PATENT ASSIGNMENT COVER SHEET

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| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|----------------|----------------|
| L. MARK KNOLLE | 06/21/2021 |

RECEIVING PARTY DATA

| Name: | TERRA SONIC INTERNATIONAL, LLC |
|-----------------|--------------------------------|
| Street Address: | 27825 STATE ROUTE 7 |
| City: | MARIETTA |
| State/Country: | ОНЮ |
| Postal Code: | 45750 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 17416898 |

CORRESPONDENCE DATA

Fax Number: (513)241-6234

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

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| ATTORNEY DOCKET NUMBER: | ALLI-31US |
|-------------------------|--|
| NAME OF SUBMITTER: | DAVID A. FITZGERALD II |
| SIGNATURE: | /David Fitzgerald II/ |
| DATE SIGNED: | 06/21/2021 |
| | This document serves as an Oath/Declaration (37 CFR 1.63). |

Total Attachments: 2

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PATENT 506726309 REEL: 056608 FRAME: 0099

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN PATENT APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76) AND ASSIGNMENT

Title of Invention: DRILLING RIG AND METHODS USING MULTIPLE TYPES OF DRILLING FOR INSTALLING GEOTHERMAL SYSTEMS

As the below named inventor, I hereby declare that:

This Declaration is directed to:

| []] OR | The attached application | | | | |
|----------------|---|-------------------|----------|-----------------|--|
| $ \mathbf{x} $ | United States Application Number or PCT International Application | | | | |
| hamed | | 62/783,691 | filed on | 12/21/2018; | |
| | Number | PCT/US2019/068015 | filed on | 12/20/2019; and | |
| | | 17/416,898 | filed on | 06/21/2021. | |

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the above-identified application.

I have reviewed and understand the contents of the above-identified application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 C.F.R. § 1.56.

Whereas, the undersigned inventor(s) has/have made certain inventions, improvements and discoveries (herein referred to as the "Invention") disclosed in the above-identified patent application;

Whereas, Terra Sonic International, LLC, a limited liability company of United States of America, having a place of business at 27825 State Route 7, Marietta, Ohio 45750 (herein referred to as the "ASSIGNEE"), desires to acquire, and each undersigned inventor desires to grant to the ASSIGNEE, the entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents directed thereto;

Now, therefore, for good and valuable consideration, the receipt and sufficiency thereof being hereby acknowledged, each undersigned inventor ("ASSIGNOR") hereby sells or has sold, assigns or has assigned, and otherwise transfers or has transferred to the ASSIGNEE, its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the Invention, the above-identified United States patent application, and any and all other patent applications and patents for the Invention which may be applied for or granted therefor in the United States and in all foreign countries and jurisdictions, including all divisions, continuations, reissues, reexaminations, renewals, extensions, counterparts, substitutes, and extensions thereof, and all rights of priority resulting from the filing of such applications and

granting of such patents. In addition, each undersigned inventor hereby authorizes and requests the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to the ASSIGNEE, its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the same to be held and enjoyed by the ASSIGNEE, its successors, legal representatives, and assigns to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made; and each undersigned inventor agrees to execute any and all documents and instruments and perform all lawful acts reasonably related to recording this Assignment or perfecting title to the Invention and all related patents and applications, in the ASSIGNEE, its successors, legal representatives, and assigns, whenever requested by the ASSIGNEE, its successors, legal representatives, or assigns.

Each undersigned inventor acknowledges their prior and ongoing obligations to sell, assign, and transfer the rights under this Assignment to the ASSIGNEE and is unaware of any reason why they may not have the full and unencumbered right to sell, assign, and transfer the rights hereby sold, assigned, and transferred, and has not executed, and will not execute, any document or instrument in conflict herewith. Each undersigned inventor also hereby grants the ASSIGNEE, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification (including, but not limited to, patent Application Number) which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of United States of America, and any disputes will be resolved in a court sited in United States of America.

In the event that the filing date and/or Application No. are not entered above at the time I execute this document, and if such information is deemed necessary, I hereby authorize and request the attorneys/agent(s) at Wood, Herron & Evans, LLP, 2700 Carew Tower, 441 Vine Street, Cincinnati, Ohio 45202-2917, to insert the filing date and/ or Application No. of said application into this document.

I hereby acknowledge that any willful false statement made in this Declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

| Legal name of Inventor: | L. Mark Apolle |
|----------------------------------|--|
| Inventor's Signature: | Date: $\frac{6/21/21}{2}$ |
| Residence City/State/Country: | Marietta, OH, United States of America |
| Mailing Address: | 175 Collins Road Marietta, Ohio 45750 |
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