PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3565533

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
STEPHEN R. MIRANDA	10/06/2015
WILLIAM V. ABBATE	10/09/2015
DR. MARY PROVANCE-BOWLEY	10/06/2015

RECEIVING PARTY DATA

Name:	HARSCO CORPORATION
Street Address:	350 POPLAR CHURCH ROAD
City:	CAMP HILL
State/Country:	PENNSYLVANIA
Postal Code:	17011

PROPERTY NUMBERS Total: 2

Property Type	Number
Application Number:	14782958
PCT Number:	US2014035856

CORRESPONDENCE DATA

Fax Number:

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: 614-719-2853
Email: tbryan@mwn.com
Correspondent Name: TARA R. BRYAN
Address Line 1: 21 E. STATE STREET

Address Line 2: STE. 1700

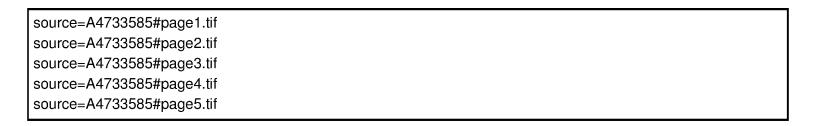
Address Line 4: COLUMBUS, OHIO 43215

ATTORNEY DOCKET NUMBER:	11631-9034
NAME OF SUBMITTER:	TARA R. BRYAN
SIGNATURE:	/Tara R. Bryan/
DATE SIGNED:	10/12/2015
	This document serves as an Oath/Declaration (37 CFR 1.63).
	<u> </u>

Total Attachments: 5

PATENT REEL: 036773 FRAME: 0087

503518907



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

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
McNees 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

Page 1 of 5

PATENT REEL: 036773 FRAME: 0089 Attorney Docket No.: 11631-9034-PCT

Application No.: PCT/US14/35856

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

Page 2 of 5

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.

Assignor

Date

Vitness

Date

Stephen R. MIRANDA

1230 State Avenue

Coraopolis, Pennsylvania 15108

United States of America

Witness

Date

Assignor

Date

Witness

Date

,

William V. ABBATE 4917 Canyon Creek Trail Gibsonia, Pennsylvania 15044 United States of America

Witness

Date

Assignor

Date

() Date

Dr. Mary PROVANCE-BOWLEY

1470 East Cruikshank Road Valencia, Pennsylvania 16059

United States of America

Witness

Date

Page 5 of 5