506547577 03/10/2021

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	

CONVEYING PARTY DATA

Name	Execution Date
TROY LORENSON	02/10/2020
KEVIN LEROUX	02/10/2020
DWAYNE PARENTEAU	02/10/2020
DOUGLAS KINSELLA	02/10/2020

RECEIVING PARTY DATA

Name:	IMPULSE DOWNHOLE SOLUTIONS LTD.		
Street Address: 5120 - 67 AVENUE, N.W.			
City:	EDMONTON		
State/Country:	CANADA		
Postal Code:	T6B 3N9		

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	17197896

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.

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ATTORNEY DOCKET NUMBER:	3428-41	
NAME OF SUBMITTER:	JENNA L. WILSON	
SIGNATURE:	/Jenna L. Wilson/	
DATE SIGNED:	03/10/2021	

Total Attachments: 4

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PATENT 506547577 REEL: 055553 FRAME: 0442

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PATENT REEL: 055553 FRAME: 0443

PATENT ASSIGNMENT

This Patent Assignment is between each individual listed in the table below as an assignor ("Assignor"), and the individual or entity listed in the table below as an assignee ("Assignee").

	Assignor
Name:	Troy LORENSON
Address:	5120 – 67 Avenue, N.W., Edmonton, AB T6B 3N9, Canada
Name:	Kevin LEROUX
Address:	5120 – 67 Avenue, N.W., Edmonton, AB T6B 3N9, Canada
Name:	Dwayne PARENTEAU
Address:	5120 – 67 Avenue, N.W., Edmonton, AB T6B 3N9, Canada
Name:	Douglas KINSELLA
Address:	5120 – 67 Avenue, N.W., Edmonton, AB T6B 3N9, Canada
	Assignee
Name:	IMPULSE DOWNHOLE SOLUTIONS LTD.
Address:	5120 – 67 Avenue, N.W., Edmonton, AB T6B 3N9, Canada
Type:	an Alberta corporation

The Assignor is an inventor of one or more inventions or improvements (each, an "Invention") for which one or more applications for patent, design registration, utility model registration, or other form of protection, right or title has been or will be made or for which one or more patents has been granted, as further described in the table below (each, an "Application").

		Applications	
Title:	FLOW-THROUGH P	ULSING ASSEMBLY FOR USE	IN DOWNHOLE OPERATIONS
Jurisdiction:	WIPO	Number:	PCT/CA2017/050828
Filing Date:	July 7, 2017	Attorney Docket:	3428-0013
Title:	FLOW-THROUGH P	ULSING ASSEMBLY FOR USE	IN DOWNHOLE OPERATIONS
Jurisdiction:	US	Number:	16/241,029
Filing Date:	July 7, 2017	Attorney Docket:	3428-0025
Title:	FLOW-THROUGH P	ULSING ASSEMBLY FOR USE	IN DOWNHOLE OPERATIONS
Jurisdiction:	CA	Number:	3,029,872
Filing Date:	July 7, 2017	Attorney Docket:	3428-0027
Title:	FLOW-THROUGH P	ULSING ASSEMBLY FOR USE	IN DOWNHOLE OPERATIONS
Jurisdiction:	EP	Number:	17823382.1
Filing Date:	July 7, 2017	Attorney Docket:	3428-0028
Title:	FLOW-THROUGH P	ULSING ASSEMBLY FOR USE	IN DOWNHOLE OPERATIONS
Jurisdiction:	ΑÜ	Number:	2017292912
Filing Date:	July 7, 2017	Attorney Docket:	3428-0029

Patent Assignment

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The Assignee wishes to acquire or has acquired from the Assignor all the Assignor's right, title and interest in and to each Invention throughout the world. For valuable consideration, the parties therefore agree as follows:

- 1. The Assignor has transferred, conveyed and assigned, and, by way of further assurance, hereby transfers, conveys and assigns, all the Assignor's worldwide:
 - (a) right, title and interest in and to each Invention and Application;
 - (b) right, title and interest in and to any further applications, divisional applications, substitute applications and continuation applications for patent, design registration, utility model registration, or other forms of protection, right or title for all or part of each Invention ("Further Application");
 - (c) right, title and interest in and to each patent, design registration, utility model registration and all other form of protection, right and title relating to each Invention ("Registration");
 - (d) right, title and interest in and to any extension/supplementary protection certificate ("Extension") relating to each Invention;
 - (e) right to apply for each Application, Further Application and Extension;
 - (f) right to claim priority based on the filing date of each Application and Further Application; and
 - (g) right to bring proceedings to recover damages and/or to obtain other remedies for any act committed in respect of each Invention, Application, Registration, Further Application, and Extension, whether such act is committed before or after the date of this Patent Assignment.
- 2. At the request and expense of the Assignee, the Assignor shall promptly:
 - (a) provide assistance and execute any further documents which may be necessary or desirable to enable the Assignee to file, prosecute, bring proceedings and take other actions with respect to each Invention, Application, Further Application, Grant and Extension, and each patent and registration granted thereon and other forms of protection, right and title relating thereto, and
 - (b) execute each further document which may be necessary or desirable to vest or perfect the title of the Assignee in each Application, Further Application, Grant and Extension.
- 3. The Assignor authorizes the Assignee and the Assignee's patent agents or attorneys to insert, above, the jurisdictions, application or serial numbers, filing dates and any other indicia identifying each Application, Further Application, Registration and Extension when such information is available for the purpose of recording this Patent Assignment.
- 4. The Assignor authorizes and requests The Commissioner of Patents or any equivalent authority to issue to the Assignee each patent, registration and other form of protection, right, and title granted upon each Application, Further Application, and Extension.
- 5. This agreement shall inure to the benefit of the Assignee and the Assignee's successors and assigns, and shall be binding upon the Assignor and the Assignor's successors and permitted assigns.
- 6. Delivery of this agreement by copy, however transmitted, constitutes valid and effective delivery. This agreement may be executed in one or more counterparts, each of which when so executed and delivered shall be deemed an original, and such counterparts shall together be deemed to constitute one and the same instrument.
- 7. This agreement is signed on the dates shown in the signature pages below.

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Date:	Feb 10/2020 At: 5/20-67 AVE Edm, AB
Signature:	- 120ce con-
Witnessed Name:	by Kedin Leroux
Signature:	
Kevin LER	DUX
Date:	Feb 10/2020 At: 5/20-67 Ave Edm, AB
Signature:	
Witnessed Name:	TROY LOIENSON
Signature:	<u> </u>
Dwayne PA	RENTEAU
Date:	Feb 10/2020 At 5120-67AUE Edm Alta
Signature;	
Witnessed Name:	Kevin Leroux
Signature	
Douglas Kl	NSELLA
Date:	FEB 10/2020 At 5120-67 AVE EDMONTON, AB.
Signature:	
Witnessed Name:	Kevin Leroux
Signature:	

Patent Assignment

Troy LORENSON

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IMPULSE DOWNHOLE SOLUTIONS LTD.

Name:	TROY	horens	ron	
Title:	Vice	Presid	lent	
Date:	Feb 11/	2020 At	5120-67AUG	Edm, AB
Signature:				
Witnessed I Name:	by Lev. n	Lerona		
Signature:				

Patent Assignment

RECORDED: 03/10/2021

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