

EXTRACTION OIL & GAS

WELD COUNTY

Sec 20-T5N-R65W

GP-CODY FED 20E-15-2N

ORIGINAL WELLBORE

Plan: PROPOSAL 1

Standard Planning Report

13 July, 2018

Vertical Section at 86.89° (1200 usft/in)

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well GP-CODY FED 20E-15-2N
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 29' @ 4702.00usft
Project:	WELD COUNTY	MD Reference:	KB 29' @ 4702.00usft
Site:	Sec 20-T5N-R65W	North Reference:	True
Well:	GP-CODY FED 20E-15-2N	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 20-T5N-R65W			
Site Position:		Northing:	1,386,203.84 usft	Latitude:	40° 23' 26.340 N
From:	Lat/Long	Easting:	3,227,707.61 usft	Longitude:	104° 40' 57.036 W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.53 °

Well	GP-CODY FED 20E-15-2N					
Well Position	+N/-S	-240.44 usft	Northing:	1,385,963.41 usft	Latitude:	40° 23' 23.964 N
	+E/-W	0.00 usft	Easting:	3,227,709.83 usft	Longitude:	104° 40' 57.036 W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	4,673.00 usft

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	3/12/2018	8.09	66.84	52,313.09282860

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	86.89

Plan Survey Tool Program	Date	7/13/2018		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	14,153.27	PROPOSAL 1 (ORIGINAL WELL	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	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,214.20	8.28	298.03	1,212.76	14.05	-26.38	2.00	2.00	0.00	298.03	
5,939.99	8.28	298.03	5,889.24	334.05	-627.40	0.00	0.00	0.00	0.00	
6,354.19	0.00	0.00	6,302.00	348.10	-653.78	2.00	-2.00	0.00	180.00	
6,384.19	0.00	0.00	6,332.00	348.10	-653.78	0.00	0.00	0.00	0.00	
7,284.26	90.00	89.84	6,905.00	349.73	-80.78	10.00	10.00	9.98	89.84	GP-CODY FED 20E-1
14,153.27	90.00	89.84	6,905.00	368.88	6,788.20	0.00	0.00	0.00	96.45	GP-CODY FED 20E-1

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Project:	WELD COUNTY	MD Reference:	KB 29' @ 4702.00usft
Site:	Sec 20-T5N-R65W	North Reference:	True
Well:	GP-CODY FED 20E-15-2N	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
Start Build 2.00									
900.00	2.00	298.03	899.98	0.82	-1.54	-1.49	2.00	2.00	0.00
1,000.00	4.00	298.03	999.84	3.28	-6.16	-5.97	2.00	2.00	0.00
1,100.00	6.00	298.03	1,099.45	7.38	-13.85	-13.43	2.00	2.00	0.00
1,200.00	8.00	298.03	1,198.70	13.10	-24.61	-23.86	2.00	2.00	0.00
1,214.20	8.28	298.03	1,212.76	14.05	-26.38	-25.58	2.00	2.00	0.00
Start 4725.79 hold at 1214.20 MD									
1,300.00	8.28	298.03	1,297.66	19.86	-37.30	-36.16	0.00	0.00	0.00
1,400.00	8.28	298.03	1,396.62	26.63	-50.01	-48.50	0.00	0.00	0.00
1,500.00	8.28	298.03	1,495.58	33.40	-62.73	-60.83	0.00	0.00	0.00
1,600.00	8.28	298.03	1,594.53	40.17	-75.45	-73.16	0.00	0.00	0.00
1,700.00	8.28	298.03	1,693.49	46.94	-88.17	-85.49	0.00	0.00	0.00
1,800.00	8.28	298.03	1,792.45	53.72	-100.88	-97.82	0.00	0.00	0.00
1,900.00	8.28	298.03	1,891.40	60.49	-113.60	-110.15	0.00	0.00	0.00
2,000.00	8.28	298.03	1,990.36	67.26	-126.32	-122.48	0.00	0.00	0.00
2,100.00	8.28	298.03	2,089.32	74.03	-139.04	-134.82	0.00	0.00	0.00
2,200.00	8.28	298.03	2,188.27	80.80	-151.76	-147.15	0.00	0.00	0.00
2,300.00	8.28	298.03	2,287.23	87.57	-164.47	-159.48	0.00	0.00	0.00
2,400.00	8.28	298.03	2,386.19	94.34	-177.19	-171.81	0.00	0.00	0.00
2,500.00	8.28	298.03	2,485.14	101.12	-189.91	-184.14	0.00	0.00	0.00
2,600.00	8.28	298.03	2,584.10	107.89	-202.63	-196.47	0.00	0.00	0.00
2,700.00	8.28	298.03	2,683.06	114.66	-215.34	-208.80	0.00	0.00	0.00
2,800.00	8.28	298.03	2,782.01	121.43	-228.06	-221.14	0.00	0.00	0.00
2,900.00	8.28	298.03	2,880.97	128.20	-240.78	-233.47	0.00	0.00	0.00
3,000.00	8.28	298.03	2,979.93	134.97	-253.50	-245.80	0.00	0.00	0.00
3,100.00	8.28	298.03	3,078.88	141.74	-266.21	-258.13	0.00	0.00	0.00
3,200.00	8.28	298.03	3,177.84	148.52	-278.93	-270.46	0.00	0.00	0.00
3,300.00	8.28	298.03	3,276.80	155.29	-291.65	-282.79	0.00	0.00	0.00
3,400.00	8.28	298.03	3,375.75	162.06	-304.37	-295.13	0.00	0.00	0.00
3,500.00	8.28	298.03	3,474.71	168.83	-317.09	-307.46	0.00	0.00	0.00
3,600.00	8.28	298.03	3,573.66	175.60	-329.80	-319.79	0.00	0.00	0.00
3,700.00	8.28	298.03	3,672.62	182.37	-342.52	-332.12	0.00	0.00	0.00
3,713.52	8.28	298.03	3,686.00	183.29	-344.24	-333.79	0.00	0.00	0.00
PARKMAN									
3,800.00	8.28	298.03	3,771.58	189.14	-355.24	-344.45	0.00	0.00	0.00
3,900.00	8.28	298.03	3,870.53	195.92	-367.96	-356.78	0.00	0.00	0.00
4,000.00	8.28	298.03	3,969.49	202.69	-380.67	-369.11	0.00	0.00	0.00
4,100.00	8.28	298.03	4,068.45	209.46	-393.39	-381.45	0.00	0.00	0.00
4,200.00	8.28	298.03	4,167.40	216.23	-406.11	-393.78	0.00	0.00	0.00
4,300.00	8.28	298.03	4,266.36	223.00	-418.83	-406.11	0.00	0.00	0.00
4,400.00	8.28	298.03	4,365.32	229.77	-431.54	-418.44	0.00	0.00	0.00
4,460.31	8.28	298.03	4,425.00	233.86	-439.21	-425.88	0.00	0.00	0.00
SUSSEX									
4,500.00	8.28	298.03	4,464.27	236.54	-444.26	-430.77	0.00	0.00	0.00

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Well:	GP-CODY FED 20E-15-2N	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)
4,600.00	8.28	298.03	4,563.23	243.32	-456.98	-443.10	0.00	0.00	0.00
4,700.00	8.28	298.03	4,662.19	250.09	-469.70	-455.44	0.00	0.00	0.00
4,800.00	8.28	298.03	4,761.14	256.86	-482.42	-467.77	0.00	0.00	0.00
4,900.00	8.28	298.03	4,860.10	263.63	-495.13	-480.10	0.00	0.00	0.00
4,975.69	8.28	298.03	4,935.00	268.75	-504.76	-489.43	0.00	0.00	0.00
SHANNON									
5,000.00	8.28	298.03	4,959.06	270.40	-507.85	-492.43	0.00	0.00	0.00
5,100.00	8.28	298.03	5,058.01	277.17	-520.57	-504.76	0.00	0.00	0.00
5,200.00	8.28	298.03	5,156.97	283.94	-533.29	-517.09	0.00	0.00	0.00
5,300.00	8.28	298.03	5,255.93	290.72	-546.00	-529.42	0.00	0.00	0.00
5,400.00	8.28	298.03	5,354.88	297.49	-558.72	-541.76	0.00	0.00	0.00
5,500.00	8.28	298.03	5,453.84	304.26	-571.44	-554.09	0.00	0.00	0.00
5,600.00	8.28	298.03	5,552.80	311.03	-584.16	-566.42	0.00	0.00	0.00
5,700.00	8.28	298.03	5,651.75	317.80	-596.87	-578.75	0.00	0.00	0.00
5,800.00	8.28	298.03	5,750.71	324.57	-609.59	-591.08	0.00	0.00	0.00
5,900.00	8.28	298.03	5,849.67	331.34	-622.31	-603.41	0.00	0.00	0.00
5,939.99	8.28	298.03	5,889.24	334.05	-627.40	-608.35	0.00	0.00	0.00
Start Drop -2.00									
6,000.00	7.08	298.03	5,948.71	337.82	-634.48	-615.21	2.00	-2.00	0.00
6,100.00	5.08	298.03	6,048.14	342.80	-643.83	-624.28	2.00	-2.00	0.00
6,200.00	3.08	298.03	6,147.88	346.15	-650.12	-630.38	2.00	-2.00	0.00
6,300.00	1.08	298.03	6,247.81	347.86	-653.33	-633.49	2.00	-2.00	0.00
6,354.19	0.00	0.00	6,302.00	348.10	-653.78	-633.93	2.00	-2.00	0.00
Start 30.00 hold at 6354.19 MD									
6,384.19	0.00	0.00	6,332.00	348.10	-653.78	-633.93	0.00	0.00	0.00
Start DLS 10.00 TFO 89.84									
6,400.00	1.58	89.84	6,347.81	348.10	-653.56	-633.71	10.00	10.00	0.00
6,450.00	6.58	89.84	6,397.66	348.11	-650.01	-630.16	10.00	10.00	0.00
6,500.00	11.58	89.84	6,447.02	348.13	-642.12	-622.28	10.00	10.00	0.00
6,550.00	16.58	89.84	6,495.50	348.17	-629.96	-610.14	10.00	10.00	0.00
6,600.00	21.58	89.84	6,542.74	348.21	-613.62	-593.82	10.00	10.00	0.00
6,650.00	26.58	89.84	6,588.38	348.27	-593.23	-573.45	10.00	10.00	0.00
6,700.00	31.58	89.84	6,632.06	348.34	-568.93	-549.19	10.00	10.00	0.00
6,750.00	36.58	89.84	6,673.46	348.42	-540.93	-521.22	10.00	10.00	0.00
6,800.00	41.58	89.84	6,712.26	348.51	-509.42	-489.76	10.00	10.00	0.00
6,838.24	45.40	89.84	6,740.00	348.59	-483.11	-463.48	10.00	10.00	0.00
SHARON SPRINGS									
6,850.00	46.58	89.84	6,748.17	348.61	-474.65	-455.03	10.00	10.00	0.00
6,890.58	50.64	89.84	6,775.00	348.70	-444.21	-424.63	10.00	10.00	0.00
NIOBRARA									
6,900.00	51.58	89.84	6,780.91	348.72	-436.88	-417.31	10.00	10.00	0.00
6,950.00	56.58	89.84	6,810.24	348.83	-396.40	-376.89	10.00	10.00	0.00
7,000.00	61.58	89.84	6,835.93	348.95	-353.52	-334.07	10.00	10.00	0.00
7,050.00	66.58	89.84	6,857.78	349.08	-308.57	-289.17	10.00	10.00	0.00
7,100.00	71.58	89.84	6,875.63	349.21	-261.88	-242.55	10.00	10.00	0.00
7,150.00	76.58	89.84	6,889.34	349.35	-213.82	-194.54	10.00	10.00	0.00
7,177.05	79.28	89.84	6,895.00	349.43	-187.37	-168.13	10.00	10.00	0.00
NIO B TARGET									
7,200.00	81.57	89.84	6,898.82	349.49	-164.74	-145.53	10.00	10.00	0.00
7,250.00	86.57	89.84	6,903.98	349.63	-115.02	-95.88	10.00	10.00	0.00
7,284.26	90.00	89.84	6,905.00	349.73	-80.78	-61.68	10.00	10.00	0.00
Start DLS 0.00 TFO 96.45									
7,300.00	90.00	89.84	6,905.00	349.77	-65.04	-45.97	0.00	0.00	0.00

Planning Report

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Project:	WELD COUNTY	MD Reference:	KB 29' @ 4702.00usft
Site:	Sec 20-T5N-R65W	North Reference:	True
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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)
7,400.00	90.00	89.84	6,905.00	350.06	34.96	53.90	0.00	0.00	0.00
7,500.00	90.00	89.84	6,905.00	350.34	134.96	153.77	0.00	0.00	0.00
7,600.00	90.00	89.84	6,905.00	350.63	234.96	253.64	0.00	0.00	0.00
7,700.00	90.00	89.84	6,905.00	350.91	334.96	353.50	0.00	0.00	0.00
7,800.00	90.00	89.84	6,905.00	351.19	434.96	453.37	0.00	0.00	0.00
7,900.00	90.00	89.84	6,905.00	351.48	534.96	553.24	0.00	0.00	0.00
8,000.00	90.00	89.84	6,905.00	351.76	634.96	653.11	0.00	0.00	0.00
8,100.00	90.00	89.84	6,905.00	352.04	734.96	752.98	0.00	0.00	0.00
8,200.00	90.00	89.84	6,905.00	352.32	834.96	852.84	0.00	0.00	0.00
8,300.00	90.00	89.84	6,904.99	352.61	934.96	952.71	0.00	0.00	0.00
8,400.00	90.00	89.84	6,904.99	352.89	1,034.95	1,052.58	0.00	0.00	0.00
8,500.00	90.00	89.84	6,904.99	353.17	1,134.95	1,152.45	0.00	0.00	0.00
8,600.00	90.00	89.84	6,904.99	353.45	1,234.95	1,252.31	0.00	0.00	0.00
8,700.00	90.00	89.84	6,904.99	353.74	1,334.95	1,352.18	0.00	0.00	0.00
8,800.00	90.00	89.84	6,904.99	354.02	1,434.95	1,452.05	0.00	0.00	0.00
8,900.00	90.00	89.84	6,904.99	354.30	1,534.95	1,551.92	0.00	0.00	0.00
9,000.00	90.00	89.84	6,904.99	354.58	1,634.95	1,651.78	0.00	0.00	0.00
9,100.00	90.00	89.84	6,904.99	354.86	1,734.95	1,751.65	0.00	0.00	0.00
9,200.00	90.00	89.84	6,904.99	355.14	1,834.95	1,851.52	0.00	0.00	0.00
9,300.00	90.00	89.84	6,904.99	355.43	1,934.95	1,951.39	0.00	0.00	0.00
9,400.00	90.00	89.84	6,904.99	355.71	2,034.95	2,051.25	0.00	0.00	0.00
9,500.00	90.00	89.84	6,904.99	355.99	2,134.95	2,151.12	0.00	0.00	0.00
9,600.00	90.00	89.84	6,904.99	356.27	2,234.95	2,250.99	0.00	0.00	0.00
9,700.00	90.00	89.84	6,904.99	356.55	2,334.95	2,350.86	0.00	0.00	0.00
9,800.00	90.00	89.84	6,904.99	356.83	2,434.95	2,450.72	0.00	0.00	0.00
9,900.00	90.00	89.84	6,904.99	357.11	2,534.95	2,550.59	0.00	0.00	0.00
10,000.00	90.00	89.84	6,904.99	357.39	2,634.95	2,650.46	0.00	0.00	0.00
10,100.00	90.00	89.84	6,904.99	357.67	2,734.95	2,750.33	0.00	0.00	0.00
10,200.00	90.00	89.84	6,904.99	357.95	2,834.95	2,850.19	0.00	0.00	0.00
10,300.00	90.00	89.84	6,904.99	358.23	2,934.95	2,950.06	0.00	0.00	0.00
10,400.00	90.00	89.84	6,904.99	358.51	3,034.95	3,049.93	0.00	0.00	0.00
10,500.00	90.00	89.84	6,904.99	358.79	3,134.95	3,149.80	0.00	0.00	0.00
10,600.00	90.00	89.84	6,904.99	359.06	3,234.95	3,249.66	0.00	0.00	0.00
10,700.00	90.00	89.84	6,904.99	359.34	3,334.95	3,349.53	0.00	0.00	0.00
10,800.00	90.00	89.84	6,904.99	359.62	3,434.95	3,449.40	0.00	0.00	0.00
10,900.00	90.00	89.84	6,904.99	359.90	3,534.94	3,549.27	0.00	0.00	0.00
11,000.00	90.00	89.84	6,904.99	360.18	3,634.94	3,649.13	0.00	0.00	0.00
11,100.00	90.00	89.84	6,904.99	360.46	3,734.94	3,749.00	0.00	0.00	0.00
11,200.00	90.00	89.84	6,904.99	360.74	3,834.94	3,848.87	0.00	0.00	0.00
11,300.00	90.00	89.84	6,904.99	361.01	3,934.94	3,948.74	0.00	0.00	0.00
11,400.00	90.00	89.84	6,904.99	361.29	4,034.94	4,048.60	0.00	0.00	0.00
11,500.00	90.00	89.84	6,904.99	361.57	4,134.94	4,148.47	0.00	0.00	0.00
11,600.00	90.00	89.84	6,904.99	361.85	4,234.94	4,248.34	0.00	0.00	0.00
11,700.00	90.00	89.84	6,904.99	362.12	4,334.94	4,348.20	0.00	0.00	0.00
11,800.00	90.00	89.84	6,904.99	362.40	4,434.94	4,448.07	0.00	0.00	0.00
11,900.00	90.00	89.84	6,904.99	362.68	4,534.94	4,547.94	0.00	0.00	0.00
12,000.00	90.00	89.84	6,904.99	362.95	4,634.94	4,647.81	0.00	0.00	0.00
12,100.00	90.00	89.84	6,904.99	363.23	4,734.94	4,747.67	0.00	0.00	0.00
12,200.00	90.00	89.84	6,904.99	363.51	4,834.94	4,847.54	0.00	0.00	0.00
12,300.00	90.00	89.84	6,904.99	363.78	4,934.94	4,947.41	0.00	0.00	0.00
12,400.00	90.00	89.84	6,904.99	364.06	5,034.94	5,047.28	0.00	0.00	0.00
12,500.00	90.00	89.84	6,904.99	364.34	5,134.94	5,147.14	0.00	0.00	0.00
12,600.00	90.00	89.84	6,904.99	364.61	5,234.94	5,247.01	0.00	0.00	0.00
12,700.00	90.00	89.84	6,904.99	364.89	5,334.94	5,346.88	0.00	0.00	0.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well GP-CODY FED 20E-15-2N
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 29' @ 4702.00usft
Project:	WELD COUNTY	MD Reference:	KB 29' @ 4702.00usft
Site:	Sec 20-T5N-R65W	North Reference:	True
Well:	GP-CODY FED 20E-15-2N	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)	
12,800.00	90.00	89.84	6,904.99	365.16	5,434.94	5,446.74	0.00	0.00	0.00	
12,900.00	90.00	89.84	6,904.99	365.44	5,534.94	5,546.61	0.00	0.00	0.00	
13,000.00	90.00	89.84	6,904.99	365.71	5,634.94	5,646.48	0.00	0.00	0.00	
13,100.00	90.00	89.84	6,904.99	365.99	5,734.94	5,746.35	0.00	0.00	0.00	
13,200.00	90.00	89.84	6,905.00	366.26	5,834.94	5,846.21	0.00	0.00	0.00	
13,300.00	90.00	89.84	6,905.00	366.54	5,934.94	5,946.08	0.00	0.00	0.00	
13,400.00	90.00	89.84	6,905.00	366.81	6,034.94	6,045.95	0.00	0.00	0.00	
13,500.00	90.00	89.84	6,905.00	367.09	6,134.94	6,145.82	0.00	0.00	0.00	
13,600.00	90.00	89.84	6,905.00	367.36	6,234.93	6,245.68	0.00	0.00	0.00	
13,700.00	90.00	89.84	6,905.00	367.64	6,334.93	6,345.55	0.00	0.00	0.00	
13,800.00	90.00	89.84	6,905.00	367.91	6,434.93	6,445.42	0.00	0.00	0.00	
13,900.00	90.00	89.84	6,905.00	368.18	6,534.93	6,545.28	0.00	0.00	0.00	
14,000.00	90.00	89.84	6,905.00	368.46	6,634.93	6,645.15	0.00	0.00	0.00	
14,100.00	90.00	89.84	6,905.00	368.73	6,734.93	6,745.02	0.00	0.00	0.00	
14,153.27	90.00	89.84	6,905.00	368.88	6,788.20	6,798.21	0.00	0.00	0.00	
TD at 14153.27										

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										
GP-CODY FED 20E-15-	0.00	0.00	6,905.00	349.73	-80.78	1,386,312.38	3,227,625.83	40° 23' 27.420 N	104° 40' 58.080 W	
- plan hits target center										
- Point										
GP-CODY FED 20E-15-	0.00	0.00	6,905.00	368.88	6,788.20	1,386,394.85	3,234,494.34	40° 23' 27.600 N	104° 39' 29.304 W	
- plan hits target center										
- Point										

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,713.52	3,686.00	PARKMAN				
4,460.31	4,425.00	SUSSEX				
4,975.69	4,935.00	SHANNON				
6,838.24	6,740.00	SHARON SPRINGS				
6,890.58	6,775.00	NIOBRARA				
7,177.05	6,895.00	NIO B TARGET				

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well GP-CODY FED 20E-15-2N
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 29' @ 4702.00usft
Project:	WELD COUNTY	MD Reference:	KB 29' @ 4702.00usft
Site:	Sec 20-T5N-R65W	North Reference:	True
Well:	GP-CODY FED 20E-15-2N	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL 1		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
800.00	800.00	0.00	0.00	Start Build 2.00
1,214.20	1,212.76	14.05	-26.38	Start 4725.79 hold at 1214.20 MD
5,939.99	5,889.24	334.05	-627.40	Start Drop -2.00
6,354.19	6,302.00	348.10	-653.78	Start 30.00 hold at 6354.19 MD
6,384.19	6,332.00	348.10	-653.78	Start DLS 10.00 TFO 89.84
7,284.26	6,905.00	349.73	-80.78	Start DLS 0.00 TFO 96.45
14,153.27	6,905.00	368.88	6,788.20	TD at 14153.27