

EXTRACTION OIL & GAS

WELD COUNTY

Sec 21-T5N-R65W

AD FED DAIRY 20W-25-13

ORIGINAL WELLBORE

Plan: PROPOSAL #1

Standard Planning Report

17 April, 2019

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well AD FED DAIRY 20W-25-13
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4655.00usft (Original Well Elev)
Project:	WELD COUNTY	MD Reference:	KB-EST @ 4655.00usft (Original Well Elev)
Site:	Sec 21-T5N-R65W	North Reference:	True
Well:	AD FED DAIRY 20W-25-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Project	WELD COUNTY		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	Sec 21-T5N-R65W			
Site Position:		Northing:	1,383,619.20 usft	Latitude: 40.383510°N
From:	Lat/Long	Easting:	3,229,494.91 usft	Longitude: 104.676180°W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence: 0.53 °

Well	AD FED DAIRY 20W-25-13			
Well Position	+N/-S	-287.80 usft	Northing:	1,383,330.63 usft
	+E/-W	-83.57 usft	Easting:	3,229,414.02 usft
Position Uncertainty		0.00 usft	Wellhead Elevation:	Latitude: 40.382720°N
				Longitude: 104.676480°W
				Ground Level: 4,639.00 usft

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	5/22/2016	8.28	66.88	52,516.20438289

Design	PROPOSAL #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	266.92

Plan Survey Tool Program	Date	4/17/2019		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	19,735.31	PROPOSAL #1 (ORIGINAL WEL	MWD OWSG
			OWSG MWD - Standard	

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	
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,207.26	10.15	198.32	2,204.62	-42.52	-14.08	2.00	2.00	0.00	198.32	
6,545.83	10.15	198.32	6,475.34	-768.02	-254.24	0.00	0.00	0.00	0.00	
7,415.23	90.00	270.68	7,010.00	-852.43	-827.42	10.00	9.18	8.32	72.62	LP- AD-DAIRY C7-20
19,735.31	90.00	270.68	7,010.00	-706.87	-13,146.63	0.00	0.00	0.00	0.00	BHL - AD-DAIRY C7-20

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Project:	WELD COUNTY	MD Reference:	KB-EST @ 4655.00usft (Original Well Elev)
Site:	Sec 21-T5N-R65W	North Reference:	True
Well:	AD FED DAIRY 20W-25-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

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
Start Build 2.00									
1,800.00	2.00	198.32	1,799.98	-1.66	-0.55	0.64	2.00	2.00	0.00
1,900.00	4.00	198.32	1,899.84	-6.62	-2.19	2.55	2.00	2.00	0.00
2,000.00	6.00	198.32	1,999.45	-14.90	-4.93	5.72	2.00	2.00	0.00
2,100.00	8.00	198.32	2,098.70	-26.47	-8.76	10.17	2.00	2.00	0.00
2,207.26	10.15	198.32	2,204.62	-42.52	-14.08	16.34	2.00	2.00	0.00
Start 4338.56 hold at 2207.26 MD									
2,300.00	10.15	198.32	2,295.90	-58.03	-19.21	22.30	0.00	0.00	0.00
2,400.00	10.15	198.32	2,394.34	-74.75	-24.75	28.72	0.00	0.00	0.00
2,500.00	10.15	198.32	2,492.78	-91.48	-30.28	35.15	0.00	0.00	0.00
2,600.00	10.15	198.32	2,591.21	-108.20	-35.82	41.57	0.00	0.00	0.00
2,700.00	10.15	198.32	2,689.65	-124.92	-41.35	48.00	0.00	0.00	0.00
2,800.00	10.15	198.32	2,788.09	-141.64	-46.89	54.42	0.00	0.00	0.00
2,900.00	10.15	198.32	2,886.52	-158.36	-52.42	60.85	0.00	0.00	0.00
3,000.00	10.15	198.32	2,984.96	-175.09	-57.96	67.28	0.00	0.00	0.00
3,100.00	10.15	198.32	3,083.39	-191.81	-63.49	73.70	0.00	0.00	0.00
3,200.00	10.15	198.32	3,181.83	-208.53	-69.03	80.13	0.00	0.00	0.00
3,300.00	10.15	198.32	3,280.27	-225.25	-74.56	86.55	0.00	0.00	0.00
3,400.00	10.15	198.32	3,378.70	-241.97	-80.10	92.98	0.00	0.00	0.00
3,500.00	10.15	198.32	3,477.14	-258.70	-85.64	99.40	0.00	0.00	0.00
3,600.00	10.15	198.32	3,575.58	-275.42	-91.17	105.83	0.00	0.00	0.00
3,700.00	10.15	198.32	3,674.01	-292.14	-96.71	112.25	0.00	0.00	0.00
3,800.00	10.15	198.32	3,772.45	-308.86	-102.24	118.68	0.00	0.00	0.00
3,827.99	10.15	198.32	3,800.00	-313.54	-103.79	120.48	0.00	0.00	0.00
PARKMAN									
3,900.00	10.15	198.32	3,870.89	-325.58	-107.78	125.10	0.00	0.00	0.00
4,000.00	10.15	198.32	3,969.32	-342.31	-113.31	131.53	0.00	0.00	0.00
4,100.00	10.15	198.32	4,067.76	-359.03	-118.85	137.95	0.00	0.00	0.00
4,200.00	10.15	198.32	4,166.20	-375.75	-124.38	144.38	0.00	0.00	0.00
4,300.00	10.15	198.32	4,264.63	-392.47	-129.92	150.80	0.00	0.00	0.00
4,400.00	10.15	198.32	4,363.07	-409.19	-135.46	157.23	0.00	0.00	0.00
4,500.00	10.15	198.32	4,461.51	-425.92	-140.99	163.65	0.00	0.00	0.00
4,589.90	10.15	198.32	4,550.00	-440.95	-145.97	169.43	0.00	0.00	0.00
SUSSEX									
4,600.00	10.15	198.32	4,559.94	-442.64	-146.53	170.08	0.00	0.00	0.00

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Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

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)
4,700.00	10.15	198.32	4,658.38	-459.36	-152.06	176.51	0.00	0.00	0.00
4,800.00	10.15	198.32	4,756.81	-476.08	-157.60	182.93	0.00	0.00	0.00
4,900.00	10.15	198.32	4,855.25	-492.80	-163.13	189.36	0.00	0.00	0.00
5,000.00	10.15	198.32	4,953.69	-509.53	-168.67	195.78	0.00	0.00	0.00
5,100.00	10.15	198.32	5,052.12	-526.25	-174.20	202.21	0.00	0.00	0.00
5,108.00	10.15	198.32	5,060.00	-527.59	-174.65	202.72	0.00	0.00	0.00
SHANNON									
5,200.00	10.15	198.32	5,150.56	-542.97	-179.74	208.63	0.00	0.00	0.00
5,300.00	10.15	198.32	5,249.00	-559.69	-185.27	215.06	0.00	0.00	0.00
5,400.00	10.15	198.32	5,347.43	-576.41	-190.81	221.48	0.00	0.00	0.00
5,500.00	10.15	198.32	5,445.87	-593.14	-196.35	227.91	0.00	0.00	0.00
5,600.00	10.15	198.32	5,544.31	-609.86	-201.88	234.33	0.00	0.00	0.00
5,700.00	10.15	198.32	5,642.74	-626.58	-207.42	240.76	0.00	0.00	0.00
5,800.00	10.15	198.32	5,741.18	-643.30	-212.95	247.18	0.00	0.00	0.00
5,900.00	10.15	198.32	5,839.62	-660.03	-218.49	253.61	0.00	0.00	0.00
6,000.00	10.15	198.32	5,938.05	-676.75	-224.02	260.03	0.00	0.00	0.00
6,100.00	10.15	198.32	6,036.49	-693.47	-229.56	266.46	0.00	0.00	0.00
6,200.00	10.15	198.32	6,134.92	-710.19	-235.09	272.89	0.00	0.00	0.00
6,300.00	10.15	198.32	6,233.36	-726.91	-240.63	279.31	0.00	0.00	0.00
6,400.00	10.15	198.32	6,331.80	-743.64	-246.16	285.74	0.00	0.00	0.00
6,500.00	10.15	198.32	6,430.23	-760.36	-251.70	292.16	0.00	0.00	0.00
6,545.83	10.15	198.32	6,475.34	-768.02	-254.24	295.11	0.00	0.00	0.00
Start DLS 10.00 TFO 72.62									
6,550.00	10.28	200.55	6,479.45	-768.72	-254.48	295.39	10.00	3.17	53.50
6,600.00	12.84	222.24	6,528.46	-777.01	-259.79	301.13	10.00	5.12	43.38
6,650.00	16.54	235.63	6,576.83	-785.15	-269.40	311.17	10.00	7.40	26.78
6,700.00	20.78	243.97	6,624.20	-793.06	-283.25	325.43	10.00	8.48	16.68
6,750.00	25.29	249.52	6,670.20	-800.70	-301.24	343.79	10.00	9.02	11.10
6,800.00	29.95	253.46	6,714.50	-807.99	-323.22	366.14	10.00	9.31	7.88
6,850.00	34.69	256.41	6,756.74	-814.89	-349.03	392.28	10.00	9.49	5.91
6,900.00	39.49	258.73	6,796.62	-821.34	-378.47	422.03	10.00	9.60	4.64
6,950.00	44.33	260.62	6,833.82	-827.30	-411.32	455.15	10.00	9.68	3.78
6,995.34	48.74	262.07	6,865.00	-832.23	-443.85	487.89	10.00	9.73	3.20
SHARON SPRINGS									
7,000.00	49.20	262.21	6,868.06	-832.71	-447.33	491.39	10.00	9.75	2.95
7,034.79	52.59	263.18	6,890.00	-836.14	-474.10	518.31	10.00	9.76	2.79
NIOBRARA									
7,050.00	54.08	263.58	6,899.08	-837.54	-486.22	530.49	10.00	9.78	2.61
7,100.00	58.98	264.79	6,926.65	-841.76	-527.70	572.14	10.00	9.79	2.42
7,150.00	63.88	265.88	6,950.56	-845.32	-571.46	616.02	10.00	9.81	2.18
7,200.00	68.80	266.88	6,970.62	-848.20	-617.15	661.80	10.00	9.83	2.01
7,250.00	73.72	267.82	6,986.68	-850.38	-664.43	709.13	10.00	9.84	1.88
7,300.00	78.64	268.71	6,998.62	-851.84	-712.95	757.65	10.00	9.85	1.78
7,350.00	83.57	269.58	7,006.34	-852.57	-762.32	807.00	10.00	9.85	1.72
7,400.00	88.50	270.42	7,009.80	-852.58	-812.19	856.79	10.00	9.86	1.69
7,415.23	90.00	270.68	7,010.00	-852.43	-827.42	871.99	10.00	9.86	1.68
Start 12320.08 hold at 7415.23 MD									
7,500.00	90.00	270.68	7,010.00	-851.43	-912.18	956.58	0.00	0.00	0.00
7,600.00	90.00	270.68	7,010.00	-850.25	-1,012.17	1,056.36	0.00	0.00	0.00
7,700.00	90.00	270.68	7,010.00	-849.06	-1,112.17	1,156.15	0.00	0.00	0.00
7,800.00	90.00	270.68	7,010.00	-847.88	-1,212.16	1,255.93	0.00	0.00	0.00
7,900.00	90.00	270.68	7,010.00	-846.70	-1,312.15	1,355.72	0.00	0.00	0.00
8,000.00	90.00	270.68	7,010.00	-845.52	-1,412.15	1,455.51	0.00	0.00	0.00

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Well:	AD FED DAIRY 20W-25-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

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)	
8,100.00	90.00	270.68	7,010.00	-844.34	-1,512.14	1,555.29	0.00	0.00	0.00	
8,200.00	90.00	270.68	7,010.00	-843.16	-1,612.13	1,655.08	0.00	0.00	0.00	
8,300.00	90.00	270.68	7,010.00	-841.98	-1,712.12	1,754.86	0.00	0.00	0.00	
8,400.00	90.00	270.68	7,010.00	-840.79	-1,812.12	1,854.65	0.00	0.00	0.00	
8,500.00	90.00	270.68	7,010.00	-839.61	-1,912.11	1,954.43	0.00	0.00	0.00	
8,600.00	90.00	270.68	7,010.00	-838.43	-2,012.10	2,054.22	0.00	0.00	0.00	
8,700.00	90.00	270.68	7,010.00	-837.25	-2,112.10	2,154.00	0.00	0.00	0.00	
8,800.00	90.00	270.68	7,010.00	-836.07	-2,212.09	2,253.79	0.00	0.00	0.00	
8,900.00	90.00	270.68	7,010.00	-834.89	-2,312.08	2,353.57	0.00	0.00	0.00	
9,000.00	90.00	270.68	7,010.00	-833.71	-2,412.08	2,453.36	0.00	0.00	0.00	
9,100.00	90.00	270.68	7,010.00	-832.52	-2,512.07	2,553.14	0.00	0.00	0.00	
9,200.00	90.00	270.68	7,010.00	-831.34	-2,612.06	2,652.93	0.00	0.00	0.00	
9,300.00	90.00	270.68	7,010.00	-830.16	-2,712.05	2,752.71	0.00	0.00	0.00	
9,400.00	90.00	270.68	7,010.00	-828.98	-2,812.05	2,852.50	0.00	0.00	0.00	
9,500.00	90.00	270.68	7,010.00	-827.80	-2,912.04	2,952.29	0.00	0.00	0.00	
9,600.00	90.00	270.68	7,010.00	-826.62	-3,012.03	3,052.07	0.00	0.00	0.00	
9,700.00	90.00	270.68	7,010.00	-825.44	-3,112.03	3,151.86	0.00	0.00	0.00	
9,800.00	90.00	270.68	7,010.00	-824.25	-3,212.02	3,251.64	0.00	0.00	0.00	
9,900.00	90.00	270.68	7,010.00	-823.07	-3,312.01	3,351.43	0.00	0.00	0.00	
10,000.00	90.00	270.68	7,010.00	-821.89	-3,412.01	3,451.21	0.00	0.00	0.00	
10,100.00	90.00	270.68	7,010.00	-820.71	-3,512.00	3,551.00	0.00	0.00	0.00	
10,200.00	90.00	270.68	7,010.00	-819.53	-3,611.99	3,650.78	0.00	0.00	0.00	
10,300.00	90.00	270.68	7,010.00	-818.35	-3,711.99	3,750.57	0.00	0.00	0.00	
10,400.00	90.00	270.68	7,010.00	-817.16	-3,811.98	3,850.35	0.00	0.00	0.00	
10,500.00	90.00	270.68	7,010.00	-815.98	-3,911.97	3,950.14	0.00	0.00	0.00	
10,600.00	90.00	270.68	7,010.00	-814.80	-4,011.96	4,049.92	0.00	0.00	0.00	
10,700.00	90.00	270.68	7,010.00	-813.62	-4,111.96	4,149.71	0.00	0.00	0.00	
10,800.00	90.00	270.68	7,010.00	-812.44	-4,211.95	4,249.50	0.00	0.00	0.00	
10,900.00	90.00	270.68	7,010.00	-811.26	-4,311.94	4,349.28	0.00	0.00	0.00	
11,000.00	90.00	270.68	7,010.00	-810.08	-4,411.94	4,449.07	0.00	0.00	0.00	
11,100.00	90.00	270.68	7,010.00	-808.89	-4,511.93	4,548.85	0.00	0.00	0.00	
11,200.00	90.00	270.68	7,010.00	-807.71	-4,611.92	4,648.64	0.00	0.00	0.00	
11,300.00	90.00	270.68	7,010.00	-806.53	-4,711.92	4,748.42	0.00	0.00	0.00	
11,400.00	90.00	270.68	7,010.00	-805.35	-4,811.91	4,848.21	0.00	0.00	0.00	
11,500.00	90.00	270.68	7,010.00	-804.17	-4,911.90	4,947.99	0.00	0.00	0.00	
11,600.00	90.00	270.68	7,010.00	-802.99	-5,011.89	5,047.78	0.00	0.00	0.00	
11,700.00	90.00	270.68	7,010.00	-801.81	-5,111.89	5,147.56	0.00	0.00	0.00	
11,800.00	90.00	270.68	7,010.00	-800.62	-5,211.88	5,247.35	0.00	0.00	0.00	
11,900.00	90.00	270.68	7,010.00	-799.44	-5,311.87	5,347.13	0.00	0.00	0.00	
12,000.00	90.00	270.68	7,010.00	-798.26	-5,411.87	5,446.92	0.00	0.00	0.00	
12,100.00	90.00	270.68	7,010.00	-797.08	-5,511.86	5,546.70	0.00	0.00	0.00	
12,200.00	90.00	270.68	7,010.00	-795.90	-5,611.85	5,646.49	0.00	0.00	0.00	
12,300.00	90.00	270.68	7,010.00	-794.72	-5,711.85	5,746.28	0.00	0.00	0.00	
12,400.00	90.00	270.68	7,010.00	-793.54	-5,811.84	5,846.06	0.00	0.00	0.00	
12,500.00	90.00	270.68	7,010.00	-792.35	-5,911.83	5,945.85	0.00	0.00	0.00	
12,600.00	90.00	270.68	7,010.00	-791.17	-6,011.82	6,045.63	0.00	0.00	0.00	
12,700.00	90.00	270.68	7,010.00	-789.99	-6,111.82	6,145.42	0.00	0.00	0.00	
12,800.00	90.00	270.68	7,010.00	-788.81	-6,211.81	6,245.20	0.00	0.00	0.00	
12,900.00	90.00	270.68	7,010.00	-787.63	-6,311.80	6,344.99	0.00	0.00	0.00	
13,000.00	90.00	270.68	7,010.00	-786.45	-6,411.80	6,444.77	0.00	0.00	0.00	
13,100.00	90.00	270.68	7,010.00	-785.26	-6,511.79	6,544.56	0.00	0.00	0.00	
13,200.00	90.00	270.68	7,010.00	-784.08	-6,611.78	6,644.34	0.00	0.00	0.00	
13,300.00	90.00	270.68	7,010.00	-782.90	-6,711.78	6,744.13	0.00	0.00	0.00	
13,400.00	90.00	270.68	7,010.00	-781.72	-6,811.77	6,843.91	0.00	0.00	0.00	

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well AD FED DAIRY 20W-25-13
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4655.00usft (Original Well Elev)
Project:	WELD COUNTY	MD Reference:	KB-EST @ 4655.00usft (Original Well Elev)
Site:	Sec 21-T5N-R65W	North Reference:	True
Well:	AD FED DAIRY 20W-25-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

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)
13,500.00	90.00	270.68	7,010.00	-780.54	-6,911.76	6,943.70	0.00	0.00	0.00
13,600.00	90.00	270.68	7,010.00	-779.36	-7,011.75	7,043.49	0.00	0.00	0.00
13,700.00	90.00	270.68	7,010.00	-778.18	-7,111.75	7,143.27	0.00	0.00	0.00
13,800.00	90.00	270.68	7,010.00	-776.99	-7,211.74	7,243.06	0.00	0.00	0.00
13,900.00	90.00	270.68	7,010.00	-775.81	-7,311.73	7,342.84	0.00	0.00	0.00
14,000.00	90.00	270.68	7,010.00	-774.63	-7,411.73	7,442.63	0.00	0.00	0.00
14,100.00	90.00	270.68	7,010.00	-773.45	-7,511.72	7,542.41	0.00	0.00	0.00
14,200.00	90.00	270.68	7,010.00	-772.27	-7,611.71	7,642.20	0.00	0.00	0.00
14,300.00	90.00	270.68	7,010.00	-771.09	-7,711.71	7,741.98	0.00	0.00	0.00
14,400.00	90.00	270.68	7,010.00	-769.91	-7,811.70	7,841.77	0.00	0.00	0.00
14,500.00	90.00	270.68	7,010.00	-768.72	-7,911.69	7,941.55	0.00	0.00	0.00
14,600.00	90.00	270.68	7,010.00	-767.54	-8,011.68	8,041.34	0.00	0.00	0.00
14,700.00	90.00	270.68	7,010.00	-766.36	-8,111.68	8,141.12	0.00	0.00	0.00
14,800.00	90.00	270.68	7,010.00	-765.18	-8,211.67	8,240.91	0.00	0.00	0.00
14,900.00	90.00	270.68	7,010.00	-764.00	-8,311.66	8,340.69	0.00	0.00	0.00
15,000.00	90.00	270.68	7,010.00	-762.82	-8,411.66	8,440.48	0.00	0.00	0.00
15,100.00	90.00	270.68	7,010.00	-761.64	-8,511.65	8,540.27	0.00	0.00	0.00
15,200.00	90.00	270.68	7,010.00	-760.45	-8,611.64	8,640.05	0.00	0.00	0.00
15,300.00	90.00	270.68	7,010.00	-759.27	-8,711.64	8,739.84	0.00	0.00	0.00
15,400.00	90.00	270.68	7,010.00	-758.09	-8,811.63	8,839.62	0.00	0.00	0.00
15,500.00	90.00	270.68	7,010.00	-756.91	-8,911.62	8,939.41	0.00	0.00	0.00
15,600.00	90.00	270.68	7,010.00	-755.73	-9,011.62	9,039.19	0.00	0.00	0.00
15,700.00	90.00	270.68	7,010.00	-754.55	-9,111.61	9,138.98	0.00	0.00	0.00
15,800.00	90.00	270.68	7,010.00	-753.36	-9,211.60	9,238.76	0.00	0.00	0.00
15,900.00	90.00	270.68	7,010.00	-752.18	-9,311.59	9,338.55	0.00	0.00	0.00
16,000.00	90.00	270.68	7,010.00	-751.00	-9,411.59	9,438.33	0.00	0.00	0.00
16,100.00	90.00	270.68	7,010.00	-749.82	-9,511.58	9,538.12	0.00	0.00	0.00
16,200.00	90.00	270.68	7,010.00	-748.64	-9,611.57	9,637.90	0.00	0.00	0.00
16,300.00	90.00	270.68	7,010.00	-747.46	-9,711.57	9,737.69	0.00	0.00	0.00
16,400.00	90.00	270.68	7,010.00	-746.28	-9,811.56	9,837.48	0.00	0.00	0.00
16,500.00	90.00	270.68	7,010.00	-745.09	-9,911.55	9,937.26	0.00	0.00	0.00
16,600.00	90.00	270.68	7,010.00	-743.91	-10,011.55	10,037.05	0.00	0.00	0.00
16,700.00	90.00	270.68	7,010.00	-742.73	-10,111.54	10,136.83	0.00	0.00	0.00
16,800.00	90.00	270.68	7,010.00	-741.55	-10,211.53	10,236.62	0.00	0.00	0.00
16,900.00	90.00	270.68	7,010.00	-740.37	-10,311.52	10,336.40	0.00	0.00	0.00
17,000.00	90.00	270.68	7,010.00	-739.19	-10,411.52	10,436.19	0.00	0.00	0.00
17,100.00	90.00	270.68	7,010.00	-738.01	-10,511.51	10,535.97	0.00	0.00	0.00
17,200.00	90.00	270.68	7,010.00	-736.82	-10,611.50	10,635.76	0.00	0.00	0.00
17,300.00	90.00	270.68	7,010.00	-735.64	-10,711.50	10,735.54	0.00	0.00	0.00
17,400.00	90.00	270.68	7,010.00	-734.46	-10,811.49	10,835.33	0.00	0.00	0.00
17,500.00	90.00	270.68	7,010.00	-733.28	-10,911.48	10,935.11	0.00	0.00	0.00
17,600.00	90.00	270.68	7,010.00	-732.10	-11,011.48	11,034.90	0.00	0.00	0.00
17,700.00	90.00	270.68	7,010.00	-730.92	-11,111.47	11,134.69	0.00	0.00	0.00
17,800.00	90.00	270.68	7,010.00	-729.74	-11,211.46	11,234.47	0.00	0.00	0.00
17,900.00	90.00	270.68	7,010.00	-728.55	-11,311.45	11,334.26	0.00	0.00	0.00
18,000.00	90.00	270.68	7,010.00	-727.37	-11,411.45	11,434.04	0.00	0.00	0.00
18,100.00	90.00	270.68	7,010.00	-726.19	-11,511.44	11,533.83	0.00	0.00	0.00
18,200.00	90.00	270.68	7,010.00	-725.01	-11,611.43	11,633.61	0.00	0.00	0.00
18,300.00	90.00	270.68	7,010.00	-723.83	-11,711.43	11,733.40	0.00	0.00	0.00
18,400.00	90.00	270.68	7,010.00	-722.65	-11,811.42	11,833.18	0.00	0.00	0.00
18,500.00	90.00	270.68	7,010.00	-721.46	-11,911.41	11,932.97	0.00	0.00	0.00
18,600.00	90.00	270.68	7,010.00	-720.28	-12,011.41	12,032.75	0.00	0.00	0.00
18,700.00	90.00	270.68	7,010.00	-719.10	-12,111.40	12,132.54	0.00	0.00	0.00
18,800.00	90.00	270.68	7,010.00	-717.92	-12,211.39	12,232.32	0.00	0.00	0.00

Planning Report

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Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4655.00usft (Original Well Elev)
Project:	WELD COUNTY	MD Reference:	KB-EST @ 4655.00usft (Original Well Elev)
Site:	Sec 21-T5N-R65W	North Reference:	True
Well:	AD FED DAIRY 20W-25-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

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)
18,900.00	90.00	270.68	7,010.00	-716.74	-12,311.38	12,332.11	0.00	0.00	0.00
19,000.00	90.00	270.68	7,010.00	-715.56	-12,411.38	12,431.89	0.00	0.00	0.00
19,100.00	90.00	270.68	7,010.00	-714.38	-12,511.37	12,531.68	0.00	0.00	0.00
19,200.00	90.00	270.68	7,010.00	-713.19	-12,611.36	12,631.47	0.00	0.00	0.00
19,300.00	90.00	270.68	7,010.00	-712.01	-12,711.36	12,731.25	0.00	0.00	0.00
19,400.00	90.00	270.68	7,010.00	-710.83	-12,811.35	12,831.04	0.00	0.00	0.00
19,500.00	90.00	270.68	7,010.00	-709.65	-12,911.34	12,930.82	0.00	0.00	0.00
19,600.00	90.00	270.68	7,010.00	-708.47	-13,011.34	13,030.61	0.00	0.00	0.00
19,700.00	90.00	270.68	7,010.00	-707.29	-13,111.33	13,130.39	0.00	0.00	0.00
19,735.31	90.00	270.68	7,010.00	-706.87	-13,146.63	13,165.62	0.00	0.00	0.00
TD at 19735.30									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
LP- AD-DAIRY C7-20-24 - plan hits target center - Point	0.00	0.00	7,010.00	-852.43	-827.42	1,382,470.56	3,228,594.55	40.380380°N	104.679450°W
BHL - AD-DAIRY C7-20- - plan hits target center - Point	0.00	0.00	7,010.00	-706.87	-13,146.63	1,382,501.70	3,216,274.52	40.380770°N	104.723670°W

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,827.99	3,800.00	PARKMAN				
4,589.90	4,550.00	SUSSEX				
5,108.00	5,060.00	SHANNON				
6,995.34	6,865.00	SHARON SPRINGS				
7,034.79	6,890.00	NIORARA				

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,700.00	1,700.00	0.00	0.00	Start Build 2.00
2,207.26	2,204.62	-42.52	-14.08	Start 4338.56 hold at 2207.26 MD
6,545.83	6,475.34	-768.02	-254.24	Start DLS 10.00 TFO 72.62
7,415.23	7,010.00	-852.43	-827.42	Start 12320.08 hold at 7415.23 MD
19,735.31	7,010.00	-706.87	-13,146.63	TD at 19735.30