NÁRODNÍ AKREDITAČNÍ ORGÁN

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

issues

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

CERTIFICATE OF ACCREDITATION

No. **527/2020**

RWE Gas Storage CZ, s.r.o.
with registered office Limuzská 3135/12, Strašnice, 108 00 Praha 10, Company Registration No. 27892077

to the Testing Laboratory No. **1652**
Testlab Geo - Services

Scope of accreditation:

Chemical and physico-chemical testing of natural gas and water to the extent as specified in the appendix to this Certificate.

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

ČSN EN ISO/IEC 17025:2018

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

This Certificate of Accreditation replaces, to the full extent, Certificate No.: 344/2019 of 9. 7. 2019, or any administrative acts building upon it.

The Certificate of Accreditation is valid until: **25. 11. 2021**

Prague: 27. 8. 2020

Český institut pro akreditaci, o.p.s. – 6 –

Jiří Růžička
Director
Czech Accreditation Institute
Public Service Company

The Appendix is an integral part of
Certificate of Accreditation No. 527/2020 of 27/08/2020

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

RWE Gas Storage CZ, s.r.o.
Testlab Geo – Services
PZP Tvrdonice, 691 53 Tvrdonice

Tests:

Ordinal number [1]	Test procedure/method name	Test procedure/method identification [2]	Tested object
1	Determination of the composition of natural gas by gas chromatography with TCD–TCD-FID (3) and its physico-chemical parameters by calculation from measured values (4)	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 $\delta^{13}C$ (5) in methane by CRDS method	SOP 03 (User Manual for G2201-*i* Analyzer for Isotopic CO_2 / CH_4)	Gas
3	Determination of $\delta^{13}C$ (5) in carbon dioxide by CRDS method	SOP 04 (User Manual for G2201-*i* Analyzer for Isotopic CO_2 / CH_4)	Gas
4	Determination of $\delta^{18}O$ (6) and δD (6) in water by CRDS method	SOP 06 (User manual for L2140-*i* Analyzer for Isotopic H_2O)	Water
5	Determination of δD (6) in methane by CRDS method	SOP 08 (User manual for G2182-*i* Analyzer of δD & $\delta^{13}C$ in CH_4)	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 edition of the specified procedure is used (including any changes).

Explanations:

Index at the test name - determined parameters, calculated parameters

(3) – Hydrocarbons C1 – C6, oxygen, nitrogen, carbon dioxide, hydrogen, helium

(4) – 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), density, density (kg/m³)

(5) – $\delta^{13}C$ is specified according to the standard Vienna Pee Dee Belemnite

(6) – $\delta^{18}O$ and δD are specified according to the standard Vienna Standard Mean Ocean Water

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

RWE Gas Storage CZ, s.r.o.
Testlab Geo – Services
PZP Tvrdonice, 691 53 Tvrdonice

The calculations in the tests No. 2, 3, 4 and 5 are carried out automatically as:

$\delta nX = 1000 \times [(RS - Rref)/Rref]$, where X is the monitored element, n is the nucleon number of the heavier isotope, RS is the ratio of heavier and lighter isotopes in the sample and Rref is the ration of heavier and lighter isotopes of the reference material.

Abbreviations:

TCD – Thermal Conductivity Detector

FID – Flame Ionization Detector

CRDS – Cavity Ring Down Spectroscopy