To the Director of the U.S. Patent and Trademark Office: Please record the attached original documents or copy thereof.  1. Name of conveying party: Imerys Services S.A.S.  Additional name(s) of conveying party(ies) attached?	12/18/	2008	12:38	404-653-6444			FINNEGAN HENDERSON					PAGE	02/04	
To the Director of the U.S. Patent and Trademark Office:   Please record the attached original documents or copy thereof.					PATENTS ONL'				T T	Pate Atto 091	Patent and Trademark Office Attorney Docket Nos. 09157.0010; 09157.0011; 09157.0011-01000;			
1. Name of conveying party: Imerys Services S.A.S.  Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No Internal Address:  3. Nature of conveyance:  ☐ Assignment ☐ Merger ☐ City: Paris ☐ Security Agreement ☐ Change of Name ☐ State: France ☐ Zip Code: 75007 ☐ Joint Research ☐ Government Interest Assignment ☐ Cher: ☐ Additional name(s) & Address(es) attached? ☐ Additional name(s) & Address(es) attached? ☐ Yes ☒ No ☐ Executive Order 9494, ☐ Other: ☐ His document is being filed together with a new application, the execution date the application:  A. Application number(s) or patent number(s): If this document is being filed together with a new application, the execution date the application Numbers:  11/465,602 11/468,589 11/624,057 11/848,261  Additional numbers attached? ☐ Yes ☒ No  5. Name and address of party to whom correspondence concerning document should be mailed:  Additional number of applications and patents involve Three (3)  Name: Jeson E. Stach (202) 408-4000 7. Total fee (37 CFR 1.21(h) and 3.41): \$40 ☐ Internal Address: FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, LL.P.  Street Address: 901 New York Avenue, N.W.  City: Washington, D.C.  State: Zip: 20001-4413 8. Deposit Account No 06-0916	To the Director of the U.S. Patent and Trademark Office: Please record the attached original documents or copy thereof							Mall Stop Assignment Recordation Service						
Additional name(s) of conveying party(ies) attached?	1.	Name of conveying party:					Name and address of receiving party:							
3. Nature of conveyance:    Street Address: 154 Rue de L' Universite	Imerys Services S.A.S.						Name: Imerys							
Assignment	Additio	nal nam	e(s) of con	veying party	ies) attached?	Yes 🛛 No	In	erna	al Address:		<u> </u>			
Security Agreement	Nature of conveyance:				a.			Street Address: 154 Rue de L' Universite						
Joint Research Agreement	Ø	Assignn	nent		Merger		Ci	ty:	Paris	•	<u>.                                    </u>		<del>,</del> , , , , , , , , , , , , , , , , , ,	
Agreement		Security	Agreemen		Change of	Name	Sta	ate:	France		Zip Code:	75007		
Execution Date: November 11, 2008  4. Application number(s) or patent number(s): If this document is being filed together with a new application, the execution date the application.  A. Patent Application Numbers:  11/465,602 11/469,589 11/624,057 11/846,261  Additional numbers attached?  Total number of applications and patents involved Three (3)  Name: Jason E. Stach  (202) 408-4000  Total number of applications and patents involved Three (3)  Total fee (37 CFR 1.21(h) and 3.41): \$40  Internal Address: FINNEGAN, HENDERSON, FARABOW, GARRETT  Street Address: 901 New York Avenue, N.W.  City: Washington, D.C.  State: Zip: 20001-4413  8. Deposit Account No.: 06-0916		Agreem	ent				Ad	ditio	nal name(s) &	Addı	ess(es) attach	ned?		
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11/469,589 11/624,057 11/846,261  Additional numbers attached? Yes No  5. Name and address of party to whom correspondence concerning document should be mailed:  Name: Jason E. Stach  (202) 408-4000  Internal Address: FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, L.L.P.  Street Address: 901 New York Avenue, N.W.  City: Washington, D.C.  State: Zip: 20001-4413  Additional numbers attached? Yes No  6. Total number of applications and patents involve Three (3)  7. Total fee (37 CFR 1.21(h) and 3.41): \$40  Enclosed (Please charge deficiency or cred overpayment to deposit account 06-0916)  Authorized to be charged to deposit account City: Washington, D.C.		+	phocuom.		nt number(s): If	this document is	t	iled :				he execu	tion date of	
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Internal Address: FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, L.L.P.  Street Address: 901 New York Avenue, N.W.  City: Washington, D.C.  State: Zip: 20001-4413  Total fee (37 CFR 1.21(h) and 3.41); \$40  Enclosed (Please charge deficiency or cred overpayment to deposit account 06-0916)  Authorized to be charged to deposit account 06-0916	5.	Name concer	and addres	s of party to nent should b	whom correspo	ndence	6.		Total numbe Three (3)	r of a	pplications an	d patents	involved:	
Internal Address: FINNEGAN, HENDERSON, FARABOW, GARRETT  & DUNNER, L.L.P.  Street Address: 901 New York Avenue, N.W.  City: Washington, D.C.  State: Zip: 20001-4413    Enclosed (Please charge deficiency or cred overpayment to deposit account 06-0916)    Authorized to be charged to deposit account State:   Deposit Account No.: 06-0916	Name:	Jasor	E. Stach		(	202) 408-4000	7.	••••	Total fee (37	CFR	1.21(h) and 3	.41): \$4		
City: Washington, D.C.  State: Zip: 20001-4413  8. Deposit Account No.: 06-0916	& DUNNER, L.L.P.								Enclose	d (Pie	ase charge de	eficiency	or credit	
State: Zip: 20001-4413 8. Deposit Account No.: <u>06-0916</u>								×					•	
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To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Signed: Jan E. 155

Jason E. Stach, Reg. No. 54,464

12-/18/08

Date

Total number of pages including cover sheet, attachments and documents: 3

SOLE/JOINT INVENTION (Worldwide Rights) Afterney Docket Nos. 09157,0010 09157,0011 09157,0011-01000 09157,0014-00000

## **ASSIGNMENT**

WHEREAS IMERYS SERVICES S.A.S., a Simplified Joint Stock Company of France whose post office address is 154 Rue de 1. Universite, 75007 Paris, France (hereinafter referred to as Imerys Services S.A.S.), has assignment rights, title and interest in and to the following inventions:

ELECTROFUSED PROPPANT, METHOD OF MANUFACTURE, AND METHOD OF USE FILED: AUGUST 18, 2006 - APPLICATION SERIAL NO. 11/465,602;

ROD-SHAPED PROPPANT AND ANTI-FLOWBACK ADDITIVE, METHOD OF MANUFACTURE, AND METHOD OF USE FILED: SEPTEMBER 1, 2006 - APPLICATION SERIAL NO. 11/469,589;

METHOD OF MANUFACTURING AND USING ROD-SHAPED PROPPANT AND ANTI-FLOWBACK ADDITIVES FILED: JANUARY 17, 2007 - APPLICATION SERIAL NO. 11/624,057; AND

PROPPANTS AND ANTI-FLOWBACK ADDITIVES MADE FROM SILLIMANITE MINERALS, METHODS OF MANUFACTURE, AND METHODS OF USE FILED: AUGUST 28, 2007 - APPLICATION SERIAL NO. 11/846,261

WHEREAS, Imerys, whose post office address is 154 Rue de L' Universite, 75007 Paris, France (hereinafter referred to as Assignee), is desirous of securing the entire right, title, and interest in and to the inventions in all countries throughout the world, and in and to the applications for United States Letters Patent on the inventions and the Letters Patents to be Issued upon the applications;

NGW THEREFORE, be it known that, for good and valuable consideration of the sum of One Dollar (\$1.00) in hand paid and other good and valuable consideration the receipt of which from Assignee is hereby acknowledged, Imerys Services S.A.S. as Assignor, has sold, assigned, transferred, and set over, and does hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, Imerys Services S.A.S.'s entire right, title, and interest in and to the inventions, and any improvements in the inventions, the applications, and all divisions, and continuations thereof, and all Letters Patents of the United States which may be granted thereon, and all reissues thereof, as well as all rights to claim priority on the basis of this application, and all applications for Letters Patents which may hereafter be filed for the inventions in any foreign country and all Letters Patents which may be granted on the inventions in any foreign country, and all extensions, renewals, and reissues thereof; and Imerys Services S.A.S. hereby authorize and request the Commissioner of Patents and Trademarks of the United States and any official of any foreign country whose duty it is to issue patents on applications as described above, to issue all Letters Patents for the inventions to Assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, Imerys Services S.A.S. HEREBY covenants that it has the full right to convey the interest assigned by this Assignment, and Imerys Services S.A.S. has not executed and will not execute any agreement in conflict with this Assignment;

AND, Imerys Services S.A.S. HEREBY further covenants and agrees that it will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to Imerys Services S.A.S. respecting the inventions, and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title to the inventions in said Assignee, its successors or assigns, execute all divisional, continuation, and reissue

Page 1 of 2

PATENT REEL: 022005 FRAME: 0687

SOLE/JOINT INVENTION (Worldwide Rights) Attorney Docket Nos. 09157:0010 09157:0011 09157:0011-01000 09157:0014-00000

applications, make all rightful oaths and generally do everything possible to aid Assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee, its successors and assigns.

IN TESTIMONY WHEREOF, Imerys Services S.A.S. has caused its corporate seal to be affixed and this Assignment to be executed by its duly authorized representative this <u>11 th</u> day of <u>November</u> 2008.

IMERYS SERVICES S.A.S.

Thierry Salmona
Title: President

Witnessed by

Page 2 of 2

PATENT REEL: 022005 FRAME: 0688