503325375 05/28/2015

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3371993

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
CHARLES MARK PHILLIPS	01/29/2013
BARBARA MARSHIK-GEURTS	01/29/2013
LEONARD I. KAMLET	01/29/2013
MARTIN L. SPARTZ	03/18/2013
VIDI SAPTARI	02/06/2013

RECEIVING PARTY DATA

Name:	MKS Instruments, Inc.
Street Address:	2 Tech Drive
Internal Address:	Suite 201
City:	Andover
State/Country:	MASSACHUSETTS
Postal Code:	01810

PROPERTY NUMBERS Total: 1

Property Type	Number	
Application Number:	14637094	

CORRESPONDENCE DATA

Fax Number: (617)526-9899

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: 617-526-9600

Email: sallen@proskauer.com **Correspondent Name:** PROSKAUER ROSE LLP Address Line 1: ONE INTERNATIONAL PLACE

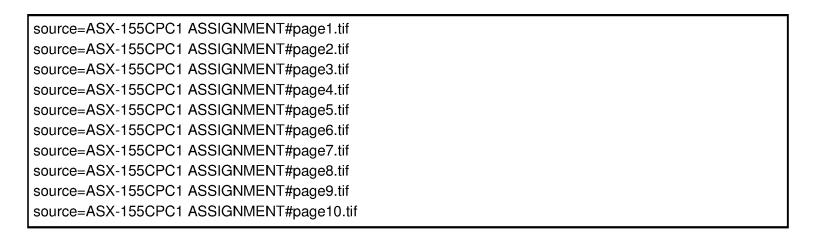
Address Line 4: BOSTON, MASSACHUSETTS 02110

ASX-155CPC1 ATTORNEY DOCKET NUMBER: **BRENDA FLOCKHART-SHANKS** NAME OF SUBMITTER: SIGNATURE: /Brenda Flockhart-Shanks/ **DATE SIGNED:** 05/28/2015

Total Attachments: 10

PATENT REEL: 035732 FRAME: 0410

503325375



PATENT

Attorney Docket No.: ASX-155CP

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

INVENTOR(S):

Phillips, et al.

CONFIRMATION NO.:

1916

APPLICATION NO.: 13/743,671

FILING DATE:

January 17, 201

TITLE:

Method And Apparatus For Siloxane Measurements In A Biogas

DECLARATION PURSUANT TO 37 C.F.R. § 1.63 AND ASSIGNMENT

DECLARATION T.

As the below named inventor, I hereby make the following declarations with respect to the aboveidentified patent application:

The above-identified application was made or authorized to be made by me;

I believe that I am the original inventor or an original joint inventor of a claimed invention in the aboveidentified application;

I hereby state that I have reviewed and understand the contents of the above-identified application, including the claims;

I acknowledge the duty to disclose to the Patent Office all information known by me to be material to patentability as defined in 37 C.F.R. § 1.56, including for continuation-in-part applications, material information known by me which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application; and

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both.

II. ASSIGNMENT

WHEREAS, I, Charles Mark Phillips, have invented, solely or jointly, one or more inventions described in the above-identified patent application for letters patent; and

WHEREAS, MKS Instruments, Inc., (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the State/Commonwealth of Massachusetts, and having a usual place of business at 2 Tech Drive, Suite 201, Andover, Massachusetts, desires to acquire an interest therein, in accordance with agreements duly entered into with me.

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, I have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns, and legal representatives, my entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to the invention(s) described in said application, together with my entire right, title and interest in and to said application and such letters patent as may issue thereon or claim priority under United States law or international convention, including but not limited to non-provisionals, continuations, divisionals, reissues, reexaminations, extensions, and substitutions of said application or such letters patent, and any right, title and interest I may have in provisional applications to which said application claims priority; said invention(s), applications and letters patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said letters patent may be granted as fully and entirely as the same would have been held by me had this assignment and sale not been made. I hereby convey all of my rights arising under or pursuant to any and all United States laws and international agreements, treaties or laws relating to the protection of

industrial property by filing any such applications for letters patent, including but not limited to any cause(s) of action and damages accruing prior to this assignment. I hereby acknowledge that this assignment, being of my entire right, title and interest in and to said invention(s), carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all letters patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all letters patent to ASSIGNEE in its own name as assignee of my entire right, title and interest therein.

I hereby further agree for myself and my executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention(s) to said ASSIGNEE, its successors, assigns, and legal representatives, but at its or their expense and charges, including the execution of non-provisional, substitution, continuation, divisional, reissue, reexamination, or corresponding foreign or international patent applications.

I hereby further agree to provide statements or testimony in any interference or other proceeding in which said invention(s) or any application or patent directed thereto may be involved.

I hereby authorize and request the Director of the United States Patent and Trademark Office to issue such letters patent as shall be granted upon said application, or applications based thereon, to said ASSIGNEE, its successors, assigns, or legal representatives.

III. SIGNATURE BLOCK

IN TESTIMONY WHEREOF, I have hereur	nto set my hand-	and affixed my seal on the date set
forth below.	ino set my nano-	and affixed my sear on the date set
forth below.	Inventor:	Charles Mark Phillips
NOTARIZATION h		
State/Commonwealth of Mossachysets County of Essex) ss		
On this diday of <u>Janually</u> , 201 personally appeared Charles Mark Phillips, proved to which were <u>AUDINES</u> , to preceding or attached document in my presence.	me unough sau	istactory evidence of identification,
	Notary Publ	a life the Mechanication of the search of the
WITNESS	My Commis	Ssion Expires My Commission Expires Decomber 12, 2014
Witness Signature;		
Witness Name:		
Witness Date:		

1552/49548-331 current/34350326v1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

INVENTOR(S):

Phillips, et al.

CONFIRMATION NO.:

1916

APPLICATION NO.: 13/743,671

FILING DATE:

January 17, 2013

TITLE:

Method And Apparatus For Siloxane Measurements In A Biogas

DECLARATION PURSUANT TO 37 C.F.R. § 1.63 AND ASSIGNMENT

DECLARATION I.

As the below named inventor, I hereby make the following declarations with respect to the aboveidentified patent application:

The above-identified application was made or authorized to be made by me;

I believe that I am the original inventor or an original joint inventor of a claimed invention in the aboveidentified application;

I hereby state that I have reviewed and understand the contents of the above-identified application, including the claims;

I acknowledge the duty to disclose to the Patent Office all information known by me to be material to patentability as defined in 37 C.F.R. § 1.56, including for continuation-in-part applications, material information known by me which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application; and

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both.

II. ASSIGNMENT

WHEREAS, I, Barbara Marshik-Geurts, have invented, solely or jointly, one or more inventions described in the above-identified patent application for letters patent; and

WHEREAS, MKS Instruments, Inc., (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the State/Commonwealth of Massachusetts, and having a usual place of business at 2 Tech Drive, Suite 201, Andover, Massachusetts, desires to acquire an interest therein, in accordance with agreements duly entered into with me.

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, I have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns, and legal representatives, my entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to the invention(s) described in said application, together with my entire right, title and interest in and to said application and such letters patent as may issue thereon or claim priority under United States law or international convention, including but not limited to non-provisionals, continuations, divisionals, reissues, reexaminations, extensions, and substitutions of said application or such letters patent, and any right, title and interest I may have in provisional applications to which said application claims priority; said invention(s), applications and letters patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said letters patent may be granted as fully and entirely as the same would have been held by me had this assignment and sale not been made. I hereby convey all of my rights arising under or pursuant to any and all United States laws and international agreements, treaties or laws relating to the protection of

industrial property by filing any such applications for letters patent, including but not limited to any cause(s) of action and damages accruing prior to this assignment. I hereby acknowledge that this assignment, being of my entire right, title and interest in and to said invention(s), carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all letters patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all letters patent to ASSIGNEE in its own name as assignee of my entire right, title and interest therein.

I hereby further agree for myself and my executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention(s) to said ASSIGNEE, its successors, assigns, and legal representatives, but at its or their expense and charges, including the execution of non-provisional, substitution, continuation, divisional, reissue, reexamination, or corresponding foreign or international patent applications.

I hereby further agree to provide statements or testimony in any interference or other proceeding in which said invention(s) or any application or patent directed thereto may be involved.

I hereby authorize and request the Director of the United States Patent and Trademark Office to issue such letters patent as shall be granted upon said application, or applications based thereon, to said ASSIGNEE, its successors, assigns, or legal representatives.

III. SIGNATURE BLOCK

	have hereunto set my hand-and affixed my seal on the date set
forth below.	11 portion
	Inventor: Barbara Marshik-Geurts
NOTARIZATION	Δ
State/Commonwealth of Mass achies County of ESSEX) s	The state of the s
Country of Table Ty	74
County of Case A	
On this 2 day of Janually	, 2013 before me, the undersigned notary public, rts, proved to me through satisfactory evidence of
personally appeared Barbara Marshik-Geur	rts, proved to me through satisfactory evidence of
identification, which were MA DRIVE	(2) \\(20\&C, to be the person whose name is signed
on the preceding or attached document in n	ny presence.
	GEORGIA D. BRISTILIARIS
	Notary Public Notary Public Notary Public My Commission Expires 17 (2003) Notary Public Notary Public
THE CONTROL OF CO.	My Commission Expires My Commission Expires
WITNESS	Occurbe 12, 2014
Witness Signature:	
Witness Name:	
Witness Date:	
-	

1552/49548-331 current/34351386v1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

INVENTOR(S):

Phillips, et al.

CONFIRMATION NO.:

1916

APPLICATION NO.: 13/743,671

FILING DATE:

January 17, 201

TITLE:

Method And Apparatus For Siloxane Measurements In A Biogas

DECLARATION PURSUANT TO 37 C.F.R. § 1.63 AND ASSIGNMENT

Ĭ. **DECLARATION**

As the below named inventor, I hereby make the following declarations with respect to the aboveidentified patent application:

The above-identified application was made or authorized to be made by me;

I believe that I am the original inventor or an original joint inventor of a claimed invention in the aboveidentified application;

I hereby state that I have reviewed and understand the contents of the above-identified application, including the claims;

I acknowledge the duty to disclose to the Patent Office all information known by me to be material to patentability as defined in 37 C.F.R. § 1.56, including for continuation-in-part applications, material information known by me which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application; and

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both.

II. ASSIGNMENT

WHEREAS, I, Leonard I. Kamlet, have invented, solely or jointly, one or more inventions described in the above-identified patent application for letters patent; and

WHEREAS, MKS Instruments, Inc., (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the State/Commonwealth of Massachusetts, and having a usual place of business at 2 Tech Drive, Suite 201, Andover, Massachusetts, desires to acquire an interest therein, in accordance with agreements duly entered into with me.

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, I have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns, and legal representatives, my entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to the invention(s) described in said application, together with my entire right, title and interest in and to said application and such letters patent as may issue thereon or claim priority under United States law or international convention, including but not limited to non-provisionals, continuations, divisionals, reissues, reexaminations, extensions, and substitutions of said application or such letters patent, and any right, title and interest I may have in provisional applications to which said application claims priority; said invention(s), applications and letters patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said letters patent may be granted as fully and entirely as the same would have been held by me had this assignment and sale not been made. I hereby convey all of my rights arising under or pursuant to any and all United States laws and international agreements, treaties or laws relating to the protection of

industrial property by filing any such applications for letters patent, including but not limited to any cause(s) of action and damages accruing prior to this assignment. I hereby acknowledge that this assignment, being of my entire right, title and interest in and to said invention(s), carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all letters patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all letters patent to ASSIGNEE in its own name as assignee of my entire right, title and interest therein.

I hereby further agree for myself and my executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention(s) to said ASSIGNEE, its successors, assigns, and legal representatives, but at its or their expense and charges, including the execution of non-provisional, substitution, continuation, divisional, reissue, reexamination, or corresponding foreign or international patent applications.

I hereby further agree to provide statements or testimony in any interference or other proceeding in which said invention(s) or any application or patent directed thereto may be involved.

I hereby authorize and request the Director of the United States Patent and Trademark Office to issue such letters patent as shall be granted upon said application, or applications based thereon, to said ASSIGNEE, its successors, assigns, or legal representatives.

III. SIGNATURE BLOCK

IN TESTIMONY forth below.	WHEREOF, I have hereun	nto set my hand-	and affixed my scal on the date set
		Inventor:	Leonard I. Kamlet
<u>NOTARIZATION</u>			
State/Commonwealth of County of ESSEX	mascacrusets		
County of ESSEX) ss		
On this 29 day of personally appeared Leon which were Wh Day preceding or attached documents.	CVS MPVX to	Notary Publ	sion Expires Commonwealth of massachuser : My Commission Expires
TTITITION			December 12, 2014
Witness Signature:			
Witness Name:			
Witness Date:			

1552/49548-331 current/34351587v1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

INVENTOR(S):

Phillips, et al.

CONFIRMATION NO.:

1916

APPLICATION NO.: 13/743,671

FILING DATE:

January 17, 2

TITLE:

Method And Apparatus For Siloxane Measurements In A Biogas

DECLARATION PURSUANT TO 37 C.F.R. § 1.63 AND ASSIGNMENT

I. DECLARATION

As the below named inventor, I hereby make the following declarations with respect to the aboveidentified patent application:

The above-identified application was made or authorized to be made by me;

I believe that I am the original inventor or an original joint inventor of a claimed invention in the aboveidentified application;

I hereby state that I have reviewed and understand the contents of the above-identified application, including the claims;

I acknowledge the duty to disclose to the Patent Office all information known by me to be material to patentability as defined in 37 C.F.R. § 1.56, including for continuation-in-part applications, material information known by me which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application; and

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both.

II. ASSIGNMENT

WHEREAS, I, Martin L. Spartz, have invented, solely or jointly, one or more inventions described in the above-identified patent application for letters patent; and

WHEREAS, MKS Instruments, Inc., (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the State/Commonwealth of Massachusetts, and having a usual place of business at 2 Tech Drive, Suite 201, Andover, Massachusetts, desires to acquire an interest therein, in accordance with agreements duly entered into with me.

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, I have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns, and legal representatives, my entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to the invention(s) described in said application, together with my entire right, title and interest in and to said application and such letters patent as may issue thereon or claim priority under United States law or international convention, including but not limited to non-provisionals, continuations, divisionals, reissues, reexaminations, extensions, and substitutions of said application or such letters patent, and any right, title and interest I may have in provisional applications to which said application claims priority; said invention(s), applications and letters patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said letters patent may be granted as fully and entirely as the same would have been held by me had this assignment and sale not been made. I hereby convey all of my rights arising under or pursuant to any and all United States laws and international agreements, treaties or laws relating to the protection of

industrial property by filing any such applications for letters patent, including but not limited to any cause(s) of action and damages accruing prior to this assignment. I hereby acknowledge that this assignment, being of my entire right, title and interest in and to said invention(s), carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all letters patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all letters patent to ASSIGNEE in its own name as assignee of my entire right, title and interest therein.

I hereby further agree for myself and my executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention(s) to said ASSIGNEE, its successors, assigns, and legal representatives, but at its or their expense and charges, including the execution of non-provisional, substitution, continuation, divisional, reissue, reexamination, or corresponding foreign or international patent applications.

I hereby further agree to provide statements or testimony in any interference or other proceeding in which said invention(s) or any application or patent directed thereto may be involved.

I hereby authorize and request the Director of the United States Patent and Trademark Office to issue such letters patent as shall be granted upon said application, or applications based thereon, to said ASSIGNEE, its successors, assigns, or legal representatives.

III. SIGNATURE BLOCK

IN TESTIMONY WHEREOF, I I	have hereunto set my hand-and affixed my seal on the date set
forth below.	an Des
	Inventor: Martin L. Spartz
NOTARIZATION	
State/Commonwealth of () County of Tollard)s	s Ellington
On this Oday of Nach	, 2013 before me, the undersigned notary public, red to me through satisfactory evidence of identification, which to be the person whose name is signed on the preceding or Notary Public
<u>WITNESS</u>	My Commission Expires: Bonnie L. Armstrong NOTABY BURLES
Witness Signature:	
Witness Name:	My Commission Expires 2/28/2018
Witness Date:	

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

INVENTOR(S):

Phillips, et al.

CONFIRMATION NO.:

1916

APPLICATION NO.: 13/743,671

FILING DATE:

January 17, 2013

TITLE:

Method And Apparatus For Siloxane Measurements In A Biogas

DECLARATION PURSUANT TO 37 C.F.R. § 1.63 AND ASSIGNMENT

DECLARATION T.

As the below named inventor, I hereby make the following declarations with respect to the aboveidentified patent application:

The above-identified application was made or authorized to be made by me;

I believe that I am the original inventor or an original joint inventor of a claimed invention in the aboveidentified application;

I hereby state that I have reviewed and understand the contents of the above-identified application, including the claims;

I acknowledge the duty to disclose to the Patent Office all information known by me to be material to patentability as defined in 37 C.F.R. § 1.56, including for continuation-in-part applications, material information known by me which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application; and

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both.

II. ASSIGNMENT

WHEREAS, I, Vidi Saptari, have invented, solely or jointly, one or more inventions described in the above-identified patent application for letters patent; and

WHEREAS, MKS Instruments, Inc., (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the State/Commonwealth of Massachusetts, and having a usual place of business at 2 Tech Drive, Suite 201, Andover, Massachusetts, desires to acquire an interest therein, in accordance with agreements duly entered into with me.

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, I have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns, and legal representatives, my entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to the invention(s) described in said application, together with my entire right, title and interest in and to said application and such letters patent as may issue thereon or claim priority under United States law or international convention, including but not limited to non-provisionals, continuations, divisionals, reissues, reexaminations, extensions, and substitutions of said application or such letters patent, and any right, title and interest I may have in provisional applications to which said application claims priority; said invention(s), applications and letters patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said letters patent may be granted as fully and entirely as the same would have been held by me had this assignment and sale not been made. I hereby convey all of my rights arising under or pursuant to any and all United States laws and international agreements, treaties or laws relating to the protection of

industrial property by filing any such applications for letters patent, including but not limited to any cause(s) of action and damages accruing prior to this assignment. I hereby acknowledge that this assignment, being of my entire right, title and interest in and to said invention(s), carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all letters patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all letters patent to ASSIGNEE in its own name as assignee of my entire right, title and interest therein.

I hereby further agree for myself and my executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention(s) to said ASSIGNEE, its successors, assigns, and legal representatives, but at its or their expense and charges, including the execution of non-provisional, substitution, continuation, divisional, reissue, reexamination, or corresponding foreign or international patent applications.

I hereby further agree to provide statements or testimony in any interference or other proceeding in which said invention(s) or any application or patent directed thereto may be involved.

I hereby authorize and request the Director of the United States Patent and Trademark Office to issue such letters patent as shall be granted upon said application, or applications based thereon, to said ASSIGNEE, its successors, assigns, or legal representatives.

III. SIGNATURE BLOCK

IN TESTIM forth below.	MONY WHEREOF, I have	hereunto set my hand-a	and affixed my seal on the date se
ional ociow.		Inventor:	Vidi Saptari
NOTARIZATION	•		
State/Commonwea County of	alth of) ss		
On this personally appeared were attached document i	, to		undersigned notary public, vidence of identification, which ame is signed on the preceding or
WITNESS		Notary Publi My Commiss	c sion Expires;
Witness Signature:	THE THE PARTY OF T		
Witness Name:	DVAN	16 SWORD	
Witness Date:	2/6	/203	

1552/49548-331 current/34351638v1