QualcoDuna Proficiency Testing Hungary Nonprofit Ltd.
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Proficiency testing provider accredited by NAH underNo. NAH-8-0003/2023.

WASTEWATER SLUDGE/SURFACE WATER SEDIMENT TESTING

Work instructions

QDJV-5/2026

1. General instructions

1.1. Sample storage:

Samples are a mixture of different household wastewater sludges and surface water sediments with a grain size <200 µm. Samples are air-dried and should be stored unopened at 4 ± 2°C in the dark until analysis. Sample containers should be shaken thoroughly before opening. **In each container two pieces of 5 mm glass beads help adequate homogenization. Please pay attention to avoid these beads during sample preparation.** Please follow the safety instructions for laboratory chemicals when handling samples. Samples should be treated as routine samples.

1.2. Sample preparation:

Sample preparation and measurement should follow routine procedures.
Sample quantity is approx. 18 g.

1.3. Measurement results:

Measurement results should be reported on dry weight basis (105°C). Dry weight content should be determined from a separate aliquot (where applicable).

2. Samples

2.1. Sample code: ISZ-1, ISZ-2

Parameters**: Ca, Mg, K, Na, Fe, Mn, As, Pb, Zn** and **B**

Sample digestion should be performed with either **aqua regia** or **nitric acid - hydrogen peroxide** mixture. (Previous experience does not indicate significant differences between the two digests in the proficiency testing scheme.)
Recommended sample intake: 0.5-1 g.

Unit of measurement:

- **K, Na, Mn, As, Pb, Zn, B (mg/kg dry weight)**
- **Ca, Mg, Fe (g/kg dry weight)**

Measurement results should be reported together with analytical standard and measurement method used.

2.2. Sample code: ISZ-3, ISZ-4

Parameters: **Dry matter content (105°C) (g/kg)**
Residue on ignition (600°C) (g/kg dry weight)
Loss on ignition (600°C) (g/kg dry weight)
Ash content (800°C) (g/kg dry weight)

Sample intake for analysis should be chosen as in case of routine samples. **Residue/loss on ignition** and **ash content** should be reported on **dry weight** basis (105°C).
Dry weight content should be determined from a separate aliquot.

Nutrients:

Parameters: **total N (mg/kg dry weight)**
total P (mg/kg dry weight)

Measurement results should be reported on **dry weight** basis (105°C).

Toxic and potentially toxic elements:

Parameters: **Ba, Cd, Co, Cr, Cu, Mo, Ni, Se, Hg.**

Sample digestion should be performed with either **aqua regia** or **nitric acid - hydrogen peroxide** mixture. (Previous experience does not indicate significant differences between the two digests in the proficiency testing scheme.)
Measurement results should be reported on **dry weight** basis (105°C) in **mg/kg dry weight** units.

3. Reporting of results:

Participants are asked to report their expanded measurement uncertainty together with the measurement results using a **coverage factor of k = 2,** so that E_n numbers can be calculated for evaluation.

Please make sure that expanded measurement uncertainties are reported in the **same unit of measurement** as the measurement results.

Results can be reported via our website (**www.qualcoduna.hu**) using your personal login ID communicated earlier by e-mail. (Choose *Login to online services*, then go to *Reporting of results* to see the online data report forms.) After required fields are filled in and data report form is sent, you will receive a confirmation that your data is received (If you do not receive the confirmation, reporting of results failed.)

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Please check, save and retain this confirmation for later use.

In case online reporting is not possible, please write us: info@qualcoduna.hu**.**

Reporting deadline: November 13, 2026., 16:00

Please make the appropriate rounding and report in the unit of measurement stated on data report forms. Results reported after the above deadline or as „< LOD/LOQ" will be excluded from evaluation, results reported in inappropriate units of measurement will not be converted. (Reference: ISO 13528:2022. Statistical methods for use in proficiency testing by interlaboratory comparisons.) Please note that **in case zero ("0") is reported** as measurement result, it is regarded as a valid result and is **evaluated accordingly**.

Budapest, October 06, 2026

Dr. Norbert Mátrai
Head of Department