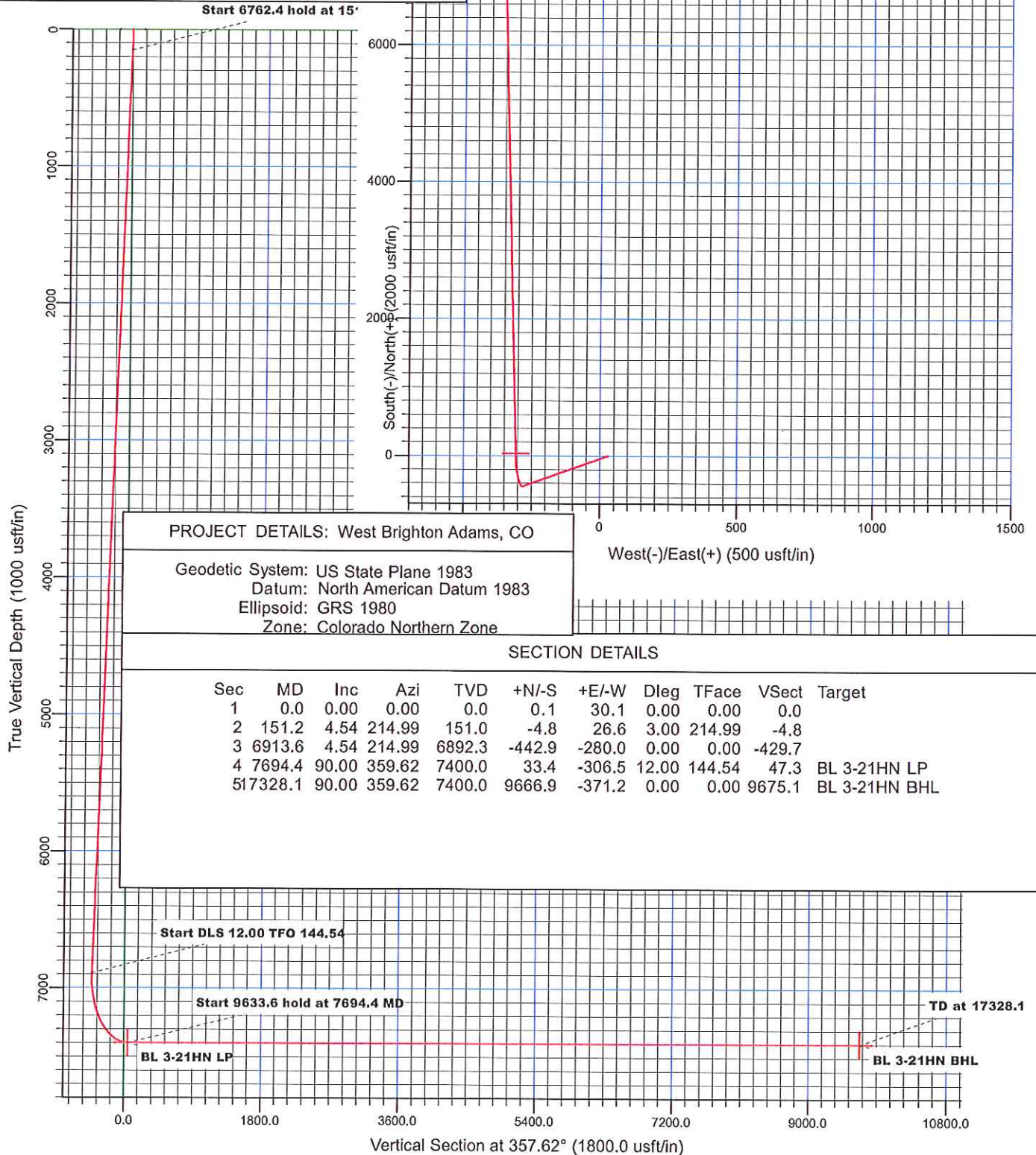




WARD PETROLEUM

WELL DETAILS: Brighton Lakes #2017-3-21HN

Ground Level: 5047.0
Northing 1223392.30
Easting 3194786.76
Site Brighton Lakes Pad, Grid North



Ward Petroleum

**West Brighton Adams, CO
Brighton Lakes Pad
Brighton Lakes #2017-3-21HN**

State Plan #1

Plan: State Plan #1

Standard Planning Report

30 December, 2016

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Brighton Lakes Pad
Company:	Ward Petroleum	TVD Reference:	KB @ 5073.0usft
Project:	West Brighton Adams, CO	MD Reference:	KB @ 5073.0usft
Site:	Brighton Lakes Pad	North Reference:	Grid
Well:	Bighton Lakes #2017-3-21HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	State Plan #1		
Design:	State Plan #1		

Project	West Brighton Adams, CO		
Map System:	US State Plane 1983	System Datum:	Ground Level
Geo Datum:	North American Datum 1983		
Map Zone:	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 #2017-3-21HN					
Well Position	+N/-S	0.1 usft	Northing:	1,223,392.30 usft	Latitude:	39° 56' 40.196 N
	+E/-W	30.1 usft	Easting:	3,194,786.76 usft	Longitude:	104° 48' 18.982 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	5,047.0 usft

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

Design	State Plan #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.1	30.1	357.62

Plan Sections										
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	0.1	30.1	0.00	0.00	0.00	0.00	
151.2	4.54	214.99	151.0	-4.8	26.6	3.00	3.00	0.00	214.99	
6,913.6	4.54	214.99	6,892.3	-442.9	-280.0	0.00	0.00	0.00	0.00	
7,694.4	90.00	359.62	7,400.0	33.4	-306.5	12.00	10.95	18.52	144.54	BL 3-21HN LP
17,328.1	90.00	359.62	7,400.0	9,666.8	-371.2	0.00	0.00	0.00	0.00	BL 3-21HN BHL

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Brighton Lakes Pad
Company:	Ward Petroleum	TVD Reference:	KB @ 5073.0usft
Project:	West Brighton Adams, CO	MD Reference:	KB @ 5073.0usft
Site:	Brighton Lakes Pad	North Reference:	Grid
Well:	Bighton Lakes #2017-3-21HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	State Plan #1		
Design:	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	0.1	30.1	0.0	0.00	0.00	0.00
100.0	3.00	214.99	100.0	-2.1	28.6	-2.1	3.00	3.00	0.00
151.2	4.54	214.99	151.0	-4.8	26.6	-4.8	3.00	3.00	0.00
200.0	4.54	214.99	199.7	-8.0	24.4	-7.8	0.00	0.00	0.00
300.0	4.54	214.99	299.4	-14.5	19.9	-14.1	0.00	0.00	0.00
400.0	4.54	214.99	399.1	-20.9	15.3	-20.4	0.00	0.00	0.00
500.0	4.54	214.99	498.8	-27.4	10.8	-26.7	0.00	0.00	0.00
600.0	4.54	214.99	598.4	-33.9	6.3	-33.0	0.00	0.00	0.00
700.0	4.54	214.99	698.1	-40.4	1.7	-39.2	0.00	0.00	0.00
800.0	4.54	214.99	797.8	-46.8	-2.8	-45.5	0.00	0.00	0.00
900.0	4.54	214.99	897.5	-53.3	-7.3	-51.8	0.00	0.00	0.00
1,000.0	4.54	214.99	997.2	-59.8	-11.9	-58.1	0.00	0.00	0.00
1,100.0	4.54	214.99	1,096.9	-66.3	-16.4	-64.4	0.00	0.00	0.00
1,200.0	4.54	214.99	1,196.6	-72.8	-20.9	-70.7	0.00	0.00	0.00
1,300.0	4.54	214.99	1,296.2	-79.2	-25.5	-77.0	0.00	0.00	0.00
1,400.0	4.54	214.99	1,395.9	-85.7	-30.0	-83.2	0.00	0.00	0.00
1,500.0	4.54	214.99	1,495.6	-92.2	-34.5	-89.5	0.00	0.00	0.00
1,600.0	4.54	214.99	1,595.3	-98.7	-39.1	-95.8	0.00	0.00	0.00
1,700.0	4.54	214.99	1,695.0	-105.1	-43.6	-102.1	0.00	0.00	0.00
1,800.0	4.54	214.99	1,794.7	-111.6	-48.1	-108.4	0.00	0.00	0.00
1,900.0	4.54	214.99	1,894.4	-118.1	-52.7	-114.7	0.00	0.00	0.00
2,000.0	4.54	214.99	1,994.1	-124.6	-57.2	-120.9	0.00	0.00	0.00
2,100.0	4.54	214.99	2,093.7	-131.1	-61.7	-127.2	0.00	0.00	0.00
2,200.0	4.54	214.99	2,193.4	-137.5	-66.3	-133.5	0.00	0.00	0.00
2,300.0	4.54	214.99	2,293.1	-144.0	-70.8	-139.8	0.00	0.00	0.00
2,400.0	4.54	214.99	2,392.8	-150.5	-75.3	-146.1	0.00	0.00	0.00
2,500.0	4.54	214.99	2,492.5	-157.0	-79.9	-152.4	0.00	0.00	0.00
2,600.0	4.54	214.99	2,592.2	-163.4	-84.4	-158.6	0.00	0.00	0.00
2,700.0	4.54	214.99	2,691.9	-169.9	-88.9	-164.9	0.00	0.00	0.00
2,800.0	4.54	214.99	2,791.5	-176.4	-93.5	-171.2	0.00	0.00	0.00
2,900.0	4.54	214.99	2,891.2	-182.9	-98.0	-177.5	0.00	0.00	0.00
3,000.0	4.54	214.99	2,990.9	-189.4	-102.5	-183.8	0.00	0.00	0.00
3,100.0	4.54	214.99	3,090.6	-195.8	-107.1	-190.1	0.00	0.00	0.00
3,200.0	4.54	214.99	3,190.3	-202.3	-111.6	-196.4	0.00	0.00	0.00
3,300.0	4.54	214.99	3,290.0	-208.8	-116.1	-202.6	0.00	0.00	0.00
3,400.0	4.54	214.99	3,389.7	-215.3	-120.7	-208.9	0.00	0.00	0.00
3,500.0	4.54	214.99	3,489.4	-221.7	-125.2	-215.2	0.00	0.00	0.00
3,600.0	4.54	214.99	3,589.0	-228.2	-129.7	-221.5	0.00	0.00	0.00
3,700.0	4.54	214.99	3,688.7	-234.7	-134.3	-227.8	0.00	0.00	0.00
3,800.0	4.54	214.99	3,788.4	-241.2	-138.8	-234.1	0.00	0.00	0.00
3,900.0	4.54	214.99	3,888.1	-247.7	-143.3	-240.3	0.00	0.00	0.00
4,000.0	4.54	214.99	3,987.8	-254.1	-147.9	-246.6	0.00	0.00	0.00
4,100.0	4.54	214.99	4,087.5	-260.6	-152.4	-252.9	0.00	0.00	0.00
4,200.0	4.54	214.99	4,187.2	-267.1	-156.9	-259.2	0.00	0.00	0.00
4,300.0	4.54	214.99	4,286.9	-273.6	-161.5	-265.5	0.00	0.00	0.00
4,400.0	4.54	214.99	4,386.5	-280.1	-166.0	-271.8	0.00	0.00	0.00
4,500.0	4.54	214.99	4,486.2	-286.5	-170.5	-278.1	0.00	0.00	0.00
4,600.0	4.54	214.99	4,585.9	-293.0	-175.1	-284.3	0.00	0.00	0.00
4,700.0	4.54	214.99	4,685.6	-299.5	-179.6	-290.6	0.00	0.00	0.00
4,800.0	4.54	214.99	4,785.3	-306.0	-184.1	-296.9	0.00	0.00	0.00
4,900.0	4.54	214.99	4,885.0	-312.4	-188.7	-303.2	0.00	0.00	0.00
5,000.0	4.54	214.99	4,984.7	-318.9	-193.2	-309.5	0.00	0.00	0.00
5,100.0	4.54	214.99	5,084.3	-325.4	-197.7	-315.8	0.00	0.00	0.00
5,200.0	4.54	214.99	5,184.0	-331.9	-202.3	-322.0	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Brighton Lakes Pad
Company:	Ward Petroleum	TVD Reference:	KB @ 5073.0usft
Project:	West Brighton Adams, CO	MD Reference:	KB @ 5073.0usft
Site:	Brighton Lakes Pad	North Reference:	Grid
Well:	Bighton Lakes #2017-3-21HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	State Plan #1		
Design:	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	4.54	214.99	5,283.7	-338.4	-206.8	-328.3	0.00	0.00	0.00
5,400.0	4.54	214.99	5,383.4	-344.8	-211.3	-334.6	0.00	0.00	0.00
5,500.0	4.54	214.99	5,483.1	-351.3	-215.9	-340.9	0.00	0.00	0.00
5,600.0	4.54	214.99	5,582.8	-357.8	-220.4	-347.2	0.00	0.00	0.00
5,700.0	4.54	214.99	5,682.5	-364.3	-224.9	-353.5	0.00	0.00	0.00
5,800.0	4.54	214.99	5,782.2	-370.7	-229.5	-359.8	0.00	0.00	0.00
5,900.0	4.54	214.99	5,881.8	-377.2	-234.0	-366.0	0.00	0.00	0.00
6,000.0	4.54	214.99	5,981.5	-383.7	-238.5	-372.3	0.00	0.00	0.00
6,100.0	4.54	214.99	6,081.2	-390.2	-243.1	-378.6	0.00	0.00	0.00
6,200.0	4.54	214.99	6,180.9	-396.7	-247.6	-384.9	0.00	0.00	0.00
6,300.0	4.54	214.99	6,280.6	-403.1	-252.1	-391.2	0.00	0.00	0.00
6,400.0	4.54	214.99	6,380.3	-409.6	-256.7	-397.5	0.00	0.00	0.00
6,500.0	4.54	214.99	6,480.0	-416.1	-261.2	-403.7	0.00	0.00	0.00
6,600.0	4.54	214.99	6,579.7	-422.6	-265.8	-410.0	0.00	0.00	0.00
6,700.0	4.54	214.99	6,679.3	-429.0	-270.3	-416.3	0.00	0.00	0.00
6,800.0	4.54	214.99	6,779.0	-435.5	-274.8	-422.6	0.00	0.00	0.00
6,900.0	4.54	214.99	6,878.7	-442.0	-279.4	-428.9	0.00	0.00	0.00
6,913.6	4.54	214.99	6,892.3	-442.9	-280.0	-429.7	0.00	0.00	0.00
7,000.0	7.17	338.20	6,978.4	-440.7	-283.9	-427.4	12.00	3.05	142.63
7,100.0	18.85	351.88	7,075.7	-418.8	-288.6	-405.3	12.00	11.68	13.69
7,200.0	30.77	355.19	7,166.3	-377.2	-293.0	-363.5	12.00	11.92	3.31
7,300.0	42.73	356.77	7,246.3	-317.6	-297.1	-303.8	12.00	11.96	1.57
7,400.0	54.71	357.75	7,312.2	-242.7	-300.6	-228.8	12.00	11.98	0.99
7,500.0	66.70	358.48	7,361.0	-155.7	-303.4	-141.8	12.00	11.98	0.73
7,600.0	78.68	359.09	7,390.7	-60.4	-305.4	-46.5	12.00	11.99	0.61
7,694.4	90.00	359.62	7,400.0	33.4	-306.5	47.3	12.00	11.99	0.56
7,700.0	90.00	359.62	7,400.0	39.0	-306.5	52.8	0.00	0.00	0.00
7,800.0	90.00	359.62	7,400.0	139.0	-307.2	152.8	0.00	0.00	0.00
7,900.0	90.00	359.62	7,400.0	239.0	-307.9	252.7	0.00	0.00	0.00
8,000.0	90.00	359.62	7,400.0	339.0	-308.5	352.7	0.00	0.00	0.00
8,100.0	90.00	359.62	7,400.0	439.0	-309.2	452.6	0.00	0.00	0.00
8,200.0	90.00	359.62	7,400.0	539.0	-309.9	552.5	0.00	0.00	0.00
8,300.0	90.00	359.62	7,400.0	639.0	-310.5	652.5	0.00	0.00	0.00
8,400.0	90.00	359.62	7,400.0	739.0	-311.2	752.4	0.00	0.00	0.00
8,500.0	90.00	359.62	7,400.0	839.0	-311.9	852.3	0.00	0.00	0.00
8,600.0	90.00	359.62	7,400.0	939.0	-312.6	952.3	0.00	0.00	0.00
8,700.0	90.00	359.62	7,400.0	1,039.0	-313.2	1,052.2	0.00	0.00	0.00
8,800.0	90.00	359.62	7,400.0	1,139.0	-313.9	1,152.2	0.00	0.00	0.00
8,900.0	90.00	359.62	7,400.0	1,239.0	-314.6	1,252.1	0.00	0.00	0.00
9,000.0	90.00	359.62	7,400.0	1,339.0	-315.2	1,352.0	0.00	0.00	0.00
9,100.0	90.00	359.62	7,400.0	1,439.0	-315.9	1,452.0	0.00	0.00	0.00
9,200.0	90.00	359.62	7,400.0	1,539.0	-316.6	1,551.9	0.00	0.00	0.00
9,300.0	90.00	359.62	7,400.0	1,639.0	-317.3	1,651.9	0.00	0.00	0.00
9,400.0	90.00	359.62	7,400.0	1,739.0	-317.9	1,751.8	0.00	0.00	0.00
9,500.0	90.00	359.62	7,400.0	1,839.0	-318.6	1,851.7	0.00	0.00	0.00
9,600.0	90.00	359.62	7,400.0	1,939.0	-319.3	1,951.7	0.00	0.00	0.00
9,700.0	90.00	359.62	7,400.0	2,039.0	-319.9	2,051.6	0.00	0.00	0.00
9,800.0	90.00	359.62	7,400.0	2,139.0	-320.6	2,151.6	0.00	0.00	0.00
9,900.0	90.00	359.62	7,400.0	2,238.9	-321.3	2,251.5	0.00	0.00	0.00
10,000.0	90.00	359.62	7,400.0	2,338.9	-322.0	2,351.4	0.00	0.00	0.00
10,100.0	90.00	359.62	7,400.0	2,438.9	-322.6	2,451.4	0.00	0.00	0.00
10,200.0	90.00	359.62	7,400.0	2,538.9	-323.3	2,551.3	0.00	0.00	0.00
10,300.0	90.00	359.62	7,400.0	2,638.9	-324.0	2,651.3	0.00	0.00	0.00
10,400.0	90.00	359.62	7,400.0	2,738.9	-324.6	2,751.2	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Brighton Lakes Pad
Company:	Ward Petroleum	TVD Reference:	KB @ 5073.0usft
Project:	West Brighton Adams, CO	MD Reference:	KB @ 5073.0usft
Site:	Brighton Lakes Pad	North Reference:	Grid
Well:	Bighton Lakes #2017-3-21HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	State Plan #1		
Design:	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	2,838.9	-325.3	2,851.1	0.00	0.00	0.00	
10,600.0	90.00	359.62	7,400.0	2,938.9	-326.0	2,951.1	0.00	0.00	0.00	
10,700.0	90.00	359.62	7,400.0	3,038.9	-326.7	3,051.0	0.00	0.00	0.00	
10,800.0	90.00	359.62	7,400.0	3,138.9	-327.3	3,151.0	0.00	0.00	0.00	
10,900.0	90.00	359.62	7,400.0	3,238.9	-328.0	3,250.9	0.00	0.00	0.00	
11,000.0	90.00	359.62	7,400.0	3,338.9	-328.7	3,350.8	0.00	0.00	0.00	
11,100.0	90.00	359.62	7,400.0	3,438.9	-329.3	3,450.8	0.00	0.00	0.00	
11,200.0	90.00	359.62	7,400.0	3,538.9	-330.0	3,550.7	0.00	0.00	0.00	
11,300.0	90.00	359.62	7,400.0	3,638.9	-330.7	3,650.7	0.00	0.00	0.00	
11,400.0	90.00	359.62	7,400.0	3,738.9	-331.4	3,750.6	0.00	0.00	0.00	
11,500.0	90.00	359.62	7,400.0	3,838.9	-332.0	3,850.5	0.00	0.00	0.00	
11,600.0	90.00	359.62	7,400.0	3,938.9	-332.7	3,950.5	0.00	0.00	0.00	
11,700.0	90.00	359.62	7,400.0	4,038.9	-333.4	4,050.4	0.00	0.00	0.00	
11,800.0	90.00	359.62	7,400.0	4,138.9	-334.0	4,150.4	0.00	0.00	0.00	
11,900.0	90.00	359.62	7,400.0	4,238.9	-334.7	4,250.3	0.00	0.00	0.00	
12,000.0	90.00	359.62	7,400.0	4,338.9	-335.4	4,350.2	0.00	0.00	0.00	
12,100.0	90.00	359.62	7,400.0	4,438.9	-336.1	4,450.2	0.00	0.00	0.00	
12,200.0	90.00	359.62	7,400.0	4,538.9	-336.7	4,550.1	0.00	0.00	0.00	
12,300.0	90.00	359.62	7,400.0	4,638.9	-337.4	4,650.1	0.00	0.00	0.00	
12,400.0	90.00	359.62	7,400.0	4,738.9	-338.1	4,750.0	0.00	0.00	0.00	
12,500.0	90.00	359.62	7,400.0	4,838.9	-338.7	4,849.9	0.00	0.00	0.00	
12,600.0	90.00	359.62	7,400.0	4,938.9	-339.4	4,949.9	0.00	0.00	0.00	
12,700.0	90.00	359.62	7,400.0	5,038.9	-340.1	5,049.8	0.00	0.00	0.00	
12,800.0	90.00	359.62	7,400.0	5,138.9	-340.8	5,149.7	0.00	0.00	0.00	
12,900.0	90.00	359.62	7,400.0	5,238.9	-341.4	5,249.7	0.00	0.00	0.00	
13,000.0	90.00	359.62	7,400.0	5,338.9	-342.1	5,349.6	0.00	0.00	0.00	
13,100.0	90.00	359.62	7,400.0	5,438.9	-342.8	5,449.6	0.00	0.00	0.00	
13,200.0	90.00	359.62	7,400.0	5,538.9	-343.4	5,549.5	0.00	0.00	0.00	
13,300.0	90.00	359.62	7,400.0	5,638.9	-344.1	5,649.4	0.00	0.00	0.00	
13,400.0	90.00	359.62	7,400.0	5,738.9	-344.8	5,749.4	0.00	0.00	0.00	
13,500.0	90.00	359.62	7,400.0	5,838.9	-345.5	5,849.3	0.00	0.00	0.00	
13,600.0	90.00	359.62	7,400.0	5,938.9	-346.1	5,949.3	0.00	0.00	0.00	
13,700.0	90.00	359.62	7,400.0	6,038.9	-346.8	6,049.2	0.00	0.00	0.00	
13,800.0	90.00	359.62	7,400.0	6,138.9	-347.5	6,149.1	0.00	0.00	0.00	
13,900.0	90.00	359.62	7,400.0	6,238.9	-348.1	6,249.1	0.00	0.00	0.00	
14,000.0	90.00	359.62	7,400.0	6,338.9	-348.8	6,349.0	0.00	0.00	0.00	
14,100.0	90.00	359.62	7,400.0	6,438.9	-349.5	6,449.0	0.00	0.00	0.00	
14,200.0	90.00	359.62	7,400.0	6,538.9	-350.2	6,548.9	0.00	0.00	0.00	
14,300.0	90.00	359.62	7,400.0	6,638.8	-350.8	6,648.8	0.00	0.00	0.00	
14,400.0	90.00	359.62	7,400.0	6,738.8	-351.5	6,748.8	0.00	0.00	0.00	
14,500.0	90.00	359.62	7,400.0	6,838.8	-352.2	6,848.7	0.00	0.00	0.00	
14,600.0	90.00	359.62	7,400.0	6,938.8	-352.8	6,948.7	0.00	0.00	0.00	
14,700.0	90.00	359.62	7,400.0	7,038.8	-353.5	7,048.6	0.00	0.00	0.00	
14,800.0	90.00	359.62	7,400.0	7,138.8	-354.2	7,148.5	0.00	0.00	0.00	
14,900.0	90.00	359.62	7,400.0	7,238.8	-354.9	7,248.5	0.00	0.00	0.00	
15,000.0	90.00	359.62	7,400.0	7,338.8	-355.5	7,348.4	0.00	0.00	0.00	
15,100.0	90.00	359.62	7,400.0	7,438.8	-356.2	7,448.4	0.00	0.00	0.00	
15,200.0	90.00	359.62	7,400.0	7,538.8	-356.9	7,548.3	0.00	0.00	0.00	
15,300.0	90.00	359.62	7,400.0	7,638.8	-357.5	7,648.2	0.00	0.00	0.00	
15,400.0	90.00	359.62	7,400.0	7,738.8	-358.2	7,748.2	0.00	0.00	0.00	
15,500.0	90.00	359.62	7,400.0	7,838.8	-358.9	7,848.1	0.00	0.00	0.00	
15,600.0	90.00	359.62	7,400.0	7,938.8	-359.6	7,948.1	0.00	0.00	0.00	
15,700.0	90.00	359.62	7,400.0	8,038.8	-360.2	8,048.0	0.00	0.00	0.00	
15,800.0	90.00	359.62	7,400.0	8,138.8	-360.9	8,147.9	0.00	0.00	0.00	

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Brighton Lakes Pad
Company:	Ward Petroleum	TVD Reference:	KB @ 5073.0usft
Project:	West Brighton Adams, CO	MD Reference:	KB @ 5073.0usft
Site:	Brighton Lakes Pad	North Reference:	Grid
Well:	Bighton Lakes #2017-3-21HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	State Plan #1		
Design:	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	8,238.8	-361.6	8,247.9	0.00	0.00	0.00	
16,000.0	90.00	359.62	7,400.0	8,338.8	-362.2	8,347.8	0.00	0.00	0.00	
16,100.0	90.00	359.62	7,400.0	8,438.8	-362.9	8,447.8	0.00	0.00	0.00	
16,200.0	90.00	359.62	7,400.0	8,538.8	-363.6	8,547.7	0.00	0.00	0.00	
16,300.0	90.00	359.62	7,400.0	8,638.8	-364.3	8,647.6	0.00	0.00	0.00	
16,400.0	90.00	359.62	7,400.0	8,738.8	-364.9	8,747.6	0.00	0.00	0.00	
16,500.0	90.00	359.62	7,400.0	8,838.8	-365.6	8,847.5	0.00	0.00	0.00	
16,600.0	90.00	359.62	7,400.0	8,938.8	-366.3	8,947.5	0.00	0.00	0.00	
16,700.0	90.00	359.62	7,400.0	9,038.8	-366.9	9,047.4	0.00	0.00	0.00	
16,800.0	90.00	359.62	7,400.0	9,138.8	-367.6	9,147.3	0.00	0.00	0.00	
16,900.0	90.00	359.62	7,400.0	9,238.8	-368.3	9,247.3	0.00	0.00	0.00	
17,000.0	90.00	359.62	7,400.0	9,338.8	-369.0	9,347.2	0.00	0.00	0.00	
17,100.0	90.00	359.62	7,400.0	9,438.8	-369.6	9,447.2	0.00	0.00	0.00	
17,200.0	90.00	359.62	7,400.0	9,538.8	-370.3	9,547.1	0.00	0.00	0.00	
17,300.0	90.00	359.62	7,400.0	9,638.8	-371.0	9,647.0	0.00	0.00	0.00	
17,328.1	90.00	359.62	7,400.0	9,666.8	-371.2	9,675.1	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 3-21HN LP	0.00	0.00	7,400.0	33.4	-306.5	1,223,425.63	3,194,450.22	39° 56' 40.551 N	104° 48' 23.299 W	
- plan hits target center										
- Point										
BL 3-21HN BHL	0.00	0.00	7,400.0	9,666.8	-371.2	1,233,059.06	3,194,385.54	39° 58' 15.758 N	104° 48' 23.162 W	
- plan hits target center										
- Point										