

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT6944773

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	RELEASE OF SECURITY INTEREST	
CONVEYING PARTY DATA		
Name		Execution Date
WILMINGTON TRUST, NATIONAL ASSOCIATION, AS COLLATERAL AGENT		09/23/2021
RECEIVING PARTY DATA		
Name:	LONGYEAR TM, INC.	
Street Address:	2570 WEST 1700 SOUTH	
City:	SALT LAKE CITY	
State/Country:	UTAH	
Postal Code:	84104	
PROPERTY NUMBERS Total: 133		
Property Type	Number	
Patent Number:	6029758	
Patent Number:	6089335	
Patent Number:	6109373	
Patent Number:	6109620	
Patent Number:	6196598	
Patent Number:	6425449	
Patent Number:	6634443	
Patent Number:	7628228	
Patent Number:	7695542	
Patent Number:	7770668	
Patent Number:	7779932	
Patent Number:	7828090	
Patent Number:	7874384	
Patent Number:	7921926	
Patent Number:	7954566	
Patent Number:	7967085	
Patent Number:	7984773	
Patent Number:	7997167	
Patent Number:	7997351	
Patent Number:	8006782	

PATENT

Property Type	Number
Patent Number:	8006783
Patent Number:	8028613
Patent Number:	8051924
Patent Number:	8051925
Patent Number:	8051929
Patent Number:	8118113
Patent Number:	8118118
Patent Number:	8146686
Patent Number:	8191445
Patent Number:	8261857
Patent Number:	8333255
Patent Number:	8336647
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Patent Number:	9089904
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Patent Number:	9234398
Patent Number:	9234399
Patent Number:	9267332
Patent Number:	9279292
Patent Number:	9328608
Patent Number:	9359847

Property Type	Number
Patent Number:	9399898
Patent Number:	9404311
Patent Number:	9421671
Patent Number:	9446503
Patent Number:	9500036
Patent Number:	9506298
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Patent Number:	D630656
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Patent Number:	D647114
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Patent Number:	D649167
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Patent Number:	D650052
Patent Number:	D664566
Patent Number:	D664567
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Patent Number:	9689222
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Patent Number:	9903165
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Patent Number:	10053973
Patent Number:	10077609
Patent Number:	10087699

Property Type	Number
Patent Number:	10119344
Patent Number:	10384907
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Patent Number:	10633943
Patent Number:	10702975
Patent Number:	10830013
Patent Number:	10919726
Application Number:	14034605
Application Number:	14500012
Application Number:	14585716
Application Number:	14585736
Application Number:	14692484
Application Number:	14710997
Application Number:	14753853
Application Number:	14790069
Application Number:	14870247
Application Number:	14993550
Application Number:	15010672
Application Number:	15232452
Application Number:	15303668
Application Number:	15311592
Application Number:	15378992
Application Number:	15379016
Application Number:	62425230
Application Number:	15544741
Application Number:	15965243
Application Number:	16017334
Application Number:	16035776
Application Number:	16151871
Application Number:	16506444
Application Number:	16588026
Application Number:	16899236
Application Number:	17082877
PCT Number:	US2016012967
PCT Number:	US2016015582
PCT Number:	US2016020680
PCT Number:	US2016053703

CORRESPONDENCE DATA**Fax Number:** (212)530-5219***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:** 2125305243**Email:** dcip@milbank.com, ehyla@milbank.com**Correspondent Name:** ERIC HYL A, ESQ.**Address Line 1:** 55 HUDSON YARDS**Address Line 2:** MILBANK, LLP**Address Line 4:** NEW YORK, NEW YORK 10001-2163**ATTORNEY DOCKET NUMBER:** 42910.00000**NAME OF SUBMITTER:** ERIC HYL A**SIGNATURE:** /Eric Hyla/**DATE SIGNED:** 09/30/2021**Total Attachments: 73**

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PATENT**REEL: 057675 FRAME: 0709**

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OMNIBUS RELEASE OF SECURITY INTERESTS IN PATENT COLLATERAL

This **OMNIBUS RELEASE OF SECURITY INTERESTS IN PATENT COLLATERAL** (this “Release”) is made as of September 23, 2021 by WILMINGTON TRUST, NATIONAL ASSOCIATION in its capacity as collateral agent pursuant to the U.S. Security and Pledge Agreement (as defined below) (the “Collateral Agent”), in favor of LONGYEAR TM, INC. (the “Grantor”). Capitalized terms used but not otherwise defined herein shall have the respective meanings ascribed thereto in each Patent Security Agreement on Schedule A attached hereto as Exhibit A, Exhibit B, Exhibit C, Exhibit D, Exhibit E, and Exhibit F, Exhibit G, Exhibit H, Exhibit I, and Exhibit J (with respect to the release of the liens and security interests granted in such Patent Security Agreement, or if not defined therein, in the Security Agreement (as defined below)).

WHEREAS, the Grantor was or is a party to that certain (i) Term Loan Securities Agreement dated as of July 23, 2017 (as amended, amended and restated, supplemented or otherwise modified from time to time, the “Term Loan Securities Agreement”; together with the various instruments, documents and other agreements executed in connection therewith, the “Loan Documents”) among Boart Longyear Management PTY Limited (ABN 38 123 283 545), a corporation incorporated under the laws of the Commonwealth of Australia, as issuer (the “Issuer”), Boart Longyear Limited (ABN 49 123 052 728), a corporation incorporated under the laws of the Commonwealth of Australia, as a guarantor (“the Group Parent”), the other parties thereto from time to time, and the Collateral Agent and (ii) U.S. Security and Pledge Agreement, dated as of September 1, 2017 (as amended, amended and restated, supplemented or otherwise modified from time to time, the “Security Agreement”), among the Issuer, the Group Parent, the grantors party thereto (the “Guarantors”), and the Collateral Agent, pursuant to which the Grantor has executed and delivered each of the Patent Security Agreements listed on Schedule A attached hereto;

WHEREAS, pursuant to the Security Agreement each Patent Security Agreement, Grantor pledged and granted to the Collateral Agent for the benefit of the Secured Parties a lien on and security interest in and to all of its right, title and interest in, to and under the Collateral of such Grantor, including the Patents of the Grantor listed on Schedule A, and all Proceeds of any and all of the foregoing (the “Patent Collateral”);

WHEREAS, the Grantor has requested that the Collateral Agent terminate, release and discharge fully its liens on and security interests in all right, title and interest of such Grantor in, to and under the Patent Collateral, and execute a document suitable for recording in the United States Patent and Trademark Office to evidence the release of its liens on and security interests in the Patent Collateral as herein provided.

NOW THEREFORE, in consideration of the foregoing and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Collateral Agent, without representation or warranty of any kind, hereby releases, relinquishes and discharges, with respect to the Grantor, all of its liens on and security interests in and to all of the Grantor’s right, title, and interest in, to and under the Patent Collateral, and re-assigns to the Grantor any and all right, title or interest it may have in such Patent Collateral for each of the Patent Security Agreements on Schedule A.

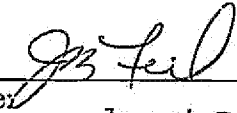
The Collateral Agent hereby authorizes the Grantor, or the Grantor’s authorized representatives, to record this Release with the United States Patent and Trademark Office and/or any other applicable governmental office or agency. The Collateral Agent agrees to execute and deliver to the Grantor other instruments and other documents (each in such form as prepared by the Grantor and reasonably

satisfactory to the Collateral Agent), and do all further acts which the Grantor (or its agents or designees) reasonably request, at the Grantor's sole cost and expense, as may be necessary to release the liens on and security interests in the Patent Collateral which had been granted under each of the Patent Security Agreements listed on Schedule A.

THIS RELEASE AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES HEREUNDER SHALL BE GOVERNED BY, AND SHALL BE CONSTRUED AND ENFORCED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK WITHOUT REGARD TO CONFLICT OF LAWS PRINCIPLES THEREOF THAT WOULD RESULT IN THE APPLICATION OF ANY LAW OTHER THAN THE LAW OF THE STATE OF NEW YORK (OTHER THAN ANY MANDATORY PROVISIONS OF LAW RELATING TO THE LAW GOVERNING PERFECTION AND THE EFFECT OF PERFECTION OF THE SECURITY INTEREST).

IN WITNESS WHEREOF, the Collateral Agent has caused this Release to be duly executed by its duly authorized representatives as of the day and year first above written.

WILMINGTON TRUST, NATIONAL
ASSOCIATION,
as Collateral Agent

By: 
Name: _____
Title: Joseph B. Feil
Vice President

SCHEDULE A

1. Patent Security Agreement, dated as of September 1, 2017, recorded with the United States Patent and Trademark Office at Reel 043790, Frame 0390 on September 8, 2017;
2. Patent Security Agreement, dated as of December 13, 2017, recorded with the United States Patent and Trademark Office at Reel 044392, Frame 0569 on December 14, 2017;
3. Patent Security Agreement, dated as of April 30, 2018, recorded with the United States Patent and Trademark Office at Reel 045676, Frame 0319 on May 1, 2018;
4. Patent Security Agreement, dated as of September 19, 2018, recorded with the United States Patent and Trademark Office at Reel 046920, Frame 0409 on September 20, 2018;
5. Patent Security Agreement, dated as of May 14, 2019, recorded with the United States Patent and Trademark Office at Reel 049176, Frame 0455 on May 14, 2019;
6. Patent Security Agreement, dated as of November 14, 2019, recorded with the United States Patent and Trademark Office at Reel 051061, Frame 0163 on November 20, 2019;
7. Patent Security Agreement, dated as of April 29, 2020, recorded with the United States Patent and Trademark Office at Reel 052526, Frame 0701 on April 29, 2020;
8. Patent Security Agreement, dated as of August 11, 2020, recorded with the United States Patent and Trademark Office at Reel 053467, Frame 0277 on August 12, 2020;
9. Patent Security Agreement, dated as of February 5, 2021, recorded with the United States Patent and Trademark Office at Reel 055167, Frame 0877 on February 5, 2021; and
10. Patent Security Agreement, dated as of April 28, 2021, recorded with the United States Patent and Trademark Office at Reel 056078, Frame 0387 on April 29, 2021;

Exhibit A

Patent Security Agreement, dated as of September 1, 2017

(Reel 043790, Frame 0390)

[Attached]

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT4585133

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	SECURITY INTEREST	
CONVEYING PARTY DATA		
Name		Execution Date
LONGYEAR TM, INC.		09/01/2017
RECEIVING PARTY DATA		
Name:	WILMINGTON TRUST, NATIONAL ASSOCIATION	
Street Address:	1100 NORTH MARKET STREET	
City:	WILMINGTON	
State/Country:	DELAWARE	
Postal Code:	19890	
PROPERTY NUMBERS Total: 110		
Property Type	Number	
Patent Number:	6029758	
Patent Number:	6089335	
Patent Number:	6109373	
Patent Number:	6109620	
Patent Number:	6196598	
Patent Number:	6425449	
Patent Number:	6634443	
Patent Number:	7628228	
Patent Number:	7695542	
Patent Number:	7770668	
Patent Number:	7779932	
Patent Number:	7828090	
Patent Number:	7874384	
Patent Number:	7921926	
Patent Number:	7954566	
Patent Number:	7967085	
Patent Number:	7984773	
Patent Number:	7997167	
Patent Number:	7997351	
Patent Number:	8006782	

Property Type	Number
Patent Number:	8006783
Patent Number:	8028613
Patent Number:	8051924
Patent Number:	8051925
Patent Number:	8051929
Patent Number:	8118113
Patent Number:	8118118
Patent Number:	8146686
Patent Number:	8191445
Patent Number:	8261857
Patent Number:	8333255
Patent Number:	8336647
Patent Number:	8347984
Patent Number:	8356677
Patent Number:	8459381
Patent Number:	8474547
Patent Number:	8485280
Patent Number:	8590646
Patent Number:	8662204
Patent Number:	8668029
Patent Number:	8770319
Patent Number:	8770322
Patent Number:	8783384
Patent Number:	8794355
Patent Number:	8869915
Patent Number:	8869918
Patent Number:	8955620
Patent Number:	8991524
Patent Number:	9051786
Patent Number:	9074429
Patent Number:	9089904
Patent Number:	9121236
Patent Number:	9234398
Patent Number:	9234399
Patent Number:	9267332
Patent Number:	9279292
Patent Number:	9328608
Patent Number:	9359847

Property Type	Number
Patent Number:	9399898
Patent Number:	9404311
Patent Number:	9421671
Patent Number:	9446503
Patent Number:	9500036
Patent Number:	9506298
Patent Number:	9528337
Patent Number:	9540883
Patent Number:	9546524
Patent Number:	9637980
Patent Number:	D622293
Patent Number:	D622294
Patent Number:	D622741
Patent Number:	D622745
Patent Number:	D624564
Patent Number:	D630656
Patent Number:	D643443
Patent Number:	D643859
Patent Number:	D644668
Patent Number:	D647114
Patent Number:	D647115
Patent Number:	D647540
Patent Number:	D648836
Patent Number:	D649167
Patent Number:	D649228
Patent Number:	D650052
Patent Number:	D664566
Patent Number:	D664567
Patent Number:	D687862
Patent Number:	D687863
Patent Number:	D687864
Application Number:	14034605
Application Number:	14500012
Application Number:	14585716
Application Number:	14585736
Application Number:	14692484
Application Number:	14710997
Application Number:	14753853

Property Type	Number
Application Number:	14790069
Application Number:	14870247
Application Number:	14993550
Application Number:	15010672
Application Number:	15232452
Application Number:	15303668
Application Number:	15311592
Application Number:	15378992
Application Number:	15379016
Application Number:	62425230
PCT Number:	US2016012967
PCT Number:	US2016015582
PCT Number:	US2016020680
PCT Number:	US2016053703

CORRESPONDENCE DATA

Fax Number: (312)862-2200

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: 3128622000

Email: michelle.nowicki@kirkland.com

Correspondent Name: MICHELLE NOWICKI

Address Line 1: 300 N. LASALLE

Address Line 2: KIRKLAND & ELLIS LLP

Address Line 4: CHICAGO, ILLINOIS 60654

ATTORNEY DOCKET NUMBER: 11289-30 MN

NAME OF SUBMITTER: MICHELLE NOWICKI

SIGNATURE: /Michelle Nowicki/

DATE SIGNED: 09/08/2017

Total Attachments: 6

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Patent Security Agreement

Patent Security Agreement, dated as of September 1, 2017 by Longyear TM, Inc. (the "Grantor"), in favor of Wilmington Trust, National Association, in its capacity as collateral agent pursuant to the Term Loan Securities Agreement (in such capacity, the "Collateral Agent").

W I T N E S S E T H:

WHEREAS, the Grantor is party to a U.S. Security and Pledge Agreement of even date herewith (as amended, amended and restated, supplemented or otherwise modified from time to time, the "Security Agreement") in favor of the Collateral Agent pursuant to which the Grantor is required to execute and deliver this Patent Security Agreement;

NOW, THEREFORE, in consideration of the premises and to induce the Collateral Agent, for the benefit of the Secured Parties, to enter into the Term Loan Securities Agreement, the Grantor hereby agrees with the Collateral Agent as follows:

SECTION 1. Defined Terms. Unless otherwise defined herein, terms defined in the Security Agreement and used herein have the meaning given to them in the Security Agreement.

SECTION 2. Grant of Security Interest in Patent Collateral. The Grantor hereby pledges and grants to the Collateral Agent for the benefit of the Secured Parties a lien on and security interest in and to all of its right, title and interest in, to and under all the following Collateral of such Grantor (other than Excluded Assets):

- (a) Patents of the Grantor listed on Schedule I attached hereto; and
- (b) all Proceeds of any and all of the foregoing.

SECTION 3. Security Agreement. The security interest granted pursuant to this Patent Security Agreement is granted in conjunction with the security interest granted to the Collateral Agent pursuant to the Security Agreement and the Grantor hereby acknowledges and affirms that the rights and remedies of the Collateral Agent with respect to the security interest in the Patents made and granted hereby are more fully set forth in the Security Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein. In the event that any provision of this Patent Security Agreement is deemed to conflict with the Security Agreement, the provisions of the Security Agreement shall control unless the Collateral Agent shall otherwise determine.

SECTION 4. Counterparts. This Patent Security Agreement may be executed in any number of counterparts, all of which shall constitute one and the same instrument, and any party hereto may execute this Patent Security Agreement by signing and delivering one or more counterparts.

SECTION 5. Subject to Intercreditor Agreements. Notwithstanding anything herein to the contrary, the liens and security interests granted to Wilmington Trust, National Association, as Collateral Agent, pursuant to this Patent Security Agreement and the exercise of any right or remedy by Wilmington Trust, National Association, as Collateral Agent hereunder, are subject to the provisions of (i) the Intercreditor Agreement, dated as of September 27, 2013 (as amended, restated, supplemented or otherwise modified from time to time, the "Notes Intercreditor Agreement"), among Bank of America, N.A., as collateral agent under the existing credit agreement and U.S. Bank National Association, as

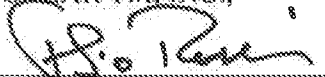
collateral agent under that certain Indenture, dated as of September 18, 2013 among the Obligor and U.S. Bank National Association, as trustee and as collateral agent, as amended, restated, supplemented or modified from time to time, including (a) via joinder by the Agent in connection with each of the term loan A securities agreement dated as of October 22, 2014 by and among the Obligor, the purchasers party thereto, and Wilmington Trust, National Association, as agent thereunder, as amended through the date hereof, including pursuant to that certain fourth amendment to the Existing Term Loan A Securities Agreement and that certain fifth amendment to the Existing Term Loan A Securities Agreement, each dated as of on or about the Credit Extension Date, and as further amended, restated or otherwise modified from time to time (the “Existing Term Loan A Securities Agreement”) and the term loan securities agreement, dated as of October 22, 2014 by and among the Obligor, the purchasers party thereto, and Wilmington Trust, National Association, as agent thereunder, as amended through the date hereof, including pursuant to that certain fourth amendment to the Term Loan B Securities Agreement and that certain fifth amendment to the Term Loan B Securities Agreement, each dated as of on or about the Credit Extension Date, and as further amended, restated or otherwise modified from time to time (the “Existing Term Loan B Securities Agreement”), (b) via joinder by PNC Bank, National Association, as administrative agent under that certain revolving credit and security agreement dated as of May 29, 2015 by and among the Obligor, the financial institutions party thereto and PNC Bank, National Association, as the same may be amended, amended and restated, replaced and restated, extended, supplemented and/or otherwise modified from time to time (the “Revolving Credit and Security Agreement”) and (c) via joinder by the Agent in connection with the Term Loan Securities Agreement, (ii) the Second Amended and Restated Intercreditor Agreement, amended and restated as of the date hereof and originally dated as of May 29, 2015 and previously amended and restated as of April 2, 2017 (as further amended, restated, supplemented or otherwise modified from time to time, the “ABL Intercreditor Agreement” and, together with the Notes Intercreditor Agreement, the “Intercreditor Agreements”), among PNC Bank National Association, as administrative agent under the Revolving Credit and Security Agreement, Wilmington Trust, National Association, as the agent under the Existing Term Loan A Securities Agreement and the Agent in connection with the Term Loan Securities Agreement, and (iii) the Amended and Restated Senior / Junior Term Loan Intercreditor Agreement, amended and restated as of the date hereof and originally dated as of April 2, 2017 (as further amended, restated, supplemented or otherwise modified from time to time, the “Senior / Junior Term Loan Intercreditor Agreement”), among Wilmington Trust, National Association, as the agent under the Existing Term Loan A Securities Agreement and the Agent in connection with the Term Loan Securities Agreement. In the event of any conflict between the terms of the Intercreditor Agreements and the terms of this Agreement, the terms of the applicable Intercreditor Agreement shall govern and control.

[signature page follows]

IN WITNESS WHEREOF, each Grantor has caused this Patent Security Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

GRANTOR:

LONGYEAR TM, INC.,

By: 
Name: Fabrizio Rasetti
Title: President

Schedule I

Issued Patents

Patent No.	Country	Title	Serial No.	Owner	Issue Date
6,029,758	US	Retractable Core Barrel Valving Apparatus	08/976,884	Longyear TM, Inc.	29-Feb-00
6,089,335	US	Positive Latch Core Barrel Apparatus	09/212,551	Longyear TM, Inc.	17-Jul-00
6,109,373	US	Cable Overshot Apparatus	09/184,998	Longyear TM, Inc.	29-Aug-00
6,109,620	US	A Shank Adapter	09/125,629	Longyear TM, Inc.	29-Aug-00
6,196,598	US	Straight Hole Drilling System	09/003,156	Longyear TM, Inc.	6-Mar-01
6,425,449	US	Up-Hole Pump-In Core Barrel Apparatus	09/779,258	Longyear TM, Inc.	30-Jul-02
6,634,443	US	Drill Rod Handling Device	10/009,255	Longyear TM, Inc.	21-Oct-03
7,628,228	US	Core Drill Bit With Extended Crown Height	11/610,680	Longyear TM, Inc.	8-Dec-09
7,695,542	US	Fiber-Containing Diamond-Impregnated Cutting Tools	11/948,185	Longyear TM, Inc.	13-Apr-10
7,770,668	US	Modular Rotary Drill Head	12/239,468	Longyear TM, Inc.	10-Aug-10
7,779,932	US	Drill-String Shock Absorbers	12/253,082	Longyear TM, Inc.	24-Aug-10
7,828,090	US	Drill Bits with Enclosed Fluid Slots and Internal Flutes	12/564,540	Longyear TM, Inc.	9-Nov-10
7,874,384	US	Drill Bits with Increased Crown Height	12/568,231	Longyear TM, Inc.	25-Jan-11
7,921,926	US	Jointed Spearhead Assembly	12/349,431	Longyear TM, Inc.	12-Apr-11
7,954,566	US	Stabilizer For Drill Strings	12/305,925	Longyear TM, Inc.	7-Jun-11
7,967,085	US	Braking Devices And Methods For Use In Drilling Operations	12/427,586	Longyear TM, Inc.	28-Jun-11
7,984,773	US	Sonic Drill Bit for Core Sampling	12/346,395	Longyear TM, Inc.	26-Jul-11
7,997,167	US	Clamping And Breaking Device	12/197,817	Longyear TM, Inc.	16-Aug-11
7,997,351	US	Pneumatic Drifter With Replaceable Foot Pieces	12/337,510	Longyear TM, Inc.	16-Aug-11
8,006,782	US	Sonic Drill Head	12/250,894	Longyear TM, Inc.	30-Aug-11
8,006,783	US	Helical Drilling Apparatus, Systems, and Methods	12/732,106	Longyear TM, Inc.	30-Aug-11
8,028,613	US	Valve System for Drilling Systems	12/768,066	Longyear TM, Inc.	4-Oct-11
8,051,924	US	Methods of Braking Core Barrel Assemblies	13/094,674	Longyear TM, Inc.	8-Nov-11
8,051,925	US	Core Barrel Assemblies with Braking Devices	13/094,581	Longyear TM, Inc.	8-Nov-11
8,051,929	US	Core Drill Bits With Enclosed Fluid Slots	12/909,187	Longyear TM, Inc.	8-Nov-11
8,118,113	US	Hydraulic Control System For Drilling Systems	12/412,156	Longyear TM, Inc.	21-Feb-12
8,118,118	US	Modular Rotary Drill Head	12/843,727	Longyear TM, Inc.	21-Feb-12
8,146,686	US	Fiber-Containing Cutting Tools	12/561,936	Longyear TM, Inc.	3-Apr-12
8,191,445	US	Methods of Forming Fiber-Containing Diamond-Impregnated Cutting Tools	12/276,903	Longyear TM, Inc.	5-Jun-12
8,261,857	US	Core Barrel Sonic Latch Mechanism and Methods of Sonic Drilling Using Same	12/346,147	Longyear TM, Inc.	11-Sep-12
8,333,255	US	High Productivity Core Drilling System	12/528,949	Longyear TM, Inc.	18-Dec-12
8,336,647	US	Sonic Drill Bits and Sonic Drilling System	13/046,548	Longyear TM, Inc.	25-Dec-12
8,347,984	US	Variable Force/Variable Frequency Sonic Drill Head	12/768,390	Longyear TM, Inc.	8-Jan-13
8,356,677	US	Methods of Preloading a Sonic Drill Head and Methods of Drilling Using the Same	13/172,450	Longyear TM, Inc.	22-Jan-13
8,459,381	US	Drill Bit With Axially-Tapered Waterways	12/638,229	Longyear TM, Inc.	11-Jun-13
8,474,547	US	Isolation System For Drilling Systems	12/251,120	Longyear TM, Inc.	2-Jul-13
8,485,280	US	Core Drilling Tools with Retractable Lockable Driven Latch Mechanisms	12/968,127	Longyear TM, Inc.	16-Jul-13
8,590,646	US	Impregnated Cutting Elements with Large Abrasive Cutting Media and Methods of Making and Using the Same	12/885,284	Longyear TM, Inc.	26-Nov-13
8,662,204	US	Core Barrel Restraint	13/115,630	Longyear TM, Inc.	4-Mar-14
8,668,029	US	Sonic Latch Mechanism	13/610,683	Longyear TM, Inc.	11-Mar-14
8,770,319	US	Pump-In Seal	12/893,234	Longyear TM, Inc.	8-Jul-14
8,770,322	US	Latch Body Components Having Multiple Functions, and Drilling Head Assembly Incorporating Same	13/593,338	Longyear TM, Inc.	8-Jul-14
8,783,384	US	Fiber-Containing Diamond-Impregnated Cutting Tools and Methods of Forming and Using Same	13/477,989	Longyear TM, Inc.	22-Jul-14
8,794,355	US	Driven Latch Mechanism	12/898,878	Longyear TM, Inc.	5-Aug-14
8,869,915	US	Systems and Methods for Sonic Subsurface Material Removal	13/727678	Longyear TM, Inc.	28-Oct-14
8,869,918	US	Core Drilling Tools With External Fluid Pathways	12/968994	Longyear TM, Inc.	28-Oct-14

Patent No.	Country	Title	Serial No.	Owner	Issue Date
8,955,620	US	Drill Rod Guide	13/326092	Longyear TM, Inc.	17-Feb-15
8,991,524	US	Impregnated Drill Bits with Integrated Reamers	13/177,427	Longyear TM, Inc.	31-Mar-15
9,051,786	US	Diamond Impregnated Bit With Aggressive Face Profile	12/857,331	Longyear TM, Inc.	9-Jun-15
9,074,429	US	Drill Bit With Axially-Tapered Waterways	13/914,233	Longyear TM, Inc.	7-Jul-15
9,089,904	US	Core Barrel Holder and Methods of Using Same	13/666,059	Longyear TM, Inc.	28-Jul-15
9,121,236	US	Storage, Handling and Positioning Device for Drill Rods and Methods Thereof	13/730,194	Longyear TM, Inc.	1-Sep-15
9,234,398	US	Core Drilling Tools with Retractable Lockable Driven Latch Mechanisms	13/943,460	Longyear TM, Inc.	12-Jan-16
9,234,399	US	Impregnated Drill Bits with Integrated Reamers	14/669,897	Longyear TM, Inc.	12-Jan-16
9,267,332	US	Impregnated Drilling Tools Including Elongated Structures	13/217,107	Longyear TM, Inc.	23-Feb-16
9,279,292	US	Drill Bits Having Flushing and Systems for Using Same	14/085,242	Longyear TM, Inc.	8-Mar-16
9,328,608	US	Driven Latch Mechanism	14/341,128	Longyear TM, Inc.	03-May-16
9,359,847	US	High Productivity Core Drilling System	13/717,421	Longyear TM, Inc.	07-Jun-16
9,399,898	US	Core Drilling Tools with Retractable Lockable Driven Latch Mechanisms	14/193,136	Longyear TM, Inc.	26-Jul-16
9,404,311	US	Fiber-Containing Diamond-Impregnated Cutting Tools and Methods of Forming and Using Same	14/319,763	Longyear TM, Inc.	02-Aug-16
9,421,671	US	Infiltrated Diamond Wear Resistant Bodies and Tools	13/368,928	Longyear TM, Inc.	23-Aug-16
9,446,503	US	High Strength, High Hardness Binders and Drilling Tools Formed from Using the Same	14/566,389	Longyear TM, Inc.	20-Sep-16
9,500,036	US	Single-Waterway Drill Bits and Systems for Using Same	14/246,888	Longyear TM, Inc.	22-Nov-16
9,506,298	US	Drill Bits Having Blind-Hole Flushing and System for Using Same	14/085,218	Longyear TM, Inc.	29-Nov-16
9,528,337	US	Up Hole Bushing and Core Barrel Head Assembly Comprising Same	13/803,820	Longyear TM, Inc.	27-Dec-16
9,540,883	US	Fiber-Containing Diamond-Impregnated Cutting Tools and Methods of Forming and Using Same	14/229,387	Longyear TM, Inc.	10-Jan-17
9,546,524	US	Handling & Recovery Devices for Tubular Members and Associated Methods	14/192,569	Longyear TM, Inc.	17-Jan-17
9,637,980	US	Diamond Impregnated bit with Aggressive Face Profile	14/731,634	Longyear TM, Inc.	02-May-17
D622,293	US	Spearhead	29/352,055	Longyear TM, Inc.	24-Aug-10
D622,294	US	Spearhead Base	29/352,117	Longyear TM, Inc.	24-Aug-10
D622,741	US	Spearhead	29/352,115	Longyear TM, Inc.	31-Aug-10
D622,745	US	Drill Bit With Tapered Waterway	29/354,579	Longyear TM, Inc.	31-Aug-10
D624,564	US	Spearhead Base	29/352,049	Longyear TM, Inc.	28-Sep-10
D630,656	US	Drill Bit	29/354,596	Longyear TM, Inc.	11-Jan-11
D643,443	US	Core Barrel Latch Body with Axial Grooves	29/383,572	Longyear TM, Inc.	16-Aug-11
D643,859	US	Core Barrel Assembly with Tapered Design	29/383,561	Longyear TM, Inc.	23-Aug-11
D644,668	US	CORE BARREL HEAD ASSEMBLY WITH AXIAL GROOVE	29/383,340	Longyear TM, Inc.	6-Sep-11
D647,114	US	Drill Bit With Tapered Waterway	29/354,586	Longyear TM, Inc.	18-Oct-11
D647,115	US	Drill Bit Waterway	29/354,592	Longyear TM, Inc.	18-Oct-11
D647,540	US	Core Barrel Sleeve with Axial Grooves	29/383,623	Longyear TM, Inc.	25-Oct-11
D648,836	US	Seal For Head Assembly	29/378,943	Longyear TM, Inc.	15-Nov-11
D649,167	US	Core Barrel Head Assembly with Tapered Design	29/383,554	Longyear TM, Inc.	22-Nov-11
D649,228	US	Seal For Head Assembly	29/378,942	Longyear TM, Inc.	22-Nov-11
D650,052	US	Seal For Head Assembly	29/381,037	Longyear TM, Inc.	6-Dec-11
D664,566	US	Core Barrel Retracting Case	29/384,675	Longyear TM, Inc.	31-Jul-12
D664,567	US	Core Barrel Latch Body	29/384,681	Longyear TM, Inc.	31-Jul-12
D687,862	US	Latch Body	29/430,535	Longyear TM, Inc.	13-Aug-13
D687,863	US	Latch Body	29/430,541	Longyear TM, Inc.	13-Aug-13
D687,864	US	Latch Body	29/430,543	Longyear TM, Inc.	13-Aug-13

Patent Applications

Serial No.	Country	Title	Owner	Application Filing Date
14/034,605	US	High Productivity Drill Bits	Longyear TM, Inc.	24-Sep-13
14/500,012	US	Core Drilling Tools With External Fluid Pathways	Longyear TM, Inc.	29-Sep-14
14/585,716	US	No-Waterway Or Single Waterway Drill Bits And Systems And Methods For Using Same	Longyear TM, Inc.	30-Dec-14
14/585,736	US	Diverter Assemblies And Systems For Forming Seals Around Pipe Elements And Methods of Using Same	Longyear TM, Inc.	30-Dec-14
14/692,484	US	Core Barrel Head Assembly with an Integrated Sample Orientation Tool and System for Using Same	Longyear TM, Inc.	21-Apr-15
14/710,997	US	Fully Infiltrated Rotary Drill Bit	Longyear TM, Inc.	13-May-15
14/753,853	US	Drill Bits With Axially-Tapered Waterways	Longyear TM, Inc.	29-Jun-15
14/790,069	US	Core Barrel Support System and Methods of Using Same	Longyear TM, Inc.	2-Jul-15
14/870,247	US	Braking Devices for Drilling Operations and Systems and Methods of Using Same	Longyear TM, Inc.	30-Sep-15
14/993,550	US	Drilling Tools Having Matrices with Carbide-Forming Alloys and Methods of Making and Using Same	Longyear TM, Inc.	12-Jan-16
15/010,672	US	Drill Bits Having Flushing and Systems for Using Same	Longyear TM, Inc.	29-Jan-16
15/232,452	US	Infiltrated Diamond Wear Resistant Bodies and Tools	Longyear TM, Inc.	9-Aug-16
15/303,668	US	Drill Bits Having Flushing	Longyear TM, Inc.	12-Oct-16
15/311,592	US	Wireline System and Methods of Using Same	Longyear TM, Inc.	16-Nov-16
15/378,992	US	Fiber-Containing Diamond-Impregnated Cutting Tools and Methods of Forming and Using Same	Longyear TM, Inc.	14-Dec-16
15/379,016	US	Handling & Recovery Devices for Tubular Members and Associated Methods	Longyear TM, Inc.	14-Dec-16

Provisional Patent Applications

<u>Patent Serial No.</u>	<u>Country</u>	<u>Title</u>	<u>Owner</u>	<u>Application Filing Date</u>
62/425,230 Unpublished application	US	Wireless Data Acquisition Adapter for Drill String Impulse Sensing	Longyear TM, Inc.	11/22/2016

PCT Patent Applications

<u>Patent Serial No.</u>	<u>PCT Filing Date</u>	<u>Title</u>	<u>Owner</u>	<u>30 Mo Natl Date</u>
PCT/US2016/12967	1/12/16	Drilling Tools Having Matrices with Carbide Forming Alloys and Methods of Making and Using Same	Longyear TM, Inc	07/12/2017
PCT/US2016/15582	1/29/16	Fluid Control Assemblies and Core Barrel and Overshot Assemblies Comprising Same	Longyear TM, Inc.	07/30/2017
PCT/US2016/20680	3/03/16	Drill Bits Having Flushing and Systems for Using Same	Longyear TM, Inc.	09/05/2017
PCT/US2016/53703	9/26/2016	Braking Devices for Drilling Operations and Systems and Methods of Using Same	Longyear TM, Inc.	3/30/2018

Exhibit B

Patent Security Agreement, dated as of December 13, 2017

(Reel 044392, Frame 0569)

[Attached]

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT4733758

SUBMISSION TYPE:	NEW ASSIGNMENT		
NATURE OF CONVEYANCE:	SECURITY INTEREST		
CONVEYING PARTY DATA			
Name			Execution Date
LONGYEAR TM, INC.			12/13/2017
RECEIVING PARTY DATA			
Name:	WILMINGTON TRUST, NATIONAL ASSOCIATION		
Street Address:	50 SOUTH SIXTH ST., SUITE 1290		
City:	MINNEAPOLIS		
State/Country:	MINNESOTA		
Postal Code:	55402		
PROPERTY NUMBERS Total: 2			
Property Type	Number		
Patent Number:	9689222		
Application Number:	15544741		
CORRESPONDENCE DATA			
Fax Number:	(704)377-8156		
<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>			
Phone:	7043778156		
Email:	jcarusone@robinsonbradshaw.com		
Correspondent Name:	JENNIFER CARUSONE		
Address Line 1:	101 N. TRYON STREET, SUITE 1900		
Address Line 2:	ROBINSON, BRADSHAW & HINSON, P.A.		
Address Line 4:	CHARLOTTE, NORTH CAROLINA 28246		
ATTORNEY DOCKET NUMBER:	19133.00052 BACKSTOP		
NAME OF SUBMITTER:	JENNIFER CARUSONE		
SIGNATURE:	/Jennifer Carusone/		
DATE SIGNED:	12/14/2017		
Total Attachments: 4			
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source=Wilmington Backstop - U.S. Patent IP Security Agreement#page3.tif			
source=Wilmington Backstop - U.S. Patent IP Security Agreement#page4.tif			

Patent Security Agreement

Patent Security Agreement, dated as of December 13th, 2017 by Longyear TM, Inc. (the "Grantor"), in favor of Wilmington Trust, National Association, in its capacity as collateral agent pursuant to the Term Loan Securities Agreement (in such capacity, the "Collateral Agent").

W I T N E S S E T H

WHEREAS, the Grantor is party to a U.S. Security and Pledge Agreement of even date herewith (as amended, amended and restated, supplemented or otherwise modified from time to time, the "Security Agreement") in favor of the Collateral Agent pursuant to which the Grantor is required to execute and deliver this Patent Security Agreement;

NOW, THEREFORE, in consideration of the premises and to induce the Collateral Agent, for the benefit of the Secured Parties, to enter into the Term Loan Securities Agreement, the Grantor hereby agrees with the Collateral Agent as follows:

SECTION 1. Defined Terms. Unless otherwise defined herein, terms defined in the Security Agreement and used herein have the meaning given to them in the Security Agreement.

SECTION 2. Grant of Security Interest in Patent Collateral. The Grantor hereby pledges and grants to the Collateral Agent for the benefit of the Secured Parties a lien on and security interest in and to all of its right, title and interest in, to and under all the following Collateral of such Grantor (other than Excluded Assets):

- (a) Patents of the Grantor listed on Schedule I attached hereto; and
- (b) all Proceeds of any and all of the foregoing.

SECTION 3. Security Agreement. The security interest granted pursuant to this Patent Security Agreement is granted in conjunction with the security interest granted to the Collateral Agent pursuant to the Security Agreement and the Grantor hereby acknowledges and affirms that the rights and remedies of the Collateral Agent with respect to the security interest in the Patents made and granted hereby are more fully set forth in the Security Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein. In the event that any provision of this Patent Security Agreement is deemed to conflict with the Security Agreement, the provisions of the Security Agreement shall control unless the Collateral Agent shall otherwise determine.

SECTION 4. Counterparts. This Patent Security Agreement may be executed in any number of counterparts, all of which shall constitute one and the same instrument, and any party hereto may execute this Patent Security Agreement by signing and delivering one or more counterparts.

SECTION 5. Subject to Intercreditor Agreements. Notwithstanding anything herein to the contrary, the liens and security interests granted to Wilmington Trust, National Association, as Collateral Agent, pursuant to this Patent Security Agreement and the exercise of any right or remedy by Wilmington Trust, National Association, as Collateral Agent hereunder, are subject to the provisions of (i) the Intercreditor Agreement, dated as of September 27, 2013 (as amended, restated, supplemented or otherwise modified from time to time, the "Notes Intercreditor Agreement"), among Bank of America, N.A., as collateral agent under the existing credit agreement and U.S. Bank National Association, as

collateral agent under that certain Indenture, dated as of September 18, 2013 among the Obligors and U.S. Bank National Association, as trustee and as collateral agent, as amended, restated, supplemented or modified from time to time, including (a) via joinder by the Agent in connection with each of the term loan A securities agreement dated as of October 22, 2014 by and among the Obligors, the purchasers party thereto, and Wilmington Trust, National Association, as agent thereunder, as amended through the date hereof, including pursuant to that certain fourth amendment to the Existing Term Loan A Securities Agreement and that certain fifth amendment to the Existing Term Loan A Securities Agreement, each dated as of on or about the Credit Extension Date, and as further amended, restated or otherwise modified from time to time (the “Existing Term Loan A Securities Agreement”) and the term loan securities agreement, dated as of October 22, 2014 by and among the Obligors, the purchasers party thereto, and Wilmington Trust, National Association, as agent thereunder, as amended through the date hereof, including pursuant to that certain fourth amendment to the Term Loan B Securities Agreement and that certain fifth amendment to the Term Loan B Securities Agreement, each dated as of on or about the Credit Extension Date, and as further amended, restated or otherwise modified from time to time (the “Existing Term Loan B Securities Agreement”), (b) via joinder by PNC Bank, National Association, as administrative agent under that certain revolving credit and security agreement dated as of May 29, 2015 by and among the Obligors, the financial institutions party thereto and PNC Bank, National Association, as the same may be amended, amended and restated, replaced and restated, extended, supplemented and/or otherwise modified from time to time (the “Revolving Credit and Security Agreement”) and (c) via joinder by the Agent in connection with the Term Loan Securities Agreement, (ii) the Second Amended and Restated Intercreditor Agreement, amended and restated as of the date hereof and originally dated as of May 29, 2015 and previously amended and restated as of April 2, 2017 (as further amended, restated, supplemented or otherwise modified from time to time, the “ABL Intercreditor Agreement” and, together with the Notes Intercreditor Agreement, the “Intercreditor Agreements”), among PNC Bank National Association, as administrative agent under the Revolving Credit and Security Agreement, Wilmington Trust, National Association, as the agent under the Existing Term Loan A Securities Agreement and the Agent in connection with the Term Loan Securities Agreement, and (iii) the Amended and Restated Senior / Junior Term Loan Intercreditor Agreement, amended and restated as of the date hereof and originally dated as of April 2, 2017 (as further amended, restated, supplemented or otherwise modified from time to time, the “Senior / Junior Term Loan Intercreditor Agreement”), among Wilmington Trust, National Association, as the agent under the Existing Term Loan A Securities Agreement and the Agent in connection with the Term Loan Securities Agreement. In the event of any conflict between the terms of the Intercreditor Agreements and the terms of this Agreement, the terms of the applicable Intercreditor Agreement shall govern and control.

[signature page follows]

IN WITNESS WHEREOF, each Grantor has caused this Patent Security Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

GRANTOR:

LONGYEAR TM, INC.

By: 

Name: Jeffrey Olsen

Title: Secretary

Schedule 1

Issued Patents

Patent No.	Country	Title	Serial No.	Owner	Issue Date
9,689,222	USA	Core Drilling Tools with External Fluid Pathways	14/500,012	Longyear TM, Inc.	27-Jun-17

Patent Applications

Serial No.	Country	Title	Owner	Application Filing Date
15/544,741	USA	Fluid Assemblies and Core Barrel and Overshot Assemblies Comprising Same	Longyear TM, Inc.	19-Jul-17

Provisional Patent Applications

None.

PCT Patent Applications

None.

Exhibit C

Patent Security Agreement, dated as of April 30, 2018

(Reel 045676, Frame 0319)

[Attached]

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT4939708

SUBMISSION TYPE:	NEW ASSIGNMENT		
NATURE OF CONVEYANCE:	SECURITY INTEREST		
CONVEYING PARTY DATA			
Name			Execution Date
LONGYEAR TM, INC.			04/30/2018
RECEIVING PARTY DATA			
Name:	WILMINGTON TRUST, NATIONAL ASSOCIATION		
Street Address:	50 SOUTH SIXTH ST., SUITE 1290		
City:	MINNEAPOLIS		
State/Country:	MINNESOTA		
Postal Code:	55402		
PROPERTY NUMBERS Total: 2			
Property Type	Number		
Patent Number:	9784038		
Patent Number:	9903165		
CORRESPONDENCE DATA			
Fax Number:	(704)378-4000		
<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>			
Phone:	7043778156		
Email:	jcarusone@robinsonbradshaw.com		
Correspondent Name:	JENNIFER CARUSONE		
Address Line 1:	101 N. TRYON ST., STE 1900		
Address Line 2:	ROBINSON, BRADSHAW & HINSON, P.A.		
Address Line 4:	CHARLOTTE, NORTH CAROLINA 28246		
ATTORNEY DOCKET NUMBER:	19133.00049		
NAME OF SUBMITTER:	JENNIFER CARUSONE		
SIGNATURE:	/Jennifer Carusone/		
DATE SIGNED:	05/01/2018		
Total Attachments: 4			
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source=10791662_v1_BLY - Backstop U.S. Patent IP Security Agreement - Apr. 2018#page3.tif			
source=10791662_v1_BLY - Backstop U.S. Patent IP Security Agreement - Apr. 2018#page4.tif			

Patent Security Agreement

Patent Security Agreement, dated as of April 30, 2018 by Longyear TM, Inc. (the "Grantor"), in favor of Wilmington Trust, National Association, in its capacity as collateral agent pursuant to the Term Loan Securities Agreement (in such capacity, the "Collateral Agent").

W I T N E S S E T H

WHEREAS, the Grantor is party to a U.S. Security and Pledge Agreement of even date herewith (as amended, amended and restated, supplemented or otherwise modified from time to time, the "Security Agreement") in favor of the Collateral Agent pursuant to which the Grantor is required to execute and deliver this Patent Security Agreement;

NOW, THEREFORE, in consideration of the premises and to induce the Collateral Agent, for the benefit of the Secured Parties, to enter into the Term Loan Securities Agreement, the Grantor hereby agrees with the Collateral Agent as follows:

SECTION 1. Defined Terms. Unless otherwise defined herein, terms defined in the Security Agreement and used herein have the meaning given to them in the Security Agreement.

SECTION 2. Grant of Security Interest in Patent Collateral. The Grantor hereby pledges and grants to the Collateral Agent for the benefit of the Secured Parties a lien on and security interest in and to all of its right, title and interest in, to and under all the following Collateral of such Grantor (other than Excluded Assets):

- (a) Patents of the Grantor listed on Schedule I attached hereto; and
- (b) all Proceeds of any and all of the foregoing.

SECTION 3. Security Agreement. The security interest granted pursuant to this Patent Security Agreement is granted in conjunction with the security interest granted to the Collateral Agent pursuant to the Security Agreement and the Grantor hereby acknowledges and affirms that the rights and remedies of the Collateral Agent with respect to the security interest in the Patents made and granted hereby are more fully set forth in the Security Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein. In the event that any provision of this Patent Security Agreement is deemed to conflict with the Security Agreement, the provisions of the Security Agreement shall control unless the Collateral Agent shall otherwise determine.

SECTION 4. Counterparts. This Patent Security Agreement may be executed in any number of counterparts, all of which shall constitute one and the same instrument, and any party hereto may execute this Patent Security Agreement by signing and delivering one or more counterparts.

SECTION 5. Subject to Intercreditor Agreements. Notwithstanding anything herein to the contrary, the liens and security interests granted to Wilmington Trust, National Association, as Collateral Agent, pursuant to this Patent Security Agreement and the exercise of any right or remedy by Wilmington Trust, National Association, as Collateral Agent hereunder, are subject to the provisions of (i) the Intercreditor Agreement, dated as of September 27, 2013 (as amended, restated, supplemented or otherwise modified from time to time, the "Notes Intercreditor Agreement"), among Bank of America, N.A., as collateral agent under the existing credit agreement and U.S. Bank National Association, as

collateral agent under that certain Indenture, dated as of September 18, 2013 among the Obligors and U.S. Bank National Association, as trustee and as collateral agent, as amended, restated, supplemented or modified from time to time, including (a) via joinder by the Agent in connection with each of the term loan A securities agreement dated as of October 22, 2014 by and among the Obligors, the purchasers party thereto, and Wilmington Trust, National Association, as agent thereunder, as amended through the date hereof, including pursuant to that certain fourth amendment to the Existing Term Loan A Securities Agreement and that certain fifth amendment to the Existing Term Loan A Securities Agreement, each dated as of on or about the Credit Extension Date, and as further amended, restated or otherwise modified from time to time (the “Existing Term Loan A Securities Agreement”) and the term loan securities agreement, dated as of October 22, 2014 by and among the Obligors, the purchasers party thereto, and Wilmington Trust, National Association, as agent thereunder, as amended through the date hereof, including pursuant to that certain fourth amendment to the Term Loan B Securities Agreement and that certain fifth amendment to the Term Loan B Securities Agreement, each dated as of on or about the Credit Extension Date, and as further amended, restated or otherwise modified from time to time (the “Existing Term Loan B Securities Agreement”), (b) via joinder by PNC Bank, National Association, as administrative agent under that certain revolving credit and security agreement dated as of May 29, 2015 by and among the Obligors, the financial institutions party thereto and PNC Bank, National Association, as the same may be amended, amended and restated, replaced and restated, extended, supplemented and/or otherwise modified from time to time (the “Revolving Credit and Security Agreement”) and (c) via joinder by the Agent in connection with the Term Loan Securities Agreement, (ii) the Second Amended and Restated Intercreditor Agreement, amended and restated as of the date hereof and originally dated as of May 29, 2015 and previously amended and restated as of April 2, 2017 (as further amended, restated, supplemented or otherwise modified from time to time, the “ABL Intercreditor Agreement” and, together with the Notes Intercreditor Agreement, the “Intercreditor Agreements”), among PNC Bank National Association, as administrative agent under the Revolving Credit and Security Agreement, Wilmington Trust, National Association, as the agent under the Existing Term Loan A Securities Agreement and the Agent in connection with the Term Loan Securities Agreement, and (iii) the Amended and Restated Senior / Junior Term Loan Intercreditor Agreement, amended and restated as of the date hereof and originally dated as of April 2, 2017 (as further amended, restated, supplemented or otherwise modified from time to time, the “Senior / Junior Term Loan Intercreditor Agreement”), among Wilmington Trust, National Association, as the agent under the Existing Term Loan A Securities Agreement and the Agent in connection with the Term Loan Securities Agreement. In the event of any conflict between the terms of the Intercreditor Agreements and the terms of this Agreement, the terms of the applicable Intercreditor Agreement shall govern and control.

[signature page follows]

IN WITNESS WHEREOF, each Grantor has caused this Patent Security Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

GRANTOR:

LONGYEAR TM, INC.

By 

Name: Jeffrey Olsen

Title: Secretary

Schedule 1

Issued Patents

Patent No.	Country	Title	Serial No.	Owner	Issue Date
9,784,038	USA	HIGH-PRODUCTIVITY DRILL BITS	14/034,605	Longyear TM, Inc.	Oct. 10, 2017
9,903,165	USA	DRILL BITS WITH AXIALLY-TAPERED WATERWAYS	14/753,853	Longyear TM, Inc.	Feb. 27, 2018

Patent Applications

None.

Provisional Patent Applications

None.

PCT Patent Applications

None.

Exhibit D

Patent Security Agreement, dated as of September 19, 2018

(Reel 046920, Frame 0409)

[Attached]

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT5149649

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	SECURITY INTEREST
CONVEYING PARTY DATA	
Name	Execution Date
LONGYEAR TM, INC.	09/19/2018
RECEIVING PARTY DATA	
Name:	WILMINGTON TRUST, NATIONAL ASSOCIATION
Street Address:	50 SOUTH SIXTH ST., SUITE 1290
City:	MINNEAPOLIS
State/Country:	MINNESOTA
Postal Code:	55402
PROPERTY NUMBERS Total: 2	
Property Type	Number
Application Number:	15965243
Application Number:	16017334
CORRESPONDENCE DATA	
Fax Number:	
<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>	
Phone:	7043778156
Email:	JCarusone@robinsonbradshaw.com
Correspondent Name:	JENNIFER CARUSONE
Address Line 1:	101 N. TRYON ST., STE 1900
Address Line 2:	ROBINSON, BRADSHAW & HINSON, P.A.
Address Line 4:	CHARLOTTE, NORTH CAROLINA 28246
ATTORNEY DOCKET NUMBER:	19133.00050 BACKSTOP
NAME OF SUBMITTER:	JENNIFER CARUSONE
SIGNATURE:	/Jennifer Carusone/
DATE SIGNED:	09/20/2018
Total Attachments: 4	
source=Sep. 2018_Longyear TM Inc._Wilmington Trust BLY Backstop_Patent Security Agreement#page1.tif	
source=Sep. 2018_Longyear TM Inc._Wilmington Trust BLY Backstop_Patent Security Agreement#page2.tif	
source=Sep. 2018_Longyear TM Inc._Wilmington Trust BLY Backstop_Patent Security Agreement#page3.tif	
source=Sep. 2018_Longyear TM Inc._Wilmington Trust BLY Backstop_Patent Security Agreement#page4.tif	

Patent Security Agreement

Patent Security Agreement, dated as of September 19, 2018 by Longyear TM, Inc. (the "Grantor"), in favor of Wilmington Trust, National Association, in its capacity as collateral agent pursuant to the Term Loan Securities Agreement (in such capacity, the "Collateral Agent").

WITNESSETH

WHEREAS, the Grantor is party to a U.S. Security and Pledge Agreement dated as of September 1, 2017 (as amended, amended and restated, supplemented or otherwise modified from time to time, the "Security Agreement") in favor of the Collateral Agent pursuant to which the Grantor is required to execute and deliver this Patent Security Agreement;

NOW, THEREFORE, in consideration of the premises and to induce the Collateral Agent, for the benefit of the Secured Parties, to enter into the Term Loan Securities Agreement, the Grantor hereby agrees with the Collateral Agent as follows:

SECTION 1. Defined Terms. Unless otherwise defined herein, terms defined in the Security Agreement and used herein have the meaning given to them in the Security Agreement.

SECTION 2. Grant of Security Interest in Patent Collateral. The Grantor hereby pledges and grants to the Collateral Agent for the benefit of the Secured Parties a lien on and security interest in and to all of its right, title and interest in, to and under all the following Collateral of such Grantor (other than Excluded Assets):

- (a) Patents of the Grantor listed on Schedule I attached hereto; and
- (b) all Proceeds of any and all of the foregoing.

SECTION 3. Security Agreement. The security interest granted pursuant to this Patent Security Agreement is granted in conjunction with the security interest granted to the Collateral Agent pursuant to the Security Agreement and the Grantor hereby acknowledges and affirms that the rights and remedies of the Collateral Agent with respect to the security interest in the Patents made and granted hereby are more fully set forth in the Security Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein. In the event that any provision of this Patent Security Agreement is deemed to conflict with the Security Agreement, the provisions of the Security Agreement shall control unless the Collateral Agent shall otherwise determine.

SECTION 4. Counterparts. This Patent Security Agreement may be executed in any number of counterparts, all of which shall constitute one and the same instrument, and any party hereto may execute this Patent Security Agreement by signing and delivering one or more counterparts.

SECTION 5. Subject to Intercreditor Agreements. Notwithstanding anything herein to the contrary, the liens and security interests granted to Wilmington Trust, National Association, as Collateral Agent, pursuant to this Patent Security Agreement and the exercise of any right or remedy by Wilmington Trust, National Association, as Collateral Agent hereunder, are subject to the provisions of (i) the Intercreditor Agreement, dated as of September 27, 2013 (as amended, restated, supplemented or otherwise modified from time to time, the "Notes Intercreditor Agreement"), among Bank of America, N.A. as collateral agent under the existing credit agreement and U.S. Bank National Association, as

collateral agent under that certain Indenture, dated as of September 18, 2013 among the Obligors and U.S. Bank National Association, as trustee and as collateral agent, as amended, restated, supplemented or modified from time to time, including (a) via joinder by the Agent in connection with each of the term loan A securities agreement dated as of October 22, 2014 by and among the Obligors, the purchasers party thereto, and Wilmington Trust, National Association, as agent thereunder, as amended through the date hereof, including pursuant to that certain fourth amendment to the Existing Term Loan A Securities Agreement and that certain fifth amendment to the Existing Term Loan A Securities Agreement, each dated as of on or about the Credit Extension Date, and as further amended, restated or otherwise modified from time to time (the "Existing Term Loan A Securities Agreement") and the term loan securities agreement, dated as of October 22, 2014 by and among the Obligors, the purchasers party thereto, and Wilmington Trust, National Association, as agent thereunder, as amended through the date hereof, including pursuant to that certain fourth amendment to the Term Loan B Securities Agreement and that certain fifth amendment to the Term Loan B Securities Agreement, each dated as of on or about the Credit Extension Date, and as further amended, restated or otherwise modified from time to time (the "Existing Term Loan B Securities Agreement"), (b) via joinder by PNC Bank, National Association, as administrative agent under that certain revolving credit and security agreement dated as of May 29, 2015 by and among the Obligors, the financial institutions party thereto and PNC Bank, National Association, as the same may be amended, amended and restated, replaced and restated, extended, supplemented and/or otherwise modified from time to time (the "Revolving Credit and Security Agreement") and (c) via joinder by the Agent in connection with the Term Loan Securities Agreement, (ii) the Second Amended and Restated Intercreditor Agreement, amended and restated as of the date hereof and originally dated as of May 29, 2015 and previously amended and restated as of April 2, 2017 (as further amended, restated, supplemented or otherwise modified from time to time, the "ABL Intercreditor Agreement") and, together with the Notes Intercreditor Agreement, the "Intercreditor Agreements"), among PNC Bank National Association, as administrative agent under the Revolving Credit and Security Agreement, Wilmington Trust, National Association, as the agent under the Existing Term Loan A Securities Agreement and the Agent in connection with the Term Loan Securities Agreement, and (iii) the Amended and Restated Senior / Junior Term Loan Intercreditor Agreement, amended and restated as of the date hereof and originally dated as of April 2, 2017 (as further amended, restated, supplemented or otherwise modified from time to time, the "Senior / Junior Term Loan Intercreditor Agreement"), among Wilmington Trust, National Association, as the agent under the Existing Term Loan A Securities Agreement and the Agent in connection with the Term Loan Securities Agreement. In the event of any conflict between the terms of the Intercreditor Agreements and the terms of this Agreement, the terms of the applicable Intercreditor Agreement shall govern and control.

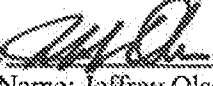
[signature page follows]

IN WITNESS WHEREOF, each Grantor has caused this Patent Security Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

GRANTOR:

LONGYEAR TM, INC.

By


Name: Jeffrey Olsen

Title: Secretary

Schedule 1

Issued Patents

None.

Patent Applications

Serial No.	Country	Title	Owner	Application Filing Date
15/965,243	U.S.	No-Waterway of Single Waterway Drill Bits and Systems and Methods for Using Same	Longyear TM, Inc.	27-Apr-18
16/017,334	U.S.	Core Barrel Head Assembly with an Integrated Sample Orientation Tool and System for Using Same	Longyear TM, Inc. and Globaltech	25-Jun-18

Provisional Patent Applications

None.

PCT Patent Applications

None.

Exhibit E

Patent Security Agreement, dated as of May 14, 2019

(Reel 049176, Frame 0455)

[Attached]

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT5522686

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	SECURITY INTEREST	
CONVEYING PARTY DATA		
	Name	Execution Date
	LONGYEAR TM, INC.	05/14/2019
RECEIVING PARTY DATA		
Name:	WILMINGTON TRUST, NATIONAL ASSOCIATION, AS COLLATERAL AGENT	
Street Address:	1100 N. MARKET ST.	
City:	WILMINGTON	
State/Country:	DELAWARE	
Postal Code:	19890	
PROPERTY NUMBERS Total: 7		
Property Type	Number	
Patent Number:	10047581	
Patent Number:	10053973	
Patent Number:	10077609	
Patent Number:	10087699	
Patent Number:	10119344	
Application Number:	16035776	
Application Number:	16151871	
CORRESPONDENCE DATA		
Fax Number:		
<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>		
Phone:	7043778156	
Email:	jcarusone@robinsonbradshaw.com	
Correspondent Name:	JENNIFER CARUSONE	
Address Line 1:	101 N. TRYON ST., SUITE 1900	
Address Line 2:	ROBINSON, BRADSHAW & HINSON, P.A.	
Address Line 4:	CHARLOTTE, NORTH CAROLINA 28246	
ATTORNEY DOCKET NUMBER:	19133.00052	
NAME OF SUBMITTER:	JENNIFER CARUSONE	
SIGNATURE:	/Jennifer Carusone/	

DATE SIGNED:	05/14/2019
Total Attachments: 4 source=Longyear TM Inc. - BLY - Backstop U.S. Patent IP Security Agreement (May 2019)#page1.tif source=Longyear TM Inc. - BLY - Backstop U.S. Patent IP Security Agreement (May 2019)#page2.tif source=Longyear TM Inc. - BLY - Backstop U.S. Patent IP Security Agreement (May 2019)#page3.tif source=Longyear TM Inc. - BLY - Backstop U.S. Patent IP Security Agreement (May 2019)#page4.tif	

Patent Security Agreement

Patent Security Agreement, dated as of May 14, 2019 by Longyear TM, Inc. (the “Grantor”), in favor of Wilmington Trust, National Association, in its capacity as collateral agent pursuant to the Term Loan Securities Agreement (in such capacity, the “Collateral Agent”).

W I T N E S S E T H

WHEREAS, the Grantor is party to a U.S. Security and Pledge Agreement dated as of September 1, 2017 (as amended, amended and restated, supplemented or otherwise modified from time to time, the “Security Agreement”) in favor of the Collateral Agent pursuant to which the Grantor is required to execute and deliver this Patent Security Agreement;

NOW, THEREFORE, in consideration of the premises and to induce the Collateral Agent, for the benefit of the Secured Parties, to enter into the Term Loan Securities Agreement, the Grantor hereby agrees with the Collateral Agent as follows:

SECTION 1. Defined Terms. Unless otherwise defined herein, terms defined in the Security Agreement and used herein have the meaning given to them in the Security Agreement.

SECTION 2. Grant of Security Interest in Patent Collateral. The Grantor hereby pledges and grants to the Collateral Agent for the benefit of the Secured Parties a lien on and security interest in and to all of its right, title and interest in, to and under all the following Collateral of such Grantor (other than Excluded Assets):

- (a) Patents of the Grantor listed on Schedule I attached hereto; and
- (b) all Proceeds of any and all of the foregoing.

SECTION 3. Security Agreement. The security interest granted pursuant to this Patent Security Agreement is granted in conjunction with the security interest granted to the Collateral Agent pursuant to the Security Agreement and the Grantor hereby acknowledges and affirms that the rights and remedies of the Collateral Agent with respect to the security interest in the Patents made and granted hereby are more fully set forth in the Security Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein. In the event that any provision of this Patent Security Agreement is deemed to conflict with the Security Agreement, the provisions of the Security Agreement shall control unless the Collateral Agent shall otherwise determine.

SECTION 4. Counterparts. This Patent Security Agreement may be executed in any number of counterparts, all of which shall constitute one and the same instrument, and any party hereto may execute this Patent Security Agreement by signing and delivering one or more counterparts.

SECTION 5. Subject to Intercreditor Agreements. Notwithstanding anything herein to the contrary, the liens and security interests granted to Wilmington Trust, National Association, as Collateral Agent, pursuant to this Patent Security Agreement and the exercise of any right or remedy by Wilmington Trust, National Association, as Collateral Agent hereunder, are subject to the provisions of (i) the Intercreditor Agreement, dated as of September 27, 2013 (as amended, restated, supplemented or otherwise modified from time to time, the “Notes Intercreditor Agreement”), among Bank of America, N.A., as collateral agent under the existing credit agreement and U.S. Bank National Association, as

collateral agent under that certain Indenture, dated as of September 18, 2013 among the Obligors and U.S. Bank National Association, as trustee and as collateral agent, as amended, restated, supplemented or modified from time to time, including (a) via joinder by the Agent in connection with each of the term loan A securities agreement dated as of October 22, 2014 by and among the Obligors, the purchasers party thereto, and Wilmington Trust, National Association, as agent thereunder, as amended through the date hereof, including pursuant to that certain fourth amendment to the Existing Term Loan A Securities Agreement and that certain fifth amendment to the Existing Term Loan A Securities Agreement, each dated as of on or about the Credit Extension Date, and as further amended, restated or otherwise modified from time to time (the “Existing Term Loan A Securities Agreement”) and the term loan securities agreement, dated as of October 22, 2014 by and among the Obligors, the purchasers party thereto, and Wilmington Trust, National Association, as agent thereunder, as amended through the date hereof, including pursuant to that certain fourth amendment to the Term Loan B Securities Agreement and that certain fifth amendment to the Term Loan B Securities Agreement, each dated as of on or about the Credit Extension Date, and as further amended, restated or otherwise modified from time to time (the “Existing Term Loan B Securities Agreement”), (b) via joinder by PNC Bank, National Association, as administrative agent under that certain revolving credit and security agreement dated as of May 29, 2015 by and among the Obligors, the financial institutions party thereto and PNC Bank, National Association, as the same may be amended, amended and restated, replaced and restated, extended, supplemented and/or otherwise modified from time to time (the “Revolving Credit and Security Agreement”) and (c) via joinder by the Agent in connection with the Term Loan Securities Agreement, (ii) the Second Amended and Restated Intercreditor Agreement, amended and restated as of the date hereof and originally dated as of May 29, 2015 and previously amended and restated as of April 2, 2017 (as further amended, restated, supplemented or otherwise modified from time to time, the “ABL Intercreditor Agreement” and, together with the Notes Intercreditor Agreement, the “Intercreditor Agreements”), among PNC Bank National Association, as administrative agent under the Revolving Credit and Security Agreement, Wilmington Trust, National Association, as the agent under the Existing Term Loan A Securities Agreement and the Agent in connection with the Term Loan Securities Agreement, and (iii) the Amended and Restated Senior / Junior Term Loan Intercreditor Agreement, amended and restated as of the date hereof and originally dated as of April 2, 2017 (as further amended, restated, supplemented or otherwise modified from time to time, the “Senior / Junior Term Loan Intercreditor Agreement”), among Wilmington Trust, National Association, as the agent under the Existing Term Loan A Securities Agreement and the Agent in connection with the Term Loan Securities Agreement. In the event of any conflict between the terms of the Intercreditor Agreements and the terms of this Agreement, the terms of the applicable Intercreditor Agreement shall govern and control.

[signature page follows]

IN WITNESS WHEREOF, each Grantor has caused this Patent Security Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

GRANTOR:

LONGYEAR TM, INC.

By: 
Name: Jeffrey Olsen
Title: Secretary

Schedule 1

Issued Patents

<u>Patent No.</u>	<u>Country</u>	<u>Title</u>	<u>Owner</u>	<u>Issue Date</u>
10047581	U.S.	CORE BARREL HEAD ASSEMBLY WITH AN INTEGRATED SAMPLE ORIENTATION TOOL AND SYSTEM FOR USING SAME	Longyear TM, Inc.	14-Aug-18
10053973	U.S.	BRAKING DEVICES FOR DRILLING OPERATIONS, AND SYSTEMS AND METHODS OF USING SAME	Longyear TM, Inc.	21-Aug-18
10077609	U.S.	DRILL BITS HAVING FLUSHING	Longyear TM, Inc.	18-Sept-18
10087699	U.S.	DIVERTER ASSEMBLIES AND SYSTEMS FOR FORMING SEALS AROUND PIPE ELEMENTS AND METHODS OF USING SAME	Longyear TM, Inc.	20-Oct-18
10119344	U.S.	HANDLING AND RECOVERY DEVICES FOR TUBULAR MEMBERS AND ASSOCIATED METHODS	Longyear TM, Inc.	06-Nov-18

Patent Applications

<u>Serial No.</u>	<u>Country</u>	<u>Title</u>	<u>Owner</u>	<u>Application Filing Date</u>
16/035,776	U.S.	BRAKING DEVICES FOR DRILLING OPERATIONS, AND SYSTEMS AND METHODS OF USING SAME	Longyear TM, Inc.	16-Jul-18
16/151,871	U.S.	HANDLING AND RECOVERY DEVICES FOR TUBULAR MEMBERS AND ASSOCIATED METHODS	Longyear TM, Inc.	07-Oct-18

Provisional Patent Applications

None.

PCT Patent Applications

None.

Exhibit F

Patent Security Agreement, dated as of November 14, 2019

(Reel 051061, Frame 0163)

[Attached]

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT5829576

SUBMISSION TYPE:	NEW ASSIGNMENT		
NATURE OF CONVEYANCE:	SECURITY INTEREST		
CONVEYING PARTY DATA			
Name			Execution Date
LONGYEAR TM, INC.			11/14/2019
RECEIVING PARTY DATA			
Name:	WILMINGTON TRUST, NATIONAL ASSOCIATION, AS COLLATERAL AGENT		
Street Address:	1100 N. MARKET ST.		
City:	WILMINGTON		
State/Country:	DELAWARE		
Postal Code:	19890		
PROPERTY NUMBERS Total: 2			
Property Type	Number		
Patent Number:	10384907		
Application Number:	16506444		
CORRESPONDENCE DATA			
Fax Number:			
<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>			
Phone:	7043778156		
Email:	jcarusone@robinsonbradshaw.com		
Correspondent Name:	JENNIFER CARUSONE		
Address Line 1:	101 N. TRYON STREET, SUITE 1900		
Address Line 2:	ROBINSON, BRADSHAW & HINSON, P.A.		
Address Line 4:	CHARLOTTE, NORTH CAROLINA 28246		
ATTORNEY DOCKET NUMBER:	19133.00049		
NAME OF SUBMITTER:	JENNIFER CARUSONE		
SIGNATURE:	/Jennifer Carusone/		
DATE SIGNED:	11/20/2019		
Total Attachments: 4			
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source=Longyear TM, Inc. - BLY - Backstop U.S. Patent IP Security Agreement (Nov. 2019)#page2.tif			
source=Longyear TM, Inc. - BLY - Backstop U.S. Patent IP Security Agreement (Nov. 2019)#page3.tif			

Patent Security Agreement

Patent Security Agreement, dated as of November 14, 2019 by Longyear TM, Inc. (the “Grantor”), in favor of Wilmington Trust, National Association, in its capacity as collateral agent pursuant to the Term Loan Securities Agreement (in such capacity, the “Collateral Agent”).

W I T N E S S E T H

WHEREAS, the Grantor is party to a U.S. Security and Pledge Agreement dated as of September 1, 2017 (as amended, amended and restated, supplemented or otherwise modified from time to time, the “Security Agreement”) in favor of the Collateral Agent pursuant to which the Grantor is required to execute and deliver this Patent Security Agreement;

NOW, THEREFORE, in consideration of the premises and to induce the Collateral Agent, for the benefit of the Secured Parties, to enter into the Term Loan Securities Agreement, the Grantor hereby agrees with the Collateral Agent as follows:

SECTION 1. Defined Terms. Unless otherwise defined herein, terms defined in the Security Agreement and used herein have the meaning given to them in the Security Agreement.

SECTION 2. Grant of Security Interest in Patent Collateral. The Grantor hereby pledges and grants to the Collateral Agent for the benefit of the Secured Parties a lien on and security interest in and to all of its right, title and interest in, to and under all the following Collateral of such Grantor (other than Excluded Assets):

- (a) Patents of the Grantor listed on Schedule I attached hereto; and
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SECTION 4. Counterparts. This Patent Security Agreement may be executed in any number of counterparts, all of which shall constitute one and the same instrument, and any party hereto may execute this Patent Security Agreement by signing and delivering one or more counterparts.

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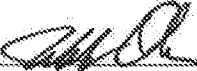
collateral agent under that certain Indenture, dated as of September 18, 2013 among the Obligors and U.S. Bank National Association, as trustee and as collateral agent, as amended, restated, supplemented or modified from time to time, including (a) via joinder by the Agent in connection with each of the term loan A securities agreement dated as of October 22, 2014 by and among the Obligors, the purchasers party thereto, and Wilmington Trust, National Association, as agent thereunder, as amended through the date hereof, including pursuant to that certain fourth amendment to the Existing Term Loan A Securities Agreement and that certain fifth amendment to the Existing Term Loan A Securities Agreement, each dated as of on or about the Credit Extension Date, and as further amended, restated or otherwise modified from time to time (the “Existing Term Loan A Securities Agreement”) and the term loan securities agreement, dated as of October 22, 2014 by and among the Obligors, the purchasers party thereto, and Wilmington Trust, National Association, as agent thereunder, as amended through the date hereof, including pursuant to that certain fourth amendment to the Term Loan B Securities Agreement and that certain fifth amendment to the Term Loan B Securities Agreement, each dated as of on or about the Credit Extension Date, and as further amended, restated or otherwise modified from time to time (the “Existing Term Loan B Securities Agreement”), (b) via joinder by PNC Bank, National Association, as administrative agent under that certain revolving credit and security agreement dated as of May 29, 2015 by and among the Obligors, the financial institutions party thereto and PNC Bank, National Association, as the same may be amended, amended and restated, replaced and restated, extended, supplemented and/or otherwise modified from time to time (the “Revolving Credit and Security Agreement”) and (c) via joinder by the Agent in connection with the Term Loan Securities Agreement, (ii) the Second Amended and Restated Intercreditor Agreement, amended and restated as of the date hereof and originally dated as of May 29, 2015 and previously amended and restated as of April 2, 2017 (as further amended, restated, supplemented or otherwise modified from time to time, the “ABL Intercreditor Agreement” and, together with the Notes Intercreditor Agreement, the “Intercreditor Agreements”), among PNC Bank National Association, as administrative agent under the Revolving Credit and Security Agreement, Wilmington Trust, National Association, as the agent under the Existing Term Loan A Securities Agreement and the Agent in connection with the Term Loan Securities Agreement, and (iii) the Amended and Restated Senior / Junior Term Loan Intercreditor Agreement, amended and restated as of the date hereof and originally dated as of April 2, 2017 (as further amended, restated, supplemented or otherwise modified from time to time, the “Senior / Junior Term Loan Intercreditor Agreement”), among Wilmington Trust, National Association, as the agent under the Existing Term Loan A Securities Agreement and the Agent in connection with the Term Loan Securities Agreement. In the event of any conflict between the terms of the Intercreditor Agreements and the terms of this Agreement, the terms of the applicable Intercreditor Agreement shall govern and control.

[signature page follows]

IN WITNESS WHEREOF, each Grantor has caused this Patent Security Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

GRANTOR:

LONGYEAR TM, INC.

By: 

Name: Jeffrey Olsen

Title: Secretary

Schedule 1

Issued Patents

Patent No.	Country	Title	Owner	Issue Date
10,384,907	US	WIRELINE SYSTEM AND METHODS OF USING SAME	Longyear TM, Inc.	Aug. 20, 2019

Patent Applications

Patent Application No.	Country	Title	Owner	Filing Date
16/506,444	US	WIRELINE SYSTEM AND METHODS OF USING SAME	Longyear TM, Inc.	July 9, 2019

Provisional Patent Applications

None.

PCT Patent Applications

None.

Exhibit G

Patent Security Agreement, dated as of April 29, 2020

(Reel 052526, Frame 0701)

[Attached]

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT6084051

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	SECURITY INTEREST	
CONVEYING PARTY DATA		
	Name	Execution Date
	LONGYEAR TM, INC.	04/29/2020
RECEIVING PARTY DATA		
Name:	WILMINGTON TRUST, NATIONAL ASSOCIATION, AS COLLATERAL AGENT	
Street Address:	1100 N. MARKET ST.	
City:	WILMINGTON	
State/Country:	DELAWARE	
Postal Code:	19890	
PROPERTY NUMBERS Total: 1		
	Property Type	Number
	Application Number:	16588026
CORRESPONDENCE DATA		
Fax Number:		
<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>		
Phone:	7043778156	
Email:	jcarusone@robinsonbradshaw.com	
Correspondent Name:	JENNIFER CARUSONE	
Address Line 1:	101 N. TRYON STREET, SUITE 1900	
Address Line 2:	ROBINSON, BRADSHAW & HINSON, P.A.	
Address Line 4:	CHARLOTTE, NORTH CAROLINA 28246	
ATTORNEY DOCKET NUMBER:	19133.00049	
NAME OF SUBMITTER:	JENNIFER CARUSONE	
SIGNATURE:	/Jennifer Carusone/	
DATE SIGNED:	04/29/2020	
Total Attachments: 4		
source=Boart Longyear - Wilmington Trust ABL Patent Security Agreement (April 2020)#page1.tif		
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source=Boart Longyear - Wilmington Trust ABL Patent Security Agreement (April 2020)#page3.tif		
source=Boart Longyear - Wilmington Trust ABL Patent Security Agreement (April 2020)#page4.tif		

Patent Security Agreement

Patent Security Agreement, dated as of April 29, 2020 by Longyear TM, Inc. (the “Grantor”), in favor of Wilmington Trust, National Association, in its capacity as collateral agent pursuant to the Term Loan Securities Agreement (in such capacity, the “Collateral Agent”).

W I T N E S S E T H

WHEREAS, the Grantor is party to a U.S. Security and Pledge Agreement dated as of September 1, 2017 (as amended, amended and restated, supplemented or otherwise modified from time to time, the “Security Agreement”) in favor of the Collateral Agent pursuant to which the Grantor is required to execute and deliver this Patent Security Agreement;

NOW, THEREFORE, in consideration of the premises and to induce the Collateral Agent, for the benefit of the Secured Parties, to enter into the Term Loan Securities Agreement, the Grantor hereby agrees with the Collateral Agent as follows:

SECTION 1. Defined Terms. Unless otherwise defined herein, terms defined in the Security Agreement and used herein have the meaning given to them in the Security Agreement.

SECTION 2. Grant of Security Interest in Patent Collateral. The Grantor hereby pledges and grants to the Collateral Agent for the benefit of the Secured Parties a lien on and security interest in and to all of its right, title and interest in, to and under all the following Collateral of such Grantor (other than Excluded Assets):

- (a) Patents of the Grantor listed on Schedule I attached hereto; and
- (b) all Proceeds of any and all of the foregoing.

SECTION 3. Security Agreement. The security interest granted pursuant to this Patent Security Agreement is granted in conjunction with the security interest granted to the Collateral Agent pursuant to the Security Agreement and the Grantor hereby acknowledges and affirms that the rights and remedies of the Collateral Agent with respect to the security interest in the Patents made and granted hereby are more fully set forth in the Security Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein. In the event that any provision of this Patent Security Agreement is deemed to conflict with the Security Agreement, the provisions of the Security Agreement shall control unless the Collateral Agent shall otherwise determine.

SECTION 4. Counterparts. This Patent Security Agreement may be executed in any number of counterparts, all of which shall constitute one and the same instrument, and any party hereto may execute this Patent Security Agreement by signing and delivering one or more counterparts.

SECTION 5. Subject to Intercreditor Agreements. Notwithstanding anything herein to the contrary, the liens and security interests granted to Wilmington Trust, National Association, as Collateral Agent, pursuant to this Patent Security Agreement and the exercise of any right or remedy by Wilmington Trust, National Association, as Collateral Agent hereunder, are subject to the provisions of (i) the Intercreditor Agreement, dated as of September 27, 2013 (as amended, restated, supplemented or otherwise modified from time to time, the “Notes Intercreditor Agreement”), among Bank of America, N.A., as collateral agent under the existing credit agreement and U.S. Bank National Association, as

collateral agent under that certain Indenture, dated as of September 18, 2013 among the Obligors and U.S. Bank National Association, as trustee and as collateral agent, as amended, restated, supplemented or modified from time to time, including (a) via joinder by the Agent in connection with each of the term loan A securities agreement dated as of October 22, 2014 by and among the Obligors, the purchasers party thereto, and Wilmington Trust, National Association, as agent thereunder, as amended through the date hereof, including pursuant to that certain fourth amendment to the Existing Term Loan A Securities Agreement and that certain fifth amendment to the Existing Term Loan A Securities Agreement, each dated as of on or about the Credit Extension Date, and as further amended, restated or otherwise modified from time to time (the “Existing Term Loan A Securities Agreement”) and the term loan securities agreement, dated as of October 22, 2014 by and among the Obligors, the purchasers party thereto, and Wilmington Trust, National Association, as agent thereunder, as amended through the date hereof, including pursuant to that certain fourth amendment to the Term Loan B Securities Agreement and that certain fifth amendment to the Term Loan B Securities Agreement, each dated as of on or about the Credit Extension Date, and as further amended, restated or otherwise modified from time to time (the “Existing Term Loan B Securities Agreement”), (b) via joinder by PNC Bank, National Association, as administrative agent under that certain revolving credit and security agreement dated as of May 29, 2015 by and among the Obligors, the financial institutions party thereto and PNC Bank, National Association, as the same may be amended, amended and restated, replaced and restated, extended, supplemented and/or otherwise modified from time to time (the “Revolving Credit and Security Agreement”) and (c) via joinder by the Agent in connection with the Term Loan Securities Agreement, (ii) the Second Amended and Restated Intercreditor Agreement, amended and restated as of the date hereof and originally dated as of May 29, 2015 and previously amended and restated as of April 2, 2017 (as further amended, restated, supplemented or otherwise modified from time to time, the “ABL Intercreditor Agreement” and, together with the Notes Intercreditor Agreement, the “Intercreditor Agreements”), among PNC Bank National Association, as administrative agent under the Revolving Credit and Security Agreement, Wilmington Trust, National Association, as the agent under the Existing Term Loan A Securities Agreement and the Agent in connection with the Term Loan Securities Agreement, and (iii) the Amended and Restated Senior / Junior Term Loan Intercreditor Agreement, amended and restated as of the date hereof and originally dated as of April 2, 2017 (as further amended, restated, supplemented or otherwise modified from time to time, the “Senior / Junior Term Loan Intercreditor Agreement”), among Wilmington Trust, National Association, as the agent under the Existing Term Loan A Securities Agreement and the Agent in connection with the Term Loan Securities Agreement. In the event of any conflict between the terms of the Intercreditor Agreements and the terms of this Agreement, the terms of the applicable Intercreditor Agreement shall govern and control.

[signature page follows]

IN WITNESS WHEREOF, each Grantor has caused this Patent Security Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

GRANTOR:

LONGYEAR TM, INC.

By: 

Name: Jeffrey Olsen

Title: President

Schedule 1

Issued Patents

None.

Patent Applications

Patent Application No.	Country	Title	Owner	Filing Date
16/588,026	US	Core Barrel Head Assembly with an Integrated Sample Orientation Tool and System for Using Same	Longyear TM, Inc.	Sept. 30, 2019

Provisional Patent Applications

None.

PCT Patent Applications

None.

Exhibit H

Patent Security Agreement, dated as of August 11, 2020

(Reel 053467, Frame 0277)

[Attached]

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT6246205

SUBMISSION TYPE:	NEW ASSIGNMENT		
NATURE OF CONVEYANCE:	SECURITY INTEREST		
CONVEYING PARTY DATA			
Name			Execution Date
LONGYEAR TM, INC.			08/11/2020
RECEIVING PARTY DATA			
Name:	WILMINGTON TRUST, NATIONAL ASSOCIATION, AS COLLATERAL AGENT		
Street Address:	1100 N. MARKET ST.		
City:	WILMINGTON		
State/Country:	DELAWARE		
Postal Code:	19890		
PROPERTY NUMBERS Total: 4			
Property Type	Number		
Patent Number:	10626684		
Patent Number:	10633943		
Patent Number:	10702975		
Application Number:	16899236		
CORRESPONDENCE DATA			
Fax Number:			
<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>			
Phone:	7043778156		
Email:	jcarusone@robinsonbradshaw.com		
Correspondent Name:	JENNIFER CARUSONE		
Address Line 1:	101 N. TRYON ST., SUITE 1900		
Address Line 4:	CHARLOTTE, NORTH CAROLINA 28246		
ATTORNEY DOCKET NUMBER:	19133.00050		
NAME OF SUBMITTER:	JENNIFER CARUSONE		
SIGNATURE:	/Jennifer Carusone/		
DATE SIGNED:	08/12/2020		
Total Attachments: 4			
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Patent Security Agreement

Patent Security Agreement, dated as of August 11, 2020 by Longyear TM, Inc. (the “Grantor”), in favor of Wilmington Trust, National Association, in its capacity as collateral agent pursuant to the Term Loan Securities Agreement (in such capacity, the “Collateral Agent”).

W I T N E S S E T H

WHEREAS, the Grantor is party to a U.S. Security and Pledge Agreement dated as of September 1, 2017 (as amended, amended and restated, supplemented or otherwise modified from time to time, the “Security Agreement”) in favor of the Collateral Agent pursuant to which the Grantor is required to execute and deliver this Patent Security Agreement;

NOW, THEREFORE, in consideration of the premises and to induce the Collateral Agent, for the benefit of the Secured Parties, to enter into the Term Loan Securities Agreement, the Grantor hereby agrees with the Collateral Agent as follows:

SECTION 1. Defined Terms. Unless otherwise defined herein, terms defined in the Security Agreement and used herein have the meaning given to them in the Security Agreement.

SECTION 2. Grant of Security Interest in Patent Collateral. The Grantor hereby pledges and grants to the Collateral Agent for the benefit of the Secured Parties a lien on and security interest in and to all of its right, title and interest in, to and under all the following Collateral of such Grantor (other than Excluded Assets):

- (a) Patents of the Grantor listed on Schedule I attached hereto; and
- (b) all Proceeds of any and all of the foregoing.

SECTION 3. Security Agreement. The security interest granted pursuant to this Patent Security Agreement is granted in conjunction with the security interest granted to the Collateral Agent pursuant to the Security Agreement and the Grantor hereby acknowledges and affirms that the rights and remedies of the Collateral Agent with respect to the security interest in the Patents made and granted hereby are more fully set forth in the Security Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein. In the event that any provision of this Patent Security Agreement is deemed to conflict with the Security Agreement, the provisions of the Security Agreement shall control unless the Collateral Agent shall otherwise determine.

SECTION 4. Counterparts. This Patent Security Agreement may be executed in any number of counterparts, all of which shall constitute one and the same instrument, and any party hereto may execute this Patent Security Agreement by signing and delivering one or more counterparts.

SECTION 5. Subject to Intercreditor Agreements. Notwithstanding anything herein to the contrary, the liens and security interests granted to Wilmington Trust, National Association, as Collateral Agent, pursuant to this Patent Security Agreement and the exercise of any right or remedy by Wilmington Trust, National Association, as Collateral Agent hereunder, are subject to the provisions of (i) the Intercreditor Agreement, dated as of September 27, 2013 (as amended, restated, supplemented or otherwise modified from time to time, the “Notes Intercreditor Agreement”), among Bank of America, N.A, as collateral agent under the existing credit agreement and U.S. Bank National Association, as

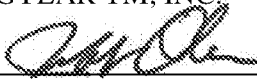
collateral agent under that certain Indenture, dated as of September 18, 2013 among the Obligors and U.S. Bank National Association, as trustee and as collateral agent, as amended, restated, supplemented or modified from time to time, including (a) via joinder by the Agent in connection with each of the term loan A securities agreement dated as of October 22, 2014 by and among the Obligors, the purchasers party thereto, and Wilmington Trust, National Association, as agent thereunder, as amended through the date hereof, including pursuant to that certain fourth amendment to the Existing Term Loan A Securities Agreement and that certain fifth amendment to the Existing Term Loan A Securities Agreement, each dated as of on or about the Credit Extension Date, and as further amended, restated or otherwise modified from time to time (the “Existing Term Loan A Securities Agreement”) and the term loan securities agreement, dated as of October 22, 2014 by and among the Obligors, the purchasers party thereto, and Wilmington Trust, National Association, as agent thereunder, as amended through the date hereof, including pursuant to that certain fourth amendment to the Term Loan B Securities Agreement and that certain fifth amendment to the Term Loan B Securities Agreement, each dated as of on or about the Credit Extension Date, and as further amended, restated or otherwise modified from time to time (the “Existing Term Loan B Securities Agreement”), (b) via joinder by PNC Bank, National Association, as administrative agent under that certain revolving credit and security agreement dated as of May 29, 2015 by and among the Obligors, the financial institutions party thereto and PNC Bank, National Association, as the same may be amended, amended and restated, replaced and restated, extended, supplemented and/or otherwise modified from time to time (the “Revolving Credit and Security Agreement”) and (c) via joinder by the Agent in connection with the Term Loan Securities Agreement, (ii) the Second Amended and Restated Intercreditor Agreement, amended and restated as of the date hereof and originally dated as of May 29, 2015 and previously amended and restated as of April 2, 2017 (as further amended, restated, supplemented or otherwise modified from time to time, the “ABL Intercreditor Agreement” and, together with the Notes Intercreditor Agreement, the “Intercreditor Agreements”), among PNC Bank National Association, as administrative agent under the Revolving Credit and Security Agreement, Wilmington Trust, National Association, as the agent under the Existing Term Loan A Securities Agreement and the Agent in connection with the Term Loan Securities Agreement, and (iii) the Amended and Restated Senior / Junior Term Loan Intercreditor Agreement, amended and restated as of the date hereof and originally dated as of April 2, 2017 (as further amended, restated, supplemented or otherwise modified from time to time, the “Senior / Junior Term Loan Intercreditor Agreement”), among Wilmington Trust, National Association, as the agent under the Existing Term Loan A Securities Agreement and the Agent in connection with the Term Loan Securities Agreement. In the event of any conflict between the terms of the Intercreditor Agreements and the terms of this Agreement, the terms of the applicable Intercreditor Agreement shall govern and control.

[signature page follows]

IN WITNESS WHEREOF, each Grantor has caused this Patent Security Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

GRANTOR:

LONGYEAR TM, INC.

By: 

Name: Jeffrey Olsen

Title: Secretary

Schedule 1

Issued Patents

Patent No.	Patent Application No.	Country	Title	Owner	Filing Date	Issue Date
10,626,684	16/151,871	U.S.	Handling and Recovery Devices For Tubular Members an Associated Methods	Longyear TM, Inc.	October 4, 2018	April 21, 2020
10,633,943	16/035,776	U.S.	Braking Devices For Drilling Operations, and Systems and Methods For Using Same	Longyear TM, Inc.	July 16, 2018	April 28, 2020
10,702,975	14/993,550	U.S.	Drilling Tools Having Matrices With Carbide-Forming Alloys, And Methods Of Making And Using Same	Longyear TM, Inc.	January 12, 2016	July 7, 2020

Patent Applications

Patent Application No.	Country	Title	Owner	Filing Date
16/899,236	US	Drilling Tools Having Matrices With Carbide-Forming Alloys and Methods of Making and Using Same	Longyear TM, Inc.	June 11, 2020

Provisional Patent Applications

None.

PCT Patent Applications

None.

13277008v1 19133.00050

Exhibit I

Patent Security Agreement, dated as of February 5, 2021

(Reel 055167, Frame 0877)

[Attached]

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT6537605

SUBMISSION TYPE:	NEW ASSIGNMENT		
NATURE OF CONVEYANCE:	SECURITY INTEREST		
CONVEYING PARTY DATA			
Name			Execution Date
LONGYEAR TM, INC.			02/05/2021
RECEIVING PARTY DATA			
Name:	WILMINGTON TRUST, NATIONAL ASSOCIATION, AS COLLATERAL AGENT		
Street Address:	1100 N. MARKET ST.		
City:	WILMINGTON		
State/Country:	DELAWARE		
Postal Code:	19890		
PROPERTY NUMBERS Total: 2			
Property Type	Number		
Application Number:	17082877		
Patent Number:	10830013		
CORRESPONDENCE DATA			
Fax Number:			
<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>			
Phone:	7043778156		
Email:	jcarusone@robinsonbradshaw.com		
Correspondent Name:	JENNIFER CARUSONE		
Address Line 1:	101 N. TRYON ST. SUITE 1900		
Address Line 2:	C/O ROBINSON, BRADSHAW & HINSON, P.A.		
Address Line 4:	CHARLOTTE, NORTH CAROLINA 28246		
ATTORNEY DOCKET NUMBER:	19133.00050		
NAME OF SUBMITTER:	JENNIFER CARUSONE		
SIGNATURE:	/Jennifer Carusone/		
DATE SIGNED:	02/05/2021		
Total Attachments: 4			
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source=13696505_2_Longyear TM Inc. - BLY - Backstop U.S. Patent IP Security Agreement (Feb. 2021)#page3.tif			

Patent Security Agreement

Patent Security Agreement, dated as of February 5, 2021 by Longyear TM, Inc. (the "Grantor"), in favor of Wilmington Trust, National Association, in its capacity as collateral agent pursuant to the Term Loan Securities Agreement (in such capacity, the "Collateral Agent").

W I T N E S S E T H

WHEREAS, the Grantor is party to a U.S. Security and Pledge Agreement dated as of September 1, 2017 (as amended, amended and restated, supplemented or otherwise modified from time to time, the "Security Agreement") in favor of the Collateral Agent pursuant to which the Grantor is required to execute and deliver this Patent Security Agreement;

NOW, THEREFORE, in consideration of the premises and to induce the Collateral Agent, for the benefit of the Secured Parties, to enter into the Term Loan Securities Agreement, the Grantor hereby agrees with the Collateral Agent as follows:

SECTION 1. Defined Terms. Unless otherwise defined herein, terms defined in the Security Agreement and used herein have the meaning given to them in the Security Agreement.

SECTION 2. Grant of Security Interest in Patent Collateral. The Grantor hereby pledges and grants to the Collateral Agent for the benefit of the Secured Parties a lien on and security interest in and to all of its right, title and interest in, to and under all the following Collateral of such Grantor (other than Excluded Assets):

- (a) Patents of the Grantor listed on Schedule I attached hereto; and
- (b) all Proceeds of any and all of the foregoing.

SECTION 3. Security Agreement. The security interest granted pursuant to this Patent Security Agreement is granted in conjunction with the security interest granted to the Collateral Agent pursuant to the Security Agreement and the Grantor hereby acknowledges and affirms that the rights and remedies of the Collateral Agent with respect to the security interest in the Patents made and granted hereby are more fully set forth in the Security Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein. In the event that any provision of this Patent Security Agreement is deemed to conflict with the Security Agreement, the provisions of the Security Agreement shall control unless the Collateral Agent shall otherwise determine.

SECTION 4. Counterparts. This Patent Security Agreement may be executed in any number of counterparts, all of which shall constitute one and the same instrument, and any party hereto may execute this Patent Security Agreement by signing and delivering one or more counterparts.

SECTION 5. Subject to Intercreditor Agreements. Notwithstanding anything herein to the contrary, the liens and security interests granted to Wilmington Trust, National Association, as Collateral Agent, pursuant to this Patent Security Agreement and the exercise of any right or remedy by Wilmington Trust, National Association, as Collateral Agent hereunder, are subject to the provisions of (i) the Intercreditor Agreement, dated as of September 27, 2013 (as amended, restated, supplemented or otherwise modified from time to time, the "Notes Intercreditor Agreement"), among Bank of America, N.A., as collateral agent under the existing credit agreement and U.S. Bank National Association, as

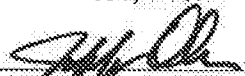
collateral agent under that certain Indenture, dated as of September 18, 2013 among the Obligors and U.S. Bank National Association, as trustee and as collateral agent, as amended, restated, supplemented or modified from time to time, including (a) via joinder by the Agent in connection with each of the term loan A securities agreement dated as of October 22, 2014 by and among the Obligors, the purchasers party thereto, and Wilmington Trust, National Association, as agent thereunder, as amended through the date hereof, including pursuant to that certain fourth amendment to the Existing Term Loan A Securities Agreement and that certain fifth amendment to the Existing Term Loan A Securities Agreement, each dated as of on or about the Credit Extension Date, and as further amended, restated or otherwise modified from time to time (the “Existing Term Loan A Securities Agreement”) and the term loan securities agreement, dated as of October 22, 2014 by and among the Obligors, the purchasers party thereto, and Wilmington Trust, National Association, as agent thereunder, as amended through the date hereof, including pursuant to that certain fourth amendment to the Term Loan B Securities Agreement and that certain fifth amendment to the Term Loan B Securities Agreement, each dated as of on or about the Credit Extension Date, and as further amended, restated or otherwise modified from time to time (the “Existing Term Loan B Securities Agreement”), (b) via joinder by PNC Bank, National Association, as administrative agent under that certain revolving credit and security agreement dated as of May 29, 2015 by and among the Obligors, the financial institutions party thereto and PNC Bank, National Association, as the same may be amended, amended and restated, replaced and restated, extended, supplemented and/or otherwise modified from time to time (the “Revolving Credit and Security Agreement”) and (c) via joinder by the Agent in connection with the Term Loan Securities Agreement, (ii) the Second Amended and Restated Intercreditor Agreement, amended and restated as of the date hereof and originally dated as of May 29, 2015 and previously amended and restated as of April 2, 2017 (as further amended, restated, supplemented or otherwise modified from time to time, the “ABL Intercreditor Agreement” and, together with the Notes Intercreditor Agreement, the “Intercreditor Agreements”), among PNC Bank National Association, as administrative agent under the Revolving Credit and Security Agreement, Wilmington Trust, National Association, as the agent under the Existing Term Loan A Securities Agreement and the Agent in connection with the Term Loan Securities Agreement, and (iii) the Amended and Restated Senior / Junior Term Loan Intercreditor Agreement, amended and restated as of the date hereof and originally dated as of April 2, 2017 (as further amended, restated, supplemented or otherwise modified from time to time, the “Senior / Junior Term Loan Intercreditor Agreement”), among Wilmington Trust, National Association, as the agent under the Existing Term Loan A Securities Agreement and the Agent in connection with the Term Loan Securities Agreement. In the event of any conflict between the terms of the Intercreditor Agreements and the terms of this Agreement, the terms of the applicable Intercreditor Agreement shall govern and control.

[signature page follows]

IN WITNESS WHEREOF, each Grantor has caused this Patent Security Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

GRANTOR:

LONGYEAR TM, INC.

By: 

Name: Jeffrey Olsen

Title: Secretary

Schedule 1

Issued Patents

Patent No.	Patent Application No.	Country	Title	Owner	Filing Date	Issue Date
10,830,013	16/588,026	U.S.	Core Barrel Head Assembly with an Integrated Sample Orientation tool and System for Using Same	Longyear TM, Inc.	Sept. 30, 2019	Nov. 10, 2020

Patent Applications

Patent Application No.	Country	Title	Owner	Filing Date
17/082,877	US	Core Barrel Head Assembly with an Integrated Sample Orientation Tool and System for Using Same	Longyear TM, Inc. and Globaltech	Oct. 28, 2020

Provisional Patent Applications

None.

PCT Patent Applications

None.

Exhibit J

Patent Security Agreement, dated as of April 28, 2021

(Reel 056078, Frame 0387)

[Attached]

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT6682673

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	SECURITY INTEREST	
CONVEYING PARTY DATA		
	Name	Execution Date
	LONGYEAR TM, INC.	04/28/2021
RECEIVING PARTY DATA		
Name:	WILMINGTON TRUST, NATIONAL ASSOCIATION, AS COLLATERAL AGENT	
Street Address:	1100 N. MARKET ST.	
City:	WILMINGTON	
State/Country:	DELAWARE	
Postal Code:	19890	
PROPERTY NUMBERS Total: 1		
	Property Type	Number
	Patent Number:	10919726
CORRESPONDENCE DATA		
Fax Number:		
<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>		
Phone:	7043778156	
Email:	jcarusone@robinsonbradshaw.com	
Correspondent Name:	JENNIFER CARUSONE	
Address Line 1:	101 N. TRYON ST. SUITE 1900	
Address Line 2:	C/O ROBINSON, BRADSHAW & HINSON, P.A.	
Address Line 4:	CHARLOTTE, NORTH CAROLINA 28246	
NAME OF SUBMITTER:	JENNIFER CARUSONE	
SIGNATURE:	/Jennifer Carusone/	
DATE SIGNED:	04/29/2021	
Total Attachments: 4		
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source=13912037_1_Patent Security Agreement - Wilmington Trust - April 2021#page3.tif		
source=13912037_1_Patent Security Agreement - Wilmington Trust - April 2021#page4.tif		

Patent Security Agreement

Patent Security Agreement, dated as of April 28, 2021 by Longyear TM, Inc. (the “Grantor”), in favor of Wilmington Trust, National Association, in its capacity as collateral agent pursuant to the Term Loan Securities Agreement (in such capacity, the “Collateral Agent”).

W I T N E S S E T H

WHEREAS, the Grantor is party to a U.S. Security and Pledge Agreement dated as of September 1, 2017 (as amended, amended and restated, supplemented or otherwise modified from time to time, the “Security Agreement”) in favor of the Collateral Agent pursuant to which the Grantor is required to execute and deliver this Patent Security Agreement;

NOW, THEREFORE, in consideration of the premises and to induce the Collateral Agent, for the benefit of the Secured Parties, to enter into the Term Loan Securities Agreement, the Grantor hereby agrees with the Collateral Agent as follows:

SECTION 1. Defined Terms. Unless otherwise defined herein, terms defined in the Security Agreement and used herein have the meaning given to them in the Security Agreement.

SECTION 2. Grant of Security Interest in Patent Collateral. The Grantor hereby pledges and grants to the Collateral Agent for the benefit of the Secured Parties a lien on and security interest in and to all of its right, title and interest in, to and under all the following Collateral of such Grantor (other than Excluded Assets):

- (a) Patents of the Grantor listed on Schedule I attached hereto; and
- (b) all Proceeds of any and all of the foregoing.

SECTION 3. Security Agreement. The security interest granted pursuant to this Patent Security Agreement is granted in conjunction with the security interest granted to the Collateral Agent pursuant to the Security Agreement and the Grantor hereby acknowledges and affirms that the rights and remedies of the Collateral Agent with respect to the security interest in the Patents made and granted hereby are more fully set forth in the Security Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein. In the event that any provision of this Patent Security Agreement is deemed to conflict with the Security Agreement, the provisions of the Security Agreement shall control unless the Collateral Agent shall otherwise determine.

SECTION 4. Counterparts. This Patent Security Agreement may be executed in any number of counterparts, all of which shall constitute one and the same instrument, and any party hereto may execute this Patent Security Agreement by signing and delivering one or more counterparts.

SECTION 5. Subject to Intercreditor Agreements. Notwithstanding anything herein to the contrary, the liens and security interests granted to Wilmington Trust, National Association, as Collateral Agent, pursuant to this Patent Security Agreement and the exercise of any right or remedy by Wilmington Trust, National Association, as Collateral Agent hereunder, are subject to the provisions of (i) the Intercreditor Agreement, dated as of September 27, 2013 (as amended, restated, supplemented or otherwise modified from time to time, the “Notes Intercreditor Agreement”), among Bank of America, N.A., as collateral agent under the existing credit agreement and U.S. Bank National Association, as

collateral agent under that certain Indenture, dated as of September 18, 2013 among the Obligors and U.S. Bank National Association, as trustee and as collateral agent, as amended, restated, supplemented or modified from time to time, including (a) via joinder by the Agent in connection with each of the term loan A securities agreement dated as of October 22, 2014 by and among the Obligors, the purchasers party thereto, and Wilmington Trust, National Association, as agent thereunder, as amended through the date hereof, including pursuant to that certain fourth amendment to the Existing Term Loan A Securities Agreement and that certain fifth amendment to the Existing Term Loan A Securities Agreement, each dated as of on or about the Credit Extension Date, and as further amended, restated or otherwise modified from time to time (the “Existing Term Loan A Securities Agreement”) and the term loan securities agreement, dated as of October 22, 2014 by and among the Obligors, the purchasers party thereto, and Wilmington Trust, National Association, as agent thereunder, as amended through the date hereof, including pursuant to that certain fourth amendment to the Term Loan B Securities Agreement and that certain fifth amendment to the Term Loan B Securities Agreement, each dated as of on or about the Credit Extension Date, and as further amended, restated or otherwise modified from time to time (the “Existing Term Loan B Securities Agreement”), (b) via joinder by PNC Bank, National Association, as administrative agent under that certain revolving credit and security agreement dated as of May 29, 2015 by and among the Obligors, the financial institutions party thereto and PNC Bank, National Association, as the same may be amended, amended and restated, replaced and restated, extended, supplemented and/or otherwise modified from time to time (the “Revolving Credit and Security Agreement”) and (c) via joinder by the Agent in connection with the Term Loan Securities Agreement, (ii) the Second Amended and Restated Intercreditor Agreement, amended and restated as of the date hereof and originally dated as of May 29, 2015 and previously amended and restated as of April 2, 2017 (as further amended, restated, supplemented or otherwise modified from time to time, the “ABL Intercreditor Agreement” and, together with the Notes Intercreditor Agreement, the “Intercreditor Agreements”), among PNC Bank National Association, as administrative agent under the Revolving Credit and Security Agreement, Wilmington Trust, National Association, as the agent under the Existing Term Loan A Securities Agreement and the Agent in connection with the Term Loan Securities Agreement, and (iii) the Amended and Restated Senior / Junior Term Loan Intercreditor Agreement, amended and restated as of the date hereof and originally dated as of April 2, 2017 (as further amended, restated, supplemented or otherwise modified from time to time, the “Senior / Junior Term Loan Intercreditor Agreement”), among Wilmington Trust, National Association, as the agent under the Existing Term Loan A Securities Agreement and the Agent in connection with the Term Loan Securities Agreement. In the event of any conflict between the terms of the Intercreditor Agreements and the terms of this Agreement, the terms of the applicable Intercreditor Agreement shall govern and control.

[signature page follows]

IN WITNESS WHEREOF, the Grantor has caused this Patent Security Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

Very truly yours,

LONGYEAR TM, INC.

By: _____



Name: Jeffrey Olsen

Title: President

Schedule 1

Issued Patents

Patent No.	Patent Application No.	Country	Title	Owner	Filing Date	Issue Date
10,919,726	16/506,444	USA	Wireline System and Methods of Using Same	Longyear TM, Inc.	07-09-2019	02-16-2021

Patent Applications

None.

Provisional Patent Applications

None.

PCT Patent Applications

None.