



## QL 5.0-4 Laboratory activities performed in LAKOS with fixed and flexible scope

### 1. EXPERIENCE

| By № | Description of tested products  | Test type/ characteristic               | Test methods (standard/validated)        |  |                |
|------|---|---|--|--|----------------|
|      |   |   | Identification                           | Designation  | Type of scope  |
| 1    | 2   | 3                                       | 4  | 5  | 6              |
| I.   | Waters, waste (1);<br>Waters, surface (2); Waters, coastal sea (3);<br>Waters, drinking (4) Waters, lake (5) Waters, ground (6) | 1. Active reaction/pH                   | БДС EN ISO 10523:2012 (1, 2, 3, 4, 5, 6) | Water quality. Method For determining pH   | FLEXIBLE SCOPE |
|      |   |   | БДС 3424:1981 ( 4 )                      | Drinking water. Method For determining pH  | FLEXIBLE SCOPE |
|      |   |   | EPA 150.1:1982 (1, 2, 3, 4, 5, 6)        | pH   | FLEXIBLE SCOPE |
|      |   | 2. Temperature                          | БДС 17.1.4.01:1977 (1)                   | Nature protection. Hydrosphere. Water quality indicators. A method For determining scent, color and temperature                                | FLEXIBLE SCOPE |
|      |   |   | VILM 34:2021 (1, 2, 3, 4, 5, 6)          | Water quality. Method For measuring temperature in water   | FIXED SCOPE    |
|      |   | 3. 1 Total dry solids                   | БДС 17.1.4.04:1980 (1, 2, 4, 5, 6)       | Nature protection. Hydrosphere. Water quality indicators. Method For determining the content of total solids, undissolved and dissolved solids | FLEXIBLE SCOPE |
|      |   | 3.2 Dissolved solids                    |  |  |                |
|      |   | 3.3 Suspended solids Undissolved solids | БДС 17.1.4.04:1980 (1, 2, 4, 5, 6 )      | Nature protection. Hydrosphere. Water quality indicators. Method For determining the content of total solids, undissolved and dissolved solids | FLEXIBLE SCOPE |
|      |   |   | БДС EN 872:2006 (1, 2, 4 , 5, 6 )        | Water quality. Determination of suspended solids. Method with filtration through glass fiber filters.  | FLEXIBLE SCOPE |
|      |   | 4. Chlorides                            | БДС 17.1.4.24:1980 (1, 2, 5, 6)          | Nature protection. Hydrosphere. Water quality indicators. Method For determining chloride content  | FLEXIBLE SCOPE |
|      |   |   | ISO 9297:1989 (1, 2, 4, 5, 6)            | Water quality. Determination of chlorides. Titration with silver nitrate solution with potassium chromate indicator /Mohr's method/            | FLEXIBLE SCOPE |


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|  |  |                                | БДС EN ISO 10304-1:2009 (1, 2, 4, 5, 6) | Water quality. Determination of Dissolved Anions by Ion Liquid Chromatography. Part 1: Determination of bromides, chlorides, fluorides, nitrates, nitrites, phosphates and sulphates (ISO 10304-1:2007) | FLEXIBLE SCOPE |
|  |  | 5.1. Total chlorine            | БДС EN ISO 7393-3:2001 (1, 2, 4, 5, 6)  | Water quality. Determination of nitrate content. Spectrophotometric method with sulfosalicylic acid.  | FLEXIBLE SCOPE |
|  |  | 5.2 . Free chlorine            | VILM 21:2007 (1, 2, 4 , 5, 6)           | Water quality. Determination of free ( residual ) chlorine in water and aqueous extract of waste (eluates)  | FIXED SCOPE    |
|  |  | 5.3 . Residual free chlorine   |   |   |                |
|  |  | 6. COD/ Bichromatic oxidation  | ISO 15705:2002 (1,2,4,5,6)              | Water quality. Determination of COD. Micromethod in closed vessels .  | FLEXIBLE SCOPE |
|  |  | 7. 1 Ammonium                  | БДС ISO 7150-1:2002 (1, 2, 4, 5, 6)     | Water quality. Determination of ammonium. Manual spectrometric method.  | FLEXIBLE SCOPE |
|  |  | 7.2 Ammonium ions              | БДС ISO 7150-1:2002 (1, 2, 4, 5, 6)     | Water quality. Determination of ammonium. Manual spectrometric method.  | FLEXIBLE SCOPE |
|  |  | 7.3 Ammoniacal nitrogen        | VILM 29:2011 (1, 2, 3, 4, 5, 6)         | Water quality. Determination of ammonium ions and ammonium nitrogen in water and aqueous extract of waste (eluates)   | FIXED SCOPE    |
|  |  | 8. Nitrites / Nitrite-nitrogen | БДС EN 26777:1997 (1, 2, 4, 5, 6)       | Water quality. Determination of nitrite content Molecular absorption spectrometric method.  | FLEXIBLE SCOPE |
|  |  |                                | VILM 30:2011 (1, 2, 3, 4, 5, 6)         | Water quality. Determination of nitrites and nitrogen nitrite in water and aqueous extract of waste (eluates)   | FIXED SCOPE    |
|  |  |                                | БДС EN ISO 10304-1:2009 (1,2,4,5,6)     | Water quality. Determination of Dissolved Anions by Ion Liquid Chromatography. Part 1: Determination of bromides, chlorides, fluorides, nitrates, nitrites, phosphates and sulphates (ISO 10304-1:2007) | FLEXIBLE SCOPE |



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|  |  | 9. Nitrates/<br>Nitrate-nitrogen  | БДС ISO 7890-3:1998 (1, 2, 4, 5, 6)     | Water quality. Determination of nitrate content. Spectrophotometric method with sulfosalicylic acid.  | FLEXIBLE SCOPE |
|  |  |                                   | VILM 11:2006 (1, 2, 4, 5, 6)            | Water quality. Determination of nitrates and nitrate nitrogen in water and aqueous extract of waste (eluates)   | FIXED SCOPE    |
|  |  |                                   | VILM 15:2007 (3)                        | Water quality. Determination of nitrates and nitrate nitrogen in seawater   | FIXED SCOPE    |
|  |  |                                   | БДС EN ISO 10304-1:2009 (1, 2, 4, 5, 6) | Water quality. Determination of Dissolved Anions by Ion Liquid Chromatography. Part 1: Determination of bromides, chlorides, fluorides, nitrates, nitrites, phosphates and sulphates (ISO 10304-1:2007) | FLEXIBLE SCOPE |
|  |  | 10. Sulfides/<br>Hydrogen sulfide | БДС 17.1.4.09:1979 (1, 2, 5, 6)         | Nature protection. Hydrosphere. Water quality indicators. Method For determining the content of dissolved sulfides and free hydrogen sulfide.   | FLEXIBLE SCOPE |
|  |  |                                   | VILM 16:2006 (1, 2, 4, 5, 6)            | Water quality. Determination of sulfides and hydrogen sulfide in water  | FIXED SCOPE    |
|  |  | 11.1<br>Hexavalent chromium       | <b>ISO 18724:2025</b> (1, 2, 4, 5, 6)   | Water quality — Determination of dissolved chromium(VI) in water — Photometric method   | FLEXIBLE SCOPE |
|  |  |                                   | VILM 03:2005 (1, 2, 3, 4, 5, 6)         | Water quality. Determination of chromium in water and aqueous extract of waste (eluates)  | FIXED SCOPE    |
|  |  |                                   | БДС 17.1.4.17:1979 (1, 2, 5, 6)         | Nature protection. Hydrosphere. Water quality indicators. Method For determining chromium content (total, hexavalent and trivalent).  | FLEXIBLE SCOPE |
|  |  | 11.2 Trivalent chromium           | VILM 03 :2005 (1, 2, 3, 4, 5, 6)        | Water quality. Determination of chromium in water and aqueous extract of waste (eluates)  | FIXED SCOPE    |
|  |  |                                   | БДС 17.1.4.17:1979 (1, 2, 5, 6)         | Nature protection. Hydrosphere. Water quality indicators. Method For determining chromium content (total, hexavalent and trivalent).  | FLEXIBLE SCOPE |
|  |  | 11.3 Total chromium               | VILM 03 :2005 (1, 2, 3, 4, 5, 6)        | Water quality. Determination of chromium in water and aqueous extract of waste (eluates)  | FIXED SCOPE    |





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|  |  |  | БДС 17.1.4.17:1979<br>(1, 2, 5, 6)           | Nature protection. Hydrosphere. Water quality indicators. Method For determining chromium content (total, hexavalent and trivalent).   | FLEXIBLE SCOPE |
|  |  |  | БДС EN ISO 11885:2009<br>(1, 2, 4, 5, 6)     | Water quality. Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES)  | FLEXIBLE SCOPE |
|  |  | 12. Iron dissolved/<br>Iron total                    | БДС ISO 6332:2002 (1, 2, 4, 5, 6)            | Water quality. Determination of iron. A spectrometric method with 1,10-phenanthroline  | FLEXIBLE SCOPE |
|  |  |  | БДС EN ISO 11885:2009 (1, 2, 4, 5, 6)        | Water quality. Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES)  | FLEXIBLE SCOPE |
|  |  | 13. Biochemical<br>oxygen demand<br>BOD <sub>5</sub> | БДС EN 1899-2:2004 (1, 2, 3, 4, 5, 6)        | Water quality. Determination of biochemical oxygen demand after n days (BODn). Part 2: Method For undiluted samples.   | FLEXIBLE SCOPE |
|  |  |  | БДС EN ISO 5815-1:2019<br>(1, 2, 3, 4, 5, 6) | Water quality. Determination of biochemical oxygen demand after n days (BODn). Part 1: Dilution and seeding method with the addition of allylthiourea (ISO 5815-1:2019).   | FLEXIBLE SCOPE |
|  |  |  | ISO 5815-2:2003 (1, 2, 3, 4, 5, 6)           | Water quality. Determination of biochemical oxygen consumption after n days (BODn). Part 2: Method For undiluted samples   | FLEXIBLE SCOPE |
|  |  | 14. 1 Nitrogen total/<br>Total bound nitrogen        | БДС EN ISO 20236:2025 (1, 2, 3, 4, 5, 6)     | Water quality. Determination of total organic carbon (TOC), dissolved organic carbon (DOC), total bound nitrogen (TNb) and dissolved bound nitrogen (DNb) after high temperature catalytic oxidation combustion (ISO 20236:2024) | FLEXIBLE SCOPE |
|  |  | 14.2 Total Kjeldahl<br>nitrogen                      | БДС EN 25663:2000 (1, 2, 4, 5, 6)            | Water quality. Determination of nitrogen by Kjeldahl. Method after mineralization with selenium  | FLEXIBLE SCOPE |
|  |  |  | ERA 351.3:1978 (2, 5)                        | Nitrogen, Kjeldahl, General (colorimetric, titrimetric, potentiometric)  | FLEXIBLE SCOPE |
|  |  |  | VILM 01:20 21 (1, 2, 3, 4, 5, 6)             | Water quality. Determination of extractable substances and oil products in water   | FIXED SCOPE    |



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|  |  | 15. Petroleum products/<br>Hydrocarbon index            | EPA 1664B:2010 (1, 2, 4, 5, 6)           | Determination of n-Hexane Extractable Substances (HEM; Oils and Fats) and Silica Gel Treated Products (SGT-HEM; Non-Polar Material) by Extraction and Gravimetry | FLEXIBLE SCOPE |
|  |  |   | БДС EN ISO 9377-2:2004 (1, 2, 5, 6)      | Water quality. Determination of hydrocarbon index For petroleum products. Part 2: Method by solvent extraction and gas chromatography (ISO 9377-2:2000)          | FLEXIBLE SCOPE |
|  |  | 16. 1 Phenols   | БДС ISO 6439:2002 (1, 2, 4, 5)           | Water quality. Determination of phenolic index. Spectrometric method with 4-aminoantipyrine after distillation   | FLEXIBLE SCOPE |
|  |  |   | VILM 20:2007 (1, 2, 5, 6)                | Water quality. Determination of phenols in water and aqueous extract of waste (eluates)  | FIXED SCOPE    |
|  |  | 16.2 Phenol index                                       | БДС ISO 6439:2002 (1, 2, 3, 4, 5)        | Water quality. Determination of phenolic index. Spectrometric method with 4-aminoantipyrine after distillation   | FLEXIBLE SCOPE |
|  |  | 17.1 Total phosphorus (P <sub>t</sub> )                 | БДС Е N ISO 6878:2005 (1, 2, 3, 4, 5, 6) | Water quality. Determination of phosphorus. Spectrometric method with ammonium molybdate.  | FLEXIBLE SCOPE |
|  |  | 17.2 Phosphorus such as phosphates (PO <sub>4</sub> -P) | VILM 12:2006 (1, 2, 3, 4, 5, 6)          | Water quality. Determination of phosphates and total phosphorus in water and aqueous extract of waste (eluates)  | FIXED SCOPE    |
|  |  | 17.3 Phosphates (PO <sub>4</sub> )                      | БДС Е N ISO 6878:2005 (1, 2, 3, 4, 5, 6) | Water quality. Determination of phosphorus. Spectrometric method with ammonium molybdate.  | FLEXIBLE SCOPE |
|  |  | 17.4 Phosphates (such as P)                             | VILM 12 :2006 (1, 2, 3, 4, 5, 6)         | Water quality. Determination of phosphates and total phosphorus in water and aqueous extract of waste (eluates)  | FIXED SCOPE    |
|  |  | 17.5 Orthophosphate                                     | БДС EN ISO 10304-1:2009 (1, 2, 4, 5, 6)  | Water quality. Determination of Dissolved Anions by Ion Liquid Chromatography. Part 1: Determination of bromides, chlorides, fluorides,                          | FLEXIBLE SCOPE |



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|  |  |                      |  |   |                |
|--|--|----------------------|--|---|----------------|
|  |  |                      |  | nitrates, nitrites, phosphates and sulphates (ISO 10304-1:2007).  |                |
|  |  | 18. Content of Items |  |   |                |
|  |  | 18.1. Aluminum/Al    |  |   |                |
|  |  | 18.2. Arsen/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  | БДC EN ISO 11885 :2009<br>(1, 2, 4, 5, 6 ) | Water quality. Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES) | FLEXIBLE SCOPE |
|  |  | 18.11. Molybdenum/Mo |  |   |                |
|  |  | 18.12. Sodium/Na     |  |   |                |
|  |  | 18.13. Nickel/Ni     |  |   |                |
|  |  | 18.14. Copper/Cu     |  |   |                |
|  |  | 18.15. Zinc/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 :2007<br>(1, 2, 4, 5, 6 )        | Inductively coupled plasma-atomic emission spectrometry   | FLEXIBLE SCOPE |
|  |  | 19. Mercury /Hg      | VILM 28 :2013<br>(1, 2, 4 , 5, 6 )         | Water quality. Determination of mercury by ICP – OES in water and aqueous waste extract (eluates)                       | FIXED SCOPE    |
|  |  |                      | EPA 6010C :2007<br>(1, 2, 4, 5, 6)         | Inductively coupled plasma-atomic emission spectrometry   | FLEXIBLE SCOPE |





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|--|--|----------------------|---|--|----------------|
|  |  | 20.1. Cyanides free  | VILM 17:2006<br>(1, 2, 3, 4, 5, 6)            | Water quality. Determination of total cyanides and free cyanides in water and aqueous extract of waste (eluates) | FIXED SCOPE    |
|  |  | 20.2. Cyanides total | VILM 17 :2006<br>(1, 2, 3, 4, 5, 6)           | Water quality. Determination of total cyanides and free cyanides in water and aqueous extract of waste (eluates) | FIXED SCOPE    |
|  |  |                      | БДС 17.1.4.14:1979<br>(1, 2, 5, 6)            | Nature protection. Hydrosphere. Water quality indicators. Method For determining the cyanide content             | FLEXIBLE SCOPE |
|  |  | 21.1. Color          | БДС EN ISO 7887:2012-<br>Method A (2, 4 , 5 ) | Water quality. Research and determination of color.  | FLEXIBLE SCOPE |
|  |  |                      | БДС 17.1.4.01:1977 (1)                        | Nature protection. Hydrosphere. Water quality indicators. A method For determining odourl, color and temperature | FLEXIBLE SCOPE |
|  |  |                      | БДС 8451:1977 (4)                             | Drinking water. Determination of color, taste and odour, temperature and transparency                            | FLEXIBLE SCOPE |
|  |  | 21.2. Odour          | БДС 17.1.4.01:1977 (1)                        | Nature protection. Hydrosphere. Water quality indicators. A method For determining odour, color and temperature  | FLEXIBLE SCOPE |
|  |  |                      | БДС 8451:1977 (4)                             | Drinking water. Determination of color, taste and odour, temperature and transparency                            | FLEXIBLE SCOPE |
|  |  | 21.3. Taste          | БДС 8451:1977 (4)                             | Drinking water. Determination of color, taste and odour, temperature and transparency                            | FLEXIBLE SCOPE |
|  |  | 22. Dissolved oxygen | БДС EN 25813:2004<br>(1, 2, 3, 4 , 5, 6 )     | Water quality. Determination of dissolved oxygen. Iodometric method.   | FLEXIBLE SCOPE |
|  |  |                      | ISO 5813:1983<br>(1, 2, 3, 4, 5, 6)           | Water quality. Determination of dissolved oxygen. Iodometric method  | FLEXIBLE SCOPE |
|  |  | 23.1. Sulphates      | БДС 17.1.4.03:1977<br>(1, 2, 5, 6)            | Nature protection. Hydrosphere. Water quality indicators. Method For determining the content of sulfate ions     | FLEXIBLE SCOPE |
|  |  |                      | VILM 31:2016<br>(1, 2, 3, 4, 5, 6)            | Water quality. Determination of sulfates and their Forms in water and water extraction of waste (eluates)        | FIXED SCOPE    |



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|  |  |  | ISO 15923-1:2013-Method (G)<br>(1, 2, 4, 5, 6) | Water quality - Determination of selected parameters by discrete analytical systems. Part 1: Ammonium, Nitrates, Nitrites, Chlorides, Orthophosphates, Sulphates and Silicates with photometric detection | FLEXIBLE SCOPE |
|  |  |  | БДС EN ISO 10304-1:2009<br>(1, 2, 4, 5, 6)     | Water quality. Determination of Dissolved Anions by Ion Liquid Chromatography. Part 1: Determination of bromides, chlorides, fluorides, nitrates, nitrites, phosphates and sulphates (ISO 10304-1:2007)   | FLEXIBLE SCOPE |
|  |  | 23.2. Sulphates such as sulphur          | VILM 31 :2016<br>(1, 2, 3, 4, 5, 6)            | Water quality. Determination of sulfates and their Forms in water and water extraction of waste (eluates)   | FIXED SCOPE    |
|  |  | 24.1 Permanganate oxidation              | БДС 17.1.4.16:1979<br>(1, 2, 5, 6)             | Nature protection. Hydrosphere. Water quality indicators. Method For determination of permanganate oxidizability  | FLEXIBLE SCOPE |
|  |  | 24.2 Permanganate index                  | БДС EN ISO 8467:2001<br>(2, 4, 5, 6)           | Water quality. Determination of permanganate index  | FLEXIBLE SCOPE |
|  |  | 25.1. Total hardness                     | БДС ISO 6059:2002<br>(2, 4, 5, 6)              | Water quality. Determination of the sum of calcium and magnesium. Titrimetric method with EDTA  | FLEXIBLE SCOPE |
|  |  |  | ERA 130.2:1982 (1)                             | Hardness, total (mg/L as CaCO <sub>3</sub> ), (titrimetric, EDTA)   | FLEXIBLE SCOPE |
|  |  | 25.2. Permanent (non-carbonate) hardness | БДС ISO 6059:2002<br>(2, 4, 5, 6)              | Water quality. Determination of the sum of calcium and magnesium. Titrimetric method with EDTA  | FLEXIBLE SCOPE |
|  |  |  | БДС EN ISO 9963-1:2000<br>(1, 2, 4, 5, 6)      | Water quality. Determination of alkalinity. Part 1: Determination of total alkalinity and its constituents and parts.   | FLEXIBLE SCOPE |
|  |  | 25.3. Temporary (carbonate) hardness     | БДС EN ISO 9963-1:2000<br>(1, 2, 4, 5, 6)      | Water quality. Determination of alkalinity. Part 1: Determination of total alkalinity and its constituents and parts.   | FLEXIBLE SCOPE |





### QL 5.0-4 Laboratory activities performed in LAKOS with fixed and flexible scope

|  |  |   |   |  |                |
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|  |  | 2 6 . Extractable substances                  | VILM 01:20 21<br>(1, 2, 3, 4, 5, 6)       | Water quality. Determination of extractable substances and oil products in water   | FIXED SCOPE    |
|  |  |   | EPA 1664B:2010<br>(1, 2, 4, 5, 6)         | Determination of n-Hexane Extractable Substances (HEM; Oils and Fats) and Silica Gel Treated Products (SGT-HEM; Non-Polar Material) by Extraction and Gravimetry | FLEXIBLE SCOPE |
|  |  | 27. Anionic surfactants /a-AS/SAS             | БДС 17.1.4.25:1980<br>(1, 2, 5, 6)        | Nature protection. Hydrosphere. Water quality indicators. Method For determining the content of anionic synthetic surfactants (a-SAS)                            | FLEXIBLE SCOPE |
|  |  |   | БДС EN 903:2004<br>(1, 2, 4, 5, 6)        | Water quality. Determination of anionic surfactants by methylene blue index measurement - MBAS (ISO 7875-1:1984, with changes)                                   | FLEXIBLE SCOPE |
|  |  |   | ISO 7875-1:1996<br>(1, 2, 4, 5,6)         | Water quality. Spectrometric determination of the content of anionic synthetic surfactants (a-surfactants).  | FLEXIBLE SCOPE |
|  |  | 2 8 . Total Alkalinity/ Composite Alkalinity/ | БДС EN ISO 9963-1:2000<br>(1, 2, 4, 5, 6) | Water quality. Determination of alkalinity. Part 1: Determination of total alkalinity and its constituents and parts.  | FLEXIBLE SCOPE |
|  |  | 29 . Carbonates (such as CaCO <sub>3</sub> )  | БДС EN ISO 9963-1:2000<br>(1, 2, 4, 5, 6) | Water quality. Determination of alkalinity. Part 1: Determination of total alkalinity and its constituents and parts.  | FLEXIBLE SCOPE |
|  |  | 3 0 . Hydrogen carbonates                     | БДС EN ISO 9963-1:2000<br>(1, 2, 4, 5, 6) | Water quality. Determination of alkalinity. Part 1: Determination of total alkalinity and its constituents and parts.  | FLEXIBLE SCOPE |
|  |  | 31 . Calcium                                  | БДС ISO 605 8 :2002<br>(1, 2, 4, 5, 6)    | Water quality. Determination of calcium content. Titrimetric method with EDTA  | FLEXIBLE SCOPE |
|  |  |   | БДС EN ISO 11885:2009<br>(1, 2, 4, 5, 6)  | Water quality. Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES)  | FLEXIBLE SCOPE |



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|  |  | 32 . Magnesium   | БДС EN ISO 11885:2009<br>( 1, 2, 4, 5, 6 ) | Water quality. Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES)   | FLEXIBLE SCOPE |
|  |  |  | VILM 36:2024 (1, 2, 4, 5, 6)               | Water quality. Determination of magnesium in water  | FIXED SCOPE    |
|  |  | 33 . fluorides/<br>Fluorides (such as Fluor)                     | VILM 13 :2006<br>(1, 2, 3, 4, 5, 6)        | Water quality. Determination of fluorides in water and aqueous extraction of waste (eluates)  | FIXED SCOPE    |
|  |  |  | БДС 16911:1988 (4)                         | Drinking water. Methods For determining the content of fluorine   | FLEXIBLE SCOPE |
|  |  |  | БДС EN ISO 10304-1:2009<br>(1, 2, 4, 5, 6) | Water quality. Determination of Dissolved Anions by Ion Liquid Chromatography. Part 1: Determination of bromides, chlorides, fluorides, nitrates, nitrites, phosphates and sulphates (ISO 10304-1:2007) | FLEXIBLE SCOPE |
|  |  | 34 . Conductivity/<br>Specific conductivity                      | БДС EN 27888:2000<br>(1, 2, 3, 4, 5, 6)    | Water quality. Determination of electrical conductivity.  | FLEXIBLE SCOPE |
|  |  | 35 . Total organic carbon /<br>TOC /<br>Dissolved organic carbon | VILM 22:2007 (1, 2, 4, 5, 6)               | Water quality. Determination of total organic carbon in water and aqueous extract of waste (eluates)  | FIXED SCOPE    |
|  |  |  | БДС EN 1484:2001 (1, 2, 3, 4, 5, 6)        | Water analysis. Guidelines For the determination of total organic carbon (TOC) and soluble organic carbon (DOC)   | FLEXIBLE SCOPE |
|  |  | 36 . Oils and fats   | EPA 1664B :2010 (1, 2, 3 , 4 , 5, 6 )      | Determination of n-Hexane Extractable Substances (HEM; Oils and Fats) and Silica Gel Treated Products (SGT-HEM; Non-Polar Material) by Extraction and Gravimetry  | FLEXIBLE SCOPE |
|  |  | 37 . Turbidity   | БДС EN ISO 7027 -1:2016<br>(1, 2, 4, 5, 6) | Water quality. Determination of turbidity. Part 1: Quantitative methods (ISO 7027-1:2016)   | FLEXIBLE SCOPE |
|  |  | 38. Bromates   | VILM 02 : 2015 (4, 6)                      | Water quality. Determination of bromates in water   | FIXED SCOPE    |
|  |  | 39. Adsorbable organic halides/AOX                               | VILM 04 :2016 (1, 2, 4, 5, 6)              | Water quality. Determination of adsorbable organic halides (AOX) in water   | FIXED SCOPE    |



## QL 5.0-4 Laboratory activities performed in LAKOS with fixed and flexible scope

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|-----|------------------------------|--|--|---|----------------|
| II. | Air, atmospheric - emissions | 40 . Bromides  | БДC EN ISO 10304-1 :2009 (1, 2, 4, 5, 6) | Water quality. Determination of Dissolved Anions by Ion Liquid Chromatography. Part 1: Determination of bromides, chlorides, fluorides, nitrates, nitrites, phosphates and sulphates (ISO 10304-1:2007) | FLEXIBLE SCOPE |
|     |                              | 41. Organic nitrogen   | VILM 37:2024 (1, 2, 4, 5, 6)             | Water quality. Determination of organic nitrogen in water   | FIXED SCOPE    |
|     |                              | 42. Water level  | ISO 21413 (6)                            | Manual methods for the measurement of a groundwater level in a well   | FLEXIBLE SCOPE |
|     |                              | 1. Nitric oxide/ NO  | VILM 23:2016                             | Stationary sources of emissions. Measurement of harmful substances (pollutants) and gas flow parameters   | FIXED SCOPE    |
|     |                              | 2 .1 Nitrogen oxides /NO <sub>x</sub> (NO, NO <sub>2</sub> ) | VILM 23:2016                             | Stationary sources of emissions. Measurement of harmful substances (pollutants) and gas flow parameters   | FIXED SCOPE    |
|     |                              |  | БДC EN 14792 :2017                       | Emissions from stationary sources. Determination of the mass concentration of nitrogen oxides. Standard reference method: chemiluminescence   | FLEXIBLE SCOPE |
|     |                              | 2.2 Nitrogen dioxide /NO <sub>2</sub>                        | VILM 23:2016                             | Stationary sources of emissions. Measurement of harmful substances (pollutants) and gas flow parameters   | FIXED SCOPE    |
|     |                              | 3. Hydrogen sulfide /H <sub>2</sub> S                        | VILM 23:2016                             | Stationary sources of emissions. Measurement of harmful substances (pollutants) and gas flow parameters   | FIXED SCOPE    |
|     |                              | 4. Sulphur dioxide /SO <sub>2</sub>                          | VILM 23:2016                             | Stationary sources of emissions. Measurement of harmful substances (pollutants) and gas flow parameters   | FIXED SCOPE    |
|     |                              |  | БДC EN 14791 :2017                       | Emissions from stationary sources. Determination of the mass concentration of sulfur oxides. Standard reference method  | FLEXIBLE SCOPE |





## QL 5.0-4 Laboratory activities performed in LAKOS with fixed and flexible scope

|  |                    |  |                |
|--|--------------------|--|----------------|
| 5. Carbon monoxide /CO   | VILM 23:2016       | Stationary sources of emissions. Measurement of harmful substances (pollutants) and gas flow parameters  | FIXED SCOPE    |
|  | БДC EN 15058 :2017 | Emissions from stationary sources. Determination of mass concentration of carbon monoxide. Standard reference method: non-dispersive infrared spectrometry | FLEXIBLE SCOPE |
| 6. Carbon dioxide /CO <sub>2</sub>                               | VILM 23:2016       | Stationary sources of emissions. Measurement of harmful substances (pollutants) and gas flow parameters  | FIXED SCOPE    |
| 7 . Oxygen /O <sub>2</sub>                                       | VILM 23:2016       | Stationary sources of emissions. Measurement of harmful substances (pollutants) and gas flow parameters  | FIXED SCOPE    |
|  | БДC EN 14789 :2017 | Emissions from stationary sources. Determination of the volume concentration of oxygen. Standard reference method. Paramagnetism                           | FLEXIBLE SCOPE |
| 8.1 . Hydrocarbons , expressed as total carbon                   | VILM 23:2016       | Stationary sources of emissions. Measurement of harmful substances (pollutants) and gas flow parameters  | FIXED SCOPE    |
| 8.2. Methane, CH <sub>4</sub>                                    | VILM 23:2016       | Stationary sources of emissions. Measurement of harmful substances (pollutants) and gas flow parameters  | FIXED SCOPE    |
|  | БДC EN ISO 25140   | Stationary source emissions - Automated method for the determination of methane concentration using the flame ionization detector (FID) (ISO 25140:2010)   | FLEXIBLE SCOPE |
| 8.3.1. Organic compounds expressed as total organic carbon (TOC) | БДC EN 12619:2013  | Emissions from stationary sources. Determination of mass concentration of total gaseous organic carbon. Continuous method with a flame ionization detector | FLEXIBLE SCOPE |



### QL 5.0-4 Laboratory activities performed in LAKOS with fixed and flexible scope

|  |  |   |                          |   |                |
|--|--|---|--------------------------|---|----------------|
|  |  | 8.3.2. Total volatile organic compounds/ TVOC)                  |                          |   |                |
|  |  | 8.4. Methane hydrocarbons expressed as total organic carbon     | БДC EN ISO 25140         | Stationary source emissions - Automated method for the determination of methane concentration using the flame ionization detector (FID) (ISO 25140:2010)                | FLEXIBLE SCOPE |
|  |  | 8.5. Non-Methane hydrocarbons expressed as total organic carbon | VILM 38:2024             | Stationary emission sources. Measurement of non-methane hydrocarbons expressed as total organic carbon.   | FIXED SCOPE    |
|  |  | 9 . Parameters of gaseous/air streams:                          | VILM 23:2016             | Stationary sources of emissions. Measurement of harmful substances (pollutants) and gas flow parameters   | FIXED SCOPE    |
|  |  | 9.1. Velocity   | ISO 10780 :1994          | Stationary sources of emissions. Speed measurement  | FLEXIBLE SCOPE |
|  |  |   | БДC EN ISO 16911-1 :2013 | Emissions from stationary sources. Manual and automatic determination of velocity and volume flow in gas pipelines. Part 1: Manual comparison method (ISO 16911-1:2013) |                |
|  |  |   | ISO 10780 :1994          | Stationary sources of emissions. Speed measurement  | FLEXIBLE SCOPE |
|  |  |   | VILM 23:2016             | Stationary sources of emissions. Measurement of harmful substances (pollutants) and gas flow parameters   | FIXED SCOPE    |
|  |  |   | БДC EN ISO 16911-1:2013  | Emissions from stationary sources. Manual and automatic determination of velocity and volume flow in gas pipelines. Part 1: Manual comparison method (ISO 16911-1:2013) | FLEXIBLE SCOPE |
|  |  | 9.2. Flowrate   | БДC EN ISO 16911-1:2013  | Emissions from stationary sources. Manual and automatic determination of velocity and volume flow in gas pipelines. Part 1: Manual comparison method (ISO 16911-1:2013) | FLEXIBLE SCOPE |
|  |  | 9.3. Temperature  | БДC EN ISO 16911-1:2013  | Emissions from stationary sources. Manual and automatic determination of velocity and volume flow in gas pipelines. Part 1: Manual comparison method (ISO 16911-1:2013) | FLEXIBLE SCOPE |



## QL 5.0-4 Laboratory activities performed in LAKOS with fixed and flexible scope

|  |  |   |                         |   |                |
|--|--|---|-------------------------|---|----------------|
|  |  |   | VILM 23:2016            | Stationary sources of emissions. Measurement of harmful substances (pollutants) and gas flow parameters   | FIXED SCOPE    |
|  |  | 9.4.1. Pressure<br>9.4.2. Barometric pressure   | БДC EN ISO 16911-1:2013 | Emissions from stationary sources. Manual and automatic determination of velocity and volume flow in gas pipelines. Part 1: Manual comparison method (ISO 16911-1:2013) | FLEXIBLE SCOPE |
|  |  |   | VILM 23:2016            | Stationary sources of emissions. Measurement of harmful substances (pollutants) and gas flow parameters   | FIXED SCOPE    |
|  |  | 9.5. Moisture   | БДC EN 14790:2017       | Emissions from stationary sources. Determination of water vapor in pipelines. Standard reference method   | FLEXIBLE SCOPE |
|  |  |   | VILM 23:2016            | Stationary sources of emissions. Measurement of harmful substances (pollutants) and gas flow parameters   | FIXED SCOPE    |
|  |  | 10. Total dust of ducted gaseous/air streams  | БДC ISO 9096:2017       | Emissions from stationary sources. Manual determination of the mass concentration of dust particles   | FLEXIBLE SCOPE |
|  |  |   | БДC EN 13284-1 :2017    | Emissions from stationary sources. Determination of the mass concentration of dust in the low range. Part 1: Manual gravimetric method.                                 | FLEXIBLE SCOPE |
|  |  | 11. Hydrogen/H <sub>2</sub>   | VILM 23:2016            | Stationary sources of emissions. Measurement of harmful substances (pollutants) and gas flow parameters   | FIXED SCOPE    |
|  |  | 12. Formaldehyde  | EPA 323 :2010           | Determination of Formaldehyde content in emissions from stationary sources  | FLEXIBLE SCOPE |
|  |  | 13. Content of elements in emissions/ Inorganic dust substances<br>13.1. Arsenic/As<br>13.2. Cadmium/Cd | БДC E N 14385:2025      | Emissions from stationary sources. Determination of total emission of As, Cd, Cr, Co, Cu, Mn, Ni, Pb, Sb, TI and V  | FLEXIBLE SCOPE |





## QL 5.0-4 Laboratory activities performed in LAKOS with fixed and flexible scope

|  |  |                              |                       |  |                |
|--|--|------------------------------|-----------------------|--|----------------|
|  |  | 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/Tl            |                       |  |                |
|  |  | 13.10. Vanadium /V           |                       |  |                |
|  |  | 13.11. Cobalt /Co            |                       |  |                |
|  |  | 13.12. Tin /Sn               |                       |  |                |
|  |  | 13.13. Tellurium/Te          | VILM 05 :2016         | Stationary sources of emissions. Determining the content of elements   | FIXED SCOPE    |
|  |  | 13.14. Zinc/Zn               |                       |  |                |
|  |  | 13.15. Selenium/Se           |                       |  |                |
|  |  | 13.16. Mercury/Hg            |                       |  |                |
|  |  | 13.16. Mercury/Hg            | БДС Е N 13211:2004    | Air quality. Stationary sources of emissions. A manual method For determining the concentration of total mercury                         | FLEXIBLE SCOPE |
|  |  |                              | VILM 05:2016          | Stationary sources of emissions. Determining the content of elements   | FIXED SCOPE    |
|  |  | 14. Hydrogen fluoride        | БДС 17.2.4.12:1980    | Nature protection. Atmosphere. Emission quality indicators. Method For determining hydrogen fluoride content                             | FLEXIBLE SCOPE |
|  |  |                              | SD CEN/TS 17340 :2020 | Emissions from stationary sources. Determination of mass concentration of fluoride compounds expressed as HF. Standard reference method. | FLEXIBLE SCOPE |
|  |  | 15. Ammonium/NH <sub>3</sub> | БДС 17.2.4.05:1979    | Nature protection. Atmosphere. Emission quality indicators. Methods For determining ammonia content                                      | FLEXIBLE SCOPE |
|  |  | 16. Phenol                   | БДС 17.2.4.11:1980    | Nature protection. Atmosphere. Emission quality indicators. Method For determining the phenol content                                    | FLEXIBLE SCOPE |


**QL 5.0-4 Laboratory activities performed in LAKOS with fixed and flexible scope**

|       |       |   |                        |  |                |
|-------|-------|---|------------------------|--|----------------|
|       |       | 17. Hydrogen chloride /HCl  | БДС EN 1911:2010       | Stationary sources of emissions. Determination of the weight concentration of gaseous chlorides expressed as HCl. Standard comparative method      | FLEXIBLE SCOPE |
|       |       | 18. Sulphur trioxide/ SO <sub>3</sub>   | БДС 17.2.4.09 :1979    | Nature protection. Atmosphere. Emission quality indicators. Method For determining the content of sulfur trioxide                                  | FLEXIBLE SCOPE |
|       |       | 19. Aerosols of sulphuric acid  | EPA 8:2017             | Determination of sulfuric acid and sulfur dioxide aerosols from stationary emission sources  | FLEXIBLE SCOPE |
|       |       | 20.1 Quality Assurance Level – 2 (QAL2) For Automated Measuring Systems (AMS)<br>20.2 Annual Surveillance Tests (AST) | БДС EN 14181:2015      | Emissions from stationary sources. Quality assurance of automated measurement systems  | FLEXIBLE SCOPE |
| III . | Waste | 1. Active reaction/ pH/pH (H <sub>2</sub> O)/ pH (CaCl <sub>2</sub> )   | БДС EN ISO 10523:2012  | Water quality. Method For determining pH   | FLEXIBLE SCOPE |
|       |       | 2. Conductivity/ Specific conductivity  | БДС EN 27888:2000      | Water quality. Determination of electrical conductivity.   | FLEXIBLE SCOPE |
|       |       | 3. Loss on ignition   | БДС EN 15935 :2021     | Sludge, waste, treated biowaste and soils. Determination of heating losses   | FLEXIBLE SCOPE |
|       |       | 4. Dry matter (dry residue)/Moisture (moisture contents)  | ISO 11465:2025         | Sludge and solid environmental matrices — Determination of dry residue or water content and calculation of the dry matter fraction on a mass basis | FLEXIBLE SCOPE |
|       |       |   | БДС EN 12880:2003      | Characterization of sediments. Determination of dry matter and water content   | FLEXIBLE SCOPE |
|       |       | 5. Element content<br>5.1. Arsen/As<br>5.2 Antimony/Sb  | БДС EN ISO 11885 :2009 |  |                |



## QL 5.0-4 Laboratory activities performed in LAKOS with fixed and flexible scope

|  |  |                         |                       |   |                |
|--|--|-------------------------|-----------------------|---|----------------|
|  |  | 5.3 Barium/Ba           |                       | Water quality. Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES)               | FLEXIBLE SCOPE |
|  |  | 5.4 Selenium/Se         |                       |   |                |
|  |  | 5.5 Cadmium/Cd          |                       |   |                |
|  |  | 5.6 Molybdenum/Mo       |                       |   |                |
|  |  | 5.7 Nickel/Ni           |                       |   |                |
|  |  | 5.8 Copper/Cu           |                       |   |                |
|  |  | 5.9 Lead/Pb             |                       |   |                |
|  |  | 5.10 Zinc/Zn            |                       |   |                |
|  |  | 5.11 Vanadium/V         |                       |   |                |
|  |  | 5.12 Calcium/Ca         |                       |   |                |
|  |  | 5.13 Magnesium/Mg       |                       |   |                |
|  |  | 5.14 Phosphorus/P       |                       |   |                |
|  |  | 5.15 Sulfur (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      |                       |   |                |
|  |  | 7 . Chromium hexavalent | VILM 03:2005          | Water quality. Determination of chromium in water and aqueous extract of waste (eluates)  | FIXED SCOPE    |
|  |  |                         | <b>ISO 18724:2025</b> | Water quality — Determination of dissolved chromium(VI) in water — Photometric method   | FLEXIBLE SCOPE |
|  |  | 8 . Iron                | БДC ISO 6332:2002     | Water quality. Determination of iron. A spectrometric method with 1,10-phenanthroline   | FLEXIBLE SCOPE |
|  |  |                         | БДC EN ISO 11885:2009 | Water quality. Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES)               | FLEXIBLE SCOPE |
|  |  | 9 . Chlorides           | ISO 9297:1989         | Water quality. Determination of chlorides. Titration with silver nitrate solution with potassium chromate indicator / Mohr's method/. | FLEXIBLE SCOPE |





## QL 5.0-4 Laboratory activities performed in LAKOS with fixed and flexible scope

|  |  |                |                         |   |                |
|--|--|----------------|-------------------------|---|----------------|
|  |  |                | БДС 17.1.4.24:1980      | Nature protection. Hydrosphere. Water quality indicators. Method For determining chloride content   | FLEXIBLE SCOPE |
|  |  |                | БДС EN ISO 10304-1:2004 | Water quality. Determination of Dissolved Anions by Ion Liquid Chromatography. Part 1: Determination of bromides, chlorides, fluorides, nitrates, nitrites, phosphates and sulphates (ISO 10304-1:2007) | FLEXIBLE SCOPE |
|  |  | 10 . Sulphates | БДС 17.1.4.03 :1977     | Nature protection. Hydrosphere. Water quality indicators. Method For determining the content of sulfate ions  | FLEXIBLE SCOPE |
|  |  |                | VILM 31:2016            | Water quality. Determination of sulfates and their Forms in water and water extraction of waste (eluates)   | FIXED SCOPE    |
|  |  |                | БДС ISO 11048:2002      | Soil quality. Determination of water- and acid-soluble sulphates.   | FLEXIBLE SCOPE |
|  |  |                | БДС EN ISO 10304-1:2004 | Water quality. Determination of Dissolved Anions by Ion Liquid Chromatography. Part 1: Determination of bromides, chlorides, fluorides, nitrates, nitrites, phosphates and sulphates (ISO 10304-1:2007) | FLEXIBLE SCOPE |
|  |  | 11 . Fluorides | VILM 13 :2006           | Water quality. Determination of fluorides in water and aqueous extraction of waste (eluates)  | FIXED SCOPE    |
|  |  |                | БДС EN ISO 10304-1:2004 | Water quality. Determination of Dissolved Anions by Ion Liquid Chromatography. Part 1: Determination of bromides, chlorides, fluorides, nitrates, nitrites, phosphates and sulphates (ISO 10304-1:2007) | FLEXIBLE SCOPE |
|  |  | 12 . Nitrates  | VILM 11:2006            | Water quality. Determination of nitrates and nitrate nitrogen in water and aqueous extract of waste (eluates)   | FIXED SCOPE    |
|  |  |                | БДС EN ISO 10304-1:2004 | Water quality. Determination of Dissolved Anions by Ion Liquid Chromatography. Part 1:  | FLEXIBLE SCOPE |



## QL 5.0-4 Laboratory activities performed in LAKOS with fixed and flexible scope

|  |  |                       |                         |   |                |
|--|--|-----------------------|-------------------------|---|----------------|
|  |  |                       |                         | Determination of bromides, chlorides, fluorides, nitrates, nitrites, phosphates and sulphates (ISO 10304-1:2007)  |                |
|  |  | 13 . Nitrites         | БДС EN 26777:1997       | Water quality. Determination of nitrite content Molecular absorption spectrometric method.  | FLEXIBLE SCOPE |
|  |  |                       | VILM 30:2011            | Water quality. Determination of nitrites and nitrogen nitrite in water and aqueous extract of waste (eluates)   | FIXED SCOPE    |
|  |  |                       | БДС EN ISO 10304-1:2004 | Water quality. Determination of Dissolved Anions by Ion Liquid Chromatography. Part 1: Determination of bromides, chlorides, fluorides, nitrates, nitrites, phosphates and sulphates (ISO 10304-1:2007) | FLEXIBLE SCOPE |
|  |  | 14 . Phosphates       | БДС EN ISO 6878:2005    | Water quality. Determination of phosphorus. Spectrometric method with ammonium molybdate.   | FLEXIBLE SCOPE |
|  |  |                       | VILM 12:2006            | Water quality. Determination of phosphates and total phosphorus in water and aqueous extract of waste (eluates)   | FIXED SCOPE    |
|  |  |                       | БДС EN ISO 10304-1:2004 | Water quality. Determination of Dissolved Anions by Ion Liquid Chromatography. Part 1: Determination of bromides, chlorides, fluorides, nitrates, nitrites, phosphates and sulphates (ISO 10304-1:2007) | FLEXIBLE SCOPE |
|  |  | 15. Kjeldahl nitrogen | БДС EN 16169 :2012      | Sludges, treated biowastes and soils. Determination of nitrogen by Kjeldahl   | FLEXIBLE SCOPE |
|  |  | 16 .1 Cyanides free   | VILM 17:2006            | Water quality. Determination of total cyanides and free cyanides in water and aqueous extract of waste (eluates)  | FIXED SCOPE    |
|  |  | 16.2 Cyanides total   | БДС 17.1.4.14:1979      | Nature protection. Hydrosphere. Water quality indicators. Method For determining the cyanide content  | FLEXIBLE SCOPE |


**QL 5.0-4 Laboratory activities performed in LAKOS with fixed and flexible scope**

|  |  |   |                            |  |                |
|--|--|---|----------------------------|--|----------------|
|  |  | 17 . Phenols/<br>Phenol index                         | БДC ISO 6439:2002          | Water quality. Determination of phenolic index. Spectrometric method with 4-aminoantipyrine after distillation                                     | FLEXIBLE SCOPE |
|  |  |   | VILM 20:2007               | Water quality. Determination of phenols in water and aqueous extract of waste (eluates)  | FIXED SCOPE    |
|  |  | 18.Total carbon (TC)/<br>Total Organic Carbon ( TOC ) | VILM 22:2007               | Water quality. Determination of total organic carbon in water and aqueous extract of waste (eluates)   | FIXED SCOPE    |
|  |  |   | БДC EN 1484:2001           | Water analysis. Guidelines For the determination of total organic carbon (TOC) and soluble organic carbon (DOC)                                    | FLEXIBLE SCOPE |
|  |  |   | БДC EN 15936:2022          | Soils, waste, processed biowaste and sludge. Determination of total organic carbon (TOC) by dry combustion.  | FLEXIBLE SCOPE |
|  |  | 19 . Dissolved organic carbon /DOC                    | VILM 22:2007               | Water quality. Determination of total organic carbon in water and aqueous extract of waste (eluates)   | FIXED SCOPE    |
|  |  |   | БДC EN 1484:2001           | Water analysis. Guidelines For the determination of total organic carbon (TOC) and soluble organic carbon (DOC)                                    | FLEXIBLE SCOPE |
|  |  | 20. Dissolved solids/<br>Total of dissolved solids    | БДC 17.1.4.04:1980, item 3 | Nature protection. Hydrosphere. Water quality indicators. Method For determining the content of total solids, undissolved and dissolved substances | FLEXIBLE SCOPE |
|  |  |   | БДC EN 15216:2021          | Ecological matrices. Determination of total dissolved solids (TDS) in water and eluates  | FLEXIBLE SCOPE |
|  |  | 21 . Mercury / Hg                                     | VILM 28 :2013              | Water quality. Determination of mercury by ICP – OES in water and aqueous waste extract (eluates)  | FIXED SCOPE    |
|  |  |   | EPA 6010C:2007             | Inductively coupled plasma-atomic emission spectrometry  | FLEXIBLE SCOPE |
|  |  | 22. Ammonium/ NH <sub>4</sub>                         | БДC ISO 7150-1:2002        | Water quality. Determination of ammonium. Manual spectrometric method.   | FLEXIBLE SCOPE |





### QL 5.0-4 Laboratory activities performed in LAKOS with fixed and flexible scope

|      |       |  |                         |   |                |
|------|-------|--|-------------------------|---|----------------|
|      |       | 23. Petroleum products/ Hydrocarbons (TPH)   | БДС EN 14345:2005       | Characterized by waste. Determination of hydrocarbon content by gravimetry  | FLEXIBLE SCOPE |
|      |       |  | БДС EN 14039:2005       | Characterization of waste. Determination of the hydrocarbon content in the range of C10 to C40 by gas chromatography  | FLEXIBLE SCOPE |
|      |       | 24. Acid - neutralization capacity/ANC       | SD CEN/TS 15364:2012    | Characterization of waste. Leaching behavior tests. Acid and neutralization capacity test   | FLEXIBLE SCOPE |
|      |       | 25.1 Sulphate Sulphur<br>25.2 Sulfide Sulfur | VILM 31:2016            | Water quality. Determination of sulfates and their Forms in water and water extraction of waste (eluates)   | FIXED SCOPE    |
|      |       | 26. Thallium                                 | EPA 6010C :2007         | Inductively coupled plasma-atomic emission spectrometry   | FLEXIBLE SCOPE |
|      |       | 27. Bromides                                 | БДС EN ISO 10304-1:2009 | Water quality. Determination of Dissolved Anions by Ion Liquid Chromatography. Part 1: Determination of bromides, chlorides, fluorides, nitrates, nitrites, phosphates and sulphates (ISO 10304-1:2007) | FLEXIBLE SCOPE |
| I V. | Noise | 1. Equivalent sound power level              | БДС ISO 8297:2005       | Acoustics. Determining the sound power levels of an industrial plant with multiple noise sources For estimating the sound pressure levels in the environment  | FLEXIBLE SCOPE |
|      |       |  | VILM 33:2011            | Validated in-laboratory methodology For determining the total sound power emitted into the environment by an industrial enterprise and determining the noise level at the point of impact               | FIXED SCOPE    |
|      |       | 2. Level of total sound power                | БДС ISO 8297:2005       | Acoustics. Determining the sound power levels of an industrial plant with multiple noise sources For estimating the sound pressure levels in the environment  | FLEXIBLE SCOPE |
|      |       |  | VILM 33:2011            | Validated in-laboratory methodology For determining the total sound power emitted into  | FIXED SCOPE    |



## QL 5.0-4 Laboratory activities performed in LAKOS with fixed and flexible scope

|    |  |  |                                 |   |                |
|----|--|--|---------------------------------|---|----------------|
|    |  |  |                                 | the environment by an industrial enterprise and determining the noise level at the point of impact  |                |
| V. | Soils (1) ,<br>sludges (2),<br>treated biowaste:<br>- compost;<br>- stabilized<br>organic fraction;<br>- fermentation<br>product;<br>- organic soil<br>improver<br>(3) | 1. Petroleum products,<br>Hydrocarbons (TPH)   | БДС EN 14345:2005 (1, 2, 3)     | Characterized by waste. Determination of hydrocarbon content by gravimetry  | FLEXIBLE SCOPE |
|    |  |  | БДС EN ISO 16703:2011 (1, 2, 3) | Soil quality. Determination of hydrocarbons in the C10 to C40 range by gas chromatography (ISO 16703:2004)                                  | FLEXIBLE SCOPE |
|    |  | 2. Active reaction/<br>pH/pH(H <sub>2</sub> O)/<br>pH (CaCl <sub>2</sub> )                                     | БДС EN ISO 10390:2022 (1, 2, 3) | Soils, treated biowastes and sludges. Determination of pH   | FLEXIBLE SCOPE |
|    |  | 3.1 Conductivity/<br>Specific conductivity   | C D CEN/TS 15937:2013 (1, 2, 3) | Sludges, treated biowaste and soils - determination of specific electrical conductivity   | FLEXIBLE SCOPE |
|    |  |  | БДС 13038 (3)                   | Soil improvers and growing media. Determination of electrical conductivity  | FLEXIBLE SCOPE |
|    |  |  | VILM 39:2024 (3)                | Treated biowaste. Determination of electrical conductivity and salt content   | FIXED SCOPE    |
|    |  | 3.2. Salts contents  | VILM 39:2024 (3)                | Treated biowaste. Determination of electrical conductivity and salt content   | FIXED SCOPE    |
|    |  | 4. Dry solid /<br>moisture content   | БДС EN 15934:2012 (1, 2, 3)     | Sludges, treated biowaste, soils and waste - calculation of the amount of dry fraction after determination of dry residues or water content | FLEXIBLE SCOPE |
|    |  | 5. Loss of ignition  | БДС EN 15935:2021 (1, 2, 3)     | Sludge, waste, treated biowaste and soils. Determination of heating losses  | FLEXIBLE SCOPE |
|    |  | 6.1 Content of<br>organic substance/<br>Total Organic Carbon<br>TOC )<br>6.2 Humus<br>6.3 Total Carbon<br>(TC) | БДС EN 15 936:2022 (1, 2, 3)    | Soils, waste, treated biowaste and sludge. Determination of total organic carbon (TOC) content by dry combustion                            | FLEXIBLE SCOPE |
|    |  |  | БДС 11302:1973 (1, 2, 3)        | Construction soils. Method For determining organic substances.  | FLEXIBLE SCOPE |
|    |  |  | ISO 10694:1995 (1, 2, 3)        | Soil quality - Determination of organic and total carbon after dry burning (elemental analysis)   | FLEXIBLE SCOPE |
|    |  | 7. Total nitrogen<br>(Kjeldahl)  | БДС EN 16169:2012 (1, 2, 3)     | Sludges, treated biowastes and soils. Determination of nitrogen by Kjeldahl   | FLEXIBLE SCOPE |



**QL 5.0-4 Laboratory activities performed in LAKOS with fixed and flexible scope**

|  |  |                                    |   |                   |
|--|--|------------------------------------|---|-------------------|
|  | Extracted forms of<br>8.1 Ammoniacal<br>nitrogen (NH <sub>4</sub> -N ) | БДС ISO 7150-1:2002 (1, 2, 3)      | Water quality. Determination of ammonium.<br>Manual spectrometric method.   | FLEXIBLE<br>SCOPE |
|  | 8.2 Nitrite nitrogen<br>(NO <sub>2</sub> -N )                          | БДС EN 26777:1997 (1, 2, 3)        | Water quality. Determination of nitrite content<br>Molecular absorption spectrometric method.   | FLEXIBLE<br>SCOPE |
|  | 8.3 Nitrate nitrogen<br>(NO <sub>3</sub> -N )                          | БДС ISO 7890-3:1998 (1, 2, 3)      | Water quality. Determination of nitrate content.<br>Spectrophotometric method with sulFixed<br>scopesalicylic acid.   | FLEXIBLE<br>SCOPE |
|  | 9 . Element content  | БДС EN ISO 22036:2024<br>(1, 2, 3) | Environmental solid matrices - Determination of<br>elements using inductively coupled plasma<br>optical emission spectrometry (ICP-OES) (ISO<br>22036:2024) | FLEXIBLE<br>SCOPE |
|  | 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 Zinc/Zn  |                                    |   |                   |
|  | 9.9 Manganese/Mn   |                                    |   |                   |
|  | 9.10 Calcium/ Ca   |                                    |   |                   |
|  | 9.11 Calcium Oxide/<br>CaO   |                                    |   |                   |
|  | 9.12 Magnesium<br>(total)/Mg   |                                    |   |                   |
|  | 9.13<br>Phosphorus/P(total)  |                                    |   |                   |
|  | 9.14 Sulphur/ S<br>(total)   |                                    |   |                   |
|  | 9.15 Cobalt/So   |                                    |   |                   |
|  | 9.16 Sodium/ Na  |                                    |   |                   |
|  | 9.17 Potassium<br>(total)/K  |                                    |   |                   |
|  | 9.18 Chromium/ Cr  |                                    |   |                   |





## QL 5.0-4 Laboratory activities performed in LAKOS with fixed and flexible scope

|  |  |   |                                 |   |                |
|--|--|---|---------------------------------|---|----------------|
|  |  | 9.19 Iron/ Fe   |                                 |   |                |
|  |  | 9.20 Aluminum /Al   |                                 |   |                |
|  |  | 9.21 Boron/B  |                                 |   |                |
|  |  | 9.22 Mercury/ Hg  |                                 |   |                |
|  |  | 10.1. Phosphorus  | БДС ISO 11263:2002 (1, 2, 3)    | Soil quality. Determination of phosphorus. Spectrometric determination of phosphorus soluble in sodium bicarbonate solution               | FLEXIBLE SCOPE |
|  |  | 10.2. Phosphorus – exchangeable Forms recalculated as P <sub>2</sub> O <sub>5</sub> |                                 |   |                |
|  |  | 10.3. Phosphates  | VILM 35:2021 (1, 2, 3)          | Soils, sediments and treated biowaste. Determination of exchangeable Forms of phosphorus  | FIXED SCOPE    |
|  |  | 11.1. Water soluble sulphates, recalculated as sulphur                              | VILM 31:2016 (1, 2, 3)          | Water quality. Determination of sulphates and their Forms in water and water extraction of waste (eluates)                                | FIXED SCOPE    |
|  |  | 11.2. Sulphates   | БДС ISO 11048:2002 (1, 2, 3)    | Soil quality. Determination of water- and acid-soluble sulphates.   | FLEXIBLE SCOPE |
|  |  | 12. Impurities/Stones   | СД CEN/TS 16202:2013 (1, 2, 3)  | Sludges, treated biowastes and soils. Determination of impurities and stones  | FLEXIBLE SCOPE |
|  |  | 13.1 . Sodium, exchangeable Forms   | БДС EN ISO 11260:2018 (1, 2, 3) | Soil quality. Determination of actual cation exchange capacity and baseline saturation level of barium chloride solution (ISO 11260:2018) | FLEXIBLE SCOPE |
|  |  | 13.2. Potassium, exchangeable Forms recalculated as K <sub>2</sub> O                |                                 |   |                |
|  |  | 13.3. Calcium, exchangeable Forms   |                                 |   |                |
|  |  | 13.4. Magnesium, exchangeable Forms   |                                 |   |                |
|  |  | 14.1 Density  | БДС EN 12580:2023 (3)           | Soil improvers and growing media. Determination of quantity   | FLEXIBLE SCOPE |
|  |  | 14.2 Bulk density   |                                 |   |                |
|  |  | 15.1 Particle size  | БДС EN 15428:2007 (1, 2, 3)     | Soil improvers and growing media. Determination of particle size distribution   | FLEXIBLE SCOPE |
|  |  | 1 5.2 Particle maximum size   |                                 |   |                |



## QL 5.0-4 Laboratory activities performed in LAKOS with fixed and flexible scope

### 2. SAMPLING/SAMPLING FROM:

| By № | Name of the tested products  | Test methods                              |   |                |
|------|------------------------------|---|---|----------------|
|      |                              | Identification                            | Designation   | Range type     |
| 1    | 2                            | 3   | 4   | 5              |
| 1    | Air, atmospheric - emissions | БДС EN 13284-1:2017                       | Emissions from stationary sources. Determination of the mass concentration of dust in the low range. Part 1: Manual gravimetric method        | FLEXIBLE SCOPE |
|      |                              | БДС ISO 9096 :2017                        | Emissions from stationary sources. Manual determination of the mass concentration of dust particles.  | FLEXIBLE SCOPE |
|      |                              | БДС EN 14790 :2017                        | Emissions from stationary sources. Determination of water vapor in pipelines. Standard reference method                                       | FLEXIBLE SCOPE |
|      |                              | EPA 323 :2020- item 6÷6.6; item 7.1       | Measurement of Formaldehyde Emissions From Natural Gas-Fired Stationary Sources—Acetyl Acetone Derivatization Method                          | FLEXIBLE SCOPE |
|      |                              | VILM 05:2016-cl.8                         | Stationary sources of emissions. Determining the content of elements  | FIXED SCOPE    |
|      |                              | БДС 17.2.4.12:1980-cl.2                   | Nature protection. Atmosphere. Emission quality indicators. Method For determining hydrogen fluoride content                                  | FLEXIBLE SCOPE |
|      |                              | БДС 17.2.4.05:1979-according to the annex | Nature protection. Atmosphere. Emission quality indicators. Methods For determining ammonia content   | FLEXIBLE SCOPE |
|      |                              | БДС EN 14791 :2017 - item 6, item 7       | Emissions from stationary sources. Determination of the mass concentration of sulfur oxides. Standard reference method                        | FLEXIBLE SCOPE |
|      |                              | БДС EN 1911 :2010 - item 5                | Stationary sources of emissions. Determination of the weight concentration of gaseous chlorides expressed as HCl. Standard comparative method | FLEXIBLE SCOPE |
|      |                              | БДС 17.2.4.11:1980 - according to annex   | Nature protection. Atmosphere. Emission quality indicators. Method For determining the phenol content   | FLEXIBLE SCOPE |
|      |                              | БДС 17.2.4.09:1979 - according to annex   | Nature protection. Atmosphere. Emission quality indicators. Method For determining the content of sulfur trioxide                             | FLEXIBLE SCOPE |
|      |                              | EPA 8 :2019-cl.8                          | DETERMINATION OF SULFURIC ACID AND SULFUR DIOXIDE EMISSIONS FROM STATIONARY SOURCES   | FLEXIBLE SCOPE |
|      |                              | БДС EN 13211 :2004-cl.5.3÷ 5.12; Item 7   | Air quality. Stationary sources of emissions. A manual method For determining the concentration of total mercury                              | FLEXIBLE SCOPE |



## QL 5.0-4 Laboratory activities performed in LAKOS with fixed and flexible scope

|    |                        |  |  |                |
|----|------------------------|--|--|----------------|
|    |                        | SD CEN/TS 17340 :2020 – item 6, item 7 | Emissions from stationary sources. Determination of mass concentration of fluoride compounds expressed as HF. Standard reference method. | FLEXIBLE SCOPE |
| 2  | Soils                  | БДC 17.4.5.01:1985                     | Nature protection. Soil. General requirements For sampling   |                |
|    |                        | БДC ISO 18400-102:2019                 | Soil quality. Taking samples. Part 102: Selection and application of sampling techniques (ISO 18400-102:2017)                            | FLEXIBLE SCOPE |
| 3  | Waste                  | ASTM D 5658 -20                        | Sampling of unconsolidated ( bulk ) waste.   | FLEXIBLE SCOPE |
|    |                        | ASTM D 5679 -16(2024)                  | Sampling of consolidated ( monolithic ) solid waste in drums or similar containers.  | FLEXIBLE SCOPE |
|    |                        | SD CEN/TR 15310-2 :2007                | Characterization of waste. Sampling of waste materials. Part 2: Guidance on sampling techniques  | FLEXIBLE SCOPE |
| 4  | Waters, lakes          | БДC ISO 5667-4:2016                    | Water quality. Taking samples. Part 4: Guide to Sampling Lakes and Reservoirs  | FLEXIBLE SCOPE |
| 5  | Water, potable         | БДC ISO 5667-5:2013                    | Water quality. Taking samples. Part 5: Guidance on the sampling of drinking water from treatment plants and piped distribution systems   | FLEXIBLE SCOPE |
| 6  | Surface flowing waters | БДC EN ISO 5667-6:2016                 | Water quality. Taking samples. Part 6: Guide to river and stream sampling  | FLEXIBLE SCOPE |
| 7  | Waters, coastal marine | БДC ISO 5667-9:2002                    | Water quality. Taking a sample. Part 9: Guidance on marine water sampling  | FLEXIBLE SCOPE |
| 8  | Water, waste water     | БДC ISO 5667-10:2020                   | Water quality. Taking samples. Part 10: Guidance on waste water sampling   | FLEXIBLE SCOPE |
| 9  | Water, underground     | БДC ISO 5667-11:2011                   | Water quality. Taking samples. Part 11: Guide to groundwater sampling  | FLEXIBLE SCOPE |
| 10 | Sediment               | БДC EN ISO 5667-13 :2011               | Water quality. Taking a sample. Part 13: Guide to sediment sampling (ISO 5667-13:2011)   | FLEXIBLE SCOPE |
| 11 | Treated organic waste  | БДC EN 12579:2024                      | Soil improvers and growing media. Taking samples   | FLEXIBLE SCOPE |
|    |                        | БДC EN ISO 5667-13 :2011               | Water quality. Taking a sample. Part 13: Guide to sediment sampling (ISO 5667-13:2011)   | FLEXIBLE SCOPE |



**QL 5.0-4 Laboratory activities performed in LAKOS with fixed and flexible scope**

## Legend:

FIXED SCOPE – fixed range

FLEXIBLE SCOPE - The introduction of a new version of the standards or standards that replace them is permitted. LAKOS maintains an up-to-date list of standards with their dated versions.

FLEXIBLE SCOPE\* - introduction of a new version of the standards or standards that replace them. After a check /verification/, provision of CRM/RM and calibrated TC, the characteristics from column 3 can be determined using the methods from column 4.

Compiled by:

  
eng. Rositsa Yankova-Ralcheva – Head of Laboratory

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