

## PATENT ASSIGNMENT COVER SHEET

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<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
PETER L. REDMOND	01/23/2019
THERESA ELIZABETH MACFARLANE	01/23/2019
CHANGOOK SON	01/23/2019
LIANGLIANG LI	02/15/2019
AMANDA OWENS	02/18/2019
KEVIN MARK JOHNSON	01/29/2019
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<b>PROPERTY NUMBERS Total: 2</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	16167929
<b>PCT Number:</b>	US2018057060
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<b>NAME OF SUBMITTER:</b>	HUI CHIN SMITH
<b>SIGNATURE:</b>	/Hui Chin Smith/

PATENT

<b>DATE SIGNED:</b>	02/21/2019
<b>Total Attachments: 2</b> source=1104162 executed Assignment#page1.tif source=1104162 executed Assignment#page2.tif	

**ASSIGNMENT**  
(Patent Application)

We, Peter L. Redmond, Theresa Elizabeth MacFarlane, ChangOok Son, Liangliang Li, Amanda Owens, and Kevin Mark Johnson, the undersigned, have invented certain inventions and improvements disclosed in a utility non-provisional patent application entitled “**REACTIVE QUENCHING SOLUTIONS AND METHODS OF USE**” filed with the United States Patent and Trademark Office on October 23, 2018 and assigned serial no. 16/167,929, and in an international patent application entitled “**REACTIVE QUENCHING SOLUTIONS AND METHODS OF USE**” filed with the United States Receiving Office on October 23, 2018 and assigned serial no. PCT/US2018/057060.

For good and valuable consideration, the receipt and sufficiency of which we acknowledge, we:

1. Agree to assign, transfer, convey, and sell, hereby assign, transfer, convey, and sell and have assigned, transferred, conveyed, and sold to Novelis Inc., 3560 Lenox Road, Suite 2000, Atlanta, Georgia 30326 (“Assignee”), the entire right, title, and interest in and to:
  - (a) all intellectual property (including, without limitation, any innovation, information, invention, discovery, product, process, work or design) disclosed, embodied, shown, or claimed in the above-referenced patent applications, implicitly or explicitly;
  - (b) the above-referenced patent applications, the right to claim priority to the above-referenced patent applications, all applications based in whole or in part upon the above-referenced patent applications, including, without limitation, all applications that are a provisional, non-provisional, design, divisional, continuation, continuation-in-part, registration, utility model, industrial design, reissue, renewal, substitute, extension, reexamination, post-grant review, inter partes review, supplemental examination or non-U.S. patent application or application for other rights based in whole or in part on the above-referenced patent applications;
  - (c) all patents (including, without limitation, all U.S. and non-U.S. patents, registrations, utility models, industrial designs, design patents, counterparts, continuations, continuations-in-part, divisionals, reissues, renewals, substitutes, extensions, reexaminations, post-grant reviews, inter partes reviews and supplemental examinations) that are granted or issued upon, or that claim priority to, any and all applications described in (b) of this paragraph or that disclose or claim intellectual property described in (a) of this paragraph, in whole or in part; and
  - (d) all claims for damages by reason of past infringement of any rights under the applications or patents described in (a), (b) or (c) of this paragraph (including provisional rights to reasonable royalties pursuant to 35 U.S.C. §154(d)) and the right to sue for and collect such damages and royalties for Assignee’s own use.

ASSIGNMENT

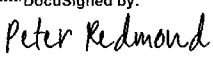
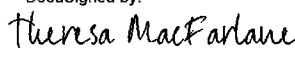
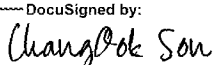
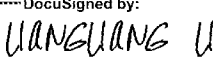
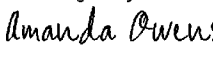
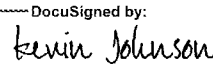
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2. Authorize and request the U.S. Patent and Trademark Office or any other U.S. or non-U.S. agency to issue to the Assignee any and all patent(s), or other rights or documents, resulting from the intellectual property, patent application(s) and patents described in paragraph 1 of this Assignment.
3. Agree to sign all papers and documents, including without limitation, applications, declarations, oaths and petitions, and, at the Assignee's expense, perform any other acts that are necessary in connection with prosecution of patent application(s) or intellectual property described in paragraph 1 of this Assignment and the enforcement of patent(s) or other rights resulting from such patent application(s) or intellectual property.
4. Agree that the terms, covenants, and conditions of this Assignment shall inure to the benefit of the Assignee, its successors, assigns and other legal representative, and shall be binding upon us, as well as our heirs, legal representatives, and assigns.
5. Promise and affirm that we have not entered, and will not enter, into any assignment, contract, or understanding that conflicts with this Assignment.

Signed on the dates indicated beside our signatures.

Date:	1/23/2019	<small>DocuSigned by:</small>  <small>D3D9C3557B7449D</small> <b>PETER L. REDMOND</b>
Date:	1/23/2019	<small>DocuSigned by:</small>  <small>144CG368D221440</small> <b>THERESA ELIZABETH MACFARLANE</b>
Date:	1/23/2019	<small>DocuSigned by:</small>  <small>3351D40E006045C</small> <b>CHANGOOK SON</b>
Date:	2/15/2019	<small>DocuSigned by:</small>  <small>C4321B906AA1481</small> <b>LIANGLIANG LI</b>
Date:	2/18/2019	<small>DocuSigned by:</small>  <small>5D22904665F14FA</small> <b>AMANDA OWENS</b>
Date:	1/29/2019	<small>DocuSigned by:</small>  <small>4BB8D4FC2FF24FA</small> <b>KEVIN MARK JOHNSON</b>