Deliverable D1.1

Report of the selected representative geological contexts.

WP1

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Project acronym	Cheap-GSHPs
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Dissemination Level

PU	Public	
CO	Confidential, only for members of the consortium (including the Commission Services)	**X**
CI	Classified, as referred to in Commission Decision 2001/844/EC	

Publishable summary

The D.1.1 – "Report of the selected representative geological contexts." is a confidential document delivered in the context of WP1, Task 1.1: Definition of generalized geological contexts with regard to the geological variability of the underground conditions in the partner countries. Therefore a database of the European Soil Data Centre (ESDAC) was chosen to receive some INSPIRE (***In****frastructure for* ***Sp****atial* ***I****nfo****r****mation in* ***E****urope*) conformal data of underground properties. A SGDBE (***S****oil* ***G****eographical* ***D****ata****b****as****e)*** called PAR-MAT-DOM was selected to be the most practicable data set for receiving relevant underground data in terms of geothermal properties and drillability. PAR-MAT-DOM stands for dominant parent material and is divided into 212 sub-units which contains geological and pedological information of a certain area. To make it more clearly ESDAC provides also a second database called PAR-MAT-CON1 which consists of nine major groups which were fed by the 212 sub-units of the PAR-MAT-CON dataset. With regard to the project issues the WP1 consortium decides to merge these two data sets into a data set which contains the following major groups: *No Information Igneous & Metamorphic Rocks Consolidated Sedimentary Rocks Unconsolidated Material (undefined) Sand (unconsolidated) Clay (unconsolidated) Gravel (unconsolidated) Organic Material.*

In relation to these newly defined major groups, called FAU_PAR-MAT-CON, the drillability of the underground was analysed together with the drilling companies involved within this project. As result it is possible to advise, within the limits of specific local conditions, drilling techniques in terms of time and/or in terms of cost to certain areas all over Europe. These results can be very useful within several tasks of WP2 and WP3. In addition these data can be a first working base for the data acquisition of the real and virtual case studies of WP6.

This document is also a working basis for T1.2 within this work package. Geothermal parameters like thermal conductivity or thermal diffusivity can be adapted to FAU_PAR-MAT-CON. As a result these parameters can be added to the major groups of this data set. As a consequent there is the opportunity to produce for example thermal conductivity maps which are very useful for planners, designer and architects.