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

SURFACE WATER AND GROUNDWATER SAMPLING PROFICIENCY TEST

Work instructions

2025/Round S02

Dates of the 2025 surface water - groundwater sampling PT exercise:

23th – 25th September, 2025 (Tuesday, Wednesday and Thursday)

Location: Buki island near Vác (Hungary)
(premises of the Danube Regional Waterworks**)**

Deadline for online reporting of on-site measurement results: 26. September, 2025 16:00.

1. General information

1. Sampling should be performed with clean equipment (e.g. pump) in order that water quality remains unchanged during the sampling exercise. In case a submersible pump is used for groundwater sampling, its diameter should be less than 90 mm.
2. Drilling is not part of the groundwater sampling exercise, a monitoring well with adequate water flow is available on-site. Participants are scheduled at 30-40 minutes intervals in order to allow time for cleaning pumping.
3. Surface water sampling takes place at a still water site. Near-surface point samples should be taken. The monitoring well and the surface water sampling site are close to each other, withing easy reach on foot.
4. Sample containers, preservatives (cationic sample container contains nitric acid), filters and sample transport is provided by QualcoDuna Proficiency Testing Hungary Nonprofit Ltd. Subcontracted laboratory for analysis is Eurofins Environment Testing Hungary Ltd's Laboratory.
5. Participants sample the same monitoring well and still water site, using their own equipment, following their routine protocol.
6. Participants should perform on-site measurements with their own instruments. Measurement results should be recorded on the sampling report(s) routinely used by the organization. Original copies of the sampling report(s) should be submitted together with samples. Separate sampling reports should be prepared for the two exercises, i.e. groundwater sampling and surface water sampling.
   On-site measurement results should also be **reported electronically via the project website** (www.qualcoduna.hu) after sampling using your personal login ID communicated earlier by e-mail. Reporting deadline is 16:00, 26. September 2025. 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. This can be saved and printed for your later use. If you do not receive the confirmation, reporting of your results failed. In this case, please try again. Please respect the unit of measurement prescribed.

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.

7. Discarding waste chemicals on-site is strictly forbidden, all participants should be equipped with a waste container for any residues from on-site measurements.
8. Participants should prepare **three identical laboratory samples each** for cations and anions on-site (cationic sample container contains nitric acid). Sample containers should be labelled with sample identification code (**SWS "cations"** and **"anions"** for surface water sampling and **GWS "cations"** and **"anions"** for groundwater sampling) as well as the **name of the participant (entering proficiency testing sample code/Laboratory code is prohibited!)**.
9. Of the three pair laboratory samples, one pair is retained by the participant (these samples may be analyzed by the participant – please note that this is optional), two pairs are to be handed over to the representative of **QualcoDuna Proficiency Testing Hungary Nonprofit Ltd.,** aka the provider, on site. Samples are transported to the laboratory of QualcoDuna Proficiency Testing Hungary Nonprofit Ltd., where name and address of participant is replaced by a unique code. From this step on, samples are solely identified by this code, in order to ensure confidentiality and privacy.
10. One of the two sample pairs (cations and anions) transported to QualcoDuna Proficiency Testing Hungary Nonprofit Ltd. is sent to the subcontracted laboratory (i.e. Eurofins Environment Testing Hungary Ltd's Laboratory) for analysis. The other sample pair is stored in the provider's laboratory in a refrigerator at 4 ± 3°C for reference (in case of ambiguity, this sample may also be sent to the subcontracted laboratory for analysis).
11. Participants receive their unique proficiency testing identification code. You will be able to identify your results in the final report by this code. **Please** help us preserve the confidentiality of the scheme and **do not communicate your code** outside your organization.

2. Sampling schedule

Sampling exercises are scheduled as below. Coordinators of the provider on-site are Norbert Mátrai (+36-30-453-9471) and Adrienn Micsinai (+36-30-559-2531).

Sampling will take place between **September 23 and 25, 2025, from 9:00 a.m. to 4:00 p.m.** All participants have been informed in advance of the sampling dates!

3. On-site measurements, sampling reports

Groundwater sampling (GWS): pH (**20°C**), conductivity (**20°C**), and water temperature.

Surface water sampling (SWS): pH (**20°C**), conductivity (**20°C**), and water temperature.

On-site measurement results should be recorded on sampling reports. Original copy of the sampling report should be submitted together with the samples. On-site measurement results should also be **reported electronically via the project website** (www.qualcoduna.hu).

4. Laboratory analysis

Analysis of the laboratory samples for **surface water sampling** (SWS) and **groundwater sampling** (GWS) is performed by the collaborative laboratory, an accredited organisation. Parameters selected for evaluation of sampling are: **Ca, Mg, Fe, Cl^-, SO_4^{2-}, NO_3^-, K, Na and Mn**. Evaluation is based on selected parameters that are present at adequate concentration levels and can be quantified with low uncertainty, as well as on-site pH and conductivity. On-site parameters are given double weight in evaluation.

5. About the sampling site

Location: Buki Island near Vác, Hungary

5.1. Groundwater sampling (GWS):

Indicative parameters of the monitoring well:

Well ID:	Buki Island F4. monitoring well
Bottom depth:	10 m
Filter:	6,5-7,7 m
Filter tube:	Ø 110 mm PVC
Groundwater level:	ca. 4-5 m
Coordinates:	GPS: Lat: N47,800167° Lon: E19,098092° EOV: Y: 653793 X: 272936

Attention: in case a submersible pump is used for groundwater sampling, its diameter should be less than 90 mm in order to avoid the pump being stuck.

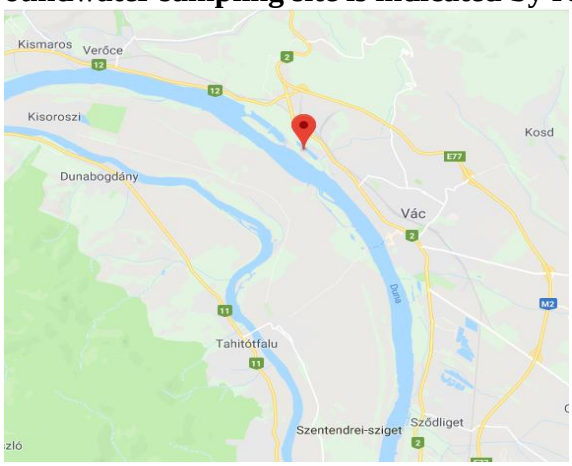
The monitoring well has adequate water flow, recommended capacity of pump is 8-15 l/min. Prior measurements indicate that the water of the well is unpolluted, thus water extracted during cleaning pumping need not to be collected separately.

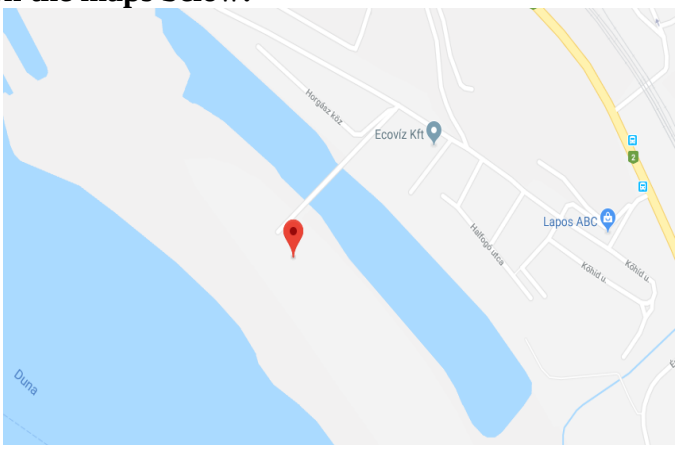
5.2. Surface water sampling (SWS):

Surface water sampling takes place at the nearby North Lake. Wearing rubber boots is recommended. The sampling point is marked on the shore. Random samples should be taken at approximately 1,5 from the shore and from a depth of 0,1-0,3 m. An open sampling device or container may be used for sampling.

6. Direction and on-site photos

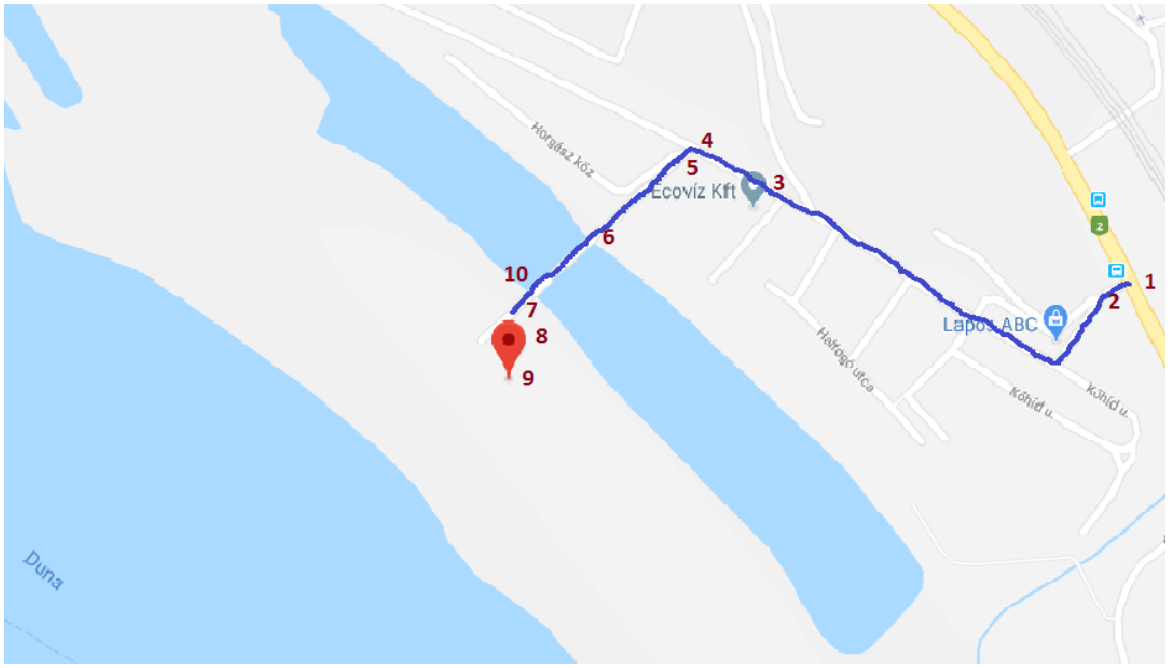
Groundwater sampling site is indicated by red on the maps below:





For more details about the location and directions please click on the link below:
https://www.google.hu/maps/@47.8004044,19.0978685,350m/data=!3m1!1e3

The blue line marks a possible path to sampling site from main road 2 (Pont 1. at GPS: N47.800999, E19.105749):



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Photos from the road to sampling site:

1. Turn left from Vác Center on main road 2 to Buki Island (GPS: N47.800999, E19.105749):

2. Follow the road on your left:

3. The DMRV Zrt. building on your left on Kőhíd Street:

4. Information board at the crossroads on your left:

5. Turn left and follow the road on the left:

6. Disregard the no-entry sign and follow the road:

7. Vác Waterworks building is at the end of the road (GPS: N47.80046, E19.09765):

8. Road to Buki Island monitoring well F4. (ca.60 m):

9. Monitoring well F4. for groundwater sampling:

10. Surface water sampling site (N47.800988,E19.098166):

7. Coordinator of the sampling exercise:

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Budapest, September 03, 2025

Dr. Norbert Mátrai
project coordinator

Record of issue status and modifications:

Version nr.	Issue date	Details
1.1.	September 03, 2025	Release of document