

PATENT ASSIGNMENT

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SUBMISSION TYPE:	NEW ASSIGNMENT										
NATURE OF CONVEYANCE:	ASSIGNMENT										
CONVEYING PARTY DATA											
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Shilin Chen</td> <td>11/09/2011</td> </tr> <tr> <td>James R. Ashby</td> <td>11/09/2011</td> </tr> <tr> <td>Robert W. Arfele</td> <td>11/09/2011</td> </tr> </tbody> </table>		Name	Execution Date	Shilin Chen	11/09/2011	James R. Ashby	11/09/2011	Robert W. Arfele	11/09/2011		
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RECEIVING PARTY DATA											
<table border="1"> <tr> <td>Name:</td> <td>Halliburton Energy Services, Inc.</td> </tr> <tr> <td>Street Address:</td> <td>10200 Bellaire Boulevard</td> </tr> <tr> <td>City:</td> <td>Houston</td> </tr> <tr> <td>State/Country:</td> <td>TEXAS</td> </tr> <tr> <td>Postal Code:</td> <td>77072</td> </tr> </table>		Name:	Halliburton Energy Services, Inc.	Street Address:	10200 Bellaire Boulevard	City:	Houston	State/Country:	TEXAS	Postal Code:	77072
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PROPERTY NUMBERS Total: 1											
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13892016</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13892016						
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CORRESPONDENCE DATA											
Fax Number: 5123228388 <i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i> Phone: 512-322-2500 Email: crystle.garbade@bakerbotts.com Correspondent Name: BAKER BOTTS L.L.P. PATENT DEPARTMENT Address Line 1: 98 SAN JACINTO BLVD., SUITE 1500 Address Line 4: AUSTIN, TEXAS 78701-4039											
ATTORNEY DOCKET NUMBER:	074263.0788										
NAME OF SUBMITTER:	Crystle Garbade										
Signature:	/Crystle Garbade/										
Date:	05/10/2013										

CH \$40.00 13892016

Total Attachments: 4

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ASSIGNMENT

1 of 4

WHEREAS, I, the undersigned joint inventors of residence as listed, have invented certain new and useful improvements as below entitled, for which application for United States Letters Patent is made; said application having been executed; and

WHEREAS, **HALLIBURTON ENERGY SERVICES, INC.**, (hereinafter referred to as "Assignee"), A Delaware Corporation with its principal address at 10200 Bellaire Blvd., Houston, TX 77072 desires to acquire my entire right, title and interest in and to the invention filed in US Provisional Application No. 61/412,173 filed November 10, 2010 and US Provisional Application No. 61/416,160 filed November 22, 2010 and any Letters Patent that may issue thereon;

NOW, THEREFORE, for and in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I assign to Assignee, all right, title and interest in and to the said invention and in and to the said application and all patents which may be granted therefor, and all divisions, reissues, continuations, continuations-in-part and extensions thereof; and I authorize and request the Commissioner of Patents and Trademarks to issue all patents for said invention, or patents resulting therefrom, insofar as my interests are concerned, to Assignee.

I also assign to Assignee, all right, title and interest in and to the invention disclosed in said application throughout the world, including the right to file applications and obtain patents, utility models, industrial models and designs for said invention in its own name throughout the world, including all rights to publish cautionary notices reserving ownership of said invention and all rights to register said invention in appropriate registries; and I further agree to execute any and all powers of attorney, applications, assignments, declarations, affidavits, and any other papers in connection therewith necessary to perfect such right, title and interest in Assignee.

I will communicate to Assignee any facts known to me respecting any improvements; and, at the expense of Assignee, I will testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, continuation-in-part, reissue and substitute applications, make lawful oaths and declarations, and generally do everything possible to vest title in Assignee and to aid Assignee to obtain and enforce proper protection for said invention in all countries.

This Assignment shall be binding on the party's successors, assigns and legal representatives.

ASSIGNMENT

2 of 4

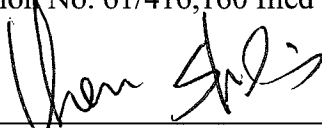
Title of Invention: *System and Method of Configuring Drilling Tools Utilizing a
Critical Depth of Cut Control Curve*

US Provisional Application No. 61/412,173 filed November 10, 2010

US Provisional Application No. 61/416,160 filed November 22, 2010

Signature of Joint Inventor:

Inventor's Name:



Shilin Chen

Date:



11-9-2011

Residence (City, County, State)

Mongomery, Montgomery County, Texas

ASSIGNMENT

3 of 4

Title of Invention: *System and Method of Configuring Drilling Tools Utilizing a
Critical Depth of Cut Control Curve*

US Provisional Application No. 61/412,173 filed November 10, 2010

US Provisional Application No. 61/416,160 filed November 22, 2010

Signature of Joint Inventor:

Inventor's Name:

James R. Ashby

Date:

Residence (City, County, State)

Conroe, Montgomery County, Texas

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4 of 4

Title of Invention: *System and Method of Configuring Drilling Tools Utilizing a
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US Provisional Application No. 61/412,173 filed November 10, 2010
US Provisional Application No. 61/416,160 filed November 22, 2010

Signature of Joint Inventor:
Inventor's Name:



Robert W. Arfele

Date:

11.9.11

Residence (City, County, State)

Magnolia, Montgomery County, Texas