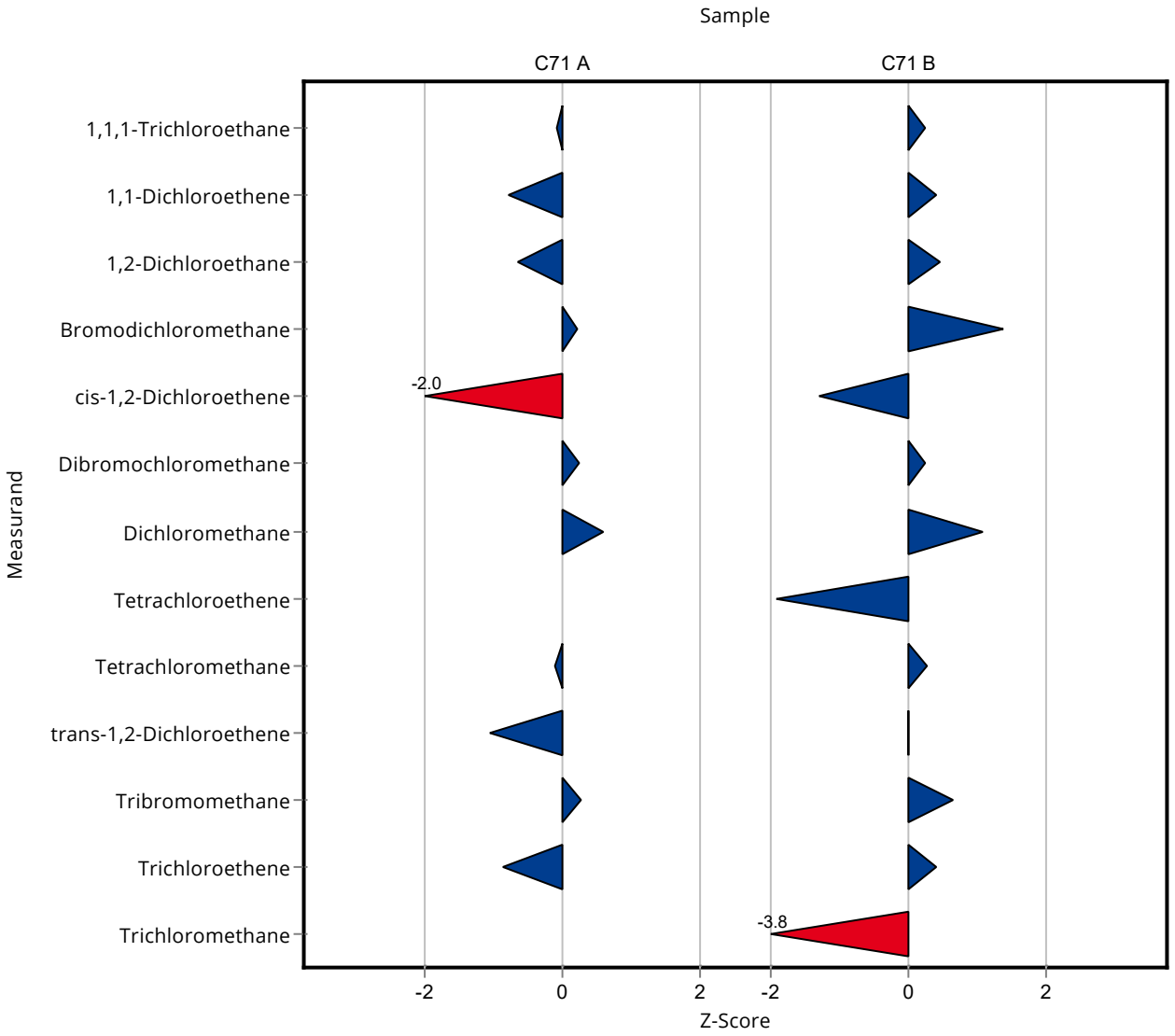
Summary of results Volatile halogenated hydrocarbons (VHH) - C71 Labcode: LC0003

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	0.79 ± 0.16	0.12	98.7	-0.09
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	0.59 ± 0.12	0.116	86.6	-0.79
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	1 ± 0.2	0.142	91.6	-0.64
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.69 ± 0.34	0.165	102	0.22
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	0.77 ± 0.15	0.0967	79.6	-2.04
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.35 ± 0.27	0.158	103	0.23
Dichloromethane	µg/l	7.5 ± 0.503	8.08 ± 1.62	0.975	108	0.59
Tetrachloroethene	µg/l	0.584 ± 0.0417	<0.2 (LOQ) ± -	0.0993	-	-
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.48 ± 0.1	0.0783	98.1	-0.12
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	0.6 ± 0.12	0.153	78.7	-1.07
Tribromomethane	µg/l	1.42 ± 0.0951	1.46 ± 0.29	0.17	103	0.26
Trichloroethene	µg/l	0.677 ± 0.0456	0.59 ± 0.12	0.102	87.2	-0.85
Trichloromethane	µg/l	0.932 ± 0.039	<0.2 (LOQ) ± -	0.121	-	-

Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	4.49 ± 0.9	0.65	104	0.24
1,1-Dichloroethene	µg/l	3.74 ± 0.238	4 ± 0.8	0.636	107	0.41
1,2-Dichloroethane	µg/l	5.14 ± 0.243	5.45 ± 1.1	0.669	106	0.46
Bromodichloromethane	µg/l	7.97 ± 0.324	9.06 ± 1.8	0.797	114	1.37
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	4.14 ± 0.82	0.476	87	-1.30
Dibromochloromethane	µg/l	6.54 ± 0.309	6.73 ± 1.34	0.785	103	0.24
Dichloromethane	µg/l	9.04 ± 0.398	10.3 ± 2.1	1.18	114	1.07
Tetrachloroethene	µg/l	2.95 ± 0.244	1.99 ± 0.39	0.501	67.5	-1.91
Tetrachloromethane	µg/l	2.73 ± 0.089	2.85 ± 0.57	0.438	104	0.26
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	4.04 ± 0.8	0.808	100	0.00
Tribromomethane	µg/l	7.12 ± 0.429	7.67 ± 1.53	0.854	108	0.64
Trichloroethene	µg/l	3.13 ± 0.16	3.32 ± 0.66	0.47	106	0.40
Trichloromethane	µg/l	4.15 ± 0.173	2.12 ± 0.42	0.539	51.1	-3.76


Sample
C71 A
C71 B
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1,1-Dichloroethene
1,2-Dichloroethane
Bromodichloromethane
cis-1,2-Dichloroethene
Dibromochloromethane
Dichloromethane
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Tribromomethane
Trichloroethene
Trichloromethane
Measurand
-2.0
-3.8
-2
0
2
Z-Score

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	0.79 ± 0.16	0.12	98.7	-0.03
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	0.59 ± 0.12	0.116	86.6	-0.37
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	1 ± 0.2	0.142	91.6	-0.23
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.69 ± 0.34	0.165	102	0.05
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	0.77 ± 0.15	0.0967	79.6	-0.64
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.35 ± 0.27	0.158	103	0.07
Dichloromethane	µg/l	7.5 ± 0.503	8.08 ± 1.62	0.975	108	0.18
Tetrachloroethene	µg/l	0.584 ± 0.0417	<0.2 (LOQ) ± -	0.0993	-	-
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.48 ± 0.1	0.0783	98.1	-0.05
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	0.6 ± 0.12	0.153	78.7	-0.65
Tribromomethane	µg/l	1.42 ± 0.0951	1.46 ± 0.29	0.17	103	0.08
Trichloroethene	µg/l	0.677 ± 0.0456	0.59 ± 0.12	0.102	87.2	-0.36
Trichloromethane	µg/l	0.932 ± 0.039	<0.2 (LOQ) ± -	0.121	-	-

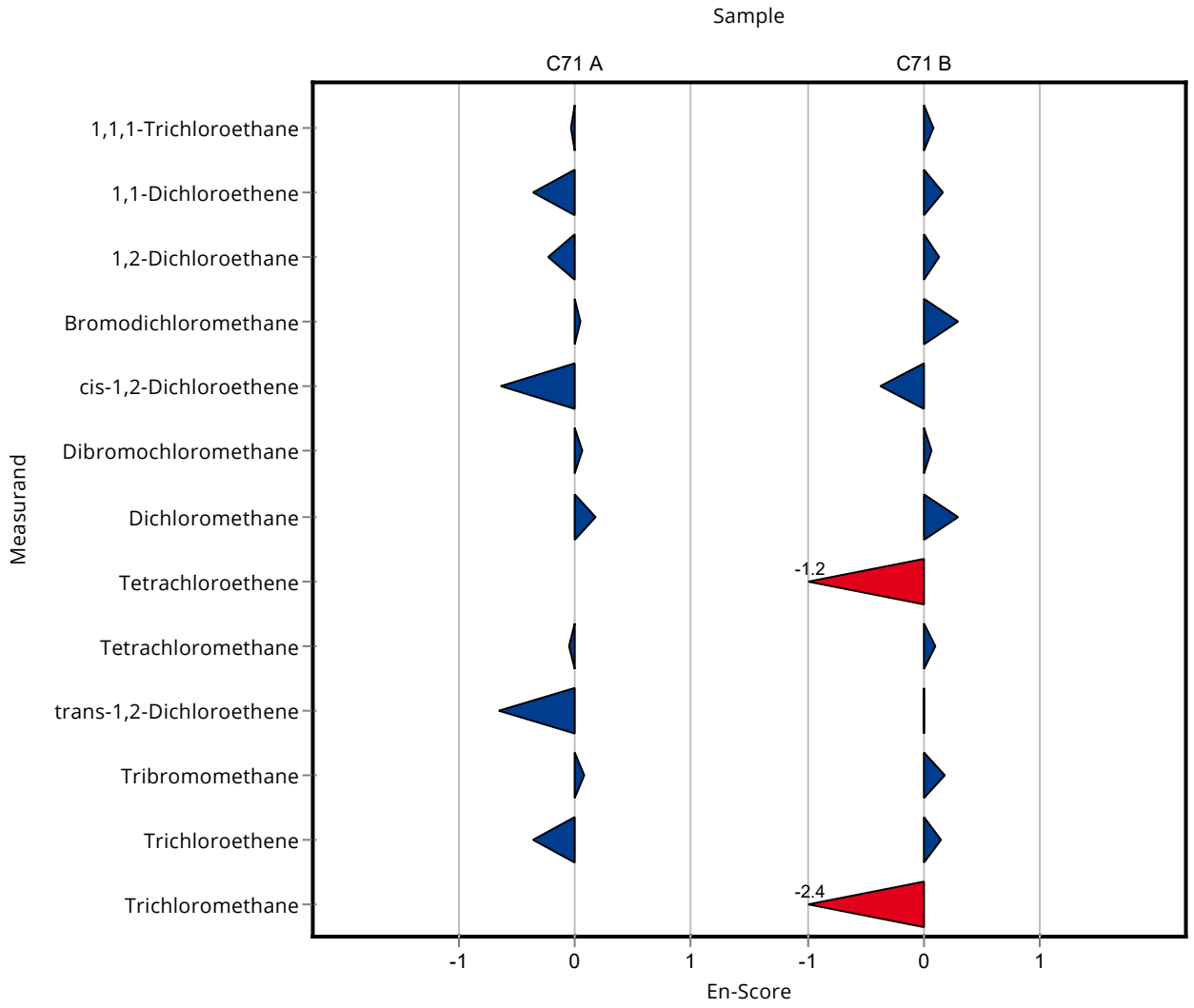
Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	4.49 ± 0.9	0.65	104	0.08
1,1-Dichloroethene	µg/l	3.74 ± 0.238	4 ± 0.8	0.636	107	0.16
1,2-Dichloroethane	µg/l	5.14 ± 0.243	5.45 ± 1.1	0.669	106	0.14
Bromodichloromethane	µg/l	7.97 ± 0.324	9.06 ± 1.8	0.797	114	0.30
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	4.14 ± 0.82	0.476	87	-0.37
Dibromochloromethane	µg/l	6.54 ± 0.309	6.73 ± 1.34	0.785	103	0.07
Dichloromethane	µg/l	9.04 ± 0.398	10.3 ± 2.1	1.18	114	0.30

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0003

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Tetrachloroethene	µg/l	2.95 ± 0.244	1.99 ± 0.39	0.501	67.5	-1.17
Tetrachloromethane	µg/l	2.73 ± 0.089	2.85 ± 0.57	0.438	104	0.10
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	4.04 ± 0.8	0.808	100	0.00
Tribromomethane	µg/l	7.12 ± 0.429	7.67 ± 1.53	0.854	108	0.18
Trichloroethene	µg/l	3.13 ± 0.16	3.32 ± 0.66	0.47	106	0.14
Trichloromethane	µg/l	4.15 ± 0.173	2.12 ± 0.42	0.539	51.1	-2.36



Summary of results Volatile halogenated hydrocarbons (VHH) - C71 Labcode: LC0004

Sample: C71A

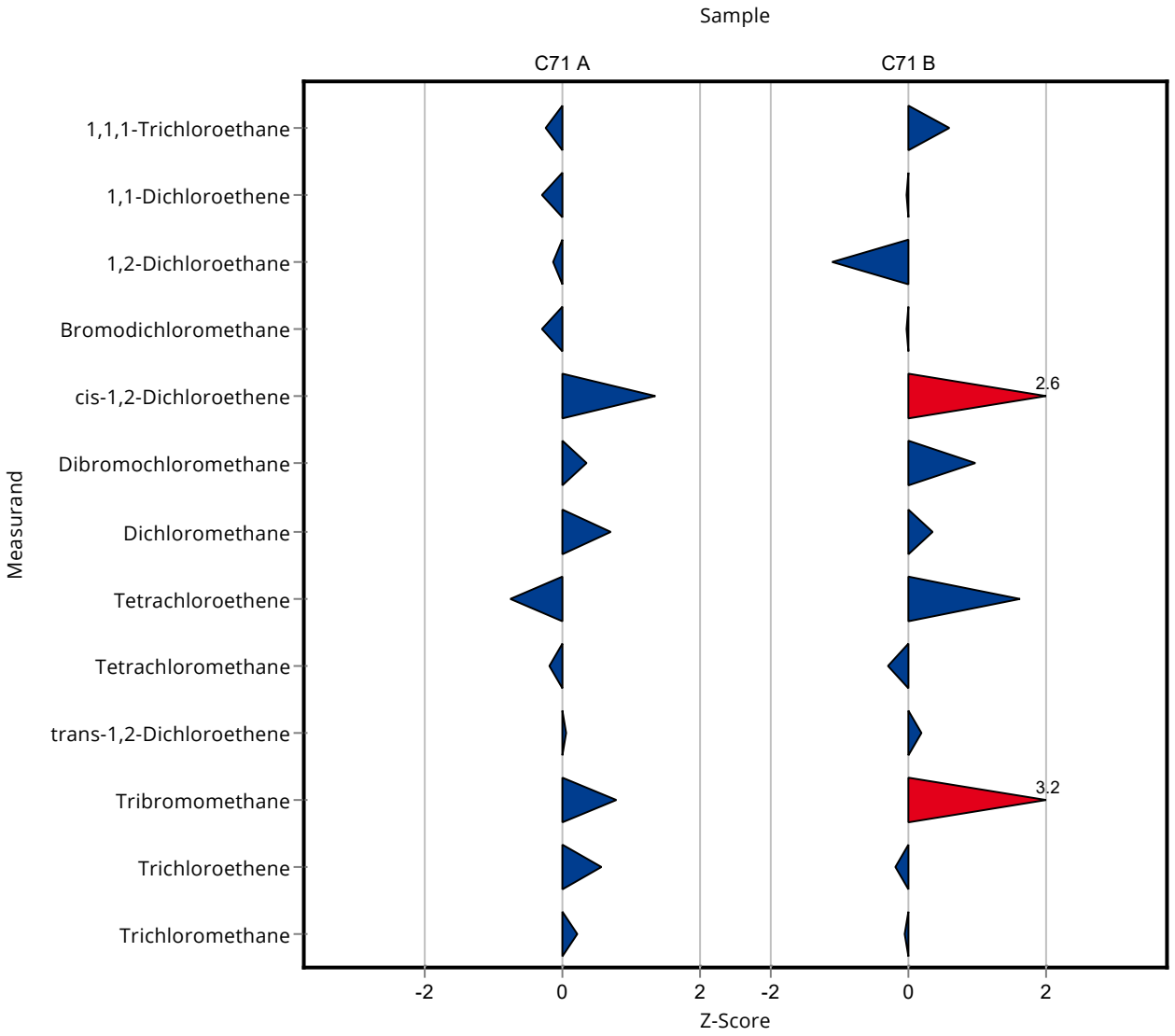
Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	0.77 ± 0.069	0.12	96.2	-0.26
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	0.646 ± 0.058	0.116	94.8	-0.31
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	1.073 ± 0.097	0.142	98.3	-0.13
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.603 ± 0.144	0.165	96.9	-0.31
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	1.097 ± 0.099	0.0967	113	1.34
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.37 ± 0.123	0.158	104	0.36
Dichloromethane	µg/l	7.5 ± 0.503	8.173 ± 0.736	0.975	109	0.69
Tetrachloroethene	µg/l	0.584 ± 0.0417	0.509 ± 0.046	0.0993	87.1	-0.76
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.474 ± 0.043	0.0783	96.8	-0.20
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	0.771 ± 0.069	0.153	101	0.05
Tribromomethane	µg/l	1.42 ± 0.0951	1.547 ± 0.139	0.17	109	0.77
Trichloroethene	µg/l	0.677 ± 0.0456	0.735 ± 0.066	0.102	109	0.57
Trichloromethane	µg/l	0.932 ± 0.039	0.956 ± 0.086	0.121	103	0.20

Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	4.72 ± 0.42	0.65	109	0.59
1,1-Dichloroethene	µg/l	3.74 ± 0.238	3.72 ± 0.33	0.636	99.5	-0.03
1,2-Dichloroethane	µg/l	5.14 ± 0.243	4.4 ± 0.4	0.669	85.5	-1.11
Bromodichloromethane	µg/l	7.97 ± 0.324	7.96 ± 0.72	0.797	99.9	-0.01
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	5.99 ± 0.54	0.476	126	2.59
Dibromochloromethane	µg/l	6.54 ± 0.309	7.3 ± 0.66	0.785	112	0.97
Dichloromethane	µg/l	9.04 ± 0.398	9.46 ± 0.85	1.18	105	0.36
Tetrachloroethene	µg/l	2.95 ± 0.244	3.76 ± 0.34	0.501	127	1.62
Tetrachloromethane	µg/l	2.73 ± 0.089	2.61 ± 0.23	0.438	95.4	-0.29
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	4.19 ± 0.38	0.808	104	0.18
Tribromomethane	µg/l	7.12 ± 0.429	9.82 ± 0.88	0.854	138	3.16
Trichloroethene	µg/l	3.13 ± 0.16	3.05 ± 0.27	0.47	97.4	-0.17
Trichloromethane	µg/l	4.15 ± 0.173	4.12 ± 0.37	0.539	99.4	-0.05

Summary of results Volatile halogenated hydrocarbons (VHH) - C71

Labcode: LC0004



Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0004

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	0.77 ± 0.069	0.12	96.2	-0.21
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	0.646 ± 0.058	0.116	94.8	-0.26
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	1.073 ± 0.097	0.142	98.3	-0.09
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.603 ± 0.144	0.165	96.9	-0.17
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	1.097 ± 0.099	0.0967	113	0.62
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.37 ± 0.123	0.158	104	0.22
Dichloromethane	µg/l	7.5 ± 0.503	8.173 ± 0.736	0.975	109	0.43
Tetrachloroethene	µg/l	0.584 ± 0.0417	0.509 ± 0.046	0.0993	87.1	-0.75
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.474 ± 0.043	0.0783	96.8	-0.17
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	0.771 ± 0.069	0.153	101	0.05
Tribromomethane	µg/l	1.42 ± 0.0951	1.547 ± 0.139	0.17	109	0.45
Trichloroethene	µg/l	0.677 ± 0.0456	0.735 ± 0.066	0.102	109	0.42
Trichloromethane	µg/l	0.932 ± 0.039	0.956 ± 0.086	0.121	103	0.14

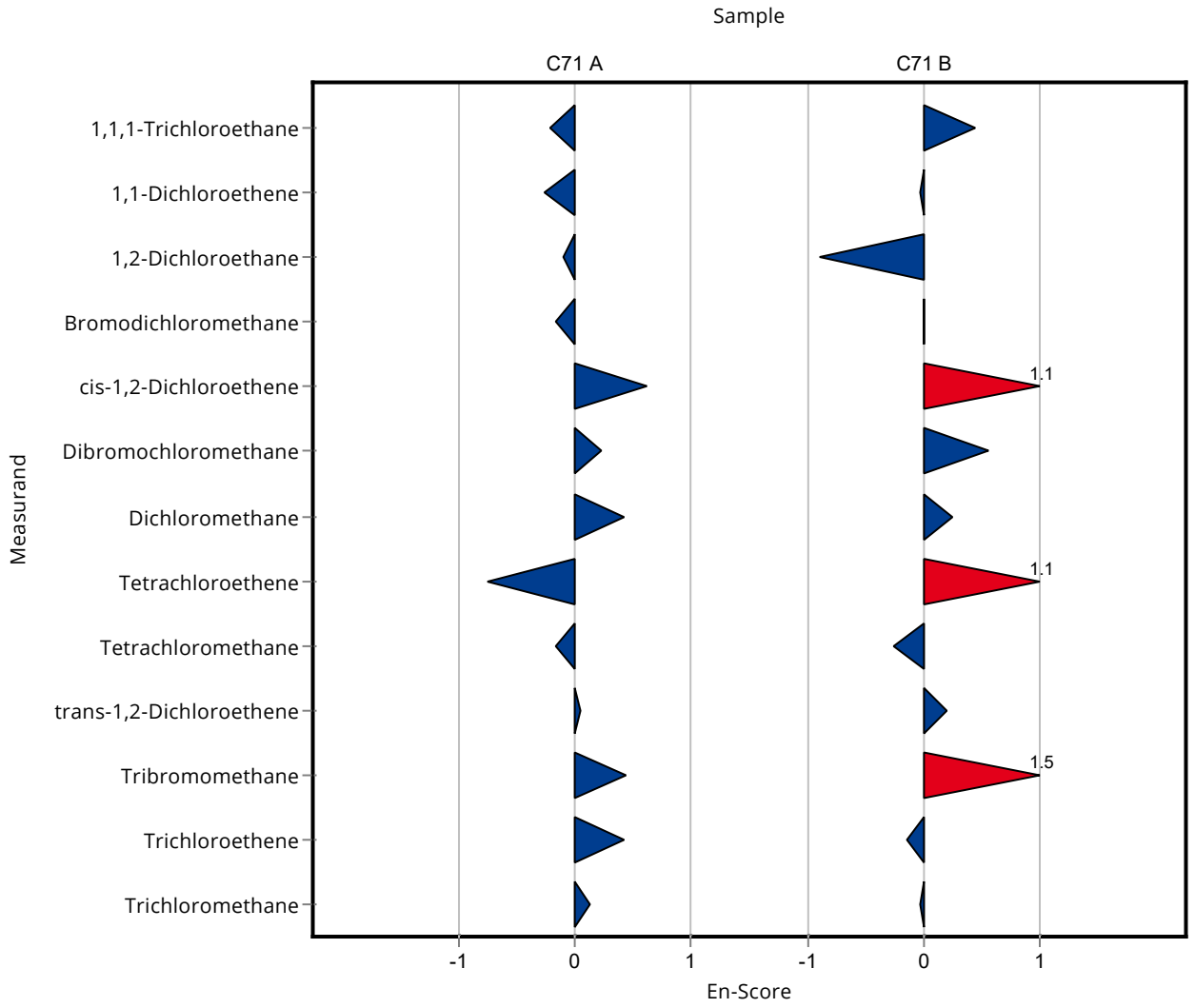
Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	4.72 ± 0.42	0.65	109	0.45
1,1-Dichloroethene	µg/l	3.74 ± 0.238	3.72 ± 0.33	0.636	99.5	-0.03
1,2-Dichloroethane	µg/l	5.14 ± 0.243	4.4 ± 0.4	0.669	85.5	-0.89
Bromodichloromethane	µg/l	7.97 ± 0.324	7.96 ± 0.72	0.797	99.9	-0.01
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	5.99 ± 0.54	0.476	126	1.08
Dibromochloromethane	µg/l	6.54 ± 0.309	7.3 ± 0.66	0.785	112	0.56
Dichloromethane	µg/l	9.04 ± 0.398	9.46 ± 0.85	1.18	105	0.24

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0004

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Tetrachloroethene	µg/l	2.95 ± 0.244	3.76 ± 0.34	0.501	127	1.12
Tetrachloromethane	µg/l	2.73 ± 0.089	2.61 ± 0.23	0.438	95.4	-0.27
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	4.19 ± 0.38	0.808	104	0.19
Tribromomethane	µg/l	7.12 ± 0.429	9.82 ± 0.88	0.854	138	1.49
Trichloroethene	µg/l	3.13 ± 0.16	3.05 ± 0.27	0.47	97.4	-0.15
Trichloromethane	µg/l	4.15 ± 0.173	4.12 ± 0.37	0.539	99.4	-0.03



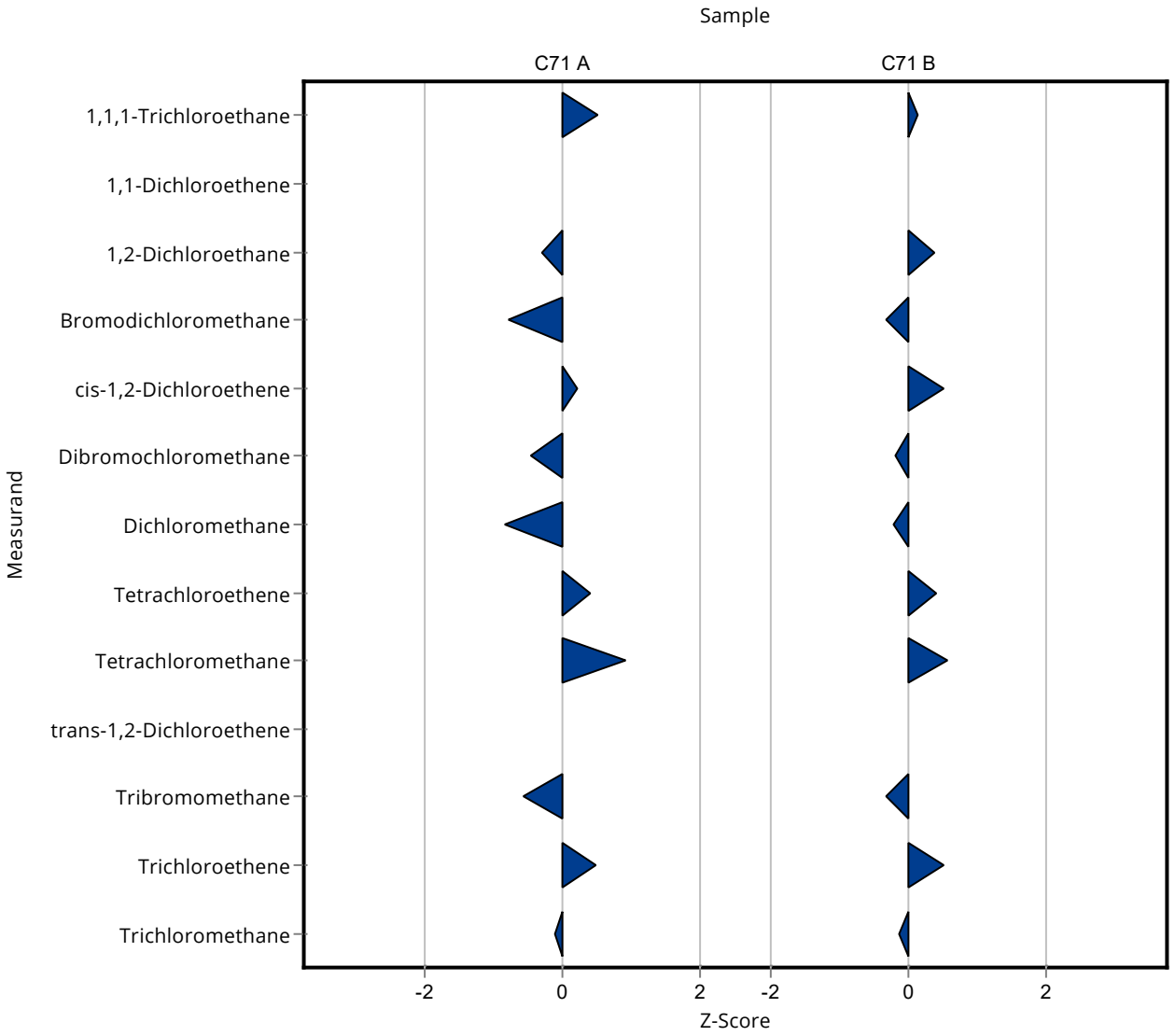
Summary of results Volatile halogenated hydrocarbons (VHH) - C71 Labcode: LC0005

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	0.861 ± 0.108	0.12	108	0.50
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	- ± -	0.116	-	-
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	1.05 ± 0.166	0.142	96.2	-0.29
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.523 ± 0.177	0.165	92.1	-0.79
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	0.988 ± 0.132	0.0967	102	0.22
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.24 ± 0.216	0.158	94.4	-0.47
Dichloromethane	µg/l	7.5 ± 0.503	6.69 ± 0.783	0.975	89.2	-0.83
Tetrachloroethene	µg/l	0.584 ± 0.0417	0.623 ± 0.0797	0.0993	107	0.39
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.561 ± 0.0875	0.0783	115	0.91
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	- ± -	0.153	-	-
Tribromomethane	µg/l	1.42 ± 0.0951	1.32 ± 0.205	0.17	93.2	-0.56
Trichloroethene	µg/l	0.677 ± 0.0456	0.725 ± 0.0899	0.102	107	0.47
Trichloromethane	µg/l	0.932 ± 0.039	0.919 ± 0.0947	0.121	98.6	-0.11

Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	4.43 ± 0.558	0.65	102	0.14
1,1-Dichloroethene	µg/l	3.74 ± 0.238	- ± -	0.636	-	-
1,2-Dichloroethane	µg/l	5.14 ± 0.243	5.4 ± 0.853	0.669	105	0.38
Bromodichloromethane	µg/l	7.97 ± 0.324	7.72 ± 0.896	0.797	96.9	-0.31
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	5 ± 0.667	0.476	105	0.51
Dibromochloromethane	µg/l	6.54 ± 0.309	6.4 ± 1.11	0.785	97.9	-0.18
Dichloromethane	µg/l	9.04 ± 0.398	8.81 ± 1.03	1.18	97.4	-0.20
Tetrachloroethene	µg/l	2.95 ± 0.244	3.15 ± 0.403	0.501	107	0.40
Tetrachloromethane	µg/l	2.73 ± 0.089	2.99 ± 0.467	0.438	109	0.58
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	- ± -	0.808	-	-
Tribromomethane	µg/l	7.12 ± 0.429	6.85 ± 1.06	0.854	96.2	-0.32
Trichloroethene	µg/l	3.13 ± 0.16	3.37 ± 0.418	0.47	108	0.51
Trichloromethane	µg/l	4.15 ± 0.173	4.08 ± 0.42	0.539	98.4	-0.12


Sample
C71 A
C71 B
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1,1-Dichloroethene
1,2-Dichloroethane
Bromodichloromethane
cis-1,2-Dichloroethene
Dibromochloromethane
Dichloromethane
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Tribromomethane
Trichloroethene
Trichloromethane
Measurand
-2
0
2
-2
0
2
Z-Score

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0005

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	0.861 ± 0.108	0.12	108	0.27
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	- ± -	0.116	-	-
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	1.05 ± 0.166	0.142	96.2	-0.12
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.523 ± 0.177	0.165	92.1	-0.36
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	0.988 ± 0.132	0.0967	102	0.08
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.24 ± 0.216	0.158	94.4	-0.17
Dichloromethane	µg/l	7.5 ± 0.503	6.69 ± 0.783	0.975	89.2	-0.49
Tetrachloroethene	µg/l	0.584 ± 0.0417	0.623 ± 0.0797	0.0993	107	0.23
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.561 ± 0.0875	0.0783	115	0.40
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	- ± -	0.153	-	-
Tribromomethane	µg/l	1.42 ± 0.0951	1.32 ± 0.205	0.17	93.2	-0.23
Trichloroethene	µg/l	0.677 ± 0.0456	0.725 ± 0.0899	0.102	107	0.26
Trichloromethane	µg/l	0.932 ± 0.039	0.919 ± 0.0947	0.121	98.6	-0.07

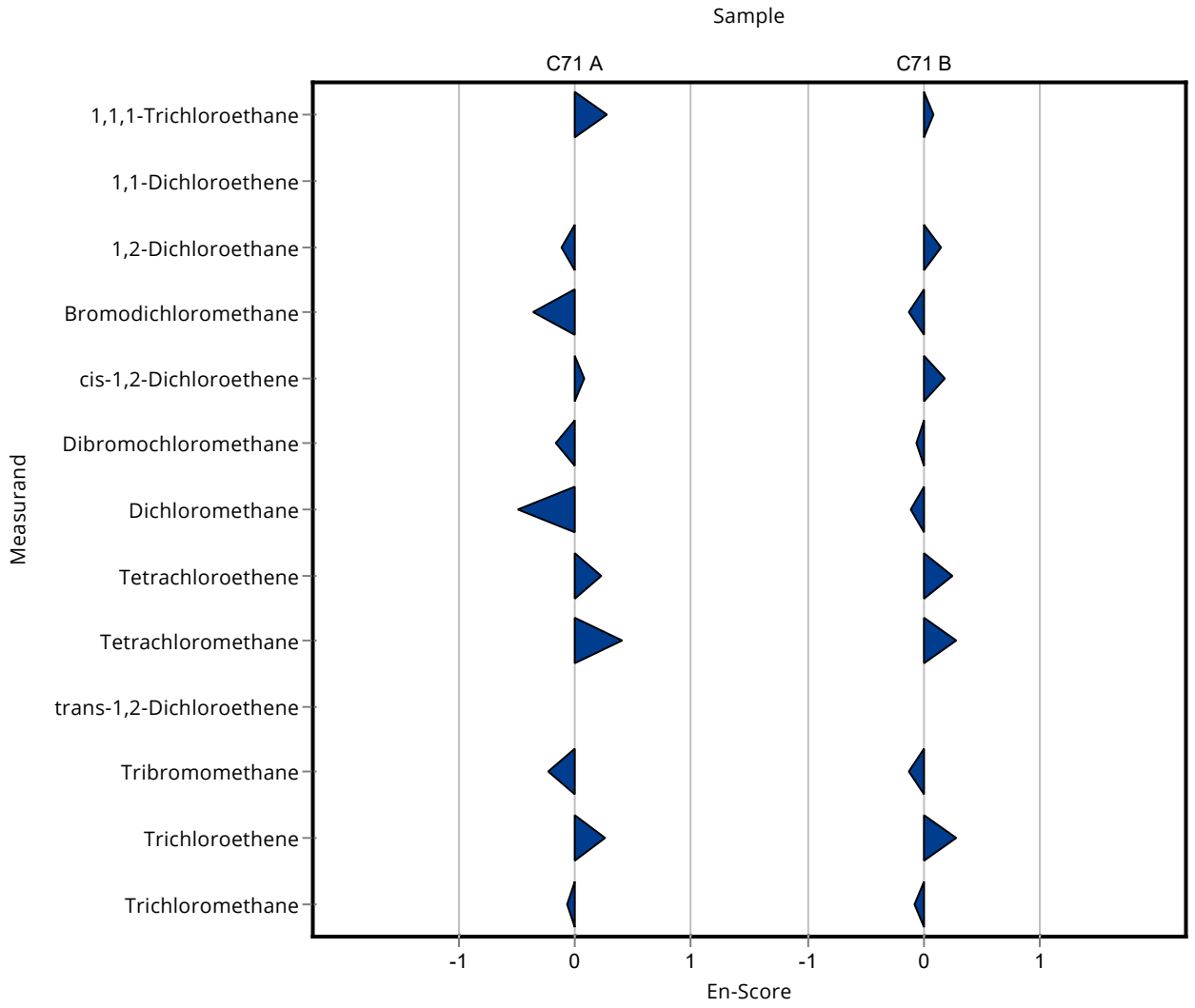
Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	4.43 ± 0.558	0.65	102	0.08
1,1-Dichloroethene	µg/l	3.74 ± 0.238	- ± -	0.636	-	-
1,2-Dichloroethane	µg/l	5.14 ± 0.243	5.4 ± 0.853	0.669	105	0.15
Bromodichloromethane	µg/l	7.97 ± 0.324	7.72 ± 0.896	0.797	96.9	-0.14
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	5 ± 0.667	0.476	105	0.17
Dibromochloromethane	µg/l	6.54 ± 0.309	6.4 ± 1.11	0.785	97.9	-0.06
Dichloromethane	µg/l	9.04 ± 0.398	8.81 ± 1.03	1.18	97.4	-0.11

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0005

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Tetrachloroethene	µg/l	2.95 ± 0.244	3.15 ± 0.403	0.501	107	0.24
Tetrachloromethane	µg/l	2.73 ± 0.089	2.99 ± 0.467	0.438	109	0.27
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	- ± -	0.808	-	-
Tribromomethane	µg/l	7.12 ± 0.429	6.85 ± 1.06	0.854	96.2	-0.12
Trichloroethene	µg/l	3.13 ± 0.16	3.37 ± 0.418	0.47	108	0.28
Trichloromethane	µg/l	4.15 ± 0.173	4.08 ± 0.42	0.539	98.4	-0.08



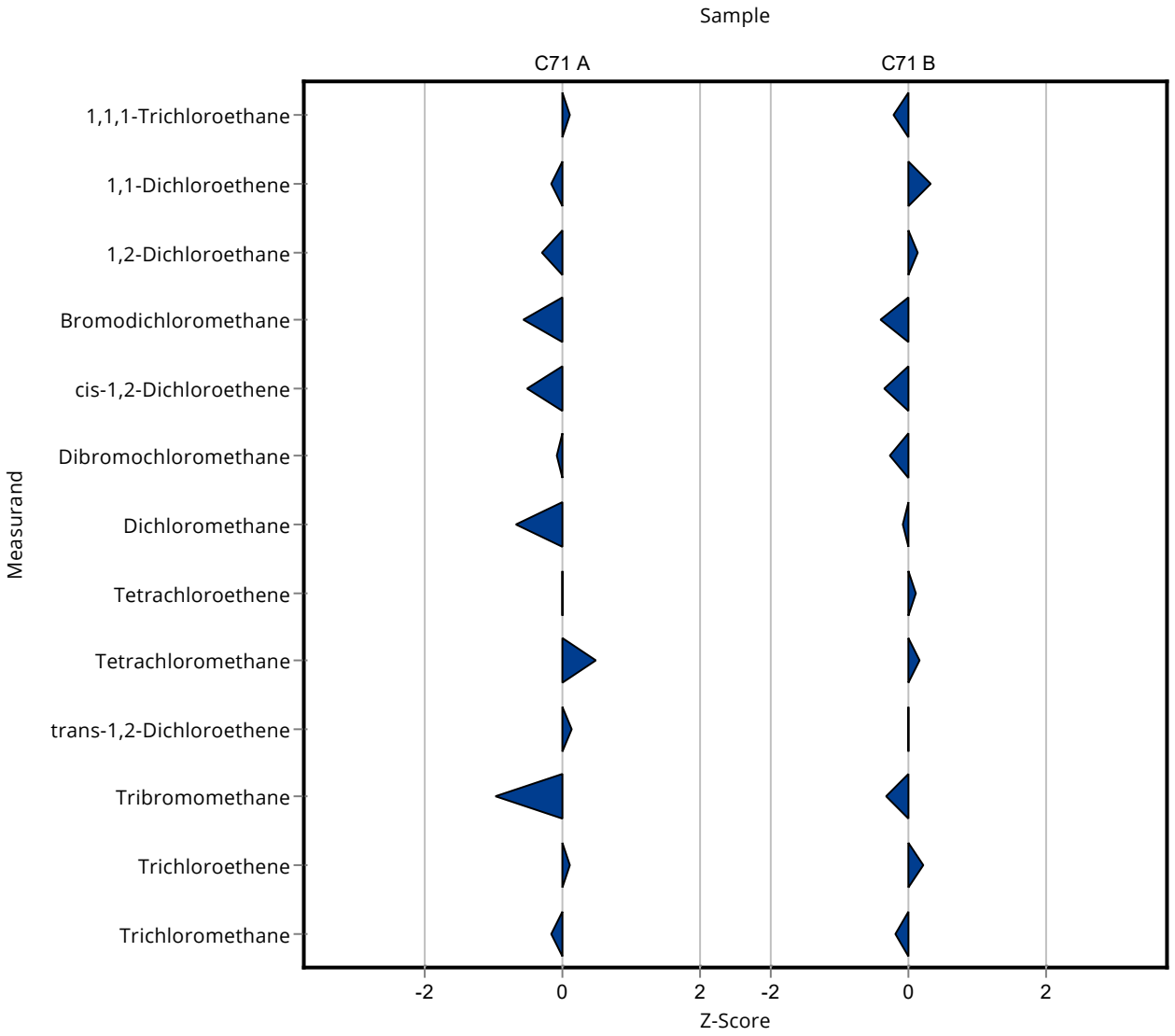
Summary of results Volatile halogenated hydrocarbons (VHH) - C71 Labcode: LC0006

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	0.813 ± 0.16	0.12	102	0.10
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	0.661 ± 0.13	0.116	97	-0.18
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	1.05 ± 0.26	0.142	96.2	-0.29
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.56 ± 0.39	0.165	94.3	-0.57
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	0.916 ± 0.18	0.0967	94.7	-0.53
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.3 ± 0.33	0.158	99	-0.09
Dichloromethane	µg/l	7.5 ± 0.503	6.83 ± 1.7	0.975	91	-0.69
Tetrachloroethene	µg/l	0.584 ± 0.0417	0.584 ± 0.058	0.0993	99.9	0.00
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.527 ± 0.13	0.0783	108	0.48
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	0.783 ± 0.16	0.153	103	0.13
Tribromomethane	µg/l	1.42 ± 0.0951	1.25 ± 0.31	0.17	88.3	-0.98
Trichloroethene	µg/l	0.677 ± 0.0456	0.687 ± 0.069	0.102	102	0.10
Trichloromethane	µg/l	0.932 ± 0.039	0.913 ± 0.18	0.121	97.9	-0.16

Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	4.2 ± 0.84	0.65	96.9	-0.21
1,1-Dichloroethene	µg/l	3.74 ± 0.238	3.95 ± 0.79	0.636	106	0.33
1,2-Dichloroethane	µg/l	5.14 ± 0.243	5.23 ± 1.3	0.669	102	0.13
Bromodichloromethane	µg/l	7.97 ± 0.324	7.66 ± 1.9	0.797	96.1	-0.39
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	4.6 ± 0.92	0.476	96.7	-0.33
Dibromochloromethane	µg/l	6.54 ± 0.309	6.33 ± 1.6	0.785	96.8	-0.27
Dichloromethane	µg/l	9.04 ± 0.398	8.96 ± 2.2	1.18	99.1	-0.07
Tetrachloroethene	µg/l	2.95 ± 0.244	3.01 ± 0.3	0.501	102	0.12
Tetrachloromethane	µg/l	2.73 ± 0.089	2.81 ± 0.71	0.438	103	0.17
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	4.04 ± 0.81	0.808	100	0.00
Tribromomethane	µg/l	7.12 ± 0.429	6.85 ± 1.7	0.854	96.2	-0.32
Trichloroethene	µg/l	3.13 ± 0.16	3.23 ± 0.32	0.47	103	0.21
Trichloromethane	µg/l	4.15 ± 0.173	4.05 ± 0.81	0.539	97.7	-0.18


Sample
C71 A
C71 B
1,1,1-Trichloroethane
1,1-Dichloroethene
1,2-Dichloroethane
Bromodichloromethane
cis-1,2-Dichloroethene
Dibromochloromethane
Dichloromethane
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Tribromomethane
Trichloroethene
Trichloromethane
Measurand
-2
0
2
-2
0
2
Z-Score

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0006

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	0.813 ± 0.16	0.12	102	0.04
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	0.661 ± 0.13	0.116	97	-0.08
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	1.05 ± 0.26	0.142	96.2	-0.08
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.56 ± 0.39	0.165	94.3	-0.12
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	0.916 ± 0.18	0.0967	94.7	-0.14
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.3 ± 0.33	0.158	99	-0.02
Dichloromethane	µg/l	7.5 ± 0.503	6.83 ± 1.7	0.975	91	-0.20
Tetrachloroethene	µg/l	0.584 ± 0.0417	0.584 ± 0.058	0.0993	99.9	0.00
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.527 ± 0.13	0.0783	108	0.14
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	0.783 ± 0.16	0.153	103	0.06
Tribromomethane	µg/l	1.42 ± 0.0951	1.25 ± 0.31	0.17	88.3	-0.26
Trichloroethene	µg/l	0.677 ± 0.0456	0.687 ± 0.069	0.102	102	0.07
Trichloromethane	µg/l	0.932 ± 0.039	0.913 ± 0.18	0.121	97.9	-0.05

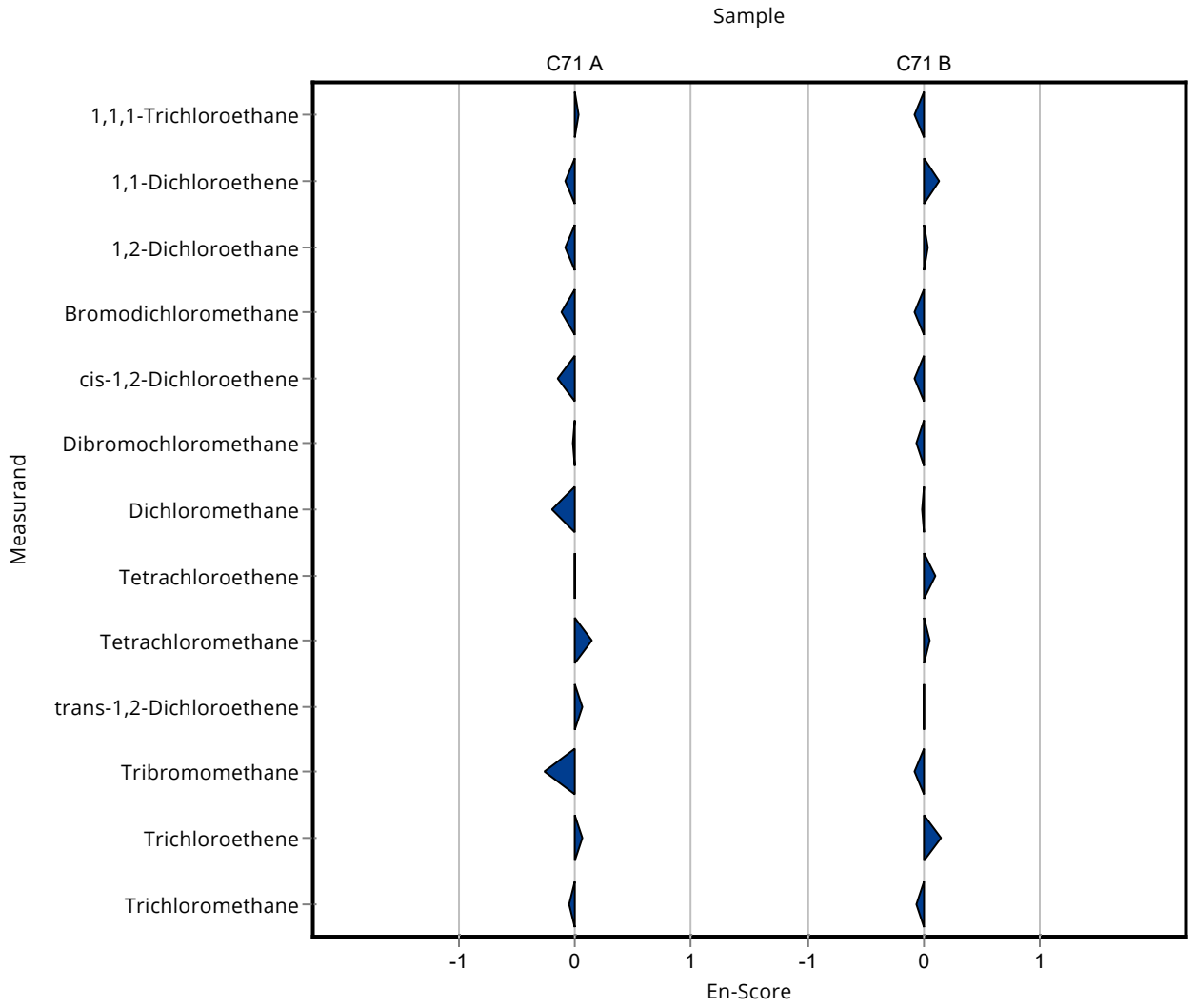
Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	4.2 ± 0.84	0.65	96.9	-0.08
1,1-Dichloroethene	µg/l	3.74 ± 0.238	3.95 ± 0.79	0.636	106	0.13
1,2-Dichloroethane	µg/l	5.14 ± 0.243	5.23 ± 1.3	0.669	102	0.03
Bromodichloromethane	µg/l	7.97 ± 0.324	7.66 ± 1.9	0.797	96.1	-0.08
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	4.6 ± 0.92	0.476	96.7	-0.08
Dibromochloromethane	µg/l	6.54 ± 0.309	6.33 ± 1.6	0.785	96.8	-0.06
Dichloromethane	µg/l	9.04 ± 0.398	8.96 ± 2.2	1.18	99.1	-0.02

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0006

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Tetrachloroethene	µg/l	2.95 ± 0.244	3.01 ± 0.3	0.501	102	0.09
Tetrachloromethane	µg/l	2.73 ± 0.089	2.81 ± 0.71	0.438	103	0.05
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	4.04 ± 0.81	0.808	100	0.00
Tribromomethane	µg/l	7.12 ± 0.429	6.85 ± 1.7	0.854	96.2	-0.08
Trichloroethene	µg/l	3.13 ± 0.16	3.23 ± 0.32	0.47	103	0.15
Trichloromethane	µg/l	4.15 ± 0.173	4.05 ± 0.81	0.539	97.7	-0.06



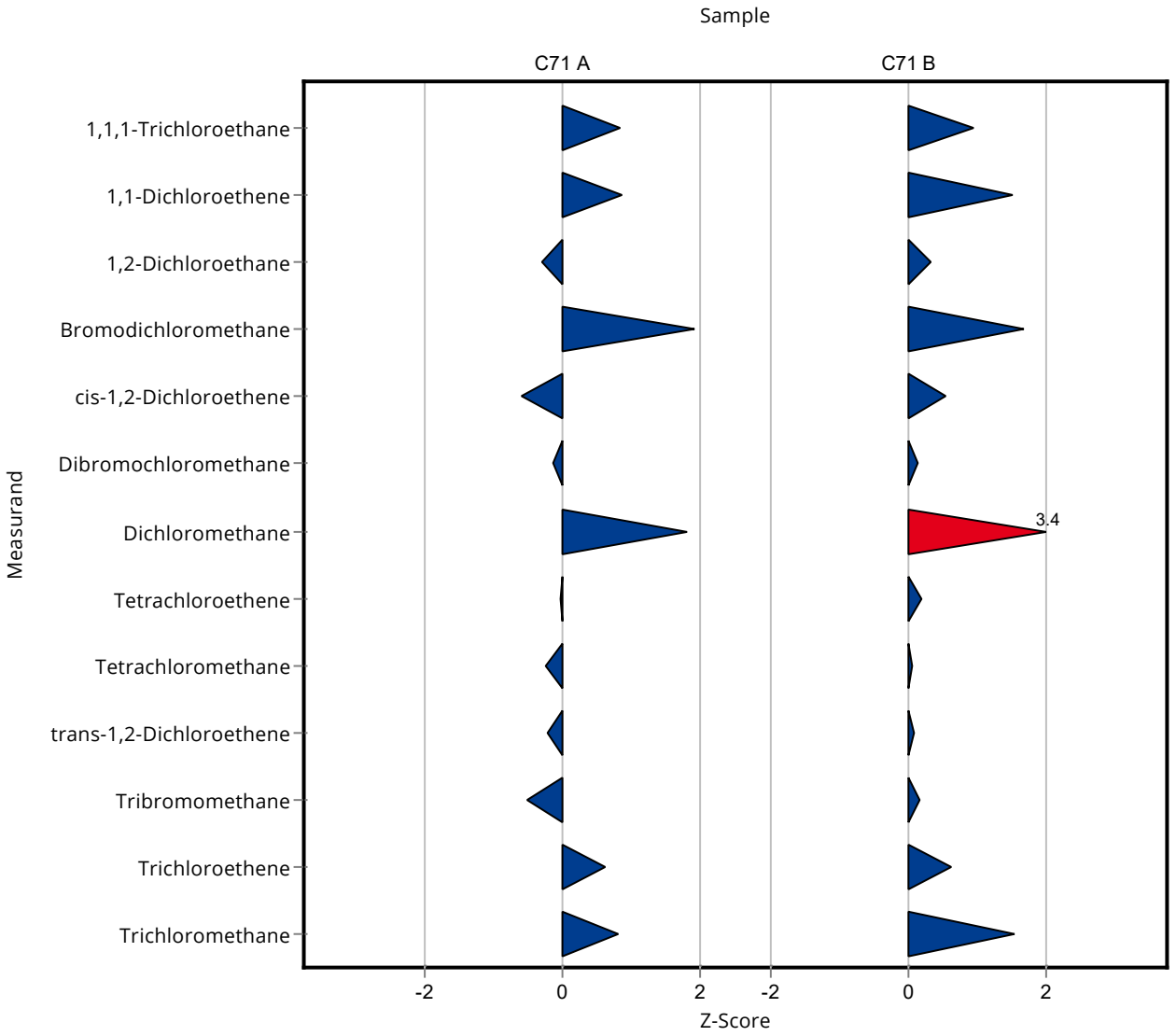
Summary of results Volatile halogenated hydrocarbons (VHH) - C71 Labcode: LC0007

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	0.9 ± 0.396	0.12	112	0.83
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	0.78 ± 0.343	0.116	114	0.85
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	1.05 ± 0.462	0.142	96.2	-0.29
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.97 ± 0.867	0.165	119	1.91
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	0.91 ± 0.4	0.0967	94.1	-0.59
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.29 ± 0.568	0.158	98.2	-0.15
Dichloromethane	µg/l	7.5 ± 0.503	9.25 ± 4.07	0.975	123	1.79
Tetrachloroethene	µg/l	0.584 ± 0.0417	0.58 ± 0.255	0.0993	99.2	-0.04
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.47 ± 0.207	0.0783	96	-0.25
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	0.73 ± 0.321	0.153	95.7	-0.21
Tribromomethane	µg/l	1.42 ± 0.0951	1.33 ± 0.585	0.17	93.9	-0.50
Trichloroethene	µg/l	0.677 ± 0.0456	0.74 ± 0.326	0.102	109	0.62
Trichloromethane	µg/l	0.932 ± 0.039	1.03 ± 0.453	0.121	110	0.81

Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	4.96 ± 2.18	0.65	114	0.96
1,1-Dichloroethene	µg/l	3.74 ± 0.238	4.7 ± 2.07	0.636	126	1.51
1,2-Dichloroethane	µg/l	5.14 ± 0.243	5.36 ± 2.36	0.669	104	0.32
Bromodichloromethane	µg/l	7.97 ± 0.324	9.3 ± 4.09	0.797	117	1.67
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	5.02 ± 2.21	0.476	105	0.55
Dibromochloromethane	µg/l	6.54 ± 0.309	6.64 ± 2.92	0.785	102	0.13
Dichloromethane	µg/l	9.04 ± 0.398	13.02 ± 5.73	1.18	144	3.39
Tetrachloroethene	µg/l	2.95 ± 0.244	3.04 ± 1.34	0.501	103	0.18
Tetrachloromethane	µg/l	2.73 ± 0.089	2.76 ± 1.21	0.438	101	0.06
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	4.12 ± 1.81	0.808	102	0.10
Tribromomethane	µg/l	7.12 ± 0.429	7.27 ± 3.2	0.854	102	0.18
Trichloroethene	µg/l	3.13 ± 0.16	3.43 ± 1.51	0.47	110	0.63
Trichloromethane	µg/l	4.15 ± 0.173	4.98 ± 2.19	0.539	120	1.55


Sample
C71 A
C71 B
1,1,1-Trichloroethane
1,1-Dichloroethene
1,2-Dichloroethane
Bromodichloromethane
cis-1,2-Dichloroethene
Dibromochloromethane
Dichloromethane
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Tribromomethane
Trichloroethene
Trichloromethane
Measurand
3.4
-2
0
2
-2
0
2
Z-Score

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0007

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	0.9 ± 0.396	0.12	112	0.13
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	0.78 ± 0.343	0.116	114	0.14
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	1.05 ± 0.462	0.142	96.2	-0.04
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.97 ± 0.867	0.165	119	0.18
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	0.91 ± 0.4	0.0967	94.1	-0.07
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.29 ± 0.568	0.158	98.2	-0.02
Dichloromethane	µg/l	7.5 ± 0.503	9.25 ± 4.07	0.975	123	0.21
Tetrachloroethene	µg/l	0.584 ± 0.0417	0.58 ± 0.255	0.0993	99.2	-0.01
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.47 ± 0.207	0.0783	96	-0.05
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	0.73 ± 0.321	0.153	95.7	-0.05
Tribromomethane	µg/l	1.42 ± 0.0951	1.33 ± 0.585	0.17	93.9	-0.07
Trichloroethene	µg/l	0.677 ± 0.0456	0.74 ± 0.326	0.102	109	0.10
Trichloromethane	µg/l	0.932 ± 0.039	1.03 ± 0.453	0.121	110	0.11

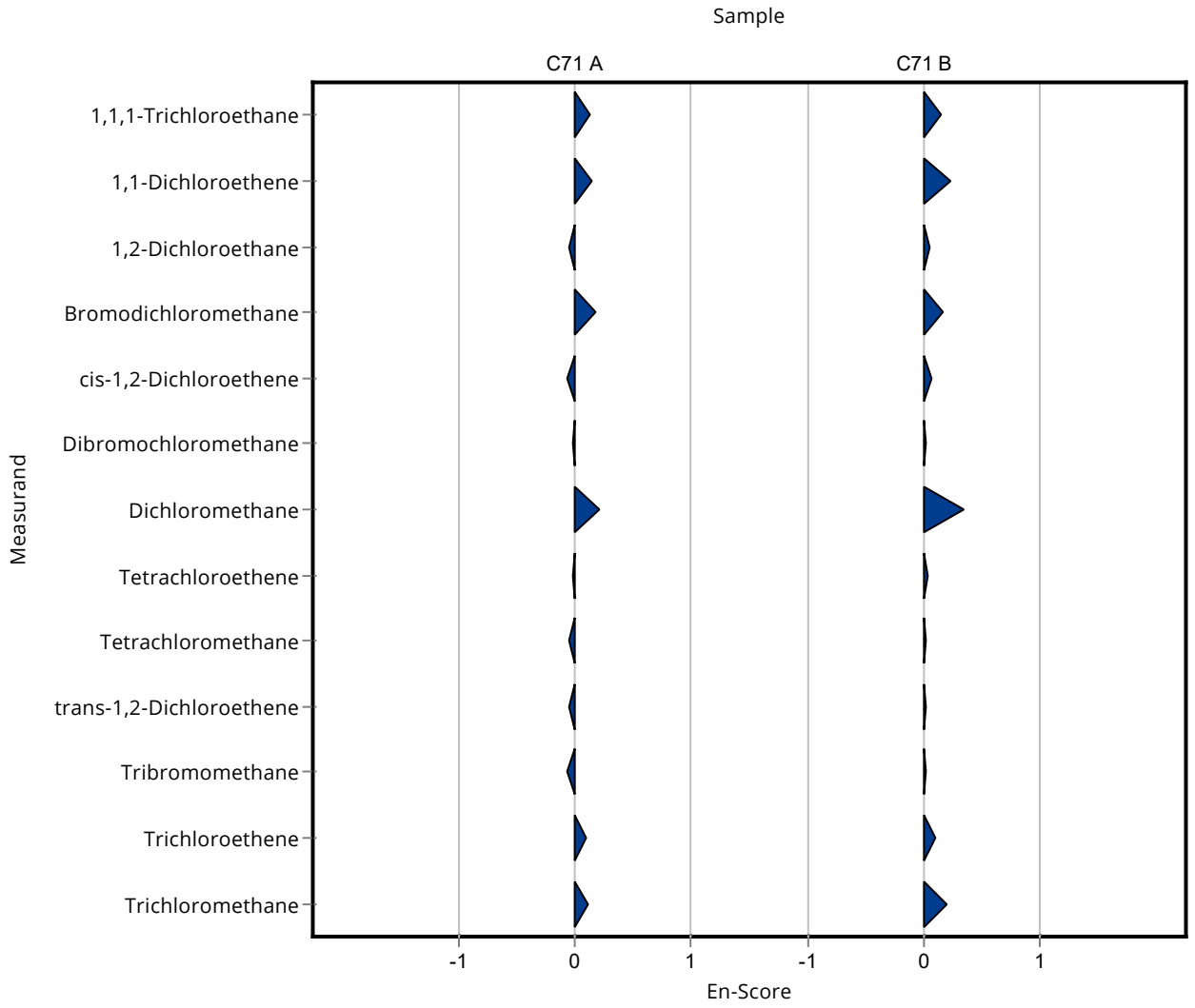
Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	4.96 ± 2.18	0.65	114	0.14
1,1-Dichloroethene	µg/l	3.74 ± 0.238	4.7 ± 2.07	0.636	126	0.23
1,2-Dichloroethane	µg/l	5.14 ± 0.243	5.36 ± 2.36	0.669	104	0.05
Bromodichloromethane	µg/l	7.97 ± 0.324	9.3 ± 4.09	0.797	117	0.16
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	5.02 ± 2.21	0.476	105	0.06
Dibromochloromethane	µg/l	6.54 ± 0.309	6.64 ± 2.92	0.785	102	0.02
Dichloromethane	µg/l	9.04 ± 0.398	13.02 ± 5.73	1.18	144	0.35

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0007

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Tetrachloroethene	µg/l	2.95 ± 0.244	3.04 ± 1.34	0.501	103	0.03
Tetrachloromethane	µg/l	2.73 ± 0.089	2.76 ± 1.21	0.438	101	0.01
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	4.12 ± 1.81	0.808	102	0.02
Tribromomethane	µg/l	7.12 ± 0.429	7.27 ± 3.2	0.854	102	0.02
Trichloroethene	µg/l	3.13 ± 0.16	3.43 ± 1.51	0.47	110	0.10
Trichloromethane	µg/l	4.15 ± 0.173	4.98 ± 2.19	0.539	120	0.19



Summary of results Volatile halogenated hydrocarbons (VHH) - C71 Labcode: LC0008

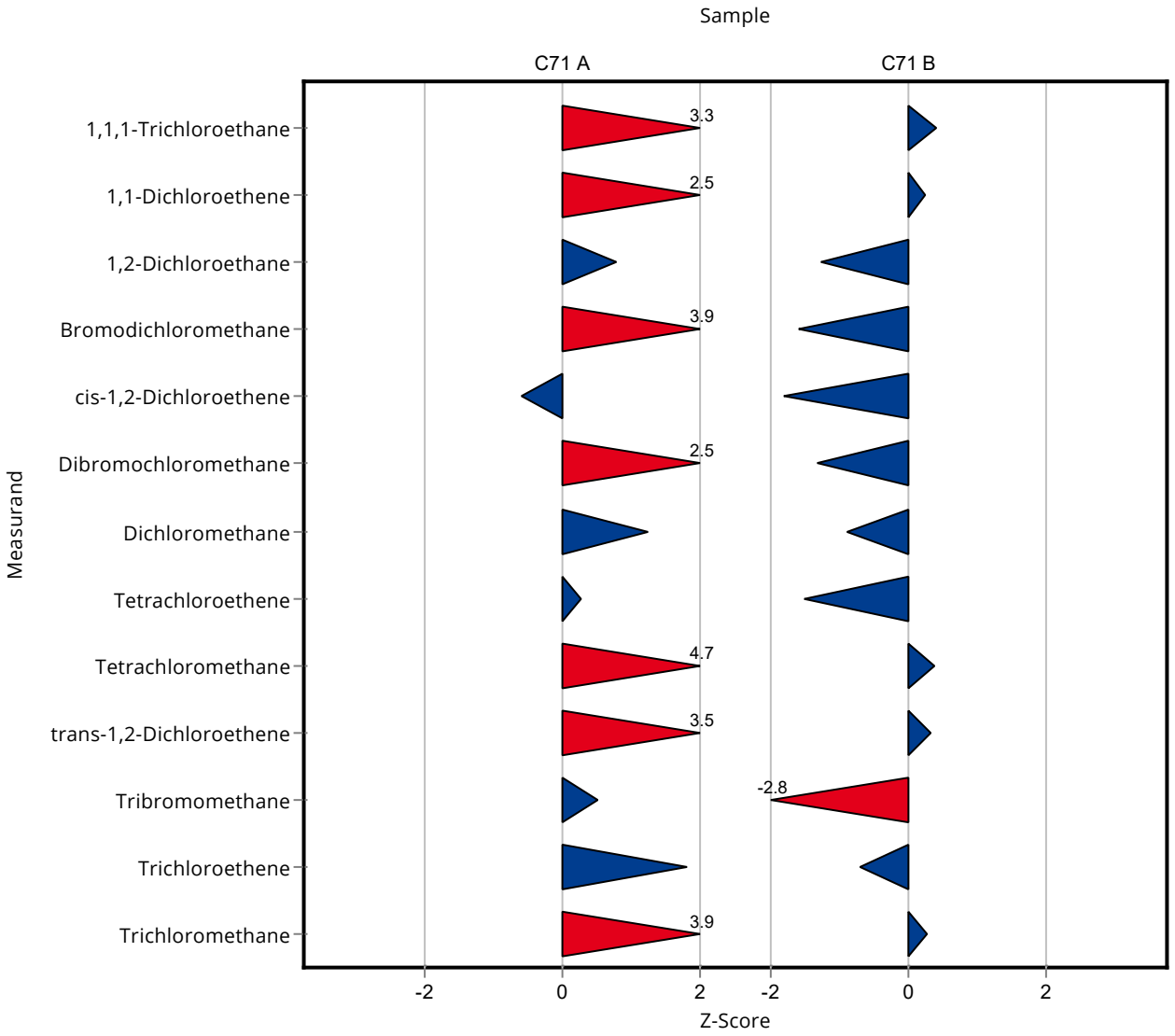
Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	1.2 ± 0.24	0.12	150	3.33
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	0.97 ± 0.19	0.116	142	2.49
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	1.2 ± 0.24	0.142	110	0.77
Bromodichloromethane	µg/l	1.65 ± 0.0725	2.3 ± 0.46	0.165	139	3.91
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	0.91 ± 0.18	0.0967	94.1	-0.59
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.7 ± 0.34	0.158	129	2.45
Dichloromethane	µg/l	7.5 ± 0.503	8.7 ± 1.74	0.975	116	1.23
Tetrachloroethene	µg/l	0.584 ± 0.0417	0.61 ± 0.12	0.0993	104	0.26
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.86 ± 0.17	0.0783	176	4.73
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	1.3 ± 0.26	0.153	170	3.52
Tribromomethane	µg/l	1.42 ± 0.0951	1.5 ± 0.45	0.17	106	0.50
Trichloroethene	µg/l	0.677 ± 0.0456	0.86 ± 0.17	0.102	127	1.80
Trichloromethane	µg/l	0.932 ± 0.039	1.4 ± 0.28	0.121	150	3.86

Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	4.6 ± 0.92	0.65	106	0.41
1,1-Dichloroethene	µg/l	3.74 ± 0.238	3.9 ± 0.78	0.636	104	0.25
1,2-Dichloroethane	µg/l	5.14 ± 0.243	4.3 ± 0.86	0.669	83.6	-1.26
Bromodichloromethane	µg/l	7.97 ± 0.324	6.7 ± 1.34	0.797	84.1	-1.59
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	3.9 ± 0.78	0.476	82	-1.80
Dibromochloromethane	µg/l	6.54 ± 0.309	5.5 ± 1.1	0.785	84.1	-1.32
Dichloromethane	µg/l	9.04 ± 0.398	8 ± 1.6	1.18	88.5	-0.89
Tetrachloroethene	µg/l	2.95 ± 0.244	2.2 ± 0.44	0.501	74.6	-1.49
Tetrachloromethane	µg/l	2.73 ± 0.089	2.9 ± 0.58	0.438	106	0.38
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	4.3 ± 0.86	0.808	106	0.32
Tribromomethane	µg/l	7.12 ± 0.429	4.7 ± 1.41	0.854	66	-2.83
Trichloroethene	µg/l	3.13 ± 0.16	2.8 ± 0.56	0.47	89.4	-0.71
Trichloromethane	µg/l	4.15 ± 0.173	4.3 ± 0.86	0.539	104	0.29

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 Labcode: LC0008



Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0008

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	1.2 ± 0.24	0.12	150	0.83
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	0.97 ± 0.19	0.116	142	0.75
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	1.2 ± 0.24	0.142	110	0.22
Bromodichloromethane	µg/l	1.65 ± 0.0725	2.3 ± 0.46	0.165	139	0.70
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	0.91 ± 0.18	0.0967	94.1	-0.16
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.7 ± 0.34	0.158	129	0.57
Dichloromethane	µg/l	7.5 ± 0.503	8.7 ± 1.74	0.975	116	0.34
Tetrachloroethene	µg/l	0.584 ± 0.0417	0.61 ± 0.12	0.0993	104	0.11
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.86 ± 0.17	0.0783	176	1.09
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	1.3 ± 0.26	0.153	170	1.03
Tribromomethane	µg/l	1.42 ± 0.0951	1.5 ± 0.45	0.17	106	0.09
Trichloroethene	µg/l	0.677 ± 0.0456	0.86 ± 0.17	0.102	127	0.53
Trichloromethane	µg/l	0.932 ± 0.039	1.4 ± 0.28	0.121	150	0.83

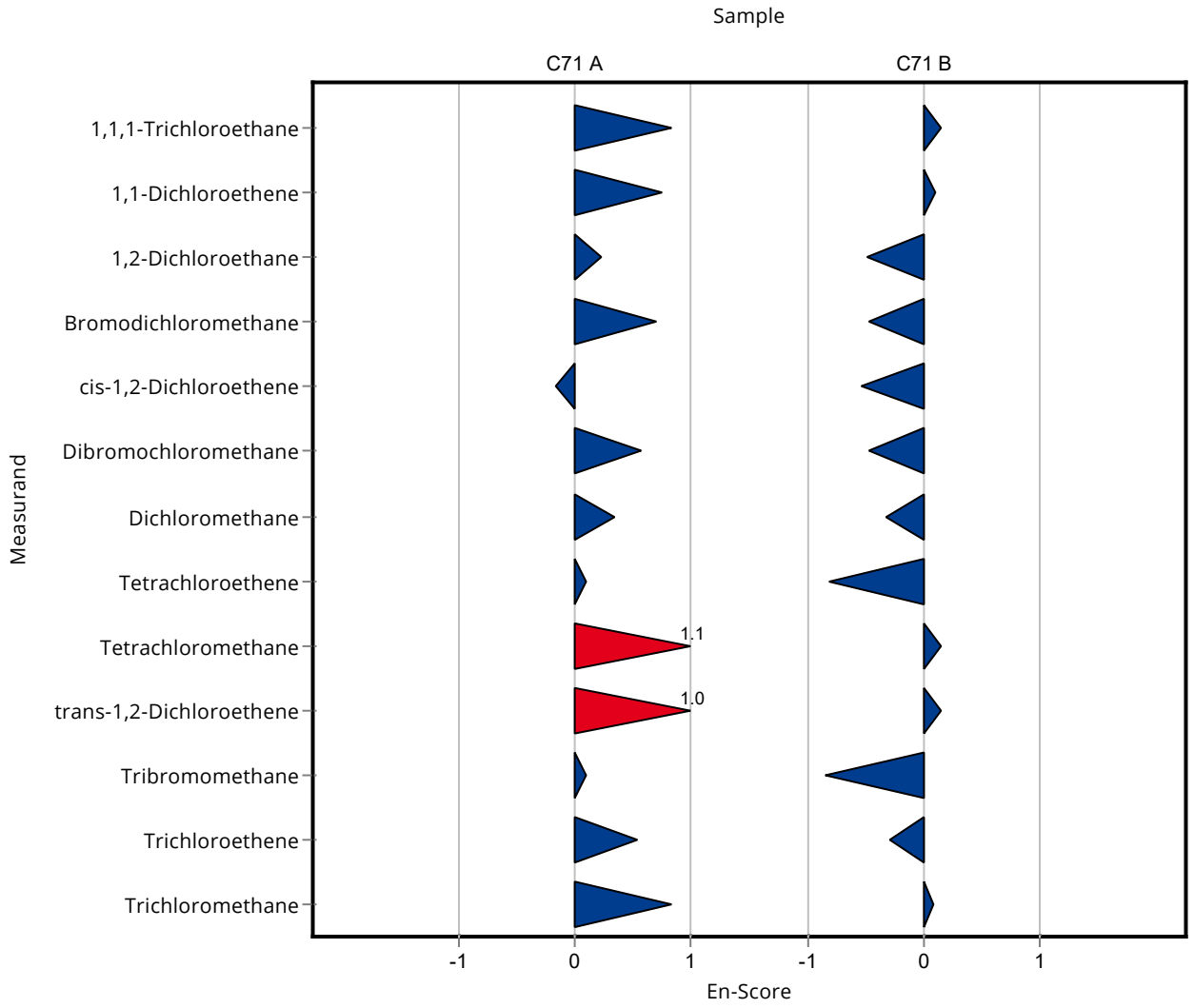
Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	4.6 ± 0.92	0.65	106	0.14
1,1-Dichloroethene	µg/l	3.74 ± 0.238	3.9 ± 0.78	0.636	104	0.10
1,2-Dichloroethane	µg/l	5.14 ± 0.243	4.3 ± 0.86	0.669	83.6	-0.49
Bromodichloromethane	µg/l	7.97 ± 0.324	6.7 ± 1.34	0.797	84.1	-0.47
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	3.9 ± 0.78	0.476	82	-0.54
Dibromochloromethane	µg/l	6.54 ± 0.309	5.5 ± 1.1	0.785	84.1	-0.47
Dichloromethane	µg/l	9.04 ± 0.398	8 ± 1.6	1.18	88.5	-0.32

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0008

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Tetrachloroethene	µg/l	2.95 ± 0.244	2.2 ± 0.44	0.501	74.6	-0.82
Tetrachloromethane	µg/l	2.73 ± 0.089	2.9 ± 0.58	0.438	106	0.14
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	4.3 ± 0.86	0.808	106	0.15
Tribromomethane	µg/l	7.12 ± 0.429	4.7 ± 1.41	0.854	66	-0.85
Trichloroethene	µg/l	3.13 ± 0.16	2.8 ± 0.56	0.47	89.4	-0.29
Trichloromethane	µg/l	4.15 ± 0.173	4.3 ± 0.86	0.539	104	0.09



Summary of results Volatile halogenated hydrocarbons (VHH) - C71 Labcode: LC0009

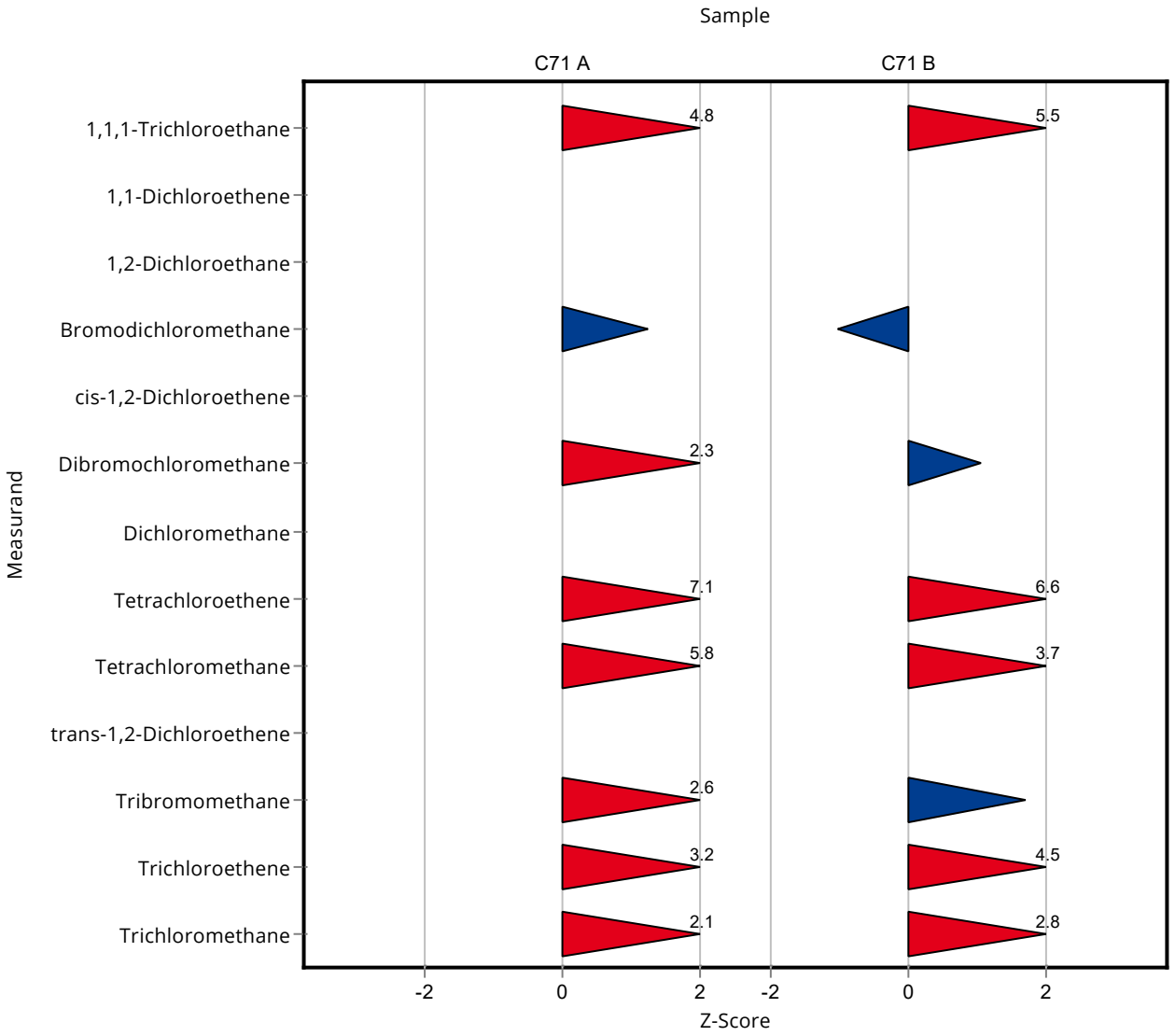
Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	1.38 ± 0.2	0.12	172	4.82
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	- ± -	0.116	-	-
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	- ± -	0.142	-	-
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.86 ± 0.2	0.165	112	1.25
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	- ± -	0.0967	-	-
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.67 ± 0.5	0.158	127	2.26
Dichloromethane	µg/l	7.5 ± 0.503	- ± -	0.975	-	-
Tetrachloroethene	µg/l	0.584 ± 0.0417	1.29 ± 0.2	0.0993	221	7.10
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.94 ± 0.1	0.0783	192	5.75
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	- ± -	0.153	-	-
Tribromomethane	µg/l	1.42 ± 0.0951	1.85 ± 0.6	0.17	131	2.56
Trichloroethene	µg/l	0.677 ± 0.0456	1 ± 0.2	0.102	148	3.18
Trichloromethane	µg/l	0.932 ± 0.039	1.19 ± 0.4	0.121	128	2.13

Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	7.93 ± 0.2	0.65	183	5.53
1,1-Dichloroethene	µg/l	3.74 ± 0.238	- ± -	0.636	-	-
1,2-Dichloroethane	µg/l	5.14 ± 0.243	- ± -	0.669	-	-
Bromodichloromethane	µg/l	7.97 ± 0.324	7.16 ± 0.2	0.797	89.8	-1.02
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	- ± -	0.476	-	-
Dibromochloromethane	µg/l	6.54 ± 0.309	7.36 ± 0.5	0.785	113	1.05
Dichloromethane	µg/l	9.04 ± 0.398	- ± -	1.18	-	-
Tetrachloroethene	µg/l	2.95 ± 0.244	6.26 ± 0.2	0.501	212	6.60
Tetrachloromethane	µg/l	2.73 ± 0.089	4.36 ± 0.1	0.438	159	3.71
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	- ± -	0.808	-	-
Tribromomethane	µg/l	7.12 ± 0.429	8.57 ± 0.6	0.854	120	1.70
Trichloroethene	µg/l	3.13 ± 0.16	5.26 ± 0.2	0.47	168	4.53
Trichloromethane	µg/l	4.15 ± 0.173	5.63 ± 0.4	0.539	136	2.75

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 Labcode: LC0009



Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0009

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	1.38 ± 0.2	0.12	172	1.44
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	- ± -	0.116	-	-
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	- ± -	0.142	-	-
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.86 ± 0.2	0.165	112	0.51
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	- ± -	0.0967	-	-
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.67 ± 0.5	0.158	127	0.36
Dichloromethane	µg/l	7.5 ± 0.503	- ± -	0.975	-	-
Tetrachloroethene	µg/l	0.584 ± 0.0417	1.29 ± 0.2	0.0993	221	1.75
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.94 ± 0.1	0.0783	192	2.23
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	- ± -	0.153	-	-
Tribromomethane	µg/l	1.42 ± 0.0951	1.85 ± 0.6	0.17	131	0.36
Trichloroethene	µg/l	0.677 ± 0.0456	1 ± 0.2	0.102	148	0.80
Trichloromethane	µg/l	0.932 ± 0.039	1.19 ± 0.4	0.121	128	0.32

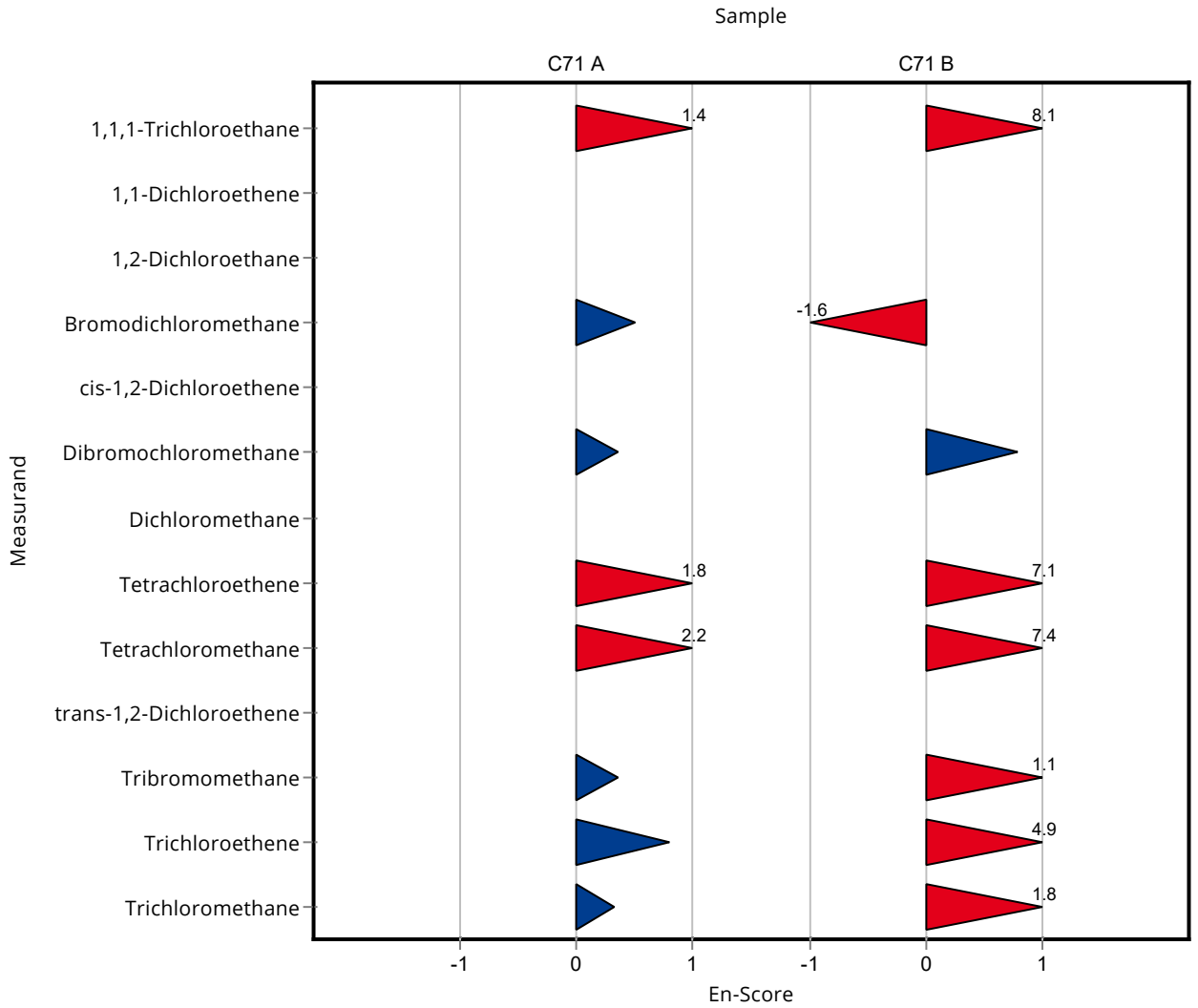
Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	7.93 ± 0.2	0.65	183	8.13
1,1-Dichloroethene	µg/l	3.74 ± 0.238	- ± -	0.636	-	-
1,2-Dichloroethane	µg/l	5.14 ± 0.243	- ± -	0.669	-	-
Bromodichloromethane	µg/l	7.97 ± 0.324	7.16 ± 0.2	0.797	89.8	-1.57
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	- ± -	0.476	-	-
Dibromochloromethane	µg/l	6.54 ± 0.309	7.36 ± 0.5	0.785	113	0.79
Dichloromethane	µg/l	9.04 ± 0.398	- ± -	1.18	-	-

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0009

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Tetrachloroethene	µg/l	2.95 ± 0.244	6.26 ± 0.2	0.501	212	7.07
Tetrachloromethane	µg/l	2.73 ± 0.089	4.36 ± 0.1	0.438	159	7.42
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	- ± -	0.808	-	-
Tribromomethane	µg/l	7.12 ± 0.429	8.57 ± 0.6	0.854	120	1.14
Trichloroethene	µg/l	3.13 ± 0.16	5.26 ± 0.2	0.47	168	4.94
Trichloromethane	µg/l	4.15 ± 0.173	5.63 ± 0.4	0.539	136	1.81



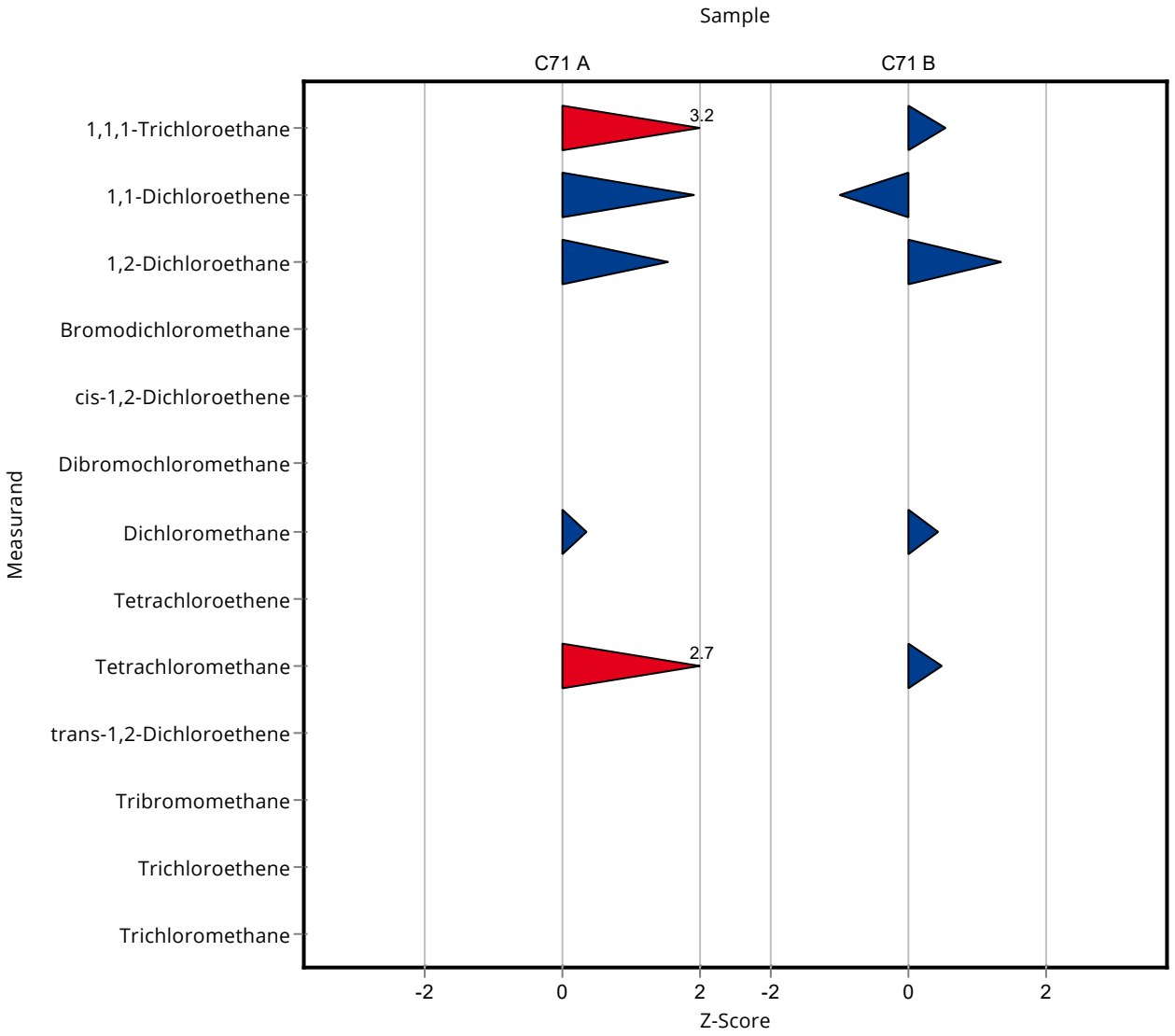
Summary of results Volatile halogenated hydrocarbons (VHH) - C71 Labcode: LC0010

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	1.19 ± 0.00942	0.12	149	3.24
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	0.902 ± 0.058	0.116	132	1.90
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	1.31 ± 0.0746	0.142	120	1.54
Bromodichloromethane	µg/l	1.65 ± 0.0725	- ± -	0.165	-	-
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	- ± -	0.0967	-	-
Dibromochloromethane	µg/l	1.31 ± 0.0681	- ± -	0.158	-	-
Dichloromethane	µg/l	7.5 ± 0.503	7.84 ± 0.425	0.975	104	0.34
Tetrachloroethene	µg/l	0.584 ± 0.0417	- ± -	0.0993	-	-
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.704 ± 0.0745	0.0783	144	2.74
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	- ± -	0.153	-	-
Tribromomethane	µg/l	1.42 ± 0.0951	- ± -	0.17	-	-
Trichloroethene	µg/l	0.677 ± 0.0456	- ± -	0.102	-	-
Trichloromethane	µg/l	0.932 ± 0.039	- ± -	0.121	-	-

Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	4.69 ± 0.371	0.65	108	0.54
1,1-Dichloroethene	µg/l	3.74 ± 0.238	3.11 ± 0.2	0.636	83.2	-0.99
1,2-Dichloroethane	µg/l	5.14 ± 0.243	6.05 ± 0.345	0.669	118	1.36
Bromodichloromethane	µg/l	7.97 ± 0.324	- ± -	0.797	-	-
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	- ± -	0.476	-	-
Dibromochloromethane	µg/l	6.54 ± 0.309	- ± -	0.785	-	-
Dichloromethane	µg/l	9.04 ± 0.398	9.55 ± 0.518	1.18	106	0.43
Tetrachloroethene	µg/l	2.95 ± 0.244	- ± -	0.501	-	-
Tetrachloromethane	µg/l	2.73 ± 0.089	2.95 ± 0.312	0.438	108	0.49
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	- ± -	0.808	-	-
Tribromomethane	µg/l	7.12 ± 0.429	- ± -	0.854	-	-
Trichloroethene	µg/l	3.13 ± 0.16	- ± -	0.47	-	-
Trichloromethane	µg/l	4.15 ± 0.173	- ± -	0.539	-	-


Sample
C71 A
C71 B
1,1,1-Trichloroethane
1,1-Dichloroethene
1,2-Dichloroethane
Bromodichloromethane
cis-1,2-Dichloroethene
Dibromochloromethane
Dichloromethane
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Tribromomethane
Trichloroethene
Trichloromethane
Measurand
3.2
2.7
-2
0
2
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2
Z-Score

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0010

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	1.19 ± 0.00942	0.12	149	8.52
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	0.902 ± 0.058	0.116	132	1.61
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	1.31 ± 0.0746	0.142	120	1.35
Bromodichloromethane	µg/l	1.65 ± 0.0725	- ± -	0.165	-	-
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	- ± -	0.0967	-	-
Dibromochloromethane	µg/l	1.31 ± 0.0681	- ± -	0.158	-	-
Dichloromethane	µg/l	7.5 ± 0.503	7.84 ± 0.425	0.975	104	0.34
Tetrachloroethene	µg/l	0.584 ± 0.0417	- ± -	0.0993	-	-
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.704 ± 0.0745	0.0783	144	1.41
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	- ± -	0.153	-	-
Tribromomethane	µg/l	1.42 ± 0.0951	- ± -	0.17	-	-
Trichloroethene	µg/l	0.677 ± 0.0456	- ± -	0.102	-	-
Trichloromethane	µg/l	0.932 ± 0.039	- ± -	0.121	-	-

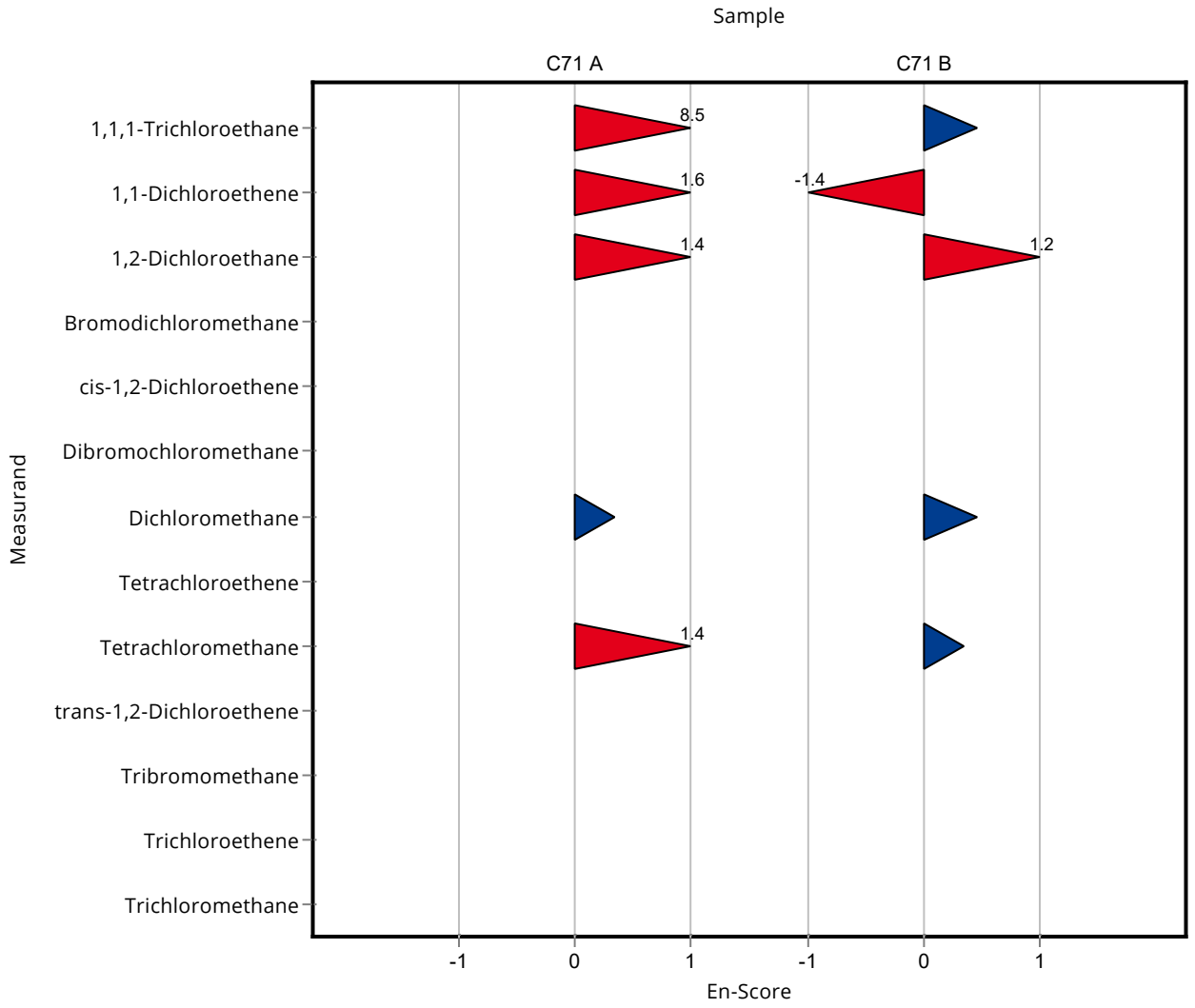
Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	4.69 ± 0.371	0.65	108	0.46
1,1-Dichloroethene	µg/l	3.74 ± 0.238	3.11 ± 0.2	0.636	83.2	-1.35
1,2-Dichloroethane	µg/l	5.14 ± 0.243	6.05 ± 0.345	0.669	118	1.24
Bromodichloromethane	µg/l	7.97 ± 0.324	- ± -	0.797	-	-
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	- ± -	0.476	-	-
Dibromochloromethane	µg/l	6.54 ± 0.309	- ± -	0.785	-	-
Dichloromethane	µg/l	9.04 ± 0.398	9.55 ± 0.518	1.18	106	0.46

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0010

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Tetrachloroethene	µg/l	2.95 ± 0.244	- ± -	0.501	-	-
Tetrachloromethane	µg/l	2.73 ± 0.089	2.95 ± 0.312	0.438	108	0.34
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	- ± -	0.808	-	-
Tribromomethane	µg/l	7.12 ± 0.429	- ± -	0.854	-	-
Trichloroethene	µg/l	3.13 ± 0.16	- ± -	0.47	-	-
Trichloromethane	µg/l	4.15 ± 0.173	- ± -	0.539	-	-



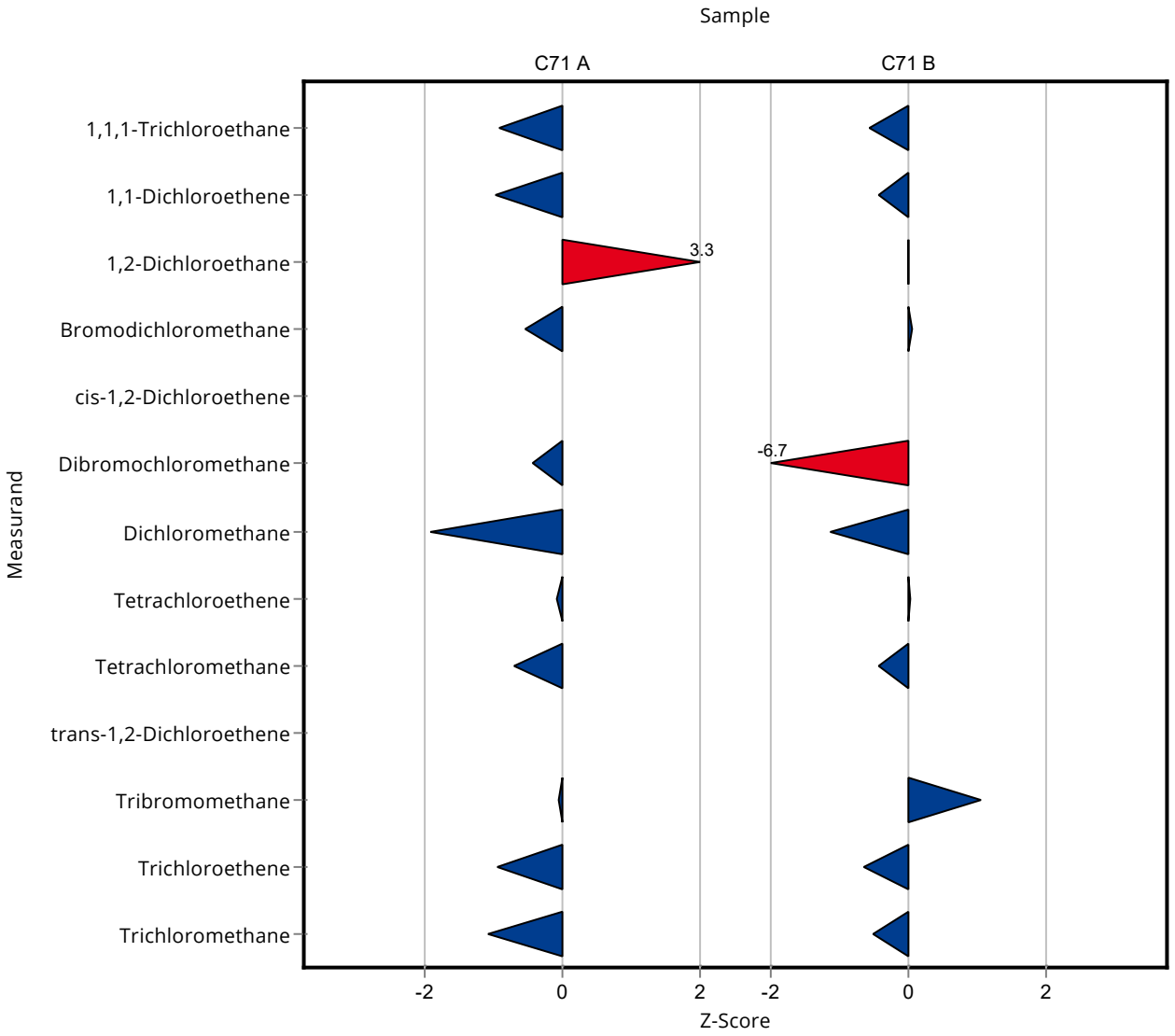
Summary of results Volatile halogenated hydrocarbons (VHH) - C71 Labcode: LC0011

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	0.69 ± 0.1035	0.12	86.2	-0.92
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	0.57 ± 0.0855	0.116	83.6	-0.96
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	1.563 ± 0.23445	0.142	143	3.33
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.563 ± 0.23445	0.165	94.5	-0.55
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	- ± -	0.0967	-	-
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.246 ± 0.1869	0.158	94.9	-0.43
Dichloromethane	µg/l	7.5 ± 0.503	5.62 ± 0.843	0.975	74.9	-1.93
Tetrachloroethene	µg/l	0.584 ± 0.0417	0.576 ± 0.0864	0.0993	98.6	-0.08
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.435 ± 0.06525	0.0783	88.9	-0.69
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	- ± -	0.153	-	-
Tribromomethane	µg/l	1.42 ± 0.0951	1.404 ± 0.2106	0.17	99.2	-0.07
Trichloroethene	µg/l	0.677 ± 0.0456	0.581 ± 0.08715	0.102	85.8	-0.94
Trichloromethane	µg/l	0.932 ± 0.039	0.802 ± 0.1203	0.121	86	-1.07

Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	3.967 ± 0.59505	0.65	91.5	-0.57
1,1-Dichloroethene	µg/l	3.74 ± 0.238	3.469 ± 0.52035	0.636	92.8	-0.42
1,2-Dichloroethane	µg/l	5.14 ± 0.243	5.146 ± 0.7719	0.669	100	0.00
Bromodichloromethane	µg/l	7.97 ± 0.324	8.013 ± 1.20195	0.797	101	0.05
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	- ± -	0.476	-	-
Dibromochloromethane	µg/l	6.54 ± 0.309	1.246 ± 0.1869	0.785	19.1	-6.75
Dichloromethane	µg/l	9.04 ± 0.398	7.724 ± 1.1586	1.18	85.4	-1.12
Tetrachloroethene	µg/l	2.95 ± 0.244	2.961 ± 0.44415	0.501	100	0.02
Tetrachloromethane	µg/l	2.73 ± 0.089	2.549 ± 0.38235	0.438	93.2	-0.42
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	- ± -	0.808	-	-
Tribromomethane	µg/l	7.12 ± 0.429	8.018 ± 1.2027	0.854	113	1.05
Trichloroethene	µg/l	3.13 ± 0.16	2.829 ± 0.42435	0.47	90.3	-0.65
Trichloromethane	µg/l	4.15 ± 0.173	3.866 ± 0.5799	0.539	93.2	-0.52


Sample
C71 A
C71 B
1,1,1-Trichloroethane
1,1-Dichloroethene
1,2-Dichloroethane
Bromodichloromethane
cis-1,2-Dichloroethene
Dibromochloromethane
Dichloromethane
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Tribromomethane
Trichloroethene
Trichloromethane
3.3
-6.7
Measurand
-2
0
2
-2
0
2
Z-Score

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0011

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	0.69 ± 0.1035	0.12	86.2	-0.52
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	0.57 ± 0.0855	0.116	83.6	-0.60
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	1.563 ± 0.23445	0.142	143	1.00
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.563 ± 0.23445	0.165	94.5	-0.19
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	- ± -	0.0967	-	-
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.246 ± 0.1869	0.158	94.9	-0.18
Dichloromethane	µg/l	7.5 ± 0.503	5.62 ± 0.843	0.975	74.9	-1.07
Tetrachloroethene	µg/l	0.584 ± 0.0417	0.576 ± 0.0864	0.0993	98.6	-0.05
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.435 ± 0.06525	0.0783	88.9	-0.41
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	- ± -	0.153	-	-
Tribromomethane	µg/l	1.42 ± 0.0951	1.404 ± 0.2106	0.17	99.2	-0.03
Trichloroethene	µg/l	0.677 ± 0.0456	0.581 ± 0.08715	0.102	85.8	-0.53
Trichloromethane	µg/l	0.932 ± 0.039	0.802 ± 0.1203	0.121	86	-0.53

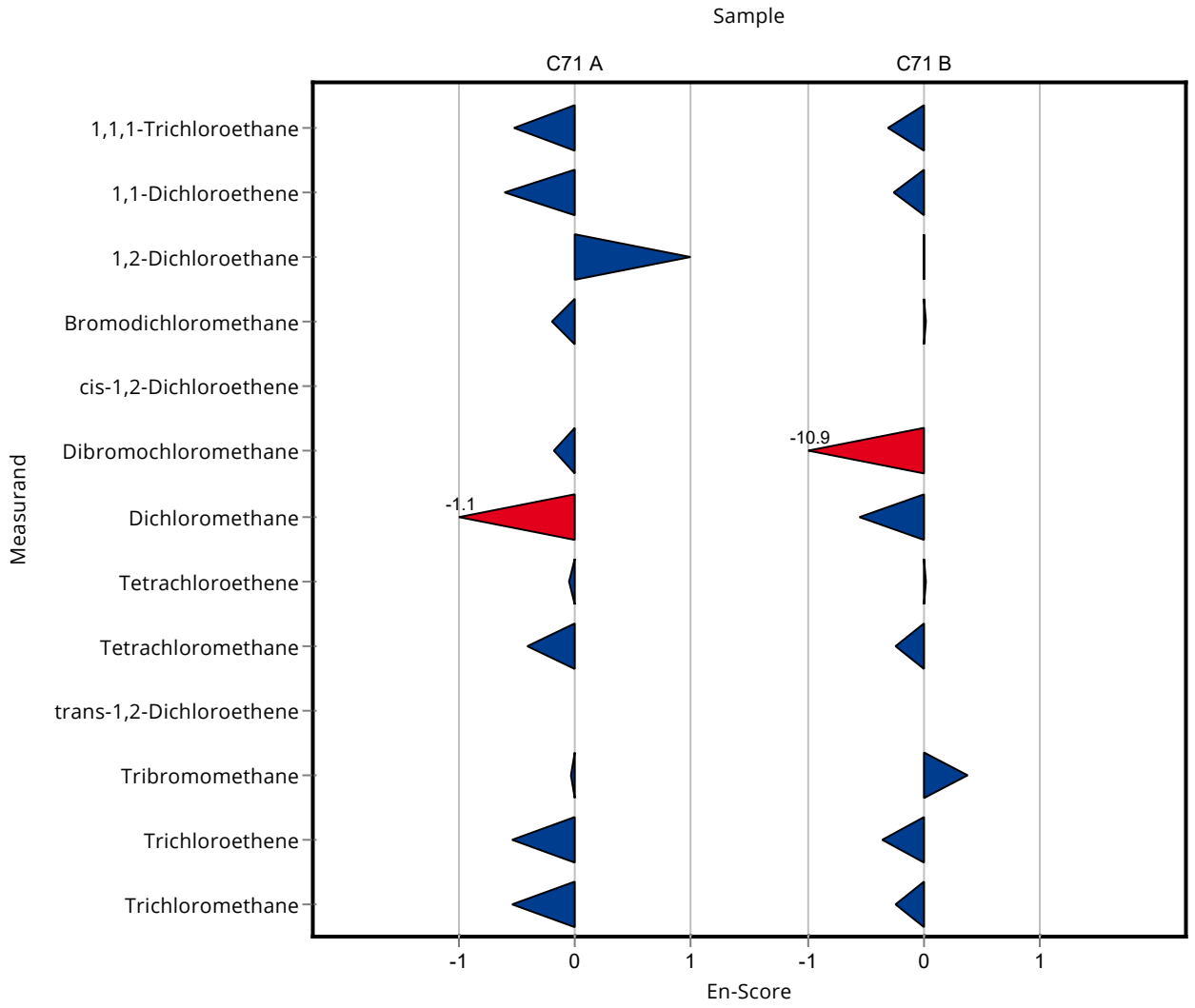
Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	3.967 ± 0.59505	0.65	91.5	-0.31
1,1-Dichloroethene	µg/l	3.74 ± 0.238	3.469 ± 0.52035	0.636	92.8	-0.25
1,2-Dichloroethane	µg/l	5.14 ± 0.243	5.146 ± 0.7719	0.669	100	0.00
Bromodichloromethane	µg/l	7.97 ± 0.324	8.013 ± 1.20195	0.797	101	0.02
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	- ± -	0.476	-	-
Dibromochloromethane	µg/l	6.54 ± 0.309	1.246 ± 0.1869	0.785	19.1	-10.91
Dichloromethane	µg/l	9.04 ± 0.398	7.724 ± 1.1586	1.18	85.4	-0.56

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0011

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Tetrachloroethene	µg/l	2.95 ± 0.244	2.961 ± 0.44415	0.501	100	0.01
Tetrachloromethane	µg/l	2.73 ± 0.089	2.549 ± 0.38235	0.438	93.2	-0.24
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	- ± -	0.808	-	-
Tribromomethane	µg/l	7.12 ± 0.429	8.018 ± 1.2027	0.854	113	0.37
Trichloroethene	µg/l	3.13 ± 0.16	2.829 ± 0.42435	0.47	90.3	-0.35
Trichloromethane	µg/l	4.15 ± 0.173	3.866 ± 0.5799	0.539	93.2	-0.24



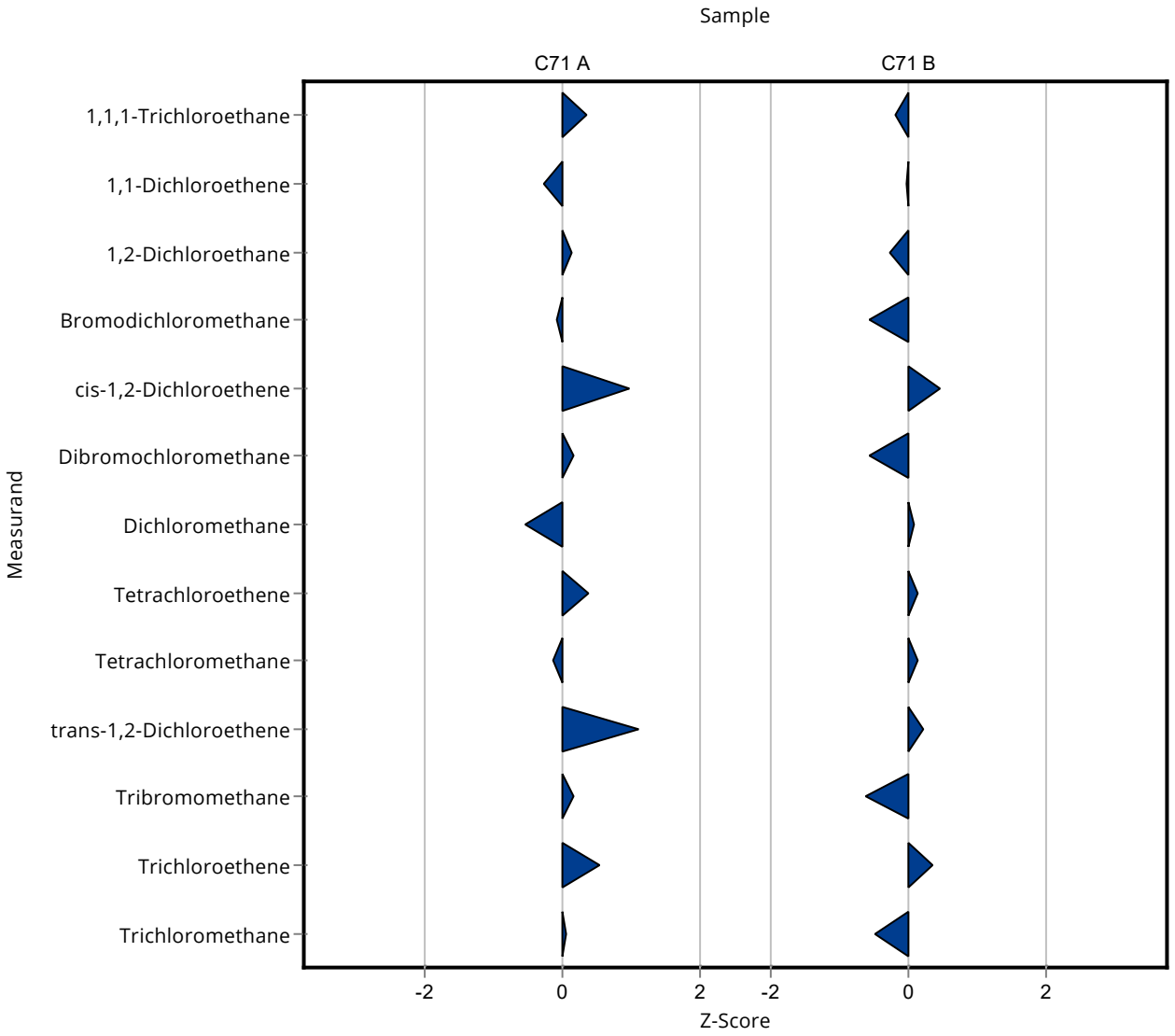
Summary of results Volatile halogenated hydrocarbons (VHH) - C71 Labcode: LC0012

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	0.843 ± 0.07	0.12	105	0.35
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	0.651 ± 0.067	0.116	95.5	-0.26
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	1.11 ± 0.06	0.142	102	0.13
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.64 ± 0.08	0.165	99.2	-0.08
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	1.06 ± 0.086	0.0967	110	0.96
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.34 ± 0.053	0.158	102	0.17
Dichloromethane	µg/l	7.5 ± 0.503	6.98 ± 0.193	0.975	93	-0.54
Tetrachloroethene	µg/l	0.584 ± 0.0417	0.62 ± 0.11	0.0993	106	0.36
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.478 ± 0.101	0.0783	97.7	-0.15
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	0.929 ± 0.073	0.153	122	1.09
Tribromomethane	µg/l	1.42 ± 0.0951	1.44 ± 0.04	0.17	102	0.14
Trichloroethene	µg/l	0.677 ± 0.0456	0.731 ± 0.077	0.102	108	0.53
Trichloromethane	µg/l	0.932 ± 0.039	0.939 ± 0.093	0.121	101	0.06

Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	4.21 ± 0.077	0.65	97.1	-0.19
1,1-Dichloroethene	µg/l	3.74 ± 0.238	3.73 ± 0.104	0.636	99.8	-0.01
1,2-Dichloroethane	µg/l	5.14 ± 0.243	4.97 ± 0.152	0.669	96.6	-0.26
Bromodichloromethane	µg/l	7.97 ± 0.324	7.52 ± 0.142	0.797	94.3	-0.57
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	4.98 ± 0.167	0.476	105	0.47
Dibromochloromethane	µg/l	6.54 ± 0.309	6.1 ± 0.107	0.785	93.3	-0.56
Dichloromethane	µg/l	9.04 ± 0.398	9.15 ± 0.397	1.18	101	0.09
Tetrachloroethene	µg/l	2.95 ± 0.244	3.02 ± 0.061	0.501	102	0.14
Tetrachloromethane	µg/l	2.73 ± 0.089	2.8 ± 0.187	0.438	102	0.15
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	4.21 ± 0.086	0.808	104	0.21
Tribromomethane	µg/l	7.12 ± 0.429	6.59 ± 0.095	0.854	92.6	-0.62
Trichloroethene	µg/l	3.13 ± 0.16	3.3 ± 0.089	0.47	105	0.36
Trichloromethane	µg/l	4.15 ± 0.173	3.89 ± 0.102	0.539	93.8	-0.47


Sample
C71 A
C71 B
1,1,1-Trichloroethane
1,1-Dichloroethene
1,2-Dichloroethane
Bromodichloromethane
cis-1,2-Dichloroethene
Dibromochloromethane
Dichloromethane
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Tribromomethane
Trichloroethene
Trichloromethane
Measurand
-2
0
2
-2
0
2
Z-Score

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	0.843 ± 0.07	0.12	105	0.29
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	0.651 ± 0.067	0.116	95.5	-0.20
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	1.11 ± 0.06	0.142	102	0.14
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.64 ± 0.08	0.165	99.2	-0.08
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	1.06 ± 0.086	0.0967	110	0.50
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.34 ± 0.053	0.158	102	0.21
Dichloromethane	µg/l	7.5 ± 0.503	6.98 ± 0.193	0.975	93	-0.83
Tetrachloroethene	µg/l	0.584 ± 0.0417	0.62 ± 0.11	0.0993	106	0.16
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.478 ± 0.101	0.0783	97.7	-0.06
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	0.929 ± 0.073	0.153	122	1.04
Tribromomethane	µg/l	1.42 ± 0.0951	1.44 ± 0.04	0.17	102	0.20
Trichloroethene	µg/l	0.677 ± 0.0456	0.731 ± 0.077	0.102	108	0.34
Trichloromethane	µg/l	0.932 ± 0.039	0.939 ± 0.093	0.121	101	0.04

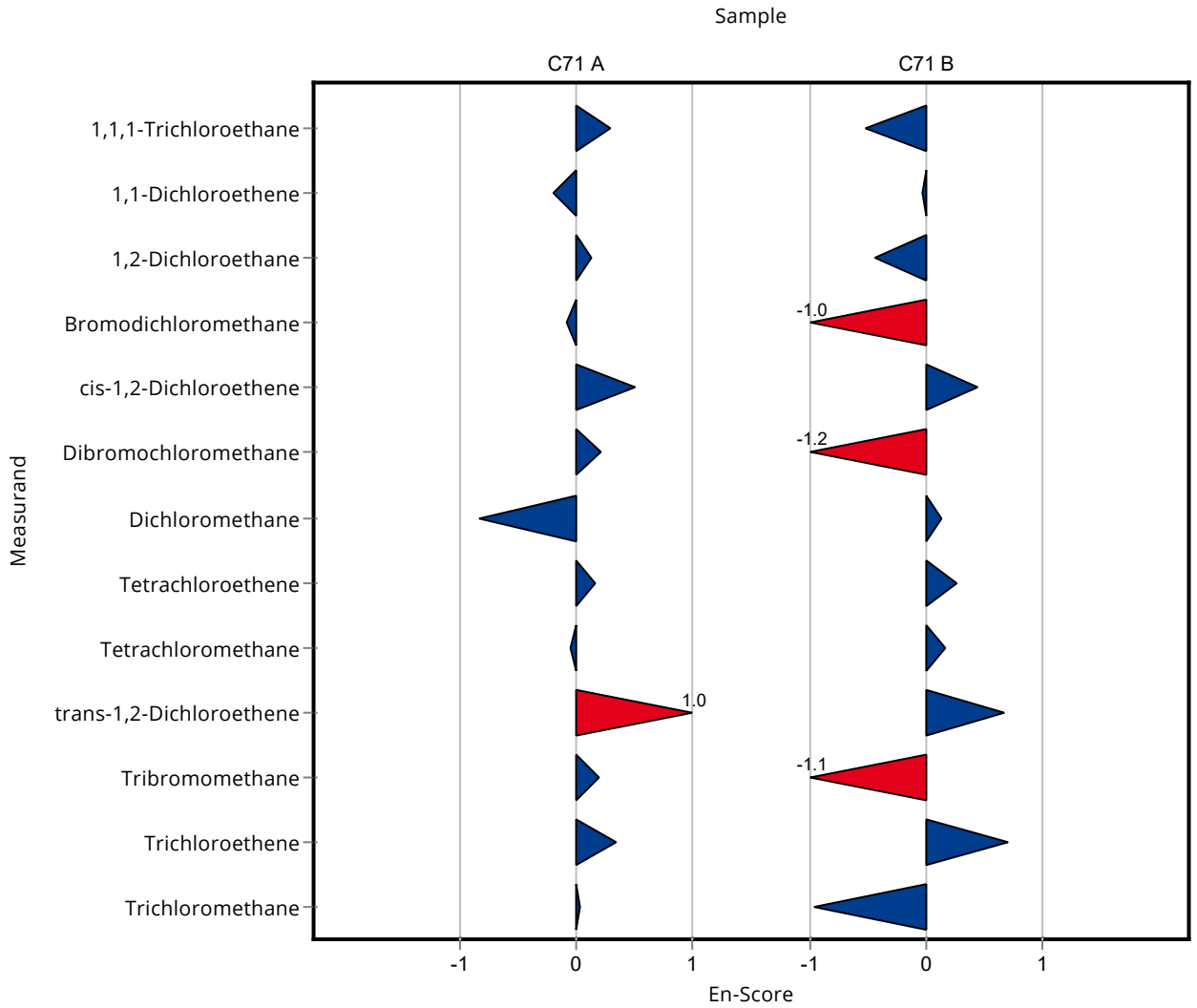
Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	4.21 ± 0.077	0.65	97.1	-0.52
1,1-Dichloroethene	µg/l	3.74 ± 0.238	3.73 ± 0.104	0.636	99.8	-0.03
1,2-Dichloroethane	µg/l	5.14 ± 0.243	4.97 ± 0.152	0.669	96.6	-0.45
Bromodichloromethane	µg/l	7.97 ± 0.324	7.52 ± 0.142	0.797	94.3	-1.05
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	4.98 ± 0.167	0.476	105	0.45
Dibromochloromethane	µg/l	6.54 ± 0.309	6.1 ± 0.107	0.785	93.3	-1.17
Dichloromethane	µg/l	9.04 ± 0.398	9.15 ± 0.397	1.18	101	0.12

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0012

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Tetrachloroethene	µg/l	2.95 ± 0.244	3.02 ± 0.061	0.501	102	0.26
Tetrachloromethane	µg/l	2.73 ± 0.089	2.8 ± 0.187	0.438	102	0.17
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	4.21 ± 0.086	0.808	104	0.67
Tribromomethane	µg/l	7.12 ± 0.429	6.59 ± 0.095	0.854	92.6	-1.13
Trichloroethene	µg/l	3.13 ± 0.16	3.3 ± 0.089	0.47	105	0.70
Trichloromethane	µg/l	4.15 ± 0.173	3.89 ± 0.102	0.539	93.8	-0.96



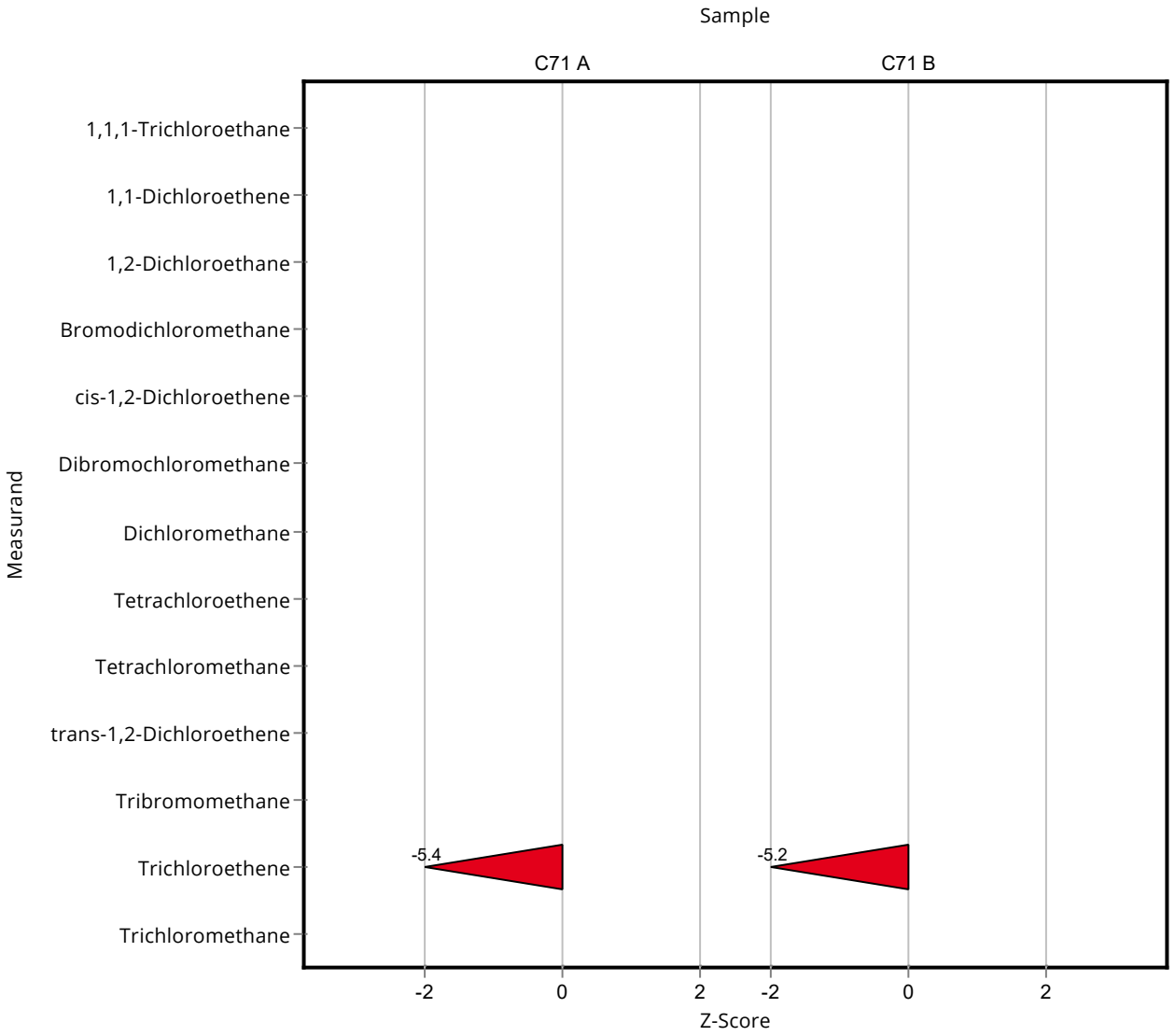
Summary of results Volatile halogenated hydrocarbons (VHH) - C71 Labcode: LC0013

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	- ± -	0.12	-	-
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	- ± -	0.116	-	-
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	- ± -	0.142	-	-
Bromodichloromethane	µg/l	1.65 ± 0.0725	- ± -	0.165	-	-
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	- ± -	0.0967	-	-
Dibromochloromethane	µg/l	1.31 ± 0.0681	- ± -	0.158	-	-
Dichloromethane	µg/l	7.5 ± 0.503	- ± -	0.975	-	-
Tetrachloroethene	µg/l	0.584 ± 0.0417	- ± -	0.0993	-	-
Tetrachloromethane	µg/l	0.489 ± 0.0301	- ± -	0.0783	-	-
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	- ± -	0.153	-	-
Tribromomethane	µg/l	1.42 ± 0.0951	- ± -	0.17	-	-
Trichloroethene	µg/l	0.677 ± 0.0456	0.131 ± 0.0085	0.102	19.4	-5.38
Trichloromethane	µg/l	0.932 ± 0.039	- ± -	0.121	-	-

Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	- ± -	0.65	-	-
1,1-Dichloroethene	µg/l	3.74 ± 0.238	- ± -	0.636	-	-
1,2-Dichloroethane	µg/l	5.14 ± 0.243	- ± -	0.669	-	-
Bromodichloromethane	µg/l	7.97 ± 0.324	- ± -	0.797	-	-
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	- ± -	0.476	-	-
Dibromochloromethane	µg/l	6.54 ± 0.309	- ± -	0.785	-	-
Dichloromethane	µg/l	9.04 ± 0.398	- ± -	1.18	-	-
Tetrachloroethene	µg/l	2.95 ± 0.244	- ± -	0.501	-	-
Tetrachloromethane	µg/l	2.73 ± 0.089	- ± -	0.438	-	-
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	- ± -	0.808	-	-
Tribromomethane	µg/l	7.12 ± 0.429	- ± -	0.854	-	-
Trichloroethene	µg/l	3.13 ± 0.16	0.701 ± 0.046	0.47	22.4	-5.17
Trichloromethane	µg/l	4.15 ± 0.173	- ± -	0.539	-	-


Sample
C71 A
C71 B
1,1,1-Trichloroethane
1,1-Dichloroethene
1,2-Dichloroethane
Bromodichloromethane
cis-1,2-Dichloroethene
Dibromochloromethane
Dichloromethane
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Tribromomethane
Trichloroethene
Trichloromethane
Measurand
-5.4
-5.2
-2
0
2
-2
0
2
Z-Score

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0013

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	- ± -	0.12	-	-
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	- ± -	0.116	-	-
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	- ± -	0.142	-	-
Bromodichloromethane	µg/l	1.65 ± 0.0725	- ± -	0.165	-	-
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	- ± -	0.0967	-	-
Dibromochloromethane	µg/l	1.31 ± 0.0681	- ± -	0.158	-	-
Dichloromethane	µg/l	7.5 ± 0.503	- ± -	0.975	-	-
Tetrachloroethene	µg/l	0.584 ± 0.0417	- ± -	0.0993	-	-
Tetrachloromethane	µg/l	0.489 ± 0.0301	- ± -	0.0783	-	-
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	- ± -	0.153	-	-
Tribromomethane	µg/l	1.42 ± 0.0951	- ± -	0.17	-	-
Trichloroethene	µg/l	0.677 ± 0.0456	0.131 ± 0.0085	0.102	19.4	-11.22
Trichloromethane	µg/l	0.932 ± 0.039	- ± -	0.121	-	-

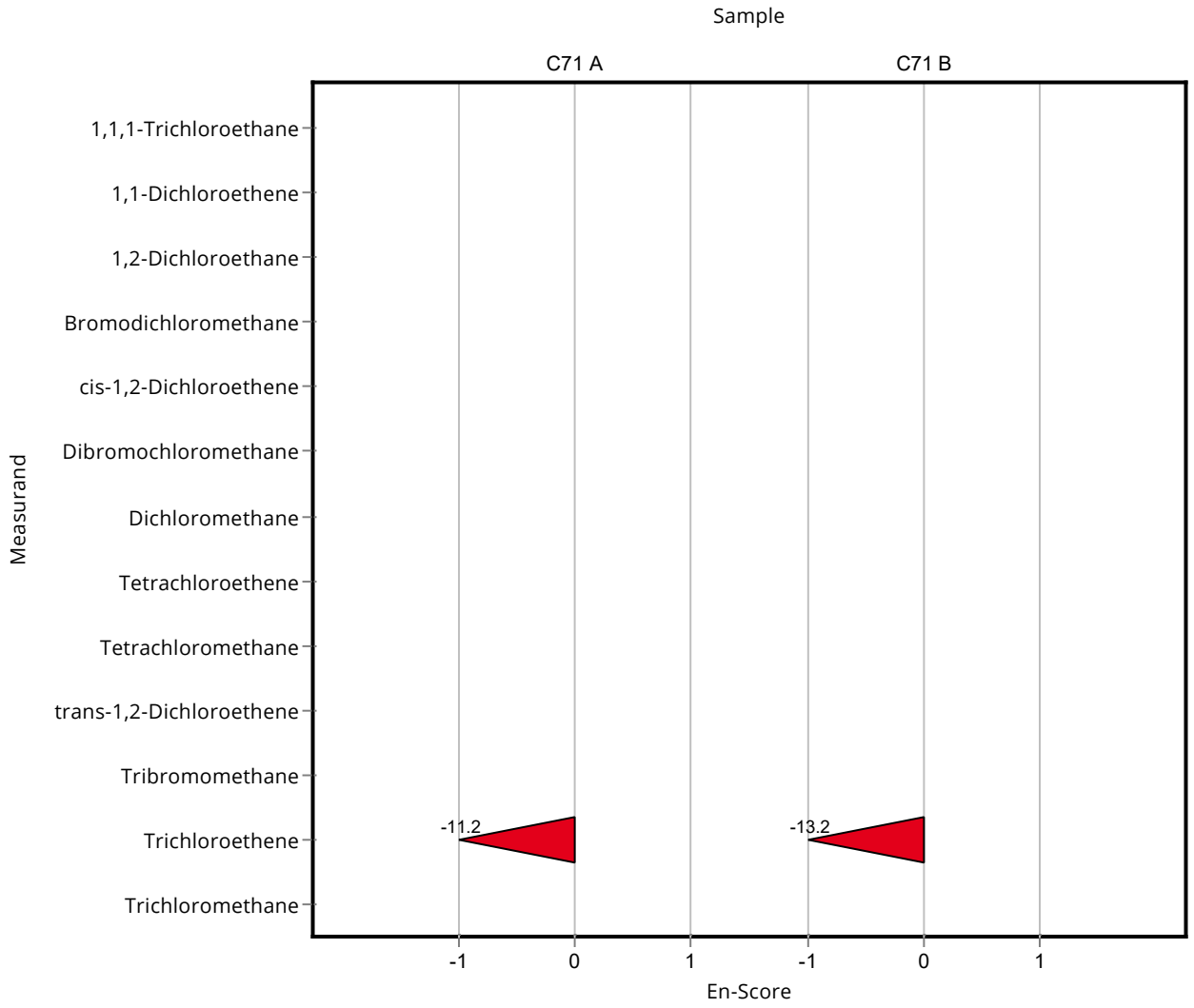
Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	- ± -	0.65	-	-
1,1-Dichloroethene	µg/l	3.74 ± 0.238	- ± -	0.636	-	-
1,2-Dichloroethane	µg/l	5.14 ± 0.243	- ± -	0.669	-	-
Bromodichloromethane	µg/l	7.97 ± 0.324	- ± -	0.797	-	-
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	- ± -	0.476	-	-
Dibromochloromethane	µg/l	6.54 ± 0.309	- ± -	0.785	-	-
Dichloromethane	µg/l	9.04 ± 0.398	- ± -	1.18	-	-

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0013

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Tetrachloroethene	µg/l	2.95 ± 0.244	- ± -	0.501	-	-
Tetrachloromethane	µg/l	2.73 ± 0.089	- ± -	0.438	-	-
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	- ± -	0.808	-	-
Tribromomethane	µg/l	7.12 ± 0.429	- ± -	0.854	-	-
Trichloroethene	µg/l	3.13 ± 0.16	0.701 ± 0.046	0.47	22.4	-13.18
Trichloromethane	µg/l	4.15 ± 0.173	- ± -	0.539	-	-



Summary of results Volatile halogenated hydrocarbons (VHH) - C71 Labcode: LC0014

Sample: C71A

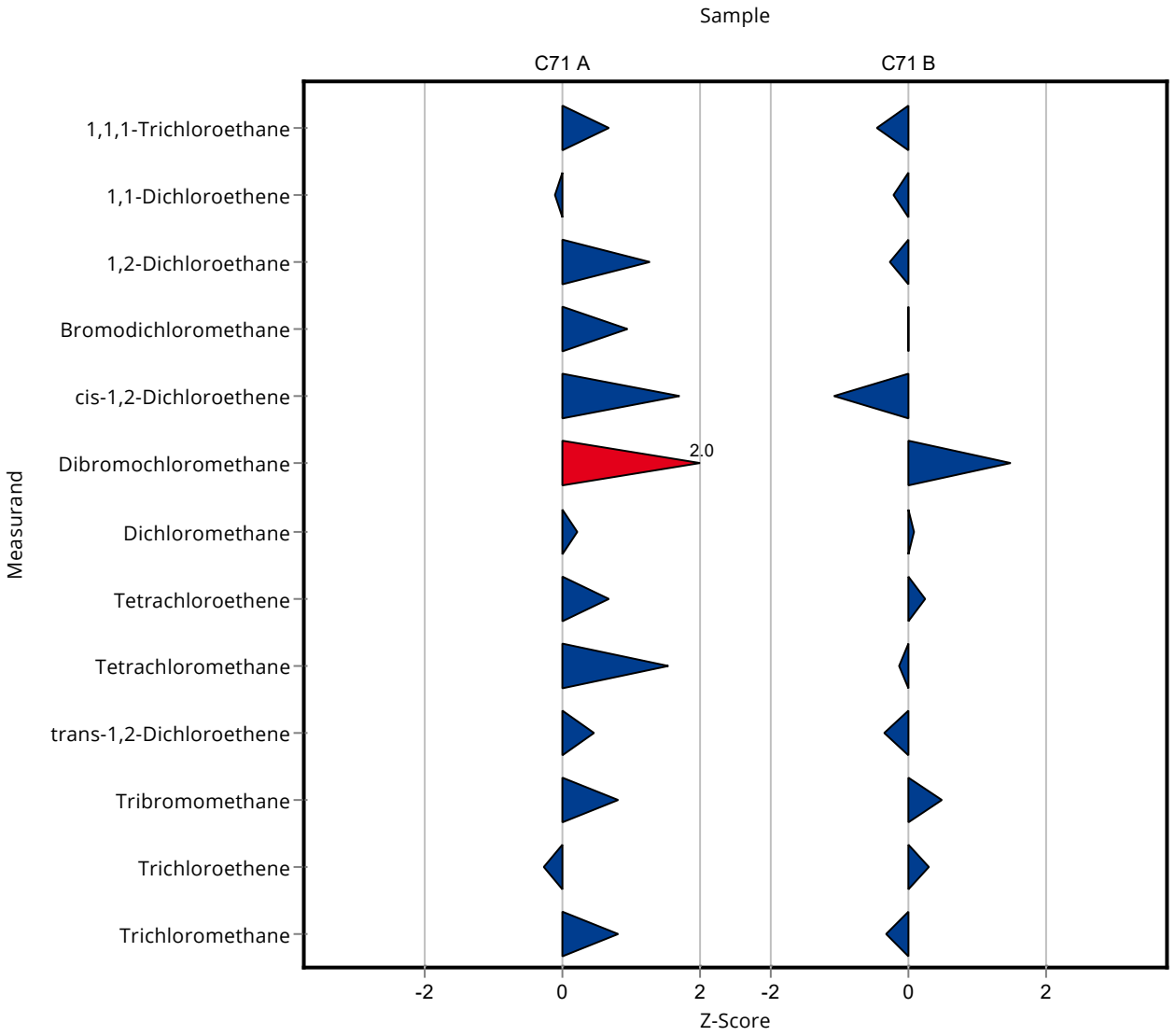
Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	0.88 ± 0.18	0.12	110	0.66
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	0.67 ± 0.13	0.116	98.3	-0.10
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	1.27 ± 0.25	0.142	116	1.26
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.81 ± 0.36	0.165	109	0.94
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	1.13 ± 0.23	0.0967	117	1.69
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.63 ± 0.33	0.158	124	2.01
Dichloromethane	µg/l	7.5 ± 0.503	7.72 ± 1.54	0.975	103	0.22
Tetrachloroethene	µg/l	0.584 ± 0.0417	0.65 ± 0.13	0.0993	111	0.66
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.61 ± 0.12	0.0783	125	1.54
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	0.83 ± 0.17	0.153	109	0.44
Tribromomethane	µg/l	1.42 ± 0.0951	1.55 ± 0.31	0.17	109	0.79
Trichloroethene	µg/l	0.677 ± 0.0456	0.65 ± 0.13	0.102	96	-0.26
Trichloromethane	µg/l	0.932 ± 0.039	1.03 ± 0.21	0.121	110	0.81

Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	4.05 ± 0.81	0.65	93.4	-0.44
1,1-Dichloroethene	µg/l	3.74 ± 0.238	3.6 ± 0.72	0.636	96.3	-0.22
1,2-Dichloroethane	µg/l	5.14 ± 0.243	4.97 ± 0.99	0.669	96.6	-0.26
Bromodichloromethane	µg/l	7.97 ± 0.324	7.98 ± 1.6	0.797	100	0.01
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	4.25 ± 0.85	0.476	89.3	-1.07
Dibromochloromethane	µg/l	6.54 ± 0.309	7.71 ± 1.54	0.785	118	1.49
Dichloromethane	µg/l	9.04 ± 0.398	9.14 ± 1.83	1.18	101	0.08
Tetrachloroethene	µg/l	2.95 ± 0.244	3.07 ± 0.61	0.501	104	0.24
Tetrachloromethane	µg/l	2.73 ± 0.089	2.68 ± 0.54	0.438	98	-0.13
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	3.77 ± 0.75	0.808	93.3	-0.34
Tribromomethane	µg/l	7.12 ± 0.429	7.53 ± 1.51	0.854	106	0.48
Trichloroethene	µg/l	3.13 ± 0.16	3.27 ± 0.65	0.47	104	0.29
Trichloromethane	µg/l	4.15 ± 0.173	3.97 ± 0.79	0.539	95.8	-0.33

Summary of results Volatile halogenated hydrocarbons (VHH) - C71

Labcode: LC0014



Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0014

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	0.88 ± 0.18	0.12	110	0.22
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	0.67 ± 0.13	0.116	98.3	-0.04
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	1.27 ± 0.25	0.142	116	0.35
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.81 ± 0.36	0.165	109	0.22
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	1.13 ± 0.23	0.0967	117	0.35
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.63 ± 0.33	0.158	124	0.48
Dichloromethane	µg/l	7.5 ± 0.503	7.72 ± 1.54	0.975	103	0.07
Tetrachloroethene	µg/l	0.584 ± 0.0417	0.65 ± 0.13	0.0993	111	0.25
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.61 ± 0.12	0.0783	125	0.50
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	0.83 ± 0.17	0.153	109	0.19
Tribromomethane	µg/l	1.42 ± 0.0951	1.55 ± 0.31	0.17	109	0.21
Trichloroethene	µg/l	0.677 ± 0.0456	0.65 ± 0.13	0.102	96	-0.10
Trichloromethane	µg/l	0.932 ± 0.039	1.03 ± 0.21	0.121	110	0.23

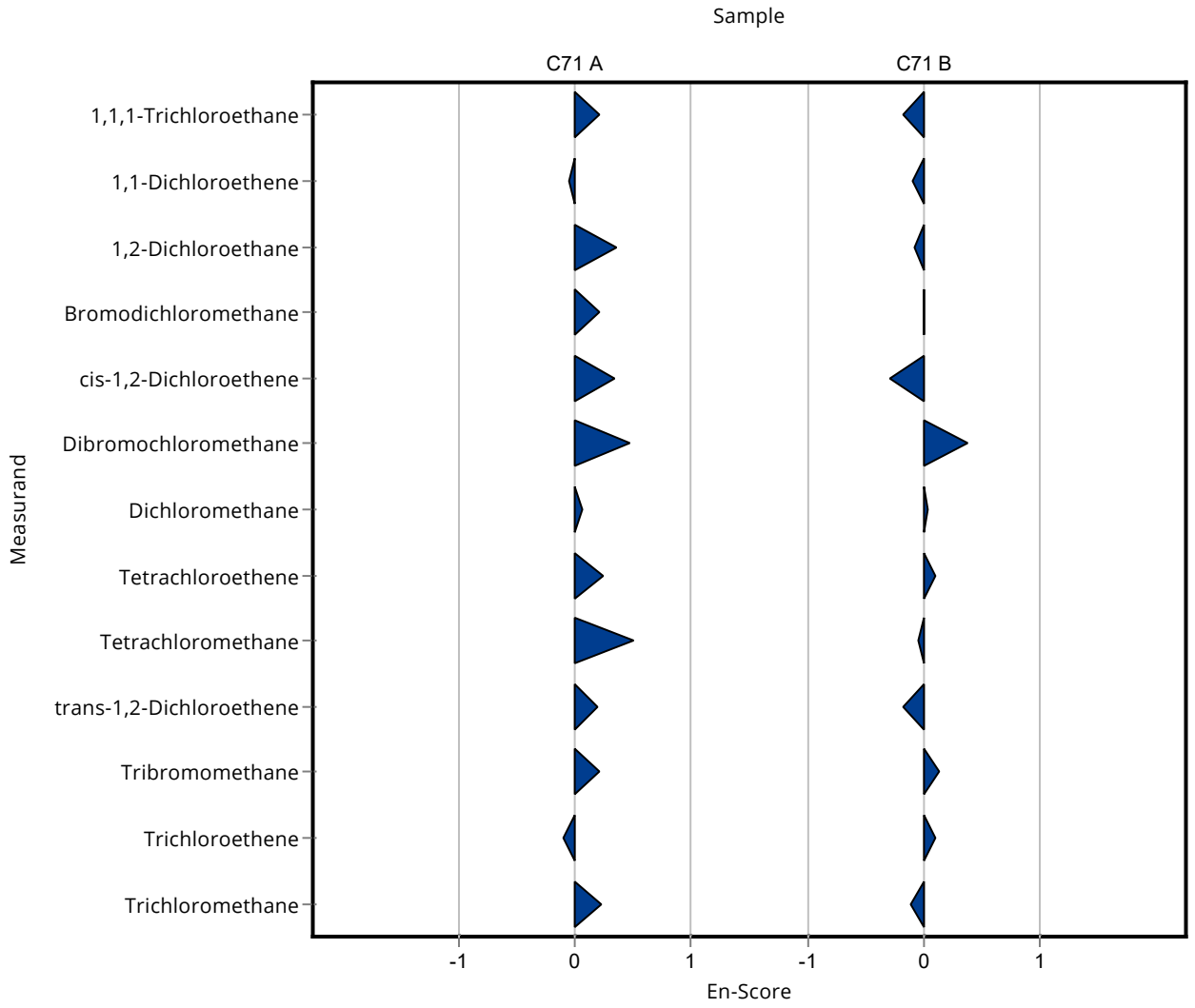
Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	4.05 ± 0.81	0.65	93.4	-0.18
1,1-Dichloroethene	µg/l	3.74 ± 0.238	3.6 ± 0.72	0.636	96.3	-0.10
1,2-Dichloroethane	µg/l	5.14 ± 0.243	4.97 ± 0.99	0.669	96.6	-0.09
Bromodichloromethane	µg/l	7.97 ± 0.324	7.98 ± 1.6	0.797	100	0.00
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	4.25 ± 0.85	0.476	89.3	-0.29
Dibromochloromethane	µg/l	6.54 ± 0.309	7.71 ± 1.54	0.785	118	0.38
Dichloromethane	µg/l	9.04 ± 0.398	9.14 ± 1.83	1.18	101	0.03

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0014

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Tetrachloroethene	µg/l	2.95 ± 0.244	3.07 ± 0.61	0.501	104	0.10
Tetrachloromethane	µg/l	2.73 ± 0.089	2.68 ± 0.54	0.438	98	-0.05
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	3.77 ± 0.75	0.808	93.3	-0.18
Tribromomethane	µg/l	7.12 ± 0.429	7.53 ± 1.51	0.854	106	0.13
Trichloroethene	µg/l	3.13 ± 0.16	3.27 ± 0.65	0.47	104	0.11
Trichloromethane	µg/l	4.15 ± 0.173	3.97 ± 0.79	0.539	95.8	-0.11



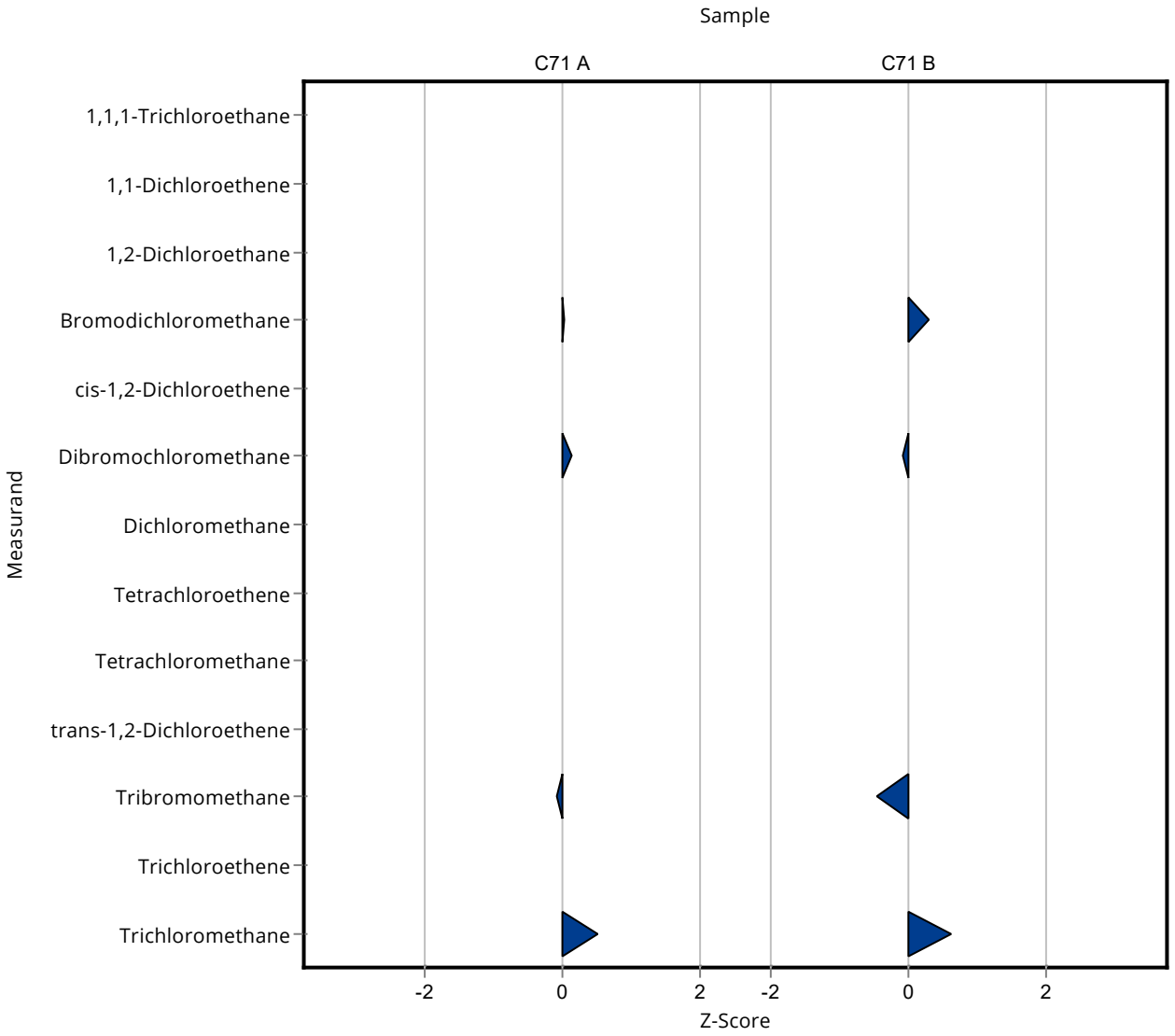
Summary of results Volatile halogenated hydrocarbons (VHH) - C71 Labcode: LC0015

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	- ± -	0.12	-	-
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	- ± -	0.116	-	-
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	- ± -	0.142	-	-
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.657 ± 0.424	0.165	100	0.02
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	- ± -	0.0967	-	-
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.334 ± 0.304	0.158	102	0.13
Dichloromethane	µg/l	7.5 ± 0.503	- ± -	0.975	-	-
Tetrachloroethene	µg/l	0.584 ± 0.0417	- ± -	0.0993	-	-
Tetrachloromethane	µg/l	0.489 ± 0.0301	- ± -	0.0783	-	-
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	- ± -	0.153	-	-
Tribromomethane	µg/l	1.42 ± 0.0951	1.4 ± 0.313	0.17	98.9	-0.09
Trichloroethene	µg/l	0.677 ± 0.0456	- ± -	0.102	-	-
Trichloromethane	µg/l	0.932 ± 0.039	0.992 ± 0.283	0.121	106	0.49

Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	- ± -	0.65	-	-
1,1-Dichloroethene	µg/l	3.74 ± 0.238	- ± -	0.636	-	-
1,2-Dichloroethane	µg/l	5.14 ± 0.243	- ± -	0.669	-	-
Bromodichloromethane	µg/l	7.97 ± 0.324	8.214 ± 0.789	0.797	103	0.31
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	- ± -	0.476	-	-
Dibromochloromethane	µg/l	6.54 ± 0.309	6.482 ± 0.553	0.785	99.1	-0.07
Dichloromethane	µg/l	9.04 ± 0.398	- ± -	1.18	-	-
Tetrachloroethene	µg/l	2.95 ± 0.244	- ± -	0.501	-	-
Tetrachloromethane	µg/l	2.73 ± 0.089	- ± -	0.438	-	-
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	- ± -	0.808	-	-
Tribromomethane	µg/l	7.12 ± 0.429	6.733 ± 0.527	0.854	94.6	-0.45
Trichloroethene	µg/l	3.13 ± 0.16	- ± -	0.47	-	-
Trichloromethane	µg/l	4.15 ± 0.173	4.476 ± 0.394	0.539	108	0.61


Sample
C71 A
C71 B
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1,1-Dichloroethene
1,2-Dichloroethane
Bromodichloromethane
cis-1,2-Dichloroethene
Dibromochloromethane
Dichloromethane
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Tribromomethane
Trichloroethene
Trichloromethane
Measurand
-2
0
2
-2
0
2
Z-Score

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0015

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	- ± -	0.12	-	-
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	- ± -	0.116	-	-
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	- ± -	0.142	-	-
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.657 ± 0.424	0.165	100	0.00
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	- ± -	0.0967	-	-
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.334 ± 0.304	0.158	102	0.03
Dichloromethane	µg/l	7.5 ± 0.503	- ± -	0.975	-	-
Tetrachloroethene	µg/l	0.584 ± 0.0417	- ± -	0.0993	-	-
Tetrachloromethane	µg/l	0.489 ± 0.0301	- ± -	0.0783	-	-
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	- ± -	0.153	-	-
Tribromomethane	µg/l	1.42 ± 0.0951	1.4 ± 0.313	0.17	98.9	-0.02
Trichloroethene	µg/l	0.677 ± 0.0456	- ± -	0.102	-	-
Trichloromethane	µg/l	0.932 ± 0.039	0.992 ± 0.283	0.121	106	0.11

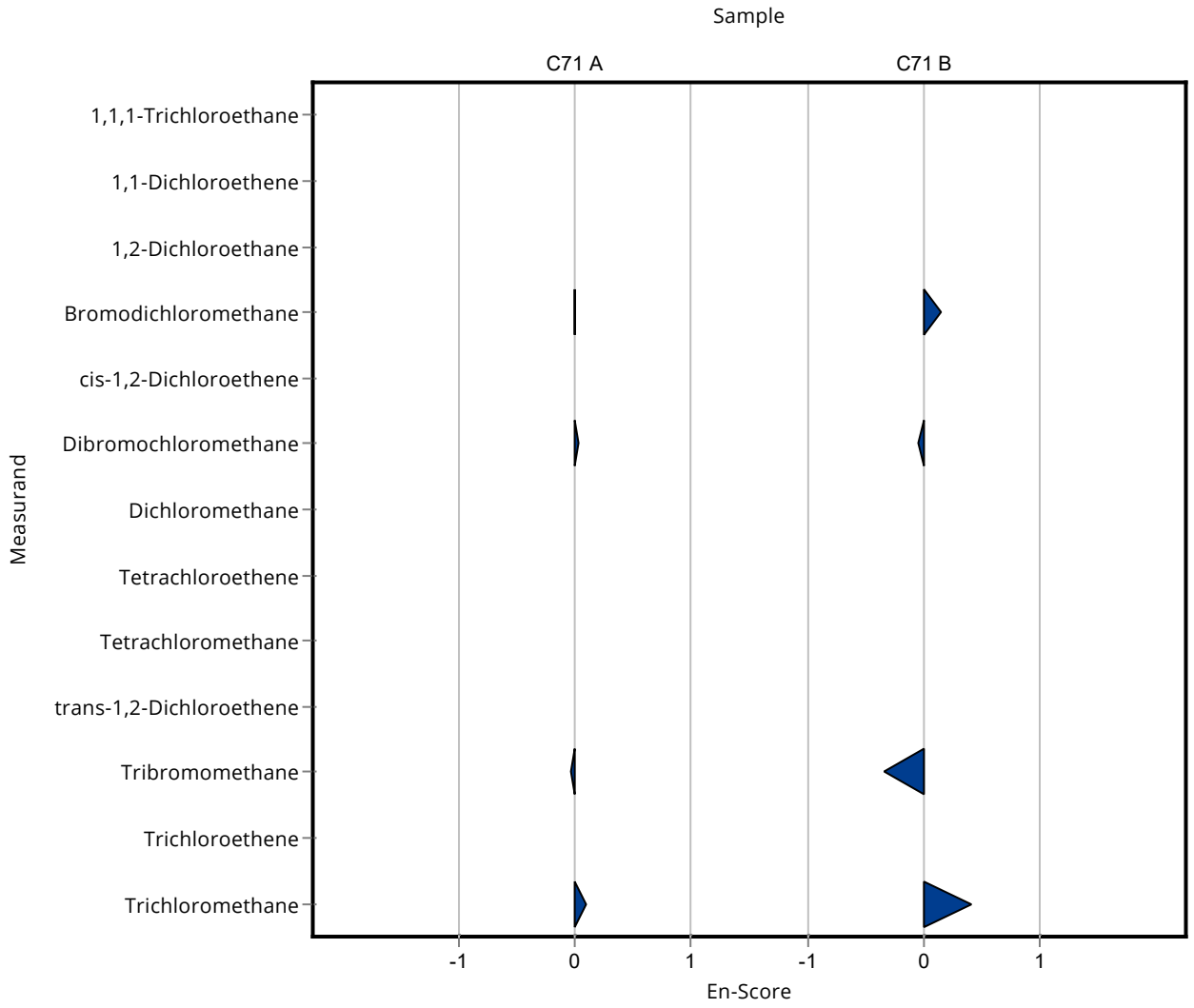
Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	- ± -	0.65	-	-
1,1-Dichloroethene	µg/l	3.74 ± 0.238	- ± -	0.636	-	-
1,2-Dichloroethane	µg/l	5.14 ± 0.243	- ± -	0.669	-	-
Bromodichloromethane	µg/l	7.97 ± 0.324	8.214 ± 0.789	0.797	103	0.15
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	- ± -	0.476	-	-
Dibromochloromethane	µg/l	6.54 ± 0.309	6.482 ± 0.553	0.785	99.1	-0.05
Dichloromethane	µg/l	9.04 ± 0.398	- ± -	1.18	-	-

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0015

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Tetrachloroethene	µg/l	2.95 ± 0.244	- ± -	0.501	-	-
Tetrachloromethane	µg/l	2.73 ± 0.089	- ± -	0.438	-	-
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	- ± -	0.808	-	-
Tribromomethane	µg/l	7.12 ± 0.429	6.733 ± 0.527	0.854	94.6	-0.34
Trichloroethene	µg/l	3.13 ± 0.16	- ± -	0.47	-	-
Trichloromethane	µg/l	4.15 ± 0.173	4.476 ± 0.394	0.539	108	0.41



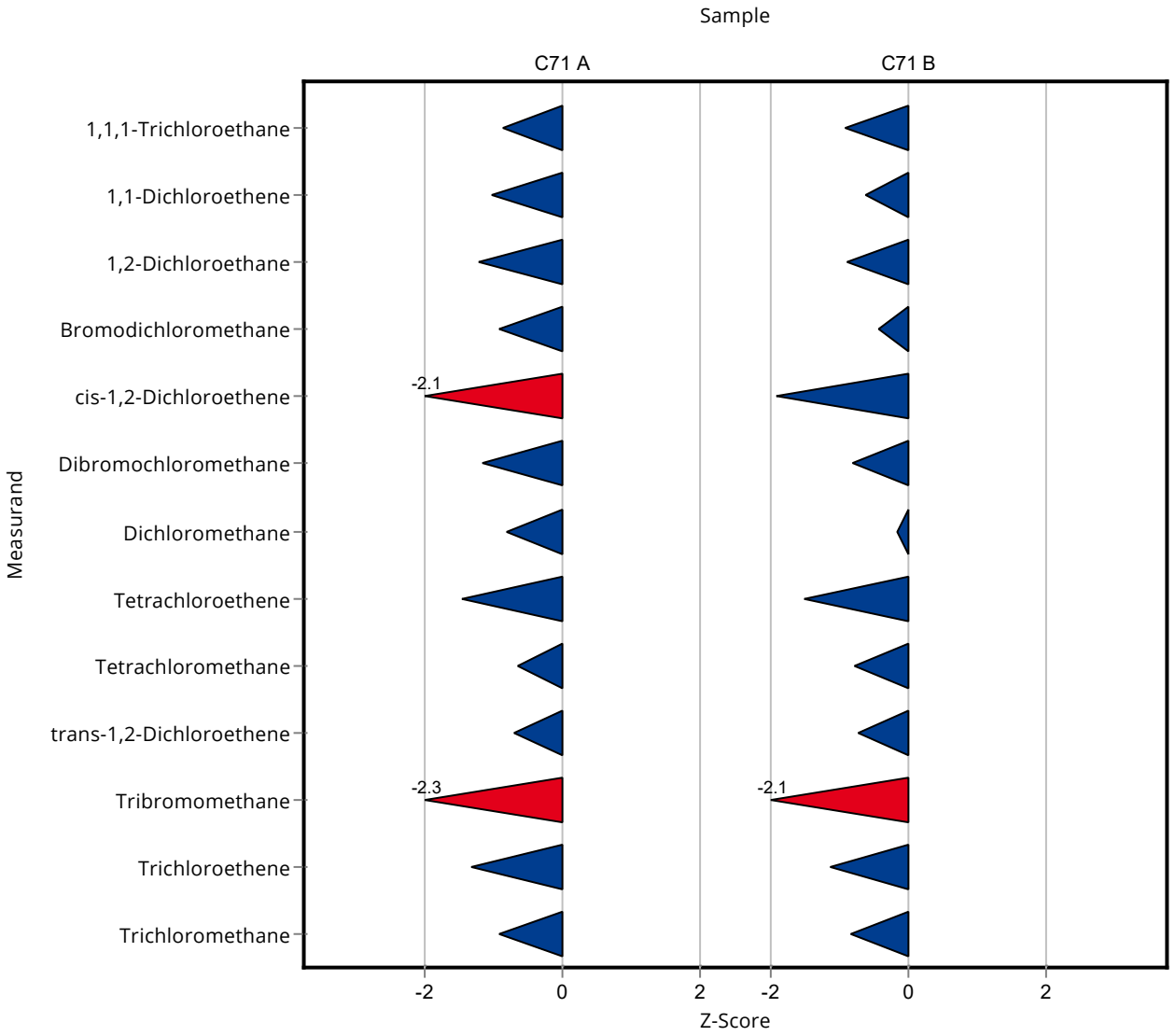
Summary of results Volatile halogenated hydrocarbons (VHH) - C71 Labcode: LC0016

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	0.698 ± 0.07	0.12	87.2	-0.85
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	0.563 ± 0.056	0.116	82.6	-1.02
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	0.92 ± 0.092	0.142	84.3	-1.21
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.5 ± 0.15	0.165	90.7	-0.93
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	0.762 ± 0.076	0.0967	78.8	-2.12
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.13 ± 0.11	0.158	86	-1.16
Dichloromethane	µg/l	7.5 ± 0.503	6.7 ± 0.67	0.975	89.3	-0.82
Tetrachloroethene	µg/l	0.584 ± 0.0417	0.438 ± 0.044	0.0993	75	-1.47
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.438 ± 0.044	0.0783	89.5	-0.66
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	0.654 ± 0.065	0.153	85.7	-0.71
Tribromomethane	µg/l	1.42 ± 0.0951	1.03 ± 0.1	0.17	72.8	-2.27
Trichloroethene	µg/l	0.677 ± 0.0456	0.543 ± 0.054	0.102	80.2	-1.32
Trichloromethane	µg/l	0.932 ± 0.039	0.819 ± 0.082	0.121	87.9	-0.93

Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	3.74 ± 0.37	0.65	86.3	-0.92
1,1-Dichloroethene	µg/l	3.74 ± 0.238	3.35 ± 0.34	0.636	89.6	-0.61
1,2-Dichloroethane	µg/l	5.14 ± 0.243	4.55 ± 0.46	0.669	88.5	-0.89
Bromodichloromethane	µg/l	7.97 ± 0.324	7.64 ± 0.76	0.797	95.9	-0.41
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	3.85 ± 0.39	0.476	80.9	-1.91
Dibromochloromethane	µg/l	6.54 ± 0.309	5.9 ± 0.59	0.785	90.2	-0.81
Dichloromethane	µg/l	9.04 ± 0.398	8.85 ± 0.89	1.18	97.9	-0.16
Tetrachloroethene	µg/l	2.95 ± 0.244	2.2 ± 0.22	0.501	74.6	-1.49
Tetrachloromethane	µg/l	2.73 ± 0.089	2.39 ± 0.24	0.438	87.4	-0.79
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	3.46 ± 0.35	0.808	85.6	-0.72
Tribromomethane	µg/l	7.12 ± 0.429	5.36 ± 0.54	0.854	75.3	-2.06
Trichloroethene	µg/l	3.13 ± 0.16	2.6 ± 0.26	0.47	83	-1.13
Trichloromethane	µg/l	4.15 ± 0.173	3.7 ± 0.37	0.539	89.2	-0.83


Sample
C71 A
C71 B
1,1,1-Trichloroethane
1,1-Dichloroethene
1,2-Dichloroethane
Bromodichloromethane
cis-1,2-Dichloroethene
Dibromochloromethane
Dichloromethane
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Tribromomethane
Trichloroethene
Trichloromethane
Measurand
-2.1
-2.3
-2.1
-2
0
2
-2
0
2
Z-Score

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	0.698 ± 0.07	0.12	87.2	-0.70
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	0.563 ± 0.056	0.116	82.6	-0.89
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	0.92 ± 0.092	0.142	84.3	-0.88
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.5 ± 0.15	0.165	90.7	-0.50
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	0.762 ± 0.076	0.0967	78.8	-1.22
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.13 ± 0.11	0.158	86	-0.80
Dichloromethane	µg/l	7.5 ± 0.503	6.7 ± 0.67	0.975	89.3	-0.56
Tetrachloroethene	µg/l	0.584 ± 0.0417	0.438 ± 0.044	0.0993	75	-1.50
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.438 ± 0.044	0.0783	89.5	-0.55
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	0.654 ± 0.065	0.153	85.7	-0.75
Tribromomethane	µg/l	1.42 ± 0.0951	1.03 ± 0.1	0.17	72.8	-1.74
Trichloroethene	µg/l	0.677 ± 0.0456	0.543 ± 0.054	0.102	80.2	-1.14
Trichloromethane	µg/l	0.932 ± 0.039	0.819 ± 0.082	0.121	87.9	-0.67

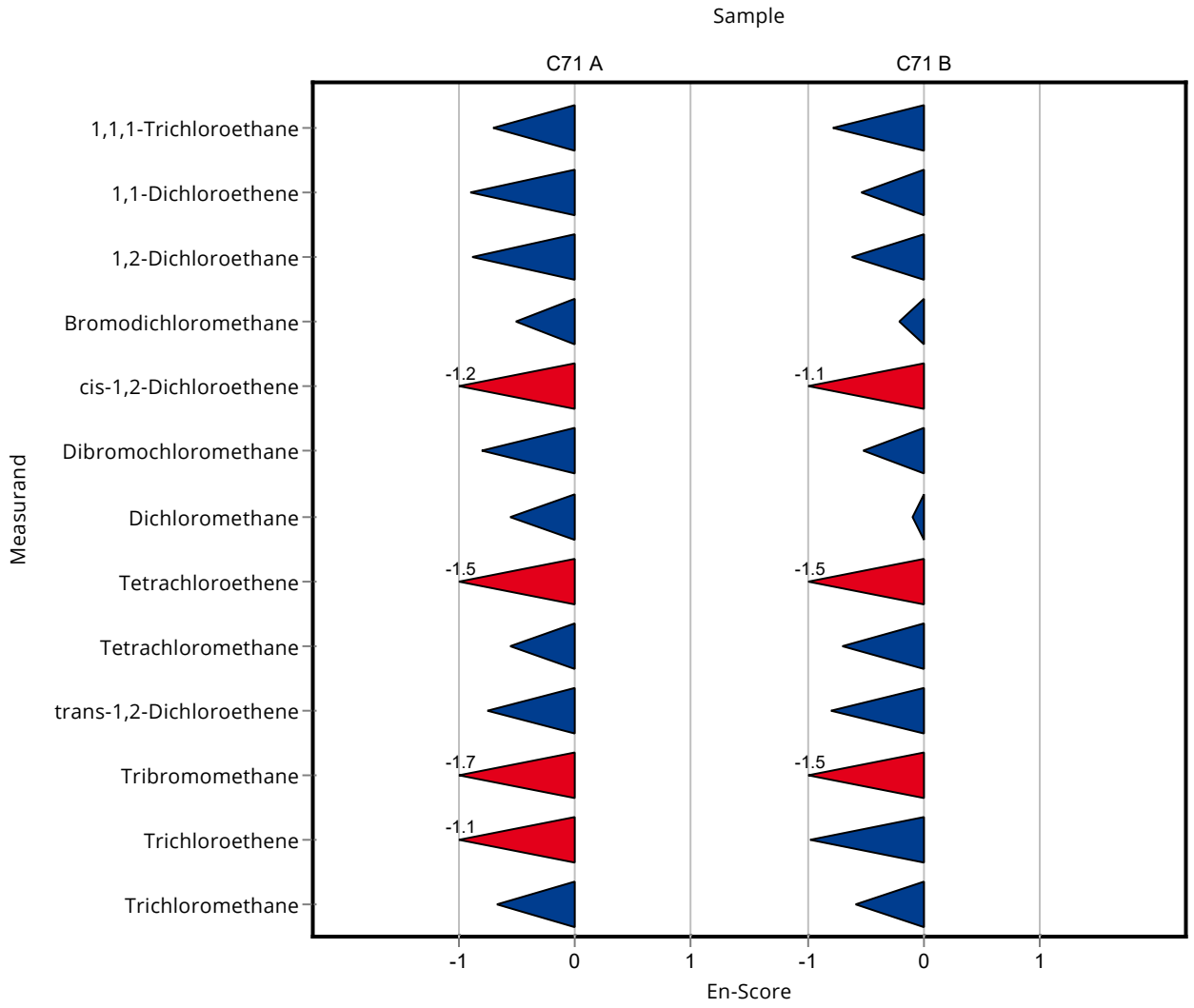
Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	3.74 ± 0.37	0.65	86.3	-0.78
1,1-Dichloroethene	µg/l	3.74 ± 0.238	3.35 ± 0.34	0.636	89.6	-0.54
1,2-Dichloroethane	µg/l	5.14 ± 0.243	4.55 ± 0.46	0.669	88.5	-0.62
Bromodichloromethane	µg/l	7.97 ± 0.324	7.64 ± 0.76	0.797	95.9	-0.21
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	3.85 ± 0.39	0.476	80.9	-1.05
Dibromochloromethane	µg/l	6.54 ± 0.309	5.9 ± 0.59	0.785	90.2	-0.52
Dichloromethane	µg/l	9.04 ± 0.398	8.85 ± 0.89	1.18	97.9	-0.10

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0016

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Tetrachloroethene	µg/l	2.95 ± 0.244	2.2 ± 0.22	0.501	74.6	-1.49
Tetrachloromethane	µg/l	2.73 ± 0.089	2.39 ± 0.24	0.438	87.4	-0.71
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	3.46 ± 0.35	0.808	85.6	-0.80
Tribromomethane	µg/l	7.12 ± 0.429	5.36 ± 0.54	0.854	75.3	-1.51
Trichloroethene	µg/l	3.13 ± 0.16	2.6 ± 0.26	0.47	83	-0.98
Trichloromethane	µg/l	4.15 ± 0.173	3.7 ± 0.37	0.539	89.2	-0.59



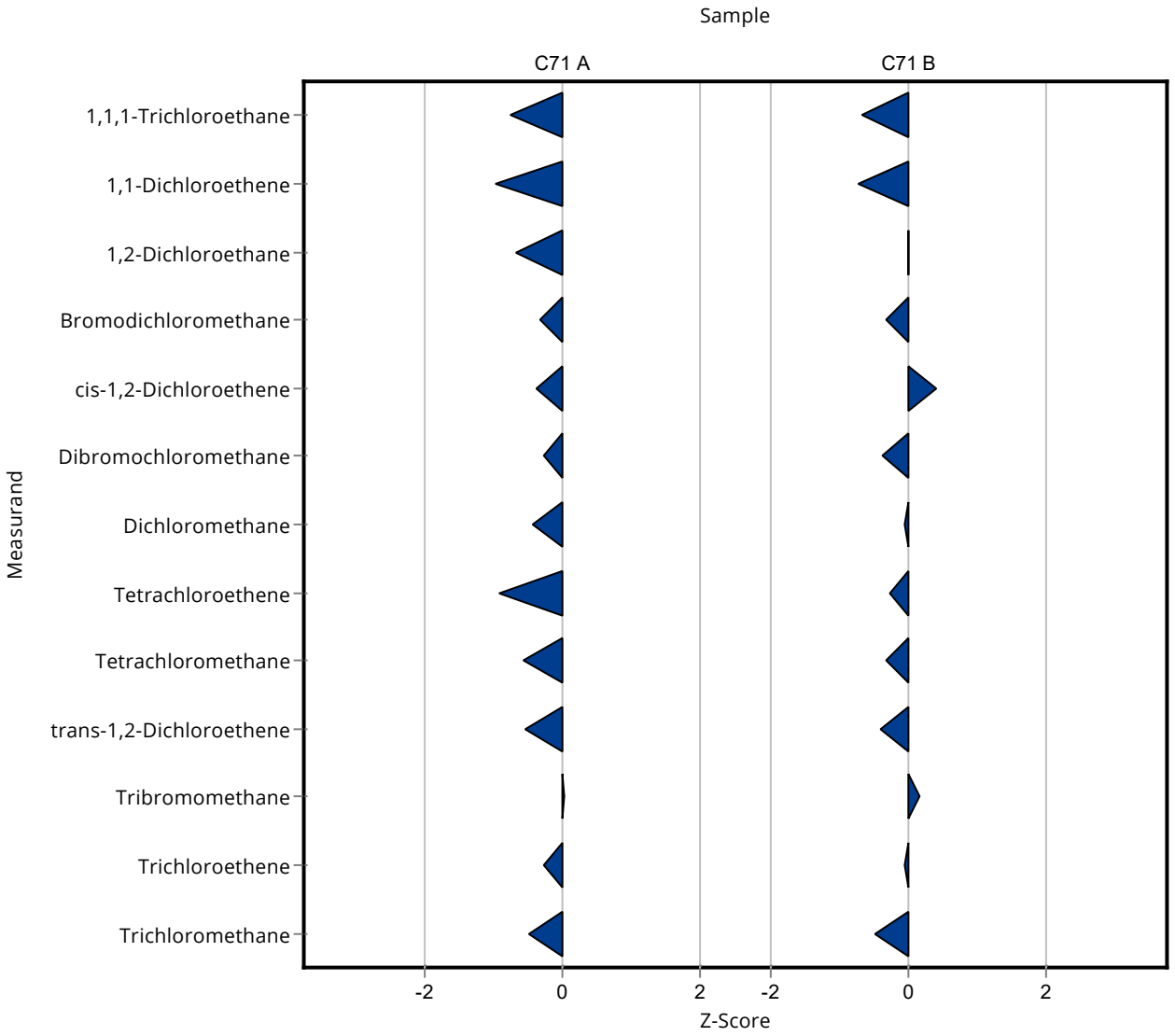
Summary of results Volatile halogenated hydrocarbons (VHH) - C71 Labcode: LC0017

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	0.708 ± 0.106	0.12	88.4	-0.77
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	0.568 ± 0.085	0.116	83.3	-0.98
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	0.995 ± 0.149	0.142	91.2	-0.68
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.6 ± 0.24	0.165	96.8	-0.32
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	0.931 ± 0.14	0.0967	96.3	-0.37
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.27 ± 0.19	0.158	96.7	-0.28
Dichloromethane	µg/l	7.5 ± 0.503	7.08 ± 1.06	0.975	94.4	-0.43
Tetrachloroethene	µg/l	0.584 ± 0.0417	0.492 ± 0.074	0.0993	84.2	-0.93
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.445 ± 0.067	0.0783	90.9	-0.57
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	0.68 ± 0.102	0.153	89.2	-0.54
Tribromomethane	µg/l	1.42 ± 0.0951	1.42 ± 0.21	0.17	100	0.03
Trichloroethene	µg/l	0.677 ± 0.0456	0.648 ± 0.097	0.102	95.7	-0.28
Trichloromethane	µg/l	0.932 ± 0.039	0.873 ± 0.131	0.121	93.7	-0.49

Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	3.91 ± 0.59	0.65	90.2	-0.66
1,1-Dichloroethene	µg/l	3.74 ± 0.238	3.28 ± 0.49	0.636	87.7	-0.72
1,2-Dichloroethane	µg/l	5.14 ± 0.243	5.15 ± 0.77	0.669	100	0.01
Bromodichloromethane	µg/l	7.97 ± 0.324	7.72 ± 1.16	0.797	96.9	-0.31
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	4.95 ± 0.74	0.476	104	0.40
Dibromochloromethane	µg/l	6.54 ± 0.309	6.25 ± 0.94	0.785	95.6	-0.37
Dichloromethane	µg/l	9.04 ± 0.398	8.98 ± 1.35	1.18	99.3	-0.05
Tetrachloroethene	µg/l	2.95 ± 0.244	2.82 ± 0.42	0.501	95.6	-0.26
Tetrachloromethane	µg/l	2.73 ± 0.089	2.6 ± 0.39	0.438	95.1	-0.31
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	3.72 ± 0.56	0.808	92.1	-0.40
Tribromomethane	µg/l	7.12 ± 0.429	7.27 ± 1.09	0.854	102	0.18
Trichloroethene	µg/l	3.13 ± 0.16	3.11 ± 0.47	0.47	99.3	-0.05
Trichloromethane	µg/l	4.15 ± 0.173	3.89 ± 0.58	0.539	93.8	-0.47


Sample
C71 A
C71 B
1,1,1-Trichloroethane
1,1-Dichloroethene
1,2-Dichloroethane
Bromodichloromethane
cis-1,2-Dichloroethene
Dibromochloromethane
Dichloromethane
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Tribromomethane
Trichloroethene
Trichloromethane
Measurand
-2
0
2
-2
0
2
Z-Score

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0017

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	0.708 ± 0.106	0.12	88.4	-0.43
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	0.568 ± 0.085	0.116	83.3	-0.62
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	0.995 ± 0.149	0.142	91.2	-0.32
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.6 ± 0.24	0.165	96.8	-0.11
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	0.931 ± 0.14	0.0967	96.3	-0.12
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.27 ± 0.19	0.158	96.7	-0.11
Dichloromethane	µg/l	7.5 ± 0.503	7.08 ± 1.06	0.975	94.4	-0.19
Tetrachloroethene	µg/l	0.584 ± 0.0417	0.492 ± 0.074	0.0993	84.2	-0.60
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.445 ± 0.067	0.0783	90.9	-0.32
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	0.68 ± 0.102	0.153	89.2	-0.39
Tribromomethane	µg/l	1.42 ± 0.0951	1.42 ± 0.21	0.17	100	0.01
Trichloroethene	µg/l	0.677 ± 0.0456	0.648 ± 0.097	0.102	95.7	-0.14
Trichloromethane	µg/l	0.932 ± 0.039	0.873 ± 0.131	0.121	93.7	-0.22

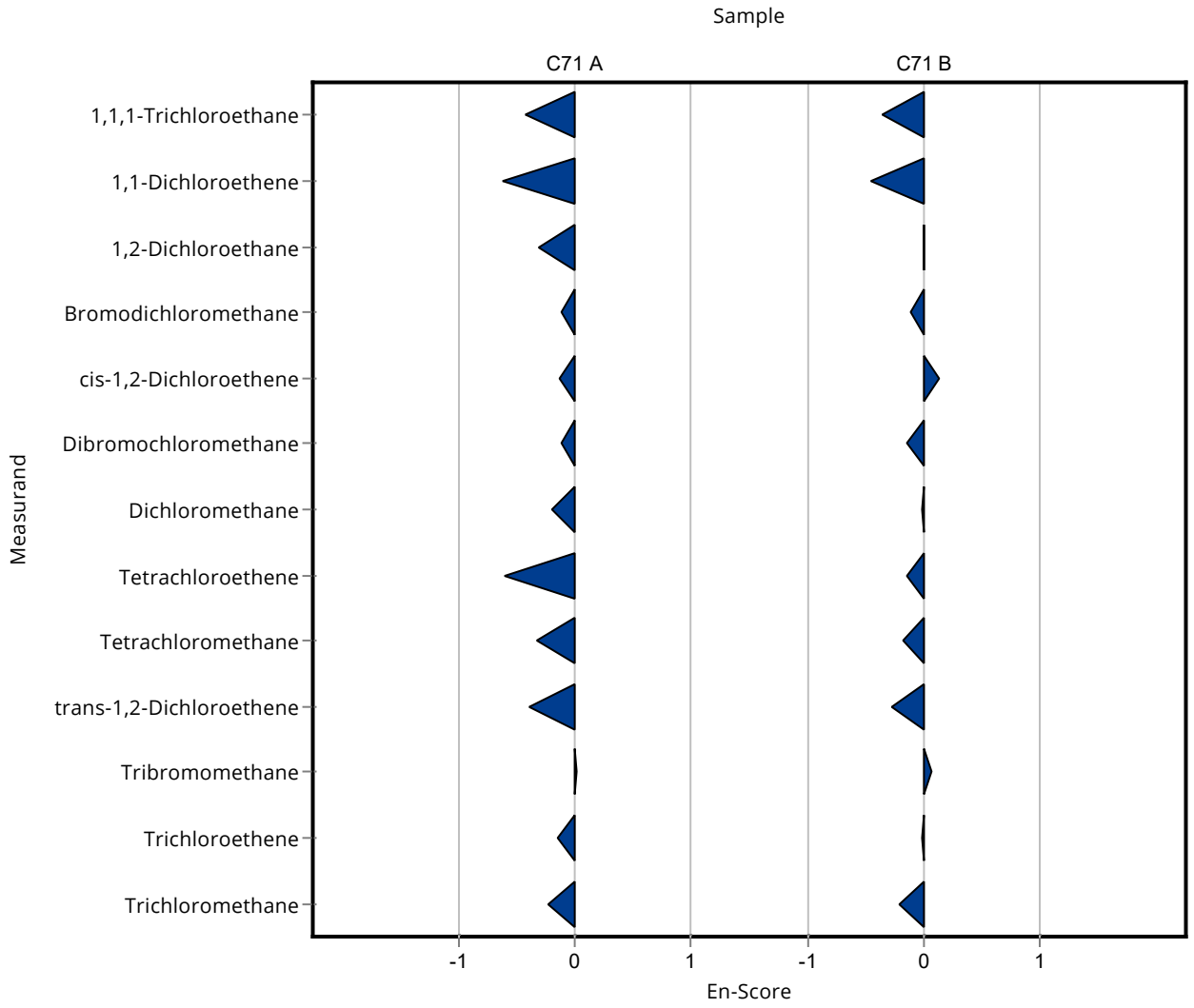
Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	3.91 ± 0.59	0.65	90.2	-0.36
1,1-Dichloroethene	µg/l	3.74 ± 0.238	3.28 ± 0.49	0.636	87.7	-0.46
1,2-Dichloroethane	µg/l	5.14 ± 0.243	5.15 ± 0.77	0.669	100	0.00
Bromodichloromethane	µg/l	7.97 ± 0.324	7.72 ± 1.16	0.797	96.9	-0.11
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	4.95 ± 0.74	0.476	104	0.13
Dibromochloromethane	µg/l	6.54 ± 0.309	6.25 ± 0.94	0.785	95.6	-0.15
Dichloromethane	µg/l	9.04 ± 0.398	8.98 ± 1.35	1.18	99.3	-0.02

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0017

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Tetrachloroethene	µg/l	2.95 ± 0.244	2.82 ± 0.42	0.501	95.6	-0.15
Tetrachloromethane	µg/l	2.73 ± 0.089	2.6 ± 0.39	0.438	95.1	-0.17
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	3.72 ± 0.56	0.808	92.1	-0.28
Tribromomethane	µg/l	7.12 ± 0.429	7.27 ± 1.09	0.854	102	0.07
Trichloroethene	µg/l	3.13 ± 0.16	3.11 ± 0.47	0.47	99.3	-0.02
Trichloromethane	µg/l	4.15 ± 0.173	3.89 ± 0.58	0.539	93.8	-0.22



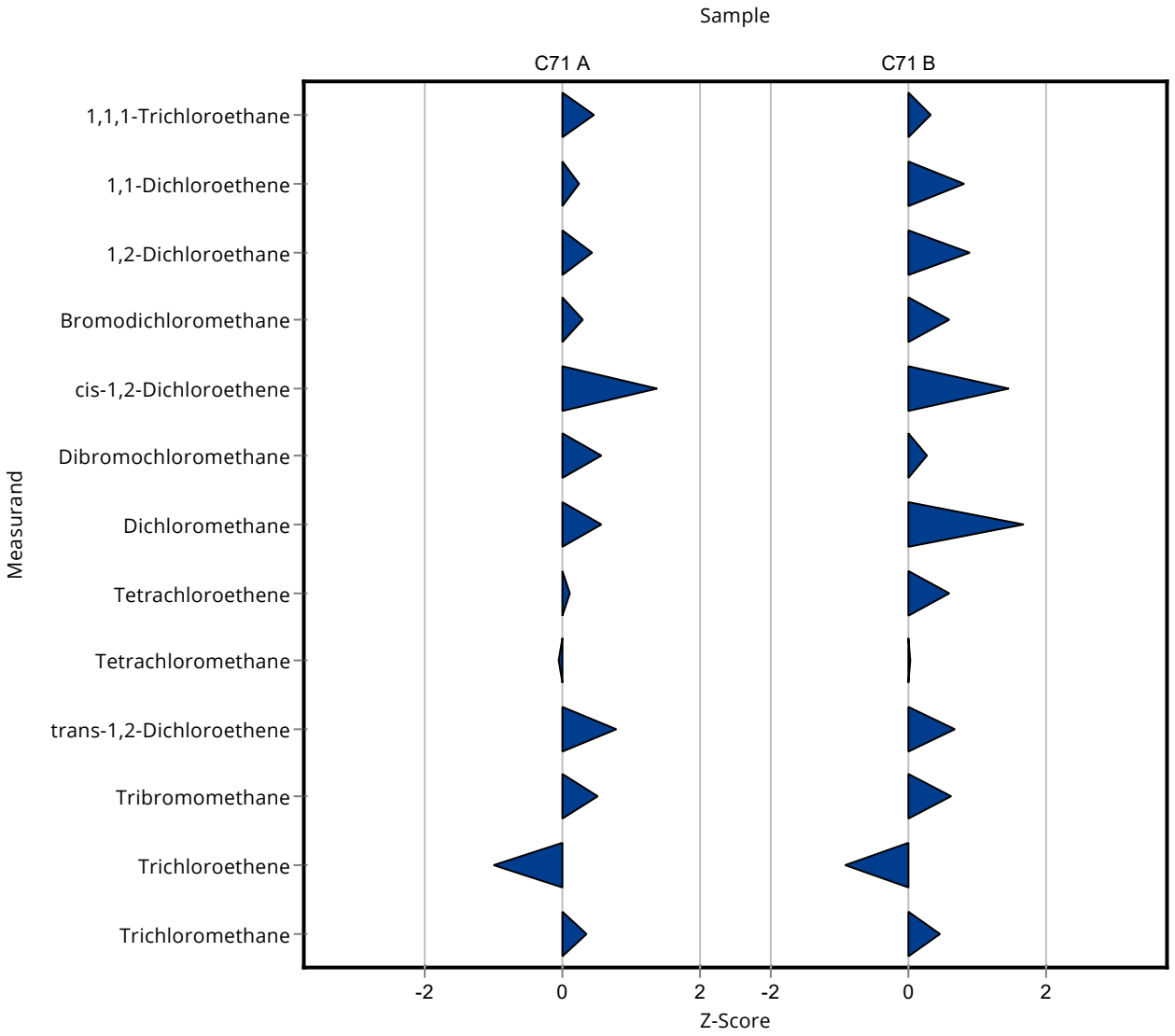
Summary of results Volatile halogenated hydrocarbons (VHH) - C71 Labcode: LC0018

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	0.855 ± 0.26	0.12	107	0.45
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	0.71 ± 0.21	0.116	104	0.24
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	1.15 ± 0.15	0.142	105	0.41
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.7 ± 0.51	0.165	103	0.28
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	1.1 ± 0.33	0.0967	114	1.38
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.4 ± 0.42	0.158	107	0.55
Dichloromethane	µg/l	7.5 ± 0.503	8.05 ± 2.4	0.975	107	0.56
Tetrachloroethene	µg/l	0.584 ± 0.0417	0.595 ± 0.18	0.0993	102	0.11
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.485 ± 0.15	0.0783	99.1	-0.06
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	0.88 ± 0.26	0.153	115	0.77
Tribromomethane	µg/l	1.42 ± 0.0951	1.5 ± 0.45	0.17	106	0.50
Trichloroethene	µg/l	0.677 ± 0.0456	0.575 ± 0.17	0.102	85	-1.00
Trichloromethane	µg/l	0.932 ± 0.039	0.975 ± 0.29	0.121	105	0.35

Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	z-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	4.55 ± 1.4	0.65	105	0.33
1,1-Dichloroethene	µg/l	3.74 ± 0.238	4.25 ± 1.3	0.636	114	0.80
1,2-Dichloroethane	µg/l	5.14 ± 0.243	5.75 ± 1.7	0.669	112	0.91
Bromodichloromethane	µg/l	7.97 ± 0.324	8.45 ± 2.5	0.797	106	0.60
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	5.45 ± 1.6	0.476	115	1.45
Dibromochloromethane	µg/l	6.54 ± 0.309	6.75 ± 2	0.785	103	0.27
Dichloromethane	µg/l	9.04 ± 0.398	11 ± 3.3	1.18	122	1.67
Tetrachloroethene	µg/l	2.95 ± 0.244	3.25 ± 0.98	0.501	110	0.60
Tetrachloromethane	µg/l	2.73 ± 0.089	2.75 ± 0.83	0.438	101	0.03
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	4.6 ± 1.4	0.808	114	0.69
Tribromomethane	µg/l	7.12 ± 0.429	7.65 ± 2.3	0.854	107	0.62
Trichloroethene	µg/l	3.13 ± 0.16	2.7 ± 0.81	0.47	86.2	-0.92
Trichloromethane	µg/l	4.15 ± 0.173	4.4 ± 1.3	0.539	106	0.47


Sample
C71 A
C71 B
1,1,1-Trichloroethane
1,1-Dichloroethene
1,2-Dichloroethane
Bromodichloromethane
cis-1,2-Dichloroethene
Dibromochloromethane
Dichloromethane
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Tribromomethane
Trichloroethene
Trichloromethane
Measurand
-2
0
2
-2
0
2
Z-Score

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0018

Sample: C71A

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	0.801 ± 0.0416	0.855 ± 0.26	0.12	107	0.10
1,1-Dichloroethene	µg/l	0.682 ± 0.0722	0.71 ± 0.21	0.116	104	0.07
1,2-Dichloroethane	µg/l	1.09 ± 0.0621	1.15 ± 0.15	0.142	105	0.19
Bromodichloromethane	µg/l	1.65 ± 0.0725	1.7 ± 0.51	0.165	103	0.05
cis-1,2-Dichloroethene	µg/l	0.967 ± 0.0708	1.1 ± 0.33	0.0967	114	0.20
Dibromochloromethane	µg/l	1.31 ± 0.0681	1.4 ± 0.42	0.158	107	0.10
Dichloromethane	µg/l	7.5 ± 0.503	8.05 ± 2.4	0.975	107	0.11
Tetrachloroethene	µg/l	0.584 ± 0.0417	0.595 ± 0.18	0.0993	102	0.03
Tetrachloromethane	µg/l	0.489 ± 0.0301	0.485 ± 0.15	0.0783	99.1	-0.01
trans-1,2-Dichloroethene	µg/l	0.763 ± 0.0642	0.88 ± 0.26	0.153	115	0.22
Tribromomethane	µg/l	1.42 ± 0.0951	1.5 ± 0.45	0.17	106	0.09
Trichloroethene	µg/l	0.677 ± 0.0456	0.575 ± 0.17	0.102	85	-0.30
Trichloromethane	µg/l	0.932 ± 0.039	0.975 ± 0.29	0.121	105	0.07

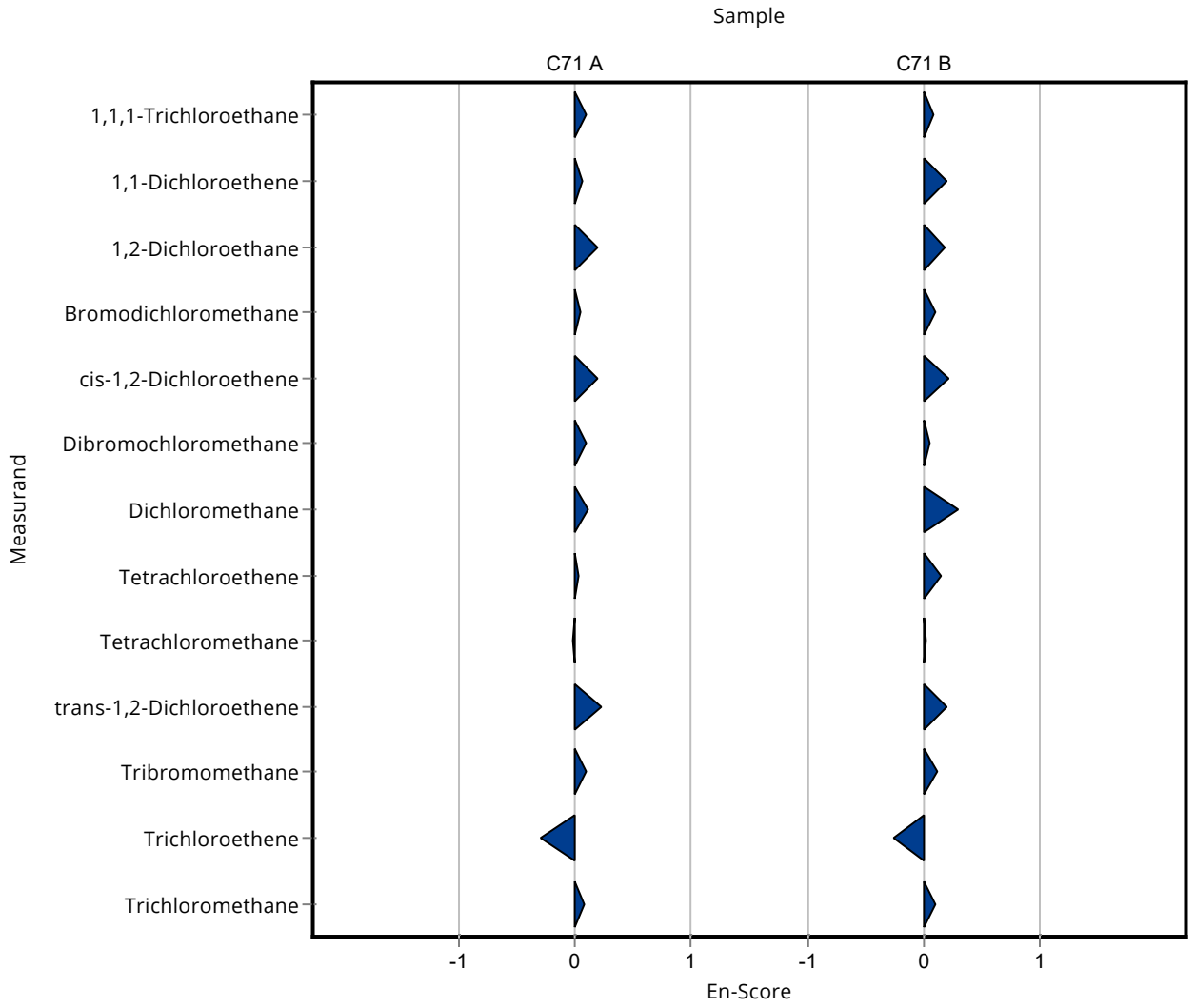
Sample: C71B

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
1,1,1-Trichloroethane	µg/l	4.34 ± 0.189	4.55 ± 1.4	0.65	105	0.08
1,1-Dichloroethene	µg/l	3.74 ± 0.238	4.25 ± 1.3	0.636	114	0.20
1,2-Dichloroethane	µg/l	5.14 ± 0.243	5.75 ± 1.7	0.669	112	0.18
Bromodichloromethane	µg/l	7.97 ± 0.324	8.45 ± 2.5	0.797	106	0.10
cis-1,2-Dichloroethene	µg/l	4.76 ± 0.368	5.45 ± 1.6	0.476	115	0.21
Dibromochloromethane	µg/l	6.54 ± 0.309	6.75 ± 2	0.785	103	0.05
Dichloromethane	µg/l	9.04 ± 0.398	11 ± 3.3	1.18	122	0.30

Summary of results Volatile halogenated hydrocarbons (VHH) - C71 - En-Score

Labcode: LC0018

Parameter	Unit	Assigned value ± U (k=2)	Result ± U	Criterion	Recovery [%]	En-Score
Tetrachloroethene	µg/l	2.95 ± 0.244	3.25 ± 0.98	0.501	110	0.15
Tetrachloromethane	µg/l	2.73 ± 0.089	2.75 ± 0.83	0.438	101	0.01
trans-1,2-Dichloroethene	µg/l	4.04 ± 0.186	4.6 ± 1.4	0.808	114	0.20
Tribromomethane	µg/l	7.12 ± 0.429	7.65 ± 2.3	0.854	107	0.11
Trichloroethene	µg/l	3.13 ± 0.16	2.7 ± 0.81	0.47	86.2	-0.27
Trichloromethane	µg/l	4.15 ± 0.173	4.4 ± 1.3	0.539	106	0.10



E9. Methodenübersicht / Overview of methods

LabCode	Sample	Dibromochloromethane	Bromodichloromethane	1,2-Dichloroethane	cis-1,2-Dichloroethene
LC0001	C71A	EN ISO 17943; F41; GC-MS	EN ISO 17943; F41; GC-MS	EN ISO 17943; F41; GC-MS	
LC0002	C71A	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;
LC0003	C71A	ISO 22155;	ISO 22155;	ISO 22155;	ISO 22155;
LC0004	C71A	P&T-GC-MS;	P&T-GC-MS;	P&T-GC-MS;	P&T-GC-MS;
LC0005	C71A	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;
LC0006	C71A	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;
LC0007	C71A	P&T-GC-MS ; APHA Standard Methods ed.24.RD 2020 6200B	P&T-GC-MS ; APHA Standard Methods ed.24.RD 2020 6200B	P&T-GC-MS ; APHA Standard Methods ed.24.RD 2020 6200B	P&T-GC-MS ; APHA Standard Methods ed.24.RD 2020 6200B
LC0008	C71A	EN ISO 15680;	EN ISO 15680;	EN ISO 15680;	EN ISO 15680;
LC0009	C71A	GC-ECD;	GC-ECD;	GC-ECD;	GC-ECD;
LC0010	C71A			EN ISO 10301;	
LC0011	C71A	EN ISO 20595;	EN ISO 20595;	EN ISO 20595;	
LC0012	C71A	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;
LC0013	C71A				
LC0014	C71A	EN ISO 17943;	EN ISO 17943;	EN ISO 17943;	EN ISO 17943;
LC0015	C71A	EPA 524.4;	EPA 524.4;		
LC0016	C71A	EN ISO 15680; Purge & Trap	EN ISO 15680; Purge & Trap	EN ISO 15680; Purge & Trap	EN ISO 15680; Purge & Trap
LC0017	C71A	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;
LC0018	C71A	DIN 38407-43;	DIN 38407-43;	DIN 38407-43;	DIN 38407-43;

LabCode	Sample	1,1-Dichloroethene	trans-1,2-Dichloroethene	Dichloromethane	Tetrachloroethene
LC0001	C71A				EN ISO 17943; F41; GC-MS
LC0002	C71A	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;
LC0003	C71A	ISO 22155;	ISO 22155;	ISO 22155;	ISO 22155;
LC0004	C71A	P&T-GC-MS;	P&T-GC-MS;	P&T-GC-MS;	P&T-GC-MS;
LC0005	C71A			EN ISO 10301;	EN ISO 10301;
LC0006	C71A	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;
LC0007	C71A	P&T-GC-MS ; APHA Standard Methods ed.24.RD 2020 6200B	P&T-GC-MS ; APHA Standard Methods ed.24.RD 2020 6200B	P&T-GC-MS ; APHA Standard Methods ed.24.RD 2020 6200B	P&T-GC-MS ; APHA Standard Methods ed.24.RD 2020 6200B
LC0008	C71A	EN ISO 15680;	EN ISO 15680;	EN ISO 15680;	EN ISO 15680;
LC0009	C71A	GC-ECD;	GC-ECD;	GC-ECD;	GC-ECD;
LC0010	C71A	EN ISO 10301;		EN ISO 10301;	
LC0011	C71A	EN ISO 20595;		EN ISO 20595;	EN ISO 20595;
LC0012	C71A	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;
LC0013	C71A				
LC0014	C71A	EN ISO 17943;	EN ISO 17943;	EN ISO 17943;	EN ISO 17943;
LC0015	C71A				
LC0016	C71A	EN ISO 15680; Purge & Trap	EN ISO 15680; Purge & Trap	EN ISO 15680; Purge & Trap	EN ISO 15680; Purge & Trap
LC0017	C71A	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;
LC0018	C71A	DIN 38407-43;	DIN 38407-43;	DIN 38407-43;	DIN 38407-43;

LabCode	Sample	Tetrachloromethane	Tribromomethane	1,1,1-Trichloroethane	Trichloroethene
LC0001	C71A		EN ISO 17943; F41; GC-MS		EN ISO 17943; F41; GC-MS
LC0002	C71A	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;
LC0003	C71A	ISO 22155;	ISO 22155;	ISO 22155;	ISO 22155;
LC0004	C71A	P&T-GC-MS;	P&T-GC-MS;	P&T-GC-MS;	P&T-GC-MS;
LC0005	C71A	EN ISO 10301;	EN ISO 10301;	EN ISO 10301; GC-MS	EN ISO 10301;
LC0006	C71A	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;
LC0007	C71A	P&T-GC-MS ; APHA Standard Methods ed.24.RD 2020 6200B	P&T-GC-MS ; APHA Standard Methods ed.24.RD 2020 6200B	P&T-GC-MS ; APHA Standard Methods ed.24.RD 2020 6200B	P&T-GC-MS ; APHA Standard Methods ed.24.RD 2020 6200B
LC0008	C71A	EN ISO 15680;	EN ISO 15680;	EN ISO 15680;	EN ISO 15680;
LC0009	C71A	GC-ECD;	GC-ECD;	GC-ECD;	GC-ECD;
LC0010	C71A	EN ISO 10301;		EN ISO 10301;	
LC0011	C71A	EN ISO 20595;	EN ISO 20595;	EN ISO 20595;	EN ISO 20595;
LC0012	C71A	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;
LC0013	C71A				EPA 5021A/EPA 8015C; modified
LC0014	C71A	EN ISO 17943;	EN ISO 17943;	EN ISO 17943;	EN ISO 17943;
LC0015	C71A		EPA 524.4;		
LC0016	C71A	EN ISO 15680; Purge & Trap	EN ISO 15680; Purge & Trap	EN ISO 15680; Purge & Trap	EN ISO 15680; Purge & Trap
LC0017	C71A	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;
LC0018	C71A	DIN 38407-43;	DIN 38407-43;	DIN 38407-43;	DIN 38407-43;

LabCode	Sample	Trichloromethane
LC0001	C71A	EN ISO 17943; F41; GC-MS
LC0002	C71A	EN ISO 10301;
LC0003	C71A	ISO 22155;
LC0004	C71A	P&T-GC-MS;
LC0005	C71A	EN ISO 10301;
LC0006	C71A	EN ISO 10301;
LC0007	C71A	P&T-GC-MS ; APHA Standard Methods ed.24.RD 2020 6200B
LC0008	C71A	EN ISO 15680;
LC0009	C71A	GC-ECD;
LC0010	C71A	
LC0011	C71A	EN ISO 20595;
LC0012	C71A	EN ISO 10301;
LC0013	C71A	
LC0014	C71A	EN ISO 17943;
LC0015	C71A	EPA 524.4;
LC0016	C71A	EN ISO 15680; Purge & Trap
LC0017	C71A	EN ISO 10301;
LC0018	C71A	DIN 38407-43;

LabCode	Sample	Dibromochloromethane	Bromodichloromethane	1,2-Dichloroethane	cis-1,2-Dichloroethene
LC0001	C71B	EN ISO 17943; F41; GC-MS	EN ISO 17943; F41; GC-MS	EN ISO 17943; F41; GC-MS	
LC0002	C71B	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;
LC0003	C71B	ISO 22155;	ISO 22155;	ISO 22155;	ISO 22155;
LC0004	C71B	HS-GC-MS;	HS-GC-MS;	HS-GC-MS;	HS-GC-MS;
LC0005	C71B	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;
LC0006	C71B	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;
LC0007	C71B	P&T-GC-MS ; APHA Standard Methods ed.24.RD 2020 6200B	P&T-GC-MS ; APHA Standard Methods ed.24.RD 2020 6200B	P&T-GC-MS ; APHA Standard Methods ed.24.RD 2020 6200B	P&T-GC-MS ; APHA Standard Methods ed.24.RD 2020 6200B
LC0008	C71B	EN ISO 15680;	EN ISO 15680;	EN ISO 15680;	EN ISO 15680;
LC0009	C71B	GC-ECD;	GC-ECD;	GC-ECD;	GC-ECD;
LC0010	C71B			EN ISO 10301;	
LC0011	C71B	EN ISO 20595;	EN ISO 20595;	EN ISO 20595;	
LC0012	C71B	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;
LC0013	C71B				
LC0014	C71B	EN ISO 17943;	EN ISO 17943;	EN ISO 17943;	EN ISO 17943;
LC0015	C71B	EPA 524.4;	EPA 524.4;		
LC0016	C71B	EN ISO 15680; Purge & Trap	EN ISO 15680; Purge & Trap	EN ISO 15680; Purge & Trap	EN ISO 15680; Purge & Trap
LC0017	C71B	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;
LC0018	C71B	DIN 38407-43;	DIN 38407-43;	DIN 38407-43;	DIN 38407-43;

LabCode	Sample	1,1-Dichloroethene	trans-1,2-Dichloroethene	Dichloromethane	Tetrachloroethene
LC0001	C71B				EN ISO 17943; F41; GC-MS
LC0002	C71B	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;
LC0003	C71B	ISO 22155;	ISO 22155;	ISO 22155;	ISO 22155;
LC0004	C71B	HS-GC-MS;	HS-GC-MS;	HS-GC-MS;	HS-GC-MS;
LC0005	C71B			EN ISO 10301;	EN ISO 10301;
LC0006	C71B	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;
LC0007	C71B	P&T-GC-MS ; APHA Standard Methods ed.24.RD 2020 6200B	P&T-GC-MS ; APHA Standard Methods ed.24.RD 2020 6200B	P&T-GC-MS ; APHA Standard Methods ed.24.RD 2020 6200B	P&T-GC-MS ; APHA Standard Methods ed.24.RD 2020 6200B
LC0008	C71B	EN ISO 15680;	EN ISO 15680;	EN ISO 15680;	EN ISO 15680;
LC0009	C71B	GC-ECD;	GC-ECD;	GC-ECD;	GC-ECD;
LC0010	C71B	EN ISO 10301;		EN ISO 10301;	
LC0011	C71B	EN ISO 20595;		EN ISO 20595;	EN ISO 20595;
LC0012	C71B	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;
LC0013	C71B				
LC0014	C71B	EN ISO 17943;	EN ISO 17943;	EN ISO 17943;	EN ISO 17943;
LC0015	C71B				
LC0016	C71B	EN ISO 15680; Purge & Trap	EN ISO 15680; Purge & Trap	EN ISO 15680; Purge & Trap	EN ISO 15680; Purge & Trap
LC0017	C71B	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;
LC0018	C71B	DIN 38407-43;	DIN 38407-43;	DIN 38407-43;	DIN 38407-43;

LabCode	Sample	Tetrachloromethane	Tribromomethane	1,1,1-Trichloroethane	Trichloroethene
LC0001	C71B		EN ISO 17943; F41; GC-MS		EN ISO 17943; F41; GC-MS
LC0002	C71B	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;
LC0003	C71B	ISO 22155;	ISO 22155;	ISO 22155;	ISO 22155;
LC0004	C71B	HS-GC-MS;	HS-GC-MS;	HS-GC-MS;	HS-GC-MS;
LC0005	C71B	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;
LC0006	C71B	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;
LC0007	C71B	P&T-GC-MS ; APHA Standard Methods ed.24.RD 2020 6200B	P&T-GC-MS ; APHA Standard Methods ed.24.RD 2020 6200B	P&T-GC-MS ; APHA Standard Methods ed.24.RD 2020 6200B	P&T-GC-MS ; APHA Standard Methods ed.24.RD 2020 6200B
LC0008	C71B	EN ISO 15680;	EN ISO 15680;	EN ISO 15680;	EN ISO 15680;
LC0009	C71B	GC-ECD;	GC-ECD;	GC-ECD;	GC-ECD;
LC0010	C71B	EN ISO 10301;		EN ISO 10301;	
LC0011	C71B	EN ISO 20595;	EN ISO 20595;	EN ISO 20595;	EN ISO 20595;
LC0012	C71B	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;
LC0013	C71B				EPA 5021A/EPA 8015C; modified
LC0014	C71B	EN ISO 17943;	EN ISO 17943;	EN ISO 17943;	EN ISO 17943;
LC0015	C71B		EPA 524.4;		
LC0016	C71B	EN ISO 15680; Purge & Trap	EN ISO 15680; Purge & Trap	EN ISO 15680; Purge & Trap	EN ISO 15680; Purge & Trap
LC0017	C71B	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;	EN ISO 10301;
LC0018	C71B	DIN 38407-43;	DIN 38407-43;	DIN 38407-43;	DIN 38407-43;

LabCode	Sample	Trichloromethane
LC0001	C71B	EN ISO 17943; F41; GC-MS
LC0002	C71B	EN ISO 10301;
LC0003	C71B	ISO 22155;
LC0004	C71B	HS-GC-MS;
LC0005	C71B	EN ISO 10301;
LC0006	C71B	EN ISO 10301;
LC0007	C71B	P&T-GC-MS ; APHA Standard Methods ed.24.RD 2020 6200B
LC0008	C71B	EN ISO 15680;
LC0009	C71B	GC-ECD;
LC0010	C71B	
LC0011	C71B	EN ISO 20595;
LC0012	C71B	EN ISO 10301;
LC0013	C71B	
LC0014	C71B	EN ISO 17943;
LC0015	C71B	EPA 524.4;
LC0016	C71B	EN ISO 15680; Purge & Trap
LC0017	C71B	EN ISO 10301;
LC0018	C71B	DIN 38407-43;