



*Co-funded by the European Community Horizon 2020 Program*

Project Title:

# **GEOthermal Technology for economic Cooling and Heating**



## **GEOTeCH**

**Grant Agreement No: 656889**

**Collaborative Project**

**Fully designed & tested drilling tools, production series available**

### **Executive Summary**

Deliverable No.	2.2
Workpackage	2
Task	2.2, 2.3, 2.4, 2.5
Lead beneficiary	GROENHOLLAND
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Delivery date	01/5/2017
Status	FINAL
File Name:	D2.2_Fully designed & tested drilling tools, production series available_ex.docx

### **Dissemination level**

PU	Public, fully open, e.g. web	
CO	Confidential, restricted under conditions set out in Model Grant Agreement	<b>X</b>
CI	Classified, information as referred to in Commission Decision 2001/844/EC.	

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# 1. PUBLISHABLE EXECUTIVE SUMMARY

In WP2 of the GEOTeCH consortium a dry drilling methodology based on hollow stem augers for soft to medium consolidated formations is developed and built.

To come to a practical auger design and that of the specialized drill rig, information is necessary on the augers as well on the mechanical requirements of the drill rig. Due to a lack of published information on augers used in drilling CONRAD and GROENHOLLAND conduct a series of field test on prototype augers. Results from the testing have been used in the design of the final augers as well as determining the mechanical and hydraulic requirements of the drill rig and auxiliary equipment.

In WP2 hollow stem augers are under investigation as they allow dry drilling in many soil conditions, are quick to mobilize and affordable. The hollow stem augers are intended to be used on the new developed auger drill rig, to install vertical soil heat exchangers. Work on the heat exchangers is being carried out in other work packages in the GEOTeCH consortium.

Determining the auger design that can be used most efficiently and the development of a specialized drillrig to operate the augers is an important aspect of the GEOTeCH project. The primary goal is making the whole drilling process, based on dry auger methods, easier to use, cheaper and more efficient.



*Figure 1: Hollow stem auger*