



ORDER

№ A 697
Sofia, 30.11.2020

Pursuant to Art. 10, para. 1, item 4 Art. 27, para. 3 of the Law on National Accreditation of Conformity Assessment Bodies and the relevant item 6 of Accreditation Procedure BAS QR 2, Flexible Scope Accreditation Procedure BAS QR 32 in connection with open procedure with Reg. № 98/75 ЛИ/ПА/17.12.2019, evaluation report № 98/75 ЛИ/ПА/7/В/06.07.2020, Declaration incoming № 98/75 ЛИ/ПА/6/В/06.07.2020, Report G2 reg. No. 98/75 ЛИ/10/В/25.09.2020, Statement of the Accreditation Commission No. 98/75 ЛИ/ПА/13/В/18.11.2020, I hereby

RE-ACCREDIT

**LABORATORY FOR ANALYSIS OF THE ENVIRONMENT COMPONENTS
AT ECO-CONSULT-ENGINEERING LTD**

Address of management and laboratory: office 9, floor 3, entrance A, block 126, Slaveykov residential complex, 8010 Burgas

To perform testing of:

Type of scope: <i>flexible for a part of the scope</i>			
No	Name of tested products	Type of testing / characteristic	Test methods (standard / validated method)
1	2	3	4
I.	Waters, waste (1); Waters, running surface (2); Waters, coastal sea (3); Waters, drinking (4) Waters, lake (5) Waters, ground (6)	1. Active reaction/pH	БДС EN ISO 10523 (1,2,3,4,5,6) БДС 3424 (4)
		2. Temperature	БДС 17.1.4.01 (1,2,3,4,5,6)
		3. Total dry solids/ dissolved solids / undissolved solids. Suspended solids/ Undissolved solids	БДС 17.1.4.04 (1,2,4,5,6) БДС EN 872 (1,2,3,4,5,6)
		4. Chloride	БДС 17.1.4.24 (1,2,5,6) ISO 9297 (1,2,4,5,6) БДС EN ISO 10304-1 (1,2,4,5,6)
		5.1. Total chlorine 5.2. Free chlorine 5.3. Residual free chlorine	БДС EN ISO 7393-3 (1,2,4,5,6) VILM 21:2007 (1,2,4,5,6)
		6. Bichromatic oxidation	ISO 15705 (1,2,4,5,6) ISO 6060 (1,2,4,5,6)
		7. Ammonium / Ammonium ions/ Ammoniacal nitrogen	БДС ISO 7150-1 (1, 2, 4, 5, 6) VILM 29:2011 (1, 2, 3, 4, 5, 6)
		8. Nitrites/ Nitrite-nitrogen	БДС EN 26777 (1,2,3,4,5,6) VILM 30:2011 (1,2,3,4,5, 6) БДС EN ISO 10304-1 (1,2,4,5,6)

1	2	3	4
		9. Nitrates/ Nitrate-nitrogen	БДС ISO 7890-3 (1,2,4,5,6), VILM 11:2006 (1,2,4,5,6) VILM 15:2007 (3)
			БДС EN ISO 10304-1 (1,2,4,5,6)
		10. Sulphides/ Hydrogen sulfide	БДС 17.1.4.09 (1, 2, 4, 5, 6) VILM 16:2006 (1, 2, 4, 5, 6)
		11.1 Hexavalent chromium 11.2 Trivalent chromium 11.3 Total chromium	ISO 11083 (1, 2, 4, 5, 6); VILM 03:2005 (1,2,3,4,5,6) БДС 17.1.4.17 (1, 2, 4, 5, 6) БДС EN ISO 11885 (1,2,4,5,6)
		12. Iron dissolved/ Iron total	БДС ISO 6332 (1, 2, 3, 4,5,6); БДС EN ISO 11885 (1,2,4,5,6)
		13. Biochemical oxygen demand (BOD) ₅	БДС EN 1899-2 (1,2,3, 4,5,6) БДС EN ISO 5815-1 (1,2,3,4,5,6) ISO 5815-2 (1, 2, 3, 4, 5, 6)
		14. Nitrogen total / Total Kjeldahl nitrogen	БДС EN 12260 (1, 2, 3, 4,5,6) БДС EN 25663 (1, 2, 4, 5, 6)
		15. Petroleum products/ Hydrocarbon index (HI)	VILM 01:2003 (1,2,3,4,5,6) EPA 1664B (1, 2, 4, 5, 6) БДС EN ISO 9377-2 (1,2,4,5,6)
		16. Phenols / Phenol index	БДС ISO 6439 (1, 2, 3, 4, 5) VILM 20:2007 (1, 2, 5, 6)
		17. Total phosphorus (Pt)/ Phosphorus such as phosphates (P ₀₄ -P)/ Phosphates (P ₀₄)/ Phosphates (such as P)/ Orthophosphate	БДС EN ISO 6878 (1,2,3,4,5,6) VILM 12:2006 (1,2,3,4,5,6) БДС EN ISO 10304-1 (1,2,4,5,6)
		18. Element contents	БДС EN ISO 11885 (1,2,4,5,6)
		18.1. Aluminium/Al	
		18.2. Arsenic/As	
		18.3. Antimony/Sb	
		18.4. Barium/Ba	
		18.5. Boron/B	
		18.6. Selenium/Se	
		18.7. Cadmium/Cd	
		18.8. Potassium/K	
		18.9. Cobalt/Co	
		18.10. Manganese/Mn	
		18.11. Molybdenum /Mo	
		18.12. Sodium/Na	
		18.13. Nickel/Ni	
		18.14. Copper/Cu	
		18.15. Zink/Zn	
		18.16. Lead/Pb	
		18.17. Silver/Ag	
		18.18. Vanadium/V	
		18.19. Tin/Sn	
		18.20. Beryllium/Be	
		18.21. Thallium/Tl	EPA 6010C (1, 2, 4, 5, 6)
		19. Mercury/Hg	VILM 28:2013 (1,2,3,4,5,6) EPA 6010C (1,2,3,4,5,6)
		20.1. Cyanides free 20.2. Cyanides total	VILM 17:2006 (1,2,3,4,5,6) БДС 17.1.4.14 (1, 2, 5, 6)
		21. Colour/ Odour/taste	БДС EN ISO 7887-Method A

1	2	3	4
			(1, 2, 3, 4, 5, 6) БДС 17.1.4.01 (1, 2, 5, 6) БДС 8451 (4)
		22. Dissolved oxygen oxygen	БДС EN 25813(1, 2, 3, 4, 5, 6) ISO 5813 (1, 2, 3, 4, 5, 6)
		23.1. Sulphates 23.2. Sulphates such as sulphur	БДС 17.1.4.03 (1, 2, 5, 6); VILM 31:2016 (1, 2, 3, 4, 5, 6) ISO 15923-1-Method (G) (1, 2, 4, 5, 6) БДС EN ISO 10304-1(1,2,4,5,6)
		24. Permanganate oxidation/ Permanganate index	БДС EN ISO 8467 (1,2,4,5,6)
		25. Organic nitrogen (difference between total Kjeldahl nitrogen и inorganic bound (ammonium) nitrogen)	БДС EN 25663 (1,2,4,5,6); БДС ISO 7150-1 (1,2,4,5,6)
		26.1. Total hardness 26.2. Permanent (non- carbonate) hardness 26.3. Temporary (carbonate) hardness	БДС ISO 6059(1,2,4,5,6) БДС EN ISO 9963-1 (1,2,4,5,6)
		27. Extractable substances	VILM 01:2003 (1,2,3,4,5,6) EPA 1664B (1, 2, 4, 5, 6)
		28. Anionic surfactants /a- SPAThe/	БДС 17.1.4.25 (1, 2, 5, 6); БДС EN 903 (1, 2, 3, 4, 5, 6) ISO 7875-1 (1, 2,3, 4, 5,6)
		29. Total alkalinity/ Composite alkalinity/	БДС EN ISO 9963-1 (1,2,4,5,6)
		30. Carbonates (such as CaCO ₃)	БДС EN ISO 9963-1 (1,2,4,5,6)
		31. Hydrogen carbonates	БДС EN ISO 9963-1 (1,2,4,5,6)
		32. Calcium	БДС ISO 6058 (1, 2, 4, 5, 6) БДС EN ISO 11885 (1,2,4,5,6)
		33. Magnesium	БДС ISO 6059 (1, 2, 4, 5, 6) БДС EN ISO 11885 (1,2,4,5,6)
		34. Fluorides/ Fluorides (such as fluor)	VILM 12:2006 (1,2,3,4,5,6) БДС 16911 (1, 2, 4, 5, 6) БДС EN ISO 10304-1 (1,2,4,5,6)
		35. Conductivity/ Specific conductivity	БДС EN 27888 (1,2,3,4,5,6)
		36. Total organic carbon /TOC/ Dissolved organic carbon	VILM 22:2007 (1, 2, 4, 5, 6) БДС EN 1484 (1, 2, 3, 4, 5, 6)
		37. Oils and fats	EPA 1664B (1,2,4,5,6)
		38. Turbidity/ Transparency	БДС EN ISO 7027-1 (1,2,4,5,6)
		39. Bromates	VILM 02:2015 (4,6)
		40. Adsorbable Organic Halides (AOX)	VILM 04:2016 (1, 2, 4, 5, 6)
		41. Bromides	БДС EN ISO 10304-1 (1,2,4,5,6)
II.	Air, atmospheric – emissions	1. Nitric oxide/NO	VILM 23:2016
		2.1 Nitrogen oxides /NOx (NO, N) ₂)	VILM 23:2016
		2.2 Nitrogen dioxide/ NO ₂	
		3. Hydrogen sulfide /H ₂ S	VILM 23:2016
		4. Sulphur dioxide/SO ₂	VILM 23:2016 БДС EN 14791

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		5. Carbon oxide/CO	VILM 23:2016
		6. Carbon dioxide /CO2	VILM 23:2016
		7. Oxygen/O2	VILM 23:2016
		8.1. Hydrocarbons, expressed as total carbon	VILM 23:2016
		8.2. Hydrocarbons, CH4	
		9. Parameters of gaseous/air streams:	VILM 23:2016 ISO 10780
		9.1. Velocity	БДС EN ISO 16911-1
		9.2. Flowrate	ISO 10780 VILM 23:2016 БДС EN ISO 16911-1
		9.3. Temperature	БДС EN ISO 16911-1 VILM 23:2016
		9.4.1. Pressure	БДС EN ISO 16911-1
		9.4.2. Barometric pressure	VILM 23:2016
		9.5. Moisture	БДС EN 14790 VILM 23:2016
		10. Total dust of ducted gaseous/air streams	БДС ISO 9096 БДС EN 13284-1
		11. Hydrogen/H2	VILM 23:2016
		12. Formaldehyde	EPA 323
		13. Contents of elements in emissions / inorganic dust substances	БДС EN 14385
		13.1. Arsenic/As	
		13.2. Cadmium/Cd	
		13.3. Chromium/Cr	
		13.4. Copper/Cu	
		13.5. Manganese/Mn	
		13.6. Nickel/Ni	
		13.7. Lead/Pb	
		13.8. Antimony/Sb	
		13.9. Thallium/T1	
		13.10. Vanadium/V	
		13.11. Cobalt/Co	
		13.12. Tin/Sn	VILM 05:2016
		13.13. Tellurium/Te	
		13.14. Zink/Zn	
		13.15. Selenium/Se	
		13.16. Mercury/Hg	БДС EN 13211; VILM 05:2016
		14. Hydrogen fluoride	БДС 17.2.4.12
		15. Ammonium/NH3	БДС 17.2.4.05
		16. Phenol	БДС 17.2.4.11
		17. Hydrogen chloride /HCl	БДС EN 1911
		18. Sulphur trioxide/SO3	БДС 17.2.4.09
		19. Aerosols of sulfuric acid	EPA 8
III.	Waste	1. Active reaction/ pH/ pH (H2O)/ pH (CaCl2)	БДС EN ISO 10523 БДС EN 15933
		2. Conductivity/ Specific conductivity	БДС EN 27888
		3. Loss on ignition	БДС EN 15935 БДС EN 15169
		4. Dry solids (dry residue)/ Moisture (moisture contents)	ISO 11465 БДС EN 12880

1	2	3	4
		5. Elements contents	
		5.1. Arsenic/As	
		5.2 Antimony/Sb	
		5.3 Barium/Ba	
		5.4 Selenium/Se	
		5.5 Cadmium/Cd	
		5.6 Molybdenum/Mo	
		5.7 Nickel/Ni	
		5.8 Copper/Cu	
		5.9 Lead/Pb	БДC EN ISO 11885
		5.10 Zink/Zn	
		5.11 Vanadium/V	
		5.12 Calcium/Ca	
		5.13 Magnesium/Mg	
		5.14 Phosphorus/P	
		5.15 Sulphur(total)/S	
		5.16 Cobalt/Co	
		5.17 Manganese/Mn	
		5.18 Boron/B	
		5.19 Sodium/Na	
		5.20 Potassium/K	
		6. Chromium total	БДC EN ISO 11885
		7. Chromium hexavalent	VILM 03:2005; ISO 11083
		8. Iron	БДC ISO 6332 БДC EN ISO 11885
		9. Chlorides	ISO 9297 БДC 17.1.4.24 БДC EN ISO 10304-1
		10. Sulphates	БДC 17.1.4.03 VILM 31:2016 БДC ISO 11048 БДC EN ISO 10304-1
		11. Fluorides	VILM 12:2006 БДC 16911 БДC EN ISO 10304-1
		12. Nitrates	VILM 11:2006 БДC ISO 7890-3 БДC EN ISO 10304-1
		13. Nitrites	БДC EN 26777 VILM 30:2011 БДC EN ISO 10304-1
		14. Phosphates	БДC EN ISO 6878 VILM 12:2006 БДC EN ISO 10304-1
		15.1. Total nitrogen	БДC EN 12260
		15.2. Kjeldahl nitrogen	БДC EN 16169
		16. Cyanides free/ Cyanides total	VILM 17:2006 БДC 17.1.4.14
		17. Phenols/ Phenol index	БДC ISO 6439 VILM 20:2007
		18.Total carbon (TC)/ Total organic carbon (TOC)	VILM 22:2007 БДC EN 1484 БДC EN 15936 ISO 10694 БДC 11302

1	2	3	4
		19. Dissolved organic carbon/DOC	VILM 22:2007 БДС EN 1484
		20. Dissolved solids/ total of dissolved solids	БДС 17.1.4.04 т.3 БДС EN 15216
		21. Mercury/Hg	VILM 28:2013 EPA 6010C
		22. Ammonium/NH4	БДС ISO 7150-1
		23. Petroleum products/ Hydrocarbons (TPH)	БДС EN 14345 БДС EN 14039
		24. Acid neutralization capacity/ ANC	CD CEN/TS 15364
		25.1 Sulphate sulphur 25.2 Sulphide sulphur	VILM 31:2016
		26. Thallium	EPA 6010C
		27. Bromides	БДС EN ISO 10304-1
IV.	Noise	1. Equivalent sound power level	БДС ISO 8297 VILM 33:2011
		2. Level of total sound power	БДС ISO 8297 VILM 33:2011
V.	Soils (1), sediments (2), treated biowaste: - compost; - stabilized organic fraction; - fermentation product; - organic soil improver (3)*	1. Petroleum products/ Hydrocarbons (TPH)	БДС EN 14345 (1,2,3) БДС EN ISO 16703 (1,2,3)
		2. Active reaction/ pH/ pH(H2O)/ pH (CaCl2)	БДС EN 15933 (1,2,3)
		3. Conductivity/ Specific conductivity	CD CEN/TS 15937 (1,2,3)
		4. Dry solid/ moisture contents	БДС EN 15934 (1,2,3)
		5. Loss of ignition	БДС EN 15935 (1,2,3)
		6.1 Contents of organic substance/ Total organic carbon (TOC) 6.2 Humus 6.3 Total carbon (TC)	БДС EN 15936 (1,2,3) БДС 11302 (1,2,3) ISO 10694 (1,2,3)
		7. Total nitrogen (Kjeldahl)	БДС EN 16169 (1,2,3)
		8.1 Ammoniacal nitrogen (NH4-N) 8.2 Nitrite-nitrogen (NO2-N) 8.3 Nitrate-nitrogen (NO3-N)	CD CEN/TS 16177 (1,2,3) БДС ISO 7150-1 (1, 2, 3) БДС EN 26777 (1, 2, 3) БДС ISO 7890-3 (1, 2, 3)
		9. Elements contents 9.1 Arsenic/As 9.2 Antimony/Sb 9.3 Selenium/Se 9.4 Cadmium/Cd 9.5 Nickel/Ni 9.6 Copper/Cu 9.7 Lead/Pb 9.8 Zink/Zn 9.9 Manganese/Mn 9.10 Calcium/Ca 9.11 Calcium oxide/CaO 9.12 Magnesium (total)/Mg 9.13 Phosphorus/P (total) 9.14 Sulphur/S (total) 9.15 Cobalt/Co 9.16 Sodium/Na	БДС EN 16170 (1,2,3)

1	2	3	4
		9.17 Potassium (total)/K	
		9.18 Chromium/Cr	
		9.19 Iron/Fe	
		9.20 Aluminium/Al	
		9.21 Boron/B	
		9.22 Mercury/Hg	
		10.1. Phosphorous 10.2. Phosphorous – exchangeable forms recalculated as P2O5 10.3. Phosphates	БДС ISO 11263 (1, 2, 3)
		11.1. Water-soluble sulphates, recalculated as sulphur	VILM 31:2016 (1,2,3) БДС ISO 11048 (1,2,3)
		11.2. Sulphates	
		12. Impurities/stones	CD CEN/TS 16202 (1,2,3)
		13.1. Sodium, exchangeable forms	
		13.2. Potassium, exchangeable forms recalculated as K2O	БДС EN ISO 11260 (1,2,3)
		13.3. Calcium, exchangeable forms	
		13.4. Magnesium, exchangeable forms	
		14.1 Density 14.2 Bulk density	БДС EN 12580 (1,2,3)
		15.1 Particle size 15.2 Particle maximum size	БДС EN 15428 (1,2,3)

To perform sample of:

No.	Product description	Sample (specimen) taking method
1	2	3
1.	Air, atmospheric - emissions	БДС EN 13284-1 БДС ISO 9096 БДС EIM 14790 EPA 323- s.6÷6.6 s.7.1 БДС EN 14385-s.6 VILM 05:2016-s.8 БДС 17.2.4.12 -s.2 БДС 17.2.4.05 – according to the annex БДС EN 14791-s.6, s.7 БДС EN 1911-s.5 БДС 17.2.4.11 - according to the annex БДС 17.2.4.09- according to the annex EPA 8-s.8 БДС EN 13211-s.5.3÷5.12; s.7
2.	Soils	БДС 17.4.5.01, БДС ISO 18400-102
3.	Waste	ASTM D5658 ASTM D5679 CD CEN/TR 15310-2
4.	Waters, lake	БДС ISO 5667-4
5.	Waters, drinking	БДС ISO 5667-5
6.	Waters, running surface	БДС EN ISO 5667-6
7.	Waters, coastal sea	БДС ISO 5667-9
8.	Waters, waste	БДС ISO 5667-10

1	2	3
9.	Waters, ground	БДС ISO 5667-11
10.	Sediments and sludge	БДС EN ISO 5667-13
11.	Treated biowaste	БДС EN 12579 БДС EN ISO 5667-13

Flexible scope

The introduction of a new version of the standards or standards, which replace them, is permitted. The laboratory keeps an updated list of the standards and their dated versions.

Reference:

Fixed scope:

1. Validated intralaboratory methods (VILM) 01:2003 Determination of the extractable substances and petroleum products in waters and water extracts – gravimetric method
2. VILM 02:2015 Validated intralaboratory methods - photometric method with 3,3'-dimethyl-naftidine and iodine for determination of the contents of bromates in drinking waters
3. VILM 03:2005 Validated intralaboratory methods - photometric method with Spectroquant test for determination of the contents of chromium in waters/water extract of waste/eluates
4. VILM 04:2016 Validated intralaboratory methods - photometric method with Spectroquant test for determination of the contents of Adsorbable Organic Halides (AOX) in waters
5. Validated intralaboratory methods (VILM) 05:2016 Stationary emission sources. Determination of elements contents.
6. VILM 11:2006 Validated intralaboratory methods - photometric method with Spectroquant test for determination of the contents of nitrates and nitrate nitrogen in waters/water extract of waste/eluates
7. VILM 12:2006 Validated intralaboratory methods - photometric method with Spectroquant test for determination of the contents of phosphates and total phosphorus in waters/water extract of waste/eluates
8. VILM 12:2006 Validated intralaboratory methods - photometric method with Spectroquant test for determination of the contents of fluorides in waters/water extract of waste/eluates
9. VILM 15:2007 Validated intralaboratory methods - photometric method with Spectroquant test for determination of the contents of nitrate nitrogen and nitrates in sea water
10. VILM 16:2006 Validated intralaboratory methods - photometric method with Spectroquant test for determination of the contents of sulphides and hydrogen sulfide in waters/water extract of waste/eluates
11. VILM 17:2006 Validated intralaboratory methods - photometric method with Spectroquant test for determination of the contents of cyanides in waters/water extract of waste/eluates
12. VILM 20:2007 Validated intralaboratory methods - photometric method with Spectroquant test for determination of the contents of phenol in waters/water extract of waste/eluates
13. VILM 21:2007 Validated intralaboratory methods - photometric method with Spectroquant test for determination of the contents of free (residual) chlorine in waters/water extract of waste/eluates
14. VILM 22:2007 Validated intralaboratory methods photometric method with Spectroquant test for determination of the contents of total organic carbon in waters/water extract of waste/eluates
15. Validated intralaboratory methods (VILM) 23:2016 Stationary emission sources. Measurement of harmful substances (pollutants) and parameters of the gaseous streams
16. Validated intralaboratory methods (VILM) 28:2013 MERCURY DETERMINATION USING ICP - OES in waters/water extract of waste/eluates
METHOD - A - C SODIUM BOROHYDRIDE; METHOD - B - TIN (II)CHLORIDE
17. VILM 29:2011 Validated intralaboratory methods for determination of ammonium ions and ammoniacal nitrogen in waters/water extract of waste/eluates
18. VILM 30:2011 Validated intralaboratory methods for determination of nitrites and nitrite nitrogen in waters/water extract of waste/eluates
19. VILM 31:2016 Validated intralaboratory methods for determination of sulphates and their forms in waters and eluates
20. VILM 33:2011 Validated intralaboratory methods for determination of total sound power, emitted in the surrounding environment by an industrial enterprise and determination of the sound level on the site of impact

I HEREBY ORDER

To issue the Certificate of accreditation reg. № 75 ЛИ of 30.11.2020 valid until 30.11.2024 and this order enclosed as an integral part of it.

The Certificate of accreditation with the enclosure should be obtained from the manager of ECO-CONSULT-ENGINEERING LTD, the head of laboratory for environment component analysis at ECO-CONSULT-ENGINEERING LTD or other authorized person in the office of EA BAS.

Upon receipt of the certificate issued and enclosure, the accredited CAB is obliged to return to EA BAS the originals of Certificate of accreditation reg. № 75 ЛИ of 26.11.2018 valid until 28.02.2021 and the enclosure Order for accreditation № A 438/26.11.2018 of EA BAS.

This Order shall be notified laboratory for environment component analysis at ECO-CONSULT-ENGINEERING LTD within 3 (three) days from its issuance.

Irena Borislavova
Executive Director
of EA BAS

