

## PATENT ASSIGNMENT COVER SHEET

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<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
STEPHEN R. MIRANDA	10/06/2015
WILLIAM V. ABBATE	10/09/2015
DR. MARY PROVANCE-BOWLEY	10/06/2015
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	HARSCO CORPORATION
<b>Street Address:</b>	350 POPLAR CHURCH ROAD
<b>City:</b>	CAMP HILL
<b>State/Country:</b>	PENNSYLVANIA
<b>Postal Code:</b>	17011
<b>PROPERTY NUMBERS Total: 2</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	14782958
<b>PCT Number:</b>	US2014035856
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	
<i>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.</i>	
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<b>ATTORNEY DOCKET NUMBER:</b>	11631-9034
<b>NAME OF SUBMITTER:</b>	TARA R. BRYAN
<b>SIGNATURE:</b>	/Tara R. Bryan/
<b>DATE SIGNED:</b>	10/12/2015
This document serves as an Oath/Declaration (37 CFR 1.63).	
<b>Total Attachments: 5</b>	

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**PATENT**

**REEL: 036773 FRAME: 0088**

**JOINT ASSIGNMENT OF APPLICATION**

Whereas, We, **Stephen R. MIRANDA, William V. ABBATE and Mary PROVANCE-BOWLEY, PhD**, hereafter referred to as "applicants" or "assignors", who reside at the corresponding addresses provided below, have invented certain new and useful improvements in a(n) **COAL REFUSE REMEDIATION PROCESS**

- ☐ for which an application for a United States Patent will be subsequently filed. We hereby authorize and request an attorney having the power of attorney to prosecute the application from McNeese Wallace & Nurick LLC of 100 Pine Street, P.O. Box 1166, Harrisburg, PA 17108 to insert here in parenthesis (Application number \_\_\_\_\_, filed \_\_\_\_\_) the filing date and application number of the application when known.
- ☒ for which PCT international application number PCT/US14/35856 was filed on April 29, 2014.

Whereas, **HARSCO CORPORATION**, whose street address is **350 Poplar Church Road, Camp Hill, Pennsylvania 17011, United States of America**, herein referred to as "assignee," is desirous of acquiring the entire right, title and interest in the same.

Now, therefore, in consideration of the sum of one dollar (\$1.00), the receipt whereof is acknowledged and other good and valuable consideration the receipt of which from assignee is hereby acknowledged, We as assignors have sold, assigned, transferred, and set over, and hereby sell, assign, transfer and set over unto the assignee, its lawful successors and assigns, our entire right, title and interest in and to this invention and this application, and all divisions, and continuations thereof, and all Letters Patent of the United

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States which may be granted thereon, and all reissues thereof, and all rights to claim priority on the basis of such application, and all applications for Letters Patent which may hereafter be filed for this invention in any foreign country and all Letters Patent which may be granted on this invention in any foreign country, and all extensions, renewals, and reissues thereof; and We hereby authorize and request the Commissioner for Patents of the United States and any official of any foreign country whose duty it is to issue patents on applications as described above, to issue all Letters Patent for this invention to assignee, its successors and assigns, in accordance with the terms of this assignment;

AND, We hereby covenant that We have the full right to convey the interest assigned by this Assignment, and We have not executed and will not execute any agreement in conflict with this Assignment;

AND, We hereby further covenant and agree that We will, without further consideration, communicate with assignee, its successors and assigns, any facts known to us respecting this invention, and testify in any legal proceeding, sign all lawful papers that may be necessary or desirable to perfect the title to this invention in said assignee, its successors or assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid assignee, its successors and assigns, to obtain and enforce Letters Patent for this invention in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the assignee, its successors and assigns.

We hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the

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like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing therefrom.

IN WITNESS WHEREOF and INTENDING TO BE LEGALLY BOUND, we hereunto set our hands having read and understood this Assignment.

<u>Stephen R. Miranda</u>	<u>10/06/2015</u>	<u>Kimberly A. Boppre</u>	<u>10-6-15</u>
Assignor	Date	Witness	Date
<b>Stephen R. MIRANDA</b> 1230 State Avenue Coraopolis, Pennsylvania 15108 United States of America		<u>[Signature]</u>	<u>10/6/15</u>
		Witness	Date

William V. Abbate      10/9/15      [Signature]      10-9-15  
Assignor                      Date                      Witness                      Date

William V. ABBATE  
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United States of America

[Signature]      10-9-15  
Witness                      Date

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Application No.: PCT/US14/35856

Dr. Mary Provance-Bowley 6 Oct 2015 Kimberly A. Brown 10/6/15  
Assignor Date Witness Date

Dr. Mary PROVANCE-BOWLEY  
1470 East Cruikshank Road  
Valencia, Pennsylvania 16059  
United States of America

[Signature] 10/6/15  
Witness Date