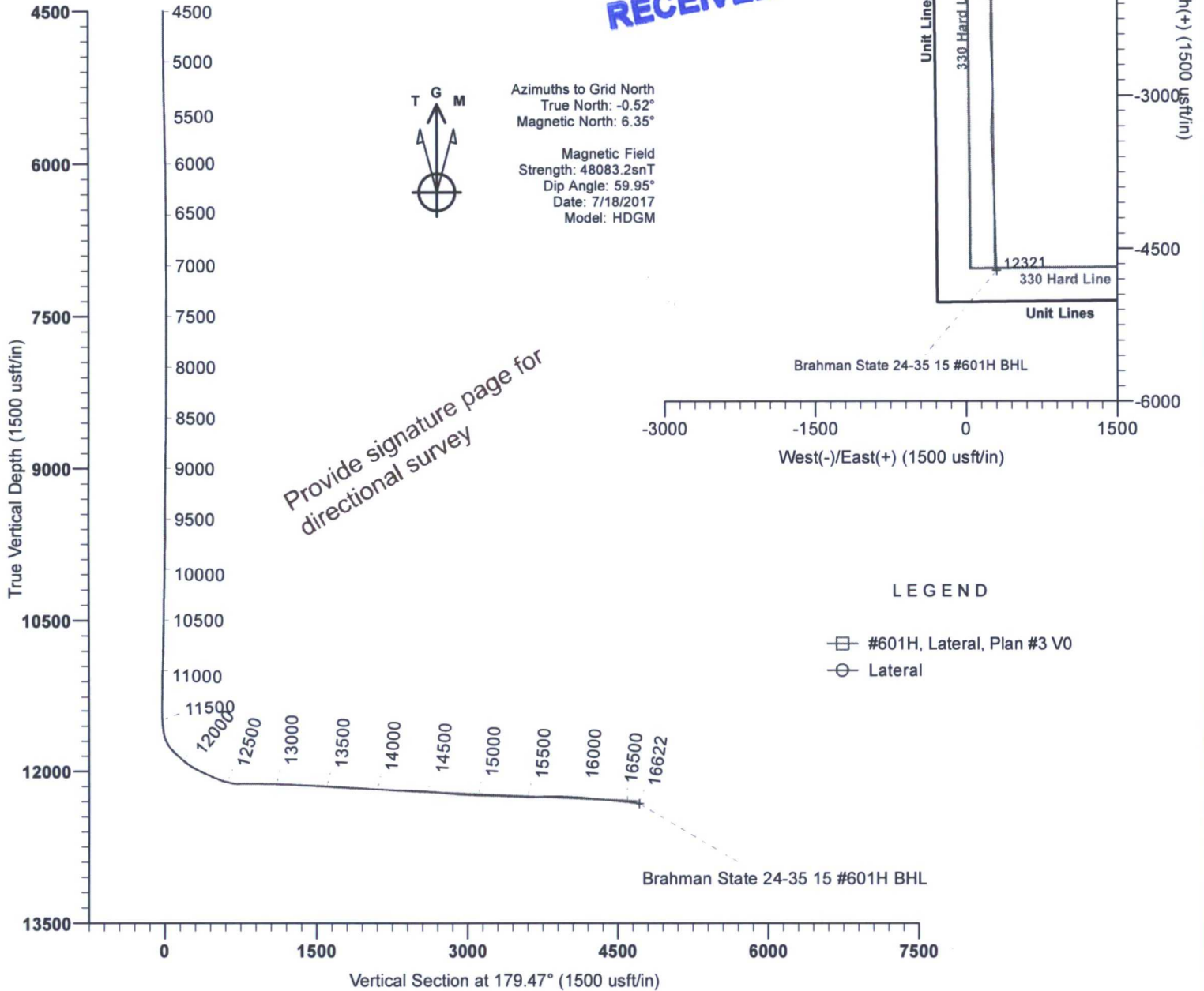


ENERGEN RESOURCES CORPORATION

Project: Lea County, NM
 Site: Brahman State 24-35 15 #601H
 Well: #601H
 Wellbore: Lateral
 Design: Lateral



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TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Brahman State 24-35 15 #601H SL	0.00	0.00	0.00	446547.46	800253.20	Point
Brahman State 24-35 15 #601H BHL	12321.20	-4713.81	305.68	441833.65	800558.88	Point

Design: Lateral (#601H/Lateral)

Created By: Bethany Johnson
 Date: 11:01, August 21 2017

PREMIER DIRECTIONAL DRILLING
 363 N Sam Houston Pkwy E, Ste 300 Houston, TX 77060
 Phone: 281-673-4000



Premier Directional Drilling

Survey Report

Company:	ENERGEN RESOURCES CORPORATION	Local Co-ordinate Reference:	Well #601H
Project:	Lea County, NM	TVD Reference:	3363+22 @ 3385.00usft (Orion Perseus)
Site:	Brahman State 24-35 15 #601H	MD Reference:	3363+22 @ 3385.00usft (Orion Perseus)
Well:	#601H	North Reference:	Grid
Wellbore:	Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Lateral	Database:	EDM 5000.1.13 Multi-User

Project	Lea County, NM		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site		Brahman State 24-35 15 #601H			
Site Position:		Northing:	446,547.46 usft	Latitude:	32° 13' 26.21 N
From:	Map	Easting:	800,253.20 usft	Longitude:	103° 21' 44.68 W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.52 °

Well	#601H					
Well Position	+N/-S	0.00 usft	Northing:	446,547.46 usft	Latitude:	32° 13' 26.21 N
	+E/-W	0.00 usft	Easting:	800,253.20 usft	Longitude:	103° 21' 44.68 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,363.00 usft

Wellbore	Lateral				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	7/18/2017	6.87	59.95	48,083

Design	Lateral				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	179.47	

Survey Program	Date	8/21/2017			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
198.00	16,560.00	Survey #1 (Lateral)	MWD+HRGM	OWSG MWD + HRGM	
16,622.00	16,622.00	Survey #2 (Lateral)	Projection	Projection	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
198.00	0.15	27.22	198.00	0.23	0.12	-0.23	0.08	0.08	0.00	
350.00	0.38	238.20	350.00	0.14	-0.22	-0.14	0.34	0.15	-98.04	
532.00	1.71	246.08	531.96	-1.28	-3.21	1.25	0.73	0.73	4.33	
715.00	2.39	252.29	714.85	-3.55	-9.35	3.46	0.39	0.37	3.39	
902.00	1.47	256.12	901.74	-5.31	-15.39	5.16	0.50	-0.49	2.05	
1,005.00	0.44	359.89	1,004.73	-5.23	-16.67	5.07	1.58	-1.00	100.75	
1,181.00	0.54	344.67	1,180.72	-3.75	-16.89	3.60	0.09	0.06	-8.65	
1,371.00	0.66	323.12	1,370.71	-2.01	-17.79	1.85	0.13	0.06	-11.34	
1,561.00	1.26	90.38	1,560.70	-1.15	-16.35	1.00	0.92	0.32	66.98	

Premier Directional Drilling

Survey Report

Company:	ENERGEN RESOURCES CORPORATION	Local Co-ordinate Reference:	Well #601H
Project:	Lea County, NM	TVD Reference:	3363+22 @ 3385.00usft (Orion Perseus)
Site:	Brahman State 24-35 15 #601H	MD Reference:	3363+22 @ 3385.00usft (Orion Perseus)
Well:	#601H	North Reference:	Grid
Wellbore:	Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Lateral	Database:	EDM 5000.1.13 Multi-User

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,751.00	1.26	96.62	1,750.65	-1.41	-12.19	1.29	0.07	0.00	3.28
1,940.00	1.09	89.00	1,939.61	-1.62	-8.33	1.54	0.12	-0.09	-4.03
2,130.00	0.99	66.63	2,129.58	-0.93	-5.01	0.89	0.22	-0.05	-11.77
2,320.00	1.05	60.80	2,319.55	0.57	-1.99	-0.59	0.06	0.03	-3.07
2,510.00	1.24	44.03	2,509.51	2.90	0.96	-2.89	0.20	0.10	-8.83
2,700.00	0.27	56.03	2,699.49	4.62	2.76	-4.60	0.51	-0.51	6.32
2,889.00	1.38	76.86	2,888.47	5.39	5.35	-5.34	0.60	0.59	11.02
3,079.00	1.68	98.95	3,078.40	5.48	10.33	-5.38	0.35	0.16	11.63
3,267.00	2.48	113.24	3,266.28	3.44	16.79	-3.29	0.50	0.43	7.60
3,458.00	1.99	142.40	3,457.14	-0.82	22.61	1.02	0.64	-0.26	15.27
3,648.00	1.99	141.05	3,647.03	-5.99	26.69	6.24	0.02	0.00	-0.71
3,837.00	2.50	312.24	3,835.98	-5.78	25.70	6.01	2.37	0.27	90.58
4,026.00	1.64	335.16	4,024.85	-0.55	21.52	0.75	0.62	-0.46	12.13
4,216.00	1.48	342.86	4,214.78	4.26	19.65	-4.08	0.14	-0.08	4.05
4,406.00	0.85	18.56	4,404.75	7.94	19.38	-7.76	0.49	-0.33	18.79
4,596.00	1.60	67.56	4,594.71	10.29	22.28	-10.09	0.64	0.39	25.79
4,785.00	1.30	225.59	4,783.68	9.80	23.18	-9.58	1.51	-0.16	83.61
4,975.00	0.76	227.23	4,973.65	7.43	20.72	-7.24	0.28	-0.28	0.86
5,165.00	1.28	212.10	5,163.62	4.78	18.67	-4.61	0.31	0.27	-7.96
5,180.00	1.19	211.47	5,178.62	4.51	18.50	-4.34	0.61	-0.60	-4.20
5,352.00	1.60	219.86	5,350.57	1.14	16.02	-0.99	0.27	0.24	4.88
5,541.00	1.69	218.12	5,539.49	-3.08	12.61	3.19	0.05	0.05	-0.92
5,730.00	1.83	219.25	5,728.40	-7.61	8.98	7.69	0.08	0.07	0.60
5,920.00	1.92	215.03	5,918.30	-12.56	5.24	12.61	0.09	0.05	-2.22
6,109.00	2.30	275.36	6,107.19	-14.80	-0.36	14.80	1.14	0.20	31.92
6,299.00	0.58	266.53	6,297.12	-14.50	-5.11	14.46	0.91	-0.91	-4.65
6,490.00	0.66	258.38	6,488.11	-14.78	-7.16	14.72	0.06	0.04	-4.27
6,680.00	0.61	257.77	6,678.10	-15.22	-9.22	15.13	0.03	-0.03	-0.32
6,869.00	0.50	80.11	6,867.10	-15.29	-9.39	15.20	0.59	-0.06	-94.00
7,058.00	0.57	99.14	7,056.09	-15.30	-7.65	15.23	0.10	0.04	10.07
7,248.00	0.79	90.84	7,246.08	-15.47	-5.40	15.42	0.13	0.12	-4.37
7,438.00	0.77	103.04	7,436.06	-15.77	-2.85	15.75	0.09	-0.01	6.42
7,627.00	0.54	74.63	7,625.05	-15.83	-0.75	15.82	0.21	-0.12	-15.03
7,816.00	0.66	94.51	7,814.04	-15.67	1.19	15.68	0.13	0.06	10.52
8,006.00	0.73	90.90	8,004.02	-15.78	3.49	15.81	0.04	0.04	-1.90
8,196.00	1.07	88.37	8,194.00	-15.75	6.47	15.81	0.18	0.18	-1.33
8,384.00	1.53	83.49	8,381.95	-15.41	10.72	15.51	0.25	0.24	-2.60
8,573.00	2.02	57.98	8,570.86	-13.36	16.05	13.51	0.49	0.26	-13.50
8,763.00	1.52	31.30	8,760.77	-9.43	20.20	9.62	0.50	-0.26	-14.04
8,952.00	0.65	19.50	8,949.74	-6.28	21.86	6.48	0.47	-0.46	-6.24
9,141.00	0.53	19.19	9,138.73	-4.44	22.51	4.65	0.06	-0.06	-0.16
9,330.00	0.62	275.13	9,327.72	-3.53	21.78	3.73	0.48	0.05	-55.06
9,520.00	1.05	271.27	9,517.70	-3.40	19.01	3.57	0.23	0.23	-2.03

Premier Directional Drilling

Survey Report

Company:	ENERGEN RESOURCES CORPORATION	Local Co-ordinate Reference:	Well #601H
Project:	Lea County, NM	TVD Reference:	3363+22 @ 3385.00usft (Orion Perseus)
Site:	Brahman State 24-35 15 #601H	MD Reference:	3363+22 @ 3385.00usft (Orion Perseus)
Well:	#601H	North Reference:	Grid
Wellbore:	Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Lateral	Database:	EDM 5000.1.13 Multi-User

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,710.00	1.23	298.34	9,707.67	-2.39	15.48	2.53	0.30	0.09	14.25
9,900.00	4.28	74.62	9,897.51	0.46	20.52	-0.27	2.76	1.61	71.73
10,089.00	7.45	78.32	10,085.50	4.81	39.33	-4.45	1.69	1.68	1.96
10,291.00	5.77	73.93	10,286.15	10.28	61.91	-9.70	0.87	-0.83	-2.17
10,480.00	5.75	88.86	10,474.21	13.09	80.51	-12.35	0.79	-0.01	7.90
10,670.00	4.81	85.16	10,663.40	13.95	97.96	-13.05	0.53	-0.49	-1.95
10,859.00	4.60	63.48	10,851.78	18.01	112.64	-16.97	0.94	-0.11	-11.47
11,047.00	5.63	75.03	11,039.03	23.76	128.29	-22.57	0.77	0.55	6.14
11,237.00	5.72	77.88	11,228.10	28.15	146.55	-26.79	0.16	0.05	1.50
11,427.00	4.29	90.75	11,417.38	30.05	162.92	-28.54	0.95	-0.75	6.77
11,459.00	4.64	109.05	11,449.28	29.61	165.34	-28.08	4.56	1.09	57.19
11,522.00	8.00	121.55	11,511.89	26.48	171.49	-24.89	5.73	5.33	19.84
11,554.00	12.60	113.21	11,543.37	23.94	176.59	-22.31	15.07	14.37	-26.06
11,585.00	17.50	110.43	11,573.30	20.98	184.07	-19.28	15.97	15.81	-8.97
11,617.00	21.21	110.05	11,603.48	17.31	194.02	-15.52	11.60	11.59	-1.19
11,680.00	27.43	124.38	11,660.91	5.19	216.75	-3.18	13.55	9.87	22.75
11,712.00	31.06	132.09	11,688.84	-4.51	228.97	6.63	16.33	11.34	24.09
11,744.00	35.11	137.35	11,715.65	-16.82	241.33	19.05	15.50	12.66	16.44
11,775.00	39.29	140.29	11,740.34	-30.94	253.65	33.28	14.65	13.48	9.48
11,807.00	42.18	143.22	11,764.59	-47.34	266.56	49.80	10.83	9.03	9.16
11,839.00	45.28	146.84	11,787.71	-65.47	279.22	68.05	12.45	9.69	11.31
11,870.00	47.55	150.84	11,809.09	-84.68	290.82	87.37	11.87	7.32	12.90
11,902.00	49.14	154.75	11,830.36	-105.94	301.74	108.73	10.39	4.97	12.22
11,933.00	50.77	158.11	11,850.31	-127.69	311.21	130.57	9.82	5.26	10.84
11,964.00	52.14	160.05	11,869.63	-150.34	319.87	153.29	6.59	4.42	6.26
11,996.00	52.20	160.62	11,889.25	-174.14	328.37	177.17	1.42	0.19	1.78
12,028.00	52.96	163.30	11,908.70	-198.30	336.24	201.40	7.06	2.37	8.37
12,060.00	54.82	162.84	11,927.56	-223.03	343.77	226.20	5.93	5.81	-1.44
12,091.00	57.65	159.61	11,944.79	-247.42	352.07	250.67	12.58	9.13	-10.42
12,155.00	62.38	160.86	11,976.77	-299.58	370.80	302.99	7.58	7.39	1.95
12,187.00	64.66	166.02	11,991.04	-327.02	378.94	330.51	16.09	7.12	16.12
12,219.00	64.60	169.84	12,004.76	-355.29	384.99	358.83	10.79	-0.19	11.94
12,250.00	65.40	172.49	12,017.86	-383.05	389.30	386.63	8.17	2.58	8.55
12,282.00	64.20	173.11	12,031.48	-411.77	392.93	415.39	4.14	-3.75	1.94
12,313.00	64.53	175.12	12,044.90	-439.57	395.80	443.21	5.94	1.06	6.48
12,345.00	65.32	178.34	12,058.46	-468.50	397.45	472.16	9.44	2.47	10.06
12,376.00	67.81	182.36	12,070.79	-496.94	397.26	500.59	14.35	8.03	12.97
12,408.00	69.77	184.37	12,082.37	-526.71	395.51	530.35	8.47	6.12	6.28
12,439.00	72.34	185.27	12,092.43	-555.93	393.04	559.54	8.73	8.29	2.90
12,471.00	74.58	186.77	12,101.54	-586.43	389.82	590.01	8.32	7.00	4.69
12,502.00	74.62	186.81	12,109.78	-616.11	386.29	619.66	0.18	0.13	0.13
12,534.00	78.30	187.94	12,117.27	-646.96	382.30	650.46	12.00	11.50	3.53
12,568.00	83.40	190.00	12,122.67	-680.10	377.06	683.56	16.15	15.00	6.06

Premier Directional Drilling

Survey Report

Company:	ENERGEN RESOURCES CORPORATION	Local Co-ordinate Reference:	Well #601H
Project:	Lea County, NM	TVD Reference:	3363+22 @ 3385.00usft (Orion Perseus)
Site:	Brahman State 24-35 15 #601H	MD Reference:	3363+22 @ 3385.00usft (Orion Perseus)
Well:	#601H	North Reference:	Grid
Wellbore:	Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Lateral	Database:	EDM 5000.1.13 Multi-User

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
12,628.00	91.59	193.01	12,125.29	-738.78	365.11	742.13	14.54	13.65	5.02
12,723.00	90.09	192.57	12,123.90	-831.41	344.08	834.56	1.65	-1.58	-0.46
12,817.00	89.13	191.57	12,124.54	-923.33	324.43	926.29	1.47	-1.02	-1.06
12,911.00	88.53	188.63	12,126.46	-1,015.84	307.95	1,018.65	3.19	-0.64	-3.13
13,005.00	88.97	188.41	12,128.51	-1,108.78	294.03	1,111.45	0.52	0.47	-0.23
13,100.00	87.84	186.53	12,131.16	-1,202.93	281.68	1,205.49	2.31	-1.19	-1.98
13,194.00	87.00	185.86	12,135.39	-1,296.29	271.55	1,298.74	1.14	-0.89	-0.71
13,289.00	86.71	183.73	12,140.60	-1,390.81	263.62	1,393.19	2.26	-0.31	-2.24
13,383.00	85.53	183.08	12,146.96	-1,484.42	258.05	1,486.75	1.43	-1.26	-0.69
13,478.00	87.31	183.29	12,152.89	-1,579.09	252.78	1,581.36	1.89	1.87	0.22
13,572.00	87.50	180.91	12,157.15	-1,672.92	249.34	1,675.16	2.54	0.20	-2.53
13,667.00	85.46	179.48	12,162.98	-1,767.73	249.01	1,769.96	2.62	-2.15	-1.51
13,761.00	87.49	181.32	12,168.76	-1,861.55	248.36	1,863.76	2.91	2.16	1.96
13,856.00	87.15	181.31	12,173.20	-1,956.42	246.18	1,958.61	0.36	-0.36	-0.01
13,950.00	86.58	181.09	12,178.34	-2,050.25	244.21	2,052.43	0.65	-0.61	-0.23
14,044.00	86.76	179.99	12,183.80	-2,144.09	243.33	2,146.25	1.18	0.19	-1.17
14,140.00	88.00	180.44	12,188.19	-2,239.99	242.97	2,242.14	1.37	1.29	0.47
14,235.00	87.88	179.16	12,191.61	-2,334.92	243.30	2,337.07	1.35	-0.13	-1.35
14,330.00	88.73	179.27	12,194.42	-2,429.87	244.60	2,432.03	0.90	0.89	0.12
14,425.00	86.93	178.16	12,198.01	-2,524.77	246.73	2,526.95	2.23	-1.89	-1.17
14,520.00	85.62	177.27	12,204.19	-2,619.50	250.51	2,621.70	1.67	-1.38	-0.94
14,614.00	83.26	176.00	12,213.29	-2,712.88	256.00	2,715.14	2.85	-2.51	-1.35
14,710.00	84.57	177.07	12,223.47	-2,808.16	261.77	2,810.47	1.76	1.36	1.11
14,805.00	87.83	179.63	12,229.77	-2,902.90	264.49	2,905.22	4.36	3.43	2.69
14,900.00	86.28	179.84	12,234.65	-2,997.77	264.93	3,000.09	1.65	-1.63	0.22
14,994.00	87.21	182.60	12,239.98	-3,091.58	262.93	3,093.88	3.09	0.99	2.94
15,091.00	89.46	185.52	12,242.80	-3,188.28	256.07	3,190.51	3.80	2.32	3.01
15,185.00	89.11	181.58	12,243.98	-3,282.08	250.25	3,284.25	4.21	-0.37	-4.19
15,280.00	87.74	178.19	12,246.59	-3,377.02	250.44	3,379.20	3.85	-1.44	-3.57
15,374.00	88.78	176.38	12,249.44	-3,470.87	254.89	3,473.08	2.22	1.11	-1.93
15,469.00	84.20	175.50	12,255.26	-3,565.43	261.60	3,567.69	4.91	-4.82	-0.93
15,563.00	92.31	179.10	12,258.12	-3,659.19	266.01	3,661.49	9.44	8.63	3.83
15,658.00	92.00	177.50	12,254.55	-3,754.07	268.83	3,756.40	1.71	-0.33	-1.68
15,753.00	91.42	179.55	12,251.71	-3,848.99	271.27	3,851.34	2.24	-0.61	2.16
15,856.00	87.60	177.60	12,252.59	-3,951.93	273.83	3,954.30	4.16	-3.71	-1.89
15,950.00	86.90	177.20	12,257.10	-4,045.73	278.09	4,048.13	0.86	-0.74	-0.43
16,045.00	85.70	176.59	12,263.23	-4,140.39	283.23	4,142.83	1.42	-1.26	-0.64
16,140.00	84.31	177.82	12,271.50	-4,234.91	287.84	4,237.39	1.95	-1.46	1.29
16,234.00	83.43	176.51	12,281.54	-4,328.26	292.46	4,330.78	1.67	-0.94	-1.39
16,328.00	86.55	180.55	12,289.75	-4,421.84	294.86	4,424.37	5.42	3.32	4.30
16,423.00	84.70	177.39	12,297.00	-4,516.53	296.56	4,519.08	3.85	-1.95	-3.33
16,517.00	83.34	177.39	12,306.79	-4,609.92	300.81	4,612.50	1.45	-1.45	0.00
16,560.00	81.80	177.30	12,312.36	-4,652.51	302.79	4,655.11	3.59	-3.58	-0.21
16,622.00	81.80	177.30	12,321.20	-4,713.81	305.68	4,716.43	0.00	0.00	0.00

Premier Directional Drilling
Survey Report

Company:	ENERGEN RESOURCES CORPORATION	Local Co-ordinate Reference:	Well #601H
Project:	Lea County, NM	TVD Reference:	3363+22 @ 3385.00usft (Orion Perseus)
Site:	Brahman State 24-35 15 #601H	MD Reference:	3363+22 @ 3385.00usft (Orion Perseus)
Well:	#601H	North Reference:	Grid
Wellbore:	Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Lateral	Database:	EDM 5000.1.13 Multi-User

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
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