

Premier Directional Drilling

Planning Report

30-025-45030

Database:	EDM 5000 14 Multi User	Local Co-ordinate Reference:	Well 452H - Slot 452
Company:	ENERGEN RESOURCES CORPORATION	TVD Reference:	3336+25 @ 3361.00usft
Project:	Lea County, NM	MD Reference:	3336+25 @ 3361.00usft
Site:	Brahman State Com 15-10 452H & 602H	North Reference:	Grid
Well:	452H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #2		

HOBBS OCD

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

AUG 02 2018

RECEIVED

Site	Brahman State Com 15-10 452H & 602H, centered on 452h				
Site Position:		Northing:	442,042.29 usft	Latitude:	32° 12' 41.53 N
From:	Map	Easting:	801,355.33 usft	Longitude:	103° 21' 32.33 W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.52 °

Well	452H - Slot 452					
Well Position	+N-S	0.00 usft	Northing:	442,042.29 usft	Latitude:	32° 12' 41.53 N
	+E-W	0.00 usft	Easting:	801,355.33 usft	Longitude:	103° 21' 32.33 W
Position Uncertainty	0.00 usft		Wellhead Elevation:		Ground Level:	3,336.00 usft

Wellbore	Lateral				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	06/26/18	6.77	59.88	47,961

Design	Plan #2				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)	
	0.00	0.00	0.00	358.05	

Plan Survey Tool Program	Date	07/23/18			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	22,196.07	Plan #2 (Lateral)	MWD+HRGM	
				OWSG MWD + HRGM	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,783.14	7.25	209.92	5,781.85	-26.45	-15.22	1.50	1.50	0.00	209.92	
9,049.53	7.25	209.92	9,022.15	-383.59	-220.73	0.00	0.00	0.00	0.00	
9,532.67	0.00	0.00	9,504.00	-410.04	-235.95	1.50	-1.50	0.00	180.00	
11,506.71	0.00	0.00	11,478.04	-410.04	-235.95	0.00	0.00	0.00	0.00	
12,406.71	90.00	359.46	12,051.00	162.89	-241.32	10.00	10.00	-0.06	359.46	
22,196.11	90.00	359.46	12,051.00	9,951.87	-333.12	0.00	0.00	0.00	0.00	Brahman State Com

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Database: EDM 5000 14 Multi User
Company: ENERGEN RESOURCES CORPORATION
Project: Lea County, NM
Site: Brahman State Com 15-10 452H & 602H
Well: 452H
Wellbore: Lateral
Design: Plan #2

Local Co-ordinate Reference: Well 452H - Slot 452
TVD Reference: 3336+25 @ 3361.00usft
MD Reference: 3336+25 @ 3361.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned 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
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00

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 Project: Lea County, NM
 Site: Brahman State Com 15-10 452H & 602H
 Well: 452H
 Wellbore: Lateral
 Design: Plan #2

Local Co-ordinate Reference: Well 452H - Slot 452
 TVD Reference: 3336+25 @ 3361.00usft
 MD Reference: 3336+25 @ 3361.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned 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)
5,400.00	1.50	209.92	5,399.99	-1.13	-0.65	-1.11	1.50	1.50	0.00
5,500.00	3.00	209.92	5,499.91	-4.54	-2.61	-4.45	1.50	1.50	0.00
5,600.00	4.50	209.92	5,599.69	-10.21	-5.87	-10.00	1.50	1.50	0.00
5,700.00	6.00	209.92	5,699.27	-18.14	-10.44	-17.77	1.50	1.50	0.00
5,783.14	7.25	209.92	5,781.85	-26.45	-15.22	-25.91	1.50	1.50	0.00
5,800.00	7.25	209.92	5,798.58	-28.29	-16.28	-27.72	0.00	0.00	0.00
5,900.00	7.25	209.92	5,897.78	-39.23	-22.57	-38.43	0.00	0.00	0.00
6,000.00	7.25	209.92	5,996.98	-50.16	-28.86	-49.15	0.00	0.00	0.00
6,100.00	7.25	209.92	6,096.18	-61.09	-35.16	-59.86	0.00	0.00	0.00
6,200.00	7.25	209.92	6,195.38	-72.03	-41.45	-70.57	0.00	0.00	0.00
6,300.00	7.25	209.92	6,294.58	-82.96	-47.74	-81.29	0.00	0.00	0.00
6,400.00	7.25	209.92	6,393.79	-93.89	-54.03	-92.00	0.00	0.00	0.00
6,500.00	7.25	209.92	6,492.99	-104.83	-60.32	-102.71	0.00	0.00	0.00
6,600.00	7.25	209.92	6,592.19	-115.76	-66.61	-113.43	0.00	0.00	0.00
6,700.00	7.25	209.92	6,691.39	-126.70	-72.91	-124.14	0.00	0.00	0.00
6,800.00	7.25	209.92	6,790.59	-137.63	-79.20	-134.85	0.00	0.00	0.00
6,900.00	7.25	209.92	6,889.79	-148.56	-85.49	-145.57	0.00	0.00	0.00
7,000.00	7.25	209.92	6,988.99	-159.50	-91.78	-156.28	0.00	0.00	0.00
7,100.00	7.25	209.92	7,088.19	-170.43	-98.07	-166.99	0.00	0.00	0.00
7,200.00	7.25	209.92	7,187.39	-181.37	-104.36	-177.70	0.00	0.00	0.00
7,300.00	7.25	209.92	7,286.60	-192.30	-110.66	-188.42	0.00	0.00	0.00
7,400.00	7.25	209.92	7,385.80	-203.23	-116.95	-199.13	0.00	0.00	0.00
7,500.00	7.25	209.92	7,485.00	-214.17	-123.24	-209.84	0.00	0.00	0.00
7,600.00	7.25	209.92	7,584.20	-225.10	-129.53	-220.56	0.00	0.00	0.00
7,700.00	7.25	209.92	7,683.40	-236.03	-135.82	-231.27	0.00	0.00	0.00
7,800.00	7.25	209.92	7,782.60	-246.97	-142.12	-241.98	0.00	0.00	0.00
7,900.00	7.25	209.92	7,881.80	-257.90	-148.41	-252.70	0.00	0.00	0.00
8,000.00	7.25	209.92	7,981.00	-268.84	-154.70	-263.41	0.00	0.00	0.00
8,100.00	7.25	209.92	8,080.20	-279.77	-160.99	-274.12	0.00	0.00	0.00
8,200.00	7.25	209.92	8,179.41	-290.70	-167.28	-284.84	0.00	0.00	0.00
8,300.00	7.25	209.92	8,278.61	-301.64	-173.57	-295.55	0.00	0.00	0.00
8,400.00	7.25	209.92	8,377.81	-312.57	-179.87	-306.26	0.00	0.00	0.00
8,500.00	7.25	209.92	8,477.01	-323.50	-186.16	-316.98	0.00	0.00	0.00
8,600.00	7.25	209.92	8,576.21	-334.44	-192.45	-327.69	0.00	0.00	0.00
8,700.00	7.25	209.92	8,675.41	-345.37	-198.74	-338.40	0.00	0.00	0.00
8,800.00	7.25	209.92	8,774.61	-356.31	-205.03	-349.12	0.00	0.00	0.00
8,900.00	7.25	209.92	8,873.81	-367.24	-211.32	-359.83	0.00	0.00	0.00
9,000.00	7.25	209.92	8,973.01	-378.17	-217.62	-370.54	0.00	0.00	0.00
9,049.53	7.25	209.92	9,022.15	-383.59	-220.73	-375.85	0.00	0.00	0.00
9,100.00	6.49	209.92	9,072.26	-388.82	-223.74	-380.97	1.50	-1.50	0.00
9,200.00	4.99	209.92	9,171.75	-397.49	-228.73	-389.47	1.50	-1.50	0.00
9,300.00	3.49	209.92	9,271.48	-403.90	-232.42	-395.75	1.50	-1.50	0.00
9,400.00	1.99	209.92	9,371.36	-408.04	-234.80	-399.81	1.50	-1.50	0.00
9,500.00	0.49	209.92	9,471.33	-409.92	-235.88	-401.64	1.50	-1.50	0.00
9,532.67	0.00	0.00	9,504.00	-410.04	-235.95	-401.76	1.50	-1.50	0.00
9,600.00	0.00	0.00	9,571.33	-410.04	-235.95	-401.76	0.00	0.00	0.00
9,700.00	0.00	0.00	9,671.33	-410.04	-235.95	-401.76	0.00	0.00	0.00
9,800.00	0.00	0.00	9,771.33	-410.04	-235.95	-401.76	0.00	0.00	0.00
9,900.00	0.00	0.00	9,871.33	-410.04	-235.95	-401.76	0.00	0.00	0.00
10,000.00	0.00	0.00	9,971.33	-410.04	-235.95	-401.76	0.00	0.00	0.00
10,100.00	0.00	0.00	10,071.33	-410.04	-235.95	-401.76	0.00	0.00	0.00
10,200.00	0.00	0.00	10,171.33	-410.04	-235.95	-401.76	0.00	0.00	0.00
10,300.00	0.00	0.00	10,271.33	-410.04	-235.95	-401.76	0.00	0.00	0.00
10,400.00	0.00	0.00	10,371.33	-410.04	-235.95	-401.76	0.00	0.00	0.00

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 Wellbore: Lateral
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Planned 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)
10,500.00	0.00	0.00	10,471.33	-410.04	-235.95	-401.76	0.00	0.00	0.00
10,600.00	0.00	0.00	10,571.33	-410.04	-235.95	-401.76	0.00	0.00	0.00
10,700.00	0.00	0.00	10,671.33	-410.04	-235.95	-401.76	0.00	0.00	0.00
10,800.00	0.00	0.00	10,771.33	-410.04	-235.95	-401.76	0.00	0.00	0.00
10,900.00	0.00	0.00	10,871.33	-410.04	-235.95	-401.76	0.00	0.00	0.00
11,000.00	0.00	0.00	10,971.33	-410.04	-235.95	-401.76	0.00	0.00	0.00
11,100.00	0.00	0.00	11,071.33	-410.04	-235.95	-401.76	0.00	0.00	0.00
11,200.00	0.00	0.00	11,171.33	-410.04	-235.95	-401.76	0.00	0.00	0.00
11,300.00	0.00	0.00	11,271.33	-410.04	-235.95	-401.76	0.00	0.00	0.00
11,400.00	0.00	0.00	11,371.33	-410.04	-235.95	-401.76	0.00	0.00	0.00
11,506.71	0.00	0.00	11,478.04	-410.04	-235.95	-401.76	0.00	0.00	0.00
11,550.00	4.33	359.46	11,521.29	-408.40	-235.97	-400.13	10.00	10.00	0.00
11,600.00	9.33	359.46	11,570.92	-402.46	-236.02	-394.19	10.00	10.00	0.00
11,650.00	14.33	359.46	11,619.84	-392.21	-236.12	-383.94	10.00	10.00	0.00
11,700.00	19.33	359.46	11,667.69	-377.74	-236.25	-369.48	10.00	10.00	0.00
11,750.00	24.33	359.46	11,714.09	-359.16	-236.43	-350.90	10.00	10.00	0.00
11,800.00	29.33	359.46	11,758.69	-336.60	-236.64	-328.34	10.00	10.00	0.00
11,850.00	34.33	359.46	11,801.16	-310.24	-236.89	-301.99	10.00	10.00	0.00
11,900.00	39.33	359.46	11,841.17	-280.28	-237.17	-272.04	10.00	10.00	0.00
11,950.00	44.33	359.46	11,878.41	-246.94	-237.48	-238.71	10.00	10.00	0.00
12,000.00	49.33	359.46	11,912.61	-210.49	-237.82	-202.27	10.00	10.00	0.00
12,050.00	54.33	359.46	11,943.50	-171.20	-238.19	-162.98	10.00	10.00	0.00
12,100.00	59.33	359.46	11,970.85	-129.36	-238.58	-121.16	10.00	10.00	0.00
12,150.00	64.33	359.46	11,994.45	-85.30	-239.00	-77.11	10.00	10.00	0.00
12,200.00	69.33	359.46	12,014.11	-39.35	-239.43	-31.17	10.00	10.00	0.00
12,250.00	74.33	359.46	12,029.70	8.14	-239.87	16.31	10.00	10.00	0.00
12,300.00	79.33	359.46	12,041.09	56.81	-240.33	64.96	10.00	10.00	0.00
12,350.00	84.33	359.46	12,048.19	106.28	-240.79	114.42	10.00	10.00	0.00
12,400.00	89.33	359.46	12,050.96	156.19	-241.26	164.32	10.00	10.00	0.00
12,406.71	90.00	359.46	12,051.00	162.89	-241.32	171.02	10.00	10.00	0.00
12,500.00	90.00	359.46	12,051.00	256.18	-242.20	264.28	0.00	0.00	0.00
12,600.00	90.00	359.46	12,051.00	356.18	-243.14	364.25	0.00	0.00	0.00
12,700.00	90.00	359.46	12,051.00	456.17	-244.08	464.22	0.00	0.00	0.00
12,800.00	90.00	359.46	12,051.00	556.17	-245.01	564.19	0.00	0.00	0.00
12,900.00	90.00	359.46	12,051.00	656.17	-245.95	664.16	0.00	0.00	0.00
13,000.00	90.00	359.46	12,051.00	756.16	-246.89	764.13	0.00	0.00	0.00
13,100.00	90.00	359.46	12,051.00	856.16	-247.83	864.10	0.00	0.00	0.00
13,200.00	90.00	359.46	12,051.00	956.15	-248.76	964.07	0.00	0.00	0.00
13,300.00	90.00	359.46	12,051.00	1,056.15	-249.70	1,064.04	0.00	0.00	0.00
13,400.00	90.00	359.46	12,051.00	1,156.14	-250.64	1,164.01	0.00	0.00	0.00
13,500.00	90.00	359.46	12,051.00	1,256.14	-251.58	1,263.98	0.00	0.00	0.00
13,600.00	90.00	359.46	12,051.00	1,356.13	-252.51	1,363.95	0.00	0.00	0.00
13,700.00	90.00	359.46	12,051.00	1,456.13	-253.45	1,463.92	0.00	0.00	0.00
13,800.00	90.00	359.46	12,051.00	1,556.13	-254.39	1,563.89	0.00	0.00	0.00
13,900.00	90.00	359.46	12,051.00	1,656.12	-255.33	1,663.86	0.00	0.00	0.00
14,000.00	90.00	359.46	12,051.00	1,756.12	-256.27	1,763.83	0.00	0.00	0.00
14,100.00	90.00	359.46	12,051.00	1,856.11	-257.20	1,863.80	0.00	0.00	0.00
14,200.00	90.00	359.46	12,051.00	1,956.11	-258.14	1,963.77	0.00	0.00	0.00
14,300.00	90.00	359.46	12,051.00	2,056.10	-259.08	2,063.74	0.00	0.00	0.00
14,400.00	90.00	359.46	12,051.00	2,156.10	-260.02	2,163.71	0.00	0.00	0.00
14,500.00	90.00	359.46	12,051.00	2,256.10	-260.95	2,263.68	0.00	0.00	0.00
14,600.00	90.00	359.46	12,051.00	2,356.09	-261.89	2,363.64	0.00	0.00	0.00
14,700.00	90.00	359.46	12,051.00	2,456.09	-262.83	2,463.61	0.00	0.00	0.00
14,800.00	90.00	359.46	12,051.00	2,556.08	-263.77	2,563.58	0.00	0.00	0.00

Premier Directional Drilling

Planning Report

Database: EDM 5000 14 Multi User
 Company: ENERGEN RESOURCES CORPORATION
 Project: Lea County, NM
 Site: Brahman State Com 15-10 452H & 602H
 Well: 452H
 Wellbore: Lateral
 Design: Plan #2

Local Co-ordinate Reference: Well 452H - Slot 452
 TVD Reference: 3336+25 @ 3361.00usft
 MD Reference: 3336+25 @ 3361.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned 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)
14,900.00	90.00	359.46	12,051.00	2,656.08	-264.71	2,663.55	0.00	0.00	0.00
15,000.00	90.00	359.46	12,051.00	2,756.07	-265.64	2,763.52	0.00	0.00	0.00
15,100.00	90.00	359.46	12,051.00	2,856.07	-266.58	2,863.49	0.00	0.00	0.00
15,200.00	90.00	359.46	12,051.00	2,956.06	-267.52	2,963.46	0.00	0.00	0.00
15,300.00	90.00	359.46	12,051.00	3,056.06	-268.46	3,063.43	0.00	0.00	0.00
15,400.00	90.00	359.46	12,051.00	3,156.06	-269.39	3,163.40	0.00	0.00	0.00
15,500.00	90.00	359.46	12,051.00	3,256.05	-270.33	3,263.37	0.00	0.00	0.00
15,600.00	90.00	359.46	12,051.00	3,356.05	-271.27	3,363.34	0.00	0.00	0.00
15,700.00	90.00	359.46	12,051.00	3,456.04	-272.21	3,463.31	0.00	0.00	0.00
15,800.00	90.00	359.46	12,051.00	3,556.04	-273.15	3,563.28	0.00	0.00	0.00
15,900.00	90.00	359.46	12,051.00	3,656.03	-274.08	3,663.25	0.00	0.00	0.00
16,000.00	90.00	359.46	12,051.00	3,756.03	-275.02	3,763.22	0.00	0.00	0.00
16,100.00	90.00	359.46	12,051.00	3,856.02	-275.96	3,863.19	0.00	0.00	0.00
16,200.00	90.00	359.46	12,051.00	3,956.02	-276.90	3,963.16	0.00	0.00	0.00
16,300.00	90.00	359.46	12,051.00	4,056.02	-277.83	4,063.13	0.00	0.00	0.00
16,400.00	90.00	359.46	12,051.00	4,156.01	-278.77	4,163.10	0.00	0.00	0.00
16,500.00	90.00	359.46	12,051.00	4,256.01	-279.71	4,263.07	0.00	0.00	0.00
16,600.00	90.00	359.46	12,051.00	4,356.00	-280.65	4,363.03	0.00	0.00	0.00
16,700.00	90.00	359.46	12,051.00	4,456.00	-281.58	4,463.00	0.00	0.00	0.00
16,800.00	90.00	359.46	12,051.00	4,555.99	-282.52	4,562.97	0.00	0.00	0.00
16,900.00	90.00	359.46	12,051.00	4,655.99	-283.46	4,662.94	0.00	0.00	0.00
17,000.00	90.00	359.46	12,051.00	4,755.99	-284.40	4,762.91	0.00	0.00	0.00
17,100.00	90.00	359.46	12,051.00	4,855.98	-285.34	4,862.88	0.00	0.00	0.00
17,200.00	90.00	359.46	12,051.00	4,955.98	-286.27	4,962.85	0.00	0.00	0.00
17,300.00	90.00	359.46	12,051.00	5,055.97	-287.21	5,062.82	0.00	0.00	0.00
17,400.00	90.00	359.46	12,051.00	5,155.97	-288.15	5,162.79	0.00	0.00	0.00
17,500.00	90.00	359.46	12,051.00	5,255.96	-289.09	5,262.76	0.00	0.00	0.00
17,600.00	90.00	359.46	12,051.00	5,355.96	-290.02	5,362.73	0.00	0.00	0.00
17,700.00	90.00	359.46	12,051.00	5,455.95	-290.96	5,462.70	0.00	0.00	0.00
17,800.00	90.00	359.46	12,051.00	5,555.95	-291.90	5,562.67	0.00	0.00	0.00
17,900.00	90.00	359.46	12,051.00	5,655.95	-292.84	5,662.64	0.00	0.00	0.00
18,000.00	90.00	359.46	12,051.00	5,755.94	-293.78	5,762.61	0.00	0.00	0.00
18,100.00	90.00	359.46	12,051.00	5,855.94	-294.71	5,862.58	0.00	0.00	0.00
18,200.00	90.00	359.46	12,051.00	5,955.93	-295.65	5,962.55	0.00	0.00	0.00
18,300.00	90.00	359.46	12,051.00	6,055.93	-296.59	6,062.52	0.00	0.00	0.00
18,400.00	90.00	359.46	12,051.00	6,155.92	-297.53	6,162.49	0.00	0.00	0.00
18,500.00	90.00	359.46	12,051.00	6,255.92	-298.46	6,262.46	0.00	0.00	0.00
18,600.00	90.00	359.46	12,051.00	6,355.91	-299.40	6,362.43	0.00	0.00	0.00
18,700.00	90.00	359.46	12,051.00	6,455.91	-300.34	6,462.39	0.00	0.00	0.00
18,800.00	90.00	359.46	12,051.00	6,555.91	-301.28	6,562.36	0.00	0.00	0.00
18,900.00	90.00	359.46	12,051.00	6,655.90	-302.21	6,662.33	0.00	0.00	0.00
19,000.00	90.00	359.46	12,051.00	6,755.90	-303.15	6,762.30	0.00	0.00	0.00
19,100.00	90.00	359.46	12,051.00	6,855.89	-304.09	6,862.27	0.00	0.00	0.00
19,200.00	90.00	359.46	12,051.00	6,955.89	-305.03	6,962.24	0.00	0.00	0.00
19,300.00	90.00	359.46	12,051.00	7,055.88	-305.97	7,062.21	0.00	0.00	0.00
19,400.00	90.00	359.46	12,051.00	7,155.88	-306.90	7,162.18	0.00	0.00	0.00
19,500.00	90.00	359.46	12,051.00	7,255.88	-307.84	7,262.15	0.00	0.00	0.00
19,600.00	90.00	359.46	12,051.00	7,355.87	-308.78	7,362.12	0.00	0.00	0.00
19,700.00	90.00	359.46	12,051.00	7,455.87	-309.72	7,462.09	0.00	0.00	0.00
19,800.00	90.00	359.46	12,051.00	7,555.86	-310.65	7,562.06	0.00	0.00	0.00
19,900.00	90.00	359.46	12,051.00	7,655.86	-311.59	7,662.03	0.00	0.00	0.00
20,000.00	90.00	359.46	12,051.00	7,755.85	-312.53	7,762.00	0.00	0.00	0.00
20,100.00	90.00	359.46	12,051.00	7,855.85	-313.47	7,861.97	0.00	0.00	0.00
20,200.00	90.00	359.46	12,051.00	7,955.84	-314.41	7,961.94	0.00	0.00	0.00

Premier Directional Drilling

Planning Report

Database: EDM 5000 14 Multi User
Company: ENERGEN RESOURCES CORPORATION
Project: Lea County, NM
Site: Brahman State Com 15-10 452H & 602H
Well: 452H
Wellbore: Lateral
Design: Plan #2

Local Co-ordinate Reference: Well 452H - Slot 452
TVD Reference: 3336+25 @ 3361.00usft
MD Reference: 3336+25 @ 3361.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned 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)
20,300.00	90.00	359.46	12,051.00	8,055.84	-315.34	8,061.91	0.00	0.00	0.00
20,400.00	90.00	359.46	12,051.00	8,155.84	-316.28	8,161.88	0.00	0.00	0.00
20,500.00	90.00	359.46	12,051.00	8,255.83	-317.22	8,261.85	0.00	0.00	0.00
20,600.00	90.00	359.46	12,051.00	8,355.83	-318.16	8,361.82	0.00	0.00	0.00
20,700.00	90.00	359.46	12,051.00	8,455.82	-319.09	8,461.79	0.00	0.00	0.00
20,800.00	90.00	359.46	12,051.00	8,555.82	-320.03	8,561.75	0.00	0.00	0.00
20,900.00	90.00	359.46	12,051.00	8,655.81	-320.97	8,661.72	0.00	0.00	0.00
21,000.00	90.00	359.46	12,051.00	8,755.81	-321.91	8,761.69	0.00	0.00	0.00
21,100.00	90.00	359.46	12,051.00	8,855.81	-322.85	8,861.66	0.00	0.00	0.00
21,200.00	90.00	359.46	12,051.00	8,955.80	-323.78	8,961.63	0.00	0.00	0.00
21,300.00	90.00	359.46	12,051.00	9,055.80	-324.72	9,061.60	0.00	0.00	0.00
21,400.00	90.00	359.46	12,051.00	9,155.79	-325.66	9,161.57	0.00	0.00	0.00
21,500.00	90.00	359.46	12,051.00	9,255.79	-326.60	9,261.54	0.00	0.00	0.00
21,600.00	90.00	359.46	12,051.00	9,355.78	-327.53	9,361.51	0.00	0.00	0.00
21,700.00	90.00	359.46	12,051.00	9,455.78	-328.47	9,461.48	0.00	0.00	0.00
21,800.00	90.00	359.46	12,051.00	9,555.77	-329.41	9,561.45	0.00	0.00	0.00
21,900.00	90.00	359.46	12,051.00	9,655.77	-330.35	9,661.42	0.00	0.00	0.00
22,000.00	90.00	359.46	12,051.00	9,755.77	-331.28	9,761.39	0.00	0.00	0.00
22,100.00	90.00	359.46	12,051.00	9,855.76	-332.22	9,861.36	0.00	0.00	0.00
22,196.11	90.00	359.46	12,051.00	9,951.87	-333.12	9,957.44	0.00	0.00	0.00

ENERGEN RESOURCES CORPORATION

Project: Lea County, NM
 Site: Brahman State Com 15-10 452H & 602H
 Well: 452H
 Wellbore: Lateral
 Design: Plan #2
 Rig: Scan Discoverer
 Job: M18***



TARGET DETAILS									
Name	TVD	+N-S	+E-W	North	East	Lat	Long	Point	Point
Brahman State Com 15-10 #452H SL	0.00	0.00	0.00	442042.26	801355.33	32°12'41.93" N	103°21'32.53" W		
Brahman State Com 15-10 #452H LP p2	9604.00	-410.04	-235.95	441632.25	801119.58	32°12'37.46" N	103°21'35.12" W		
Brahman State Com 15-10 #452H LP p2	12051.00	192.89	-241.32	442205.18	801114.01	32°12'43.16" N	103°21'35.12" W		
Brahman State Com 15-10 #452H PBL p2	12051.00	9951.87	-333.12	451984.15	801022.20	32°14'29.03" N	103°21'35.15" W		

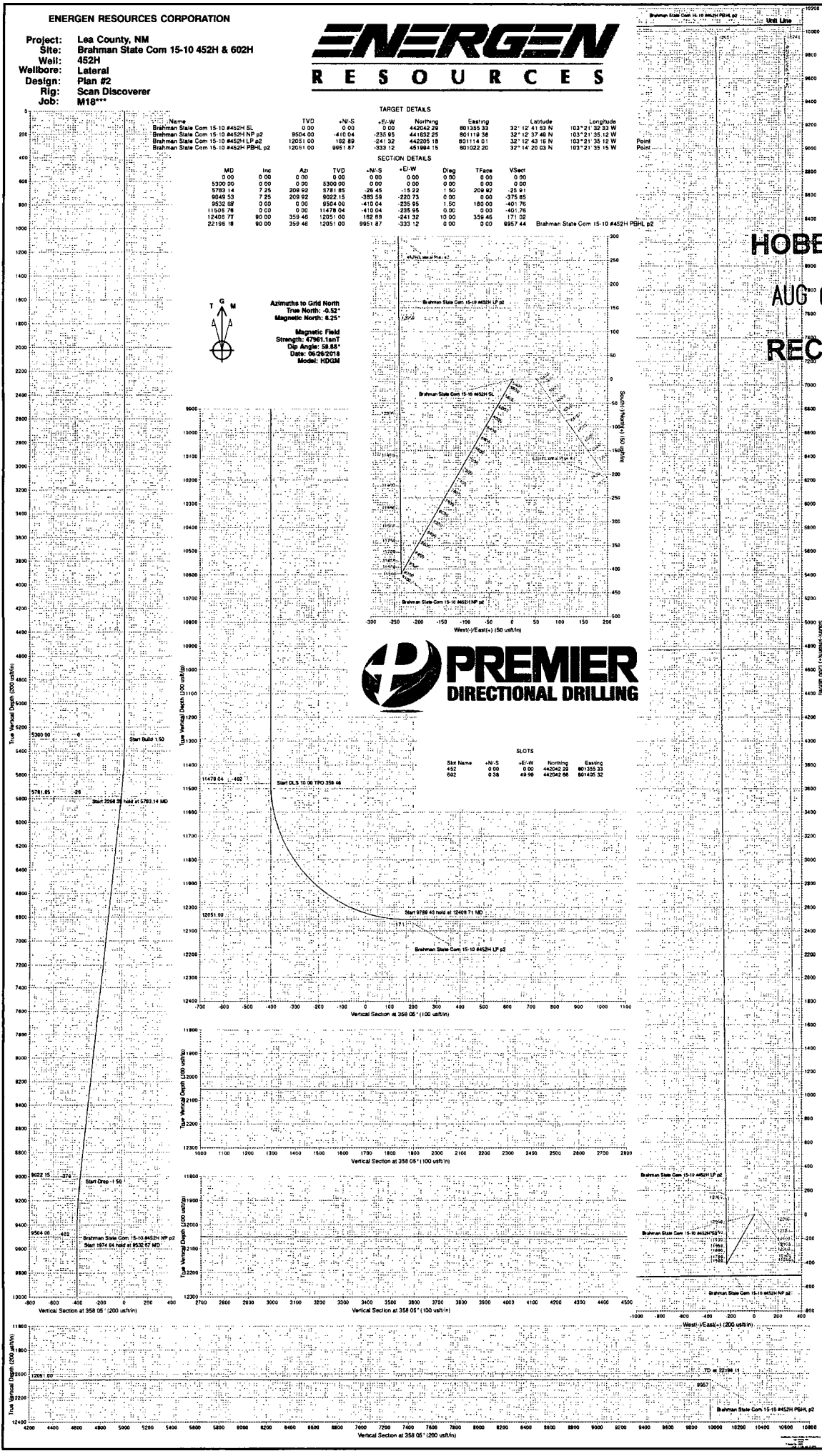
SECTION DETAILS									
MD	Inc	Azi	TVD	+N-S	+E-W	Diag	TFace	VSet	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5300.00	0.00	0.00	5300.00	0.00	0.00	0.00	0.00	0.00	
5783.14	7.25	208.92	5781.85	-28.45	-19.22	1.50	208.92	-21.91	
9049.53	7.25	208.92	9022.15	-383.59	-220.73	0.00	0.00	-375.65	
9504.00	0.00	0.00	9504.00	-410.04	-235.95	1.50	180.00	-401.76	
11505.76	0.00	0.00	11478.04	-410.04	-235.95	0.00	0.00	-401.76	
12405.77	80.00	359.46	12051.00	192.89	-241.32	10.00	359.46	171.02	
22196.18	80.00	359.46	12051.00	9951.87	-333.12	0.00	0.00	6957.44	Brahman State Com 15-10 #452H PBL p2



Azimuths to Grid North
 True North: -0.52°
 Magnetic North: 8.25°
 Magnetic Field
 Strength: 47961.1 nT
 Dip Angle: 58.86°
 Date: 06/26/2018
 Model: IIGM



Slot Name	+N-S	+E-W	North	East
452	0.00	0.00	442042.26	801355.33
602	0.00	0.00	442042.08	801355.32



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