

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT7971737

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
TRANSWORLD TECHNOLOGIES LIMITED	12/02/2013
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	TRANSWORLD TECHNOLOGIES INC.
<b>Street Address:</b>	919 MILAM STREET
<b>Internal Address:</b>	SUITE 570
<b>City:</b>	HOUSTON
<b>State/Country:</b>	TEXAS
<b>Postal Code:</b>	77002
<b>PROPERTY NUMBERS Total: 3</b>	
<b>Property Type</b>	<b>Number</b>
Patent Number:	9434872
Patent Number:	9458375
Patent Number:	9057082
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(303)571-4321
<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>	
<b>Phone:</b>	3035714000
<b>Email:</b>	ABellatty@kilpatricktownsend.com
<b>Correspondent Name:</b>	KILPATRICK TOWNSEND & STOCKTON LLP
<b>Address Line 1:</b>	1100 PEACHTREE STREET
<b>Address Line 2:</b>	SUITE 2800
<b>Address Line 4:</b>	ATLANTA, GEORGIA 30309
<b>ATTORNEY DOCKET NUMBER:</b>	096322-0914799
<b>NAME OF SUBMITTER:</b>	ASHLEA BELLATTY
<b>SIGNATURE:</b>	/Ashlea Bellatty/
<b>DATE SIGNED:</b>	05/24/2023
<b>Total Attachments: 11</b>	
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**INTELLECTUAL PROPERTY ASSIGNMENT AGREEMENT**  
(for U.S. Intellectual Property)

This INTELLECTUAL PROPERTY ASSIGNMENT AGREEMENT ("IP Assignment") is made by and between **TRANSWORLD TECHNOLOGIES LIMITED**, a Bermuda corporation with an address at #3 St. James Court, Platts Village, Hamilton, Bermuda ("Assignor"), and **TRANSWORLD TECHNOLOGIES INC.**, a Delaware corporation with an address at 919 Milam, Houston, TX 77002 ("Assignee").

Recitals:

Assignor and Assignee are parties to the Purchase and Sale Agreement dated December 2, 2013 (the "Purchase Agreement"); and

This Intellectual Property Assignment Agreement is the document of conveyance contemplated by the Purchase Agreement; and

Under the terms of the Purchase Agreement, Assignor has conveyed, transferred and assigned to Assignee, among other assets, certain intellectual property of Assignor, and has agreed to execute and deliver this Assignment, for recording with governmental authorities including, but not limited to, the United States Patent and Trademark Office. The transfer of title made pursuant to this IP Assignment is made subject to the terms and conditions of the Purchase Agreement, the provisions of which are incorporated herein by reference. Terms used but not defined herein shall have the meanings set forth in the Purchase Agreement.

NOW THEREFORE, the parties agree as follows:

1. **Assignment.** In consideration for the execution of the Purchase Agreement, the payment of the consideration stipulated in the Purchase Agreement and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Assignor hereby irrevocably conveys, transfers, sets over, assigns and delivers and agrees to irrevocably convey, transfer, set over, assign, and deliver, to Assignee, and Assignee hereby accepts, all of Assignor's right, title, and interest in, to and under the following (the "Assigned IP"):

a. the United States patents and patent applications set forth on Exhibit A attached to this IP Assignment, including: (i) all reissues, registrations, validations, reexaminations, provisionals, continuations, continuations in part, divisions and continued applications of, to or for any of the listed patent applications or patents issuing therefrom; and (ii) all term extensions, supplementary protection certificates and other governmental actions that extend exclusive rights to an invention or technology beyond the original expiration date of any patent issuing from the listed patent applications (the "Patents") and all files and documents of any nature relating thereto, whether in paper or electronic form;

b. all inventions made, created, owned, or licensed by Seller, and the subject matter, inventions, and technology described or claimed in the Patents ("Inventions");

c. any and all published or unpublished works of authorship, including registered and unregistered copyrights in both published works and unpublished works (including, for avoidance of doubt, works made for hire, computer software, source code, object code, data, audiovisual works, collective works, compilations, derivative works, literary works, and sound recordings) and all rights of attribution and integrity and other moral rights of an author of any such works identified on Exhibit A hereto ("Copyrights");

d. any and all know-how, data, and/or confidential, proprietary, and/or trade secret information, if any, relating to the Patents, to the Inventions, or to the Copyrights;

e. the Intellectual Property, Inventions, Trade Secrets, Books and Records, Contracts, and Technology in the United States of America described in the Purchase Agreement;

f. all rights of any kind whatsoever of Assignor accruing under any of the foregoing provided by applicable law of any jurisdiction, by international treaties and conventions and otherwise in the United States of America, including: (i) the right and prosecute patent applications and seek and obtain patents on all Inventions; and (ii) the right to prosecute, hold, and control the Patents; (iii) the right to claim priority from any Patent and file patent applications claiming such priority; (iv) the right to file and prosecute copyright applications and seek, obtain, hold, and control copyright registrations for the Copyrights; (v) the right to prepare derivative works from the Copyrights; and (vi) the right to control and use any and all know-how, data, and/or confidential, proprietary, and/or trade secret information, if any, relating to the Patents, to the Inventions, or to the Copyrights;

g. any and all royalties, fees, income, payments and other proceeds hereafter due or payable with respect to any and all of the foregoing; and

h. any and all claims and causes of action, with respect to any of the foregoing, whether accruing before, on or after the date hereof, including all rights to and claims for damages, restitution and injunctive and other legal and equitable relief for past, present and future infringement, dilution, misappropriation, violation, misuse, breach or default, with the right but no obligation to sue for such legal and equitable relief and to collect, or otherwise recover, any such damages; and

i. The right, title, and interest is and shall be held and enjoyed by Assignee and its successors and assigns as fully and exclusively as it would have been held and enjoyed by Assignor had this assignment not been made.

2. **Recordation and Further Actions.** Assignor authorizes the Commissioner for Patents and any other governmental officials in the United States of America to record and register this IP Assignment upon request by Assignee. Assignor and Assignee shall each execute and deliver, or cause to be executed and delivered, such other agreements, assignments, conveyances, certificates and documents as are reasonably required, necessary or appropriate to effect the purposes of this IP Assignment including, but not limited to, any further documents which may be necessary in order to register title to any of the Assigned IP in the name of Assignee (or its designee).

3. **Warranty of Title.** Assignor warrants to Assignee that it has good, marketable and valid title to the Assigned IP, and that such Assigned IP is being conveyed hereby free and clear of all Liens, as defined in the Purchase Agreement.

4. **Terms of the Purchase Agreement.** The terms of the Purchase Agreement relating to the Assigned IP are incorporated herein by this reference. In the event of any conflict or inconsistency between the terms of the Purchase Agreement and the terms hereof, the terms of the Purchase Agreement shall govern.


5. **Successors and Assigns.** This IP Assignment shall be binding upon and shall inure to the benefit of the parties hereto and their respective successors and assigns.

6. **Governing Law.** This IP Assignment and any claim, controversy, dispute or cause of action (whether in contract, tort or otherwise) based upon, arising out of or relating to this IP Assignment and the transactions contemplated hereby shall be governed by, and construed in accordance with, the laws of Bermuda, without giving effect to any choice or conflict of law provision or rule.

IN WITNESS WHEREOF, Assignor and Assignee have duly executed and delivered this IP Assignment effective as of December 2, 2013.

ASSIGNOR:  
TRANSWORLD TECHNOLOGIES LIMITED

ASSIGNEE:  
TRANSWORLD TECHNOLOGIES INC.

By:   
Name: John Chr. M.A.M. Deuss  
Title: President

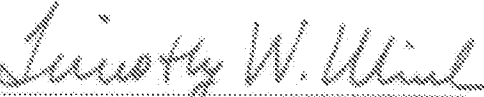
By:   
Name: Timothy W. Ulrich  
Title: Attorney-in-Fact

EXHIBIT A  
UNITED STATES - PATENTS ISSUED

Title Seller's Ref. No.	Country	Status	Serial No Filing Date	Patent No. Issue Date	Price Allocation
BIOGENIC FUEL GAS GENERATION IN GEOLOGIC HYDROCARBON DEPOSITS 89859-708562	United States of America	Issued	11/343,429 30-Jan-08	7,426,860 22-Sep-08	\$114,000
BIOGENIC FUEL GAS GENERATION IN GEOLOGIC HYDROCARBON DEPOSITS 89859-749476	United States of America	Issued	12/129,441 29-May-08	7,845,403 B2 7-Dec-10	\$114,000
BIOGENIC FUEL GAS GENERATION IN GEOLOGIC HYDROCARBON DEPOSITS 89859-789303	United States of America	Issued	12/840,909 21-Jul-10	7,975,762 B2 12-Jul-11	\$114,000
BIOGENIC FUEL GAS GENERATION IN GEOLOGIC HYDROCARBON DEPOSITS 89859-808538	United States of America	Issued	13/173,140 30-Jun-11	8,302,583 6-Nov-12	\$114,000
CHEMICAL AMENDMENTS FOR THE STIMULATION OF BIOGENIC GAS GENERATION IN DEPOSITS OF CARBONACEOUS MATERIAL 89859-754358	United States of America	Issued	11/389,099 6-Apr-06	7,696,132 13-Apr-10	\$102,000
CHEMICAL AMENDMENTS FOR THE STIMULATION OF BIOGENIC GAS GENERATION IN DEPOSITS OF CARBONACEOUS MATERIAL 89859-728132	United States of America	Issued	11/765,952 30-Jun-07	7,877,282 B2 12-Jul-11	\$102,000
THERMACETOGENIUM PHAEUM CONSORTIUM FOR THE PRODUCTION OF MATERIALS WITH ENHANCED HYDROGEN CONTENT 89859-704389	United States of America	Issued	11/330,768 11-Jan-09	7,418,878 B2 26-Aug-09	\$23,000
GENERATION OF HYDROGEN FROM HYDROCARBON BEARING MATERIALS 89859-761198	United States of America	Issued	12/127,076 27-May-06	7,871,792 B2 10-Jan-11	\$38,000
THERMACETOGENIUM PHAEUM CONSORTIUM FOR THE PRODUCTION OF MATERIALS WITH ENHANCED HYDROGEN CONTENT 89859-751195	United States of America	Issued	12/127,083 27-May-06	8,067,223 B2 29-Nov-11	\$56,000

GENERATION OF HYDROGEN FROM HYDROCARBON BEARING MATERIALS  88889-719846	United States of America	Issued	11/988,974  9-May-08	9092559 B2  10-Jan-12	\$90,000
BIOGENIC FUEL GAS GENERATION IN GEOLOGIC HYDROCARBON DEPOSITS  88889-748872	United States of America	Issued	12/138,736  10-Jan-08	7840878 B2  6-Jan-10	\$103,000

Title Seller's Ref. No.	Country	Status	Serial No Filing Date	Patent No. Issue Date	Price Allocation
BIODGENIC FUEL GAS GENERATION IN GEOLOGIC HYDROCARBON DEPOSITS 08858-780825	United States of America	Issued	12/681,793 4-Jan-10	8061908 B2 8-Nov-11	882,000
BIODGENIC FUEL GAS GENERATION IN GEOLOGIC HYDROCARBON DEPOSITS 08858-778582	United States of America	Issued	12/688,483 18-Dec-09	8479813 B2 9-Jul-13	8113,000



UNITED STATES - PATENTS PENDING

Title Seller's Ref. No.	Country	Status	Serial No Filing Date	Price Allocation
GENERATION OF MATERIALS WITH ENHANCED HYDROGEN CONTENT FROM ANAEROBIC MICROBIAL CONSORTIA 89859-752044	United States of America	Published	12/287,320 04-Sep-08	\$0
BIOGENIC FUEL GAS GENERATION IN GEOLOGIC HYDROCARBON DEPOSITS 89859-851498	United States of America	Published as 2013/ 0240204 on 09/19/13	12/607,809 10-Sep-12	\$46,000
MICROBIAL ESTATES FOR THE EFFICIENT DEVELOPMENT AND MANAGEMENT OF BIOGENIC FUEL RESOURCES 89859-772716	United States of America	Published	12/504,853 17-Jul-09	\$13,000
CHEMICAL AMENDMENTS FOR THE STIMULATION OF BIOGENIC GAS GENERATION IN DEPOSITS OF CARBONACEOUS MATERIAL 89859-734060	United States of America	Published	12/751,745 01-Mar-10	\$33,000
GENERATION OF HYDROGEN FROM HYDROCARBON BEARING MATERIALS 89859-806110	United States of America	Published	13/310,461 2-Dec-11	\$36,000
GENERATION OF MATERIALS WITH ENHANCED HYDROGEN CONTENT FROM ANAEROBIC MICROBIAL CONSORTIA INCLUDING DESULFURICOMONAS OR CLOSTRIDIA 89859-850384	United States of America	Published	14/048,034	\$36,000
SURFACTANT AMENDMENTS FOR THE STIMULATION OF BIOGENIC GAS GENERATION IN DEPOSITS OF CARBONACEOUS MATERIALS 89859-765464	United States of America	Published	12/413,401 27-Mar-09	\$23,000
DISPERSION OF COMPOUNDS FOR STIMULATION OF BIOGENIC GAS GENERATION 89859-798257	United States of America	Provisional	11/613,390 20-Mar-12	\$0
DISPERSION OF COMPOUNDS FOR THE STIMULATION OF BIOGENIC GAS GENERATION IN DEPOSITS OF CARBONACEOUS MATERIAL 89859-870365	United States of America	Pending	12/847,758 20-Mar-13	\$31,000

UNITED STATES - PATENTS PENDING

Title Seller's Ref. No.	Country	Status	Serial No Filing Date	Price Allocation
METHODS OF STIMULATING ACETOCLASTIC METHANOGENESIS IN SUBTERRANEAN DEPOSITS OF CARBONACEOUS MATERIAL 89859-815663	United States of America	Published as 2013/ 0248170 on 9/26/2013	13/429,061  23-Mar-12	\$46,000

UNITED STATES - PATENTS / INVENTION DISCLOSURES UNFILED

Title File Number IP Family Number	Country	Status	Invention Date	Price Allocation	Notes
ANALYZING MICROBIAL CONSORTIA FOR ENHANCEMENTS TO METHANOGENESIS 99859-022638 003200US GBernard	United States of America	Unfiled		\$1,000	Post Amendment Monitoring
IN SITU METHANOGENESIS ASSAY (ISMA) 99859-034415 003400US GBernard	United States of America	Unfiled		\$1,000	
STIMULATION OF IN SITU METHANOGENESIS FROM COAL THROUGH COUPLING OPERATIONS 99859-041009 000500US GBernard	United States of America	Unfiled	7/16/11	\$1,000	
POST AMENDMENT MONITORING OF METHANOGENIC COMMUNITIES AND TREATMENT THEREON 99859-022636 003200US GBernard	United States of America	Unfiled	26-Apr-12	\$1,000	Identify/Activate Microorganisms
ANALYZING MICROBIAL CONSORTIA FOR ENHANCEMENTS TO METHANOGENESIS 99859-022634 003200US GBernard	United States of America	Unfiled		\$1,000	Post Amendment Monitoring

UNITED STATES - PATENTS / INVENTION DISCLOSURES UNFILED

Title File Number IP Family Number	Country	Status	Invention Date	Price Allocation	Notes
<p>IN SITU METHANOGENESIS ASSAY (ISMA)</p> <p>98856-834435</p> <p>90940005</p> <p>GBernard</p>	<p>United States of America</p>	<p>Unfiled</p>		<p>\$1,000</p>	
<p>TARGET ANALYTE TUNING CHAMBER FOR GAS CHROMATOGRAPHY MASS SPECTROMETRY (TATC)</p>	<p>United States of America</p>	<p>Unfiled</p>	<p>6/5/11</p>	<p>\$1,000</p>	<p>Apparatus would permit the user of a gas chromatograph with mass selective detector to tune the detector to a specific chemical of interest. The optimization of the detector would allow more sensitive instrumental methods to be developed.</p>
<p>IDENTIFICATION OF STIMULANTS TO INCREASE THE RATE AND YIELD OF METHANOGENESIS IN-SITU AND EX-SITU</p>	<p>United States of America</p>	<p>Unfiled</p>	<p>7/26/11</p>	<p>\$1,000</p>	<p>Describes a process used to identify stimulants to increase the rate and yield of methanogenesis from a methanogenic consortium in an anaerobic hydrocarbon/carbaceous environment either in-situ or ex-situ.</p>
<p>CHEMICAL OXIDATION OF COAL TO FACILITATE MICROBIAL GAS CREATION</p> <p>938005</p>	<p>United States of America</p>	<p>Unfiled</p>	<p>10/10/11</p>	<p>\$1,000</p>	<p>Stimulation of biogenic fuel gas production by in situ or ex situ chemical oxidation of coal using agents to generate small molecules for in-situ microbial transformation to methane.</p>
<p>Oxidized Coal Extract Amendment Procedure</p>	<p>United States of America</p>	<p>Unfiled</p>	<p>10/11/11</p>	<p>\$1,000</p>	<p>This invention would allow for the creation and injection of an in-situ chemically oxidized aqueous extract of coal into a geological opening for the purpose of stimulating biogenic methane. This mixture of oxidized organics would be generated at the sight of injection.</p>

UNITED STATES - PATENTS / INVENTION DISCLOSURES UNFILED

Title File Number IP Family Number	Country	Status	Invention Date	Price Allocation	Notes
SELECTIVE FORMATION TREATMENT WITH NUTRIENTS	United States of America	Unfiled	9/5/12	\$1,000	Identification and correlation of conventional oil and gas production characteristics to predict field biogenic gas response.
DENSE LIQUIDS AS DISSOLVED ORGANIC CARBON ENHANCES IN HYDROCARBON BEARING FORMATIONS	United States of America	Unfiled	9/29/12	\$1,000	Microbial coal conversion to methane is likely a mass transfer limited process, meaning that the availability of coal organics limits the microbial bioconversion of said organics to methane. The technology aims to increase the amount of dissolved organic carbon (DOC) generated abiotically from coal, to decrease the energy required by microorganisms to procure their carbon and energy sources. This will lead to an increase in microbial metabolism, growth, and methane generation.
INORGANIC NANOPARTICLES FOR PULSED DELIVERY OF NUTRIENTS IN SUBSURFACE FORMATIONS	United States of America	Unfiled	2/5/13	\$1,000	This invention will provide an alternate pathway to the 2013 "grand challenge" delivery goal listed in the Lucas 2013 science plan via modification of inorganic nanoparticles as environmentally benign carriers of nutrients. The invention also provides a new tracer for measurement of injection effect size.
METHODS TO QUANTIFY MICROBIAL METHANE GENERATION IN A HIGH METHANE SYSTEM TRADE SECRET	United States of America	Unfiled	1/7/10	\$1,000	Describes a process used to quantify natural gas creation by microorganisms residing in subsurface environments containing high methane levels. The process differentiates natural gas that had been generated over passage time and stored in the subsurface from natural gas created in real-time by microorganisms in the same environment.