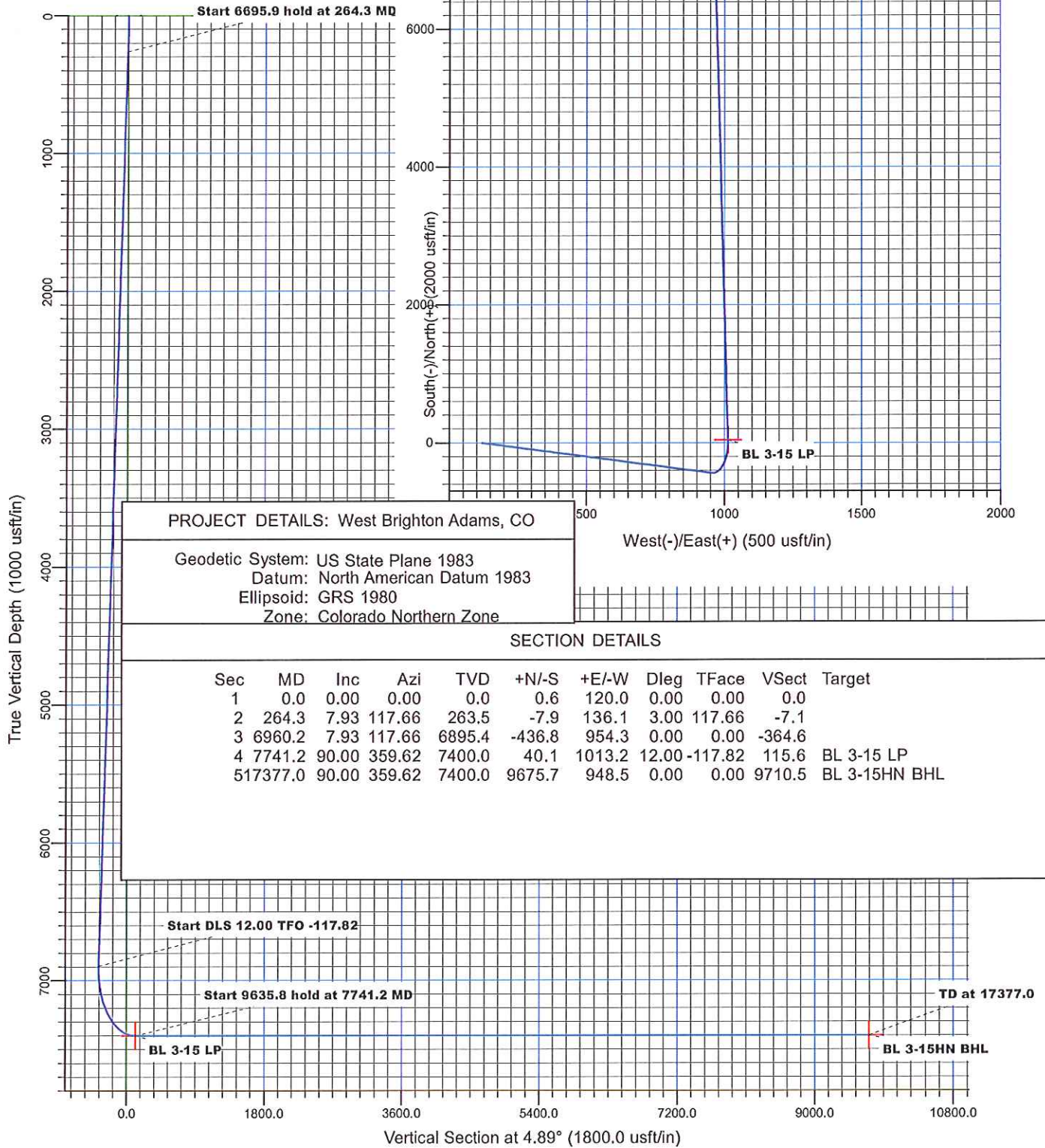




WARD PETROLEUM

WELL DETAILS: Brighton Lakes #2017-3-15HN

Ground Level: 5047.0  
Northing 1223392.78  
Easting 3194876.66  
Site Brighton Lakes Pad, Grid North



# **Ward Petroleum**

**West Brighton Adams, CO**

**Brighton Lakes Pad**

**Brighton Lakes #2017-3-15HN**

**State Plan #1**

**Plan: State Plan #1**

## **Standard Planning Report**

**30 December, 2016**

## Planning Report

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Site Brighton Lakes Pad
<b>Company:</b>	Ward Petroleum	<b>TVD Reference:</b>	KB @ 5073.0usft
<b>Project:</b>	West Brighton Adams, CO	<b>MD Reference:</b>	KB @ 5073.0usft
<b>Site:</b>	Brighton Lakes Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	Brighton Lakes #2017-3-15HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	State Plan #1		
<b>Design:</b>	State Plan #1		

<b>Project</b>	West Brighton Adams, CO		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Ground Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		

Site		Brighton Lakes Pad			
Site Position:		Northing:	1,223,392.21 usft	Latitude:	39° 56' 40.197 N
From:	Map	Easting:	3,194,756.70 usft	Longitude:	104° 48' 19.368 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.45 °

Well	Brighton Lakes #2017-3-15HN					
Well Position	+N/-S	0.6 usft	Northing:	1,223,392.78 usft	Latitude:	39° 56' 40.194 N
	+E/-W	120.0 usft	Easting:	3,194,876.66 usft	Longitude:	104° 48' 17.827 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	5,047.0 usft

<b>Wellbore</b>	State Plan #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	12/31/2009	9.00	66.73	53,016

<b>Design</b>	State Plan #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.6	120.0	4.89

<b>Plan Sections</b>										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.6	120.0	0.00	0.00	0.00	0.00	
264.3	7.93	117.66	263.5	-7.9	136.1	3.00	3.00	0.00	117.66	
6,960.2	7.93	117.66	6,895.4	-436.8	954.3	0.00	0.00	0.00	0.00	
7,741.2	90.00	359.62	7,400.0	40.1	1,013.2	12.00	10.51	-15.12	-117.82	BL 3-15 LP
17,377.0	90.00	359.62	7,400.0	9,675.7	948.5	0.00	0.00	0.00	0.00	BL 3-15HN BHL

# Planning Report

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Site Brighton Lakes Pad
<b>Company:</b>	Ward Petroleum	<b>TVD Reference:</b>	KB @ 5073.0usft
<b>Project:</b>	West Brighton Adams, CO	<b>MD Reference:</b>	KB @ 5073.0usft
<b>Site:</b>	Brighton Lakes Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	Brighton Lakes #2017-3-15HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	State Plan #1		
<b>Design:</b>	State Plan #1		

Planned 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)
0.0	0.00	0.00	0.0	0.6	120.0	0.0	0.00	0.00	0.00
100.0	3.00	117.66	100.0	-0.6	122.3	-1.0	3.00	3.00	0.00
200.0	6.00	117.66	199.6	-4.3	129.2	-4.0	3.00	3.00	0.00
264.3	7.93	117.66	263.5	-7.9	136.1	-7.1	3.00	3.00	0.00
300.0	7.93	117.66	298.8	-10.2	140.5	-9.0	0.00	0.00	0.00
400.0	7.93	117.66	397.9	-16.6	152.7	-14.3	0.00	0.00	0.00
500.0	7.93	117.66	496.9	-23.0	164.9	-19.7	0.00	0.00	0.00
600.0	7.93	117.66	595.9	-29.4	177.2	-25.0	0.00	0.00	0.00
700.0	7.93	117.66	695.0	-35.8	189.4	-30.3	0.00	0.00	0.00
800.0	7.93	117.66	794.0	-42.2	201.6	-35.7	0.00	0.00	0.00
900.0	7.93	117.66	893.1	-48.6	213.8	-41.0	0.00	0.00	0.00
1,000.0	7.93	117.66	992.1	-55.0	226.0	-46.3	0.00	0.00	0.00
1,100.0	7.93	117.66	1,091.2	-61.4	238.2	-51.7	0.00	0.00	0.00
1,200.0	7.93	117.66	1,190.2	-67.8	250.5	-57.0	0.00	0.00	0.00
1,300.0	7.93	117.66	1,289.3	-74.2	262.7	-62.4	0.00	0.00	0.00
1,400.0	7.93	117.66	1,388.3	-80.7	274.9	-67.7	0.00	0.00	0.00
1,500.0	7.93	117.66	1,487.3	-87.1	287.1	-73.0	0.00	0.00	0.00
1,600.0	7.93	117.66	1,586.4	-93.5	299.3	-78.4	0.00	0.00	0.00
1,700.0	7.93	117.66	1,685.4	-99.9	311.6	-83.7	0.00	0.00	0.00
1,800.0	7.93	117.66	1,784.5	-106.3	323.8	-89.1	0.00	0.00	0.00
1,900.0	7.93	117.66	1,883.5	-112.7	336.0	-94.4	0.00	0.00	0.00
2,000.0	7.93	117.66	1,982.6	-119.1	348.2	-99.7	0.00	0.00	0.00
2,100.0	7.93	117.66	2,081.6	-125.5	360.4	-105.1	0.00	0.00	0.00
2,200.0	7.93	117.66	2,180.6	-131.9	372.7	-110.4	0.00	0.00	0.00
2,300.0	7.93	117.66	2,279.7	-138.3	384.9	-115.8	0.00	0.00	0.00
2,400.0	7.93	117.66	2,378.7	-144.7	397.1	-121.1	0.00	0.00	0.00
2,500.0	7.93	117.66	2,477.8	-151.1	409.3	-126.4	0.00	0.00	0.00
2,600.0	7.93	117.66	2,576.8	-157.5	421.5	-131.8	0.00	0.00	0.00
2,700.0	7.93	117.66	2,675.9	-163.9	433.8	-137.1	0.00	0.00	0.00
2,800.0	7.93	117.66	2,774.9	-170.3	446.0	-142.5	0.00	0.00	0.00
2,900.0	7.93	117.66	2,874.0	-176.7	458.2	-147.8	0.00	0.00	0.00
3,000.0	7.93	117.66	2,973.0	-183.1	470.4	-153.1	0.00	0.00	0.00
3,100.0	7.93	117.66	3,072.0	-189.5	482.6	-158.5	0.00	0.00	0.00
3,200.0	7.93	117.66	3,171.1	-195.9	494.9	-163.8	0.00	0.00	0.00
3,300.0	7.93	117.66	3,270.1	-202.3	507.1	-169.2	0.00	0.00	0.00
3,400.0	7.93	117.66	3,369.2	-208.8	519.3	-174.5	0.00	0.00	0.00
3,500.0	7.93	117.66	3,468.2	-215.2	531.5	-179.8	0.00	0.00	0.00
3,600.0	7.93	117.66	3,567.3	-221.6	543.7	-185.2	0.00	0.00	0.00
3,700.0	7.93	117.66	3,666.3	-228.0	555.9	-190.5	0.00	0.00	0.00
3,800.0	7.93	117.66	3,765.3	-234.4	568.2	-195.8	0.00	0.00	0.00
3,900.0	7.93	117.66	3,864.4	-240.8	580.4	-201.2	0.00	0.00	0.00
4,000.0	7.93	117.66	3,963.4	-247.2	592.6	-206.5	0.00	0.00	0.00
4,100.0	7.93	117.66	4,062.5	-253.6	604.8	-211.9	0.00	0.00	0.00
4,200.0	7.93	117.66	4,161.5	-260.0	617.0	-217.2	0.00	0.00	0.00
4,300.0	7.93	117.66	4,260.6	-266.4	629.3	-222.5	0.00	0.00	0.00
4,400.0	7.93	117.66	4,359.6	-272.8	641.5	-227.9	0.00	0.00	0.00
4,500.0	7.93	117.66	4,458.7	-279.2	653.7	-233.2	0.00	0.00	0.00
4,600.0	7.93	117.66	4,557.7	-285.6	665.9	-238.6	0.00	0.00	0.00
4,700.0	7.93	117.66	4,656.7	-292.0	678.1	-243.9	0.00	0.00	0.00
4,800.0	7.93	117.66	4,755.8	-298.4	690.4	-249.2	0.00	0.00	0.00
4,900.0	7.93	117.66	4,854.8	-304.8	702.6	-254.6	0.00	0.00	0.00
5,000.0	7.93	117.66	4,953.9	-311.2	714.8	-259.9	0.00	0.00	0.00
5,100.0	7.93	117.66	5,052.9	-317.6	727.0	-265.3	0.00	0.00	0.00
5,200.0	7.93	117.66	5,152.0	-324.0	739.2	-270.6	0.00	0.00	0.00

# Planning Report

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Site Brighton Lakes Pad
<b>Company:</b>	Ward Petroleum	<b>TVD Reference:</b>	KB @ 5073.0usft
<b>Project:</b>	West Brighton Adams, CO	<b>MD Reference:</b>	KB @ 5073.0usft
<b>Site:</b>	Brighton Lakes Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	Brighton Lakes #2017-3-15HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	State Plan #1		
<b>Design:</b>	State Plan #1		

Planned 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)
5,300.0	7.93	117.66	5,251.0	-330.5	751.5	-275.9	0.00	0.00	0.00
5,400.0	7.93	117.66	5,350.0	-336.9	763.7	-281.3	0.00	0.00	0.00
5,500.0	7.93	117.66	5,449.1	-343.3	775.9	-286.6	0.00	0.00	0.00
5,600.0	7.93	117.66	5,548.1	-349.7	788.1	-292.0	0.00	0.00	0.00
5,700.0	7.93	117.66	5,647.2	-356.1	800.3	-297.3	0.00	0.00	0.00
5,800.0	7.93	117.66	5,746.2	-362.5	812.6	-302.6	0.00	0.00	0.00
5,900.0	7.93	117.66	5,845.3	-368.9	824.8	-308.0	0.00	0.00	0.00
6,000.0	7.93	117.66	5,944.3	-375.3	837.0	-313.3	0.00	0.00	0.00
6,100.0	7.93	117.66	6,043.4	-381.7	849.2	-318.7	0.00	0.00	0.00
6,200.0	7.93	117.66	6,142.4	-388.1	861.4	-324.0	0.00	0.00	0.00
6,300.0	7.93	117.66	6,241.4	-394.5	873.6	-329.3	0.00	0.00	0.00
6,400.0	7.93	117.66	6,340.5	-400.9	885.9	-334.7	0.00	0.00	0.00
6,500.0	7.93	117.66	6,439.5	-407.3	898.1	-340.0	0.00	0.00	0.00
6,600.0	7.93	117.66	6,538.6	-413.7	910.3	-345.3	0.00	0.00	0.00
6,700.0	7.93	117.66	6,637.6	-420.1	922.5	-350.7	0.00	0.00	0.00
6,800.0	7.93	117.66	6,736.7	-426.5	934.7	-356.0	0.00	0.00	0.00
6,900.0	7.93	117.66	6,835.7	-432.9	947.0	-361.4	0.00	0.00	0.00
6,960.2	7.93	117.66	6,895.4	-436.8	954.3	-364.6	0.00	0.00	0.00
7,000.0	7.09	81.05	6,934.8	-437.7	959.2	-365.1	12.00	-2.12	-92.06
7,100.0	14.79	27.37	7,033.1	-425.4	971.2	-351.7	12.00	7.70	-53.68
7,200.0	25.95	14.25	7,126.8	-392.7	982.5	-318.2	12.00	11.17	-13.13
7,300.0	37.62	8.80	7,211.6	-341.1	992.6	-266.0	12.00	11.66	-5.45
7,400.0	49.42	5.66	7,284.0	-272.9	1,001.0	-197.3	12.00	11.81	-3.14
7,500.0	61.29	3.48	7,340.8	-191.1	1,007.4	-115.2	12.00	11.87	-2.18
7,600.0	73.18	1.74	7,379.4	-99.1	1,011.6	-23.3	12.00	11.89	-1.73
7,700.0	85.09	0.22	7,398.2	-1.1	1,013.2	74.5	12.00	11.91	-1.52
7,741.2	90.00	359.62	7,400.0	40.1	1,013.2	115.6	12.00	11.91	-1.47
7,800.0	90.00	359.62	7,400.0	98.8	1,012.8	174.1	0.00	0.00	0.00
7,900.0	90.00	359.62	7,400.0	198.8	1,012.1	273.7	0.00	0.00	0.00
8,000.0	90.00	359.62	7,400.0	298.8	1,011.4	373.2	0.00	0.00	0.00
8,100.0	90.00	359.62	7,400.0	398.8	1,010.8	472.8	0.00	0.00	0.00
8,200.0	90.00	359.62	7,400.0	498.8	1,010.1	572.4	0.00	0.00	0.00
8,300.0	90.00	359.62	7,400.0	598.8	1,009.4	672.0	0.00	0.00	0.00
8,400.0	90.00	359.62	7,400.0	698.8	1,008.7	771.5	0.00	0.00	0.00
8,500.0	90.00	359.62	7,400.0	798.8	1,008.1	871.1	0.00	0.00	0.00
8,600.0	90.00	359.62	7,400.0	898.8	1,007.4	970.7	0.00	0.00	0.00
8,700.0	90.00	359.62	7,400.0	998.8	1,006.7	1,070.3	0.00	0.00	0.00
8,800.0	90.00	359.62	7,400.0	1,098.8	1,006.1	1,169.8	0.00	0.00	0.00
8,900.0	90.00	359.62	7,400.0	1,198.8	1,005.4	1,269.4	0.00	0.00	0.00
9,000.0	90.00	359.62	7,400.0	1,298.8	1,004.7	1,369.0	0.00	0.00	0.00
9,100.0	90.00	359.62	7,400.0	1,398.8	1,004.0	1,468.6	0.00	0.00	0.00
9,200.0	90.00	359.62	7,400.0	1,498.8	1,003.4	1,568.1	0.00	0.00	0.00
9,300.0	90.00	359.62	7,400.0	1,598.8	1,002.7	1,667.7	0.00	0.00	0.00
9,400.0	90.00	359.62	7,400.0	1,698.8	1,002.0	1,767.3	0.00	0.00	0.00
9,500.0	90.00	359.62	7,400.0	1,798.8	1,001.4	1,866.9	0.00	0.00	0.00
9,600.0	90.00	359.62	7,400.0	1,898.8	1,000.7	1,966.5	0.00	0.00	0.00
9,700.0	90.00	359.62	7,400.0	1,998.8	1,000.0	2,066.0	0.00	0.00	0.00
9,800.0	90.00	359.62	7,400.0	2,098.8	999.3	2,165.6	0.00	0.00	0.00
9,900.0	90.00	359.62	7,400.0	2,198.8	998.7	2,265.2	0.00	0.00	0.00
10,000.0	90.00	359.62	7,400.0	2,298.8	998.0	2,364.8	0.00	0.00	0.00
10,100.0	90.00	359.62	7,400.0	2,398.8	997.3	2,464.3	0.00	0.00	0.00
10,200.0	90.00	359.62	7,400.0	2,498.8	996.7	2,563.9	0.00	0.00	0.00
10,300.0	90.00	359.62	7,400.0	2,598.8	996.0	2,663.5	0.00	0.00	0.00
10,400.0	90.00	359.62	7,400.0	2,698.8	995.3	2,763.1	0.00	0.00	0.00

## Planning Report

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Site Brighton Lakes Pad
<b>Company:</b>	Ward Petroleum	<b>TVD Reference:</b>	KB @ 5073.0usft
<b>Project:</b>	West Brighton Adams, CO	<b>MD Reference:</b>	KB @ 5073.0usft
<b>Site:</b>	Brighton Lakes Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	Brighton Lakes #2017-3-15HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	State Plan #1		
<b>Design:</b>	State Plan #1		

Planned 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)
10,500.0	90.00	359.62	7,400.0	2,798.8	994.6	2,862.6	0.00	0.00	0.00
10,600.0	90.00	359.62	7,400.0	2,898.8	994.0	2,962.2	0.00	0.00	0.00
10,700.0	90.00	359.62	7,400.0	2,998.8	993.3	3,061.8	0.00	0.00	0.00
10,800.0	90.00	359.62	7,400.0	3,098.8	992.6	3,161.4	0.00	0.00	0.00
10,900.0	90.00	359.62	7,400.0	3,198.8	992.0	3,260.9	0.00	0.00	0.00
11,000.0	90.00	359.62	7,400.0	3,298.8	991.3	3,360.5	0.00	0.00	0.00
11,100.0	90.00	359.62	7,400.0	3,398.8	990.6	3,460.1	0.00	0.00	0.00
11,200.0	90.00	359.62	7,400.0	3,498.8	989.9	3,559.7	0.00	0.00	0.00
11,300.0	90.00	359.62	7,400.0	3,598.8	989.3	3,659.2	0.00	0.00	0.00
11,400.0	90.00	359.62	7,400.0	3,698.8	988.6	3,758.8	0.00	0.00	0.00
11,500.0	90.00	359.62	7,400.0	3,798.8	987.9	3,858.4	0.00	0.00	0.00
11,600.0	90.00	359.62	7,400.0	3,898.8	987.3	3,958.0	0.00	0.00	0.00
11,700.0	90.00	359.62	7,400.0	3,998.8	986.6	4,057.5	0.00	0.00	0.00
11,800.0	90.00	359.62	7,400.0	4,098.7	985.9	4,157.1	0.00	0.00	0.00
11,900.0	90.00	359.62	7,400.0	4,198.7	985.2	4,256.7	0.00	0.00	0.00
12,000.0	90.00	359.62	7,400.0	4,298.7	984.6	4,356.3	0.00	0.00	0.00
12,100.0	90.00	359.62	7,400.0	4,398.7	983.9	4,455.8	0.00	0.00	0.00
12,200.0	90.00	359.62	7,400.0	4,498.7	983.2	4,555.4	0.00	0.00	0.00
12,300.0	90.00	359.62	7,400.0	4,598.7	982.5	4,655.0	0.00	0.00	0.00
12,400.0	90.00	359.62	7,400.0	4,698.7	981.9	4,754.6	0.00	0.00	0.00
12,500.0	90.00	359.62	7,400.0	4,798.7	981.2	4,854.1	0.00	0.00	0.00
12,600.0	90.00	359.62	7,400.0	4,898.7	980.5	4,953.7	0.00	0.00	0.00
12,700.0	90.00	359.62	7,400.0	4,998.7	979.9	5,053.3	0.00	0.00	0.00
12,800.0	90.00	359.62	7,400.0	5,098.7	979.2	5,152.9	0.00	0.00	0.00
12,900.0	90.00	359.62	7,400.0	5,198.7	978.5	5,252.5	0.00	0.00	0.00
13,000.0	90.00	359.62	7,400.0	5,298.7	977.8	5,352.0	0.00	0.00	0.00
13,100.0	90.00	359.62	7,400.0	5,398.7	977.2	5,451.6	0.00	0.00	0.00
13,200.0	90.00	359.62	7,400.0	5,498.7	976.5	5,551.2	0.00	0.00	0.00
13,300.0	90.00	359.62	7,400.0	5,598.7	975.8	5,650.8	0.00	0.00	0.00
13,400.0	90.00	359.62	7,400.0	5,698.7	975.2	5,750.3	0.00	0.00	0.00
13,500.0	90.00	359.62	7,400.0	5,798.7	974.5	5,849.9	0.00	0.00	0.00
13,600.0	90.00	359.62	7,400.0	5,898.7	973.8	5,949.5	0.00	0.00	0.00
13,700.0	90.00	359.62	7,400.0	5,998.7	973.1	6,049.1	0.00	0.00	0.00
13,800.0	90.00	359.62	7,400.0	6,098.7	972.5	6,148.6	0.00	0.00	0.00
13,900.0	90.00	359.62	7,400.0	6,198.7	971.8	6,248.2	0.00	0.00	0.00
14,000.0	90.00	359.62	7,400.0	6,298.7	971.1	6,347.8	0.00	0.00	0.00
14,100.0	90.00	359.62	7,400.0	6,398.7	970.5	6,447.4	0.00	0.00	0.00
14,200.0	90.00	359.62	7,400.0	6,498.7	969.8	6,546.9	0.00	0.00	0.00
14,300.0	90.00	359.62	7,400.0	6,598.7	969.1	6,646.5	0.00	0.00	0.00
14,400.0	90.00	359.62	7,400.0	6,698.7	968.4	6,746.1	0.00	0.00	0.00
14,500.0	90.00	359.62	7,400.0	6,798.7	967.8	6,845.7	0.00	0.00	0.00
14,600.0	90.00	359.62	7,400.0	6,898.7	967.1	6,945.2	0.00	0.00	0.00
14,700.0	90.00	359.62	7,400.0	6,998.7	966.4	7,044.8	0.00	0.00	0.00
14,800.0	90.00	359.62	7,400.0	7,098.7	965.8	7,144.4	0.00	0.00	0.00
14,900.0	90.00	359.62	7,400.0	7,198.7	965.1	7,244.0	0.00	0.00	0.00
15,000.0	90.00	359.62	7,400.0	7,298.7	964.4	7,343.5	0.00	0.00	0.00
15,100.0	90.00	359.62	7,400.0	7,398.7	963.7	7,443.1	0.00	0.00	0.00
15,200.0	90.00	359.62	7,400.0	7,498.7	963.1	7,542.7	0.00	0.00	0.00
15,300.0	90.00	359.62	7,400.0	7,598.7	962.4	7,642.3	0.00	0.00	0.00
15,400.0	90.00	359.62	7,400.0	7,698.7	961.7	7,741.8	0.00	0.00	0.00
15,500.0	90.00	359.62	7,400.0	7,798.7	961.1	7,841.4	0.00	0.00	0.00
15,600.0	90.00	359.62	7,400.0	7,898.7	960.4	7,941.0	0.00	0.00	0.00
15,700.0	90.00	359.62	7,400.0	7,998.7	959.7	8,040.6	0.00	0.00	0.00
15,800.0	90.00	359.62	7,400.0	8,098.7	959.0	8,140.2	0.00	0.00	0.00

## Planning Report

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Site Brighton Lakes Pad
<b>Company:</b>	Ward Petroleum	<b>TVD Reference:</b>	KB @ 5073.0usft
<b>Project:</b>	West Brighton Adams, CO	<b>MD Reference:</b>	KB @ 5073.0usft
<b>Site:</b>	Brighton Lakes Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	Brighton Lakes #2017-3-15HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	State Plan #1		
<b>Design:</b>	State Plan #1		

Planned 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)	
15,900.0	90.00	359.62	7,400.0	8,198.7	958.4	8,239.7	0.00	0.00	0.00	
16,000.0	90.00	359.62	7,400.0	8,298.7	957.7	8,339.3	0.00	0.00	0.00	
16,100.0	90.00	359.62	7,400.0	8,398.7	957.0	8,438.9	0.00	0.00	0.00	
16,200.0	90.00	359.62	7,400.0	8,498.7	956.4	8,538.5	0.00	0.00	0.00	
16,300.0	90.00	359.62	7,400.0	8,598.6	955.7	8,638.0	0.00	0.00	0.00	
16,400.0	90.00	359.62	7,400.0	8,698.6	955.0	8,737.6	0.00	0.00	0.00	
16,500.0	90.00	359.62	7,400.0	8,798.6	954.3	8,837.2	0.00	0.00	0.00	
16,600.0	90.00	359.62	7,400.0	8,898.6	953.7	8,936.8	0.00	0.00	0.00	
16,700.0	90.00	359.62	7,400.0	8,998.6	953.0	9,036.3	0.00	0.00	0.00	
16,800.0	90.00	359.62	7,400.0	9,098.6	952.3	9,135.9	0.00	0.00	0.00	
16,900.0	90.00	359.62	7,400.0	9,198.6	951.7	9,235.5	0.00	0.00	0.00	
17,000.0	90.00	359.62	7,400.0	9,298.6	951.0	9,335.1	0.00	0.00	0.00	
17,100.0	90.00	359.62	7,400.0	9,398.6	950.3	9,434.6	0.00	0.00	0.00	
17,200.0	90.00	359.62	7,400.0	9,498.6	949.6	9,534.2	0.00	0.00	0.00	
17,300.0	90.00	359.62	7,400.0	9,598.6	949.0	9,633.8	0.00	0.00	0.00	
17,377.0	90.00	359.62	7,400.0	9,675.7	948.5	9,710.5	0.00	0.00	0.00	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
- hit/miss target										
- Shape										
BL 3-15 LP	0.00	0.00	7,400.0	40.1	1,013.2	1,223,432.28	3,195,769.86	39° 56' 40.515 N	104° 48' 6.355 W	
- plan hits target center										
- Point										
BL 3-15HN BHL	0.00	0.00	7,400.0	9,675.7	948.5	1,233,067.88	3,195,705.16	39° 58' 15.743 N	104° 48' 6.212 W	
- plan hits target center										
- Point										