

## THESIS SUPERVISOR FORM



### 1. Identification of the student:

Student:	Emily C. Painter
Thesis:	Influence of ambient conditions on building materials: study of material degradation in the archaeological areas of Prague Castle
1 <sup>st</sup> Institution:	Universidade do Minho
2 <sup>nd</sup> Institution:	Czech Technical University in Prague, Czech Republic
Academic year:	2021/2022

### 2. Identification of the supervisor:

Name:	Jan Válek
Institution:	Institute of Theoretical and Applied Mechanics, AV ČR, v. v. i.
Position:	Head of research unit

### 3. General comments

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FORM**



The main objectives of Ms. Painter's Thesis were (i) to determine the physical properties of the stone present in the archaeological site, (ii) to determine the HMC of the salt-laden materials, (iii) to determine the salt content by ion chromatography, (iv) to investigate the timber condition and (v) to carry out a preliminary damage assessment and related photodocumentation of the site.

The research work consisted of the selection of appropriate case studies, sampling and determination of the relevant material properties according to the standardised procedures, including searching and finding literature sources and scientific articles. Ms. Painter carried out the work with a great effort and enthusiasm. She was able to select and apply correct laboratory methods and to carry out experimental work. The Ion chromatography was carried out in collaboration with the experts who operate the instruments. In this case, understanding the technique and being able to interpret the results was an important aspect of her research. Ms. Painter travelled to Telč, to the research centre, to help with the sample preparation and consult the results. Ms. Painter also demonstrated an ability to cooperate effectively with others.

The Thesis are adequately structured. There are clearly defined objectives and the description follows the standard layout used for presenting experimental work. The sampling and the methods are well described. The results obtained are presented in detail in a manner that more than sufficiently demonstrates an understanding of the studied material. The main points are discussed appropriately and the important issues are pointed out.

Overall, the experimental program has successfully contributed to the defined objectives. The results were discussed and relevant conclusions were drawn. The study was not exhaustive, however, the planned scope of the experimental work was sufficiently extensive to be conclusive. Further research ideas were correctly suggested.

Ms. Painter has demonstrated the ability to carry out experimental work independently. She completed practical and laboratory tasks in a timely, accurate and efficient manner. She was also able to analyse the results and understand the subject matter in a broader sense. Overall, I rate her approach, the quality of the laboratory work and the Diploma Thesis with a grade of A – excellent.

**4. Grade:** \_\_\_\_\_ **A (excellent)** \_\_\_\_\_

Use the following scale

A (excellent)	B (very good)	C (good)	D (satisfactory)	E (sufficient)	F (fail)
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Institute of Theoretical and Applied Mechanics, AV ČR, v. v. i., Prague

July 20, 2022

The supervisor, \_\_\_\_\_

Jan Válek