## 505234838 12/13/2018

## PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:			
NATURE OF CONVEYANCE:			
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	Name	Execution Date	
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Total: 34			
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1	5425276		
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Property Type		Number		
Application Number:	15472			
Application Number:	15498	-		
Application Number:	15496	6307		
Application Number:	15439	9177		
Application Number:	15439	9305		
Application Number:	15439	9482		
Application Number:	15587	7037		
Application Number:	15634	4043		
Application Number:	1563	5985		
Application Number:	15852	2674		
Application Number:	15438	8245		
Application Number:	15493	3646		
PCT Number:	US18	48925		
PCT Number:	US18	14778		
CORRESPONDENCE DATA Fax Number:		mail addrocc first: if th	at is unsuccessful, it will be sent	
using a fax number, if provi				
Phone:		029456		
Email:	jdunc	jduncan@newvistas.com		
Correspondent Name:		DUNCAN		
Address Line 1:		SIERRA VISTA WAY		
Address Line 4:	PRO\	VO, UTAH 84606		
NAME OF SUBMITTER:		JEFF DUNCAN		
SIGNATURE:		/Jeff Duncan/		
DATE SIGNED:		12/13/2018		
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## ASSIGNMENT OF INVENTIONS AND PATENT RIGHTS

Eric Mansfield ("Assignor") is a named inventor of the inventions described in the attached list, with the Application Nos., Publication Nos. (where applicable), Patent Nos. (where applicable), Docket Nos., and Titles noted thereon.

Sustainable Energy Solutions, LLC ("Assignee") desires to acquire all rights in and to the listed inventions and all patent applications and patents resulting therefrom.

Therefore, for valuable consideration, the receipt of which is hereby acknowledged, Assignor assigns to Assignee all right, title, and interest in (a) the listed inventions and all improvements and modifications thereof, (b) the listed applications and patents and all other applications for Letters Patent of the United States and countries foreign thereto for the listed inventions and all improvements and modifications thereof, (c) all Letters Patent which may issue from said applications in the United States and countries foreign thereto, (d) all divisions, continuations, reissues, and extensions of said applications and Letters Patent, and (e) the right to claim for any of said applications the full benefits and priority rights under the International Convention and any other international agreement to which the United States adheres.

ASSIGNOR HEREBY AUTHORIZES AND REQUESTS the Commissioner of Patents and Trademarks to issue Letters Patent to ASSIGNEE as assignee of the entire interest to the inventions, applications and patents listed, for the sole use and benefit of ASSIGNEE, its successors and assigns.

Assignor further agrees to: (a) cooperate with Assignee in the prosecution of the listed applications and any foreign counterparts; (b) execute, verify, acknowledge and deliver all such further papers, including patent applications and instruments of transfer; and (c) perform such other acts as Assignee lawfully may request to obtain or maintain the patents for the listed inventions in any and all countries.

11 Dec 2018 Date:\_\_\_\_\_

DocuSigned by: Eric Mansfield

Eric Mansfield, Assignor

PATENT REEL: 047765 FRAME: 0655

Appl. No.	Publ. No.	Patent No.	Docket No.	Title
15/425,276	2018-0224225		109Q.310.ND	Method for Semi- Continuous Heat Exchange Operations by Alternating Between Heat Exchangers
15/431,264	2018-0231991		105Q.301.JO	Oscillating a Plurality of Proportional Valves
15/450,674	2018-0252469		118Q.341.ND	Method for Removing a Foulant from a Gas Stream with Minimal External Refrigeration
15/454,353	2018-0257007		138Q.347.ND	Device for Thickening a Cryogenic Slurry using Cross-Flow Filtration
15/454,479	2018-0257008		138Q.1.348.ND	Method for Thickening a Cryogenic Slurry using a Cross-Flow Filter Device
15/602,795			110Q.426.JO	Method for Recycling Streams in a Separations Process
15/641,738			167Q.455.ND	Distillation Column with Connected Reboiler
15/692,506			175Q.475.ND	Separation of Components from a Fluid by Solids Production
15/955,100			170Q	Apparatus and Method for Measuring Level
15/990,439			193Q	Method for Concentrating Solids and Removing Solids from a Filter Medium
15/412,484	2018-0209729		106Q.300.JO	Circulating Fluidized Bed Connected to a Desublimating Heat Exchanger
15/433,185	2018-0231307		107Q.322.ND	Method for Removal of Carbon Dioxide from a Carrier Liquid
15/464,250	2018-0266761		151Q.356.ND	Self-Cleaning Desublimating Heat Exchanger for Gas/Vapo Separation

Appl. No.	Publ. No.	Patent No.	Docket No.	Title
15/464,271	2018-0266762		118Q.1.357.ND	Method for Removing a Foulant from a Gas Stream without External Refrigeration
15/592,680			140Q.416.ND	Apparatus and Method for Intrachannel Defouling of a Heat Exchanger using Induction Heaters
15/592,739			158Q.417.ND	Method for Removing Foulants from a Heat Exchanger through Coolant Flow Control
15/472,516	2018-0283809		144Q.366.ND	Method and Device for Direct-Contact Heat Exchange between a Fouling Liquid and a Cooling Fluid
15/795,953			183Q	Recuperative Heat Exchange for Desiccation of Cold Fluids
15/827,684			187Q	Devices, Systems and Methods for Producing Liquids from Desublimating Solids
15/472,483	2018-0283780		132Q.363.ND	Method for Removal of a Foulant from a Carrier Gas in a Single Vessel Using Recycled Cold Solids
15/472,542	2018-0283781		131Q.364.ND	Method for Removal of a Foulant from a Carrier Gas in a Single Vessel Using Cryogenic Liquids
15/495,217	2018-0306495		157Q.400.ND	Method for Separating Components using Solids Producing Multi-Stage Direct and Indirect- Contact Exchange
15/496,307	2018-0306501		147Q.401.ND	Process for Component Separation Utilizing

Appl. No.	Publ. No.	Patent No.	Docket No.	Title
				Miscibility Depression Near a Freezing Point
15/439,177	2018-0236397		135Q.2.330.ND	Hydrocyclone For Cryogenic Gas-Vapor Separation
15/439,305	2018-0238619		135Q.3.331.ND	Method For Using A Hydrocyclone For Cryogenic Gas Vapor Separation
15/439,482	2018-0238620		135Q.332.ND	Air-Sparged Hydrocyclone For Cryogenic Gas Vapor Separation
15/587,037			148Q.405.ND	Process for Gas/Vapor Separation by Cryogenic Froth Flotation
15/634,043			121Q.451.ND	Hybrid Direct-Contact Exchanger
15/635,985			122Q.452.ND	Hail Tower for Gas-Vapor Separations
15/852,674			189Q.1	Vessel and Method for Solid-Liquid Separation
15/438,245	2018-0236460		135Q.1.328.ND	Method For Using An Air-Sparged Hydrocyclone For Cryogenic Gas Vapor Separation
15/493,646	2018-0306499		156Q.394.ND	Methods for Gas-Vapor Separation using a Three-Phased Scouring Heat Exchanger
PCT/US18/48925			SES17052PCT	SEPARATION OF COMPONENTS FROM A FLUID BY SOLIDS PRODUCTION
PCT/US18/14778	-	-	106Q.1.PCT	A CIRCULATING FLUIDIZED BED CONNECTED TO A DESUBLIMATING HEAT EXCHANGER