

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT2690361

SUBMISSION TYPE:	CORRECTIVE ASSIGNMENT										
NATURE OF CONVEYANCE:	Corrective Assignment to correct the NAME OF THE FIRST LISTED ASSIGNOR previously recorded on Reel 030717 Frame 0597. Assignor(s) hereby confirms the NAME OF THE FIRST ASSIGNOR IS THOMAS MICHAEL BARNARD V.										
CONVEYING PARTY DATA											
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>THOMAS MICHAEL BARNARD V</td> <td>01/09/2014</td> </tr> <tr> <td>ALBERT JOSEPH STIER</td> <td>04/17/2013</td> </tr> <tr> <td>THIES HOFFMANN</td> <td>04/17/2013</td> </tr> </tbody> </table>		Name	Execution Date	THOMAS MICHAEL BARNARD V	01/09/2014	ALBERT JOSEPH STIER	04/17/2013	THIES HOFFMANN	04/17/2013		
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CORRESPONDENCE DATA											
Fax Number:	(704)444-1111										
Phone:	704-444-1000										
Email:	patent-mail@alston.com										
<i>Correspondence will be sent via US Mail when the email attempt is unsuccessful.</i>											
Correspondent Name:	ALSTON & BIRD LLP										
Address Line 1:	101 S TRYON ST, SUITE 4000										
Address Line 2:	BANK OF AMERICA PLAZA										
Address Line 4:	CHARLOTTE, NORTH CAROLINA 28280-4000										
ATTORNEY DOCKET NUMBER:	060379/425802										
NAME OF SUBMITTER:	TIMOTHY J. BALTS										

PATENT

Signature:	/Timothy J. Balts/
Date:	01/21/2014
Total Attachments: 5 source=Assign#page1.tif source=Assign#page2.tif source=Assign#page3.tif source=Assign#page4.tif source=Assign#page5.tif	

## PATENT ASSIGNMENT

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SUBMISSION TYPE:	NEW ASSIGNMENT										
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Fax Number: 704-444-11 <i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i> Phone: 704-444-1000 Email: usptomail@alston.com Correspondent Name: ALSTON & BIRD LLP Address Line 1: BANK OF AMERICA PLAZA Address Line 2: 101 SOUTH TRYON STREET, SUITE 4000 Address Line 4: CHARLOTTE, NORTH CAROLINA 28280-4000											
ATTORNEY DOCKET NUMBER:	0060379/425802										
NAME OF SUBMITTER:	John E. Johnson, III										
Signature:	/JohnE JohnsonIII/										

CH \$40.00 13828945

## ASSIGNMENT - WORLDWIDE

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, each undersigned inventor has sold and assigned, and by these presents hereby sells and assigns, unto

### STEAG ENERGY SERVICES GMBH

Ruttenscheider Strasse 1 - 3  
45128 Essen  
GERMANY

its successors and assigns, the entire right, title and interest, so far as concerns the United States and the Territories and Possessions thereof and all foreign countries in and to the invention in **"METHODS OF REMOVING CALCIUM MATERIAL FROM A SUBSTRATE OR CATALYTIC CONVERTER"**

as set forth in this United States Patent Application

- ☐ executed concurrently herewith
- ☐ executed on
- ☒ Application No. 13/828,945; filed March 14, 2013
- ☐ Application claims priority from Application No. , filed , all applications listed above being hereinafter referred to as the "application(s)";

(We hereby authorize and request the Assignee and its attorney (Alston & Bird LLP) to insert above the application number and filing date of said application when known.)

said application for United States Letters Patent, including all divisional, renewal, substitute, continuation, nonprovisionals, continuation-in-parts, and Convention applications based in whole or in part upon said inventions or upon said applications, and any and all Letters Patent and reissues, reexaminations, and extensions of Letters Patent granted for said inventions or upon said applications and every priority right that is or may be predicated upon or arise from said inventions, said applications, and said Letters Patent; said Assignee being hereby authorized to file patent applications in any or all countries on any or all said inventions in the name of the undersigned or in the name of said Assignee or otherwise as said Assignee may deem advisable, under the International Convention or otherwise; the Commissioner of Patents and Trademarks of the United States of America being hereby authorized to issue or transfer all said Letters Patent to said Assignee in accordance herewith; this assignment being under covenant, not only that full power to make the same is had by the undersigned, but also that such assigned right is not encumbered by any grant, license, or other right theretofore given, and that the undersigned will do all acts reasonably serving to ensure that the said inventions, patent applications and Letters Patent shall be held and enjoyed by said Assignee as fully and entirely as the same could have been held and enjoyed by the undersigned if this assignment had not been made, and particularly to execute and deliver to said Assignee all lawful documents including petitions, specifications, oaths, assignments, invention disclaimers, declarations, and lawful affidavits in form and substance which may be requested by said Assignee, to furnish said Assignee with all

facts relating to said inventions or the history thereof and any and all documents, photographs, models, samples or other physical exhibits which may embody said inventions, and to testify in any proceedings relating to said inventions, patent applications, and/or Letters Patent.

The undersigned hereby grant(s) an authorized representative of Assignee the power to insert in this Assignment any further identification that may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

This Assignment is deemed to be effective at least as early as March 14, 2013 (the earliest priority date).

Thomas Michael Barnard V  
**Thomas Michael Barnard, V**

1/9/14  
Date

Albert Joseph Stier  
First Witness

1/9/14  
Date

Albert Joseph Stier  
Printed Name of First Witness

Birgit Morrino  
Second Witness

1/9/14  
Date

Birgit Morrino  
Printed Name of Second Witness

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Albert Joseph Stier  
Albert Joseph Stier

4/17/13  
Date

Birgit Marino  
First Witness

4/17/2013  
Date

BIRGIT MARINO  
Printed Name of First Witness

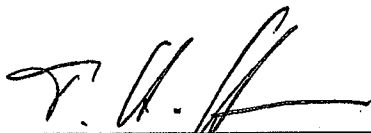
Justin T. Lucas  
Second Witness

4-17-2013  
Date

JUSTIN T. LUCAS  
Printed Name of Second Witness

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Thies Hoffmann

4/17/2013

Date



First Witness

4/17/2013

Date

BIRGIT MARINO

Printed Name of First Witness



Second Witness

4-17-2013

Date

JUSTIN ISLES

Printed Name of Second Witness