505379887 03/18/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5426680

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

CONVEYING PARTY DATA

| Name | Execution Date |
|------------------|-----------------------|
| JONATHAN DOWNTON | 01/16/2017 |

RECEIVING PARTY DATA

| Name: | CGG SERVICES SAS |
|-----------------|-------------------|
| Street Address: | 27, AVENUE CARNOT |
| City: | MASSY CEDEX |
| State/Country: | FRANCE |
| Postal Code: | 91341 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 15366240 |

CORRESPONDENCE DATA

Fax Number: (888)232-9785

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.

Phone: 5403612601

Email: amanda@ppblaw.com

Correspondent Name: PATENT PORTFOLIO BUILDERS PLLC

Address Line 1: P.O. BOX 7999

Address Line 4: FREDERICKSBURG, VIRGINIA 22404

| ATTORNEY DOCKET NUMBER: | 0336-628-3/101042 |
|-------------------------|-------------------|
| NAME OF SUBMITTER: | AMANDA GOODE |
| SIGNATURE: | /AMANDA GOODE/ |
| DATE SIGNED: | 03/18/2019 |

Total Attachments: 2

source=2019-03-18_SIGNED_Assignment_0336-628-3_101042#page1.tif source=2019-03-18_SIGNED_Assignment_0336-628-3_101042#page2.tif

PATENT 505379887 REEL: 048624 FRAME: 0004

Docket No. 0336-628-3/101042

<u>ASSIGNMENT</u>

In accordance with my obligations under an Employee Innovation and Proprietary Information Agreement or (as applicable) arising out of other agreements (such as, but not limited to, the Services Agreement between CGG Services SAS, a French Corporation, and my employer), and/or for other good and valuable consideration of which I/we acknowledge receipt, I/we,

Jonathan DOWNTON of Calgary, Alberta, CANADA

hereby sell and assign to CGG Services SAS, having an address at 27. Avenue Carnot, 91341 Massy Cedex, France, hereinafter referred to as "Company", its successors and assigns my/our entire respective rights, titles and interests in and to the invention and improvements invented and originated by me and described in the US Patent Application No. 15/366,240 for United States Patent currently entitled:

METHOD AND APPARATUS FOR ANALYZING FRACTURES USING AVOAZ INVERSION

filed on December 1, 2016,

and any and all applications for patent and patents therefrom in any and all countries, including all divisions, continuations, reexaminations and reissues thereof, and all rights of priority resulting from the filing of said United States application, and authorize and request any official whose duty it is to issue patents, to issue any patent on said inventions and improvements resulting therefrom to said Company, its successors, or assigns. Further, I/we agree to execute all divisional, continuation, reexamination and reissue applications, and to make all rightful oaths related to obtaining proper patent protection for said invention and its improvements in all countries.

The undersigned hereby grant(s) the law firm of Patent Portfolio Builders the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office for recordation of this document.

Page 1 of 2

| Docket No. 0336-628-3/101042 [Assignment Signature Page] TITLE: METHOD AND APPARATUS FOR ANALYZING FRACTURES USING AVOAZ INVERSION | | | | |
|--|----------------------------|--|--|--|
| INVENTOR 1 | | | | |
| | | | | |
| Signature: 0 10 Junathan DOWN/rON | Date: Jan 16, 2017 | | | |
| And the second s | | | | |
| Witnessed by: Signature | Date: Jan 16. 2017 | | | |
| Arthur Lee | | | | |
| Printed Name of Witness | | | | |
| Witnessed by: Signature Brian Russell | Date: Jan 16, 2017 | | | |
| Printed Name of Witness | | | | |
| Littled Mattie of Anthesp | | | | |
| A TOTAL OF THE STATE OF THE STA | NO IN PERPANCE OF A MOTATY | | | |
| SECTION BELOW IS FOR USE ONLY IF SIGNI | NG IN PRESENCE OF A NOTART | | | |
| | | | | |
| Jonathan DOWNTON | Date: | | | |
| Sonatian Down On | | | | |
| STATE OF | | | | |
| SS. COUNTY OF | | | | |
| | | | | |
| This day of, before me personally came the above-named Jonathan DOWNTON, to me personally known as the individual who executed the foregoing assignment, who acknowledged to me that he/she executed the same of his/her own free will for the purposes therein set forth. | | | | |
| Seal | | | | |
| (Notary Public) | | | | |

Page 2 of 2