

Results of Directional Survey

API number:	30-025-40303		
OGRID:		Operator:	YATES PETROLEUM CORPORATION
		Property:	NAGUSS BRN STATE COM # 1H

surface	ULSTR:	M	30	T 21S	R 34E
				660 FSL	330 FWL

BH Loc	ULSTR:	P	30	T 21S	R 34E
15030	MD	10833.5	TVD	721 FSL	400 FEL
					4880 FWL

Top Perf/OH	ULSTR:	M	30	T 21S	R 34E
11294	MD	10866.1	TVD	569 FSL	1148 FWL

Bot Perf/OH	ULSTR:	P	30	T 21S	R 34E
14909	MD	10835.8	TVD	719 FSL	521 FEL
					4759 FWL

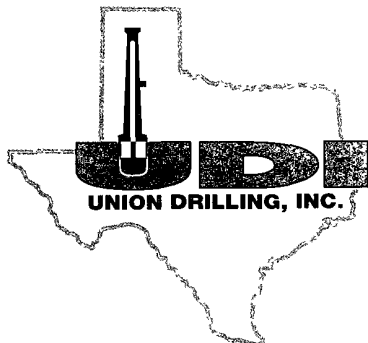
	MD	N/S	E/W	VD
	11266	-91.40	790.20	10865.7
TOP PERFS/OH	11294	-90.68	818.11	10866.06
*** 1 st sleeve	11297	-90.60	821.10	10866.10
	14862	57.80	4381.60	10836.80
BOT PERFS/OH	14909	58.64	4428.60	10835.81
***pbtd	14957	59.50	4476.60	10834.80

NEXT TO LAST	14966	59.70	4485.60	10834.60
LAST READING	15030	61.00	4549.50	10833.50
TD	15030	61.00	4549.50	10833.50

Surface Location	660 FS	330 FW
Projected BHL	721 FS	4880 FW
Location of		
Top Perfs/OH	569 FS	1148 FW
Bottom Perfs/OH	719 FS	4759 FW

SUMMARY of Subsurface Locations

Surface Location	M-30-21S-34E	660 FS	330 FW	Vert. Depth
Top Perfs/OH	M-30-21S-34E	569 FS	1148 FW	10866.06
Bottom Perfs/OH	P-30-21S-34E	719 FS	4759 FW	10835.81
Projected TD	P-30-21S-34E	721 FS	4880 FW	10833.50



SUR: M-30-21s-34e, 660/S & 330/W
BHL: P-30-21s-34e, 721/S & 4880/W
API # 30-025-40303

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Well Name & Number: Naguss Brn State Com #001H

API Number: 30-025-40303

Location: 660 FSL & 330 FWL, Lot M, Sec. 30, Township 21-S, Range 34-E, Lea County, New Mexico

Operator: Yates Petroleum Corporation

Drilling Contractor: Union Drilling, Inc.

The undersigned hereby certifies that he is an authorized representative of the drilling Contractor who drilled the above described well and that deviation survey tests were conducted and he obtained the following results:

RECORD OF INCLINATION

*11 Measured Depth (feet)	12 Course Length (Hundreds of feet)	*13 Angle of Inclination (Degrees)	14 Displacement per Hundred Feet (Sine of Angle X100)	15 Course Displacement (feet)	16 Accumulative Displacement (feet)
709	709	.7	1.22	8.66	8.66
1158	449	1.07	1.87	8.38	17.05
1992	834	0	0.00	0.00	17.05
2562	570	.44	0.77	4.38	21.42
DIRECTIONAL					
TOOK OVER					

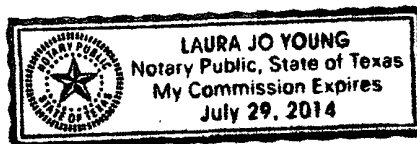
Drilling Contractor: Union Drilling, Inc.

By: Jim Mayfield
Jim Mayfield
Title: Division Manager

Subscribed and sworn to before me this 23rd Day of July, 2012.

Laura Jo Young
Notary Public
My Commission Expires: July 29, 2014

COUNTY OF TAYLOR)
STATE OF TEXAS)





A Schlumberger Company

HOBBS OCD

SEP 18 2012

DIRECTIONAL SURVEY REPORT

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YATES PETROLEUM

NAGUSS 'BRN' STATE COM #1H

LEA COUNTY, NEW MEXICO

SUR: M-30-21s-34e, 660/S & 330/W
BHL: P-30-21s-34e, 721/S & 4880/W
API # 30-025-40303

PREPARED BY: JUAN ALCOCER

Pathfinder

6213 WCR 112
Midland, Texas 79706 3725, USA
Tel (432) 687-1647
Fax (432) 687-1544

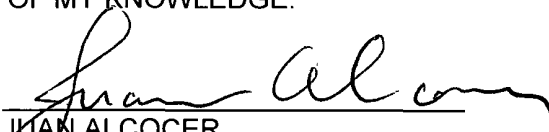


DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:
A) CHARLIE SANDIFER
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 6/30/12 TO 7/14/12
5. STATE IN WHICH SURVEY WAS PERFORMED: NEW MEXICO
6. LOCATION OF WELL: LEA COUNTY, NM
7. TYPE OF SURVEY(S) PERFORMED: GAMMA-RAY
8. COMPLETE IDENTIFICATION OF WELL:

YATES PETROLEUM
NAGUSS 'BRN' STATE COM #1H
LEA COUNTY, NM
RIG: UDI 223
9. SURVEY CERTIFIED FROM: 10,286 TO 14,966 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE DISPLACED AT 4,549.95 FEET ON A BEARING OF 89.23 DEGREES FROM THE CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 15,030 FEET, ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.



JUAN ALCOCER
MWD COORDINATOR

PathFinder Energy Services, Inc.

BHL Report

Page 01/01
Tie-in Date: 06/30/2012
Date Completed: 07/14/2012

YATES PETROLEUM CORPORATION
NAGUSS BRN STATE COM #1H API: 30-025-40303
LEA COUNTY, NM
Rig:UDI 223
PathFinder Office Supervisor: JUAN ALCOCER
PathFinder Field Engineers:C. SANDIFER
C. BUNDICK

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.26.39.5367 N LON:103.30.59.2846 W
GRID Reference:NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 793330.9580 Y: 526336.8320
North Aligned To:GRID NORTH
Total Magnetic Correction: 7.02° EAST TO GRID
Vertical Section Plane: 89.43
Survey Vert. Reference: 25.00' Rotary Table To Ground
Altitude:3672.00' Ground To MSL

Measured Depth	15030.00	(feet)
Inclination	91.01	(deg)
Azimuth	88.87	(deg)
True Vertical Depth	10833.49	(feet)
Vertical Section	4549.92	(feet)
Survey X cord	797880.50	(feet)
Survey Y cord	526397.79	(feet)
Survey Lat	32.44438679 N	(deg)
Survey Lon	103.50171988 W	(deg)
Rectangular Corr. N/S	60.96 N	(feet)
Rectangular Corr. E/W	4549.54 E	(feet)
Closure Distance	4549.95	(feet)
Direction of Closure	89.23	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORPORATION
NAGUSS BRN STATE COM #1H API: 30-025-40303
LEA COUNTY, NM
Rig:UDI 223
PathFinder Office Supervisor: JUAN ALCOCER
PathFinder Field Engineers: C. SANDIFER
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GRID Reference:NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 793330.9580 Y: 526336.8320
North Aligned To:GRID NORTH
Total Magnetic Correction: 7.02°EAST TO GRID
Vertical Section Plane: 89.43
Survey Vert. Reference: 25.00' Rotary Table To Ground
Altitude:3672.00' Ground To MSL

Survey Calculations by RX5 V6.04A using Minimum Curvature

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
TIED INTO MS GYRO SURVEY AT 10200'MD										
10200.00	3.57	190.78	10196.31	0.00	154.17	33.89 S	154.51 E	158.18@	102.37	0.00
THE FOLLOWING ARE PATHFINDER MWD SURVEYS										
10286.00	2.90	229.74	10282.18	86.00	151.96	37.93 S	152.35 E	157.00@	103.98	2.61
10381.00	1.93	240.19	10377.10	95.00	148.72	40.28 S	149.13 E	154.47@	105.11	1.12
10413.00	6.51	104.64	10409.04	32.00	150.00	41.00 S	150.42 E	155.90@	105.25	25.01
10444.00	14.42	96.12	10439.50	31.00	155.54	41.86 S	155.96 E	161.48@	105.02	25.93
10476.00	20.22	97.00	10470.03	32.00	164.99	42.96 S	165.42 E	170.91@	104.56	18.14
10508.00	24.18	104.23	10499.66	32.00	176.81	45.25 S	177.27 E	182.95@	104.32	15.01
10539.00	27.79	107.13	10527.53	31.00	189.84	48.94 S	190.34 E	196.53@	104.42	12.34
10570.00	29.81	108.13	10554.69	31.00	204.02	53.46 S	204.57 E	211.44@	104.65	6.70
10601.00	33.68	105.67	10581.05	31.00	219.58	58.18 S	220.17 E	227.73@	104.80	13.16
10633.00	37.11	102.95	10607.13	32.00	237.49	62.75 S	238.13 E	246.26@	104.76	11.79
10665.00	40.80	101.50	10632.01	32.00	257.11	67.00 S	257.79 E	266.35@	104.57	11.88
10696.00	43.62	99.80	10654.97	31.00	277.54	70.84 S	278.26 E	287.13@	104.28	9.81
10728.00	45.46	98.41	10677.78	32.00	299.66	74.38 S	300.42 E	309.49@	103.91	6.51
10760.00	47.48	96.41	10699.82	32.00	322.64	77.37 S	323.42 E	332.55@	103.45	7.77
10791.00	48.98	93.73	10720.47	31.00	345.64	79.40 S	346.45 E	355.43@	102.91	8.06
10823.00	52.76	92.94	10740.66	32.00	370.40	80.84 S	371.22 E	379.92@	102.29	11.97
10854.00	57.86	92.50	10758.30	31.00	395.84	82.05 S	396.68 E	405.07@	101.69	16.49
10886.00	64.28	91.95	10773.77	32.00	423.80	83.13 S	424.65 E	432.71@	101.08	20.12
10918.00	65.33	91.92	10787.39	32.00	452.73	84.11 S	453.59 E	461.32@	100.51	3.28
10949.00	66.13	91.86	10800.14	31.00	480.96	85.04 S	481.83 E	489.28@	100.01	2.59
10981.00	68.24	91.88	10812.54	32.00	510.43	86.00 S	511.31 E	518.49@	99.55	6.59
11012.00	73.16	92.95	10822.79	31.00	539.64	87.24 S	540.53 E	547.53@	99.17	16.20
11044.00	76.68	93.46	10831.11	32.00	570.46	88.97 S	571.38 E	578.26@	98.85	11.11

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORPORATION
NAGUSS BRN STATE COM #1H API: 30-025-40303
LEA COUNTY, NM
RIG:UDI 223

Page 02/03

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
11076.00	77.73	93.63	10838.20	32.00	601.59	90.90 S	602.52 E	609.34@	98.58	3.32
11108.00	78.17	92.74	10844.88	32.00	632.81	92.64 S	633.77 E	640.50@	98.32	3.05
11139.00	79.58	91.53	10850.86	31.00	663.20	93.77 S	664.16 E	670.75@	98.04	5.95
11171.00	81.43	89.55	10856.14	32.00	694.75	94.07 S	695.72 E	702.05@	97.70	8.41
11203.00	83.19	87.99	10860.42	32.00	726.46	93.38 S	727.42 E	733.39@	97.32	7.32
11234.00	84.59	88.33	10863.72	31.00	757.27	92.39 S	758.23 E	763.84@	96.95	4.65
11266.00	88.46	88.18	10865.66	32.00	789.20	91.42 S	790.15 E	795.42@	96.60	12.10
11297.00	89.96	88.76	10866.09	31.00	820.19	90.59 S	821.13 E	826.12@	96.30	5.19
11328.00	90.13	88.58	10866.06	31.00	851.19	89.87 S	852.13 E	856.85@	96.02	0.80
11360.00	90.40	88.65	10865.91	32.00	883.19	89.10 S	884.12 E	888.60@	95.75	0.87
11423.00	91.19	88.55	10865.04	63.00	946.17	87.56 S	947.09 E	951.13@	95.28	1.26
11518.00	90.40	88.51	10863.72	95.00	1041.15	85.13 S	1042.05 E	1045.52@	94.67	0.83
11613.00	90.75	88.65	10862.77	95.00	1136.14	82.77 S	1137.02 E	1140.02@	94.16	0.40
11708.00	85.47	88.27	10865.90	95.00	1231.04	80.22 S	1231.90 E	1234.51@	93.73	5.57
11803.00	87.23	86.92	10871.95	95.00	1325.79	76.24 S	1326.61 E	1328.80@	93.29	2.33
11898.00	91.01	86.73	10873.41	95.00	1420.66	70.98 S	1421.44 E	1423.21@	92.86	3.98
11992.00	90.31	86.74	10872.32	94.00	1514.55	65.63 S	1515.28 E	1516.70@	92.48	0.74
12087.00	89.96	86.19	10872.10	95.00	1609.42	59.77 S	1610.10 E	1611.21@	92.13	0.69
12181.00	88.81	85.20	10873.11	94.00	1703.22	52.72 S	1703.83 E	1704.64@	91.77	1.61
12276.00	89.96	87.03	10874.13	95.00	1798.05	46.28 S	1798.60 E	1799.19@	91.47	2.27
12370.00	90.13	86.36	10874.06	94.00	1891.94	40.86 S	1892.44 E	1892.88@	91.24	0.74
12465.00	89.87	88.13	10874.06	95.00	1986.87	36.29 S	1987.33 E	1987.66@	91.05	1.88
12560.00	89.78	88.35	10874.35	95.00	2081.85	33.38 S	2082.28 E	2082.55@	90.92	0.25
12655.00	90.48	87.77	10874.13	95.00	2176.82	30.16 S	2177.22 E	2177.43@	90.79	0.96
12749.00	91.54	87.66	10872.47	94.00	2270.76	26.41 S	2271.13 E	2271.29@	90.67	1.13
12844.00	92.24	88.07	10869.34	95.00	2365.67	22.88 S	2366.02 E	2366.13@	90.55	0.85
12938.00	90.48	88.58	10867.11	94.00	2459.62	20.13 S	2459.94 E	2460.03@	90.47	1.95
13033.00	88.99	88.39	10867.55	95.00	2554.61	17.62 S	2554.91 E	2554.97@	90.40	1.58

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORPORATION
NAGUSS BRN STATE COM #1H API: 30-025-40303
LEA COUNTY, NM
RIG:UDI 223

Page 03/03

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
13127.00	89.08	88.26	10869.13	94.00	2648.58	14.87 S	2648.85 E	2648.90@	90.32	0.17
13222.00	89.52	87.91	10870.29	95.00	2743.54	11.70 S	2743.79 E	2743.82@	90.24	0.59
13317.00	90.75	87.73	10870.07	95.00	2838.50	8.08 S	2838.72 E	2838.73@	90.16	1.31
13412.00	91.71	87.88	10868.03	95.00	2933.44	4.44 S	2933.63 E	2933.63@	90.09	1.02
13508.00	90.48	88.43	10866.19	96.00	3029.40	1.35 S	3029.56 E	3029.56@	90.03	1.40
13602.00	92.15	89.13	10864.04	94.00	3123.36	0.65 N	3123.51 E	3123.51@	89.99	1.93
13625.00	92.24	89.35	10863.16	23.00	3146.35	0.95 N	3146.49 E	3146.49@	89.98	1.03
13720.00	90.57	88.19	10860.83	95.00	3241.31	2.99 N	3241.44 E	3241.44@	89.95	2.14
13815.00	91.71	87.34	10858.94	95.00	3336.24	6.69 N	3336.34 E	3336.35@	89.89	1.50
13911.00	92.86	86.78	10855.11	96.00	3432.08	11.61 N	3432.14 E	3432.16@	89.81	1.33
14006.00	91.63	86.66	10851.39	95.00	3526.90	17.04 N	3526.91 E	3526.95@	89.72	1.30
14101.00	91.54	86.32	10848.76	95.00	3621.74	22.86 N	3621.69 E	3621.77@	89.64	0.37
14196.00	90.48	85.97	10847.09	95.00	3716.57	29.24 N	3716.46 E	3716.58@	89.55	1.18
14291.00	90.22	85.85	10846.51	95.00	3811.39	36.02 N	3811.22 E	3811.39@	89.46	0.30
14386.00	90.48	86.72	10845.93	95.00	3906.24	42.18 N	3906.02 E	3906.24@	89.38	0.96
14481.00	89.60	87.35	10845.86	95.00	4001.16	47.09 N	4000.89 E	4001.16@	89.33	1.14
14577.00	91.89	88.08	10844.61	96.00	4097.10	50.92 N	4096.80 E	4097.11@	89.29	2.50
14672.00	91.45	88.79	10841.84	95.00	4192.04	53.51 N	4191.72 E	4192.06@	89.27	0.88
14767.00	91.54	88.64	10839.36	95.00	4287.00	55.64 N	4286.66 E	4287.02@	89.26	0.18
14862.00	91.54	88.80	10836.81	95.00	4381.96	57.76 N	4381.60 E	4381.99@	89.24	0.17
14957.00	90.92	89.06	10834.77	95.00	4476.94	59.53 N	4476.57 E	4476.96@	89.24	0.71
14966.00	91.01	88.87	10834.62	9.00	4485.94	59.70 N	4485.56 E	4485.96@	89.24	2.34
STRAIGHT LINE PROJECTION TO BIT AT 15030' MD										
15030.00	91.01	88.87	10833.49	64.00	4549.92	60.96 N	4549.54 E	4549.95@	89.23	0.00



A Schlumberger Company

TIE-IN SURVEY INFORMATION SHEET

CLIENT INFORMATION

CLIENT:	YATES PETROLEUM CORPORATION		
LEASE / WELL No.:	NAGUSS BRN STATE COM	#1H	
WELL LOCATION:	LEA COUNTY NM		
COUNTY / STATE / COUNTRY:	LEA	NM	USA
RIG:	UDI 223		
API WELL No:	30-025-40303		
JOB No:	12MLD0190		
P.O. / AFE No.	11-207-0		
DIRECTIONAL COMPANY:	PATHFINDER		

WELL SITE INFORMATION

TOTAL MAGNETIC CORRECTION (TMC):			
On Wall Plat:	7.03	LWD Calculated:	7.020953
Agreed Upon:		7.02	
X =	793330.958000	Feet	Y = 526336.832000
		Feet	
SITE LATITUDE:	32.444316 N	SITE LONGITUDE:	103.516468 W
GRID SYSTEM:	TRUE ☐ UTM ☐ LAMBERT ☒	ZONE:	new mexico east
PROPOSED DRIFT DIRECTION:	89.43		
KELLY BUSHING ELEVATION:	25		
ALTITUDE:	3697	Feet	WATER DEPTH:
		Feet	

TIE-IN SURVEY

MEASURED DEPTH:	10200		
DRIFT ANGLE:	3.57		
DRIFT DIRECTION:	190.78		
TRUE VERTICAL DEPTH:	10196.31		
VERTICAL SECTION:	154.17		
RECTANGULAR COORDINATE (N / S) :	-33.89		
RECTANGULAR COORDINATE (E / W) :	154.51		
CLOSURE DISTANCE / DIRECTION:	158.19	102.37	
SURVEY CALCULATION METHOD:	AA ☐	MC ☒	RC ☐ BT ☐
SOURCE OF TIE-IN DATA (COMPANY):	MS Survey		
COPY OF TIE-IN SURVEY REPORT	☒ YES		☐ NO

WELL PLAN

KICKOFF DEPTH:	10230	TOTAL DEPTH:	15103
KICKOFF ANGLE:	0	MAX ANGLE:	90.77

PES Engineers: Charlie Sandifer

Zach Lofties

**Signature of both field engineers required if applicable

Directional Driller: Pillip Garrison

DATE: 30-Jun-2012



A Schlumberger Company

HOBBS OCD

SEP 18 2012

DIRECTIONAL SURVEY REPORT

RECEIVED

YATES PETROLEUM

NAGUSS 'BRN' STATE COM #1H - SHC

LEA COUNTY, NEW MEXICO

SUR: M-30-21s-34e, 660/S & 330/W
BHL: P-30-21s-34e, 721/S & 4880/W
API # 30-025-40303

PREPARED BY: JUAN ALCOCER

Pathfinder

6213 WCR 112
Midland, Texas 79706-3725, USA
Tel (432) 687-1647
Fax (432) 687-1544

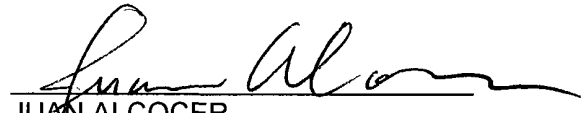


DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:
A) HUEY SANDIFER
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 5/29/12 TO 6/04/12
5. STATE IN WHICH SURVEY WAS PERFORMED: NEW MEXICO
6. LOCATION OF WELL: LEA COUNTY, NM
7. TYPE OF SURVEY(S) PERFORMED: GAMMA-RAY
8. COMPLETE IDENTIFICATION OF WELL:

YATES PETROLEUM
NAGUSS 'BRN' STATE COM #1H - SHC
LEA COUNTY, NM
RIG: UDI 223
9. SURVEY CERTIFIED FROM: 1,802 TO 5,476 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE DISPLACED AT 113.03 FEET ON A BEARING OF 83.57 DEGREES FROM THE CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 5,530 FEET, ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.


JUAN ALCOCER
MWD COORDINATOR

PathFinder Energy Services, Inc.

BHL Report

Page 01/01
Tie-in Date: 05/29/2012
Date Completed: 06/04/2012

YATES PETROLEUM CORPORATION
NAGUSS BRN STATE COM #1H / 30-025-40303
LEA COUNTY, NM
Rig:UDI223
PathFinder Office Supervisor: JUAN ALCOCER
PathFinder Field Engineers:H SANDIFER

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.26.39.5367 N LON:103.30.59.2846 W
GRID Reference:NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 793330.9580 Y: 526336.8320
North Aligned To:GRID NORTH
Total Magnetic Correction: 7.02° EAST TO GRID
Vertical Section Plane: 89.43
Survey Vert. Reference: 25.00' Kelly Bushing To Ground

Measured Depth	5530.00	(feet)
Inclination	2.02	(deg)
Azimuth	99.31	(deg)
True Vertical Depth	5527.71	(feet)
Vertical Section	112.44	(feet)
Survey X cord	793443.25	(feet)
Survey Y cord	526349.48	(feet)
Survey Lat	32.44434815 N	(deg)
Survey Lon	103.51610366 W	(deg)
Rectangular Corr. N/S	12.66 N	(feet)
Rectangular Corr. E/W	112.32 E	(feet)
Closure Distance	113.03	(feet)
Direction of Closure	83.57	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORPORATION
 NAGUSS BRN STATE COM #1H / 30-025-40303
 LEA COUNTY, NM
 Rig:UDI223
 PathFinder Office Supervisor: JUAN ALCOCER
 PathFinder Field Engineers: H SANDIFER

Survey Horiz. Reference:WELLHEAD
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 North Aligned To:GRID NORTH
 Total Magnetic Correction: 7.02°EAST TO GRID
 Vertical Section Plane: 89.43
 Survey Vert. Reference: 25.00' Kelly Bushing To Ground

Survey Calculations by RX5 V6.04A using Minimum Curvature

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
ASSUMED VERTICAL WELLBORE AT 1702' MD.										
1702.00	0.00	0.00	1702.00	0.00	0.00	0.00	0.00	0.00@	0.00	0.00
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.										
1802.00	0.09	52.11	1802.00	100.00	0.06	0.05 N	0.06 E	0.08@	52.11	0.09
1897.00	0.09	195.90	1897.00	95.00	0.10	0.02 N	0.10 E	0.10@	77.48	0.18
1992.00	0.00	224.37	1992.00	95.00	0.08	0.05 S	0.08 E	0.09@	121.73	0.09
2182.00	0.26	88.32	2182.00	190.00	0.51	0.04 S	0.51 E	0.51@	94.12	0.14
2372.00	0.53	99.66	2371.99	190.00	1.81	0.17 S	1.81 E	1.82@	95.42	0.15
2562.00	0.44	60.28	2561.99	190.00	3.31	0.04 N	3.31 E	3.31@	89.26	0.18
2752.00	0.88	75.22	2751.98	190.00	5.36	0.78 N	5.35 E	5.41@	81.75	0.25
2942.00	1.14	68.81	2941.95	190.00	8.54	1.83 N	8.53 E	8.72@	77.87	0.15
3132.00	1.76	66.43	3131.88	190.00	13.00	3.68 N	12.96 E	13.47@	74.14	0.33
3322.00	2.55	71.18	3321.75	190.00	19.70	6.21 N	19.64 E	20.60@	72.45	0.43
3512.00	2.99	84.89	3511.53	190.00	28.65	8.02 N	28.57 E	29.68@	74.33	0.42
3702.00	2.64	91.92	3701.30	190.00	37.96	8.31 N	37.88 E	38.78@	77.62	0.26
3892.00	2.29	85.07	3891.12	190.00	46.12	8.49 N	46.04 E	46.81@	79.55	0.24
4082.00	2.20	75.66	4080.98	190.00	53.45	9.72 N	53.35 E	54.23@	79.67	0.20
4271.00	2.20	77.33	4269.84	189.00	60.52	11.41 N	60.41 E	61.48@	79.30	0.03
4461.00	2.02	74.96	4459.71	190.00	67.33	13.08 N	67.20 E	68.46@	78.98	0.10
4543.00	2.11	79.97	4541.66	82.00	70.21	13.72 N	70.08 E	71.41@	78.92	0.25
4732.00	2.46	85.95	4730.51	189.00	77.69	14.61 N	77.55 E	78.92@	79.33	0.22
4922.00	3.17	94.56	4920.28	190.00	87.00	14.48 N	86.86 E	88.06@	80.53	0.43
5112.00	2.99	85.86	5110.00	190.00	97.18	14.42 N	97.04 E	98.10@	81.54	0.26
5302.00	1.76	103.61	5299.84	190.00	104.95	14.10 N	104.82 E	105.76@	82.34	0.75
5476.00	2.02	99.31	5473.74	174.00	110.56	12.97 N	110.44 E	111.20@	83.30	0.17
STRAIGHT LINE PROJECTION TO BIT AT 5530'MD.										
5530.00	2.02	99.31	5527.71	54.00	112.44	12.66 N	112.32 E	113.03@	83.57	0.00



A Schlumberger Company

TIE-IN SURVEY INFORMATION SHEET

CLIENT INFORMATION

CLIENT:	YATES PETROLEUM CORPORATION		
LEASE / WELL No.:	NAGUSS BRN STATE COM	#1H	
WELL LOCATION:	LEA COUNTY NM		
COUNTY / STATE / COUNTRY:	LEA	NM	USA
RIG:	UDI 223		
API WELL No:	30-025-40303		
JOB No:	12MLD0190		
P.O. / AFE No.	11-207-0		
DIRECTIONAL COMPANY:	PATHFINDER		

WELL SITE INFORMATION

TOTAL MAGNETIC CORRECTION (TMC):			
On Wall Plat:	7.03	LWD Calculated:	7.020953
		Agreed Upon:	7.02
X =	793330.958000	Feet	Y = 526336.832000
			Feet
SITE LATITUDE:	32.444316 N	SITE LONGITUDE:	103.516468 W
GRID SYSTEM:	TRUE ☐ UTM ☐ LAMBERT ☒	ZONE:	new mexico east
PROPOSED DRIFT DIRECTION:	89.43		
KELLY BUSHING ELEVATION:	25		
ALTITUDE:	3697	Feet	WATER DEPTH:
			Feet

TIE-IN SURVEY

MEASURED DEPTH:	1702		
DRIFT ANGLE:	0		
DRIFT DIRECTION:	0		
TRUE VERTICAL DEPTH:	1702		
VERTICAL SECTION:	0		
RECTANGULAR COORDINATE (N / S) :	0		
RECTANGULAR COORDINATE (E / W) :	0		
CLOSURE DISTANCE / DIRECTION:	0	0	
SURVEY CALCULATION METHOD:	AA ☐	MC ☒	RC ☐ BT ☐
SOURCE OF TIE-IN DATA (COMPANY):			
COPY OF TIE-IN SURVEY REPORT	☐ YES		☒ NO

WELL PLAN

KICKOFF DEPTH:	TOTAL DEPTH:
KICKOFF ANGLE:	MAX ANGLE:

PES Engineers: _____

**Signature of both field engineers required if applicable

Directional Driller: _____

DATE: _____



A Schlumberger Company

PathFinder Energy Services, Inc. Magnetic & Grid Calculations

Yates Petroleum
Naguss BRN State Com #1H
Lea County, Nm
Rig:UDI 223

Thu May 24 16:54:58 2012

Coordinates

Latitude: 32.444316 N (32 deg. 26 min. 39.5367 sec.)
Longitude: 103.516468 W (-103 deg. 30 min. 59.2846 sec.)
Elevation: 3697.00 feet.
Calculation Date: May/24/2012

Magnetic Calculations

Model: IGRF2010
Dip Angle: 60.3775 degrees
Total Magnetic Field: 0.48659 gauss
Magnetic Declination: 7.460559 degrees
Horizontal Intensity: 0.240515 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.460559 Degr

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 793330.9580 feet
Y: 526336.8320 feet
True to Grid: (convergence) -0.438253 degrees
Magnetic to Grid: 7.022306 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.022306 Degr.

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

YATES PETROLEUM
NAGUSS BRN STATE COM #1H
WILDCAT;BONE SPRING

FIELD CALCULATIONS

Mon May 28 09:14:17 2012

Coordinates

Latitude: 32.444316 N (32 deg. 26 min. 39.5367 sec.)
Longitude: 103.516468 W (-103 deg. 30 min. 59.2846 sec.)
Elevation: 3697.00 feet.
Calculation Date: May/28/2012

Magnetic Calculations

Model: IGRF2010
Dip Angle: 60.3772 degrees
Total Magnetic Field: 0.48658 gauss
Magnetic Declination: 7.459206 degrees
Horizontal Intensity: 0.240512 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.459206 Degr

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 793330.9580 feet
Y: 526336.8320 feet
True to Grid: (convergence) -0.438253 degrees
Magnetic to Grid: 7.020953 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.020953 Degr.

SUR: M-30-21s-34e, 660/S & 330/W
 BHL: P-30-21s-34e, 721/S & 4880/W
 API # 30-025-40303



Company:	YATES PETROLEUM CORPORATION	Operator:	JOSHUA SMITH
Lease / Well:	NAGUSS BRN STATE COM #1H	Job Number:	SVCO-120860
County/Parish:	LEA COUNTY	Probe Serial #	123
State:	NEW MEXICO	Proposed Direction:	89.43
Date:	6/20/2012	Mag. Declination:	7.03 EAST TO GRID
API#:	30-025-40303	Rig / RKB:	UDI 223 / RKB 28 FEET
Dir. Company:	PATHFINDER	Tie-In From:	N / A

FIELD USE ONLY, DEFINITIVE SURVEY WILL COME FROM MS Survey OFFICES

TIE-IN Survey					
Measured Depth (ft.)	Inclination	Azimuth Bearing	Vertical Depth	Coordinates (+N/-S)	Coordinates (+E/-W)
0	0.00	0.00	0.00	0.00	0.00

Rate Gyro Survey Report									
Measured Depth (ft.)	Inclination	Azimuth Bearing	Vertical Depth	Vertical Section	Coordinates (+N/-S)	Coordinates (+E/-W)	Dog-Leg / 100 ft.	Closure Distance	Closure Direction
200	0.37	122.98	200.00	0.54	-0.35	0.54	0.18	0.65	122.98°
400	0.17	155.98	400.00	1.19	-0.97	1.20	0.12	1.55	128.97°
600	0.27	203.18	599.99	1.12	-1.68	1.14	0.10	2.03	145.82°
800	0.42	195.64	799.99	0.73	-2.82	0.76	0.08	2.92	164.97°
1000	0.51	189.48	999.98	0.37	-4.40	0.41	0.05	4.42	174.65°
1200	0.57	187.07	1199.98	0.08	-6.27	0.14	0.03	6.27	178.69°
1400	0.46	176.21	1399.97	-0.01	-8.05	0.07	0.07	8.06	179.48°
1600	0.59	221.61	1599.96	-0.65	-9.63	-0.56	0.21	9.64	183.31°
1800	0.05	58.97	1799.96	-1.27	-10.35	-1.17	0.32	10.42	186.43°
2000	0.12	42.90	1999.96	-1.05	-10.15	-0.95	0.04	10.20	185.34°
2200	0.41	87.03	2199.95	-0.19	-9.96	-0.09	0.17	9.96	180.53°
2400	0.47	64.55	2399.95	1.27	-9.57	1.36	0.09	9.67	171.89°
2600	0.49	63.83	2599.94	2.78	-8.84	2.87	0.01	9.30	162.01°
2800	0.93	62.78	2799.92	5.01	-7.72	5.08	0.22	9.25	146.65°
3000	1.24	61.89	2999.89	8.38	-5.96	8.44	0.16	10.33	125.25°
3200	1.89	67.20	3199.81	13.35	-3.66	13.38	0.33	13.88	105.31°
3400	2.75	70.23	3399.65	20.93	-0.76	20.94	0.43	20.95	92.08°
3600	2.59	95.34	3599.44	29.96	0.44	29.95	0.59	29.96	89.16°
3800	2.51	85.31	3799.24	38.82	0.38	38.82	0.23	38.82	89.44°
4000	2.18	75.17	3999.07	46.88	1.71	46.86	0.26	46.89	87.91°
4200	2.23	71.47	4198.93	54.26	3.92	54.23	0.08	54.37	85.87°
4400	2.13	70.65	4398.78	61.48	6.39	61.42	0.05	61.75	84.06°
4600	2.43	68.84	4598.62	68.97	9.15	68.88	0.15	69.49	82.43°
4800	2.75	78.91	4798.42	77.66	11.60	77.55	0.28	78.41	81.49°
5000	2.90	81.14	4998.17	87.38	13.31	87.25	0.09	88.26	81.33°
5200	2.40	79.17	5197.96	96.51	14.87	96.37	0.25	97.51	81.23°
5400	1.75	94.32	5397.83	103.67	15.43	103.52	0.42	104.67	81.52°
5600	1.36	98.63	5597.76	109.06	14.84	108.92	0.20	109.92	82.24°
5800	1.45	99.85	5797.70	113.89	14.05	113.75	0.05	114.62	82.96°
6000	1.03	105.94	5997.65	118.10	13.13	117.98	0.22	118.70	83.65°
6200	0.74	103.46	6197.62	121.08	12.33	120.96	0.15	121.59	84.18°
6400	1.06	79.31	6397.60	124.15	12.37	124.04	0.24	124.65	84.30°
6600	0.62	27.29	6597.58	126.48	13.68	126.35	0.42	127.09	83.82°
6800	0.60	11.88	6797.57	127.21	15.67	127.06	0.08	128.02	82.97°
7000	0.82	35.23	6997.55	128.27	17.86	128.10	0.18	129.34	82.06°
7200	0.75	52.63	7197.54	130.16	19.82	129.97	0.12	131.47	81.33°

7400	0.50	81.16	7397.52	132.07	20.75	131.87	0.20	133.49	81.06°
7600	0.87	125.94	7597.51	134.15	19.99	133.96	0.31	135.45	81.51°
7800	1.03	127.80	7797.48	136.78	18.00	136.61	0.08	137.79	82.49°
8000	1.30	141.36	7997.44	139.59	15.13	139.45	0.19	140.27	83.81°
8200	1.60	150.24	8197.38	142.35	10.93	142.25	0.19	142.67	85.61°
8400	1.10	146.84	8397.32	144.75	6.90	144.69	0.25	144.85	87.27°
8600	0.94	156.80	8597.29	146.41	3.79	146.38	0.12	146.43	88.52°
8800	0.56	164.08	8797.27	147.30	1.34	147.30	0.20	147.30	89.48°
9000	0.92	162.78	8997.26	148.02	-1.14	148.04	0.18	148.05	90.44°
9200	1.13	156.12	9197.22	149.26	-4.47	149.32	0.12	149.38	91.72°
9400	1.41	78.11	9397.19	152.46	-5.77	152.52	0.81	152.63	92.17°
9600	1.04	104.94	9597.14	156.62	-5.73	156.68	0.34	156.79	92.09°
9800	2.13	173.94	9797.08	158.72	-9.89	158.83	1.00	159.14	93.56°
10000	4.19	194.03	9996.77	157.24	-20.68	157.45	1.15	158.80	97.48°
10200	3.57	190.78	10196.31	154.17	-33.89	154.51	0.33	158.19	102.37°
10230	3.46	194.42	10226.25	153.75	-35.68	154.11	0.83	158.19	103.04°



A Schlumberger Company

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

Yates Petroleum
Naguss BRN State Com #1H
Lea County, Nm
Rig:UDI 223

Thu May 24 16:54:58 2012

Coordinates

Latitude: 32.444316 N (32 deg. 26 min. 39.5367 sec.)
Longitude: 103.516468 W (-103 deg. 30 min. 59.2846 sec.)
Elevation: 3697.00 feet.
Calculation Date: May/24/2012

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Model: IGRF2010
Dip Angle: 60.3775 degrees
Total Magnetic Field: 0.48659 gauss
Magnetic Declination: 7.460559 degrees
Horizontal Intensity: 0.240515 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.460559 Degr

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 793330.9580 feet
Y: 526336.8320 feet
True to Grid: (convergence) -0.438253 degrees
Magnetic to Grid: 7.022306 degrees
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PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

YATES PETROLEUM
NAGUSS BRN STATE COM #1H
WILDCAT;BONE SPRING

FIELD CALCULATIONS

Mon May 28 09:14:17 2012

Coordinates

Latitude: 32.444316 N (32 deg. 26 min. 39.5367 sec.)
Longitude: 103.516468 W (-103 deg. 30 min. 59.2846 sec.)
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Transverse Mercator Grid Calculations NAD83

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Magnetic to Grid: 7.020953 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.020953 Degr.



Job Number: SVCO-120860
 Company: Yates Petroleum Corporation
 Lease/Well: Naguss BRN State COM 1H
 Location: Lea County, NM
 Rig Name: UDI #223
 RKB: 28'
 G.L. or M.S.L.: GL

State/Country: New Mexico/USA
 Declination: 7.03°
 Grid: East To Grid North
 File name: F:\SURVEY\2012SU-1\YATES\CONROE\NAGUSS-1\COM-1H.SVY
 Date/Time: 20-Jun-12 / 13:12
 Curve Name: Surface - 10230' M.D. (Rate Gyro)

HOBBS OCD

SEP 18 2012

RECEIVED

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane 89.43
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

SUR: M-30-21s-34e, 660/S & 330/W
 BHL: P-30-21s-34e, 721/S & 4880/W
 API # 30-025-40303

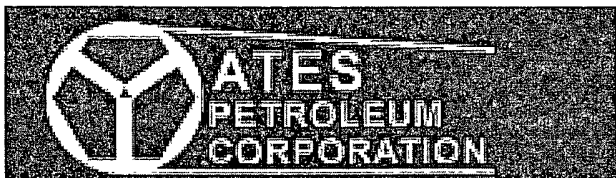
We hereby certify that our survey data from
 Surface MD to 10230' MD is, to the best of
 our knowledge a true and accurate account of the
 well bore.

Joshua Smith 6-20-12
 MS Energy Services Date

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
200.00	.37	122.98	200.00	-.35	.54	.54	.65	122.98	.18
400.00	.17	155.98	400.00	-.97	1.20	1.19	1.55	128.97	.12
600.00	.27	203.18	600.00	-1.68	1.14	1.12	2.03	145.82	.10
800.00	.42	195.64	799.99	-2.82	.76	.73	2.92	164.97	.08
1000.00	.51	189.48	999.98	-4.40	.41	.37	4.42	174.65	.05
1200.00	.57	187.07	1199.98	-6.27	.14	.08	6.27	178.69	.03
1400.00	.46	176.21	1399.97	-8.05	.07	-.01	8.06	179.48	.07
1600.00	.59	221.61	1599.96	-9.63	-.56	-.65	9.64	183.31	.21
1800.00	.05	58.97	1799.96	-10.35	-1.17	-1.27	10.42	186.43	.32

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
2000.00	.12	42.90	1999.96	-10.15	-.95	-1.05	10.20	185.34	.04
2200.00	.41	87.03	2199.95	-9.96	-.09	-.19	9.96	180.53	.17
2400.00	.47	64.55	2399.95	-9.57	1.36	1.27	9.67	171.89	.09
2600.00	.49	63.83	2599.94	-8.84	2.87	2.78	9.30	162.01	.01
2800.00	.93	62.78	2799.93	-7.72	5.08	5.01	9.25	146.65	.22
3000.00	1.24	61.89	2999.89	-5.96	8.44	8.38	10.33	125.25	.16
3200.00	1.89	67.20	3199.81	-3.66	13.38	13.35	13.88	105.31	.33
3400.00	2.75	70.23	3399.65	-.76	20.94	20.93	20.95	92.08	.43
3600.00	2.59	95.34	3599.44	.44	29.95	29.96	29.96	89.16	.59
3800.00	2.51	85.31	3799.24	.38	38.82	38.82	38.82	89.44	.23
4000.00	2.18	75.17	3999.07	1.71	46.86	46.88	46.89	87.91	.26
4200.00	2.23	71.47	4198.93	3.92	54.23	54.26	54.37	85.87	.08
4400.00	2.13	70.65	4398.78	6.39	61.42	61.48	61.75	84.06	.05
4600.00	2.43	68.84	4598.62	9.15	68.88	68.97	69.49	82.43	.15
4800.00	2.75	78.91	4798.42	11.60	77.55	77.66	78.41	81.49	.28
5000.00	2.90	81.14	4998.18	13.31	87.25	87.38	88.26	81.33	.09
5200.00	2.40	79.17	5197.96	14.87	96.37	96.51	97.51	81.23	.25
5400.00	1.75	94.32	5397.83	15.43	103.52	103.67	104.67	81.52	.42
5600.00	1.36	98.63	5597.76	14.84	108.92	109.06	109.92	82.24	.20
5800.00	1.45	99.85	5797.70	14.05	113.76	113.89	114.62	82.96	.05
6000.00	1.03	105.94	5997.65	13.13	117.98	118.10	118.70	83.65	.22
6200.00	.74	103.46	6197.63	12.33	120.96	121.08	121.59	84.18	.15
6400.00	1.06	79.31	6397.60	12.37	124.04	124.15	124.65	84.30	.24
6600.00	.62	27.29	6597.58	13.68	126.35	126.48	127.09	83.82	.42
6800.00	.60	11.88	6797.57	15.67	127.06	127.21	128.02	82.97	.08
7000.00	.82	35.23	6997.56	17.86	128.10	128.27	129.34	82.06	.18
7200.00	.75	52.63	7197.54	19.82	129.97	130.16	131.47	81.33	.12
7400.00	.50	81.16	7397.53	20.75	131.87	132.07	133.49	81.06	.20
7600.00	.87	125.94	7597.51	19.99	133.96	134.15	135.45	81.51	.31

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
7800.00	1.03	127.80	7797.48	18.00	136.61	136.78	137.79	82.49	.08
8000.00	1.30	141.36	7997.44	15.13	139.45	139.59	140.27	83.81	.19
8200.00	1.60	150.24	8197.38	10.93	142.25	142.35	142.67	85.61	.19
8400.00	1.10	146.84	8397.32	6.90	144.69	144.75	144.85	87.27	.25
8600.00	.94	156.80	8597.29	3.79	146.38	146.41	146.43	88.52	.12
8800.00	.56	164.08	8797.27	1.34	147.30	147.30	147.30	89.48	.20
9000.00	.92	162.78	8997.26	-1.14	148.04	148.02	148.05	90.44	.18
9200.00	1.13	156.12	9197.23	-4.47	149.32	149.26	149.38	91.72	.12
9400.00	1.41	78.11	9397.19	-5.77	152.52	152.46	152.63	92.17	.81
9600.00	1.04	104.94	9597.14	-5.73	156.68	156.62	156.79	92.09	.34
9800.00	2.13	173.94	9797.08	-9.89	158.83	158.72	159.14	93.56	1.00
10000.00	4.19	194.03	9996.77	-20.68	157.45	157.24	158.80	97.48	1.15
10200.00	3.57	190.78	10196.31	-33.89	154.51	154.17	158.19	102.37	.33
Last Survey Depth Recorded									
10230.00	3.46	194.42	10226.25	-35.68	154.11	153.75	158.19	103.04	.83



Yates Petroleum Corp.

Lea County(NAD 83)
Naguss "BRN" State Com
#1H
OH

Design: OH

PathfinderX & Y Report

16 July, 2012

HOBBS OCD

SEP 18 2012

RECEIVED

SUR: M-30-21s-34e, 660/S & 330/W
BHL: P-30-21s-34e, 721/S & 4880/W
API # 30-025-40303

PATHFINDER®

A Schlumberger Company



Pathfinder PathfinderX & Y Report

PATHFINDER
A Schlumberger Company

Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #1H
Project:	Lea County(NAD 83)	TVD Reference:	KB = 25 @ 3697.0usft (UDI #223)
Site:	Naguss "BRN" State Com	MD Reference:	KB = 25 @ 3697.0usft (UDI #223)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM:5000.1 Single User Db

Project: Lea County (NAD 83)	
Map System:	US State Plane 1983
Geo Datum:	North American Datum 1983
Map Zone:	New Mexico Eastern Zone
System Datum:	Mean Sea Level

Site		Naguss "BRN" State Com							
Site Position:		Northing:		526,336.832	usft	Latitude:		32.444	
From:	Map	Easting:		793,330.958	usft	Longitude:		-103.516	
Position Uncertainty:		0.0	usft	Slot Radius:		13-3/16	"	Grid Convergence:	0.44 °

Well	#1H					
Well Position	+N-S	0 0 usft	Northing:	526,336.832 usft	Latitude:	32 444
	+E-W	0 0 usft	Easting:	793,330 958 usft	Longitude:	-103 516
Position Uncertainty		0 0 usft	Wellhead Elevation:	usft	Ground Level:	3,672.0 usft

Wellbore		OH			
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	4/16/2012	7.46	60.41	48,708

Design:		OH			
Audit Notes:					
Version:	1 0	Phase:	ACTUAL	Tie On Depth:	0 0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	89.43	



Pathfinder PathfinderX & Y Report



Company:	Yates Petroleum Corp	Local Co-ordinate Reference:	Well #1H
Project:	Lea County(NAD:83)	TVD Reference:	KB = 25 @ 3697.0usft (UDI #223)
Site:	Naguss "BRN" State Com	MD Reference:	KB = 25 @ 3697.0usft (UDI #223)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey Program		Date 7/16/2012		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
200.0	10,230.0	Gyro #1 (OH)	CTG-SR-SS	Continuous gyro - surface ref s/s
10,286.0	15,030.0	MWD #1 (OH)	MWD	MWD - Standard

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
0.0	0.00	0.00	0.0	-3,697.0	0.0	0.0	0.0	0.00	526,336.83	793,330.96
200.0	0.37	122.98	200.0	-3,497.0	-0.4	0.5	0.5	0.18	526,336.48	793,331.50
400.0	0.17	155.98	400.0	-3,297.0	-1.0	1.2	1.2	0.12	526,335.86	793,332.16
600.0	0.27	203.18	600.0	-3,097.0	-1.7	1.1	1.1	0.10	526,335.15	793,332.10
800.0	0.42	195.64	800.0	-2,897.0	-2.8	0.8	0.7	0.08	526,334.01	793,331.71
1,000.0	0.51	189.48	1,000.0	-2,697.0	-4.4	0.4	0.4	0.05	526,332.43	793,331.37
1,200.0	0.57	187.07	1,200.0	-2,497.0	-6.3	0.1	0.1	0.03	526,330.57	793,331.10
1,400.0	0.46	176.21	1,400.0	-2,297.0	-8.1	0.1	0.0	0.07	526,328.78	793,331.03
1,600.0	0.59	221.61	1,600.0	-2,097.0	-9.6	-0.6	-0.7	0.21	526,327.21	793,330.40
1,800.0	0.05	58.97	1,800.0	-1,897.0	-10.4	-1.2	-1.3	0.32	526,326.48	793,329.79
2,000.0	0.12	42.90	2,000.0	-1,697.0	-10.2	-0.9	-1.0	0.04	526,326.68	793,330.01
2,200.0	0.41	87.03	2,200.0	-1,497.0	-10.0	-0.1	-0.2	0.17	526,326.87	793,330.87
2,400.0	0.47	64.55	2,399.9	-1,297.1	-9.6	1.4	1.3	0.09	526,327.26	793,332.32
2,600.0	0.49	63.83	2,599.9	-1,097.1	-8.8	2.9	2.8	0.01	526,327.99	793,333.83
2,800.0	0.93	62.78	2,799.9	-897.1	-7.7	5.1	5.0	0.22	526,329.11	793,336.04
3,000.0	1.24	61.89	2,999.9	-697.1	-6.0	8.4	8.4	0.16	526,330.87	793,339.39
3,200.0	1.89	67.20	3,199.8	-497.2	-3.7	13.4	13.3	0.33	526,333.17	793,344.34
3,400.0	2.75	70.23	3,399.6	-297.4	-0.8	20.9	20.9	0.43	526,336.07	793,351.90
3,600.0	2.59	95.34	3,599.4	-97.6	0.4	30.0	30.0	0.59	526,337.27	793,360.91
3,800.0	2.51	85.31	3,799.2	102.2	0.4	38.8	38.8	0.23	526,337.21	793,369.78
4,000.0	2.18	75.17	3,999.1	302.1	1.7	46.9	46.9	0.26	526,338.54	793,377.82



Pathfinder PathfinderX & Y Report



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #1H
Project:	Lea County (NAD 83)	TVD Reference:	KB = 25 @ 3697.0usft (UDI #223)
Site:	Naguss "BRN" State Com	MD Reference:	KB = 25 @ 3697.0usft (UDI #223)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V.Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
4,200.0	2 23	71 47	4,198.9	501.9	3.9	54.2	54.3	0.08	526,340.75	793,385.18	
4,400.0	2 13	70.65	4,398.8	701.8	6.4	61.4	61.5	0.05	526,343.22	793,392.38	
4,600.0	2 43	68.84	4,598.6	901.6	9.1	68.9	69.0	0.15	526,345.98	793,399.84	
4,800.0	2 75	78.91	4,798.4	1,101.4	11.6	77.5	77.7	0.28	526,348.43	793,408.50	
5,000.0	2.90	81.14	4,998.2	1,301.2	13.3	87.3	87.4	0.09	526,350.14	793,418.21	
5,200.0	2.40	79.17	5,198.0	1,501.0	14.9	96.4	96.5	0.25	526,351.70	793,427.32	
5,400.0	1 75	94.32	5,397.8	1,700.8	15.4	103.5	103.7	0.42	526,352.26	793,434.48	
5,600.0	1 36	98.63	5,597.8	1,900.8	14.8	108.9	109.1	0.20	526,351.67	793,439.87	
5,800.0	1 45	99.85	5,797.7	2,100.7	14.1	113.8	113.9	0.05	526,350.88	793,444.71	
6,000.0	1 03	105.94	5,997.6	2,300.6	13.1	118.0	118.1	0.22	526,349.96	793,448.93	
6,200.0	0 74	103.46	6,197.6	2,500.6	12.3	121.0	121.1	0.15	526,349.16	793,451.92	
6,400.0	1 06	79.31	6,397.6	2,700.6	12.4	124.0	124.2	0.24	526,349.21	793,454.99	
6,600.0	0.62	27.29	6,597.6	2,900.6	13.7	126.3	126.5	0.42	526,350.51	793,457.31	
6,800.0	0 60	11.88	6,797.6	3,100.6	15.7	127.1	127.2	0.08	526,352.50	793,458.02	
7,000.0	0 82	35.23	6,997.6	3,300.6	17.9	128.1	128.3	0.18	526,354.69	793,459.06	
7,200.0	0.75	52.63	7,197.5	3,500.5	19.8	130.0	130.2	0.12	526,356.65	793,460.93	
7,400.0	0 50	81.16	7,397.5	3,700.5	20.8	131.9	132.1	0.20	526,357.58	793,462.83	
7,600.0	0 87	125.94	7,597.5	3,900.5	20.0	134.0	134.2	0.31	526,356.83	793,464.92	
7,800.0	1 03	127.80	7,797.5	4,100.5	18.0	136.6	136.8	0.08	526,354.83	793,467.57	
8,000.0	1 30	141.36	7,997.4	4,300.4	15.1	139.4	139.6	0.19	526,351.96	793,470.41	
8,200.0	1 60	150.24	8,197.4	4,500.4	10.9	142.3	142.4	0.19	526,347.76	793,473.21	
8,400.0	1 10	146.84	8,397.3	4,700.3	6.9	144.7	144.7	0.25	526,343.73	793,475.65	
8,600.0	0 94	156.80	8,597.3	4,900.3	3.8	146.4	146.4	0.12	526,340.62	793,477.34	
8,800.0	0.56	164.08	8,797.3	5,100.3	1.3	147.3	147.3	0.20	526,338.17	793,478.26	
9,000.0	0 92	162.78	8,997.3	5,300.3	-1.1	148.0	148.0	0.18	526,335.70	793,479.00	
9,200.0	1 13	156.12	9,197.2	5,500.2	-4.5	149.3	149.3	0.12	526,332.36	793,480.27	
9,400.0	1 41	78.11	9,397.2	5,700.2	-5.8	152.5	152.5	0.81	526,331.06	793,483.48	



Pathfinder PathfinderX & Y Report



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #1H
Project:	Lea County (NAD 83)	TVD Reference:	KB = 25 @ 3697.0usft (UDI #223)
Site:	Nagusa "BRN" State Com	MD Reference:	KB = 25 @ 3697.0usft (UDI #223)
Well:	#1H	North Reference:	Grid:
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000:1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (%/100usft)	Northing (usft)	Easting (usft)	
9,600.0	1.04	104.94	9,597.1	5,900.1	-5.7	156.7	156.6	0.34	526,331.10	793,487.64	
9,800.0	2.13	173.94	9,797.1	6,100.1	-9.9	158.8	158.7	1.00	526,326.94	793,489.79	
10,000.0	4.19	194.03	9,996.8	6,299.8	-20.7	157.5	157.2	1.15	526,316.15	793,488.41	
10,200.0	3.57	190.78	10,196.3	6,499.3	-33.9	154.5	154.2	0.33	526,302.95	793,485.47	
10,286.0	2.90	229.74	10,282.2	6,585.2	-37.9	152.4	152.0	2.61	526,298.91	793,483.31	
10,381.0	1.93	240.19	10,377.1	6,680.1	-40.3	149.1	148.7	1.12	526,296.56	793,480.09	
10,413.0	6.51	104.64	10,409.0	6,712.0	-41.0	150.4	150.0	25.01	526,295.83	793,481.38	
KOP: 10413.0 MD: 10409.0 TVD: 41.0 N: 150.4 E											
10,444.0	14.42	96.12	10,439.5	6,742.5	-41.9	156.0	155.5	25.93	526,294.98	793,486.93	
10,476.0	20.22	97.00	10,470.0	6,773.0	-43.0	165.4	165.0	18.14	526,293.88	793,496.38	
10,508.0	24.18	104.23	10,499.7	6,802.7	-45.2	177.3	176.8	15.01	526,291.59	793,508.23	
10,539.0	27.79	107.13	10,527.5	6,830.5	-48.9	190.3	189.8	12.34	526,287.90	793,521.30	
10,570.0	29.81	108.13	10,554.7	6,857.7	-53.5	204.6	204.0	6.70	526,283.37	793,535.53	
10,601.0	33.68	105.67	10,581.0	6,884.0	-58.2	220.2	219.6	13.16	526,278.65	793,551.13	
10,633.0	37.11	102.95	10,607.1	6,910.1	-62.7	238.1	237.5	11.79	526,274.09	793,569.09	
10,665.0	40.80	101.50	10,632.0	6,935.0	-67.0	257.8	257.1	11.88	526,269.84	793,588.75	
10,696.0	43.62	99.80	10,655.0	6,958.0	-70.8	278.3	277.5	9.81	526,266.00	793,609.22	
10,728.0	45.46	98.41	10,677.8	6,980.8	-74.4	300.4	299.7	6.51	526,262.45	793,631.38	
10,760.0	47.48	96.41	10,699.8	7,002.8	-77.4	323.4	322.6	7.77	526,259.47	793,654.38	
10,791.0	48.98	93.73	10,720.5	7,023.5	-79.4	346.5	345.6	8.06	526,257.43	793,677.41	
10,823.0	52.76	92.94	10,740.7	7,043.7	-80.8	371.2	370.4	11.97	526,255.99	793,702.19	
10,854.0	57.86	92.50	10,758.3	7,061.3	-82.0	396.7	395.8	16.49	526,254.79	793,727.64	
10,886.0	64.28	91.95	10,773.8	7,076.8	-83.1	424.7	423.8	20.12	526,253.70	793,755.61	
10,918.0	65.33	91.92	10,787.4	7,090.4	-84.1	453.6	452.7	3.28	526,252.73	793,784.55	
10,949.0	66.13	91.86	10,800.1	7,103.1	-85.0	481.8	481.0	2.59	526,251.79	793,812.79	
10,981.0	68.24	91.88	10,812.5	7,115.5	-86.0	511.3	510.4	6.59	526,250.83	793,842.27	
11,012.0	73.16	92.95	10,822.8	7,125.8	-87.2	540.5	539.6	16.20	526,249.60	793,871.49	



Pathfinder PathfinderX & Y Report



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #1H
Project:	Lea County(NAD 83)	TVD Reference:	KB = 25 @ 3697.0usft (UDI #223)
Site:	Naguss "BRN" State Com	MD Reference:	KB = 25 @ 3697.0usft (UDI #223)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000-1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
11,044.0	76.68	93.46	10,831.1	7,134.1	-89.0	571.4	570.5	11.11	526,247.87	793,902.34	
11,076.0	77.73	93.63	10,838.2	7,141.2	-90.9	602.5	601.6	3.32	526,245.94	793,933.48	
11,108.0	78.17	92.74	10,844.9	7,147.9	-92.6	633.8	632.8	3.05	526,244.20	793,964.73	
11,139.0	79.58	91.53	10,850.9	7,153.9	-93.8	664.2	663.2	5.95	526,243.07	793,995.12	
11,171.0	81.43	89.55	10,856.1	7,159.1	-94.1	695.7	694.8	8.41	526,242.77	794,026.68	
11,203.0	83.18	87.99	10,860.4	7,163.4	-93.4	727.4	726.5	7.30	526,243.45	794,058.38	
11,234.0	84.59	88.33	10,863.7	7,166.7	-92.4	758.2	757.3	4.68	526,244.44	794,089.19	
11,266.0	88.46	88.18	10,865.7	7,168.7	-91.4	790.2	789.2	12.10	526,245.41	794,121.11	
11,297.0	89.96	88.76	10,866.1	7,169.1	-90.6	821.1	820.2	5.19	526,246.24	794,152.10	
LP: 11297.0 MD: 10866.1 TVD: 90.6°N, 821.1°E											
11,328.0	90.13	88.58	10,866.1	7,169.1	-89.9	852.1	851.2	0.80	526,246.96	794,183.09	
11,360.0	90.40	88.65	10,865.9	7,168.9	-89.1	884.1	883.2	0.87	526,247.74	794,215.08	
11,423.0	91.19	88.55	10,865.0	7,168.0	-87.6	947.1	946.2	1.26	526,249.27	794,278.05	
11,518.0	90.40	88.51	10,863.7	7,166.7	-85.1	1,042.1	1,041.2	0.83	526,251.71	794,373.01	
11,613.0	90.75	88.65	10,862.8	7,165.8	-82.8	1,137.0	1,136.1	0.40	526,254.07	794,467.98	
11,708.0	85.47	88.27	10,865.9	7,168.9	-80.2	1,231.9	1,231.0	5.57	526,256.62	794,562.86	
11,803.0	87.23	86.92	10,872.0	7,175.0	-76.2	1,326.6	1,325.8	2.33	526,260.59	794,657.58	
11,898.0	91.01	86.73	10,873.4	7,176.4	-71.0	1,421.4	1,420.7	3.98	526,265.85	794,752.40	
11,992.0	90.31	86.74	10,872.3	7,175.3	-65.6	1,515.3	1,514.6	0.74	526,271.21	794,846.24	
12,087.0	89.96	86.19	10,872.1	7,175.1	-59.8	1,610.1	1,609.4	0.69	526,277.07	794,941.06	
12,181.0	88.81	85.20	10,873.1	7,176.1	-52.7	1,703.8	1,703.2	1.61	526,284.12	795,034.79	
12,276.0	89.96	87.03	10,874.1	7,177.1	-46.3	1,798.6	1,798.0	2.27	526,290.56	795,129.56	
12,370.0	90.13	86.36	10,874.1	7,177.1	-40.9	1,892.4	1,891.9	0.74	526,295.98	795,223.40	
12,465.0	89.87	88.13	10,874.1	7,177.1	-36.3	1,987.3	1,986.9	1.88	526,300.54	795,318.29	
12,560.0	89.78	88.35	10,874.4	7,177.4	-33.4	2,082.3	2,081.8	0.25	526,303.46	795,413.24	
12,655.0	90.48	87.77	10,874.1	7,177.1	-30.2	2,177.2	2,176.8	0.96	526,306.68	795,508.19	
12,749.0	91.54	87.66	10,872.5	7,175.5	-26.4	2,271.1	2,270.8	1.13	526,310.42	795,602.10	



Pathfinder
PathfinderX & Y Report

PATHFINDER
A Schlumberger Company

Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #1H
Project:	Lea County(NAD 83)	TVD Reference:	KB = 25 @ 3697.0usft (UDI #223)
Site:	Naguss "BRN" State Com	MD Reference:	KB = 25 @ 3697.0usft (UDI #223)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (%/100usft)	Northing (usft)	Easting (usft)	
12,844.0	92.24	88.07	10,869.3	7,172.3	-22.9	2,366.0	2,365.7	0.85	526,313.96	795,696.98	
12,938.0	90.48	88.58	10,867.1	7,170.1	-20.1	2,459.9	2,459.6	1.95	526,316.71	795,790.91	
13,033.0	88.99	88.39	10,867.6	7,170.6	-17.6	2,554.9	2,554.6	1.58	526,319.22	795,885.87	
13,127.0	89.08	88.26	10,869.1	7,172.1	-14.9	2,648.9	2,648.6	0.17	526,321.97	795,979.82	
13,222.0	89.52	87.91	10,870.3	7,173.3	-11.7	2,743.8	2,743.5	0.59	526,325.14	796,074.76	
13,317.0	90.75	87.73	10,870.1	7,173.1	-8.1	2,838.7	2,838.5	1.31	526,328.75	796,169.68	
13,412.0	91.71	87.88	10,868.0	7,171.0	-4.4	2,933.6	2,933.4	1.02	526,332.39	796,264.59	
13,508.0	90.48	88.43	10,866.2	7,169.2	-1.4	3,029.6	3,029.4	1.40	526,335.48	796,360.52	
13,602.0	92.15	89.13	10,864.0	7,167.0	0.7	3,123.5	3,123.4	1.93	526,337.48	796,454.47	
13,625.0	92.24	89.35	10,863.2	7,166.2	1.0	3,146.5	3,146.3	1.03	526,337.79	796,477.45	
13,720.0	90.57	88.19	10,860.8	7,163.8	3.0	3,241.4	3,241.3	2.14	526,339.83	796,572.40	
13,815.0	91.71	87.34	10,858.9	7,161.9	6.7	3,336.3	3,336.2	1.50	526,343.53	796,667.30	
13,911.0	92.86	86.78	10,855.1	7,158.1	11.6	3,432.1	3,432.1	1.33	526,348.45	796,763.10	
14,006.0	91.63	86.66	10,851.4	7,154.4	17.0	3,526.9	3,526.9	1.30	526,353.88	796,857.87	
14,101.0	91.54	86.32	10,848.8	7,151.8	22.9	3,621.7	3,621.7	0.37	526,359.69	796,952.65	
14,196.0	90.48	85.97	10,847.1	7,150.1	29.2	3,716.5	3,716.6	1.18	526,366.08	797,047.42	
14,291.0	90.22	85.85	10,846.5	7,149.5	36.0	3,811.2	3,811.4	0.30	526,372.86	797,142.18	
14,386.0	90.48	86.72	10,845.9	7,148.9	42.2	3,906.0	3,906.2	0.96	526,379.01	797,236.98	
14,481.0	89.60	87.35	10,845.9	7,148.9	47.1	4,000.9	4,001.2	1.14	526,383.93	797,331.85	
14,577.0	91.89	88.08	10,844.6	7,147.6	50.9	4,096.8	4,097.1	2.50	526,387.75	797,427.76	
14,672.0	91.45	88.79	10,841.8	7,144.8	53.5	4,191.7	4,192.0	0.88	526,390.35	797,522.68	
14,767.0	91.54	88.64	10,839.4	7,142.4	55.6	4,286.7	4,287.0	0.18	526,392.48	797,617.62	
14,862.0	91.54	88.80	10,836.8	7,139.8	57.8	4,381.6	4,382.0	0.17	526,394.60	797,712.57	
14,957.0	90.92	89.06	10,834.8	7,137.8	59.5	4,476.6	4,476.9	0.71	526,396.37	797,807.53	
14,966.0	91.01	88.87	10,834.6	7,137.6	59.7	4,485.6	4,485.9	2.34	526,396.53	797,816.52	
15,030.0	91.01	88.87	10,833.5	7,136.5	61.0	4,549.5	4,549.9	0.00	526,397.80	797,880.50	
BHL 115030.0 MD 10833.5 TVD 61.0 N 4549.5 E FNL 345 FEL 362 FSL 675											



Pathfinder
PathfinderX & Y Report

PATHFINDER
A Schlumberger Company

Company:	Yates Petroleum Corp	Local Co-ordinate Reference:	Well #1H
Project:	Lea County(NAD 83)	TVD Reference:	KB = 25 @ 3697.0usft (UDI #223)
Site:	Naguss "BRN" State Com	MD Reference:	KB = 25 @ 3697.0usft (UDI #223)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,413.0	10,409.0	-41.0	150.4	KOP - 10413.0 'MD, 10409.0 'TVD, -41.0 'N, 150.4 'E
11,297.0	10,866.1	-90.6	821.1	LP - 11297.0 'MD, 10866.1 'TVD, -90.6 'N, 821.1 'E
15,030.0	10,833.5	61.0	4,549.5	BHL - 15030.0 'MD, 10833.5 'TVD, 61.0 'N, 4549.5 'E
15,030.0	10,833.5	61.0	4,549.5	FNL:345, FEL:362, FSL 675

Checked By: _____	Approved By: _____	Date: _____
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Project: Lea County(NAD 83)
Site: Naguss "BRN" State Com
Well: #1H
Wellbore: OH
Plan: Post Gyro Plan #5

PROJECT DETAILS: Lea County(NAD 83)
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level
Local North: Grid

PATHFINDER
A Schlumberger Company

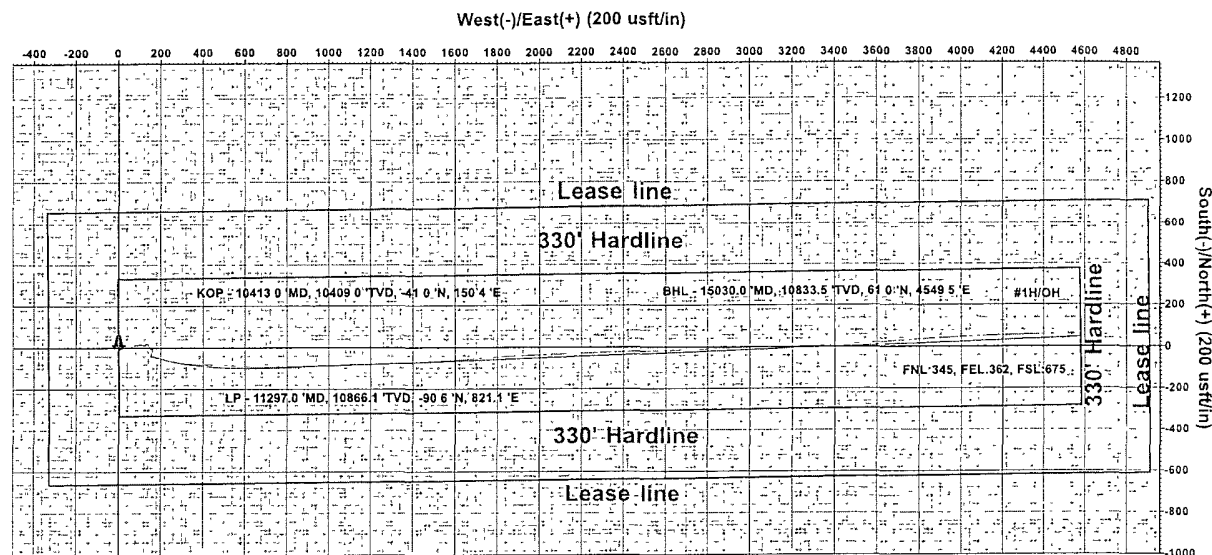
WELL DETAILS #1H

Ground Elevation 3672.0
RKB Elevation, KB = 25 @ 3697 Gusft (UDI #223)
Rig Name UDI #223

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	526336.832	793330.958	32.444	-103.516	

Project: Lea County(NAD 83)
Site: Naguss "BRN" State Com
Well: #1H
Wellbore: OH
Plan: Post Gyro Plan #5 (#1H/OH)

EOW

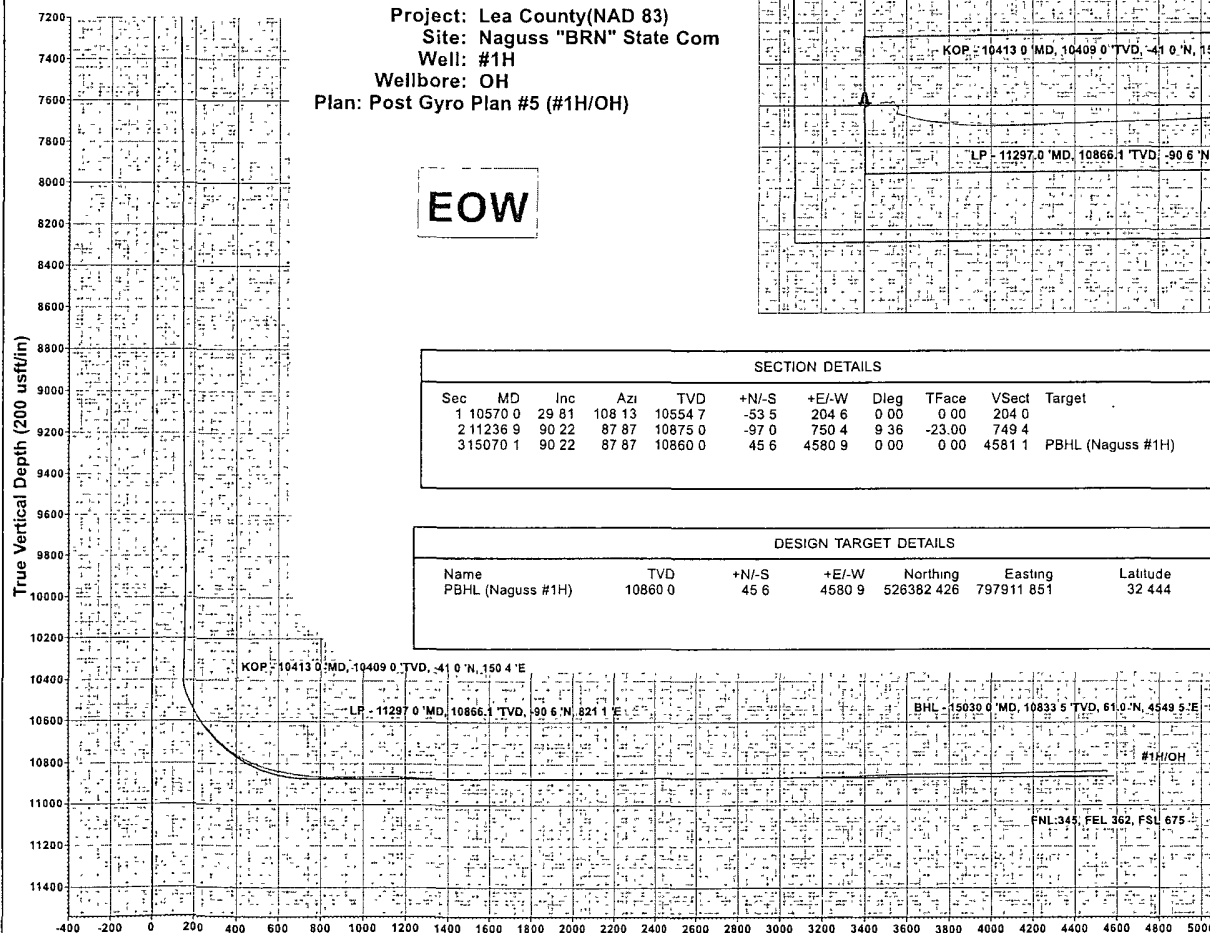


SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSeal	Target
1	10570.0	29.81	108.13	10554.7	-53.5	204.6	0.00	0.00	204.0	
2	11236.9	90.22	87.87	10875.0	-97.0	750.4	9.36	-23.00	749.4	
3	15070.1	90.22	87.87	10860.0	45.6	4580.9	0.00	0.00	4581.1	PBHL (Naguss #1H)

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL (Naguss #1H)	10860.0	45.6	4580.9	526382.426	797911.851	32.444	-103.502



Vertical Section at 89.43° (200 usft/in)



Azimuths to Grid North
True North -0.44°
Magnetic North 7.03°

Magnetic Field
Strength 48708.5nT
Dip Angle 60.41°
Date 4/16/2012
Model IGRF200510

Plan Post Gyro Plan #5 (#1H/OH)

Created By Sam Bille Date 10.11. July 16 2012

Checked _____ Date _____

Very Important Data
Last Updated 04/16/2012
Version: 10.11.00.00
Pathfinder
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