

PATENT ASSIGNMENT

Electronic Version v1.1

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SUBMISSION TYPE:	CORRECTIVE ASSIGNMENT
NATURE OF CONVEYANCE:	Corrective Assignment to correct the Serial No. 08684011 previously recorded on Reel 011461 Frame 0670. Assignor(s) hereby confirms the Security Agreement.
CONVEYING PARTY DATA	
Name	Execution Date
PathFinder Energy Services, Inc.	10/16/2000
RECEIVING PARTY DATA	
Name:	Wells Fargo Bank Texas, As Administrative Agent
Street Address:	1000 Louisiana St.
City:	Houston
State/Country:	TEXAS
Postal Code:	77002
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	08664011
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ATTORNEY DOCKET NUMBER:	PESI SA-CORRECT
NAME OF SUBMITTER:	Jessica Greeney, IP Administrator
Total Attachments: 25 source=Oct2000_SecurityInterest#page1.tif	

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U.S. DEPARTMENT OF COMMERCE
Patent and Trademark Office

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

PATHFINDER ENERGY SERVICES, INC.Additional names(s) of conveying party(ies) attached? ☐ Yes ☒ No

2. Name and address of receiving party(ies):

WELLS FARGO BANK TEXAS, as administrative agent

Internal Address: _____

Street Address: 1000 Louisiana StreetCity: Houston State: TX ZIP: 77002Additional name(s) & address(es) attached? ☐ Yes ☒ No

3. Nature of conveyance:

☐ Assignment☐ Merger

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Other _____

Execution Date: October 16, 2000

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is: _____

Application Numbers: _____

Registration Numbers: _____

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Additional numbers attached? ☐ Yes ☒ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Robert E. Rude IIInternal Address: Mayer, Brown & PlattStreet Address: 1909 K Street, NWCity: Washington State: D.C. ZIP: 20006

6. Total number of applications and patents involved:

967. Total fee (37 CFR 3.41) \$3,840.00

* Enclosed (Check No) 5795

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To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Robert E. Rude II
Name of Person SigningRSK II
SignatureDecember 22, 2000
Date

Total number of pages including cover sheet, attachments and documents : 22

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PATENT
REEL: 011461 FRAME: 0670
REEL: 022613 FRAME: 0694

Patent / Serial Number

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EXHIBIT A

REVISED

SCHEDULE 2.01(a)(4)(a)

Sub-Group	Document Number	Status	Title	Serial Number	Filing Date	Patent Number	Issue Date
DRTL	500009 U1 CAN	Issued	Apparatus for Controlling the Operation of a Downhole Tool	533658	April 2, 1987	5301167	May 19, 1992
LWD	690030 U1 FR (EP)	Issued	Artificial Toroid Array for Resistivity Logging System	91308215 4	July 9, 1991	466454	April 13, 1994
LWD	690043 U1 FR (EP)	Issued	Artificial Toroid Array for Resistivity Logging System	91308215 4	July 9, 1991	69101875.5	April 13, 1994
LWD	690093 U1 UK (EP)	Issued	Artificial Toroid Array for Resistivity Logging System	91308215 4	July 9, 1991	689434	April 13, 1994
LWD	690093 U1 USA	Issued	Artificially Oriented Coil Array for MWD Resistivity Logging	07550,842	July 12, 1990	5,045,795	September 3, 1991
LWD	690124 U1 USA	Issued	Method for Discriminating Microphonic Noise in Proportional Counters	07508,957	April 12, 1990	5,023,459	May 11, 1991
LWD	690178 U1 USA	Issued	Matched Filter Data Smoothing System	408,590	September 16, 1989	5,222,972	July 13, 1993
LWD	690179 U1 PCT	Issued	Method for Filtering Gamma Ray Well Logging Tool Responses to enhance Vertical Detail While Suppressing Statistical Noise	08072,416	September 28, 1994	5,472,667	September 30, 1997
MWD	690209 U1 USA	Pending	Adaptive Noise Filter for Measuring While Drilling Telemetry	08070,182	June 2, 1993		
MWD	690213 U1 USA	Pending	Fluidic Mud Valve Transmitter for Measuring While Drilling Telemetry	08093,347	July 16, 1993		
LWD	690009 U1 USA	Issued	Acoustic Logging While Drilling Tool to Determine Bed Boundaries	08564,723	October 16, 1995	5,078,643	October 21, 1997
MWD	690063 U1 C1 USA	Issued	Method and Apparatus for Correlating MWD Potentially Measurement	08125,499	September 22, 1993	5,357,787	October 25, 1994
LWD	910031 U1 CAN	Issued	Logging While Drilling Apparatus With Multiple Depth Resistivity Investigation	2081105 0	October 22, 1992	2,061,196	December 18, 1997

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Sent By: PATHFINDER ENERGY SERVICES

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PATENT
REF: 011461 FRAME 267698

EXHIBIT A
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SCHEDULE 2.01(a)(4)(a)

Sub-Group	Document Number	Status	Title	Serial Number	Filing Date	Patent Number	Issue Date
LWD	910031 UI EPC	Issued	Logging While Drilling Apparatus With Multiple Depth Resistivity Investigation	92309462 7	October 16, 1992	539118	December 17, 1997
LWD	910031 UI FR	Issued	Logging While Drilling Apparatus With Multiple Depth Resistivity Investigation	92309462 7	October 16, 1992	539118	December 17, 1997
LWD	910031 UI FRG	Issued	Logging While Drilling Apparatus With Multiple Depth Resistivity Investigation	92309462 7	October 16, 1992	P 80223569 2	December 17, 1997
LWD	910031 UI NL	Issued	Logging While Drilling Apparatus With Multiple Depth Resistivity Investigation	92309462 7	October 16, 1992	539118	December 17, 1997
LWD	910031 UI UK	Issued	Logging While Drilling Apparatus With Multiple Depth Resistivity Investigation	92309462 7	October 16, 1992	539118	December 17, 1997
LWD	910031 UI C1 USA	Issued	Logging While Drilling Apparatus With Multiple Depth Resistivity Investigation	08012,648	April 15, 1995	5,581,402	August 26, 1997
TST*	910225 UI USA	Issued	Early Evaluation System	08012,648	August 15, 1994	5,540,280	July 30, 1996
TST*	910225 UI CAN	Pending	Early Evaluation System	2,155,916	August 11, 1995		
TST*	910225 UI EPC	Pending	Well Tool and Apparatus for Well Testing or Servicing	953095806	August 15, 1995		
TST*	910225 UI USA	Issued	Early Evaluation by Fall-Off Testing	080230,633	August 15, 1994	5,553,945	August 17, 1996
TST*	910225 UI CAN	Pending	Early Evaluation by Fall-Off Testing	2,155,917	August 11, 1995		
TST*	910225 UI EPC	Pending	Early Evaluation by Fall-Off Testing	953095878.9	August 15, 1995		
TST*	910225 UI USA	Pending	Integrated Well Drilling and Evaluation	080230,341	August 15, 1994		
TST*	910225 UI CAN	Pending	Integrated Well Drilling and Evaluation	2,155,918	August 11, 1995		
TST*	910225 UI EPC	Pending	Integrated Well Drilling and Evaluation	95,309,678	August 15, 1995		
TST*	910225 UI C1 USA	Pending	Integrated Well Drilling and Evaluation	080757,150	November 27, 1998		
MWD	910282 UI FR	Issued	Improved Pulsar (Downhole Tool)	92308277 0	September 11, 1992	0535815	April 24, 1996
MWD	910282 UI FRG	Issued	Improved Pulsar (Downhole Tool)	92308277 0	September 11, 1992	P89210155 9 08	April 24, 1996
MWD	910282 UI HOR	Issued	Improved Pulsar (Downhole Tool)	P 923787	September 30, 1992		
MWD	910282 UI USA	Issued	Improved Pulsar (Downhole Tool)	070786,840	November 4, 1991	5,169,645	February 23, 1993
MWD	910282 UI C1 UK	Issued	Improved Pulsar (Downhole Tool)	92308277 0	September 11, 1992	0515945	April 24, 1996
MWD	920045 UI USA	Issued	Nonlinear Equalizer for Measurement While Drilling Telemetry System	950291,959	August 17, 1994	5,490,124	February 6, 1996
LWD	920173 UI ARG	Pending	Acoustic Data Link and Formation Property Sensor for Downhole MWD System	P19808101922	April 21, 1996		

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EXHIBIT A

REVISED

SCHEDULE 2.01(a)(4)(a)

Sub-Group	Doc# or Number	Status	Title	Serial Number	Filing Date	Patent Number	Issue Date
LWD	920173 UI EPC	Pending	Acoustic Data Link and Formation Property Sensor for Downhole MWD System	PCT/US98/07850	April 14, 1998		
LWD	920173 UI NOR	Pending	Acoustic Data Link and Formation Property Sensor for Downhole MWD System		April 21, 1997		
LWD	920173 UI PGT	Pending	Acoustic Data Link and Formation Property Sensor for Downhole MWD System	08/837,582	August 11, 1993	08/84998	November 20, 1996
LWD	920173 UI USA	Pending	Acoustic Data Link and Formation Property Sensor for Downhole MWD System	08/837,582	July 14, 1993	5,648,587	July 22, 1997
MWD	920235 UI UK	Issued	Pressure Pulse Measurement	93306313 3	July 1, 1996		
TST	920271 UI USA	Issued	Differential Pressure Test/Bypass Valve and Method for Using Same	08/502,451	July 23, 1993	5,500,827	December 10, 1995
TST	920271 UI EPC	Pending	Differential Pressure Test/Bypass Valve and Method for Using Same	98/304854 1			
MWD	920308 UI USA	Issued	Measurement-While-Drilling System and Method	08/095,466			
MWD	930037 UI USA	Issued	Method and Apparatus for Temperature Compensation of Gamma Tools in MWD Environments	08/291,294	8/16/94	5,461,230	October 24, 1995
MWD	930068 UI CAN	Pending	MWD Surface Signal Detector Having Enhanced Acoustic Detection Means	2198223	August 16, 1993		
MWD	930069 UI EPC	Pending	MWD Surface Signal Detector Having Enhanced Acoustic Detection Means	98/303753 6	August 17, 1995		
MWD	930069 UI FR	Pending	MWD Surface Signal Detector Having Enhanced Acoustic Detection Means				
MWD	930069 UI FRG	Pending	MWD Surface Signal Detector Having Enhanced Acoustic Detection Means				
MWD	930069 UI UK	Pending	MWD Surface Signal Detector Having Enhanced Acoustic Detection Means				
MWD	930069 UI USA	Issued	MWD Surface Signal Detector Having Enhanced Acoustic Detection Means	08/292,020	August 17, 1994	5,459,897	October 17, 1995

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SCHEDULE 2.01(a)(4)(a)

Sub-Group	DocId Number	Status	Title	Serial Number	Filing Date	Patent Number	Issue Date
MWD	930089 U1 C1 USA	Issued	MWD Surface Signal Detector Having Enhanced Acoustic Detection Means	08/477,987	June 7, 1995	5,433,177	July 9, 1996
MWD	930074 U1 USA	Issued	Method and Apparatus for the Verification of Helium-3 Proportional Counters	08/178,736	April 15, 1996	5,422,480	June 6, 1995
LWD	930078 U1 C1 USA	Issued	Sealed Nuclear Downhole Antenna	08/632,648	September 30, 1993	5,661,402	August 28, 1997
LWD	930121 U1 CAN	Pending	Apparatus and Method for Measuring a Borehole	P 2133286	September 30, 1994		
LWD	930121 U1 EPC	Pending	Apparatus and Method for Measuring a Borehole	94/307,617 B	September 30, 1994		
LWD	930121 U1 NOR	Pending	Apparatus and Method for Measuring a Borehole	P 9433840	September 30, 1994		
LWD	930121 U1 C1 USA	Issued	Apparatus and Method for Measuring a Borehole	08/412,022	March 28, 1993	5,489,736	November 28, 1995
DRIL	930137 U1 USA	Issued	Coupling Assembly	08/284,389	August 2, 1994	5,474,334	December 12, 1995
LWD	930138 U1 USA	Issued	Acoustic Attenuator, Well Logging Apparatus and Method of Well Logging	08/398,979	March 6, 1995	5,519,582	April 23, 1996
MWD	930190 U1 CAN	Pending	MWD Bypass Detection System	2155224	August 16, 1993		
MWD	930190 U1 EPC	Pending	Mud-Activated MWD Mud Shown Valve	98/304,307 O	June 7, 1998		
MWD	930190 U1 FR	Pending	MWD Bypass Detection System				
MWD	930190 U1 FRG	Pending	MWD Bypass Detection System				
MWD	930190 U1 NOR	Pending	MWD Bypass Detection System				
MWD	930190 U1 UK	Pending	MWD Bypass Detection System	P 063224	August 18, 1995		
MWD	930190 U1 USA	Issued	MWD Surface Signal Detector Having Enhanced Acoustic Detection Means	08/292,100	August 17, 1994	5,545,336	May 7, 1996
LWD	930190 U1 USA	Issued	Well Logging Apparatus Having a Removable Sleeve for Sealing and Protecting Multiple Antenna Arrays	08/258,638	June 14, 1994	5,563,512	October 8, 1998
LWD	930218 U1 UK	Pending	Standoff Compensation for Nuclear Logging While Drilling Systems	95/08455 B	March 29, 1995		
LWD	930218 U1 USA	Issued	Standoff Compensation for Nuclear Logging While Drilling Systems	08/219,052	March 29, 1994	5,465,695	January 23, 1996

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EXHIBIT A
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SCHEDULE 2.01(a)(4)(a)

Sub-Group	Docket Number	Status	Title	Serial Number	Filing Date	Patent Number	Issue Date
LWD	930218 U1/D1 UK	Pending	Stabilizer Compensation for Mudlog Logging While Drilling Systems	680768 2	April 3, 1998		
MWD	930343 U1 USA	Pending	Pressure Pulse Detection System				
MWD	930357 U1 EPC	Issued	System and Method for Indirectly Determining Inclination of the BH	97309746 1	February 6, 1997	5,648,811	July 8, 1997
MWD	930357 U1 USA	Issued	System and Method for Indirectly Determining Inclination of the BH	08393,842	February 24, 1995	5,648,811	July 8, 1997
MWD	930357 X1 USA	Pending	System and Method for Indirectly Determining Inclination of the BH	900004,923	February 20, 1998		
LWD	930394 U1 USA	Issued	Enhanced Vertical Resolution Processing of Dual-Spaced Density Tools	08246,561	December 2, 1994	5,619,411	April 8, 1997
MWD	940028 U1 PCT	Pending	Multiple Transducer MWD Surface Signal Processing	082014,185	January 27, 1998		
MWD	940028 U1 USA	Pending	Multiple Transducer MWD Surface Signal Processing				
LWD	940029 U1 USA	Issued	Method and Apparatus for Retrieving Logging Data from a Downhole Logging Tool	08515,965	August 16, 1995	5,714,430	June 30, 1998
LWD	940054 U1 USA	Issued	Method and Apparatus for Determining Neutron Detector Operability Using Gamma Ray Sources	08370,859	October 11, 1994	5,591,967	January 7, 1997
MWD	940213 U1 EPC	Pending	Screen and Bypass Arrangement for Downhole Turbine Alternator	96304305 4	June 7, 1998		
MWD	940213 U1 NOR	Pending	Screen and Bypass Arrangement for Downhole Turbine Alternator	P982372	June 8, 1998		
MWD	940213 U1 USA	Issued	Screen and Bypass Arrangement for LWD Tool Turbine	08478,978	June 7, 1995	5,628,280	May 8, 1997
MWD	940218 U1 USA	Issued	Mud Operated Pulsar	08359,672	December 20, 1994	5,566,064	December 17, 1996

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EXHIBIT A
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SCHEDULE 2.01(XX4X)

Sub-Group	Booth Number	Status	Title	Serial Number	Filing Date	Patent Number	Issue Date
LWD	950023 U1 USA	Pending	Logging While Drilling Borehole Imaging and Dipmeter Device	005320, 171	September 11, 1995		
LWD	950023 U1C1 USA	Pending	Logging While Drilling Borehole Imaging and Dipmeter Device	005320, 171	September 4, 1995		
LWD	950028 U1 USA	Pending	High Speed Data Retrieval for LWD Recorders				
TSF	940036 U102 USA	Issued	Mechanical Lockout for Pressure Responsive Downhole Tool	109481, 595	June 7, 1995	5,597,018	January 28, 1997
LWD	950045 U1 EPC	Pending	Packaging of Acoustic Receiver for High School, Temperature and Pressure	98304308 2	June 7, 1996		
LWD	950045 U1 NOR	Pending	Packaging of Acoustic Receiver for High School, Temperature and Pressure	P 983273	June 6, 1996		
LWD	950045 U1 USA	Issued	Acoustic Transducer for LWD Tool	00782, 112	June 7, 1995	5,844,188	July 1, 1997
LWD	950046 U1 USA	Issued	Standoff Compensation for Acoustic Logging While Drilling Systems	00430, 922	April 28, 1996	5,728,951	March 10, 1998
LWD	950048 U1 EPC	Pending	Cancellation of Tool Mode Signal from Combined Signal		October 17, 1996		
LWD	950048 U1 PCT	Pending	Cancellation of Tool Mode Signal from Combined Signal	PC74J59718408	October 9, 1997		
LWD	950048 U1 USA	Issued	Cancellation of Tool Mode Signal from Combined Signal	00733, 387	October 17, 1998	5,780,784	July 14, 1998
LWD	950048 U1 V02	Pending	Cancellation of Tool Mode Signal from Combined Signal	2084	October 16, 1997		
LWD	950082 U1 USA	Pending	Wave Propagation Type LWD Instrument with Artificial Sensitivity	00812, 218	March 6, 1997		
LWD	950093 U1 USA	Pending	Determination of Horizontal Resistivity of Formation Utilizing Induction-Type Logging Measurements in Deviated Borehole	00664, 911	June 12, 1996		

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EXHIBIT A
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SCHEDULE 2.01(a)(4)(a)

Sub-Group	DocId Number	Status	Title	Serial Number	Filing Date	Patent Number	Issue Date
TST*	950130 U1 AU	Pending	Early Evaluation System	64413 98	August 30, 1998		
TST*	950130 U1 CAN	Pending	Early Evaluation System with Pump and Method of Servicing a Well	2,181,309	December 18, 1998		
TST*	950130 U1 EPC	Pending	Apparatus and Method for Early Evaluation and Servicing of a Well	98308383.9	August 27, 1998		
TST*	950130 U1 NOR	Pending	Early Evaluation System with Pump and Method of Servicing a Well	P981051	September 28, 1998		
TST*	950130 U1 CAN	Issued	Early Evaluation System with Pump and Method of Servicing a Well	08941,833	September 30, 1997	5,784,733	September 1, 1998
LWD	950163 U1 EPC	Pending	Acoustic Method of Connecting Boreholes for MudB Lateral Completion				
LWD	950163 U1 NOR	Pending	Acoustic Method of Connecting Boreholes for MudB Lateral Completion				
LWD	950163 U1 USA	Pending	Acoustic Method of Connecting Boreholes for MudB Lateral Completion	08940,352	September 30, 1997		
TST*	950017 U1 USA	Issued	Formation Evaluation Tool and Method for Use of the Same	08957,238	June 1, 1998	5,613,460	September 29, 1998
TST*	950017 U1 AU	Pending	Formation Evaluation Tool and Method for Use of the Same	23673 97	April 28, 1997		
TST*	950017 U1 CAN	Pending	Formation Evaluation Tool and Method for Use of the Same	2,204,656	June 3, 1997		
TST*	950017 U1 EPC	Pending	Formation Evaluation Tool and Method for Use of the Same	97303372.2	May 18, 1997		
TST*	950017 U1 NOR	Pending	Formation Evaluation Tool and Method for Use of the Same	P972285	May 20, 1997		
TST*	950029 U1 USA	Issued	Automatic Downhole Pump Assembly and Method of Using Same	04657,264	June 3, 1996	5,507,662	September 15, 1998
TST*	950029 U1 AU	Pending	Automatic Downhole Pump Assembly and Method of Using Same	23674 97	May 28, 1997		
TST*	950029 U1 CAN	Pending	Automatic Downhole Pump Assembly and Method of Using Same	2,208,728	June 2, 1998		

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Sent BY: PATRINDER ENERGY SERVICES; 7139961277;

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REEL 0226 FRAME 0680704

EXHIBIT A
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SCHEDULE 2.0(a)(4)(a)

Sub-Group	DocId Number	Status	Title	Serial Number	Filing Date	Patent Number	Issue Date
TST*	960028 U1 EPC	Pending	Automatic Downhole Pump Assembly and Method of Using Same	97303526	May 23, 1997		
TST*	960028 U1 NOR	Pending	Automatic Downhole Pump Assembly and Method of Using Same	P972504	June 2, 1997		
LWD	960036 U1 CAN	Pending	System and Method for Performing Inversion on LWD Resistivity Logs with Enhanced Resolution	PCT/US97/04504	August 31, 1998		
LWD	960036 U1 EPC	Pending	System and Method for Performing Inversion on LWD Resistivity Logs with Enhanced Resolution	PCT/AUS97/04504	September 23, 1998		
LWD	960036 U1 EPC	Pending	System and Method for Performing Inversion on LWD Resistivity Logs with Enhanced Resolution	PCT/AUS97/04504	March 19, 1997		
LWD	960036 U1 EPC	Pending	System and Method for Performing Inversion on LWD Resistivity Logs with Enhanced Resolution	080734,772	October 22, 1998		
TST*	960049 U1 USA	Issued	Method and Apparatus for Testing and Sampling Open-Hole Oil and Gas Wells	080782,744	February 3, 1997	5,828,582	October 27, 1998
TST*	960049 U1 CAN	Pending	Method and Apparatus for Testing and Sampling Open-Hole Oil and Gas Wells	2,226,439	January 30, 1998		
TST*	960049 U1 EPC	Pending	Method and Apparatus for Testing and Sampling Open-Hole Oil and Gas Wells	98300822.6	February 1, 1998		
MWD	960088 U1 USA	Pending	A Display Directly Representing the Magnitude of Torsional Vibration in a Drill String	080852,007	May 6, 1997		
MWD	960088 U1 UK	Pending	A Display Directly Representing the Magnitude of Torsional Vibration in a Drill String	9820879.2	October 4, 1998		
MWD	960088 U1 EPC	Issued	A Display Directly Representing the Magnitude of Torsional Vibration in a Drill String	97307849.6	October 1, 1997	6,047,24	
MWD	960036 U1 NOR	Pending	A Display Directly Representing the Magnitude of Torsional Vibration in a Drill String	974547	October 2, 1997		
TST*	960143 U1 USA	Issued	Early Evaluation Formation Testing System	080999,613	August 19, 1998	5,791,414	August 11, 1998
TST*	960143 U1 CAN	Pending	Early Evaluation Formation Testing System	2,212,878	August 13, 1997		
TST*	960143 U1 EPC	Pending	Early Evaluation Formation Testing System	97,306,271	August 19, 1997		
TST*	960143 U1 NOR	Pending	Early Evaluation Formation Testing System	P973792	August 18, 1997		

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PATENT

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REEL: 022613 FRAME: 0705

EXHIBIT A
REVISED
SCHEDULE 2.01(n)(4)(a)

Sub-Group	Doc#	Status	Title	Serial Number	Filing Date	Patent Number	Issue Date
LWD	960271 UI USA	Pending	Acoustic LWD Tool Having Receiver Calibration Capabilities	09/105,344	June 28, 1996		
MWD	970121 UI UK	Pending	A Method of Surveying a Borehole	97/17975.1	August 22, 1997		
MWD	970121 UI USA	Pending	A Method of Surveying a Borehole		August 21, 1998		
MWD	970121 UI UK	Pending	A Method of Surveying a Borehole	98/18121.7	August 19, 1998		
MWD	970248 UI USA	Pending	High Resolution Focused Ultrasonic Transducers				
LWD	970269 UI PCT	Pending	Method for Formation Evaluation While Drilling	PCT/AJ557/23975	December 29, 1997		
LWD	970269 UI USA	Pending	Method for Formation Evaluation While Drilling	09/038,720	December 23, 1997		
LWD	980178 OF USA	Waiting for Initial Review	An Acoustic Proximity Detection of an Adjacent Bed Using Directional Resistivity Measurements				
LWD	980225 OF USA	Waiting for Initial Review	Three Dimensional Steering Tool				
MWD	980228 OF USA	Proced	Gravity Azimuth and Magnetics Logging				
MWD	980228 UI UK	Pending	Surveying a Subterranean Borehole Using Accelerometers	98/1817.5	August 19, 1998		
LWD	980242 UI USA	Pending	Vertical Seismic Profiling in a Drilling Tool	60/558,872	September 2, 1998		
LWD	980247 OF USA	Waiting for Initial Review	Directional Gamma Ray Measurements with Stationary Detectors				
LWD	980253 OF USA	Waiting for Initial Review	Axially Extended Downhole Seismic Source				
MWD	980281 OF USA	Waiting for Initial Review	High Data Rate Acoustic Telemetry System with On-Off Keying and Matched Filter Receiver				
LWD	980286 OF USA	Waiting for Initial Review	At-Bit Directional (Acutural) Gamma Ray Measurement				

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EXHIBIT A
REVISED

SCHEDULE 2.01(a)(4)(a)

Sub-Group	DocId Number	Status	Title	Serial Number	Filing Date	Patent Number	Issue Date
LWD	990115 OF USA	Waiting for Initial Review	Method and Apparatus for Measurement of Resistivity of Earth Formations While Drilling Without Effects of Lateral Tool Motion in the Borehole				
LWD	990035 OF USA	Waiting for Initial Review	Cross-Media Noise Cancellation for Acoustic Telephony				
LWD	990085 OF USA	Waiting for Initial Review	Processing for Sonic Waveforms				
LWD	990066 OF USA	Waiting for Initial Review	A New Digital Processing Method to Obtain Resistivity Radial Profiles from Resistivity Measurements at Multiple Transmitter-Receiver Spacings				
LWD	990067	Waiting for Initial Review	A New Digital Interferometric Processing Method to Identify Bad Boundaries using Resistivity Measurements from a Symmetrically Placed Transmitter Pair				
			* Use of the license for the patents and applications so noted is limited to use in MWD and LWD applications				

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EXHIBIT B
REVISED

SCHEDULE 14.01(a)(2)(a)

Sub-Group	Docet Number	Status	Title	Serial Number	Filing Date	Patent Number	Issue Date
DRTL	500208 U1 C1	Issued	Sealed bearing sleeves for in hole motors	08122 657	March 6, 1980	4,328,127	May 11, 1982
MWD	500207 U1 USA	Issued	Pilot Valve Initiated Mud Pulse Telemetry System				August 30, 1983
DRTL	500212 U1 USA	Issued	Turn recorder for in hole motors	08260 289	May 4, 1981	4,387,776	June 14, 1983
DRTL	500272 U1 PCT	Issued	Bearing Structure for Downhole Motors	87 02085	August 21, 1987	88 01702	
DRTL	500222 U1 TRIM	Pending	Tungsten Carbide Chips-matrix Bearing	90 1988	November 24, 1988		
DRTL	500222 U1 PCT	Issued	Tungsten Carbide Chips-matrix Bearing	88 02325	October 27, 1986	87 02711	May 7, 1987
DRTL	500228 U2 USA	Issued	PCD Enhanced Radial Bearing	07050 229	May 14, 1987	4,964,006	August 16, 1988
DRTL	500228 U1 CAN	Issued	Unlubricated Diamond Bearing for Bits	517848	September 5, 1986	5250453	September 26, 1986
DRTL	500248 U1 PCT	Issued	Downhole Motor Bearing Assembly	87 02051	August 19, 1987	88 01701	March 10, 1988
DRTL	500264 U1 PCT	Issued	Diamond Bearing and Manufacture Thereof	88 02323	October 27, 1988	87 01342	December 3, 1987
DRTL	500291 U1 EPC	Pending	Thrust Bearing Assembly for a Downhole Drill Motor	88100481			
DRTL	500291 U1 USA	Issued	Thrust Bearing Assembly for a Downhole Drill Motor	083065 614	April 3, 1992	4,550,014	December 24, 1995
DRTL	500299 U1 C1 USA	Issued	Cooling Networks for PCD Bearing Surfaces	07158 771	February 22, 1988	4,789,251	December 4, 1988
MWD	501030 U1 CAN	Pending	Short Hop Communication Link for Downhole MWD System	2107576	April 17, 1992		
MWD	501030 U1 FRG	Pending	Short Hop Communication Link for Downhole MWD System	PCT/US92/503403	April 17, 1992		
MWD	501030 U1 NL	Pending	Short Hop Communication Link for Downhole MWD System	PCT/US92 03183	April 17, 1992		
MWD	501030 U1 NOR	Pending	Short Hop Communication Link for Downhole MWD System	PCT/US92/03183	April 17, 1992		

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PATENT
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EXHIBIT B
REVISED
SCHEDULE 14.01(a)(2)(a)

Sub-Group	Docket Number	Status	Title	Serial Number	Filing Date	Patent Number	Issue Date
MWD*	501030 U1 PCT	Pending	Short Hop Communication Unit for Downhole MWD System	PCT/US9203183	April 17, 1992	US 92 03183	
MWD*	501030 U1 UK	Pending	Short Hop Communication Unit for Downhole MWD System	9321374.2	April 17, 1992	9321374.2	
MWD*	501030 U1 USA	Pending	Short Hop Communication Unit for Downhole MWD System	07696,772	April 17, 1992	5,160,923	November 3, 1992
MWD*	501030 X1 USA	Issued	Short Hop Communication Unit for Downhole MWD System	80005,062	August 26, 1998	5,160,923	November 3, 1992
MWD	501043 R1 USA	Issued	System and Method for Controlled Directional Drilling	07258,270	May 23, 1989	Re 33,571	February 11, 1997
DRTL	508769 U1 FR	Issued	Weight-on-Bit and Torque Measuring Apparatus	83394,164.9	April 20, 1989	0353838	June 15, 1994
DRTL	508769 U1 FRG	Issued	Weight-on-Bit and Torque Measuring Apparatus	83394,164.8	April 20, 1989	0353838	June 15, 1994
DRTL	508769 U1 UK	Issued	Weight-on-Bit and Torque Measuring Apparatus	83394,164.8	April 20, 1989	0353838	June 15, 1994
	508769 U1 CAN	Issued	Weight-on-Bit and Torque Measuring Apparatus	598155	May 9, 1989	1,314,685	March 21, 1993
DRTL	508818 U1C1 USA	Issued	Downhole Motor with an Enlarged Connecting Rod Housing	07500,321	March 28, 1990	4,982,616	October 18, 1990
DRTL	509039 U1 USA	Issued	Sealing Structure for Motors	07618,775	November 29, 1990	5,037,212	August 6, 1991
DRTL	509115 U1 USA	Issued	Mechanical Motor with Conduit Through the Stator	07788,383	November 26, 1991	5,171,135	December 15, 1992
DRTL	509157 U1 FRG	Issued	Adjustable Stabilizer	97306362.9	October 20, 1993	P89315801.8	
DRTL	509157 U1 NL	Issued	Adjustable Stabilizer	93206362.8	October 23, 1992	0594,420	December 17, 1993
DRTL	509157 U1 UK	Issued	Adjustable Stabilizer	93206362.8	October 23, 1992	5944,20	December 17, 1993
DRTL	509157 U1 USA	Issued	Adjustable Stabilizer	07665,347	October 23, 1992	5,318,136	June 7, 1994
DRTL	509157 U2 CAN	Pending	Method & Apparatus for Automatic Closed Loop Drilling System	2,899,118	October 21, 1993		

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EXHIBIT B
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SCHEDULE 14.01(a)(2)(a)

Sub-Group	Docel Number	Status	Title	Serial Number	Filing Date	Patent Number	Issue Date
DRIL	509157 U2 EPC	Issued	Automatic Downhole Drilling System	93308360.2	October 20, 1993	0 594 416	May 14, 1997
DRIL	509157 U2 FRB	Issued	Method and Apparatus for Automatic Closed Loop Drilling System	93308360.2	October 20, 1993	594416	
DRIL	509157 U2 NL	Issued	Method & Apparatus for Automatic Closed Loop Drilling System		October 20, 1993	594416	October 28, 1990
DRIL	509157 U2 UK	Pending	Method & Apparatus for Automatic Closed Loop Drilling System				
DRIL	509157 U2 USA	Issued	Method & Apparatus for Automatic Closed Loop Drilling System	07885.200	October 23, 1992	5,332,048	July 26, 1994
DRIL	509157 U3 CAN	Pending	Control System for Stabilizer Blade Adjustment	2 108917	October 21, 1993		
DRIL	509157 U3 EPC	Issued	Method and Apparatus for Adjusting the Position of Stabilizer Blade	93308361.1	October 20, 1993	0594419	June 10, 1998
DRIL	509157 U3 FR	Pending	Method and Apparatus for Adjusting the Position of Stabilizer Blade				
DRIL	509157 U3 FRG	Pending	Method and Apparatus for Adjusting the Position of Stabilizer Blade				
DRIL	509157 U3 NL	Issued	Method and Apparatus for Adjusting the Position of Stabilizer Blade	93308361	October 20, 1993	0594419	June 10, 1998
DRIL	509157 U3 UK	Issued	Method and Apparatus for Adjusting the Position of Stabilizer Blade	93308361	October 20, 1993	0594419	June 10, 1998
DRIL	509157 U3 USA	Issued	Method and Apparatus for Adjusting the Position of Stabilizer Blade	07885.345	October 21, 1992	5,316,137	June 7, 1994
	509157 U1 USA	Issued	Bearing Structure for Downhole Motors	07885.775	July 10, 1990	5,037,212	August 6, 1991
WWD	741045 U1 UK	Pending	Improvements in Downhole Tools	0478004			
DRIL	930165 U1 USA	Issued	Articulate Joint with Multi-Faceted Ball and Socket	08218.818	March 23, 1994	5,577,220	June 15, 1995
WWD	940117 U1 CAN	Pending	Location Determination Using Vector Measurements		May 11, 1995		
WWD	940117 U1 EPC	Pending	Location Determination Using Vector Measurements		May 12, 1995		
WWD	940117 U1 FR	Pending	Location Determination Using Vector Measurements	93303206.7	May 11, 1995		

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EXHIBIT B
REVISED
SCHEDULE 14.01(a)(2)(a)

Sub-Group	Docket Number	Status	Title	Serial Number	Filing Date	Patent Number	Issue Date
MWD	940117 UI PRO	Pending	Location Determination Using Vector Measurements	651893	May 11, 1995	5,675,464	October 7, 1997
MWD	940117 UI NOR	Pending	Location Determination Using Vector Measurements		May 11, 1995		
MWD	940117 UI USA	Issued	Location Determination Using Vector Measurements	08/440,152	May 12, 1995		
MWD	940117 UI C1 EPC	Pending	Location Determination Using Vector Measurements				
MWD	940117 UI C1 FR	Pending	Location Determination Using Vector Measurements				
MWD	940117 UI C1 NL	Pending	Location Determination Using Vector Measurements				
MWD	940117 UI UK	Pending	Location Determination Using Vector Measurements	95303208.7	May 12, 1995		
DRIL	940158 UI USA	Issued	Coupling for a Downhole Tension Drilling Motor	08/478,972	June 7, 1995	5,820,056	April 14, 1997
DRIL	940168 UI USA	Issued	Remote Control Selector Valve	08/784,262	October 4, 1995	4,855,289	April 7, 1997
DRIL	940244 UI USA	Issued	Angle Deviation Tool	08/784,261	October 4, 1995	4,855,299	April 7, 1997
MWD	950052 UI EPC	Issued	Method for Correcting Directional Surveys	07.93000	May 14, 1996	96033391.5	
MWD	950052 UI NOR	Pending	Method for Correcting Directional Surveys	961868	May 14, 1996		
MWD	960062 UI UK	Pending	Method for Correcting Directional Surveys	B503819.0	May 15, 1996		
MWD	960052 UI USA	Pending	Method for Correcting Directional Surveys	00/641,251	May 9, 1996		
DRIL	960209 UI C1 USA	Issued	Bottom Hole Assembly for Directional Drilling	09/044,489	April 18, 1997	5,857,531	January 12, 1999
DRIL	970119 UI C1	Pending	Eccentric Adjustable Diameter Stabilizer				
DRIL	970119 UI USA	Pending	Eccentric Adjustable Diameter Stabilizer				
MWD	980297 DF	Waiting for Initial Review	IN-BI Dynamic Inclination Measurement Using a Tri-Axis Accelerometer				
MWD	990615 DF	Waiting for Initial Review	High Data Rate Access to Telemetry System Having a Multi-Pulse Block and Correlation Receiver				

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PATENT
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EXHIBIT B

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SCHEDULE 14.01(a)(2)(a)

Sub-Group	DocId Number	Status	Title	Serial Number	Filing Date	Patent Number	Issue Date
DRILL	USA	Issued	* Use of the license for the patents and applications so noted is limited to use in MWD and LWD applications DYNA-DRILL - Registered Trademark**			1,222,384	4-Jan-83

** W-H agrees that HESI shall retain the right to control the manner in which the mark is utilized as a condition of the license

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SCHEDULE II
to Subsidiary
Security Agreement
(NAME OF GRANTOR)

Item A. PatentsIssued Patents

<u>*Country</u>	<u>Patent No.</u>	<u>Issue Date</u>	<u>Inventor(s)</u>	<u>Title</u>
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Pending Patent Applications

<u>*Country</u>	<u>Serial No.</u>	<u>Filing Date</u>	<u>Inventor(s)</u>	<u>Title</u>
USA	09/608,205	6/30/00	Mark S. Haugland	Method of and Apparatus for Independent Determining the Resistivity and/or Dielectric Constant of the Earth Formation

Patent Applications in Preparation

<u>*Country</u>	<u>Docket No.</u>	<u>Expected Filing Date</u>	<u>Inventor(s)</u>	<u>Title</u>
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Item B. Patent Licenses

<u>*Country or Territory</u>	<u>Licensor</u>	<u>Licensed</u>	<u>Effective Date</u>	<u>Expiration Date</u>	<u>Subject Matter</u>
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* List forms related to the United States first for ease of recordation. List items related to other countries next, grouped by country and in alphabetical order by country name.

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SCHEDULE II
to Subsidiary
Security Agreement
(NAME OF GRANTOR)

Item A. PatentsIssued Patents

*Country	Patent No.	Issue Date	Inventor(s)	Title
N/A				

Pending Patent Applications

*Country	Serial No.	Filing Date	Inventor(s)	Title
USA	09/469,989	3/21/00	Ali H. Abdallah and Mark Beattie	Technique for Signal Detection using Adaptive Filtering in Mud Pulse Telemetry.

* see attached for other patent

Patent Applications in Preparation

*Country	Docket No.	Expected Filing Date	Inventor(s)	Title
N/A				

Item B. Patent Licenses

*Country or Territory	Licensor	Licensor	Effective Date	Expiration Date	Subject Matter
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See attached Exhibits A & B

- * List items related to the United States first for ease of recordation. List items related to other countries next, grouped by country and in alphabetical order by country name.

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** TOTAL PAGE.22 **

PATENT
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PATENT SECURITY AGREEMENT

This PATENT SECURITY AGREEMENT (this "Agreement"), dated as of October 16, 2000, is made between PATHFINDER ENERGY SERVICES, INC., a Louisiana corporation (the "Grantor"), and WELLS FARGO BANK TEXAS, N.A., as administrative agent (together with any successor(s) thereto in such capacity, the "Administrative Agent") for each of the Secured Parties;

WITNESSETH:

WHEREAS, pursuant to a Credit Agreement, dated as of October 16, 2000 (as amended, supplemented, amended and restated or otherwise modified from time to time, the "Credit Agreement"), among W-H Energy Services, Inc., a Texas corporation (the "Borrower"), the various financial institutions as are, or may from time to time become, parties thereto (each, individually, a "Lender", and collectively, the "Lenders"), DLJ Capital Funding, Inc., as the Syndication Agent, Bank One, NA, as the Documentation Agent, and Wells Fargo Bank Texas, N.A., as the Administrative Agent, the Lenders and the Issuer have extended Commitments to make Credit Extensions to the Borrower;

WHEREAS, in connection with the Credit Agreement, the Grantor has executed and delivered a Subsidiary Security Agreement, dated as of October 16, 2000 (as amended, supplemented, amended and restated or otherwise modified from time to time, the "Security Agreement");

WHEREAS, as a condition precedent to the making of the Credit Extensions (including the initial Credit Extension) under the Credit Agreement, the Grantor is required to execute and deliver this Agreement and to grant to the Administrative Agent a continuing security interest in all of the Patent Collateral (as defined below) to secure all Secured Obligations;

WHEREAS, each Grantor is a Subsidiary of the Borrower;

WHEREAS, the Grantor has duly authorized the execution, delivery and performance of this Agreement; and

WHEREAS, it is in the best interests of the Grantor to execute this Security Agreement inasmuch as the Grantor will derive substantial direct and indirect benefits from the Credit Extensions made from time to time to the Borrower by the Lenders pursuant to the Credit Agreement;

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, and in order to induce the Lenders and the Issuer to make Credit Extensions (including the initial Credit Extension) to the Borrower pursuant to the Credit Agreement, the Grantor agrees, for the benefit of each Secured Party, as follows:

SECTION 1. Definitions. Unless otherwise defined herein or the context otherwise requires, terms used in this Agreement, including its preamble and recitals, have the meanings provided (or incorporated by reference) in the Security Agreement.

SECTION 2. Grant of Security Interest. For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, to secure all of the Secured Obligations, the Grantor does hereby mortgage, pledge and hypothecate to the Administrative Agent, and grant to the Administrative Agent a security interest in, for its benefit and the benefit of each Secured Party, all of the following property (the "Patent Collateral"), whether now owned or hereafter acquired or existing by it:

(a) all letters patent and applications for letters patent throughout the world, including all patent applications in preparation for filing anywhere in the world and including each patent and patent application referred to in Item A of Attachment 1 attached hereto;

(b) all reissues, divisions, continuations, continuations-in-part, extensions, renewals and reexaminations of any of the items described in clause (a);

(c) all patent licenses, including each patent license referred to in Item B of Attachment 1 attached hereto; and

(d) all proceeds of, and rights associated with, the foregoing (including license royalties and proceeds of infringement suits), the right to sue third parties for past, present or future infringements of any patent or patent application, including any patent or patent application referred to in Item A of Attachment 1 attached hereto, and for breach or enforcement of any patent license, including any patent license referred to in Item B of Attachment 1 attached hereto, and all rights corresponding thereto throughout the world.

SECTION 3. Security Agreement. This Agreement has been executed and delivered by the Grantor for the purpose of registering the security interest of the Administrative Agent in the Patent Collateral with the United States Patent and Trademark Office and corresponding offices in other countries of the world. The security interest granted hereby has been granted as a supplement to, and not in limitation of, the security interest granted to the Administrative Agent for its benefit and the benefit of each Secured Party under the Security Agreement. The Security Agreement (and all rights and remedies of the Administrative Agent and each Secured Party thereunder) shall remain in full force and effect in accordance with its terms.

SECTION 4. Release of Security Interest. Upon payment in full in cash of all Secured Obligations, the termination or expiry of all Letters of Credit and the termination of all Commitments, the Administrative Agent shall, at the Grantor's expense, execute and deliver to the Grantor all instruments and other documents as may be necessary or proper to release the lien on and security interest in the Patent Collateral which has been granted hereunder.

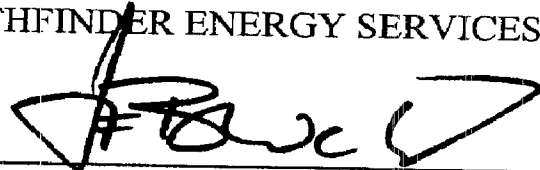
SECTION 5. Acknowledgment. The Grantor does hereby further acknowledge and affirm that the rights and remedies of the Administrative Agent with respect to the security interest in the Patent Collateral granted hereby are more fully set forth in the Security Agreement, the terms and provisions of which (including the remedies provided for therein) are incorporated by reference herein as if fully set forth herein.

SECTION 6. Loan Document, etc. This Agreement is a Loan Document executed pursuant to the Credit Agreement and shall (unless otherwise expressly indicated herein) be construed, administered and applied in accordance with the terms and provisions of the Credit Agreement.

SECTION 7. Counterparts. This Agreement may be executed by the parties hereto in several counterparts, each of which shall be deemed to be an original and all of which shall constitute together but one and the same agreement.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed and delivered by their respective officers thereunto duly authorized as of the day and year first above written.

PATHFINDER ENERGY SERVICES, INC.

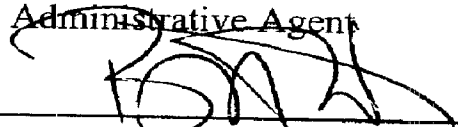
By 

Name:

Title:

WELLS FARGO BANK TEXAS, N.A.

as Administrative Agent

By 

Name:

Title:

16945300

RECORDED: 12/22/2000
RECORDED: 04/29/2009

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REEL: 022613 FRAME: 0718