



CONFIDENTIAL

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 34662
Name: Tug Hill Operating, LLC
Address 1: 550 BAILEY AVE, STE 510
Address 2: _____
City: FT. WORTH State: TX Zip: 76107 +
Contact Person: Winnie Scott
Phone: (817) 632-3400
CONTRACTOR: License # 34670
Name: Patterson-UTI Drilling Company LLC
Wellsite Geologist: NA

Purchaser: _____
Designate Type of Completion:
 New Well Re-Entry Workover
 Oil WSW SWD SIOW
 Gas D&A ENHR SIGW
 OG GSW Temp. Abd.
 CM (Coal Bed Methane)
 Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:
Operator: _____

Well Name: _____
Original Comp. Date: _____ Original Total Depth: _____
 Deepening Re-perf. Conv. to ENHR Conv. to SWD
 Conv. to GSW
 Plug Back: _____ Plug Back Total Depth _____
 Commingled Permit #: _____
 Dual Completion Permit #: _____
 SWD Permit #: _____
 ENHR Permit #: _____
 GSW Permit #: _____

<u>10/07/2012</u>	<u>10/21/2012</u>	<u>11/17/2012</u>
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-135-25418-01-00
Spot Description: _____
S2 S2 SE SE Sec. 32 Twp. 17 S. R. 23 East West
200 Feet from North / South Line of Section
660 Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:
 NE NW SE SW
County: Ness
Lease Name: Nichepor Well #: 1-32H

Field Name: _____
Producing Formation: Mississippi
Elevation: Ground: 2349 Kelly Bushing: 23
Total Depth: 8933 Plug Back Total Depth: _____
Amount of Surface Pipe Set and Cemented at: 890 Feet
Multiple Stage Cementing Collar Used? Yes No
If yes, show depth set: _____ Feet
If Alternate II completion, cement circulated from: _____
feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)
Chloride content: 18000 ppm Fluid volume: 1300 bbls
Dewatering method used: Evaporated
Location of fluid disposal if hauled offsite: _____
Operator Name: _____
Lease Name: _____ License #: _____
Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West
County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

Letter of Confidentiality Received
Date: 01/09/2013
 Confidential Release Date: _____
 Wireline Log Received
 Geologist Report Received
 UIC Distribution
ALT I II III Approved by: NAOMI JAMES Date: 01/11/2013



Tug Hill Operating LLC
 Project: Ness County, Kansas
 Site: Sec 32, T17S, R23W
 Well: Mohapor #1-32H
 Wellbore: Original Wellbore
 Design: Plan #S Rev 1
 Lat: 38° 31' 24.545 N
 Long: 98° 53' 0.395 W
 Prod. GL: 2344.0
 KB: WELL @ 2367.0uoft (Original Well Elev)



Azimuths to True North
 Magnetic North: 8.74°
 Magnetic Field
 Strength: 52422.4nT
 Dip Angle: 88.19°
 Date: 10/4/2012
 Model: IGRF2010

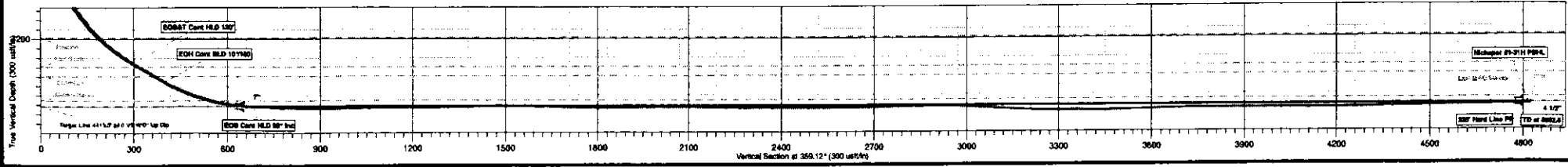
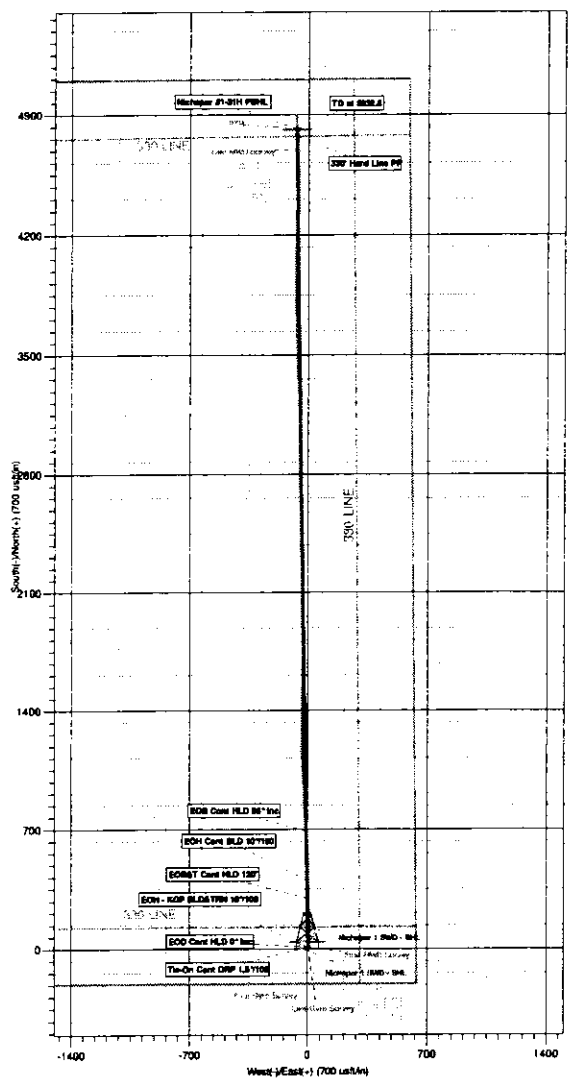
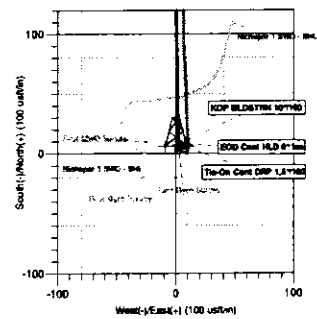
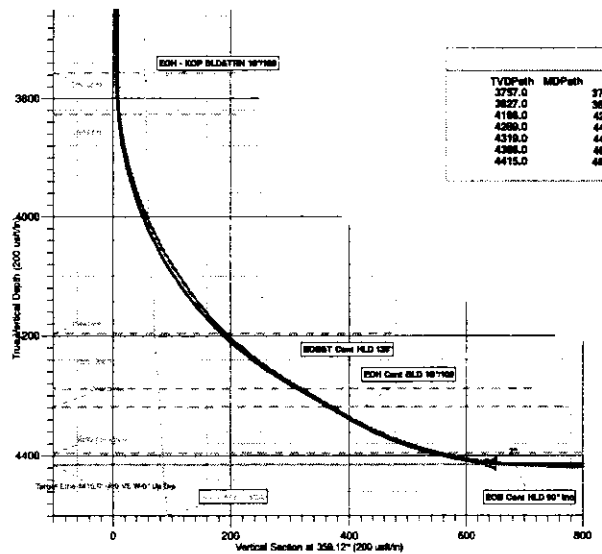
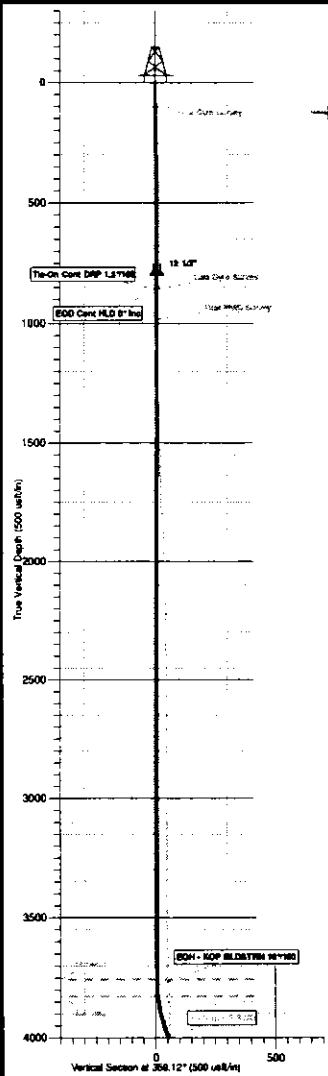
SECTION DETAILS									
MD	Inc	Azi	TYD	+N-S	+E-W	Diag	TFace	VFact	Target
865.0	0.12	194.22	898.3	7.8	1.9	0.00	0.00	7.8	
885.7	0.00	0.00	885.8	7.8	1.9	161.00	0.00	7.8	
3782.1	0.00	0.00	3782.0	7.8	1.9	0.00	0.00	7.8	
4382.1	80.00	388.10	4278.2	294.1	-3.8	10.00	388.10	294.1	
4582.1	80.00	388.10	4582.2	388.0	-4.3	0.00	388.0		
4802.1	80.00	388.10	4815.0	884.4	-8.8	10.00	884.4	330° Hard Line PP	
8852.6	80.00	388.10	4415.0	4774.4	-73.2	0.00	0.00	4774.4	330° Hard Line PP
8852.6	80.00	388.10	4415.0	4814.4	-73.8	0.00	0.00	4814.4	Mohapor #1-31H PBHL

WELL DETAILS: Mohapor #1-32H					
+N-S	+E-W	Heighting	Ground Level	2344.0	Latitude
8.0	0.0	1391.491, 1.27	Existing	916.686, 2.38	38° 31' 24.545 N
					Longitude
					98° 53' 0.395 W

WELLBORE TARGET DETAILS (LATA/LONG)					
Name	TYD	MD	Inc	Latitude	Longitude
330° Hard Line PP	4415.0	4774.4	-73.2	38° 32' 11.740 N	98° 52' 1.918 W
Mohapor #1-31H PBHL	4415.0	4814.4	-73.8	38° 32' 12.195 N	98° 53' 1.324 W

CASING DETAILS			
TYD	MD	Name	Size
786.8	800.0	12 1/2"	5-58
4414.2	4771.0	7"	7
4415.0	8818.3	4 1/2"	4-12

FORMATION TOP DETAILS					
TYD/Path	MD/Path	Formation	Heathor	DipAngle	DipDir
3257.0	3757.1	Heathor	0.00	358.12	
3827.0	3827.1	Lansing	0.00	358.12	
4186.0	4244.7	Peorera	0.00	358.12	
4286.0	4423.6	Fort Scott	0.00	358.12	
4319.0	4483.6	Charokae	0.00	358.12	
4388.0	4634.2	Mississippi	0.00	358.12	
4415.0	4802.1	Target Line 4415.0 @ 0 VS WO* Up Dip	0.00	358.12	





Tug Hill Operating LLC

Ness County, Kansas

Sec 32, T17S, R23W

Nichepor #1-32H

Original Wellbore

Survey: MWD Survey

Standard Survey Report

19 October, 2012



Company:	Tug Hill Operating LLC	Local Co-ordinate Reference:	Well Nichepor #1-32H
Project:	Ness County, Kansas	TVD Reference:	WELL @ 2367.0usft (Original Well Elev)
Site:	Sec 32, T17S, R23W	MD Reference:	WELL @ 2367.0usft (Original Well Elev)
Well:	Nichepor #1-32H	North Reference:	True
Wellbore:	Original Wellbore	Survey Calculation Method:	Minimum Curvature
Design:	Original Wellbore	Database:	EDM 5000.1 Single User Db

Project	Ness County, Kansas		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Kansas Southern Zone		

Site	Sec 32, T17S, R23W				
Site Position:	Northing:	1,991,401.37 usft	Latitude:	38° 31' 24.545 N	
From:	Map	Easting:	916,495.95 usft	Longitude:	99° 53' 0.995 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.85 °

Well	Nichepor #1-32H					
Well Position	+N-S	0.0 usft	Northing:	1,991,401.37 usft	Latitude:	38° 31' 24.545 N
	+E-W	0.0 usft	Easting:	916,495.95 usft	Longitude:	99° 53' 0.995 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft	Ground Level:	2,344.0 usft	

Wellbore	Original Wellbore				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/4/2012	5.74	66.19	52,462

Design	Original Wellbore				
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	359.12	

Survey Program	Date	10/19/2012			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	860.0	Gyro Survey (Original Wellbore)	NS-GYRO-SS	NS Gyro single shots	
986.0	8,933.0	MWD Survey (Original Wellbore)	MWD	MWD - Standard	

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
860.0	0.13	194.32	859.9	7.6	1.9	7.6	0.00	0.00	0.00	
986.0	0.70	246.50	985.9	7.2	1.1	7.2	0.50	0.45	41.41	
First MWD Survey										
1,079.0	0.50	104.10	1,078.9	6.8	1.0	6.8	1.22	-0.22	-153.12	
1,171.0	0.90	102.20	1,170.9	6.6	2.1	6.6	0.44	0.43	-2.07	
1,263.0	0.80	92.50	1,262.9	6.4	3.5	6.4	0.19	-0.11	-10.54	
1,354.0	1.10	112.40	1,353.9	6.1	4.9	6.0	0.49	0.33	21.87	
1,446.0	1.10	108.90	1,445.9	5.4	6.6	5.3	0.07	0.00	-3.80	
1,538.0	0.90	114.70	1,537.9	4.8	8.1	4.7	0.24	-0.22	6.30	
1,631.0	0.90	268.20	1,630.8	4.5	8.0	4.4	1.88	0.00	165.05	

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Local Co-ordinate Reference: Well Nichepor #1-32H
TVD Reference: WELL @ 2367.0usft (Original Well Elev)
MD Reference: WELL @ 2367.0usft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,723.0	0.70	265.20	1,722.8	4.4	6.7	4.3	0.22	-0.22	-3.26
1,815.0	0.50	270.40	1,814.8	4.4	5.7	4.3	0.23	-0.22	5.65
1,907.0	0.40	253.00	1,906.8	4.3	5.0	4.2	0.18	-0.11	-18.91
1,995.0	0.40	248.50	1,994.8	4.1	4.5	4.0	0.04	0.00	-5.11
2,092.0	0.30	203.60	2,091.8	3.8	4.0	3.7	0.29	-0.10	-46.29
2,184.0	0.40	232.60	2,183.8	3.3	3.7	3.3	0.22	0.11	31.52
2,277.0	0.40	242.80	2,276.8	3.0	3.1	2.9	0.08	0.00	10.97
2,369.0	0.40	184.70	2,368.8	2.5	2.8	2.5	0.42	0.00	-63.15
2,462.0	0.40	83.90	2,461.8	2.2	3.1	2.2	0.66	0.00	-108.39
2,552.0	0.50	113.60	2,551.8	2.1	3.8	2.1	0.28	0.11	33.00
2,645.0	0.60	120.30	2,644.8	1.7	4.6	1.6	0.13	0.11	7.20
2,739.0	0.60	124.00	2,738.8	1.2	5.4	1.1	0.04	0.00	3.94
2,833.0	0.60	93.80	2,832.8	0.9	6.3	0.8	0.33	0.00	-32.13
2,928.0	0.60	115.90	2,927.8	0.6	7.3	0.5	0.24	0.00	23.26
3,023.0	0.10	247.80	3,022.8	0.4	7.6	0.3	0.71	-0.53	138.84
3,117.0	0.10	101.00	3,116.8	0.3	7.6	0.2	0.20	0.00	-156.17
3,212.0	0.10	93.60	3,211.8	0.3	7.8	0.2	0.01	0.00	-7.79
3,306.0	0.20	67.80	3,305.8	0.4	8.0	0.2	0.13	0.11	-27.45
3,401.0	0.30	76.20	3,400.8	0.5	8.4	0.4	0.11	0.11	8.84
3,495.0	0.40	62.10	3,494.8	0.7	9.0	0.6	0.14	0.11	-15.00
3,589.0	1.10	18.00	3,588.8	1.7	9.5	1.6	0.91	0.74	-46.91
3,684.0	1.20	12.70	3,683.8	3.5	10.0	3.4	0.15	0.11	-5.58
3,779.0	2.40	1.50	3,778.7	6.5	10.3	6.3	1.31	1.26	-11.79
3,810.0	5.30	354.80	3,809.6	8.6	10.2	8.4	9.45	9.35	-21.61
3,842.0	8.40	354.30	3,841.4	12.4	9.8	12.2	9.69	9.69	-1.56
3,873.0	10.60	356.20	3,872.0	17.5	9.4	17.3	7.17	7.10	6.13
3,905.0	14.10	358.50	3,903.2	24.3	9.1	24.2	11.04	10.94	7.19
3,937.0	17.20	358.90	3,934.1	32.9	8.9	32.8	9.69	9.69	1.25
3,968.0	20.00	358.20	3,963.4	42.8	8.7	42.7	9.06	9.03	-2.26
4,000.0	23.00	357.80	3,993.2	54.5	8.3	54.4	9.39	9.38	-1.25
4,031.0	25.90	357.30	4,021.4	67.4	7.7	67.2	9.38	9.35	-1.61
4,063.0	28.70	357.80	4,049.8	82.0	7.1	81.9	8.78	8.75	1.56
4,095.0	31.70	357.60	4,077.5	98.1	6.4	98.0	9.38	9.38	-0.63
4,126.0	34.20	358.90	4,103.5	115.0	5.9	114.9	8.38	8.06	4.19
4,158.0	37.00	359.60	4,129.5	133.6	5.7	133.5	8.84	8.75	2.19
4,189.0	40.00	359.20	4,153.8	152.9	5.5	152.8	9.71	9.68	-1.29
4,221.0	43.10	358.50	4,177.7	174.1	5.0	174.0	9.80	9.69	-2.19
4,252.0	46.30	358.70	4,199.8	195.9	4.5	195.8	10.33	10.32	0.65
4,284.0	50.00	358.30	4,221.1	219.7	3.9	219.6	11.60	11.56	-1.25
4,315.0	53.20	358.90	4,240.4	244.0	3.3	243.9	10.43	10.32	1.94
4,347.0	55.70	358.90	4,259.0	270.0	2.8	270.0	7.81	7.81	0.00
4,378.0	59.40	358.70	4,275.6	296.2	2.2	296.1	11.95	11.94	-0.65
4,410.0	59.30	359.00	4,291.9	323.7	1.7	323.6	0.86	-0.31	0.94

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 Database: EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,441.0	59.50	358.90	4,307.7	350.4	1.2	350.3	0.70	0.65	-0.32
4,473.0	59.90	358.90	4,323.8	378.0	0.7	377.9	1.25	1.25	0.00
4,504.0	61.20	358.90	4,339.1	405.0	0.2	404.9	4.19	4.19	0.00
4,535.0	64.50	358.50	4,353.2	432.6	-0.5	432.5	10.71	10.65	-1.29
4,567.0	67.90	358.50	4,366.1	461.8	-1.2	461.8	10.63	10.63	0.00
4,598.0	70.70	358.50	4,377.1	490.8	-2.0	490.8	9.03	9.03	0.00
4,630.0	73.20	358.20	4,387.0	521.2	-2.9	521.2	7.86	7.81	-0.94
4,662.0	75.80	358.00	4,395.6	552.0	-3.9	552.0	8.15	8.13	-0.63
4,693.0	78.30	357.60	4,402.5	582.2	-5.1	582.2	8.16	8.06	-1.29
4,724.0	81.30	357.40	4,408.0	612.7	-6.4	612.7	9.70	9.68	-0.65
4,756.0	83.80	357.60	4,412.1	644.4	-7.8	644.4	7.84	7.81	0.63
4,787.0	86.30	357.40	4,414.8	675.3	-9.1	675.3	8.09	8.06	-0.65
4,819.0	86.90	358.00	4,416.7	707.2	-10.4	707.3	2.65	1.88	1.88
4,850.0	87.60	357.80	4,418.2	738.1	-11.5	738.2	2.35	2.26	-0.65
4,882.0	88.30	357.80	4,419.3	770.1	-12.8	770.2	2.19	2.19	0.00
4,984.0	89.50	357.40	4,421.3	872.0	-17.0	872.1	1.24	1.18	-0.39
5,079.0	90.40	356.20	4,421.4	966.8	-22.3	967.0	1.58	0.95	-1.26
5,173.0	90.80	356.90	4,420.4	1,060.6	-28.0	1,060.9	0.86	0.43	0.74
5,265.0	89.90	358.30	4,419.8	1,152.5	-31.8	1,152.9	1.81	-0.98	1.52
5,358.0	90.50	359.90	4,419.5	1,245.5	-33.3	1,245.9	1.84	0.65	1.72
5,450.0	91.70	359.60	4,417.8	1,337.5	-33.7	1,337.9	1.34	1.30	-0.33
5,542.0	91.20	1.70	4,415.4	1,429.5	-32.7	1,429.8	2.35	-0.54	2.28
5,634.0	89.70	1.00	4,414.7	1,521.4	-30.5	1,521.7	1.80	-1.63	-0.76
5,726.0	88.00	0.10	4,416.5	1,613.4	-29.6	1,613.7	2.09	-1.85	-0.98
5,817.0	88.50	0.40	4,419.3	1,704.4	-29.2	1,704.6	0.64	0.55	0.33
5,910.0	89.10	359.60	4,421.3	1,797.3	-29.2	1,797.6	1.08	0.65	-0.86
6,002.0	90.70	359.00	4,421.4	1,889.3	-30.3	1,889.6	1.86	1.74	-0.65
6,094.0	91.50	0.10	4,419.7	1,981.3	-31.1	1,981.6	1.48	0.87	1.20
6,186.0	89.50	358.90	4,418.9	2,073.3	-31.9	2,073.5	2.54	-2.17	-1.30
6,279.0	88.50	358.70	4,420.5	2,166.3	-33.8	2,166.5	1.10	-1.08	-0.22
6,372.0	89.00	359.00	4,422.5	2,259.2	-35.7	2,259.5	0.63	0.54	0.32
6,463.0	90.70	359.00	4,422.8	2,350.2	-37.3	2,350.5	1.87	1.87	0.00
6,555.0	89.60	358.70	4,422.5	2,442.2	-39.1	2,442.5	1.24	-1.20	-0.33
6,647.0	90.60	358.20	4,422.4	2,534.2	-41.6	2,534.5	1.22	1.09	-0.54
6,740.0	89.50	359.20	4,422.3	2,627.1	-43.7	2,627.5	1.60	-1.18	1.08
6,831.0	91.50	359.40	4,421.5	2,718.1	-44.8	2,718.5	2.21	2.20	0.22
6,924.0	91.50	359.70	4,419.0	2,811.1	-45.5	2,811.4	0.32	0.00	0.32
7,017.0	90.60	359.40	4,417.3	2,904.1	-46.3	2,904.4	1.02	-0.97	-0.32
7,112.0	86.90	359.60	4,419.4	2,999.0	-47.1	2,999.4	3.90	-3.89	0.21
7,206.0	86.00	358.70	4,425.2	3,092.8	-48.5	3,093.2	1.35	-0.96	-0.96
7,300.0	88.00	358.30	4,430.2	3,186.7	-51.0	3,187.1	2.17	2.13	-0.43
7,395.0	89.40	358.30	4,432.3	3,281.6	-53.8	3,282.0	1.47	1.47	0.00
7,490.0	89.60	357.40	4,433.1	3,376.5	-57.3	3,377.0	0.97	0.21	-0.95

Company: Tug Hill Operating LLC
Project: Ness County, Kansas
Site: Sec 32, T17S, R23W
Well: Nichepor #1-32H
Wellbore: Original Wellbore
Design: Original Wellbore

Local Co-ordinate Reference: Well Nichepor #1-32H
TVD Reference: WELL @ 2367.0usft (Original Well Elev)
MD Reference: WELL @ 2367.0usft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
7,584.0	91.20	358.00	4,432.5	3,470.4	-61.1	3,471.0	1.82	1.70	0.64	
7,679.0	92.10	357.60	4,429.7	3,565.3	-64.8	3,565.9	1.04	0.95	-0.42	
7,774.0	90.70	359.40	4,427.4	3,660.3	-67.2	3,660.9	2.40	-1.47	1.89	
7,868.0	90.50	357.40	4,426.4	3,754.2	-89.9	3,754.8	2.14	-0.21	-2.13	
7,962.0	89.60	359.40	4,426.4	3,848.2	-72.5	3,848.8	2.33	-0.96	2.13	
8,057.0	90.00	0.60	4,426.7	3,943.2	-72.5	3,943.8	1.33	0.42	1.26	
8,151.0	90.70	1.10	4,426.1	4,037.2	-71.1	4,037.8	0.92	0.74	0.53	
8,246.0	89.20	1.00	4,426.2	4,132.1	-69.4	4,132.7	1.58	-1.58	-0.11	
8,339.0	90.50	1.80	4,426.4	4,225.1	-67.1	4,225.6	1.64	1.40	0.86	
8,434.0	91.20	1.30	4,425.0	4,320.1	-84.5	4,320.5	0.91	0.74	-0.53	
8,529.0	90.90	359.90	4,423.3	4,415.0	-63.5	4,415.5	1.51	-0.32	-1.47	
8,623.0	91.10	359.20	4,421.6	4,509.0	-64.3	4,509.5	0.77	0.21	-0.74	
8,718.0	91.20	358.90	4,419.7	4,604.0	-65.8	4,604.5	0.33	0.11	-0.32	
8,812.0	90.30	358.70	4,418.5	4,698.0	-67.8	4,698.4	0.98	-0.96	-0.21	
Last MWD Survey										
8,933.0	90.30	358.70	4,417.9	4,818.9	-70.5	4,819.4	0.00	0.00	0.00	
PTB										

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
986.0	985.9	7.2	1.1	First MWD Survey
8,812.0	4,418.5	4,698.0	-67.8	Last MWD Survey
8,933.0	4,417.9	4,818.9	-70.5	PTB

Checked By: _____ Approved By: _____ Date: _____