ENVIRONMENTAL MATRIX REFERENCE MATERIAL

LETH-13, lot 0524

Product Information Sheet

A Drinking Water Sample

Updated: 24 April 2024

Environment and Climate Change Canada matrix reference materials (RMs) are collected in bulk from various locations across North America. LETH-13 was collected from the Lethbridge, Alberta in 2013. The bulk sample was pre filtered to remove particulates and filtered through a 0.2 μm sterilizing filter to remove bacteria. This bulk Major Ions and Nutrients in water RM is stored in a dark cold room and is unpreserved.

This Reference Material is intended for the verification or development of analytical methods for environmental analysis. It is not intended for use as a calibration standard.

Measurand	Assigned Value in mg/L*		C.I.	N
Alkalinity, Total (as $CaCO_3$)	127	±	5	133
Ammonia (as N)	0.313	±	0.045	130
Boron	0.0313	±	0.0042	57
Calcium	41.7	±	3.0	134
Chloride	20.0	±	1.0	139
Conductivity (μS/cm, 25°C)	388	±	13	155
Dissolved Inorganic Carbon (DIC)	29.9	±	3.6	55
Dissolved Organic Carbon (DOC)	1.88	±	0.37	120
Fluoride	0.769	±	0.067	81
Magnesium	15.5	±	1.2	133
Potassium	1.63	±	0.15	127
Silicates (as SiO_2)	2.64	±	0.17	90
Sodium	13.2	±	0.9	127
Sulfate (as SO_4^{2-})	41.2	±	2.1	141
Hardness, Total (as $CaCO_3$)	168	±	13	94
Total Kjeldahl Nitrogen (TKN)	0.429	±	0.094	53
Total Nitrogen	0.490	±	0.069	135

*Unless otherwise Indicated

Assigned values are the robust means calculated using Algorithm A (ISO/IEC 13528). Confidence interval (C.I.) represents +/- 2 times the calculated robust standard deviation (R.STD) of all reported laboratory values, calculated by Algorithm A (ISO/IEC 13528).

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Traceability

The stated values are derived from analysis of the inter-laboratory consensus data from the accredited Environment and Climate Change Canada Proficiency Testing studies. (A2LA scope 2867.01)

Methods

Report details of measurement methods used for specific parameters are available upon request.

Storage and Handling

RMs should be stored refrigerated, well sealed and in the dark. Care should be taken when subsampling to avoid contamination of the sample bottle. An aliquot should be removed as necessary and any remaining aliquot sample should be put to waste as appropriate. We strongly recommend that the RM be tightly capped and refrigerated immediately after use.

Expiry Date

Please note that expiry dates of **1 year** from the date of shipping are indicative of sample stability, sample transport, handling, and storage. Expiry dates are indicated directly on the sample bottle label. Environment and Climate Change Canada is not liable for samples beyond the stated expiry on the bottle label.

Disclaimer, Liability & Warranty

Environment and Climate Change Canada warrants that the materials conform to the stated values for the duration of the sample validity period. In the event of a breach of this warranty, Environment and Climate Change Canada will only be liable for a replacement sample, an equivalent substitute, or the invoice price of the RM during the period of sample validity. In no event will Environment and Climate Change Canada be liable for direct, indirect, special, incidental or consequential damages arising from the use of or inability to use the material or documentation, or for the loss of revenue or profit, even if advised of the possibility of such damages. Environment and Climate Change Canada's liability does not extend to third party purchasers.

Further Information

Additional information is available on request. Analytical results, any comments or suggestions are welcome. Difficulties or discrepancies arising with the reference materials should be communicated immediately.

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