

PATENT ASSIGNMENT

Electronic Version v1.1

Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT												
NATURE OF CONVEYANCE:	ASSIGNMENT												
CONVEYING PARTY DATA <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 70%; padding: 5px;">Name</th> <th style="width: 30%; padding: 5px;">Execution Date</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Douglas C. Elliott</td> <td style="padding: 5px;">12/17/2008</td> </tr> <tr> <td style="padding: 5px;">Robert Scott Butner</td> <td style="padding: 5px;">12/17/2008</td> </tr> <tr> <td style="padding: 5px;">Gary G. Neuenschwander</td> <td style="padding: 5px;">12/17/2008</td> </tr> <tr> <td style="padding: 5px;">Alan H. Zacher</td> <td style="padding: 5px;">12/17/2008</td> </tr> <tr> <td style="padding: 5px;">Todd R. Hart</td> <td style="padding: 5px;">12/17/2008</td> </tr> </tbody> </table>		Name	Execution Date	Douglas C. Elliott	12/17/2008	Robert Scott Butner	12/17/2008	Gary G. Neuenschwander	12/17/2008	Alan H. Zacher	12/17/2008	Todd R. Hart	12/17/2008
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PROPERTY NUMBERS Total: 3 <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 30%; padding: 5px;">Property Type</th> <th style="padding: 5px;">Number</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Application Number:</td> <td style="padding: 5px;">61024970</td> </tr> <tr> <td style="padding: 5px;">Application Number:</td> <td style="padding: 5px;">12339876</td> </tr> <tr> <td style="padding: 5px;">PCT Number:</td> <td style="padding: 5px;">US0930099</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	61024970	Application Number:	12339876	PCT Number:	US0930099				
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CORRESPONDENCE DATA <p style="margin-top: 10px;">Fax Number: (509)375-4487 <i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i></p> <p>Phone: 509-375-6866 Email: allan.tuan@pnl.gov Correspondent Name: Battelle Memorial Institute Address Line 1: P.O. Box 999 Address Line 2: K1-53 Address Line 4: Richland, WASHINGTON 99352</p>													

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PATENT
REEL: 022057 FRAME: 0337

ATTORNEY DOCKET NUMBER:

15837-E

NAME OF SUBMITTER:

Allan C. Tuan

Total Attachments: 8

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ASSIGNMENT OF PATENT RIGHTS

Douglas C. Elliott
Robert Scott Butner
Gary G. Neueschwander
Alan H. Zacher
Todd R. Hart

To
Battelle Memorial Institute

WHEREAS, we, Douglas C. Elliott of Richland, County of Benton, State of Washington; Robert Scott Butner of Richland, County of Benton, State of Washington; Gary G. Neuenschwander of Burbank, County of Benton, State of Washington; Alan H. Zacher of Pasco, County of Franklin, State of Washington; and Todd R. Hart of Kennewick, County of Benton, State of Washington; hereinafter INVENTORS, have made certain inventions related to, **Methods and Apparatus for Catalytic Hydrothermal Gasification of Biomass**, including those, described and claimed in various disclosures including:

U.S. Provisional Application No. 61/024,970, filed January 31, 2008, Entitled: Catalytic Hydrothermal Gasification of Biomass for the Production of Hydrogen-Containing Feedstock (Methane);

U.S. Application No. 12/339,876, filed December 19, 2008, Entitled: Methods and Apparatus for Catalytic Hydrothermal Gasification of Biomass; and

PCT Application No. PCT/US09/30099, filed January 5, 2009, Entitled: Methods and Apparatus for Catalytic Hydrothermal Gasification of Biomass

For which we are about to make application for Letters Patent of the United States; collectively referred to hereinafter as INVENTIONS;

WHEREAS Battelle Memorial Institute, a corporation of Ohio, organized and existing under the laws of the State of Ohio, and having a place of business in the City of Richland, Washington, is desirous of acquiring all right, title, and interest in the said INVENTIONS and in all patents or patent applications sought or obtained therefor;

NOW, THEREFORE, be it known to all those who may be concerned, that for and in consideration of the sum of One Dollar (\$1.00) each, and other good and valuable considerations, the receipt of which is hereby acknowledged, We the INVENTORS have each sold, assigned, and transferred, and by these presents do sell, assign and transfer unto the said Battelle Memorial Institute, the entire right, title, and interest in and to the INVENTIONS shown, described, or claimed herein, and the full and exclusive right, title, and interest to any and all patents and patent applications that show, describe or claim said INVENTIONS including but not limited to those applications referenced herein, and in and to any extensions, continuations, including continuations in part, reissues, divisions, or renewals thereof; and We each do hereby authorize and request the Commissioner of Patents or other proper Officer, to issue such Letters Patent, or any of them to the said Battelle Memorial Institute, as the assignee of my entire right, title, and interest in and to the same for the sole use and benefit of the said Battelle Memorial Institute, and its successors or assigns.

We each further covenant and agree that we each will, at the request and expense of the said Battelle Memorial Institute, execute such other and further assurances of title as may be necessary or proper to fully convey the interest herein sought to be conveyed; and that each of us will, at the request and expense of the said Battelle Memorial Institute, execute such application papers as may be desired by the said Battelle Memorial Institute, for the filing of any division or renewal of the application herein conveyed, or for reissues or extensions (including continuations or continuations in part applications), or any Letters Patent that may be granted upon said application, and will execute such Supplemental Oaths and Preliminary Statements, or other papers as desired by the said Battelle Memorial Institute.

We each further assign unto the said Battelle Memorial Institute, the whole right, title, and interest to the invention disclosed in the application throughout all countries foreign to the United States, and do hereby authorize the said Battelle Memorial Institute to apply for patents therefor in its own name in countries where such procedure is proper and to claim the benefit of International Conventions and agree to execute applications of the said invention in the several countries where it is necessary that the same be executed by the inventors, and to execute

assignments of such applications and the patents to be obtained therefor to the said Battelle Memorial Institute, the assignee herein, as well as all other necessary papers.

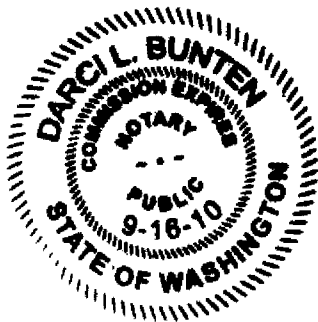
Executed at Pickland, State of Washington, this 17th day
of December, 2008.

Douglas C. Elliott
Douglas C. Elliott

STATE OF Washington)
) ss.
COUNTY OF Benton)

This 17th day of December, 2008, before me personally came the above-
named Douglas C. Elliott who executed the foregoing instrument in my presence, and who
acknowledged to me that he executed the same of his own free will for the purposes set forth
therein.

[SEAL]



Darci L. Buntan
Notary Public for the State of Washington
My commission expires: 9/18/10

Executed at Richland, State of Washington, this 17th day
of December, 2008.

Robert Scott Butner
Robert Scott Butner

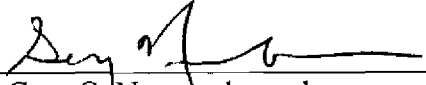
STATE OF Washington)
) ss.
COUNTY OF Benton)

This 17th day of December, 2008, before me personally came the above-named
Robert Scott Butner, who executed the foregoing instrument in my presence, and who
acknowledged to me that he executed the same of his own free will for the purposes set forth
therein.



Darci L. Bunter
Notary Public for the State of Washington
My commission expires: 9/16/10

Executed at Richland, State of Washington, this 17th day
of December, 2008.



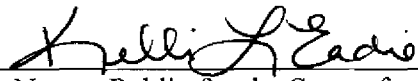
Gary G. Neuenschwander

STATE OF Washington)
) ss.
COUNTY OF Benton)

This 17th day of December, 2008, before me personally came the above-
named Gary G. Neuenschwander who executed the foregoing instrument in my presence, and
who acknowledged to me that he executed the same of his own free will for the purposes set
forth therein.

[SEAL]





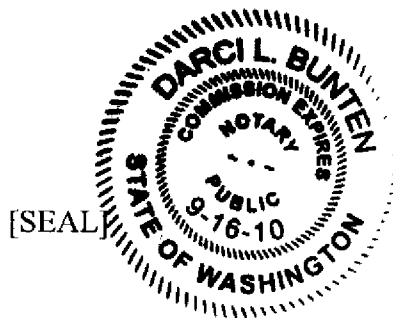
Notary Public for the State of Washington
My commission expires: 1/29/12

Executed at Richland, State of Washington, this 17th day
of December, 2008.

Alan H. Zacher
Alan H. Zacher

STATE OF Washington)
) ss.
COUNTY OF Benton)

This 17th day of December, 2008, before me personally came the above-
named Alan H. Zacher who executed the foregoing instrument in my presence, and who
acknowledged to me that he executed the same of his own free will for the purposes set forth
therein.



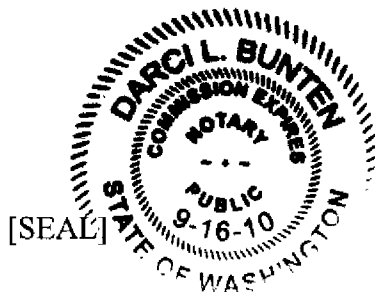
Darcil L. Buntin
Notary Public for the State of Washington
My commission expires: 9/16/10

Executed at Richland, State of Washington, this 17th day
of December, 2008.

Todd R. Hart
Todd R. Hart

STATE OF Washington)
) ss.
COUNTY OF Benton)

This 17th day of December, 2008, before me personally came the above-
named Todd R. Hart who executed the foregoing instrument in my presence, and who
acknowledged to me that he executed the same of his own free will for the purposes set forth
therein.



Darcil L. Bunter
Notary Public for the State of Washington
My commission expires: 9/16/10.