The Appendix is an integral part of
Certificate of Accreditation No: 576/2023 of 06/11/2023

Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Gas Storage CZ, s.r.o.
CAB number 1652, Testlab Geo - Services
Tuřanka 1554/115b, 627 00 Brno - Slatina

Detailed information on activities within the scope of accreditation (determined analytes/ subject of testing / calculations) is given in the section „Specification of the scope of accreditation".

Tests:

Ordinal number[1]	Test procedure / method name	Test procedure / method identification[2]	Subject of the test	Degrees of freedom[3]
1	Determination of the composition of natural gas by gas chromatography with TCD-TCD- FID and its physico-chemical parameters by calculation from measured values	SOP 01 (ČSN EN ISO 6974-3; ČSN EN ISO 6974-5; ČSN EN ISO 6976; ČSN EN ISO 15403-1)	Gas	-
2	Determination of $\delta^{13}C$ in methane by CRDS method	SOP 03 (User Manual for G2201-*i* Analyzer for Isotopic CO_2 / CH_4)	Gas	-
3	Determination of $\delta^{13}C$ in carbon dioxide by CRDS method	SOP 04 (User Manual for G2201-*i* Analyzer for Isotopic CO_2 / CH_4)	Gas	-
4	Determination of $\delta^{18}O$ and δD in water by CRDS method	SOP 06 (User Manual for L2140-*i* Analyzer for Isotopic H_2O)	Water	-
5	Determination of δD in methane by CRDS method	SOP 08 (User Manual for G2182-*i* Analyzer of δD & $\delta^{13}C$ in CH_4)	Gas	-
6	Determination of water dew point by chilled mirror method	SOP 09 (ČSN EN ISO 6327; User Manual for Dew point analyzer Hygrovision BL)	Gas	-
7	Determination of hydrocarbon dew point by chilled mirror method	SOP 10 (ISO/TR 11150; User Manual for Dew point analyzer Hygrovision BL)	Gas	-

[1] asterisk at the ordinal number identifies the tests, which the laboratory is qualified to carry out outside the permanent laboratory premises

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

[3] the laboratory does not apply a flexible approach to the scope of accreditation

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Specification of the scope of accreditation:

Ordinal test number	Detailed information on activities within the scope of accreditation (determined analytes)
1	Composition: hydrocarbons C1 – C6, oxygen, nitrogen, carbon dioxide, hydrogen, helium Physico-chemical parameters: gross calorific value (MJ/m3), net calorific value (MJ/m3), Wobbe index (MJ/m3), gross calorific value (kWh/m3), net calorific value (kWh/m3), Wobbe index (kWh/m3), specific gravity, density (kg/m3)
2, 3	$\delta^{13}C$ is specified according to the standard Vienna Pee Dee Belemnite
4, 5	$\delta^{18}O$ a δD jsou vztaženy ke standardu Vienna Standard Mean Ocean Water

Specification of the scope of accreditation:

Ordinal test number	Detailed information on activities within the scope of accreditation (subject of testing)
1, 2, 3, 5, 6, 7	Natural gas, biogas, soil gas, synthetic gas, gas mixtures (enriched natural gas), fuel gasses (propane, propane-butane), carbon dioxide
4	Surface water, ground water, reservoir water, technological water

Specification of the scope of accreditation:

Ordinal test number	Detailed information on activities within the scope of accreditation (calculations)
2, 3, 4, 5	The calculations in the tests No. 2, 3, 4 and 5 are carried out automatically as: $\delta nX = 1000 \times [(R_S - R_{ref})/R_{ref}]$, where X is the monitored element, n is the nucleon number of the heavier isotope, R_S is the ratio of heavier and lighter- isotopes in the sample and R_{ref} is the ratio of heavier and lighter isotopes of the reference material

Abbreviations:

TCD   Thermal Conductivity Detector

FID   Flame Ionization Detector

CRDS   Cavity ring down spectroscopy