505383166 03/19/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

SUBMISSION TYPE: NEW ASSIGNMENT

NATURE OF CONVEYANCE: ASSIGNMENT

EPAS ID: PAT5429959

CONVEYING PARTY DATA

Name	Execution Date
FEI QI	10/17/2018
MATHEW WALKER	10/19/2018

RECEIVING PARTY DATA

Name:	SUNCOR ENERGY INC.	
Street Address:	150-6TH AVENUE S.W., PO BOX 2844	
City:	CALGARY	
State/Country:	CANADA	
Postal Code:	T2P 3E3	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16358426

CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER:	83862/00637
NAME OF SUBMITTER:	JUDITH MARTIN
SIGNATURE:	/Judith Martin/
DATE SIGNED:	03/19/2019

Total Attachments: 2

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PATENT 505383166 REEL: 048641 FRAME: 0231

ASSIGNMENT

(World)

WHEREAS,

- 1) Fei Ql
- 2) Mathew WALKER

hereinafter referred to as the "Assignor", whose full post office address is,

- 1) 150 6th Avenue S.W., P.O. Box 2844, Calgary, Albeta, T2P 3E3, Canada
- 2) 150 6th Avenue S.W., P.O. Box 2844, Calgary, Albeta, T2P 3E3, Canada has made one or more inventions relating to and entitled:

Systems and Methods for Predicting Tube Fouling in a Fired Apparatus, and For Utilizing Tube Fouling Predictions

hereinafter referred to as the "Invention", as fully set forth and described in an application for Letters Patent identified as:

Country: Canada

Serial number: 3,003,072 Filing date: April 30, 2018;

hereinafter referred to as the "Application";

AND WHEREAS,

Suncor Energy Inc.

hereinafter referred to as the "Assignee", whose full post office address is

150 - 6th Avenue S.W., P.O. Box 2844, Calgary, Albeta, T2P 3E3, Canada desires to acquire the Assignor's entire right, title and interest in and to the Invention and the Application;

NOW THEREFORE, in consideration of the sum of One Dollar (\$1.00) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Assignor confirms that it has, as of April 30, 2018, sold, assigned, transferred and set over, and for greater certainty, does hereby sell, assign, transfer and set over to the Assignee, its successors, assigns, or legal representatives, its entire right, title and interest for Canada, the United States and all other countries throughout **the World** in and to the Invention, together with its entire right, title and interest in and to the Application and any and all Letters Patents that may issue for the Invention, including any and all divisions, reissues, continuations and extensions of the Application, to the full end of the term for which each of said Letters Patents may be granted, and including any right to claim priority based on the Application, the same to be held and enjoyed as fully and completely as the same would have been held and enjoyed by the Assignor had this Assignment not been made.

PATENT REEL: 048641 FRAME: 0232 AND the Assignor, on behalf of itself and its executors and administrators, does hereby covenant and agree to do all such lawful acts and things and to execute without further consideration such further lawful assignments, documents, assurances, applications and other instruments as may reasonably be required by the Assignee, its successors, assigns, or legal representatives, to obtain any and all Letters Patents for the Invention and vest the same in the Assignee, its successors, assigns, or legal representatives.

AND the Assignor, on behalf of itself and its executors and administrators, does hereby authorize the Assignee, its successors, assigns, or legal representatives, including its Patent Agents, Blake, Cassels & Graydon LLP, to amend this assignment to insert or correct the filing date, serial number or other identifying information of the Application as may be needed to record this assignment.

Assignor 1	Witness
Name	Name
Fei QI	Jenither Willow
Signature Å: 4—	Signature
Date Oct (7, 2~ (8	Date 0 2018

Assignor 2	Witness
Name	Name
Mathew WALKER	Jamier Wilson
Signature / / / / / / / / / / / / / / / / / / /	Signature
Oct 19,2018	Date () (%, Z.0) %