



**Signatory to the EA Multilateral Agreement in this field**

**ORDER**

**№ A 255**

**Sofia, 30.07.2025**

Pursuant to Art. 10, para. 1, items 3 and 4, Art. 28, para. 1, Art. 30, para. 1 of the Law on National Accreditation of Conformity Assessment Bodies, item 4.7.3 of the BAS QR 2 Accreditation Procedure, in connection with an open procedure reg. № 162/118 ЛИ/ПА/РО/19.12.2024, assessment report reg. № 162/118 ЛИ/6/В/07.04.2025, annex G2 Section reg. № 162/118 ЛИ/27.05.2025, and statement of the Accreditation Commission reg. № 162/118 ЛИ/ПА/РО/15/В/10.07.2025, I hereby

**RE-ACCREDIT AND EXTEND THE SCOPE OF ACCREDITATION  
OF**

**LEMNA ECOINVEST-BULGARIA JSC,  
TESTING LABORATORY**

**Management and laboratory address:** 8000 Burgas, Lazur, Bl.146, Floor 1

**To perform testing of:**

<b>Type of the scope:</b> <i>Flexible for a part of the scope</i>			
<b>№</b>	<b>Tested products</b>	<b>Type of test/ characteristic</b>	<b>Testing methods (standard/ validated method)</b>
1	2	3	4
I.	WATER: -Sea water (1) -Drinking water (2) -Surface water (3) - Waste water (4) -Groundwater (5) - Mineral water from a water source to be used for both hygienic and prophylactic purposes (6) -Swimming pool water (7)	1.Temperature	БДС 17.1.4.01, cl. 4 (1, 3, 4, 5, 6, 7) БДС 8451, cl. 5 (2)
		2.pH	БДС EN ISO 10523 (1, 2, 3, 4, 5, 6, 7)
		3.Colour	БДС 17.1.4.01, cl. 3 (4) БДС EN ISO 7887, cl. 4, cl. 7 (1, 2, 3, 5, 6, 7)
		4.Odour/ Taste	БДС 17.1.4.01, cl. 2 (4, 7) БДС 8451, cl. 3, cl. 4 (2)
		5.Turbidity	БДС EN ISO 7027-1 (1, 2, 3, 4, 5, 6, 7) VLM № 32:2017 (1, 3)
		6.Electrical conductivity	БДС EN 27888 (1, 2, 3, 4, 5, 6, 7)
		7. Salinity	VLM № 37:2019 (1, 3)
		8.Undissolved substances	БДС 17.1.4.04, cl. 2 (3, 4, 5) БДС EN 872 (1, 2, 3, 4, 5, 6, 7)
		9.Dry residue	БДС 3546 (2) БДС 17.1.4.04, cl. 1 (3, 4, 5)
		10.Dissolved substances	БДС 17.1.4.04, cl. 3 (2, 3, 4, 5, 6)
		11.Biochemical oxygen consumption after n days /BOC <sub>n</sub> /	БДС EN ISO 5815-1 (1, 3, 4) БДС EN 1899-2 (1, 3, 4)

**Type of the scope:** Flexible for a part of the scope

№	Tested products	Type of test/ characteristic	Testing methods (standard/ validated method)
1	2	3	4
		12. Dissolved oxygen-volumetric method	БДС EN 25813 (1, 2, 3, 4, 5, 6)
		13. Dissolved oxygen-Electrochemical method	БДС EN ISO 5814 (1, 2, 3, 4, 5, 6)
		14.1 Nitrites	БДС EN 26777 (1, 2, 3, 4, 5, 6, 7)
		14.2 Nitrite nitrogen	
		15. Chlorides	БДС 3414 (2) БДС 17.1.4.24, cl. 1 (3, 4, 5, 6)
		16.1 Nitrates	БДС ISO 7890-3 (2, 3, 4)
		16.2 Nitrate nitrogen	VLM № 1:2020 (1, 3, 4, 5, 6)
		17. Determination of Kjeldahl nitrogen	БДС EN 25663 (2, 3, 4)
		18.1 Ammonium ion	БДС ISO 7150-1 (1, 2, 3, 4, 5, 6, 7)
		18.2 Ammonium nitrogen	
		18.3 Ammonia	
		19. Total nitrogen	БДС EN ISO 11905-1 (1, 2, 3, 4, 5, 6) VLM № 2:2020 (2, 3, 4, 5, 6)
		20.1 Phosphates	БДС EN ISO 6878, Chapter 4 (1, 2, 3, 4, 5, 6) VLM № 3:2015 (1, 3, 4)
		20.2 Orthophosphates	
		20.3 Phosphates (like phosphorus)	
		21. Total phosphorus	БДС EN ISO 6878, Chapter 7 (1, 2, 3, 4, 5, 6) VLM № 3:2015 (1, 3, 4)
		22. Oxidisability (Dichromatic)	БДС 17.1.4.02 (3, 4, 5) БДС ISO 15705 (3, 4, 5)
		23.1 Permanganate Oxidisability	БДС EN ISO 8467 (2, 3, 5, 6, 7)
		23.2 Permanganate Index	
		24. General hardness.	БДС ISO 6059 (2, 3, 5, 6)
		25. Calcium	БДС ISO 6058 (2, 3, 5, 6)
		26. Magnesium	VLM № 40:2021 (2, 3, 5, 6)
		27. Sulphates	VLM № 33:2017 (2, 3, 4, 5, 6)
		28.1 Total (Residual) chlorine	БДС EN ISO 7393-2 (2, 3, 4, 5, 6, 7)
		28.2 Free chlorine	
		29. Surface-active agents (anionic detergents)	VLM № 39:2019 (2, 3, 4, 5, 6)
		30. Extractable substances	VLM № 10:2019 (3, 4)
		31. Vegetable oils and fats	VLM № 10:2019 (3, 4)
		32. Petroleum products	VLM № 10:2019 (3, 4) БДС EN ISO 9377-2 (1, 3, 4, 5)
		33. Iron	БДС ISO 6332 (4, 7)
		34. Manganese	БДС ISO 6333 (3, 7)
		35.1 Total Chromium/Cr <sup>3+</sup> , Cr <sup>6+</sup>	VLM № 7:2020 (2, 3, 4, 5, 6)
		35.2 Cr(III)	
		35.3 Cr(VI)	
		36.1 General alkalinity,	БДС EN ISO 9963-1 (2, 3, 4, 5, 6) БДС EN ISO 9963-2 (2, 3, 4, 5, 6)
		36.2 Composite alkalinity	
		36.3 Carbonates (like CaCO <sub>3</sub> )	
		36.4 Hydrocarbons	

**Type of the scope: Flexible for a part of the scope**

№	Tested products	Type of test/ characteristic	Testing methods (standard/ validated method)
1	2	3	4
		37.1 Phenols	БДС 17.1.4.13 (3, 4, 5)
		37.2 Phenol index	БДС ISO 6439, Method A and B (2, 3, 4)
		38. Cyanides	БДС ISO 6703-1 (4) VLM № 29:2015 (4, 2, 3, 5, 6)
		39.1 Fluorine	БДС 16911 (2)
		39.2 Fluorides	VLM № 30:2020 (4, 5, 6)
		40.1 Sulphides	БДС 17.1.4.09, cl. 1 (3, 4, 5, 6)
		40.2 Hydrogen sulphide	
		41. Bromates	VLM № 38:2019 (2, 3, 5, 6)
		42. Total organic carbon (TOC)	VLM № 31:2016 (2, 3, 4)
		43. Elemental composition (using ICP-OES).	БДС EN ISO 11885 (2, 3, 4, 5, 6) VLM № 17:2013 * (1)
		44. Mercury	VLM № 17:2013 (1) VLM № 18:2016 (2, 3, 4, 5, 6)
		45. Coliforms (total)	БДС EN ISO 9308-1/A1 (2, 5, 6)
		46. Escherichia coli	БДС EN ISO 9308-1/A1 (2, 5, 6) БДС EN ISO 9308-3 (1)
		47. Intestinal enterococci	БДС EN ISO 7899-2 (1, 2, 3, 5, 6)
		48. Total colony count (microbial count) at 22°C, at 37°C	БДС EN ISO 6222 (1, 2, 3, 4, 5, 6, 7)
		49. Sulphite-reducing clostridia	БДС EN 26461-2 (2, 5, 6)
		50. Clostridium perfringens (incl. spores)	БДС EN ISO 14189:2016 (2, 5, 6)
		51. Total colititre	БДС 17335, cl. 7 (7)
		52. Escherichia colititre	БДС 17335, cl. 7 (7)
		53. Enterococcal titre	БДС 17335, cl. 8 (7)
		54. Staphylococcal titre	БДС 17335, cl. 9 (7)
		55. Legionella	БДС EN ISO 11731 (2, 5, 6)
		56. Pseudomonas aeruginosa	БДС EN ISO 16266:2008 (2, 6)
		57. Salmonella	БДС EN ISO 19250:2013 (2)
		58. Polycyclic aromatic hydrocarbons (PAH)	ISO 28540 (2, 3, 5, 6)
		59. Volatile organic compounds (VOC)	БДС EN ISO 10301, Chapter 3 (2, 3, 5, 6) БДС ISO 11423-1 (2, 3, 4, 5, 6)
		60. Polychlorinated biphenyls (PCB)	VLM № 34:2017 * (1, 2, 3, 5, 6)
		61. Organochlorine pesticides and chlorobenzenes	VLM № 35:2017 * (1, 2, 3, 5, 6)
		62. Organophosphorus pesticides	БДС EN 12918 (2, 3, 5, 6)
		63. Nitrogen-containing pesticides	VLM № 36:2017 * (1, 2, 3, 5, 6)
II.	ALUMINIUM-BASED COAGULANTS/ SOLUTIONS	1. Content of aluminium trioxide (Al <sub>2</sub> O <sub>3</sub> )	БДС EN 1302/A, cl. A.1
		2. Undissolved substances	БДС EN 1302, cl. B.6
		3. Content of metals: 3.1 Chromium;	БДС EN 1302, cl. B.7
		3.2 Nickel;	

**Type of the scope:** Flexible for a part of the scope

№	Tested products	Type of test/ characteristic	Testing methods (standard/ validated method)
1	2	3	4
		3.3 Cadmium;	
		3.4 Lead	
		3.5 Arsenium;	
		3.6 Selenium;	
		3.7 Antimony;	
		4. Manganese	
III.	<b>WASTES</b> - testing of digest of water upon leaching (1) -testing of digest of acid upon microwave decomposition (2)	1.Active pH reaction	БДС EN ISO 10523(1) БДС EN 10390
		2.1 Determination of dry residue	БДС EN 15934, Method A
		2.2 Water content	
		3. Loss on ignition	БДС EN 15935, cl. 7.1
		4. Total dissoluble solids/ TDS	БДС EN 15216
		5. Electrical conductivity	БДС EN 27888 (1)
		6. Content of metals and non-metals	БДС EN ISO 22036 (2)
		7.1 Total chromium	БДС EN ISO 11885(1) БДС EN ISO 22036 (2) VLM № 7:2020 (1)
		7.2 Cr (III)	VLM № 7:2020 (1)
		7.3 Cr (VI)	
		8. Mercury	VLM № 18:2016 (1)
		9. Chlorides	ISO 9297 (1)
		10. Cyanides (total)	VLM № 29:2015 (1)
		11. Total organic carbon	VLM № 31:2022 (1)
		12. Fluorides	VLM № 30:2020 (1)
		13. Phenol index	БДС ISO 6439, Method A and B (1)
		14. Nitrites	БДС EN 26777 (1)
		15.Nitrates	БДС ISO 7890-3 (1)
		16.1 Ammonium ion	БДС ISO 7150-1 (1)
		16.2 Ammonium nitrogen	
		16.3 Ammonia	
		17.1 Phosphates	БДС EN ISO 6878, Chapter 4, 7 (1) VLM № 3:2015 (1)
		17.2 Orthophosphates	
		17.3 Phosphates (like phosphorus)	
		18.Sulphates	VLM № 25:2020 (1)
		19.Total nitrogen	VLM № 2:2020 (1)
IV.	<b>SLUDGE/ SEDIMENTS</b>  Sludge (1) Sediments (2)	1.1. pH (H <sub>2</sub> O)	БДС EN ISO 10390 (1)
		1.2. pH (CaCl <sub>2</sub> )	
		2.1. Determination of dry residue	БДС EN 12880 (1)
		2.2. Water content	

<b>Type of the scope:</b> <i>Flexible for a part of the scope</i>			
<b>№</b>	<b>Tested products</b>	<b>Type of test/ characteristic</b>	<b>Testing methods (standard/ validated method)</b>
1	2	3	4
		3. Content of metals and non-metals (determination using ICP-OES)	БДС EN ISO 22036 (1,2)
		3.1. Cobalt;	
		3.2. Chromium;	
		3.3. Iron;	
		3.4. Manganese;	
		3.5. Nickel;	
		3.6. Lead;	
		3.7. Zinc;	
		3.8. Arsenium;	
		3.9. Calcium;	
		3.10. Potassium;	
		3.11. Magnesium;	
		3.12. Copper;	
		3.13. Molybdenum;	
		3.14. Cadmium;	
		3.15. Barium;	
		3.16. Aluminium;	
		3.17. Selenium;	
		3.18. Phosphorus;	
		3.19. Boron;	

**To perform sampling of:**

<b>Type of the scope:</b> <i>Flexible</i>		
<b>№</b>	<b>Product</b>	<b>Sampling methods (standard / validated method)</b>
1	2	3
I.	WATER	
	Water from lakes and dams	БДС ISO 5667-4
	Drinking water from treatment works and piped distribution systems	ISO 5667-5
	Water from rivers and streams	БДС ISO 5667-6
	Sea water	БДС ISO 5667-9
	Waste water	БДС ISO 5667-10
	Groundwater	БДС ISO 5667-11
	Water intended for microbiological analysis	БДС EN ISO 19458
II.	Soils	БДС ISO 18400-102
III.	Sludge from water treatment.	БДС EN ISO 5667-13
	Sludge/ Sediments from rivers, lakes and estuary areas.	БДС ISO 5667-12
	Sea sediments.	БДС EN ISO 5667-19

**Flexible scope:**

*Implementing a new version of standards/documents or standards/documents replacing them is allowed. An updated list of standards/documents and their dated versions is provided by laboratory.*

*\* Within the scope of its competence the laboratory shall be authorized to determine all the characteristics (column 3) according to the indicated testing methods (column 4) related to the group of products (column 2) upon completion of verification/ validation, provision of CPM/PM and calibrated technical equipment. The laboratory shall maintain a detailed and duly dated list of the products and the characteristics related to the products and characteristics mentioned in the accreditation scope.*

**References:**

VLM Nº 17/2013\* Sea water. Determination of content using inductively coupled plasma atomic emission spectroscopy (ICP-OES).

VLM Nº 34/2017\* Water. Determination of content of polychlorinated biphenyls- Gas chromatography method.

VLM Nº 35/2017\* Water. Determination of content of organochlorine pesticides and chlorobenzenes - Gas chromatography method.

VLM Nº 36/2017\* Water. Determination of content of nitrogen-containing pesticides - Gas chromatography method and mass selective detection.

**Fixed scope - References:**

VLM Nº 01/2020 Determination of content of nitrates in water.

VLM Nº 02/2020 Determination of content of total nitrogen in waters and digest of water from wastes/eluates

VLM Nº 03/2015 Photometric method for determination of content of orthophosphates and total phosphorus in water and digest of water from wastes/eluates.

VLM Nº 07/2020 Determination of content of chromium (total, III, VI) in waters and digest of water from wastes/eluates.

VLM Nº 10/2019 Determination of content of extractable substances, petroleum products, fats and vegetable oils in water.

VLM Nº 18/2016 Water. Determination of content of mercury in drinking water, surface water, groundwater and waste water, digests of water wastes/ eluates using inductively coupled plasma atomic emission spectroscopy (ICP-OES).

VLM Nº 20/2013 Determination of content of manganese in aluminium-based coagulants using inductively coupled plasma atomic emission spectroscopy (ICP-OES).

VLM Nº 25/2020 Determination of content of sulphates/ sulphur from sulphates in sludge/ sediments, soil and wastes.

VLM Nº 29/2015 Photometric method for determination of content of cyanides in water and digest of water from wastes/eluates.

VLM Nº 30/2020 Determination of content of fluorides in waters and digest of water from wastes/eluates.

VLM Nº 31/2016 Photometric method for determination of content of total organic carbon in waters and digest of water from wastes/eluates.

VLM Nº 32/2017 Water quality. Determination of turbidity

VLM Nº 33/2017 Water. Photometric method for determination of content of sulphates.

VLM Nº 37/2019 Determination of water salinity.

VLM Nº 38/2019 Determination of content of bromates in water.

VLM Nº 39/2019 Determination of content of anionic detergents in water.

VLM Nº 40/2021 Determination of content of magnesium in waters-calculation method.

## I ORDER

To issue the certificate of accreditation reg. № 118 ЛИ/30.07.2025, valid until 30.07.2029, and this order as an integral part of it.

The certificate of accreditation with the enclosure to be received by the manager/representative of the legal entity, the head of the CAB, or other authorized person in the office of EA BAS.

Upon receipt of the certificate and the enclosure issued, the accredited person is obliged to return to EA BAS the originals of accreditation certificate № 118 ЛИ/31.01.2024 and its enclosure, EA BAS order reg. № A 61/31.01.2024 as an integral part of it.

This order shall be notified to the legal entity, within 3 (three) days from its issuance.

**Eng. Irena Borislavova**

*Executive Director  
of Executive agency Bulgarian accreditation service*

