Interreg
Österreich-Tschechische Republik
Europäischer Fonds für regionale Entwicklung

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Rakousko-Česká republika
Evropský fond pro regionální rozvoj

HTPO

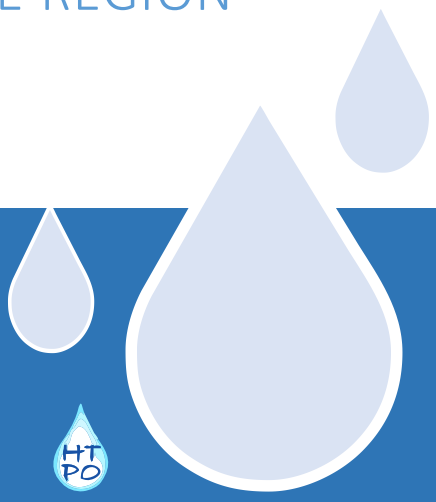
ATCZ167

D.T1.1.2

CZ GEOTERMICKÉ MAPY VÝSKYTU TERMÁLNÍCH VOD V REGIONU

AT GEOTHERMISCHE KARTENSERIE DER THERMALWASSERVORKOMMEN IN DER REGION

EN GEOTHERMAL MAP SERIES OF THE THERMAL WATER BEARING FORMATIONS IN THE REGION



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This report was written during the project "HTPO – Hydrothermal Potential of the Area “Laa an der Thaya-Pasohlávky”. Inserting into the project structure is shown in the following table:

WP T1	„Geovědní model výskytu termálních vod v oblasti Laa - Pasohlávky“	„Geowissenschaftliches Modell der Thermalwasservorkommen Laa - Pasohlávky“
Akt. T1.1	„Základní geologický model výskytu termálních vod v oblasti Laa - Pasohlávky“	Geowissenschaftliches Basismodell der Thermalwasservorkommen Laa - Pasohlávky
T1.1.2	**„Geotermické mapy výskytu termálních vod v regionu“**	**„Geothermische Kartenserie der Thermalwasservorkommen in der Region.“**

The works prior to this output were realized within the activity T1.1. The explanations for these map series can be found in the output T1.1.3 „multilingual explanations related to the compiled thematic maps”.

The outputs of this study were most relevant for the following activities:

- Activity T1.4 „Dynamic reservoir model of the thermal waters in Laa and Pasohlávky“
- Activity T1.5 „Measures for supporting the transferability of project results“
- Workpackage T2 „Strategic measures for a sustainable and efficient management and utilization of cross-border thermal waters“

More information and other outputs on the project "HTPO – Hydrothermal potential of the area" Laa an der Thaya-Pasohlávky" can be found at:

https://www.at-cz.eu/cz/ibox/po-2-zivotni-prostredi-a-zdroje/atcz167_htpo

https://www.at-cz.eu/at/ibox/pa-2-umwelt-und-ressourcen/atcz167_htpo

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TABLE OF CONTENT

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INTRODUCTION

The Project HTPO

The HTPO project deals with the origin, potential and joint management measures of cross-border thermal water resources in the Laa - Pasohlávky region. The thermal waters, which are already used for balneological purposes and which occur at depths of well over 1000 meters below the surface of the earth, have significant potential for future tourist or energetic applications and can contribute to the greening of the region.

Aims of the project

The HTPO project therefore aims to describe these thermal water resources in a joint geoscientific model and to evaluate the associated potential uses and conflicts of use. Based on the best possible knowledge of the thermal water resources in the region, strategies and concrete measures for future joint management are to be worked out together with decision-makers and regional stakeholders.

Aims of activity T1.1

As part of activity T1.1, existing geoscientific archive data are collected, processed and harmonized across borders (e.g. adaptation of formats). In addition, further data, in particular water samples from the existing deep waters, are collected and analysed in a harmonized measurement campaign. As part of the cooperation, cross-border geological and geoscientific basic models (stationary process models) are then set up, which are then subjected to a joint assessment (e.g. zoning of hydrostratigraphic systems or calculation of the expected reservoir temperatures and salinity) and a joint interpretation (e.g. identification of circulation systems and migration paths of the thermal waters in the border region). The determined results are made available to the regional stakeholders of the project as map series.

Geothermal map series

Geothermal and hydrochemical basic data are summarized in cross-border maps. The topics presented include reservoir temperature and total mineralisation of waters (TDS). The explanations for these map series can be found in the output T1.1.3 „multilingual explanations related to the compiled thematical maps".

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1. TEMPERATURE MAPS

1.1 TEMPERATURES OF GEOLOGICAL FORMATION

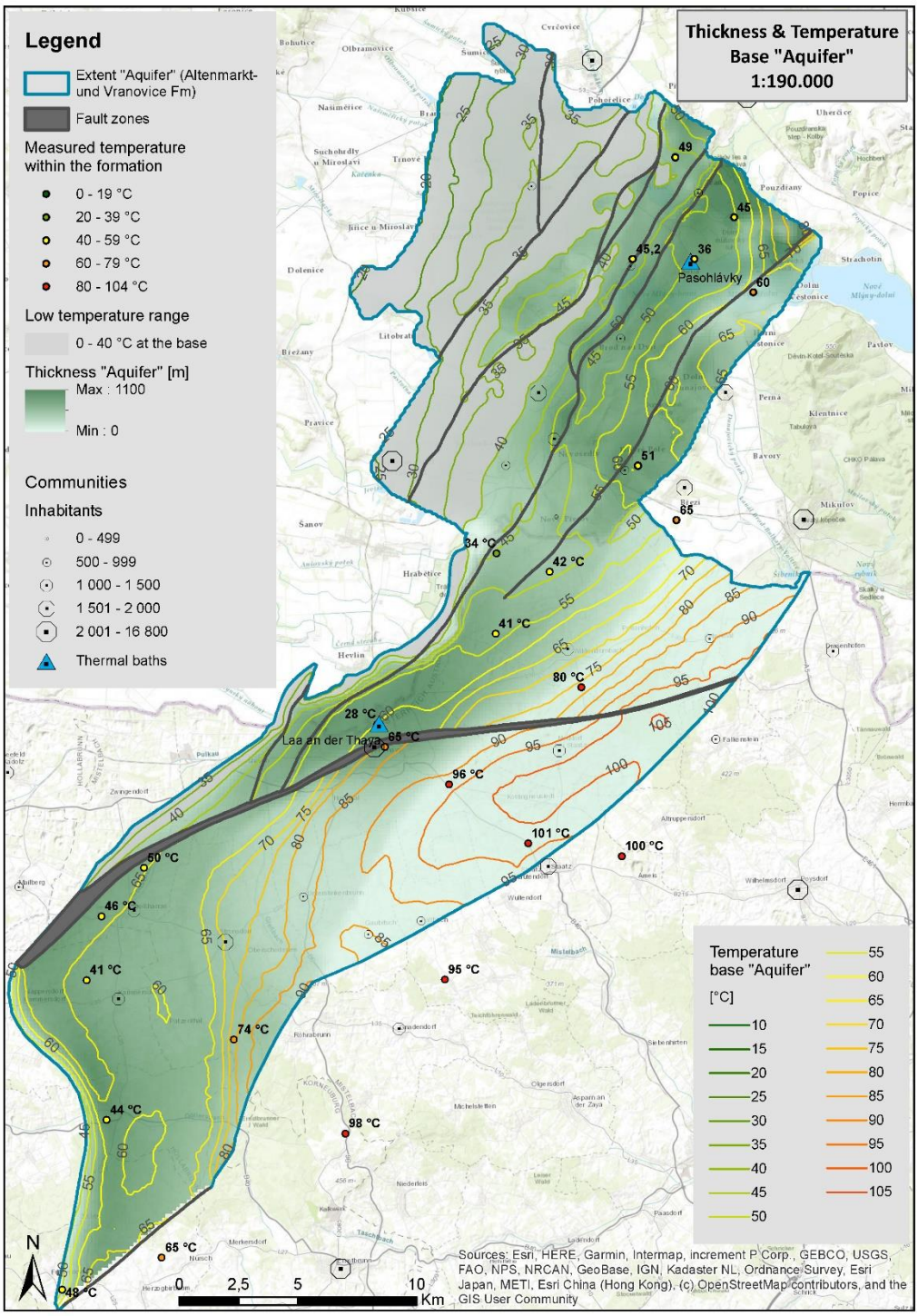

Figure 1: Map of the thickness and temperature of the base „Aquifer“ – the base of the Altenmarkt and Vranovice Formation in the scale of 1:190.000. Temperature was calculated using an average geothermal gradient of 27 °C/km.

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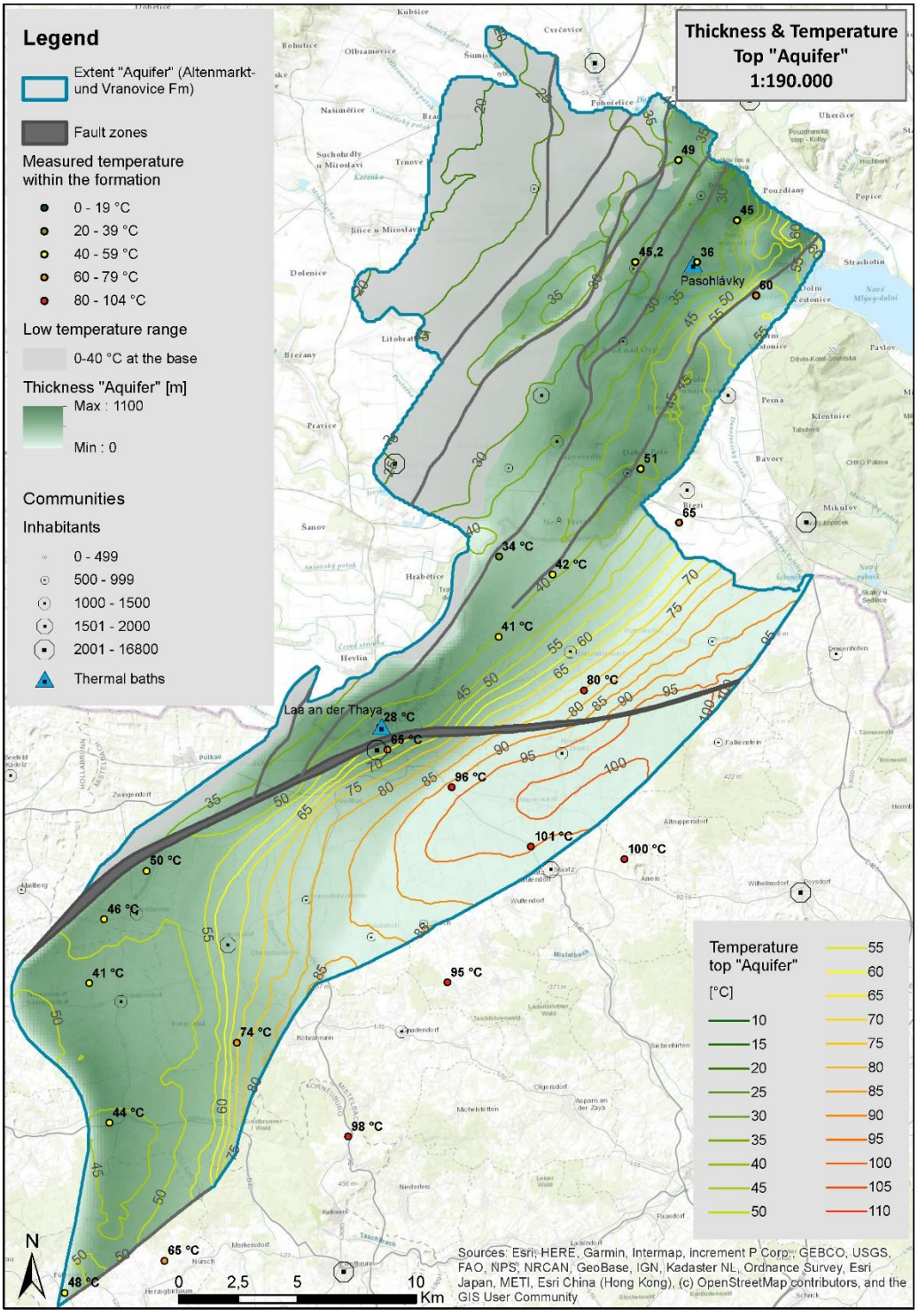

Figure 2: Map of the thickness and temperature of the top „Aquifer"– the top of Altenmarkt- and Vranovice Formation in the scale of 1:190.000. Temperature was calculated using an average geothermal gradient of 27 °C/km.

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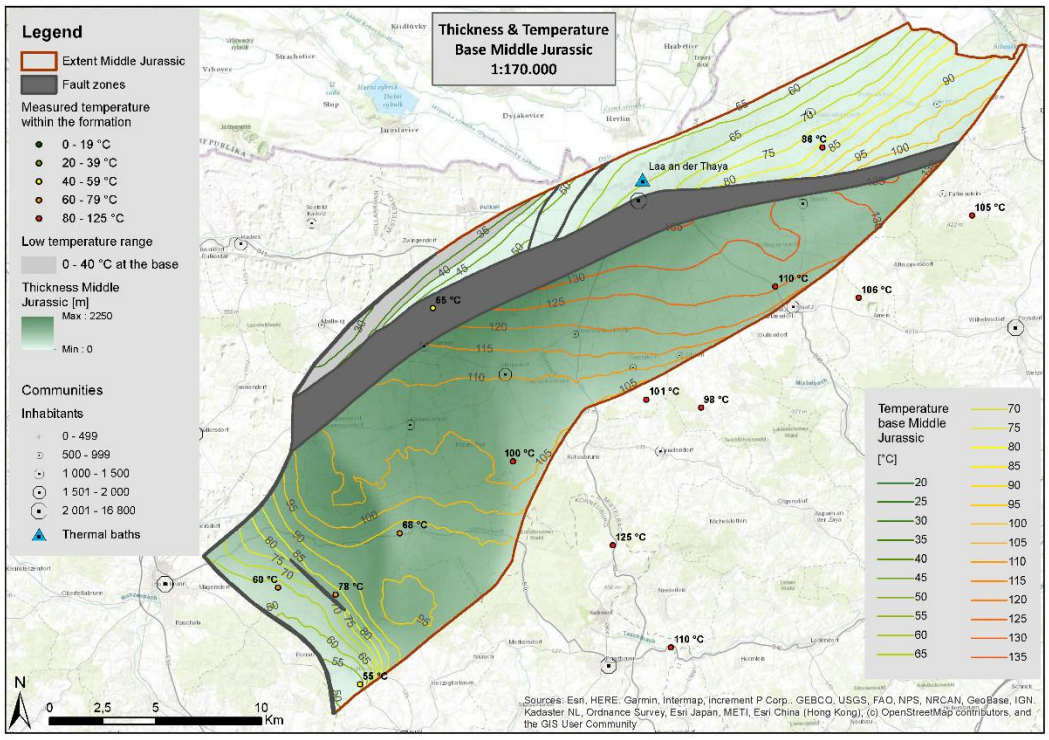

Figure 3: Map of the thickness and temperature of the base Middle Jurassic in the scale of 1:170.000. Temperature was calculated using an average geothermal gradient of 27 °C/km.

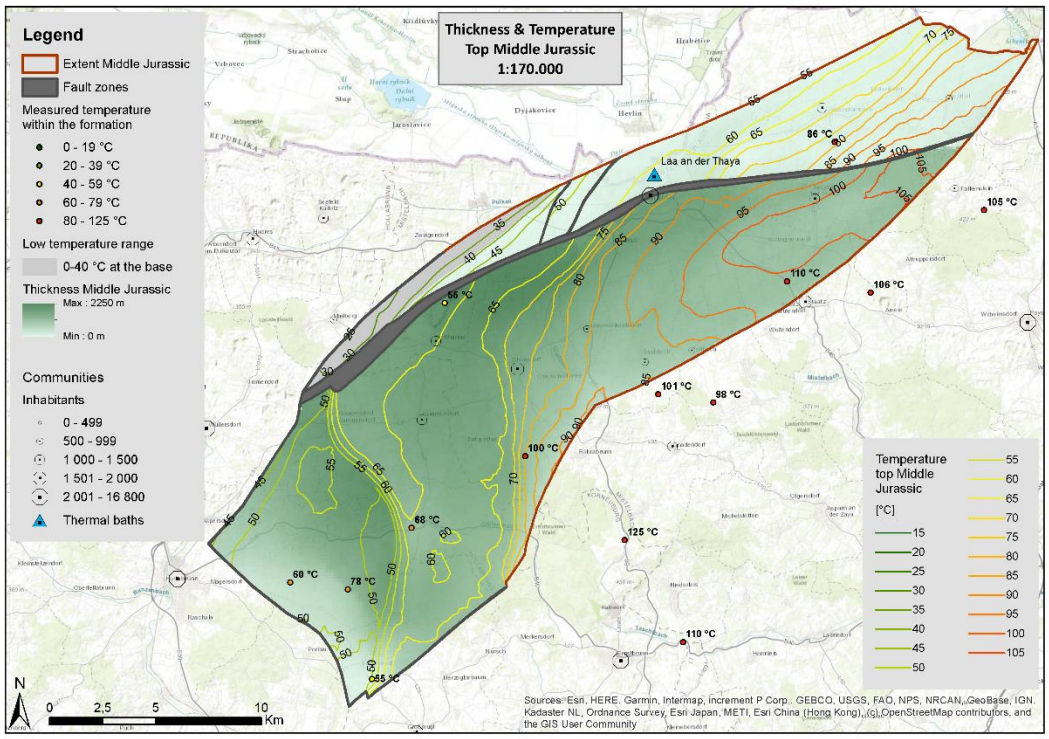

Figure 4: Map of the thickness and temperature of the top Middle Jurassic in the scale of 1:170.000. Temperature was calculated using an average geothermal gradient of 27 °C/km.

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1.2 TEMPERATURES OF MODELLED AQUIFER

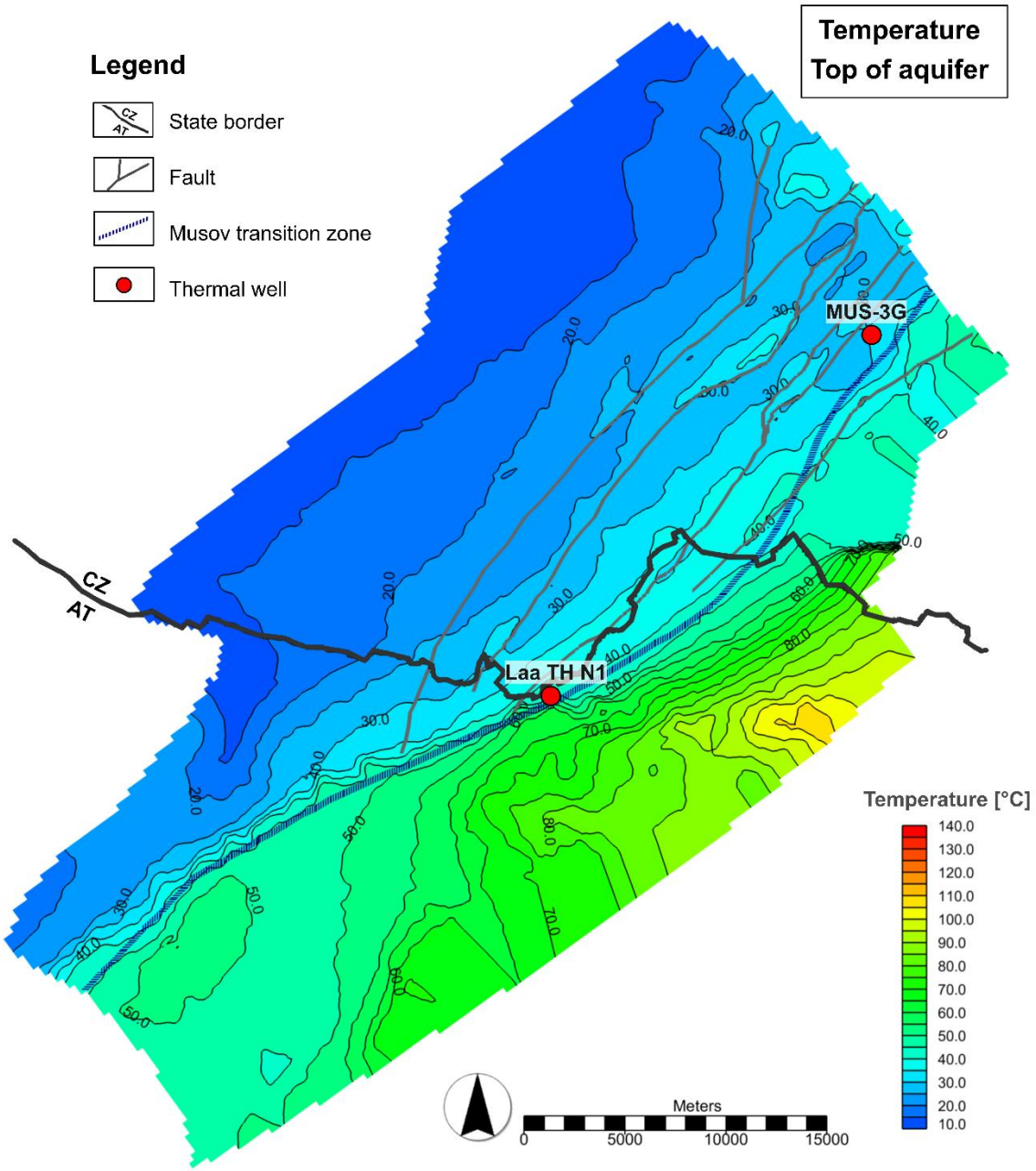

Figure 5: Map of spatial distribution of temperature on the top of modelled aquifer.

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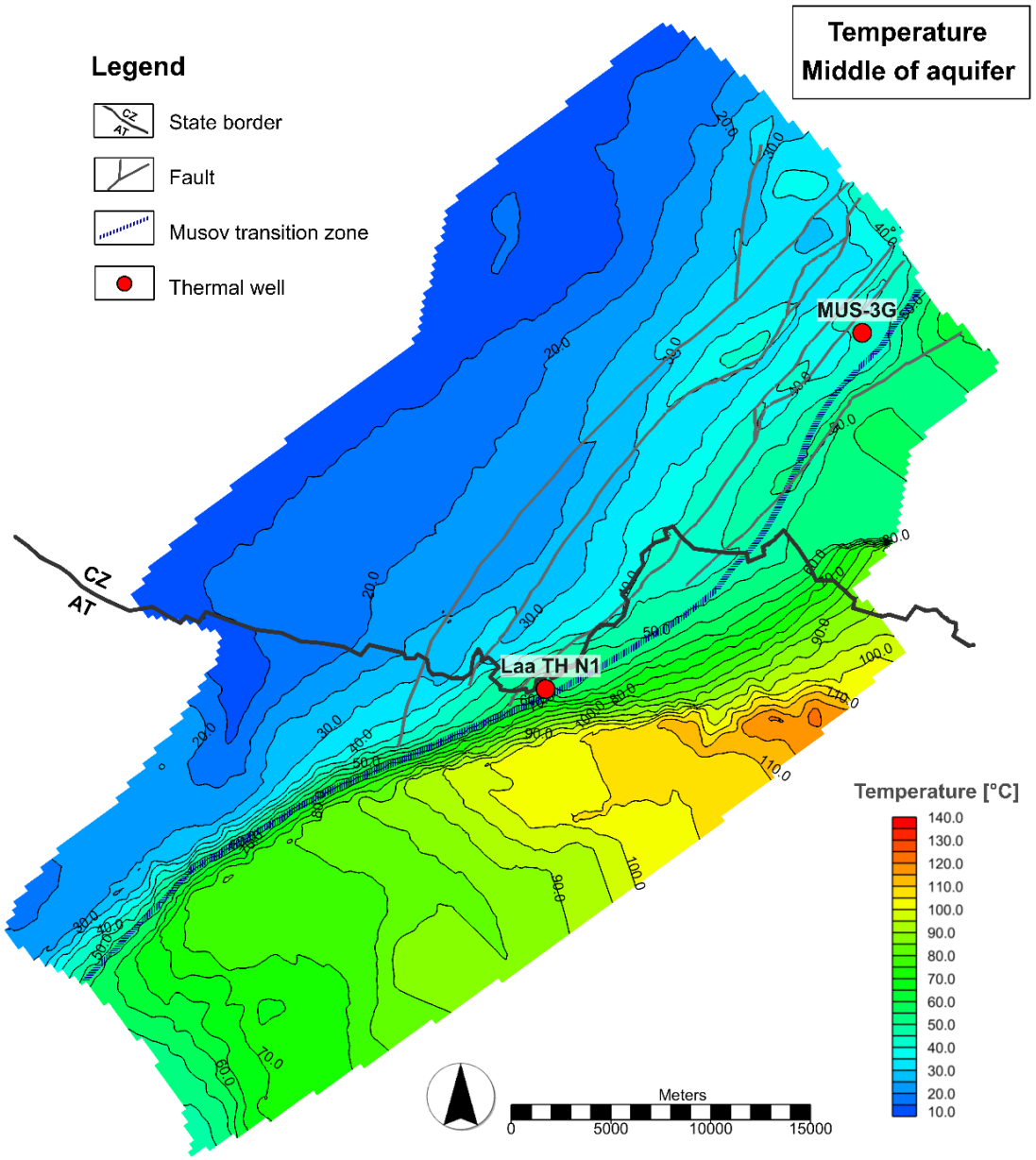

Figure 6: Map of spatial distribution of temperature in the middle of modelled aquifer.

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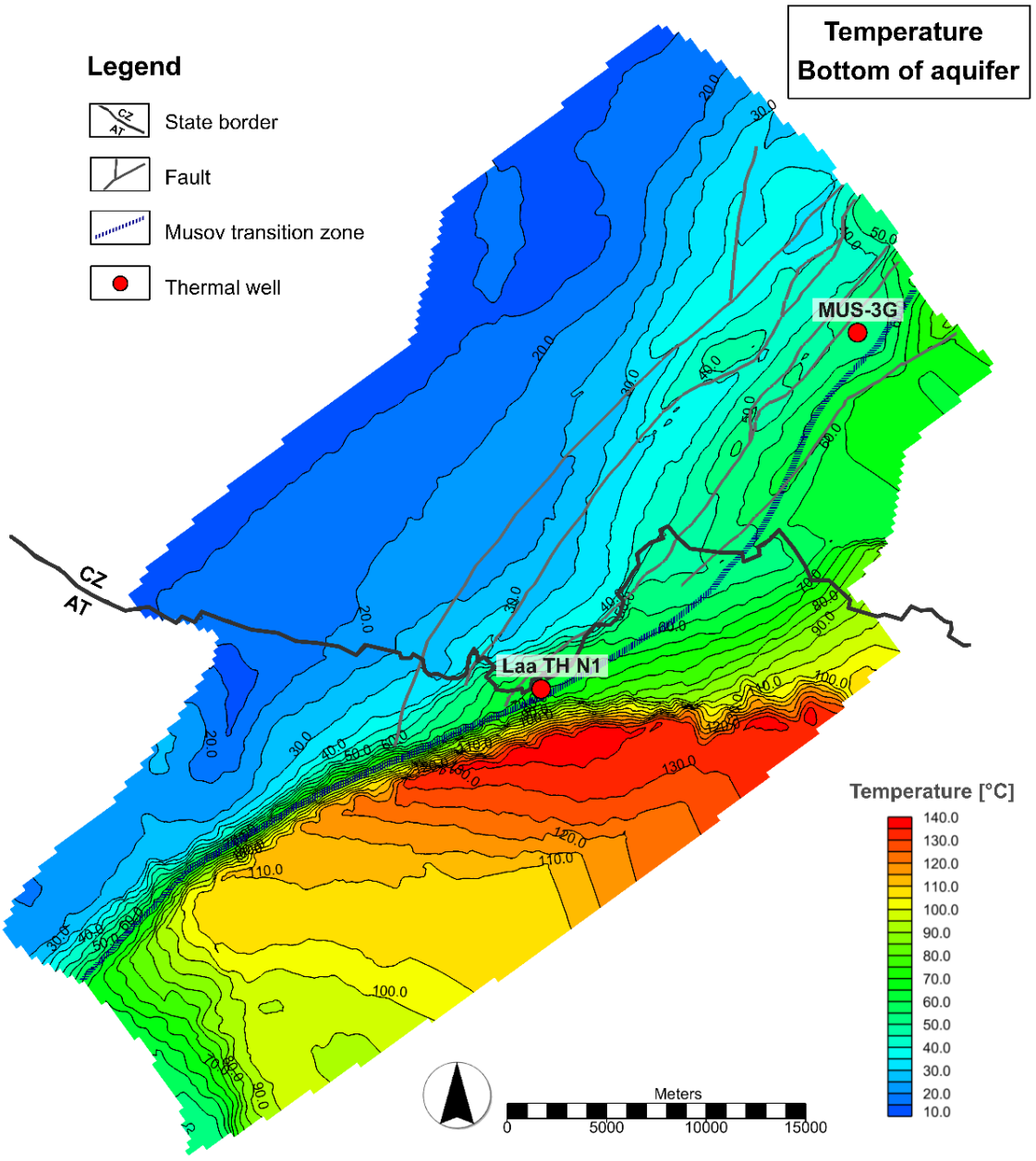

Figure 7: Map of spatial distribution of temperature on the bottom of modelled aquifer.

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2. TDS MAPS

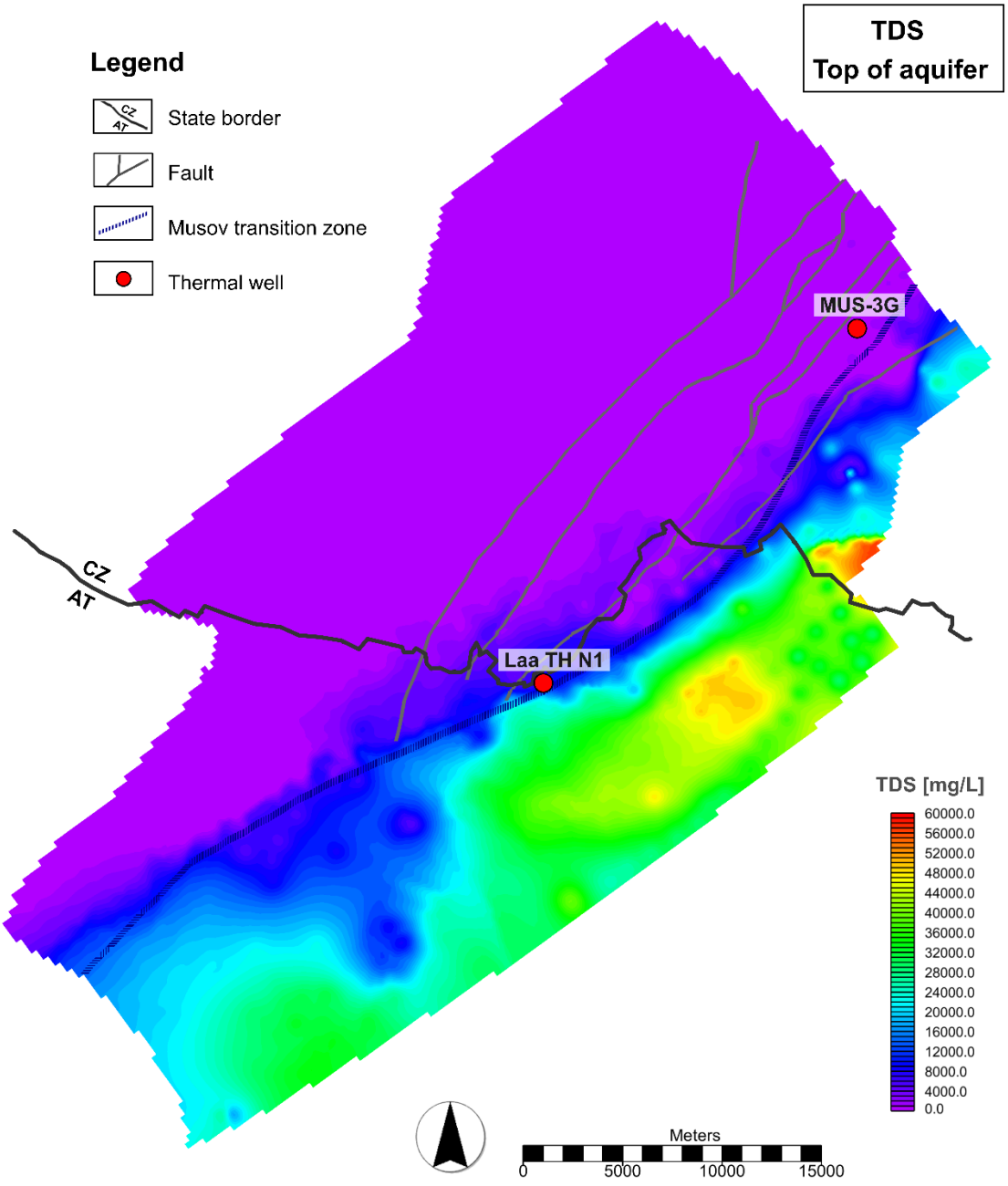

Figure 8: Map of spatial distribution of total mineralisation of waters on the top of modelled aquifer.

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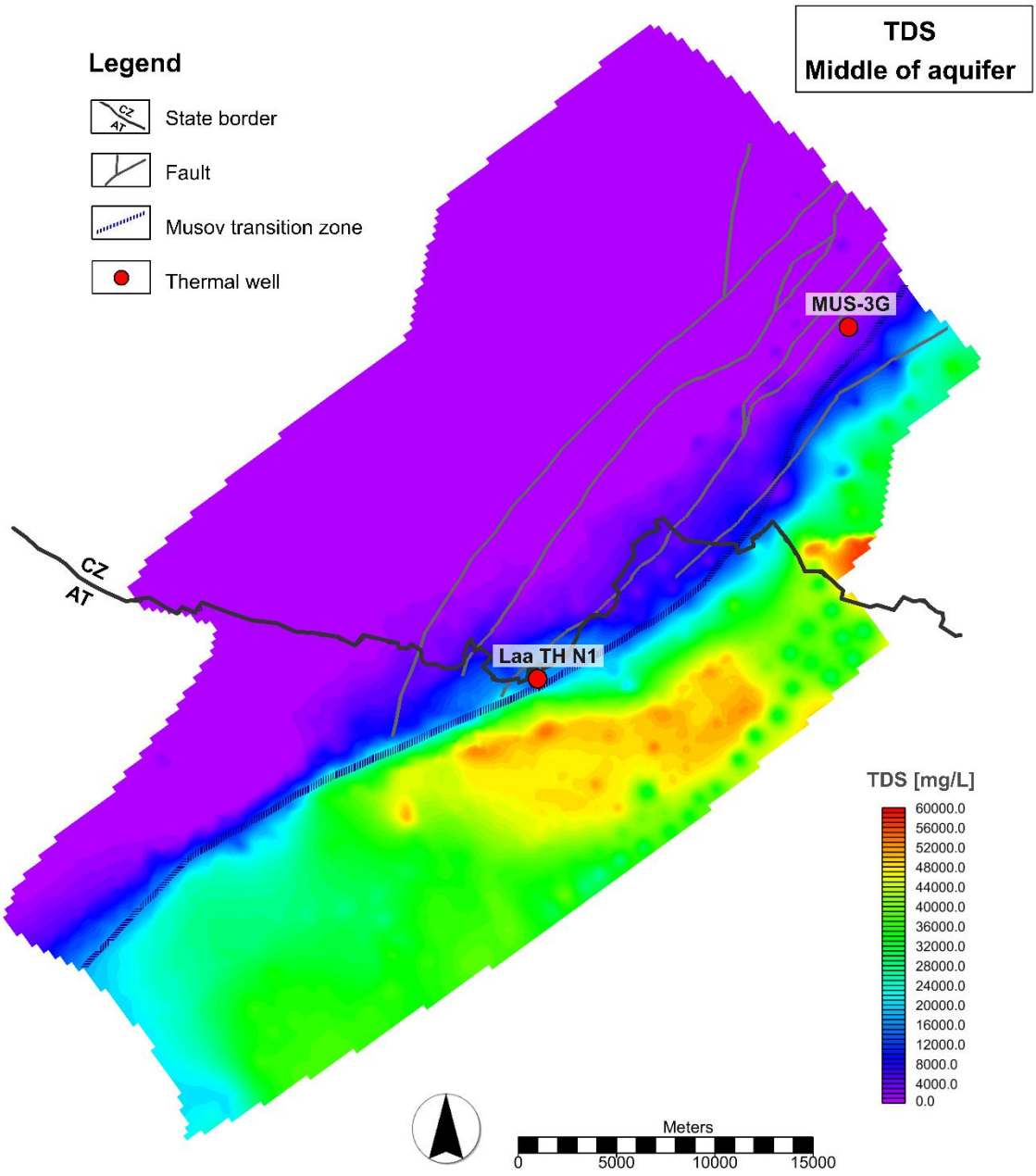

Figure 9: Map of spatial distribution of total mineralisation of waters in the middle of modelled aquifer.

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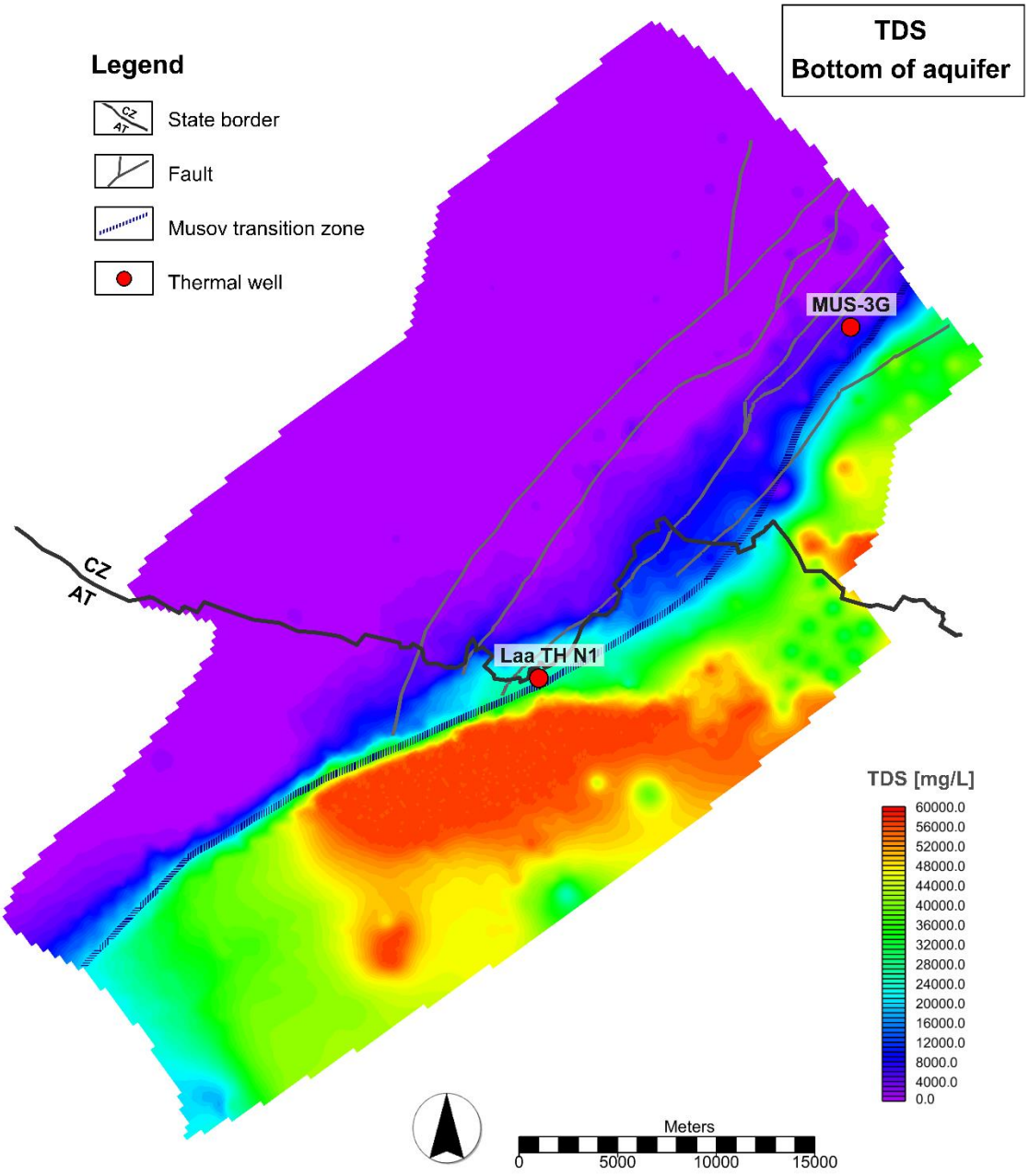

Figure 10: Map of spatial distribution of total mineralisation of waters on the bottom of modelled aquifer.

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