EA MLA Signatory
Český institut pro akreditaci, o.p.s.
Olšanská 54/3, 130 00 Praha 3

issues

according to section 16 of Act No. 22/1997 Coll., on technical requirements for products, as amended

CERTIFICATE OF ACCREDITATION

No. 566/2022

MORAVSKÁ VODÁRENSKÁ, a.s.
with registered office Tovární 1059/41, Hodolany, 779 00 Olomouc,
Company Registration No. 61859575

to the Testing Laboratory No. **1446**
Water Quality Control Department

Scope of accreditation:

Sampling of water, sludge and waste, chemical and special inorganic and organic analysis of water and sludge, microbiological, biological and sensory analysis of water to the extent as specified in the appendix to this Certificate.

This Certificate of Accreditation is a proof of Accreditation issued on the basis of assessment of fulfillment of the accreditation criteria in accordance with

ČSN EN ISO/IEC 17025:2018

In its activities performed within the scope and for the period of validity of this Certificate, the Body is entitled to refer to this Certificate, provided that the accreditation is not suspended and the Body meets the specified accreditation requirements in accordance with the relevant regulations applicable to the activity of an accredited Conformity Assessment Body.

This Certificate of Accreditation replaces, to the full extent, Certificate No.: 564/2021 of 2. 11. 2021, or any administrative acts building upon it.

The Certificate of Accreditation is valid until: **29. 11. 2027**

Prague: 29. 11. 2022

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Jan Velíšek
Director of the Department
of Testing and Calibration Laboratories
Czech Accreditation Institute
Public Service Company

The Appendix is an integral part of
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Accredited entity according to ČSN EN ISO/IEC 17025:2018:

MORAVSKÁ VODÁRENSKÁ, a.s.
Water Quality Control Department
Dolní Novosadská, 779 00 Olomouc

Testing laboratory locations:

1.	**Olomouc Laboratory**	WWTP Olomouc, Dolní Novosadská, 779 00 Olomouc
2.	**Prostějov Laboratory**	WWTP Prostějov – Kralický Háj, 798 12 Kralice na Hané

The Laboratory has a flexible scope of accreditation permitted as detailed in the Annex.
Updated list of activities provided within the flexible scope of accreditation is available in the laboratory from the Laboratory Manager.
The Laboratory is qualified to carry out independent sampling.

Tests:

Ordinal number[1]	Test procedure/method name	Test procedure/method identification[2]	Tested object
1.1[1,2]	Electrometric determination of pH	S-01A (ČSN ISO 10523)	Water, liquid sludge
1.2[2]	Electrometric determination of pH	S-01B (ČSN ISO 10523, ČSN EN 15933)	Dewatered sludge
1.3[1]	Determination of ANC 4,5 by titration	S-06 (ČSN EN ISO 9963-1)	Drinking, hot, ground, surface, bottled, bathing water
1.4[1,2]	Determination of ammonium by spectrophotometry and ammonia nitrogen by calculation	S-09 (ČSN ISO 7150-1)	Water
1.5[1,2]	Electrometric determination of conductivity	S-11 (ČSN EN 27888)	Water
1.6[1]	Determination of hardness by titration and magnesium by calculation	S-12A (ČSN ISO 6059)	Drinking, hot, ground, surface, bottled, bathing water
1.7[1]	Determination of calcium by titration	S-12B (ČSN ISO 6058)	Drinking, hot, ground, surface, bottled, bathing water
1.8[1]	Determination of COD using permangate	S-15 (ČSN EN ISO 8467)	Drinking, hot, ground, surface, bottled, bathing water
1.9[1]	Determination of absorbance by spectrophotometry	S-17 (ČSN 75 7360)	Drinking, hot, ground, surface, bottled, bathing water

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Dolní Novosadská, 779 00 Olomouc

Ordinal number[1]	Test procedure/method name	Test procedure/method identification[2]	Tested object
1.10[2]	Determination of dissolved solids, dissolved inorganic salts by gravimetry and loss on ignition of dissolved solids by calculation	S-19 (ČSN 75 7346, ČSN 75 7347)	Water, liquid sludge
1.11[1]	Determination of turbidity by nephelometry	S-20 (HACH manual, ČSN EN ISO 7027-1)	Drinking, hot, ground, surface, bottled, bathing water
1.12[1]	Determination of aluminium by spectrophotometry	S-27 (ČSN ISO 10566)	Drinking, hot, ground, surface, bottled, bathing water
1.13*[1, 2]	Determination of free and total chlorine by spectrophotometry using Hach set and bound chlorine by calculation	S-28 (HACH manual, ČSN EN ISO 7393-2)	Drinking, hot, bathing water
1.14*[1, 2]	Determination of temperature	S-34 (ČSN 75 7342)	Water, liquid sludge
1.15*[1, 2]	Determination of dissolved oxygen by electrochemical probe method	S-36A (ČSN EN ISO 5814)	Water, liquid sludge
1.16*[1, 2]	Determination of dissolved oxygen by optical probe method	S-36B (ČSN ISO 17289)	Water
1.17[1]	Determination of odour and flavour by sensory analysis	S-37 (ČSN 75 7340, ČSN EN 1622)	Drinking, hot, ground, surface, bottled, bathing water
1.18[2]	Determination of ammonia nitrogen by titration after distillation, ammonium and inorganic nitrogen by calculation	S-43 (ČSN ISO 5664)	Drinking, hot, ground, surface and waste water, liquid sludge
1.19[2]	Determination of total nitrogen by spectrophotometry and organic nitrogen by calculation	S-45 (MERCK manual, ČSN 75 7455)	Drinking, hot, ground, surface and waste water, liquid sludge

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Ordinal number[1]	Test procedure/method name	Test procedure/method identification[2]	Tested object
1.20[2]	Determination of phosphate by spectrophotometry and phosphate phosphorus by calculation MERCK set	S-46 (MERCK manual, ČSN EN ISO 6878)	Water, liquid sludge
1.21[2]	Determination of total phosphorus by spectrophotometry MERCK set	S-47 (MERCK manual, ČSN EN ISO 6878)	Water, liquid sludge
1.22[2]	Determination of anionic surfactants by spectrophotometry using HACH set	S-48 (HACH manual, ČSN EN 903)	Water
1.23[2]	Determination of biochemical oxygen demand after n days (BODn) by electrochemical probe method	S-50 (ČSN EN ISO 5815-1, ČSN EN 1899-2, ČSN EN ISO 5814)	Water, liquid sludge
1.24[2]	Determination of suspended solids and loss on ignition of suspended solids by gravimetry	S-52 (ČSN EN 872, ČSN 75 7350)	Water, liquid sludge
1.25[2]	Determination of total solids and loss on ignition of total solids by gravimetry	S-53A (ČSN EN 12880)	Water, liquid sludge
1.26[2]	Determination of total solids and loss on ignition of total solids by gravimetry	S-53B (ČSN EN 12880)	Dewatered sludge
1.27[2]	Determination of fats and oils by gravimetry	S-54 (ČSN 75 7509)	Waste water
1.28[1]	Determination of colour by spectrophotometry	S-64 (ČSN EN ISO 7887)	Drinking, hot, ground, surface, bottled, bathing water
1.29[1]	Determination of metals by flame AAS (Ag, Cd, Co, Cr, Cu, Fe, Mn, Ni, Pb, Zn)	S-65 except chap. 10.1.4. (GBC manual, ČSN ISO 8288, ČSN EN ISO 5961, ČSN EN 1233, ČSN 75 7400, ČSN 75 7385, ČSN EN ISO 15587-1, ČSN EN ISO 15587-2)	Water, liquid sludge

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Ordinal number[1]	Test procedure/method name	Test procedure/method identification[2]	Tested object
1.30[1]	Determination of metals by flame AAS (Cd, Cr, Cu, Ni, Pb, Zn)	S-65 except chap. 10.1.2., 10.1.3. (GBC manual, ČSN ISO 8288, ČSN EN ISO 5961, ČSN EN 1233, ČSN 46 5735, ČSN EN ISO 15587-1, ČSN EN ISO 15587-2)	Dewatered sludge, liquid sludge
1.31[1]	Determination of metals by flameless AAS (As, Ba, Be, Cd, Co, Cr, Ni, Pb, Sb, Se, V)	S-66 except chap. 10.1.4. (GBC manual, ČSN EN ISO 15586, ČSN EN ISO 5961, ČSN EN 1233, TNV 75 7408, ČSN EN ISO 15587-1, ČSN EN ISO 15587-2)	Water, liquid sludge
1.32[1]	Determination of metals by flameless AAS (As)	S-66 except chap. 10.1.2., 10.1.3. (GBC manual, ČSN EN ISO 15586, ČSN 46 5735, ČSN EN ISO 15587-1, ČSN EN ISO 15587-2)	Dewatered sludge, liquid sludge
1.33[1]	Determination of mercury by single purpose AAS AMA 254	S-67 (ČSN 75 7440, ČSN 46 5735, ČSN EN ISO 15587-2)	Water, liquid and dewatered sludge
1.34[1]	Determination of sodium and potassium by flame AES	S-75 (GBC manual, ČSN ISO 9964-3)	Water
1.35[1]	Determination of adsorbable organically bound halogens (AOX) by coulometry	S-76A (ČSN EN ISO 9562)	Water, liquid sludge

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Ordinal number[1]	Test procedure/method name	Test procedure/method identification[2]	Tested object
1.36[1]	Determination of adsorbable organically bound halogens (AOX) by coulometry	S-76B (ČSN EN ISO 9562, ČSN EN 16166)	Dewatered sludge, liquid sludge
1.37[1]	Determination of boron by spectrophotometry	S-77 (ČSN ISO 9390)	Drinking, hot, ground, surface, bottled, bathing water
1.38[1]	Determination of humic substances by spectrophotometry	S-79 (ČSN 75 7536)	Drinking, hot, ground, surface, bottled, bathing water
1.39[1]	Determination of total cyanide by spectrophotometry	S-87 (ČSN 75 7415, MERCK manual)	Water
1.40[1]	Determination of hydrocarbons C_{10} - C_{40} by gas chromatography (FID)	S-112 (ČSN EN ISO 9377-2)	Water
1.41[1]	Determination of anions [3] by ion chromatography (conductivity detection)	S-115 (ČSN EN ISO 10304-1, ČSN EN ISO 10304-4, ČSN EN ISO 15061)	Water
1.42[2]	Determination of COD with dichromate by spectrophotometry using HACH set	S-117 (HACH manual, ČSN ISO 15705)	Water, liquid sludge
2.1[1]	Detection and enumeration of thermotolerant coliform bacteria and *Escherichia coli* by membrane filtration method	S-24 (ČSN 75 7835)	Drinking, hot, ground, surface, bottled, bathing water
2.2[1]	Detection and enumeration of intestinal enterococci by membrane filtration method	S-25 (ČSN EN ISO 7899-2)	Drinking, hot, ground, surface, bottled, bathing water
2.3[1]	Enumeration of culturable microorganisms at 22 °C and 36 °C by direct inoculation method	S-39 (ČSN EN ISO 6222)	Drinking, hot, ground, surface, bottled, bathing water

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Ordinal number[1]	Test procedure/method name	Test procedure/method identification[2]	Tested object
2.4[1]	Enumeration of coliform bacteria and *Escherichia coli* by membrane filtration method	S-116 (ČSN EN ISO 9308-1)	Drinking, hot, ground, surface, bottled, bathing water
2.5[1]	Detection and enumeration of coliform bacteria and *Escherichia coli* by most probable number method	S-120 (ČSN EN ISO 9308-2)	Drinking, hot, ground, surface, bottled, bathing water

[1] asterisk at the ordinal number identifies the tests, which the Laboratory is qualified to carry out outside the permanent laboratory premises; the superscript next to the test ordinal number indicates the workplace at which the test is performed or by which it is provided

[2] if the document identifying the test procedure is dated, only these specific procedures are used. If the document identifying the test procedure is not dated, the latest edition of the specified procedure is used (including any changes)

[3] anions: bromates, nitrates, nitrites, fluorides, phosphates, chlorates, chlorides, chlorites, sulphates and nitrate nitrogen, nitrite nitrogen, phosphate phosphorus, sum of chlorates and chlorites by calculation

Annex:
Flexible scope of accreditation

Ordinal numbers of tests
1.29-1.32, 1.34,1.41

The Laboratory is allowed to modify the test methods listed in the Annex within the specified scope of accreditation provided the measuring principle is observed. The flexible approach to the scope of accreditation cannot be applied to the tests not included in the Annex.

Sampling:

Ordinal number	Sampling procedure name	Sampling procedure identification [1]	Sampled object
1	Drinking water sampling	S-301 (ČSN EN ISO 5667-1, ČSN EN ISO 5667-3, ČSN ISO 5667-5, ČSN EN ISO 5667-14, ČSN ISO 5667-21, ČSN EN ISO 19458)	Drinking, raw, process, hot water

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Ordinal number	Sampling procedure name	Sampling procedure identification [1]	Sampled object
2[1,2]	Sampling of ground water (static, dynamic)	S-302 (ČSN EN ISO 5667-1, ČSN EN ISO 5667-3, ČSN ISO 5667-11, ČSN EN ISO 5667-14, ČSN EN ISO 19458)	Ground water
3[1,2]	Sampling of surface water	S-303 (ČSN EN ISO 5667-1, ČSN EN ISO 5667-3, ČSN ISO 5667-4, ČSN EN ISO 5667-6, ČSN EN ISO 5667-14, ČSN EN ISO 19458)	Surface water
4[1,2]	Sampling of waste water (manual sampling and sampling using an automatic sampler)	S-304 (ČSN EN ISO 5667-1, ČSN EN ISO 5667-3, ČSN ISO 5667-10, ČSN EN ISO 5667-14, ČSN EN ISO 19458)	Waste water
5[1,2]	Sampling of sludge and waste	S-305 (ČSN EN 14899, ČSN EN ISO 5667-1, ČSN EN ISO 5667-3, ČSN EN ISO 5667-13, ČSN EN ISO 5667-14, ČSN EN ISO 5667-15, ČSN EN ISO 19458)	Liquid and dewatered sludge, liquid and solid waste, biowaste

[1] if the document identifying the sampling procedure is dated, only these specific procedures are used. If the document identifying the sampling procedure is not dated, the latest edition of the specified procedure is used (including any changes)

[2] the superscript next to the sampling ordinal number indicates the workplace providing the sampling

Explanations:
Water – drinking (including raw, process water from WTP), hot, ground, surface, bottled, waste, bathing water
Liquid sludge – liquid sample of sludge containing usually less than 50 g of dry matter per kilogram of sludge
S – standard operating procedure prepared on the basis of valid standards, technical literature and firm manuals
AAS – Atomic Absorption Spectrometry, Atomic Absorption Spectrometer

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AES – Atomic Emission Spectrometry
FID – Flame Ionization Detector
TNV – Branch Technical Standard of Water Management
WTP – Water Treatment Plant

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