

Bayswater Exploration & Production, LLC

Well Name: **Ward S-20-19HN**

Surface Location: Ward 20-M Pad Sec. 20-T6N-R66W

North American Datum 1983 , US State Plane 1983, Colorado Northern Zone

Ground Elevation: 4728.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1413867.04	8196665.82	40.467315	-104.793156	

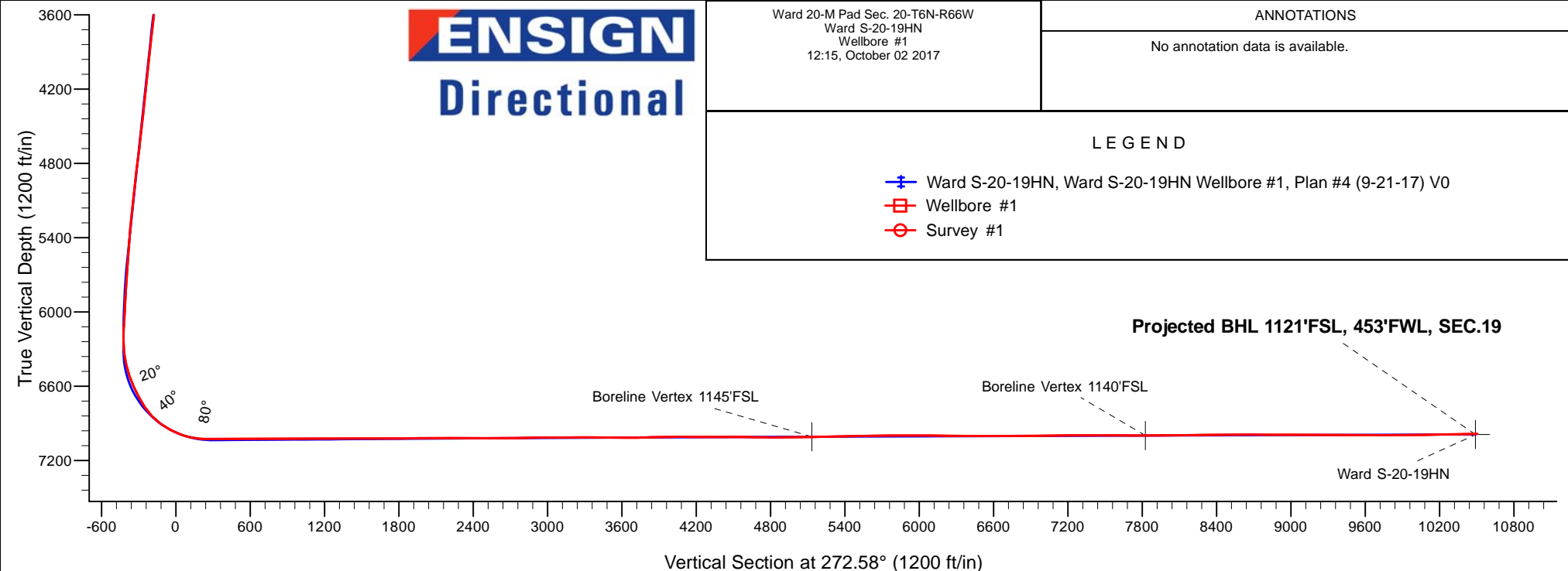
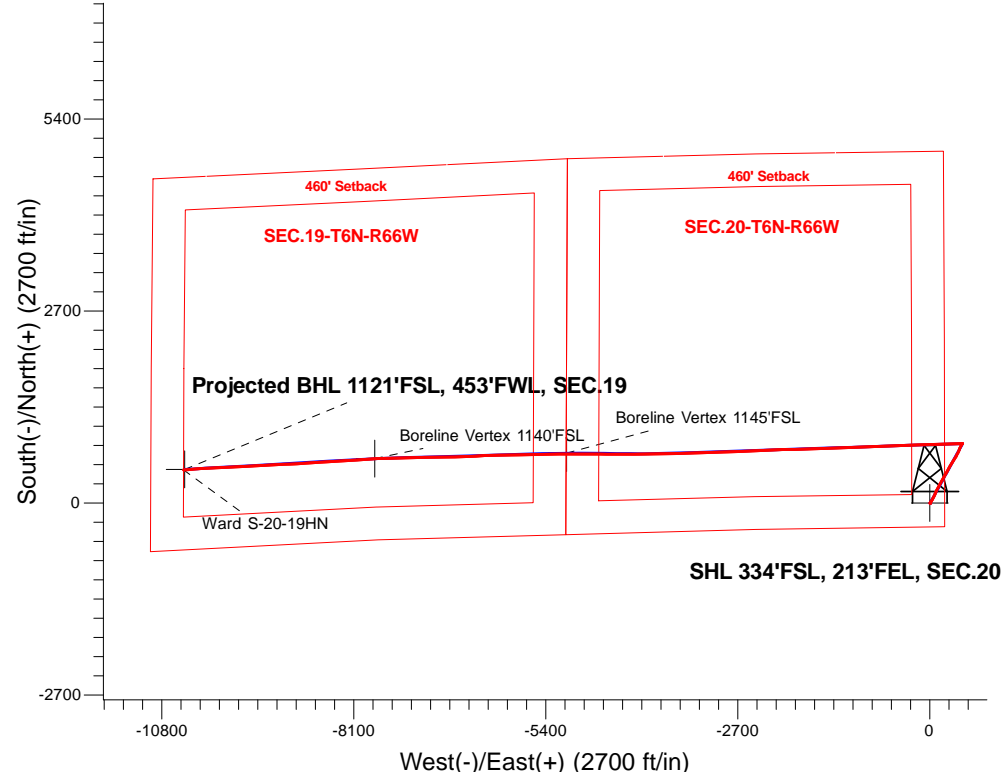
RKB - 25' WELL @ 4753.0ft (RKB - 25')

FINAL SURVEY

Projected Bottom Hole Location

17,787'MD 6986'TVD 465'N & 10495'W of SHL

90.5 degree Incl @ 265.0 degree AZM



Ward 20-M Pad Sec. 20-T6N-R66W
Ward S-20-19HN
Wellbore #1
12:15, October 02 2017

ANNOTATIONS

No annotation data is available.

LEGEND

- Ward S-20-19HN, Ward S-20-19HN Wellbore #1, Plan #4 (9-21-17) V0
- Wellbore #1
- Survey #1

Projected BHL 1121'FSL, 453'FWL, SEC.19

Boreline Vertex 1145'FSL

Boreline Vertex 1140'FSL

Ward S-20-19HN



Bayswater Exploration & Production, LLC

SEC.20-T6N-R66W

Ward 20-M Pad Sec. 20-T6N-R66W

Ward S-20-19HN

Ward S-20-19HN Wellbore #1

Survey: Survey #1

Standard Survey Report

02 October, 2017



BAYSWATER
EXPLORATION & PRODUCTION, LLC

Company:	Bayswater Exploration & Production, LLC	Local Co-ordinate Reference:	Well Ward S-20-19HN
Project:	SEC.20-T6N-R66W	TVD Reference:	WELL @ 4753.0ft (RKB - 25')
Site:	Ward 20-M Pad Sec. 20-T6N-R66W	MD Reference:	WELL @ 4753.0ft (RKB - 25')
Well:	Ward S-20-19HN	North Reference:	True
Wellbore:	Ward S-20-19HN Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	US_EDM

Project	SEC.20-T6N-R66W, Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site		Ward 20-M Pad Sec. 20-T6N-R66W						
Site Position:		Northing:	1,413,957.04	usft	Latitude:	40.467562		
From:	Lat/Long	Easting:	3,196,665.10	usft	Longitude:	-104.793156		
Position Uncertainty:	0.0	ft	Slot Radius:	13-3/16	"	Grid Convergence:	0.46	°

Well	Ward S-20-19HN					
Well Position	+N/-S	0.0 ft	Northing:	1,413,867.04 usft	Latitude:	40.467315
	+E/-W	0.0 ft	Easting:	3,196,665.82 usft	Longitude:	-104.793156
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level:	4,728.0 ft

Wellbore	Ward S-20-19HN Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/21/2017	8.04	66.88	52,504

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	272.58	

Survey Program	Date	10/2/2017			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
209.0	17,787.0	Survey #1 (Ward S-20-19HN Wellbore #1)	MWD	MWD - Standard	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
209.0	1.90	117.00	209.0	-1.6	3.1	-3.2	0.91	0.91	0.00	
304.0	0.70	130.40	303.9	-2.7	4.9	-5.0	1.29	-1.26	14.11	
399.0	0.80	125.30	398.9	-3.4	5.9	-6.1	0.13	0.11	-5.37	
493.0	1.10	68.00	492.9	-3.5	7.3	-7.4	1.01	0.32	-60.96	
588.0	2.10	57.30	587.9	-2.2	9.6	-9.7	1.09	1.05	-11.26	
683.0	1.50	21.30	682.8	-0.1	11.5	-11.5	1.32	-0.63	-37.89	
715.0	2.00	5.80	714.8	0.9	11.7	-11.7	2.14	1.56	-48.44	
809.0	2.00	7.20	808.8	4.1	12.1	-11.9	0.05	0.00	1.49	
904.0	1.80	358.20	903.7	7.3	12.3	-11.9	0.38	-0.21	-9.47	

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Well:	Ward S-20-19HN	North Reference:	True
Wellbore:	Ward S-20-19HN Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	US_EDM

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
999.0	0.40	350.20	998.7	9.1	12.2	-11.7	1.48	-1.47	-8.42
1,094.0	0.80	309.00	1,093.7	9.8	11.6	-11.1	0.59	0.42	-43.37
1,189.0	0.40	301.10	1,188.7	10.4	10.8	-10.3	0.43	-0.42	-8.32
1,283.0	0.60	297.10	1,282.7	10.8	10.1	-9.6	0.22	0.21	-4.26
1,378.0	1.00	343.30	1,377.7	11.8	9.4	-8.8	0.77	0.42	48.63
1,473.0	1.90	23.00	1,472.6	14.1	9.8	-9.1	1.37	0.95	41.79
1,495.0	1.80	28.30	1,494.6	14.7	10.1	-9.4	0.90	-0.45	24.09
1,573.0	1.60	37.90	1,572.6	16.6	11.3	-10.6	0.45	-0.26	12.31
1,668.0	1.60	29.80	1,667.6	18.8	12.8	-11.9	0.24	0.00	-8.53
1,762.0	3.50	46.40	1,761.5	22.0	15.5	-14.5	2.15	2.02	17.66
1,857.0	5.30	39.20	1,856.2	27.4	20.4	-19.1	1.98	1.89	-7.58
1,951.0	6.20	37.00	1,949.7	34.8	26.2	-24.6	0.99	0.96	-2.34
2,046.0	8.10	29.30	2,044.0	44.7	32.6	-30.5	2.24	2.00	-8.11
2,140.0	9.70	28.40	2,136.8	57.5	39.6	-36.9	1.71	1.70	-0.96
2,234.0	10.60	26.50	2,229.4	72.2	47.2	-43.9	1.02	0.96	-2.02
2,329.0	12.20	24.40	2,322.5	89.1	55.2	-51.2	1.74	1.68	-2.21
2,423.0	14.10	25.60	2,414.0	108.5	64.3	-59.3	2.04	2.02	1.28
2,518.0	13.40	24.70	2,506.3	128.9	73.9	-68.0	0.77	-0.74	-0.95
2,613.0	13.20	23.20	2,598.7	148.9	82.8	-76.0	0.42	-0.21	-1.58
2,708.0	13.10	22.10	2,691.2	168.8	91.1	-83.4	0.28	-0.11	-1.16
2,802.0	13.10	27.70	2,782.8	188.1	100.0	-91.5	1.35	0.00	5.96
2,897.0	12.30	25.40	2,875.5	206.8	109.4	-100.0	1.00	-0.84	-2.42
2,991.0	14.10	31.10	2,967.0	225.7	119.6	-109.3	2.36	1.91	6.06
3,085.0	13.40	30.40	3,058.3	244.9	131.0	-119.9	0.77	-0.74	-0.74
3,180.0	12.50	26.80	3,150.9	263.5	141.2	-129.2	1.27	-0.95	-3.79
3,275.0	12.40	30.20	3,243.7	281.5	151.0	-138.2	0.78	-0.11	3.58
3,369.0	13.90	32.30	3,335.2	299.8	162.1	-148.4	1.67	1.60	2.23
3,463.0	12.70	30.40	3,426.7	318.3	173.4	-158.9	1.36	-1.28	-2.02
3,557.0	14.50	28.60	3,518.0	337.5	184.2	-168.8	1.97	1.91	-1.91
3,652.0	13.80	28.10	3,610.1	357.9	195.3	-178.9	0.75	-0.74	-0.53
3,747.0	13.70	27.00	3,702.4	378.0	205.7	-188.5	0.29	-0.11	-1.16
3,841.0	14.50	29.70	3,793.6	398.1	216.6	-198.4	1.10	0.85	2.87
3,936.0	14.50	26.80	3,885.6	419.0	227.8	-208.7	0.76	0.00	-3.05
4,031.0	13.80	28.30	3,977.7	439.6	238.6	-218.5	0.83	-0.74	1.58
4,126.0	13.70	30.90	4,070.0	459.3	249.7	-228.8	0.66	-0.11	2.74
4,220.0	13.10	29.30	4,161.4	478.1	260.7	-238.8	0.75	-0.64	-1.70
4,315.0	12.10	27.90	4,254.1	496.3	270.6	-247.9	1.10	-1.05	-1.47
4,409.0	13.80	30.70	4,345.7	514.6	280.9	-257.4	1.93	1.81	2.98
4,503.0	13.30	28.30	4,437.1	533.8	291.8	-267.4	0.80	-0.53	-2.55
4,598.0	13.50	33.70	4,529.5	552.7	303.1	-277.9	1.33	0.21	5.68
4,694.0	12.80	31.60	4,623.0	571.0	314.9	-288.8	0.88	-0.73	-2.19
4,789.0	14.20	33.70	4,715.4	589.7	326.9	-300.0	1.56	1.47	2.21
4,884.0	13.20	32.50	4,807.7	608.5	339.2	-311.4	1.09	-1.05	-1.26
4,979.0	14.90	31.90	4,899.8	628.1	351.4	-322.8	1.80	1.79	-0.63

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5,074.0	13.70	29.00	4,991.9	648.3	363.4	-333.8	1.47	-1.26	-3.05	
5,169.0	12.00	25.80	5,084.5	667.0	373.1	-342.7	1.94	-1.79	-3.37	
5,264.0	13.90	30.40	5,177.1	685.7	383.2	-351.9	2.27	2.00	4.84	
5,358.0	14.90	27.20	5,268.1	706.2	394.4	-362.2	1.36	1.06	-3.40	
5,452.0	12.80	21.40	5,359.4	726.7	403.7	-370.6	2.68	-2.23	-6.17	
5,547.0	13.00	23.50	5,452.0	746.3	411.8	-377.8	0.54	0.21	2.21	
5,646.0	11.30	17.50	5,548.8	765.7	419.2	-384.3	2.14	-1.72	-6.06	
5,741.0	10.90	28.80	5,642.0	782.5	426.3	-390.6	2.32	-0.42	11.89	
5,834.0	9.80	25.80	5,733.5	797.3	434.0	-397.6	1.32	-1.18	-3.23	
5,960.0	8.00	22.30	5,858.0	815.1	442.0	-404.8	1.49	-1.43	-2.78	
6,055.0	6.90	30.90	5,952.2	826.1	447.4	-409.8	1.65	-1.16	9.05	
6,149.0	4.70	51.10	6,045.7	833.4	453.3	-415.3	3.16	-2.34	21.49	
6,243.0	3.10	78.20	6,139.5	836.3	458.8	-420.7	2.55	-1.70	28.83	
6,338.0	1.10	223.50	6,234.5	836.2	460.7	-422.6	4.27	-2.11	152.95	
6,433.0	6.00	272.40	6,329.3	835.7	455.1	-417.0	5.62	5.16	51.47	
6,527.0	12.40	268.40	6,422.0	835.6	440.1	-402.0	6.84	6.81	-4.26	
6,622.0	18.70	268.20	6,513.5	834.9	414.7	-376.6	6.63	6.63	-0.21	
6,717.0	24.50	271.00	6,601.8	834.7	379.7	-341.7	6.20	6.11	2.95	
6,812.0	28.20	268.00	6,686.9	834.3	337.6	-299.6	4.14	3.89	-3.16	
6,906.0	32.30	271.00	6,768.1	834.0	290.2	-252.4	4.65	4.36	3.19	
7,001.0	44.60	268.20	6,842.3	833.3	231.3	-193.5	13.07	12.95	-2.95	
7,096.0	54.10	268.00	6,904.1	831.0	159.3	-121.7	10.00	10.00	-0.21	
7,191.0	61.00	267.70	6,955.1	827.9	79.3	-41.9	7.27	7.26	-0.32	
7,286.0	71.70	266.30	6,993.1	823.3	-7.5	44.6	11.34	11.26	-1.47	
7,380.0	80.10	267.70	7,016.0	818.6	-98.4	135.2	9.05	8.94	1.49	
7,475.0	87.50	267.00	7,026.3	814.2	-192.7	229.2	7.82	7.79	-0.74	
7,570.0	92.20	268.50	7,026.5	810.5	-287.6	323.8	5.19	4.95	1.58	
7,665.0	90.20	268.20	7,024.5	807.8	-382.6	418.6	2.13	-2.11	-0.32	
7,760.0	89.50	267.50	7,024.8	804.2	-477.5	513.2	1.04	-0.74	-0.74	
7,854.0	90.00	268.90	7,025.2	801.3	-571.4	607.0	1.58	0.53	1.49	
7,948.0	89.60	267.70	7,025.5	798.5	-665.4	700.7	1.35	-0.43	-1.28	
8,043.0	90.70	268.90	7,025.3	795.6	-760.3	795.4	1.71	1.16	1.26	
8,138.0	89.90	268.20	7,024.8	793.2	-855.3	890.2	1.12	-0.84	-0.74	
8,233.0	89.30	268.20	7,025.4	790.3	-950.3	984.9	0.63	-0.63	0.00	
8,327.0	91.50	267.80	7,024.8	787.0	-1,044.2	1,078.6	2.38	2.34	-0.43	
8,422.0	90.80	267.30	7,022.9	782.9	-1,139.1	1,173.2	0.91	-0.74	-0.53	
8,517.0	90.60	267.70	7,021.7	778.8	-1,234.0	1,267.8	0.47	-0.21	0.42	
8,611.0	89.50	267.00	7,021.6	774.4	-1,327.9	1,361.4	1.39	-1.17	-0.74	
8,706.0	89.20	266.60	7,022.7	769.1	-1,422.7	1,455.9	0.53	-0.32	-0.42	
8,801.0	90.10	268.50	7,023.3	765.1	-1,517.6	1,550.6	2.21	0.95	2.00	
8,895.0	90.00	268.40	7,023.2	762.5	-1,611.6	1,644.3	0.15	-0.11	-0.11	
8,990.0	89.60	267.80	7,023.5	759.4	-1,706.6	1,739.0	0.76	-0.42	-0.63	
9,085.0	91.50	269.10	7,022.6	756.8	-1,801.5	1,833.8	2.42	2.00	1.37	

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9,180.0	90.90	268.90	7,020.6	755.1	-1,896.5	1,928.6	0.67	-0.63	-0.21
9,274.0	90.50	268.90	7,019.5	753.3	-1,990.4	2,022.4	0.43	-0.43	0.00
9,369.0	90.10	268.40	7,019.0	751.1	-2,085.4	2,117.1	0.67	-0.42	-0.53
9,464.0	90.00	267.10	7,018.9	747.4	-2,180.3	2,211.8	1.37	-0.11	-1.37
9,559.0	90.00	267.10	7,018.9	742.6	-2,275.2	2,306.4	0.00	0.00	0.00
9,654.0	89.00	266.60	7,019.7	737.3	-2,370.1	2,400.9	1.18	-1.05	-0.53
9,747.0	90.50	268.20	7,020.2	733.1	-2,463.0	2,493.5	2.36	1.61	1.72
9,842.0	90.00	267.70	7,019.7	729.7	-2,557.9	2,588.2	0.74	-0.53	-0.53
9,937.0	90.80	268.40	7,019.1	726.5	-2,652.8	2,682.9	1.12	0.84	0.74
10,032.0	90.20	267.80	7,018.2	723.3	-2,747.8	2,777.6	0.89	-0.63	-0.63
10,127.0	90.90	268.70	7,017.3	720.4	-2,842.7	2,872.3	1.20	0.74	0.95
10,222.0	90.30	267.50	7,016.3	717.3	-2,937.7	2,967.0	1.41	-0.63	-1.26
10,317.0	90.70	267.10	7,015.5	712.8	-3,032.6	3,061.6	0.60	0.42	-0.42
10,411.0	90.70	265.90	7,014.4	707.1	-3,126.4	3,155.1	1.28	0.00	-1.28
10,506.0	90.50	267.80	7,013.4	701.9	-3,221.2	3,249.6	2.01	-0.21	2.00
10,601.0	89.40	270.00	7,013.4	700.0	-3,316.2	3,344.4	2.59	-1.16	2.32
10,696.0	89.00	270.00	7,014.8	700.0	-3,411.2	3,439.3	0.42	-0.42	0.00
10,790.0	89.40	268.90	7,016.1	699.1	-3,505.2	3,533.1	1.25	0.43	-1.17
10,885.0	88.90	268.40	7,017.5	696.9	-3,600.1	3,627.9	0.74	-0.53	-0.53
10,980.0	91.90	269.40	7,016.8	695.1	-3,695.1	3,722.7	3.33	3.16	1.05
11,075.0	91.70	269.10	7,013.8	693.8	-3,790.1	3,817.5	0.38	-0.21	-0.32
11,170.0	91.10	268.20	7,011.5	691.6	-3,885.0	3,912.2	1.14	-0.63	-0.95
11,264.0	90.60	268.00	7,010.1	688.5	-3,978.9	4,005.9	0.57	-0.53	-0.21
11,359.0	89.90	267.80	7,009.7	685.0	-4,073.9	4,100.6	0.77	-0.74	-0.21
11,454.0	89.00	270.00	7,010.6	683.2	-4,168.8	4,195.4	2.50	-0.95	2.32
11,549.0	90.00	271.90	7,011.5	684.8	-4,263.8	4,290.3	2.26	1.05	2.00
11,644.0	90.10	270.80	7,011.4	687.0	-4,358.8	4,385.3	1.16	0.11	-1.16
11,738.0	90.10	270.30	7,011.2	687.9	-4,452.8	4,479.3	0.53	0.00	-0.53
11,833.0	89.60	270.10	7,011.5	688.2	-4,547.8	4,574.2	0.57	-0.53	-0.21
11,928.0	90.00	270.70	7,011.8	688.9	-4,642.8	4,669.1	0.76	0.42	0.63
12,023.0	89.60	270.30	7,012.1	689.7	-4,737.8	4,764.0	0.60	-0.42	-0.42
12,117.0	89.10	269.60	7,013.2	689.6	-4,831.8	4,857.9	0.92	-0.53	-0.74
12,212.0	90.90	270.50	7,013.2	689.7	-4,926.8	4,952.8	2.12	1.89	0.95
12,307.0	90.80	269.60	7,011.8	689.8	-5,021.8	5,047.7	0.95	-0.11	-0.95
12,402.0	90.70	268.90	7,010.5	688.6	-5,116.7	5,142.6	0.74	-0.11	-0.74
12,497.0	91.50	270.00	7,008.7	687.6	-5,211.7	5,237.4	1.43	0.84	1.16
12,592.0	91.50	269.60	7,006.2	687.3	-5,306.7	5,332.3	0.42	0.00	-0.42
12,686.0	91.10	269.40	7,004.1	686.5	-5,400.7	5,426.1	0.48	-0.43	-0.21
12,781.0	91.10	269.10	7,002.3	685.2	-5,495.6	5,520.9	0.32	0.00	-0.32
12,876.0	90.80	268.40	7,000.7	683.2	-5,590.6	5,615.7	0.80	-0.32	-0.74
12,971.0	90.50	268.00	6,999.6	680.2	-5,685.5	5,710.4	0.53	-0.32	-0.42
13,066.0	90.40	267.30	6,998.9	676.3	-5,780.5	5,805.1	0.74	-0.11	-0.74
13,160.0	89.90	270.00	6,998.6	674.1	-5,874.4	5,898.8	2.92	-0.53	2.87

Company:	Bayswater Exploration & Production, LLC	Local Co-ordinate Reference:	Well Ward S-20-19HN
Project:	SEC.20-T6N-R66W	TVD Reference:	WELL @ 4753.0ft (RKB - 25')
Site:	Ward 20-M Pad Sec. 20-T6N-R66W	MD Reference:	WELL @ 4753.0ft (RKB - 25')
Well:	Ward S-20-19HN	North Reference:	True
Wellbore:	Ward S-20-19HN Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	US_EDM

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,255.0	89.80	269.60	6,998.9	673.8	-5,969.4	5,993.7	0.43	-0.11	-0.42
13,349.0	89.40	268.90	6,999.5	672.5	-6,063.4	6,087.6	0.86	-0.43	-0.74
13,444.0	89.00	268.20	7,000.9	670.1	-6,158.4	6,182.3	0.85	-0.42	-0.74
13,539.0	90.10	268.20	7,001.6	667.1	-6,253.3	6,277.0	1.16	1.16	0.00
13,634.0	90.00	267.50	7,001.5	663.6	-6,348.3	6,371.7	0.74	-0.11	-0.74
13,729.0	89.60	266.80	7,001.9	658.8	-6,443.1	6,466.3	0.85	-0.42	-0.74
13,824.0	89.40	265.90	7,002.7	652.8	-6,537.9	6,560.7	0.97	-0.21	-0.95
13,919.0	89.90	268.20	7,003.3	647.9	-6,632.8	6,655.3	2.48	0.53	2.42
14,014.0	90.70	270.10	7,002.8	646.5	-6,727.8	6,750.1	2.17	0.84	2.00
14,108.0	90.70	269.10	7,001.6	645.8	-6,821.8	6,843.9	1.06	0.00	-1.06
14,203.0	90.40	268.50	7,000.7	643.9	-6,916.8	6,938.7	0.71	-0.32	-0.63
14,298.0	90.80	269.80	6,999.7	642.4	-7,011.7	7,033.6	1.43	0.42	1.37
14,393.0	90.50	269.40	6,998.6	641.8	-7,106.7	7,128.4	0.53	-0.32	-0.42
14,487.0	90.00	269.40	6,998.2	640.8	-7,200.7	7,222.3	0.53	-0.53	0.00
14,582.0	89.90	269.10	6,998.3	639.6	-7,295.7	7,317.1	0.33	-0.11	-0.32
14,677.0	90.20	267.70	6,998.2	636.9	-7,390.7	7,411.9	1.51	0.32	-1.47
14,772.0	90.30	267.50	6,997.8	632.9	-7,485.6	7,506.5	0.24	0.11	-0.21
14,866.0	89.90	268.90	6,997.6	630.0	-7,579.5	7,600.2	1.55	-0.43	1.49
14,961.0	89.50	268.40	6,998.1	627.7	-7,674.5	7,695.0	0.67	-0.42	-0.53
15,056.0	89.50	267.50	6,999.0	624.3	-7,769.4	7,789.7	0.95	0.00	-0.95
15,150.0	90.00	266.80	6,999.4	619.7	-7,863.3	7,883.3	0.92	0.53	-0.74
15,245.0	90.70	266.10	6,998.8	613.8	-7,958.1	7,977.7	1.04	0.74	-0.74
15,340.0	91.00	265.60	6,997.4	606.9	-8,052.9	8,072.0	0.61	0.32	-0.53
15,434.0	91.50	265.20	6,995.3	599.4	-8,146.6	8,165.3	0.68	0.53	-0.43
15,529.0	90.40	266.40	6,993.8	592.4	-8,241.3	8,259.6	1.71	-1.16	1.26
15,624.0	90.70	266.10	6,992.9	586.2	-8,336.1	8,354.0	0.45	0.32	-0.32
15,719.0	90.00	268.00	6,992.3	581.3	-8,430.9	8,448.6	2.13	-0.74	2.00
15,813.0	90.00	267.30	6,992.3	577.5	-8,524.9	8,542.2	0.74	0.00	-0.74
15,908.0	89.80	267.00	6,992.4	572.7	-8,619.7	8,636.8	0.38	-0.21	-0.32
16,004.0	89.90	265.60	6,992.7	566.5	-8,715.5	8,732.2	1.46	0.10	-1.46
16,099.0	89.60	264.20	6,993.1	558.1	-8,810.2	8,826.4	1.51	-0.32	-1.47
16,193.0	90.20	266.60	6,993.3	550.6	-8,903.9	8,919.6	2.63	0.64	2.55
16,288.0	89.90	268.50	6,993.2	546.5	-8,998.8	9,014.2	2.02	-0.32	2.00
16,383.0	89.70	267.70	6,993.5	543.3	-9,093.7	9,109.0	0.87	-0.21	-0.84
16,478.0	89.90	266.80	6,993.8	538.8	-9,188.6	9,203.5	0.97	0.21	-0.95
16,573.0	90.00	266.10	6,993.9	532.9	-9,283.4	9,298.0	0.74	0.11	-0.74
16,668.0	90.00	268.20	6,993.9	528.2	-9,378.3	9,392.6	2.21	0.00	2.21
16,762.0	89.70	268.00	6,994.2	525.1	-9,472.2	9,486.3	0.38	-0.32	-0.21
16,857.0	90.00	266.80	6,994.4	520.8	-9,567.1	9,580.9	1.30	0.32	-1.26
16,952.0	89.50	265.90	6,994.8	514.7	-9,661.9	9,675.3	1.08	-0.53	-0.95
17,047.0	90.10	267.70	6,995.2	509.4	-9,756.8	9,769.8	2.00	0.63	1.89
17,142.0	89.80	267.50	6,995.3	505.4	-9,851.7	9,864.5	0.38	-0.32	-0.21
17,236.0	89.80	266.40	6,995.6	500.4	-9,945.6	9,958.0	1.17	0.00	-1.17
17,331.0	91.40	268.20	6,994.6	496.0	-10,040.5	10,052.6	2.53	1.68	1.89

Company:	Bayswater Exploration & Production, LLC	Local Co-ordinate Reference:	Well Ward S-20-19HN
Project:	SEC.20-T6N-R66W	TVD Reference:	WELL @ 4753.0ft (RKB - 25')
Site:	Ward 20-M Pad Sec. 20-T6N-R66W	MD Reference:	WELL @ 4753.0ft (RKB - 25')
Well:	Ward S-20-19HN	North Reference:	True
Wellbore:	Ward S-20-19HN Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	US_EDM

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
17,426.0	91.50	267.00	6,992.2	492.0	-10,135.3	10,147.2	1.27	0.11	-1.26
17,521.0	91.50	266.10	6,989.7	486.3	-10,230.1	10,241.7	0.95	0.00	-0.95
17,616.0	90.70	265.40	6,987.9	479.2	-10,324.9	10,336.0	1.12	-0.84	-0.74
17,711.0	90.60	265.20	6,986.8	471.4	-10,419.5	10,430.2	0.24	-0.11	-0.21
17,735.0	90.50	265.00	6,986.6	469.4	-10,443.4	10,454.0	0.93	-0.42	-0.83
17,787.0	90.50	265.00	6,986.1	464.9	-10,495.2	10,505.5	0.00	0.00	0.00

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL 334'FSL, 213'FEL, : - survey hits target center - Point	0.00	0.00	1.0	0.0	0.0	1,413,867.06	3,196,665.82	40.467315	-104.793156
BHL 1129'FSL, 470'FWL - survey misses target center by 7.2ft at 17769.3ft MD (6986.3 TVD, 466.4 N, -10477.6 E) - Point	0.00	0.00	6,990.0	472.6	-10,478.2	1,414,256.06	3,186,184.58	40.468606	-104.830815
Boreline Vertex 1140'FS - survey misses target center by 2.3ft at 15091.9ft MD (6999.2 TVD, 622.7 N, -7805.3 E) - Point	0.00	0.00	6,999.3	625.0	-7,805.4	1,414,429.74	3,188,855.99	40.469027	-104.821209
Boreline Vertex 1145'FS - survey misses target center by 14.4ft at 12393.0ft MD (7010.6 TVD, 688.7 N, -5107.7 E) - Point	0.00	0.00	7,008.6	702.9	-5,107.9	1,414,529.23	3,191,552.71	40.469243	-104.811514

Checked By: _____	Approved By: _____	Date: _____
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