

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4853890

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
DOUGLAS KINSELLA	02/09/2018
TROY LORENSEN	02/08/2018
KEVIN LEROUX	02/08/2018
DWAYNE PARENTEAU	02/08/2018
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	IMPULSE DOWNHOLE SOLUTIONS LTD.
<b>Street Address:</b>	10155-102 STREET, SUITE 2700
<b>City:</b>	EDMONTON
<b>State/Country:</b>	CANADA
<b>Postal Code:</b>	T5J 4G8
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15757914
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(416)585-2677
<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>	416-543-6428
<b>Email:</b>	docketing@wilsonlue.com
<b>Correspondent Name:</b>	WILSON LUE LLP
<b>Address Line 1:</b>	250 UNIVERSITY AVENUE, 5TH FLOOR
<b>Address Line 4:</b>	TORONTO, CANADA M5H 3E5
<b>ATTORNEY DOCKET NUMBER:</b>	3428-23
<b>NAME OF SUBMITTER:</b>	JENNA L. WILSON
<b>SIGNATURE:</b>	/Jenna L. Wilson/
<b>DATE SIGNED:</b>	03/06/2018
<b>Total Attachments: 7</b>	
source=180209_Impulse Worldwide Assignment (Lateral Family)#page1.tif	
source=180209_Impulse Worldwide Assignment (Lateral Family)#page2.tif	
source=180209_Impulse Worldwide Assignment (Lateral Family)#page3.tif	

source=180209\_Impulse Worldwide Assignment (Lateral Family)#page4.tif

source=180209\_Impulse Worldwide Assignment (Lateral Family)#page5.tif

source=180209\_Impulse Worldwide Assignment (Lateral Family)#page6.tif

source=180209\_Impulse Worldwide Assignment (Lateral Family)#page7.tif

**PATENT**

**REEL: 045125 FRAME: 0135**

## WORLDWIDE ASSIGNMENT

WHEREAS, I/WE, (hereinafter referred to as the "ASSIGNOR(S)");

**Douglas Kinsella of 10155-102 Street, Suite 2700, Edmonton, AB T5J 4G8, Canada;**  
**Troy Lorensen of 10155-102 Street, Suite 2700, Edmonton, AB T5J 4G8, Canada;**  
**Kevin Leroux of 10155-102 Street, Suite 2700, Edmonton, AB T5J 4G8, Canada; and**  
**Dwayne Parenteau of 10155-102 Street, Suite 2700, Edmonton, AB T5J 4G8, Canada**

am an/are inventor(s) of inventions ("Inventions") for which one or more applications for patent, design registration, utility model registration, or other form of protection, rights, or title have been or will be made in certain countries ("Applications"), as further described in **Schedule A** hereto;

AND WHEREAS, **IMPULSE DOWNHOLE SOLUTIONS LTD.**, (hereinafter referred to as the "ASSIGNEE"), a company organized under the laws of the Province of Alberta, Canada, having a place of business at 10155-102 Street, Suite 2700, Edmonton, AB T5J 4G8, Canada, is desirous of acquiring the full and exclusive right, title and interest in and to said Invention, said Applications inclusive of all ancillary rights relating thereto, any and all priority rights derived from said Applications, and all patents, design registrations, utility model registrations and other forms of protection, rights and titles relating to said Invention, in any country or countries and in respect of the whole or any part or parts of or improvements to the Invention;

NOW THEREFORE, for valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR(S) does/do hereby confirm that ASSIGNOR(S) has/have transferred, conveyed and assigned, and by way of further assurance does/do hereby transfer, convey and assign, any and all of ASSIGNOR(S)'s respective rights, title and interest in and to: the Invention; the Applications; inclusive of any and all priority rights, including the right to claim priority, derived from the Applications; any further applications for patent, design registration, utility model registration or other forms of protection, rights or titles for the whole or any part or parts of or improvements to the Invention in any country or countries ("Further Applications") together with the right to file divisional applications, substitute applications and continuation applications of any one or more of the Applications and Further Applications ("Divisionals"); the right to obtain patents, design registrations, utility model registrations and all other forms of protection, rights and titles relating to the Invention; the right in and to any patent or reissue patent relating to the Applications, Further Applications and Divisionals ("Grants"); and the right to obtain any extensions / supplementary protection certificates ("Extensions"); together with the right to bring proceedings to recover damages and/or to obtain other remedies for acts committed in respect of one or more of the aforesaid Invention, Applications, Grants, Further Applications, Divisionals and Extensions, whether such acts are committed before or after the date of this Worldwide Assignment; with the intent that the Invention, Applications, Grants, Further Applications, Divisionals and Extensions are owned and enjoyed by ASSIGNEE absolutely to the full end of the term or terms for same.

ASSIGNOR(S) does/do hereby agree, upon request, to provide assistance and to execute any and all further documents, at the expense of ASSIGNEE and/or its successors and assigns (as

applicable), which may be necessary or desirable to enable ASSIGNEE, and/or its successors and assigns (as applicable), to file, prosecute, bring proceedings and take other actions with respect to any and all of the Invention, Applications, Further Applications, Divisionals, Grants and Extensions, and any and all patents and registrations granted thereon and other forms of protection, rights and titles relating thereto, and ASSIGNOR(S) further agrees/agree to execute, upon request and at the expense of ASSIGNEE and/or its successors and assigns (as applicable), any and all further documents which may be necessary or desirable to vest or perfect the title of ASSIGNEE therein.

ASSIGNOR(S) does/do hereby authorize ASSIGNEE or its patent agents or attorneys to insert, above, the jurisdictions, application numbers, filing dates and any other indicia identifying the Applications when such information is available for the purpose of recording this assignment.

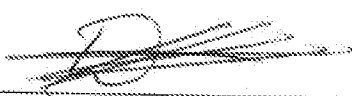
ASSIGNOR(S) does/do hereby authorize and request The Commissioner of Patents or any equivalent authority to issue to ASSIGNEE each and every patent, registration and other form of protection, right, and title granted upon the Applications, Further Applications, Divisionals and Extensions.

THIS WORLDWIDE ASSIGNMENT shall inure to the benefit of ASSIGNEE and its successors and assigns, and shall be binding upon ASSIGNOR(S) and their successors and permitted assigns.

DELIVERY of this Worldwide Assignment by copy, however transmitted, constitutes valid and effective delivery. This Worldwide Assignment may be executed in one or more counterparts, each of which when so executed and delivered shall be an original, and such counterparts shall together constitute one and the same instrument.

IN WITNESS WHEREOF, this assignment has been executed below by the undersigned:

Date: FEB 9, 2018

  
Inventor Name: **Douglas Kinsella**  
Inventor Address: **10155-102 Street, Suite 2700**  
**Edmonton, AB T5J 4G8, Canada**

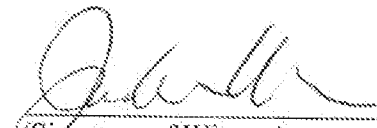
STATEMENT BY WITNESS

I, JULIA KINSELLA, whose full Post Office address is

55522 RR270, STURGEON COUNTY, AB T8R0Z5  
(Address of Witness)


hereby declare that I was personally present and did see the above named person, personally known to me to be the person named in the assignment, duly sign and execute the same.

Date: FEB 9, 2018

  
(Signature of Witness)

IN WITNESS WHEREOF, this assignment has been executed below by the undersigned:

Date: Feb 8/2018

  
Inventor Name: Troy Lorenson  
Inventor Address: 10155-102 Street, Suite 2700  
Edmonton, AB T5J 4G8, Canada

STATEMENT BY WITNESS

I, SHELDON MACDONELL, whose full Post Office address is

7811 148 AVE NW, EDMONTON, AB, T5C 2T8  
(Address of Witness)

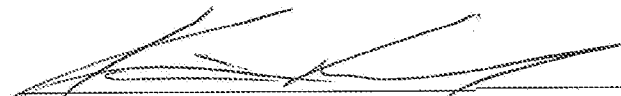
hereby declare that I was personally present and did see the above named person, personally known to me to be the person named in the assignment, duly sign and execute the same.

Date: 08-FEB-2018

  
(Signature of Witness)

IN WITNESS WHEREOF, this assignment has been executed below by the undersigned:

Date: Feb 8, 2018

  
Inventor Name: **Kevin Leroux**  
Inventor Address: **10155-102 Street, Suite 2700**  
**Edmonton, AB T5J 4G8, Canada**

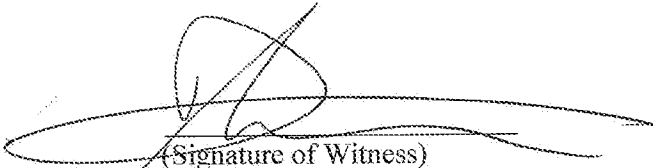
STATEMENT BY WITNESS

I, ANDREW DICKSON, whose full Post Office address is

12942 123 ST NW EDMONTON, AB  
(Address of Witness)

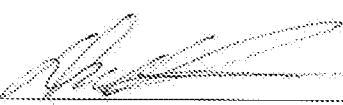
hereby declare that I was personally present and did see the above named person, personally known to me to be the person named in the assignment, duly sign and execute the same.

Date: FEB. 8, 2018

  
(Signature of Witness)

IN WITNESS WHEREOF, this assignment has been executed below by the undersigned:

Date: 08/02/2018

  
Inventor Name: Dwayne Parenteau  
Inventor Address: 10155-102 Street, Suite 2700  
Edmonton, AB T5J 4G8, Canada

STATEMENT BY WITNESS

I, SHELDON MACDONELL, whose full Post Office address is

7811 148 AVE NW, EDMONTON, AB T5C 2T8  
(Address of Witness)

hereby declare that I was personally present and did see the above named person, personally known to me to be the person named in the assignment, duly sign and execute the same.

Date: 8-FEB-2018

  
(Signature of Witness)



## SCHEDULE A

Atty Ref	Office	Serial Number	Filing Date	Title
3248-2	US	62/207,679	20 Aug 2015	DOWNHOLE ASSEMBLIES FOR USE IN DRILLING STRINGS
3248-3	US	62/205,655	14 Aug 2015	BALL ACTIVATION OF MOTOR AND FRICTION TOOL
3248-4	US	62/220,859	18 Sep 2015	BALL ACTIVATION OF MOTOR AND FRICTION TOOL
3248-7	WO	PCT/CA2016/050794	7 Jul 2016	LATERAL DRILLING METHOD
3248-8	WO	PCT/CA2016/050950	12 Aug 2016	SELECTIVE ACTIVATION OF MOTOR IN A DOWNHOLE ASSEMBLY
3248-9	WO	PCT/CA2016/050988	22 Aug 2016	ON-BOTTOM DOWNHOLE BEARING ASSEMBLY
3248-10	WO	PCT/CA2016/051096	19 Sep 2016	SELECTIVE ACTIVATION OF MOTOR IN A DOWNHOLE ASSEMBLY AND HANGER ASSEMBLY
3248-15	CA	(NPE of 3248-7)	7 Jul 2016	LATERAL DRILLING METHOD
3248-16	CA	(NPE of 3248-8)	12 Aug 2016	SELECTIVE ACTIVATION OF MOTOR IN A DOWNHOLE ASSEMBLY
3248-17	CA	(NPE of 3248-10)	19 Sep 2016	SELECTIVE ACTIVATION OF MOTOR IN A DOWNHOLE ASSEMBLY AND HANGER ASSEMBLY
3248-18	EPO	(RPE of 3248-7)	7 Jul 2016	LATERAL DRILLING METHOD
3248-19	AU	(NPE of 3248-7)	7 Jul 2016	LATERAL DRILLING METHOD
3248-20	US	(CON of 3248-7)	7 Jul 2016	LATERAL DRILLING METHOD
3248-21	US	(371 of 3248-8)	12 Aug 2016	SELECTIVE ACTIVATION OF MOTOR IN A DOWNHOLE ASSEMBLY
3248-22	US	(371 of 3248-9)	22 Aug 2016	ON-BOTTOM DOWNHOLE BEARING ASSEMBLY
3248-23	US	(371 of 3248-10)	19 Sep 2016	SELECTIVE ACTIVATION OF MOTOR IN A DOWNHOLE ASSEMBLY AND HANGER ASSEMBLY