

## PATENT ASSIGNMENT

Electronic Version v1.1  
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SUBMISSION TYPE:	NEW ASSIGNMENT										
NATURE OF CONVEYANCE:	ASSIGNMENT										
CONVEYING PARTY DATA											
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Robert P. Mahoney</td> <td>11/06/2012</td> </tr> <tr> <td>David S. Soane</td> <td>11/05/2012</td> </tr> <tr> <td>Marie K. Herring</td> <td>11/05/2012</td> </tr> <tr> <td>Kevin P. Kincaid</td> <td>11/05/2012</td> </tr> </tbody> </table>		Name	Execution Date	Robert P. Mahoney	11/06/2012	David S. Soane	11/05/2012	Marie K. Herring	11/05/2012	Kevin P. Kincaid	11/05/2012
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RECEIVING PARTY DATA											
<table border="1"> <tr> <td>Name:</td> <td>Soane Energy, LLC</td> </tr> <tr> <td>Street Address:</td> <td>35 Spinelli Place</td> </tr> <tr> <td>City:</td> <td>Cambridge</td> </tr> <tr> <td>State/Country:</td> <td>MASSACHUSETTS</td> </tr> <tr> <td>Postal Code:</td> <td>02138</td> </tr> </table>		Name:	Soane Energy, LLC	Street Address:	35 Spinelli Place	City:	Cambridge	State/Country:	MASSACHUSETTS	Postal Code:	02138
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PROPERTY NUMBERS Total: 1											
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13599828</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13599828						
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CORRESPONDENCE DATA											
<p>Fax Number: 9782513973  <i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i></p> <p>Phone: (978)251-3509        Email: rmeehan@elmorepatents.com        Correspondent Name: Elmore Patent Law Group, P.C.        Address Line 1: 484 Groton Rd.        Address Line 2: Carolyn S. Elmore        Address Line 4: Westford, MASSACHUSETTS 01886</p>											
ATTORNEY DOCKET NUMBER:	4055.1037 US1										
NAME OF SUBMITTER:	Mahreen Chaudhry Hoda-Reg.#52,448										
<p>Total Attachments: 4        source=40551037US1executedAssignment_00069579#page1.tif        source=40551037US1executedAssignment_00069579#page2.tif        source=40551037US1executedAssignment_00069579#page3.tif        source=40551037US1executedAssignment_00069579#page4.tif</p>											

CH \$40.00 13599828

ASSIGNMENT

WHEREAS, we, **Robert P. Mahoney, David S. Soane, Marie K. Herring and Kevin P. Kincaid** have invented a certain improvement in **SELF-SUSPENDING PROPPANTS FOR HYDRAULIC FRACTURING** described in an application for Letters Patent of the United States, the specification of which:

☐ is being executed on even date herewith and is about to be filed in the United States Patent Office;  
☒ was filed on **August 30, 2012** as Application No. **13/599,828**.

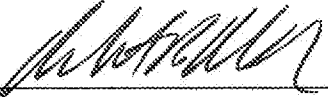
WHEREAS, **Soane Energy, LLC** (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the **Commonwealth of Massachusetts**, and having a usual place of business at **35 Spinelli Place, Cambridge, Massachusetts 02138** desires to acquire an interest therein in accordance with agreements duly entered into with us;

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, we have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns and legal representatives, the entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to said invention as described in said application, together with the entire right, title and interest in and to said application and such Letters Patent as may issue thereon; said invention, application and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by us had this assignment and sale not been made; we hereby convey all rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. We hereby acknowledge that this assignment, being of the entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein;

AND, we hereby further agree for ourselves and our executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns and legal representatives, but at its or their expense and charges, including the execution of applications for patents in foreign countries, and the execution of substitution, reissue, divisional or continuation applications and preliminary or other statements and the giving of testimony in any interference or other proceeding in which said invention or any application or patent directed thereto may be involved;

AND, we do hereby authorize and request the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said ASSIGNEE, its successors, assigns, and legal representatives.

IN TESTIMONY WHEREOF, we have hereunto set our hands and affixed our seals the date set forth below.

Inventor: 

**Robert P. Mahoney**

State/Commonwealth


of Massachusetts

County of Middlesex

On this 6 day of November, 2012, before me, the undersigned notary public, personally appeared **Robert P. Mahoney** proved to me through satisfactory evidence of identification, which were personal knowledge, to be the person whose name is signed on the preceding or attached document, and acknowledged that he/she executed the foregoing instrument as his/her free act and deed.

Alexis C. Meng  
NOTARY PUBLIC

(SEAL) Commonwealth of Massachusetts  
My Commission Expires 8/19/2016

 Notary Public  
(print name)

My Commission expires \_\_\_\_ / \_\_\_\_ / \_\_\_\_

{/ -- GENERAL -- /4055/1037US1/00054023/v1}

ASSIGNMENT

WHEREAS, we, **Robert P. Mahoney, David S. Soane, Marie K. Herring and Kevin P. Kincaid** have invented a certain improvement in **SELF-SUSPENDING PROPPANTS FOR HYDRAULIC FRACTURING** described in an application for Letters Patent of the United States, the specification of which:

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IN TESTIMONY WHEREOF, we have hereunto set our hands and affixed our seals the date set forth below.

Inventor: David S. Soane  
**David S. Soane**

State/Commonwealth

of Massachusetts

County of Middlesex

On this 5 day of November, 2012, before me, the undersigned notary public, personally appeared **David S. Soane** proved to me through satisfactory evidence of identification, which were personal knowledge, to be the person whose name is signed on the preceding or attached document, and acknowledged that he/she executed the foregoing instrument as his/her free act and deed.

Alexis C. Meng  
 NOTARY PUBLIC  
 Commonwealth of Massachusetts  
 My Commission Expires 8/19/2016  
 (SEAL) Alexis C. Meng Notary Public  
 (print name)

My Commission expires \_\_\_\_ / \_\_\_\_ / \_\_\_\_

{//-- GENERAL --//4055/1037US1/00054024/v1}

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IN TESTIMONY WHEREOF, we have hereunto set our hands and affixed our seals the date set forth below.

Inventor: *Marie K. Herring*  
**Marie K. Herring**

State/Commonwealth

of *Massachusetts*

County of *Middlesex*

On this *5* day of *November*, 2012, before me, the undersigned notary public, personally appeared **Marie K. Herring** proved to me through satisfactory evidence of identification, which were *Personal Knowledge*, to be the person whose name is signed on the preceding or attached document, and acknowledged that he/she executed the foregoing instrument as his/her free act and deed.

(SEAL) Alexis C. Meng  
 NOTARY PUBLIC  
 Commonwealth of Massachusetts  
 My Commission Expires 8/19/2016

*Alexis C. Meng* Notary Public  
 (print name)

My Commission expires \_\_\_\_ / \_\_\_\_ / \_\_\_\_

{//-- GENERAL --//4055/1037US1/00054026/v1}

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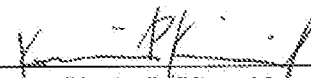
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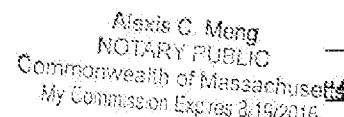
Inventor:   
**Kevin P. Kincaid**

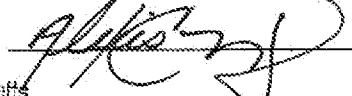
State/Commonwealth

of Massachusetts

County of Middlesex

On this 5 day of November, 2012, before me, the undersigned notary public, personally appeared **Kevin P. Kincaid** proved to me through satisfactory evidence of identification, which were personal knowledge, to be the person whose name is signed on the preceding or attached document, and acknowledged that he executed the foregoing instrument as his/her free act and deed.

(SEAL)   
 Alexis C. Meng  
 NOTARY PUBLIC  
 Commonwealth of Massachusetts  
 My Commission Expires 2/15/2016

 Notary Public  
 (print name)

My Commission expires \_\_\_\_ / \_\_\_\_ / \_\_\_\_

{/-- GENERAL --/4055/1037US1/00054027/v1}

**PATENT**

**RECORDED: 11/19/2012**

**REEL: 029324 FRAME: 0685**