PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT7178477

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
PGS GEOPHYSICAL AS	02/12/2021

RECEIVING PARTY DATA

Name:	OCEAN FLOOR GEOPHYSICS, INC.			
Street Address: B108-9000 BILL FOX WAY				
City:	BURNABY, BC			
State/Country:	CANADA			

PROPERTY NUMBERS Total: 3

Property Type	Number
Patent Number:	7834632
Patent Number:	8896314
Patent Number:	8896313

CORRESPONDENCE DATA

Fax Number: (303)863-0223

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: 3038639700

Email: wwood@sheridanross.com
Correspondent Name: SHERIDAN ROSS P.C.
Address Line 1: 1560 BROADWAY

Address Line 2: SUITE 1200

Address Line 4: DENVER, COLORADO 80202

ATTORNEY DOCKET NUMBER:	5874PGS-5, 16, 28
NAME OF SUBMITTER:	ERIC A. BOMKAMP
SIGNATURE:	/Eric A. Bomkamp/
DATE SIGNED:	02/16/2022

Total Attachments: 16

source=Assignment PGS Geophysical AS to OFG_FINAL-D01-mk#page1.tif source=Assignment PGS Geophysical AS to OFG_FINAL-D01-mk#page2.tif source=Assignment PGS Geophysical AS to OFG_FINAL-D01-mk#page3.tif source=Assignment PGS Geophysical AS to OFG_FINAL-D01-mk#page4.tif

PATENT 507131636 REEL: 059022 FRAME: 0572

source=Assignment PGS Geophysical AS to OFG_FINAL-D01-mk#page5.tif source=Assignment PGS Geophysical AS to OFG_FINAL-D01-mk#page6.tif source=Assignment PGS Geophysical AS to OFG_FINAL-D01-mk#page7.tif source=Assignment PGS Geophysical AS to OFG_FINAL-D01-mk#page8.tif source=Assignment PGS Geophysical AS to OFG_FINAL-D01-mk#page9.tif source=Assignment PGS Geophysical AS to OFG_FINAL-D01-mk#page10.tif source=Assignment PGS Geophysical AS to OFG_FINAL-D01-mk#page11.tif source=Assignment PGS Geophysical AS to OFG_FINAL-D01-mk#page12.tif source=Assignment PGS Geophysical AS to OFG_FINAL-D01-mk#page13.tif source=Assignment PGS Geophysical AS to OFG_FINAL-D01-mk#page14.tif source=Assignment PGS Geophysical AS to OFG_FINAL-D01-mk#page15.tif source=Assignment PGS Geophysical AS to OFG_FINAL-D01-mk#page15.tif source=Assignment PGS Geophysical AS to OFG_FINAL-D01-mk#page16.tif

Worldwide Assignment

This INTELLECTUAL PROPERTY ASSIGNMENT (this "Assignment"), dated as of July 16, 2021 (the "Effective Date"), is made and entered into by and between:

- (1) **PGS Geophysical AS**, a company organized and existing under the laws of Norway, having its place of business at Lilleakerveien 4C, 0283 Oslo, Norway and registered number 960 563 085 ("ASSIGNOR); and
- (2) Ocean Floor Geophysics, Inc., a company organized and existing under the laws of British Columbia, Canada, having its place of business at B108-9000 Bill Fox Way, Burnaby, BC, Canada and registered office at 2600-1066 West Hastings Street, Vancouver, BC, Canada and registered number BC0793984 ("ASSIGNEE")

ASSIGNOR and ASSIGNEE are each referred to individually as a "Party" and collectively as the "Parties."

WHEREAS, ASSIGNOR or its affiliate and ASSIGNEE entered into a Sale and Purchase Agreement having an effective date of August 31, 2020, as amended on July 16, 2021 (the "SPA"); and

WHEREAS, in accordance with the SPA, ASSIGNOR wishes to assign, and ASSIGNEE wishes to receive, ASSIGNOR's right, title, and interest in the patents and patent applications identified in Schedule A attached hereto (collectively referred to as the "PATENTS");

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, ASSIGNOR does hereby assign to ASSIGNEE, its successors, legal representatives, and assigns its entire right, title, and interest in and to the inventions disclosed by the PATENTS, all applications claiming benefit of the PATENTS, including, but not limited to, all provisional, nonprovisional, divisions and continuations of the PATENTS, and all patents that may be granted thereon in and throughout the United States and in all foreign countries, including without limitation utility models, design patents, certificates of invention and equivalent rights worldwide, and all reissues and reexaminations thereof, including, with respect to the PATENTS, (a) all rights arising under or pursuant to any and all international agreements, treaties or laws, including the right to file applications for patents, design patents, utility models, certificates of invention or other governmental grants and equivalent rights worldwide, and to claim the same priority rights, under the patent laws of the United States, the applicable laws of the country in which any such application is filed, the International Convention for the Protection of Industrial Property and any other international union, convention, agreement and treaty; and (b) all rights in and to causes of action and enforcement rights for the inventions and any resulting patents, including all rights to pursue damages, injunctive relief and other remedies for past, present and future infringement of the inventions and resulting patents. and to hold for ASSIGNEE'S sole use and benefit all recoveries, rights, and benefits arising from all such suits:

AND ASSIGNOR authorizes and requests the Director of Patents of the United States, and any Official of any country or countries foreign to the United States, whose duty is to issue patents or other evidence or forms of industrial property to issue the same for the inventions to ASSIGNEE, its successors, legal representatives, and assigns in accordance with the terms of this Assignment;

AND ASSIGNOR further hereby authorizes ASSIGNEE, or its attorneys or agents, to insert the correct Application Number and Filing Date into this Assignment, if none is indicated on the Effective Date of this agreement.

The parties have executed this Assignment on the date(s) indicated below.

PGS GEOPH	IYSICAL AS			
ASSIGNOR	De 11 (1)	1a/ A		
Ву:	Much Hu	Wales	-	
Printed Name:	Christin St	een-Nilsen		
Title:	Director		-	
Date:	02/12/2021			
[Statement of	Mitnoccl			
[Statement of	vviiiiessj			
IN WITNESS	WHEREOF, I,	Pernille Und	seth	, hereby declare
		(Printe	d name of Witness)	
that I v	was personally pre	sent and did se	e ASSIGNOR sign an	d execute the assignment
<i>JP/2</i>	an Taman		02/12/2021	_
(Signature of \	Witness)		Date	

PGS GEO	PHYSICAL AS		
ASSIGNO			
Ву:	<u>Capita kakitirishiri</u>	Marie Carlotte	
Printed Name:	Gottfred La	ngseth	
Title:	Director		
Date:	02/12/2021		
[Statement	of Witness]		
IN WITNES	SS WHEREOF, I,	Pernille Undseth	, hereby declare
		(Printed name of Witness	5)
tha	at I was personally pre	esent and did see ASSIGNOR sig	n and execute the assignment
	12 mg min	02/12/2021	
(Signature	of Witness)	Date	

(Signature of Witness)

OCEAN FLOOR GEOPHY	SICS, INC.				
ASSIGNEE	М.	Knowy			
Ву:			•		
Printed Name:	Matthew K	owalczyk			
Title:	CEO				
Date:	November	29th , 2021			
[Statement of Witness] IN WITNESS WHEREOF, I,					hereby declare
	(Prin	ted name of Witne	ess)		
that I was personally	present and did	see ASSIGNEE s	sign and e	xecute	the assignment.
Somignet		November	29th,	2021	

Date

Schedule A

<u>Patents</u>

			<u>i atents</u>			
File						
Number	Title	Country	Patent #	Grant Date	Application #	Priority
	Low Noise, Towed					
PGS-05-	Electromagnetic System for					
12AU	Subsurface Exploration	AU	2007201186	6/21/2012	2007201186	3/29/2006
	Low Noise, Towed					
PGS-05-	Electromagnetic System for					
12BR	Subsurface Exploration	BR	PI0701248-9	12/11/2018	PI0701248-9	3/29/2006
	Low Noise, Towed			,,		
PGS-05-	Electromagnetic System for					
12CA	Subsurface Exploration	CA	2582882	6/26/2013	2582882	3/29/2006
IZCA	Low Noise, Towed	i CA	2502002	0/20/2013	2502002	3/23/2000
PGS-05-	Electromagnetic System for					
12CN	Subsurface Exploration	CN	ZL200710093637	10/5/2011	200710093637.X	3/29/2006
IZCIV	Low Noise, Towed	CIV	200710033037	10/3/2011	200710093037.X	3/23/2000
DCC OF	· ·					
PGS-05-	Electromagnetic System for	CD.	2426700	4/21/2010	0705675 7	2/20/2006
12GB	Subsurface Exploration	GB	2436709	4/21/2010	0705675.7	3/29/2006
200.00	Low Noise, Towed					
PGS-05-	Electromagnetic System for		24426:5	0/00/05==	0740445 0	2/22/22
12GBDIV1	Subsurface Exploration	GB	2442849	8/20/2008	0719445.9	3/29/2006
	Low Noise, Towed					
PGS-05-	Electromagnetic System for					
12ID	Subsurface Exploration	ID	ID P0027119	12/3/2010	P-00200700142	3/29/2006
	Low Noise, Towed					
PGS-05-	Electromagnetic System for					
12IN	Subsurface Exploration	IN	273943	6/30/2016	387/KOL/2007	3/29/2006
	Low Noise, Towed					
PGS-05-	Electromagnetic System for					
12IN-DIV1	Subsurface Exploration	IN			201635022482	3/29/2006
	Low Noise, Towed					
PGS-05-	Electromagnetic System for					
12MX	Subsurface Exploration	MX	273534	1/20/2010	MX/A/2007/003728	3/29/2006
	Low Noise, Towed				, , , ,	
PGS-05-	Electromagnetic System for					
12MY	Subsurface Exploration	MY	MY-143299-A	4/15/2011	PI 20070452	3/29/2006
	Low Noise, Towed			.,,		0, 20, 2000
PGS-05-	Electromagnetic System for					
12MY-DIV	Subsurface Exploration	MY	MY-144930-A	11/30/2011	PI 2010002180	3/29/2006
121011 010	Low Noise, Towed	14	1011 144550 X	11/30/2011	112010002100	3, 23, 2000
PGS-05-	Electromagnetic System for					
12NO	Subsurface Exploration	NO	336478	9/7/2015	20071500	3/29/2006
IZINO	Low Noise, Towed	110	330470	3/1/2013	20071300	3/23/2000
DCC OF						
PGS-05-	Electromagnetic System for	1115	7727600	6/15/2010	11/520229	2/20/2000
12US-NP	Subsurface Exploration	US	7737698	6/15/2010	11/520228	3/29/2006
DCC 07	Cable-Type Electromagnetic					
PGS-07-	Receiver System for	 	2000274515	0/45/2212	20000746:5	6/20/222
05AU	Subsurface Exploration	AU	2008271640	8/15/2013	2008271640	6/29/2007
	Cable-Type Electromagnetic					
PGS-07-	Receiver System for					_,
05BR	Subsurface Exploration	BR			PI0812752-2	6/29/2007
	Cable-Type Electromagnetic					
PGS-07-	Receiver System for					
05CA	Subsurface Exploration	CA	2691422	10/15/2013	2691422	6/29/2007
	Cable-Type Electromagnetic					
PGS-07-	Receiver System for					
05CN	Subsurface Exploration	CN	200880022577.5	8/21/2013	200880022577.5	6/29/2007

Page	6 o	f 1	6
------	-----	-----	---

File Number	Title	Country	Patent #	Grant Date	Application #	Priority
PGS-07-05-	Marine Electromagnetic					
EP/FR	Survey Cable and System	FR	2174167	9/12/2018	08759315.8	6/29/2007
PGS-07-05-	Marine Electromagnetic					
EP/GB	Survey Cable and System	GB	2174167	9/12/2018	08759315.8	6/29/2007
PGS-07-05-	Marine Electromagnetic					
EP/NO	Survey Cable and System	NO	2174167	9/12/2018	08759315.8	6/29/2007
	Cable-Type Electromagnetic					
PGS-07-	Receiver System for					
05ID	Subsurface Exploration	ID	ID P0029771	12/15/2011	W-00201000334	6/29/2007
	Cable-Type Electromagnetic					
PGS-07-	Receiver System for					
05IN	Subsurface Exploration	l IN	283812	5/31/2017	4442/KOLNP/2009	6/29/2007
	Cable-Type Electromagnetic				, ,	
PGS-07-	Receiver System for					
05MX	Subsurface Exploration	MX	288950	8/2/2011	MX/A/2010/000325	6/29/2007
	Cable-Type Electromagnetic				, , , ,	, ,
PGS-07-	Receiver System for					
05MY	Subsurface Exploration	MY	MY-150728-A	2/28/2014	PI 20095595	6/29/2007
	Cable-Type Electromagnetic			_,,,		-, _5, _5,
PGS-07-	Receiver System for					
05US	Subsurface Exploration	US	7602191	10/13/2009	11/823,940	6/29/2007
	Receiver Streamer System		7002131	10/15/2003	11,023,310	0,23,2007
PGS-07-	and Method for Marine					
14AU	Electromagnetic Surveying	AU	2008243192	12/6/2012	2008243192	12/3/2007
	Receiver Streamer System	1.10		,		
PGS-07-	and Method for Marine					
14BR	Electromagnetic Surveying	BR	PI0805309-0	10/16/2018	PI0805309-0	12/3/2007
	Receiver Streamer System	<u> </u>	110003303	10, 10, 2010	110000000	12,0,2007
PGS-07-	and Method for Marine					
14CA	Electromagnetic Surveying	CA	2643545	5/15/2012	2643545	12/3/2007
110/1	Receiver Streamer System	C/ C	2010010	3,13,2012	20 100 10	12/3/2007
PGS-07-	and Method for Marine					
14EP	Electromagnetic Surveying	EP	2068176	5/4/2016	08105673.1	12/3/2007
	Receiver Streamer System			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	3323331312	
PGS-07-	and Method for Marine					
14EP/FR	Electromagnetic Surveying	FR	2068176	5/4/2016	08105673.1	12/3/2007
	Receiver Streamer System			3, 1, 2020	0020007012	
PGS-07-	and Method for Marine					
14EP/GB	Electromagnetic Surveying	GB	2068176	5/4/2016	08105673.1	12/3/2007
	Receiver Streamer System					,_,_,
PGS-07-	and Method for Marine					
14EP/NL	Electromagnetic Surveying	NL	2068176	5/4/2016	08105673.1	12/3/2007
	Receiver Streamer System		2000170	3, 1, 2020	0020007012	12,0,2007
PGS-07-	and Method for Marine					
14EP/NO	Electromagnetic Surveying	NO	2068176	5/4/2016	08105673.1	12/3/2007
	Receiver Streamer System		2000270	3, 1, 2020	0020007012	
PGS-07-	and Method for Marine					
14ID	Electromagnetic Surveying	ID	ID P0032341	11/26/2012	P-00200800772	12/3/2007
	Receiver Streamer System					
PGS-07-	and Method for Marine					
14MX	Electromagnetic Surveying	MX	282795	1/13/2011	MX/A/2008/015467	12/3/2007
	Receiver Streamer System			_,,		12,3,2007
PGS-07-	and Method for Marine					
14MY	Electromagnetic Surveying	MY	MY149081-A	7/15/2013	PI 20084600	12/3/2007
T-11411	Receiver Streamer System	1911	MILTHOOT-W	//15/2015	1120004000	12/3/2007
PGS-07-	and Method for Marine					
14US	Electromagnetic Surveying	us	7834632	11/16/2010	11/998,971	12/3/2007
T+02	Liectromagnetic surveying	1 03	/034032	11/10/2010	11/330,3/1	12/3/200/

Pag	е	7	of	16
-----	---	---	----	----

		4				Page / of 16
File Number	Title	Country	Patent #	Grant Date	Application #	Priority
PGS-07-	Fiber Optic System for					
17BR	Electromagnetic Surveying	BR			PI0816462-2	9/4/2007
PGS-07-	Fiber Optic System for					
17EP/FR	Electromagnetic Surveying	FR	2191304	12/5/2018	08795756.9	9/4/2007
PGS-07-	Fiber Optic System for					
17EP/GB	Electromagnetic Surveying	GB	2191304	12/5/2018	08795756.9	9/4/2007
PGS-07-	Fiber Optic System for					
17EP/NO	Electromagnetic Surveying	NO	2191304	12/5/2018	08795756.9	9/4/2007
PGS-07-	Fiber Optic System for					
17EP-DIV1	Electromagnetic Surveying	EP			18198128.3	9/4/2007
PGS-07-	Fiber Optic System for					
17USDIV1	Electromagnetic Surveying	US	8035393	10/11/2011	12/807010	9/4/2007
	Electrode Structure and					
	Streamer Made Therewith					
PGS-07-	for Marine Electromagnetic					
21AU	Surveying	AU	2008203456	5/9/2013	2008203456	9/21/2007
	Electrode Structure and					
	Streamer Made Therewith					
PGS-07-	for Marine Electromagnetic					
21GB	Surveying	GB	2453026	11/16/2011	0816479.0	9/21/2007
	Electrode Structure and					
	Streamer Made Therewith					
PGS-07-	for Marine Electromagnetic					
21NO	Surveying	NO	341153	9/4/2017	20083170	9/21/2007
	Electrode Structure and					
	Streamer Made Therewith					
	for Marine Electromagnetic					
PGS-07-	Surveying					
21US		US	7446535	11/4/2008	11/903462	9/21/2007
	Method and System for					
	Calibrating Streamer					
	Electrodes in a Marine					
PGS-08-	Electromagnetic Survey					
23AU	System	AU	2010200849	11/21/2013	2010200849	3/16/2009
	Method and System for					
	Calibrating Streamer					
	Electrodes in a Marine					
PGS-08-	Electromagnetic Survey					
23BR	System	BR			PI1000644-3	3/16/2009
	Method and System for					
	Calibrating Streamer					
	Electrodes in a Marine					
PGS-08-	Electromagnetic Survey					
23CA	System	CA	2696414	12/11/2012	2696414	3/16/2009
	Method and System for					
	Calibrating Streamer					
	Electrodes in a Marine					
PGS-08-	Electromagnetic Survey					
23EP	System	EP			10155085.3	3/16/2009
	Method and System for					
	Calibrating Streamer					
	Electrodes in a Marine					
PGS-08-	Electromagnetic Survey					
23ID	System	ID	IDP000043647	12/5/2016	P-00201000209	3/16/2009
	Method and System for					
PGS-08-	Calibrating Streamer					
23MX	Electrodes in a Marine	MX	300325	6/15/2012	MX/A/2010/002901	3/16/2009

Page	8 of	16
------	------	----

<u></u>						Page 8 of 16
File Number	Title	Country	Patent #	Grant Date	Application #	Priority
Manuel	Electromagnetic Survey	Country	1 accirc #	Orani Date	друпсастоп ж	THOTILY
	System					
	Method and System for					
	Calibrating Streamer					
	Electrodes in a Marine					
PGS-08-	Electromagnetic Survey					
23MY	System	MY	MY-151356-A	5/15/2014	PI 2010001084	3/16/2009
	Method and System for			,,		_,,
	Calibrating Streamer					
	Electrodes in a Marine					
PGS-08-	Electromagnetic Survey					
23US	System	US	8198899	6/12/2012	12/381,689	3/16/2009
	Electrical Power System for				·	
PGS-10-	Towed Electromagnetic					
O9US	Survey Streamers	US	8575938	11/5/2013	12/799188	4/20/2010
	Switchable Front-End					
	Measurement Unit for					
	Towed Marine					
PGS-10-	Electromagnetic Survey					
10FR	Cables	FR	11 53597	6/5/2015	FR1153597	4/27/2010
	Switchable Front-End					
	Measurement Unit for					
	Towed Marine					
PGS-10-	Electromagnetic Streamer					
10US-CIP1	Cables	US	9778036	10/3/2017	14/282,398	4/27/2010
	MULTIPLE COMPONENT					
	ELECTROMAGNETIC SURVEY					
PGS-10-	SIGNAL ACQUISITION					
12AU	METHOD	AU	2011201611	1/8/2015	2011201611	5/5/2010
	MULTIPLE COMPONENT					
	ELECTROMAGNETIC SURVEY					
PGS-10-	SIGNAL ACQUISITION					
L2BR	METHOD	BR			PI1102263-9	5/5/2011
	MULTIPLE COMPONENT					
	ELECTROMAGNETIC SURVEY					
PGS-10-	SIGNAL ACQUISITION					
12GB	METHOD	GB	2480149	7/9/2014	1107448.1	5/5/2010
	MULTIPLE COMPONENT					
	ELECTROMAGNETIC SURVEY					
PGS-10-	SIGNAL ACQUISITION					
12NO	METHOD	NO	337761	6/20/2016	20110652	5/5/2010
	MULTIPLE COMPONENT					
PGS-10-	ELECTROMAGNETIC SURVEY					
12NO-	SIGNAL ACQUISITION					
DIV1	METHOD	NO	338987	11/7/2016	20160354	5/5/2010
	MULTIPLE COMPONENT					
	ELECTROMAGNETIC SURVEY					
PGS-10-	SIGNAL ACQUISITION					l
12US	METHOD	US	8,896,314	11/25/2014	12/799,941	5/5/2010
PGS-10-	In-Line and Broadside Marine					
22AU	Electromagnetic Surveying	AU	2012261761	6/18/2015	2012261761	12/27/2011
PGS-10-	In-Line and Broadside Marine					
22BR	Electromagnetic Surveying	BR			BR102012033262-0	12/27/2011
PGS-10-	In-Line and Broadside Marine					
22GB	Electromagnetic Surveying	GB	2498078	4/8/2015	1222817.7	12/27/2011
PGS-10-	In-Line and Broadside Marine					
22GB-DIV1	Electromagnetic Surveying	GB	2520643	12/18/2012	1500412.0	12/27/2011

Page	9	of	16	

		V		100000000000000000000000000000000000000		Page 9 of 16
File Number	Title	Country	Patent #	Grant Date	Application #	Priority
PGS-10-	In-Line and Broadside Marine					
22NO	Electromagnetic Surveying	NO			20121531	12/27/2011
PGS-10-	In-Line and Broadside Marine					,
22US	Electromagnetic Surveying	US	8928324	1/6/2014	13/337696	12/27/2011
	Electromagnetic Sensor Cable					
PGS-10-	and Electrical Configuration					
30EP/FR	Therefor	FR	2594966	1/8/2020	12193665.2	11/21/2011
	Electromagnetic Sensor Cable					
PGS-10-	and Electrical Configuration					
30EP/GB	Therefor	GB	2594966	1/8/2020	12193665.2	11/21/2011
500.40	Electromagnetic Sensor Cable					
PGS-10-	and Electrical Configuration		2504066	4 /0 /2020	42402665.2	44 /24 /2044
30EP/NO	Therefor	NO	2594966	1/8/2020	12193665.2	11/21/2011
PGS-10-	Electromagnetic Sensor Cable and Electrical Configuration					
30US	Therefor	US	8816690	8/26/2014	13/276,766	10/19/2011
2003	Acquisition System and	03	3010030	0/20/2014	13/2/0,/00	10/13/2011
	Method for Towed					
PGS-10-	Electromagnetic Sensor Cable					
32BR	and Source	BR			BR102013011326-3	5/9/2012
	Acquisition System and					
	Method for Towed					
PGS-10-	Electromagnetic Sensor Cable					
32FR	and Source	FR			13 54168	5/9/2012
	Acquisition System and					
	Method for Towed					
PGS-10-	Electromagnetic Sensor Cable			0 /4 5 /0 0 4 5		- /o /o o o
32GB	and Source	GB	2504171	3/16/2016	1308175.7	5/9/2012
	Acquisition System and Method for Towed					
PGS-10-	Electromagnetic Sensor Cable					
32NO	and Source	NO			20130575	5/9/2012
52.10	Acquisition System and				202007.5	3,3,2022
	Method for Towed					
PGS-10-	Electromagnetic Sensor Cable					
32US	and Source	US	8994378	3/31/2015	13/467,261	5/9/2012
	Acquisition System and					
	Method for Towed					
PGS-10-	Electromagnetic Sensor Cable					
32US-DIV1	and Source	US	9459368	10/4/2016	14/518,233	5/9/2012
DOS 40	Electromagnetic Sensor Cable					
PGS-10-	and Electrical Configuration				DD102012022666.4	0/10/2011
33BR	Therefor Electromagnetic Sensor Cable	BR			BR102012023666-4	9/19/2011
PGS-10-	and Electrical Configuration					
33FR	Therefor	FR			12 58728	9/19/2011
JJ111	Electromagnetic Sensor Cable	† · · · ·				5,15,2011
PGS-10-	and Electrical Configuration					
33FR-DIV1	Therefor	FR			17 57530	9/19/2011
	Electromagnetic Sensor Cable					
PGS-10-	and Electrical Configuration					
33GB	Therefor	GB	2494759	9/3/2012	1215611.3	9/19/2011
	Electromagnetic Sensor Cable					
PGS-10-	and Electrical Configuration					
33NO	Therefor	NO	344078	9/2/2019	20120945	9/19/2011

Page 10 of 16

				100000000000000000000000000000000000000	1	Page 10 of 10
File		l				
Number	Title	Country	Patent #	Grant Date	Application #	Priority
PGS-10-	Electromagnetic Sensor Cable					
33NO-	and Electrical Configuration					
DIV1	Therefor	NO	344077	9/2/2019	20171078	9/19/2011
	Electromagnetic Sensor Cable					
PGS-10-	and Electrical Configuration					
33US	Therefor	US	8710845	4/29/2014	13/236,158	9/19/2011
	High Voltage DC					
PGS-10-	Transmission for					
38FR	Electromagnetic Source	FR			12 51860	3/1/2011
	High Voltage DC					
PGS-10-	Transmission for					
38GB	Electromagnetic Source	GB	2488658	8/6/2014	1203553.1	3/1/2011
	High Voltage DC					
PGS-10-	Transmission for					
38NO	Electromagnetic Source	NO	344512	1/20/2020	20120176	3/1/2011
	High Voltage DC					
PGS-10-	Transmission for					1
38US	Electromagnetic Source	US	8797038	8/5/2014	12/932,592	3/1/2011
	Electrode Structure for					
	Marine Electromagnetic					
PGS-10-	Geophysical Survey					
39FR	Transducers	FR	1161184	7/4/2014	1161184	12/16/2010
	Electrode Structure for					, ,
	Marine Electromagnetic					
PGS-10-	Geophysical Survey					
39GB	Transducers	GB	2486519	1/15/2014	1118693.9	12/16/2010
	Electrode Structure for			, , , , , , , , , , , , , , , , , , , ,		
	Marine Electromagnetic					
PGS-10-	Geophysical Survey					
39NO	Transducers	NO	336364	8/10/2015	20111463	12/16/2010
	Electrode Structure for	1		0,10,1015	20221100	12, 10, 2010
	Marine Electromagnetic					
PGS-10-	Geophysical Survey					
39US	Transducers	US	8643374	2/4/2014	12/928677	12/16/2010
3303	Sensor Arrangement for	03	00+337+	2/4/2014	12/320077	12/10/2010
	Detecting Motion Induced					
	Noise in Towed Marine					
PGS-11-	Electromagnetic Sensor					1
03FR	Streamers	FR	1252396	7/17/2015	12 52396	3/18/2011
05110	Sensor Arrangement for	111	1232330	7/17/2013	12 32330	3/10/2011
	Detecting Motion Induced					1
	Noise in Towed Marine					
PGS-11-	Electromagnetic Sensor					1
03GB	Streamers	GB	2489099	7/30/2014	1204476.4	3/18/2011
0300	Sensor Arrangement for	00	2703033	7/30/2014	12077/0.4	3, 10, 2011
	Detecting Motion Induced					1
	Noise in Towed Marine					
PGS-11-	Electromagnetic Sensor					1
03NO	Streamers	NO	344684	3/2/2020	20120272	3/18/2011
OSINO		INO	344004	3/2/2020	20120272	3/10/2011
	Sensor Arrangement for					1
	Detecting Motion Induced					1
DCC 44	Noise in Towed Marine					
PGS-11-	Electromagnetic Sensor		0544656	0/20/25:5	42/054 :00	2/42/22::
03US	Streamers	US	8514656	8/20/2013	13/051,489	3/18/2011
PGS-11-	Power Converter and			_ ,		l
17EP	Electrode Combinations for	EP	2584380	5/8/2019	12188855.6	10/14/2011

Page 11 of 16

en .						Page 11 of 16
File Number	Title		Detent#	Count Data	Amuliantian #	Datasita
number	Title	Country	Patent #	Grant Date	Application #	Priority
	Electromagnetic Survey					
	Source					
	Power Converter and					
DCC 11	Electrode Combinations for					
PGS-11-	Electromagnetic Survey		2504200	F /0 /2010	12100055 6	10/14/2011
17EP/FR	Source	FR	2584380	5/8/2019	12188855.6	10/14/2011
	Power Converter and					
DCC 44	Electrode Combinations for					
PGS-11-	Electromagnetic Survey	65	2504200	F /0 /2010	42400055.6	10/11/2011
17EP/GB	Source	GB	2584380	5/8/2019	12188855.6	10/14/2011
	Power Converter and					
DCC 11	Electrode Combinations for					
PGS-11-	Electromagnetic Survey	l NO	2504200	F /0 /2010		10/11/2011
17EP/NO	Source	NO	2584380	5/8/2019		10/14/2011
	Power Converter and					
DCC 11	Electrode Combinations for					
PGS-11-	Electromagnetic Survey	Luc	0001106	7/14/2015	12/274 402	10/17/2011
17US	Source Methods and Apparatus for	US	9081106	7/14/2015	13/274,493	10/17/2011
DCC 11						
PGS-11-	Adaptive Source				DD102012004821.2	2/20/2012
25BR	Electromagnetic Surveying	BR			BR102013004831-3	2/29/2012
PGS-11-	Methods and Apparatus for Adaptive Source					
25GB		GB	2501359	8/30/2017	1302835.2	2/29/2012
25GB	Electromagnetic Surveying	GB	2501359	8/30/2017	1302835.2	2/29/2012
PGS-11-	Methods and Apparatus for Adaptive Source					
25NO	Electromagnetic Surveying	NO			20130254	2/29/2012
25110	Methods and Apparatus for	INO			20130234	2/29/2012
PGS-11-	Adaptive Source					
25US	Electromagnetic Surveying	US	8797036	8/5/2014	13/408,831	2/29/2012
PGS-11-	Methods and Apparatus for	03	8737030	8/3/2014	13/400,831	2/23/2012
25US-	Adaptive Source					
CON1	Electromagnetic Surveying	US	9864088	1/9/2018	14/271,162	2/29/2012
CONI	Methods and Apparatus for	03	3604066	1/3/2018	14/2/1,102	2/23/2012
	Rapid Determination of					
PGS-11-	Target Depth and Transverse					
29AU	Resistance	AU	2012247094	9/3/2015	2012247094	11/30/2011
25/10	Methods and Apparatus for	170	2012247034	3/3/2013	2012247054	11/30/2011
	Rapid Determination of					
PGS-11-	Target Depth and Transverse					
29BR	Resistance	BR			BR102012030628-0	11/30/2011
23311	Methods and Apparatus for				D1120201200020 0	11,00,1011
	Rapid Determination of					
PGS-11-	Target Depth and Transverse			1		
29EP/GB	Resistance	GB	2600177	1/8/2020	12195071.1	11/30/2011
,	Methods and Apparatus for	 		-, -, -,		, - 3,1
	Rapid Determination of			1		1
PGS-11-	Target Depth and Transverse			1		1
29EP/NO	Resistance	NO	2600177	1/8/2020	12195071.1	11/30/2011
-	Methods and Apparatus for					
	Rapid Determination of			1		1
PGS-11-	Target Depth and Transverse					
29US	Resistance	US	8990019	3/14/2015	13/307,640	11/30/2011
PGS-11-	System and Method for In-				,	
30BR	Sea Electrode Conditioning	BR			BR102013001915-1	1/25/2012
PGS-11-	System and Method for In-					
30GB	Sea Electrode Conditioning	GB	2498868	11/29/2017	1301312.3	1/25/2012

Page 12 of 16

		•		•		Page 12 of 10
File						
Number	Title	Country	Patent #	Grant Date	Application #	Priority
PGS-11-	System and Method for In-					
30NO	Sea Electrode Conditioning	NO			20130105	1/25/2012
PGS-11-	System and Method for In-					
30US	Sea Electrode Conditioning	US	9372280	6/21/2016	13/358,255	1/25/2012
PGS-11-	System and Method for In-			.,,		
30US-DIV1	Sea Electrode Conditioning	US	9696449	7/4/2017	15/162,223	1/25/2012
3003 2111	Electromagnetic Receiver		3030113	77 172017	13/102,223	2,23,2012
PGS-11-	Assembly for Marine					
33NO	Electromagnetic Surveying	NO	338148	8/1/2016	20130354	3/15/2012
33110	Electromagnetic Receiver	110	330140	5/1/2010	20130334	3,13,2012
PGS-11-	Assembly for Marine					
33US	Electromagnetic Surveying	US	8896313	11/25/2014	13/421683	3/15/2012
3303	Method and System of	03	8890313	11/23/2014	13/421063	3/13/2012
	Determining Parameters Associated With a					
DCC 11						
PGS-11-	Hydrocarbon Bearing	,,,	000005	2/20/2017	12/212 150	12/7/2011
37US	Formation Beneath a Sea Bed	US	9606256	3/28/2017	13/313,150	12/7/2011
2004	Stationary Source for Marine					1
PGS-11-	Electromagnetic Surveying					.,,,-
46GB-DIV1	Background	GB	2521779	12/23/2015	1504107.2	3/1/2012
	Stationary Source for Marine					
PGS-11-	Electromagnetic Surveying					
46NO	Background	NO			20130301	3/1/2012
	Stationary Source for Marine					
PGS-11-	Electromagnetic Surveying					
46US	Background	US	9239401	1/19/2016	13/409,531	3/1/2012
	Method and System for					
	Processing Data Acquired in a					
PGS-12-	Marine Electromagnetic					
16US	Survey	US	9335434	5/10/2016	13/667,484	11/2/2012
	Methods and Systems for					
	Using a Combined					
PGS-12-	Electromagnetic Source					
21US	Electrode and Deflector	US	9664811	5/30/2017	13/719,456	12/19/2012
	Systems and Methods for				, ,	
	Removal of Swell Noise in					
PGS-12-	Marine Electromagnetic					1
23AU	Surveys	AU	2013257511	9/21/2017	2013257511	12/4/2012
****	Systems and Methods for			,,,		
	Removal of Swell Noise in					
PGS-12-	Marine Electromagnetic					
23BR	Surveys	BR			BR102013031149-9	12/4/2012
	Systems and Methods for					, 1,2012
	Removal of Swell Noise in					1
PGS-12-	Marine Electromagnetic					
23GB	Surveys	GB	2508738	12/6/2017	1321229.5	12/4/2012
2300	Systems and Methods for	1 00	2300730	12/0/2017	1321223.3	12,7,2012
	Removal of Swell Noise in					1
PGS-12-	Marine Electromagnetic					
	_	NO			20121554	12/4/2012
23NO	Surveys	INO			20131554	12/4/2012
	Systems and Methods for					1
DOC 13	Removal of Swell Noise in					
PGS-12-	Marine Electromagnetic	l				
23US	Surveys	US	9625600	4/18/2017	13/705,017	12/4/2012
PGS-12-	Uncertainty-Based					1 .
36US	Frequency-Selected Inversion	US	9575205	2/21/2017	13/744,173	1/17/2013

Page 13 of 16

				100000000000000000000000000000000000000	1	Page 13 of 16
File Number	Title	Country	Patent #	Grant Date	Application #	Priority
	of Electromagnetic				4 T	*
	Geophysical Data					
	Method and System for					
PGS-12-	Suppressing Swell-Induced		0.074.044	2/4/2045	42/020 220	2/44/2042
38US	Electromagnetic Noise	US	9,274,241	3/1/2016	13/828,239	3/14/2013
	Silicon Controlled Rectifier					
PGS-12-	Control of Deep Towed				4.54005	0.4549040
41FR	Electromagnetic Source	FR			14 51837	3/6/2013
505.40	Silicon Controlled Rectifier					
PGS-12-	Control of Deep Towed		2544525	4 /20 /2020	4400000	2/5/2012
41GB	Electromagnetic Source	GB	2511636	1/29/2020	1402902.9	3/6/2013
505.43	Silicon Controlled Rectifier					
PGS-12-	Control of Deep Towed	l NG			20140240	2/6/2012
41NO	Electromagnetic Source	NO			20140249	3/6/2013
000 10	Silicon Controlled Rectifier					
PGS-12-	Control of Sub-Sea Towed	,,,	0622107	4/25/2017	12/707 202	2/6/2012
41US	Electromagnetic Source	US	9632197	4/25/2017	13/787,303	3/6/2013
	Systems and Methods for					
DCC 43	Measuring Water Properties					
PGS-12-	in Electromagnetic Marine	,	2014204254	2/22/2242	2014201254	2/12/2012
47AU	Surveys	AU	2014201354	3/22/2018	2014201354	3/12/2013
	Systems and Methods for					
505.45	Measuring Water Properties					
PGS-12-	in Electromagnetic Marine		2544026	0/04/0046	4.4000.40.0	2/42/2042
47GB	Surveys	GB	2511936	8/24/2016	1403943.2	3/12/2013
	Joint Estimation of					
DCC	Electromagnetic Earth					
PGS-	Responses and Ambient				2015200050	9/20/2014
14118-AU	Noise	AU			2015309050	8/29/2014
	Joint Estimation of					
DCC	Electromagnetic Earth					
PGS-	Responses and Ambient Noise	DD.			DD113017003401.0	9/20/2014
14118-BR		BR			BR112017003401-8	8/29/2014
DCC	Joint Estimation of					
PGS-	Electromagnetic Earth					
14118- EP/GB	Responses and Ambient	GB	2196662	2/27/2010	15750665 1	9/20/2014
Er/UD	Noise	J GB	3186663	2/27/2019	15759665.1	8/29/2014
PGS-	Joint Estimation of					
14118-	Electromagnetic Earth Responses and Ambient					
EP/NO	Noise	NO	3186663	2/27/2019	15759665.1	8/29/2014
LF/NU	Joint Estimation of	INO	2100002	2/2//2019	13/33005.1	0/23/2014
	Electromagnetic Earth					
PGS-	Responses and Ambient					
14118-MX	Noise	MX			MX/A/2017/002601	8/29/2014
T+TTO-IAIV	Joint Estimation of	IVIA			IVIN/PYZU1//UUZUU1	0/23/2014
	Electromagnetic Earth					
PGS-	Responses and Ambient					
14118-MY	Noise	MY			PI 2017700494	8/29/2014
**************************************	Joint Estimation of	1411			11201//00434	0,23,2014
PGS-	Electromagnetic Earth					
14118-US-	Responses and Ambient					
ORG1	Noise	US	10613246	4/7/2020	 15/502,146	8/29/2014
PGS-	Electrically Isolated Streamer	55	10013240	7,7,2020	13/302,140	0, 23, 2014
14129-AU	Section	AU			2015238805	10/20/2014
PGS-	Electrically Isolated Streamer	1 70			2013230003	10,20,2014
14129-BR	Section	BR			BR102015026227-2	10/20/2014
14172-RK	Section	DK		<u> </u>	PV1050120505771-7	10/20/2014

Page 14 of 16

		1		1	1	Page 14 of 16
File						
Number	Title	Country	Patent #	Grant Date	Application #	Priority
PGS-	Electrically Isolated Streamer					
14129-EP	Section	EP			15188220.6	10/20/2014
PGS- 14129-US-	Electrically Isolated Streamer		40042072	0/7/2040	44/504 200	40/20/2044
ORG1	Section	US	10042073	8/7/2018	14/594,389	10/20/2014
PGS-14-	Marine Streamer Connector		10000017	2/24/2020	44/564 222	6/40/2044
19US	Used as an Electrode	US	10605947	3/31/2020	14/561,332	6/18/2014
PGS-14-20-	Methods and Apparatus for Electromagnetic Surveying Using Dynamically-Selected					
AU	Source Waveforms	AU			2015329938	10/10/2014
PGS-14-20- BR	Methods and Apparatus for Electromagnetic Surveying Using Dynamically-Selected Source Waveforms	BR			BR112017006731-5	10/10/2014
	Methods and Apparatus for					
PGS-14-20- CA	Electromagnetic Surveying Using Dynamically-Selected Source Waveforms	CA			2962130	10/10/2014
- C. (Methods and Apparatus for	- C/ (2302130	10/10/2011
PGS-14-20- CN	Electromagnetic Surveying Using Dynamically-Selected Source Waveforms	CN			201580054903.0	10/10/2014
	Methods and Apparatus for					
PGS-14-20- EP	Electromagnetic Surveying Using Dynamically-Selected Source Waveforms	EP			15781893.1	10/10/2014
	Methods and Apparatus for				15761655.1	10/10/2014
	Electromagnetic Surveying					
PGS-14-20-	Using Dynamically-Selected					
ID	Source Waveforms	ID	IDP000063558	10/15/2019	P-00201702174	10/10/2014
	Methods and Apparatus for Electromagnetic Surveying		151 000003330	10/13/2013	1 00201/021/4	10/10/2014
PGS-14-20-	Using Dynamically-Selected	l				
MX	Source Waveforms	MX	364463	4/26/2019	MX/A/2017/004644	10/10/2014
PGS-14-20-	Methods and Apparatus for Electromagnetic Surveying Using Dynamically-Selected					
MY	Source Waveforms	MY			PI 2017701106	10/10/2014
PGS-14-	Methods and Apparatus for Electromagnetic Surveying Using Dynamically-Selected					
20US	Source Waveforms	US	9766361	9/19/2017	14/511,625	10/10/2014
PGS-	Joint Inversion of Subsurface					
15106-US-	Resistivity and Noise					
ORG1	Parameters	US	10274635	4/30/2019	15/002,101	2/16/2015
PGS-	SEISMIC GUIDED INVERSION					
15112-US-	OF ELECTROMAGNETIC					.,,
ORG1	SURVEY DATA	US	10197702	2/5/2019	15/092,786	4/27/2015
PGS-	Direct Resistivity				204504555	0/21/22
15122-AU	Determination	AU			2016210664	8/31/2015
PGS-	Direct Resistivity				BB40061551555	0/01/01
15122-BR	Determination	BR			BR102016019228-5	8/31/2015
PGS-	Direct Resistivity					
15122-EP	Determination	EP			16186030.9	8/31/2015
PGS-	Direct Resistivity					0.40 - 45
15122-MX	Determination	MX			MX/A/2016/011258	8/31/2015

Page 15 of 16

	•	·· •			.	Page 15 of 10
File						
Number	Title	Country	Patent #	Grant Date	Application #	Priority
PGS-	Direct Resistivity					
15122-MY	Determination	MY			PI2016703102	8/31/2015
PGS-						
15122-US-	Direct Resistivity					
ORG1	Determination	US	10571592	2/25/2020	15/178,999	8/31/2015
	Identification of Degrading					
	Electrodes in a Marine					
PGS-	Electromagnetic Survey					
15123-AU	System	AU			2016219714	8/31/2015
	Identification of Degrading					
	Electrodes in a Marine					
PGS-	Electromagnetic Survey					
15123-BR	System	BR			BR102016019930-1	8/31/2015
13123 511	Identification of Degrading	 			511102010013330 1	0,01,2013
	Electrodes in a Marine					
PGS-	Electromagnetic Survey					
15123-EP		EP			16186037.4	8/31/2015
13123-57	System Identification of Degrading	Lr'			10100037.4	0/31/2013
	Electrodes in a Marine					
DCC	1					
PGS-	Electromagnetic Survey	1			D120467024F0	0/24/2045
15123-MY	System	MY			PI2016703150	8/31/2015
	IDENTIFICATION OF					
	DEGRADING ELECTRODES IN					
PGS-	A MARINE					
15123-US-	ELECTROMAGNETIC SURVEY					
ORG1	SYSTEM	US	10175277	1/8/2019	15/239,628	8/31/2015
PGS-						
15135-AU	Bipole Source Modeling	AU			2016247148	10/26/2015
PGS-						
15135-BR	Bipole Source Modeling	BR			BR102016024118-9	10/26/2015
PGS-						
15135-EP	Bipole Source Modeling	EP			EP16195161.1	10/26/2015
PGS-	<u> </u>					, ,
15135-MX	Bipole Source Modeling	MX			MX/A/2016/014025	10/26/2015
PGS-	Dipole Source Wiedening	1417			1111/11/1/2010/01/1025	10,20,2013
15135-MY	Bipole Source Modeling	MY			PI 2016703866	10/26/2015
PGS-	Bipole Source Wodeling	1011			F12010703800	10/20/2013
15135-US-						
	Dinala Carres Madalina	US			15/200 720	10/26/2015
ORG1	Bipole Source Modeling	103			15/280,739	10/26/2015
200	Combined Seismic and					
PGS-	Electromagnetic Survey	l				
15141-AU	Configurations	AU			2016369914	12/16/2015
	Combined Seismic and					
PGS-	Electromagnetic Survey					
15141-BR	Configurations	BR			BR112018012127-4	12/16/2015
	Combined Seismic and					
PGS-	Electromagnetic Survey					
15141-CA	Configurations	CA			3,008,380	12/16/2015
	Combined Seismic and					
PGS-	Electromagnetic Survey					
15141-CN	Configurations	CN			201680082041.7	12/16/2015
	Combined Seismic and	1				, , , , , , ,
PGS-	Electromagnetic Survey					
15141-EP	Configurations	EP			16801265.6	12/16/2015
T7T-T-	Combined Seismic and	+-'			10001200.0	12,10,2013
PGS-	Electromagnetic Survey					
15141-ID	Configurations	ID			PID201804998	12/16/2015
13141-ID	Configurations	עו ן	1	<u> </u>	FIDZU1004998	12/16/2015

ORG1

Electromagnetic Data

22.4		400000000000000000000000000000000000000			F	Page 16 of 10
File Number	Title	Country	Patent #	Grant Date	Application #	Priority
Number	Combined Seismic and	Country	ratenc#	Orani Date	Аррисации #	riterity
PGS-	Electromagnetic Survey					
15141-MX	Configurations	MX			MX/A/2018/007452	 12/16/2015
13141-1017	Combined Seismic and	IVIX			W/A/2018/00/432	12/10/2013
PGS-	Electromagnetic Survey					
15141-MY	Configurations	MY			PI 2018000915	12/16/2015
PGS-	Combined Seismic and	1011			112010000313	12/10/2015
15141-US-	Electromagnetic Survey					
ORG1	Configurations	US	10379256	8/13/2019	15/333,038	12/16/2015
PGS-	Comigarations	03	10373230	6/15/2015	13/333,030	12,10,2013
16105-US-	ELECTROMAGNETIC					
ORG1	STREAMER SAFETY	Us	10461523	10/29/2019	15/464,494	4/19/2016
PGS-	STREATHER STREET		10101323	10,23,2013	137 10 1, 13 1	1, 13, 2010
16149-US-	Electromagnetic inversion					
ORG1	model reduction	US			15/902,061	2/23/2017
PGS-	Towable Electromagnetic				. ,	, ,
17104-EP	Source Equipment	EP			18158690.0	2/28/2017
PGS-						
17104-US-	Towable Electromagnetic					
ORG1	Source Equipment	US			15/896,305	2/28/2017
PGS-						
17107-US-	Electromagnetic Data					
ORG1	Inversion	US			16/009,305	6/16/2017
PGS-						
17117-US-	Determining Sea Water					
ORG1	Resistivity	US			15/974,977	5/9/2017
PGS-	Electromagnetic Response					
17124-US-	Data Inversion Using Singular					
ORG1	Value Decomposition	US			16/164,881	10/20/2017
PGS-	Inversion of Enhanced-					
17130-US-	Sensitivity Controlled Source					

PATENT REEL: 059022 FRAME: 0589

16/002,086

6/14/2017

RECORDED: 02/16/2022