

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT4999233

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT	
<b>NATURE OF CONVEYANCE:</b>	RELEASE OF SECURITY INTEREST	
<b>CONVEYING PARTY DATA</b>		
	<b>Name</b>	<b>Execution Date</b>
	PNC BANK, NATIONAL ASSOCIATION	06/01/2018
<b>RECEIVING PARTY DATA</b>		
<b>Name:</b>	SELF-SUSPENDING PROPPANT LLC	
<b>Street Address:</b>	8834 MAYFIELD ROAD	
<b>City:</b>	CHESTERLAND	
<b>State/Country:</b>	OHIO	
<b>Postal Code:</b>	44026	
<b>PROPERTY NUMBERS Total: 19</b>		
	<b>Property Type</b>	<b>Number</b>
	Application Number:	12908411
	Application Number:	15339986
	Patent Number:	9315721
	Patent Number:	9796916
	Patent Number:	9297244
	Patent Number:	9644139
	Application Number:	15078371
	Application Number:	15721983
	Application Number:	14197596
	Application Number:	14631946
	Application Number:	15091987
	Application Number:	15595722
	Application Number:	62240611
	Application Number:	15782066
	Application Number:	15340000
	Application Number:	62428258
	Application Number:	15782922
	PCT Number:	US2017056287
	Application Number:	62526614

**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.*

**Phone:** 212 284 4986**Email:** karolina.ebel@freshfields.com**Correspondent Name:** KAROLINA EBEL**Address Line 1:** 601 LEXINGTON AVENUE, 31ST FLOOR**Address Line 4:** NEW YORK, NEW YORK 10022

<b>NAME OF SUBMITTER:</b>	KAROLINA EBEL
<b>SIGNATURE:</b>	/KE/
<b>DATE SIGNED:</b>	06/09/2018
	This document serves as an Oath/Declaration (37 CFR 1.63).

**Total Attachments: 4**

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**TERMINATION AND RELEASE OF PATENT SECURITY AGREEMENT**

**THIS TERMINATION AND RELEASE OF PATENT SECURITY AGREEMENT** (this "Termination"), is dated as of June 1, 2018, and made by **PNC BANK, NATIONAL ASSOCIATION**, in its capacity as Collateral Agent under the below-defined Security Agreement, having an office at 1900 East Ninth Street, 9th Floor, Mail Stop B7-YB13-09-5, Cleveland, OH 44114 ("Grantee") to Fairmount Santrol Inc., a Delaware corporation, Self-Suspending Proppant LLC, a Delaware limited liability company, and TechniSand, Inc., a Delaware corporation (collectively, "Grantors").

WHEREAS, pursuant to that certain Pledge and Security Agreement dated as of November 1, 2017 and that certain Patent Security Agreement dated as of November 1, 2017 (as it may be amended, restated, supplemented or otherwise modified from time to time), made by Grantors in favor of Grantee (the "Security Agreement"), a security interest and continuing lien was granted by the Grantors to Grantee in certain collateral, including the Patent Collateral (as hereinafter defined);

WHEREAS, the Security Agreement was recorded in the Patent Division of the United States Patent and Trademark Office on November 6, 2017, at Reel 044040 and Frame 0380; and

WHEREAS, Grantee now desires to terminate and release the Security Agreement;

NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, and upon the terms set forth in this Termination, Grantee hereby states as follows:

1. Definitions. The term "Patent Collateral," as used herein, shall have the meaning set forth in the Security Agreement and shall include all of the Grantors' right, title and interest of every kind and nature as of the date hereof in the patents listed on Schedule A hereto.

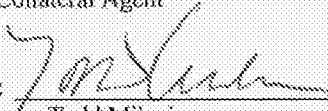
2. Release of Security Interest. Grantee hereby terminates the Security Agreement and terminates, releases and discharges its security interest in the Patent Collateral and reassigns to the person or persons legally entitled thereto all right, title and interest Grantee may have obtained in the Patent Collateral.

3. Further Assurances. The Grantee shall take all further reasonable actions, and provide to Grantors and their successors, assigns or other legal representatives, all such reasonable cooperation and assistance (including, without limitation, the execution and delivery of documents and instruments), reasonably requested by Grantors to more fully and effectively effectuate the purposes of this Termination, at the sole cost and expense of Grantors.

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IN WITNESS WHEREOF, the Grantee has caused this Termination to be executed by its duly authorized officer as of the date first written above.

**PNC BANK, NATIONAL ASSOCIATION,**  
as Collateral Agent

By:   
Name: Todd Milenius  
Title: Senior Vice President

Signature Page to Termination of Patent Security Agreement

**PATENT**  
**REEL: 046036 FRAME: 0708**

**Schedule A**

**PATENTS AND PATENT APPLICATIONS**

Title	Grantor	Application No.	Filing Date	Patent No.
PROPPANT CONTAINING BONDABLE PARTICLES AND REMOVABLE PARTICLES	TechniSand, Inc.	09/129,063	04-Aug-1998	6,114,410
PROPPANT CONTAINING BONDABLE PARTICLES AND REMOVABLE PARTICLES	TechniSand, Inc.	09/616,648	14-Jul-2000	6,328,105
INJECTION MOLDED DEGRADABLE CASING PERFORATION BALL SEALERS	TechniSand, Inc. and Fairmount Santrol Inc.	09/055,549	06-Apr-1998	5,990,051
INJECTION MOLDED DEGRADABLE CASING PERFORATION BALL SEALERS FLUID LOSS ADDITIVE AND METHOD OF USE	Fairmount Santrol Inc.	09/444,901	22-Nov-1999	6,380,138
PROPPANTS WITH SOLUBLE COMPOSITE COATINGS	Fairmount Santrol Inc.	11/541,874	02-Oct-2006	7,490,667
SOLUBLE FIBERS FOR USE IN RESIN COATED PROPPANT	Fairmount Santrol Inc.	10/793,429	04-Mar-2004	7,244,492
DOWNHOLE CHEMICAL DELIVERY SYSTEM FOR OIL AND GAS WELLS	TechniSand, Inc.	10/195,989	16-Jul-2002	7,049,272
PROCESS FOR INCREMENTAL COATING OF PROPPANTS FOR HYDRAULIC FRACTURING AND PROPPANTS PRODUCED THEREFROM	Fairmount Santrol Inc.	10/611,200	01-Jul-2003	7,135,231
PROCESS FOR INCREMENTAL COATING OF PROPPANTS FOR HYDRAULIC FRACTURING AND PROPPANTS PRODUCED THEREFROM	Fairmount Santrol Inc.	11/582,644	18-Oct-2006	8,852,682
DEGRADABLE BALL SEALERS AND METHODS FOR USE IN WELL TREATMENT	Fairmount Santrol Inc.	11/640,813	18-Dec-2006	7,647,964
NO HEXA SHELL SAND	Fairmount Santrol Inc.	11/645,991	27-Dec-2006	7,763,316
NO HEXA SHELL SAND	Fairmount Santrol Inc.	12/832,171	08-Jul-2010	8,754,147
RAPID ACTION COATER AND PROCESS FOR COATING CERAMIC PARTICLES USING SAME	Fairmount Santrol Inc.	12/914,560	28-Oct-2010	8,697,185
ENVIRONMENTALLY SAFE PROMOTER FOR USE IN FLOTATION SEPARATION OF CARBONATES FROM MINERALS	Fairmount Santrol Inc.	11//203,919	15-Aug-2005	7,275,643
TRANSITION METAL PROPPANTS		15/228,189	04-Aug-2016	N/A
PROPPANTS FOR HYDRAULIC FRACTURING TECHNOLOGIES	Self-Suspending Proppant LLC	12/908,411	20-Oct-2010	N/A
PROPPANTS FOR HYDRAULIC FRACTURING TECHNOLOGIES	Self-Suspending Proppant LLC	15/339,986	01-Nov-2016	N/A
SELF-SUSPENDING PROPPANTS FOR HYDRAULIC FRACTURING	Self-Suspending Proppant LLC	13/599,828	30-Aug-2012	9315721
SELF-SUSPENDING PROPPANTS FOR HYDRAULIC FRACTURING	Self-Suspending Proppant LLC	15/081,037	25-Mar-2016	9796916
SELF-SUSPENDING PROPPANTS FOR HYDRAULIC FRACTURING	Self-Suspending Proppant LLC	15/721,983	02-Oct-2017	N/A
SELF-SUSPENDING PROPPANTS FOR HYDRAULIC FRACTURING COMPRISING A COATING OF HYDROGEL-FORMING POLYMER	Self-Suspending Proppant LLC	13/838,806	15-Mar-2013	9297244
SELF-SUSPENDING PROPPANTS FOR HYDRAULIC FRACTURING	Self-Suspending Proppant LLC	15/078,371	23-Mar-2016	N/A
SELF-SUSPENDING PROPPANTS FOR HYDRAULIC FRACTURING	Self-Suspending Proppant LLC	15/721,983	10-Feb-2017	N/A
SELF-SUSPENDING PROPPANTS FOR HYDRAULIC FRACTURING	Self-Suspending Proppant LLC	14/958,112	12-Mar-2015	9,644,139

SELF-SUSPENDING PROPPANTS FOR HYDRAULIC FRACTURING	Self-Suspending Proppant LLC	14/197,596	05-Mar-2014	N/A
CALCIUM ION TOLERANT SELF-SUSPENDING PROPPANTS	Self-Suspending Proppant LLC	14/631,946	26-Feb-2015	N/A
HARD WATER RESISTANT SELF SUSPENDING PROPPANTS	Self-Suspending Proppant LLC	15/091,987	06-Apr-2016	N/A
SALT-TOLERANT SELF-SUSPENDING PROPPANTS	Self-Suspending Proppant LLC	15/595,722	15-May-2017	N/A
AMPHOTERIC SELF-SUSPENDING PROPPANTS	Self-Suspending Proppant LLC	62/240,611	13-Oct-2016	N/A
SELF-SUSPENDING PROPPANTS	Self-Suspending Proppant LLC	15/782,066	12-Oct-2017	N/A
SELF-SUSPENDING PROPPANTS	Self-Suspending Proppant LLC	US17/56287	12-Oct-2017	N/A
SELF-SUSPENDING PROPPANTS FOR HYDRAULIC FRACTURING	Self-Suspending Proppant LLC	15/340,000	01-Nov-2016	N/A
SELF-SUSPENDING PROPPANTS	Self-Suspending Proppant LLC	62/428,258	30-Nov-2016	N/A
SELF-SUSPENDING PROPPANT WITH SANDWICHED HYDROGEL COATING	Self-Suspending Proppant LLC	15/782,922	13-Oct-2017	N/A
DEGRADABLE BALL SEALERS WITH IMPROVED SOLUBILITY CHARACTERISTICS	Fairmount Santrol Inc.	62/396,960	20-Sep-2016	N/A
DEGRADABLE BALL SEALERS WITH IMPROVED SOLUBILITY CHARACTERISTICS	Fairmount Santrol Inc.	15/708,957	19-Sep-17	N/A
FLOWBACK RESISTANT PROPPANTS	Fairmount Santrol Inc.	62/473,677	20-Mar-17	N/A
IMPROVED SELF-SUSPENDING PROPPANTS MADE FROM POWDERED HYDROGEL-FORMING POLYMERS	Self-Suspending Proppant LLC	62/526,614	29-Jun-17	N/A

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