

# **EXTRACTION OIL & GAS**

**Weld County**

**Sec 7-T4N-R68W**

**BERTHOUD FARMS 8E-10-7N**

**ORIGINAL WELLBORE**

**Plan: PROPOSAL 1**

## **Standard Planning Report**

**22 May, 2017**



WELL DETAILS: BERTHOUD FARMS 8E-10-7N

+N/-S	+E/-W	Northing	Easting	5035.0	Latitude	Longitude	Slot
0.0	0.0	1361363.02	3128192.03	40° 19' 27.948 N	105° 2' 24.839 W		

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	700.0	0.00	0.00	700.0	0.0	0.0	0.00	0.00	0.0	
3	2564.8	46.62	342.80	2365.7	685.6	-212.2	2.50	342.80	100.2	
4	4334.6	46.62	342.80	3581.3	1914.4	-592.6	0.00	279.7	279.7	
5	6199.3	0.00	0.00	5247.0	2600.0	-804.8	2.50	180.00	379.8	
6	6299.3	0.00	0.00	5347.0	2600.0	-804.8	0.00	0.00	379.8	
7	7199.4	90.00	88.95	5920.0	2610.5	-231.9	10.00	88.95	902.6	
8	8809.4	90.00	88.95	5920.0	2640.1	1377.8	0.00	0.00	2371.4	BF 7 - LP
9	13220.7	90.00	88.81	5920.0	2726.3	5788.2	0.00	-90.00	6398.2	BF 7 - PBHL

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.0	Build 2.50"/100'
2564.8	46.62	342.80	2365.7	685.6	-212.2	100.2	717.7	Hold 46.62° Inc
4334.6	46.62	342.80	3581.3	1914.4	-592.6	279.7	2004.0	Drop 2.50"/100'
6199.3	0.00	0.00	5247.0	2600.0	-804.8	379.8	2721.7	Hold Vertical
6299.3	0.00	0.00	5347.0	2600.0	-804.8	379.8	2721.7	KOP, Build 10"/100'
7199.4	90.00	88.95	5920.0	2610.5	-231.9	902.6	3294.7	LP @ 90° Inc
8809.4	90.00	88.95	5920.0	2640.1	1377.8	2371.4	4904.7	Hold
13220.7	90.00	88.81	5920.0	2726.3	5788.2	6398.2	9316.0	TD at 13220.7' MD

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
BF 7 - LP	5920.0	2640.1	1377.8	1364010.19	3129556.11	40° 19' 54.037 N	105° 2' 7.048 W	Point
- plan hits target center								
BF 7 - PBHL	5920.0	2726.3	5788.2	1364119.31	3133966.06	40° 19' 54.883 N	105° 1' 10.096 W	Point
- plan hits target center								

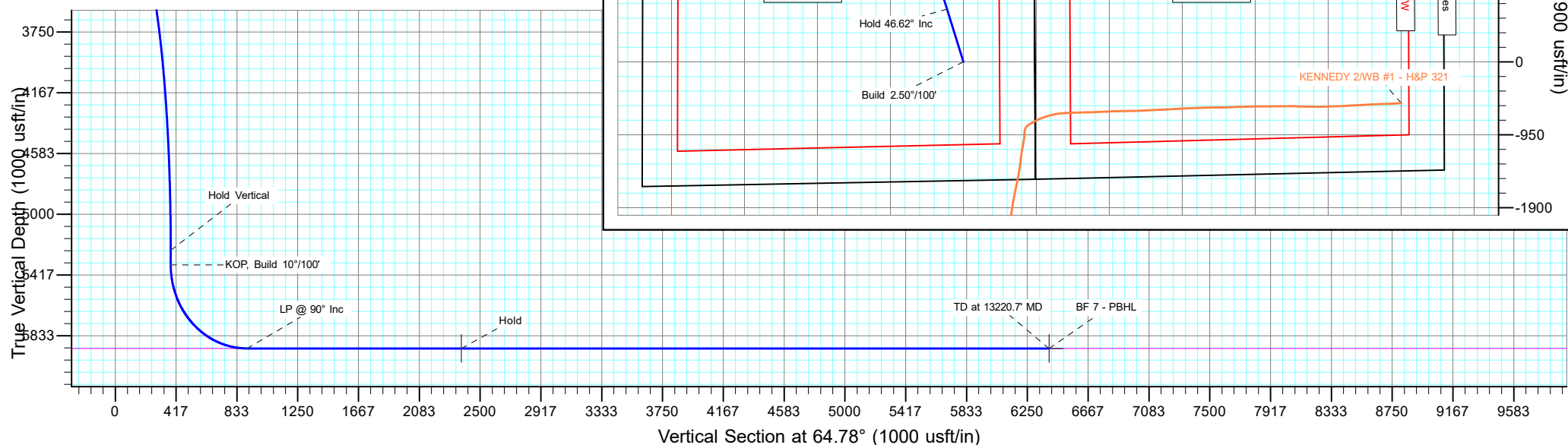
FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2410.0	2629.2	PARKMAN
3010.0	3502.8	SUSSEX
3450.0	4143.4	SHANNON
5920.0	7199.4	NIOBRARA

PROJECT DETAILS: Weld County

Geodetic System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: Colorado Northern Zone  
System Datum: Mean Sea Level

SHL:  
1546' FSL, 930' FEL  
Sec 7-T4N-R68W  
LP:  
1150' FNL, 460' FWL  
Sec 8-T4N-R68W  
BHL:  
1144' FNL, 460' FEL  
Sec 8-T4N-R68W



## Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well BERTHOUD FARMS 8E-10-7N
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 24' @ 5059.0usft
<b>Project:</b>	Weld County	<b>MD Reference:</b>	KB 24' @ 5059.0usft
<b>Site:</b>	Sec 7-T4N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	BERTHOUD FARMS 8E-10-7N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	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 7-T4N-R68W			
Site Position:		Northing:	1,359,838.99 usft	Latitude:	40° 19' 12.839 N
From:	Lat/Long	Easting:	3,129,136.57 usft	Longitude:	105° 2' 12.746 W
Position Uncertainty:	0.0 usft	Slot Radius:	13.200 in	Grid Convergence:	0.30 °

Well	BERTHOUD FARMS 8E-10-7N					
Well Position	+N/-S	1,528.9 usft	Northing:	1,361,363.02 usft	Latitude:	40° 19' 27.948 N
	+E/-W	-936.6 usft	Easting:	3,128,192.03 usft	Longitude:	105° 2' 24.839 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	5,035.0 usft

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	4/4/2017	8.37	66.76	52,345.13019945

Design	PROPOSAL 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	0.0	0.0	64.78

Plan Survey Tool Program			Date	5/22/2017	
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.0	13,220.7	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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,564.8	46.62	342.80	2,365.7	685.6	-212.2	2.50	2.50	0.00	342.80	
4,334.6	46.62	342.80	3,581.3	1,914.4	-592.6	0.00	0.00	0.00	0.00	
6,199.3	0.00	0.00	5,247.0	2,600.0	-804.8	2.50	-2.50	0.00	180.00	
6,299.3	0.00	0.00	5,347.0	2,600.0	-804.8	0.00	0.00	0.00	0.00	
7,199.4	90.00	88.95	5,920.0	2,610.5	-231.9	10.00	10.00	0.00	88.95	
8,809.4	90.00	88.95	5,920.0	2,640.1	1,377.8	0.00	0.00	0.00	0.00	BF 7 - LP
13,220.7	90.00	88.81	5,920.0	2,726.3	5,788.2	0.00	0.00	0.00	-90.00	BF 7 - PBHL

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well BERTHOUD FARMS 8E-10-7N
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 24' @ 5059.0usft
<b>Project:</b>	Weld County	<b>MD Reference:</b>	KB 24' @ 5059.0usft
<b>Site:</b>	Sec 7-T4N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	BERTHOUD FARMS 8E-10-7N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>Build 2.50°/100'</b>									
800.0	2.50	342.80	800.0	2.1	-0.6	0.3	2.50	2.50	0.00
900.0	5.00	342.80	899.7	8.3	-2.6	1.2	2.50	2.50	0.00
1,000.0	7.50	342.80	999.1	18.7	-5.8	2.7	2.50	2.50	0.00
1,100.0	10.00	342.80	1,098.0	33.3	-10.3	4.9	2.50	2.50	0.00
1,200.0	12.50	342.80	1,196.0	51.9	-16.1	7.6	2.50	2.50	0.00
1,300.0	15.00	342.80	1,293.2	74.6	-23.1	10.9	2.50	2.50	0.00
1,400.0	17.50	342.80	1,389.2	101.3	-31.4	14.8	2.50	2.50	0.00
1,500.0	20.00	342.80	1,483.9	132.0	-40.9	19.3	2.50	2.50	0.00
1,600.0	22.50	342.80	1,577.0	166.7	-51.6	24.3	2.50	2.50	0.00
1,700.0	25.00	342.80	1,668.6	205.1	-63.5	30.0	2.50	2.50	0.00
1,800.0	27.50	342.80	1,758.2	247.4	-76.6	36.1	2.50	2.50	0.00
1,900.0	30.00	342.80	1,845.9	293.3	-90.8	42.8	2.50	2.50	0.00
2,000.0	32.50	342.80	1,931.4	342.9	-106.1	50.1	2.50	2.50	0.00
2,100.0	35.00	342.80	2,014.5	395.9	-122.6	57.8	2.50	2.50	0.00
2,200.0	37.50	342.80	2,095.2	452.4	-140.0	66.1	2.50	2.50	0.00
2,300.0	40.00	342.80	2,173.2	512.2	-158.5	74.8	2.50	2.50	0.00
2,400.0	42.50	342.80	2,248.3	575.2	-178.0	84.0	2.50	2.50	0.00
2,500.0	45.00	342.80	2,320.6	641.2	-198.5	93.7	2.50	2.50	0.00
2,564.8	46.62	342.80	2,365.7	685.6	-212.2	100.2	2.50	2.50	0.00
<b>Hold 46.62° Inc</b>									
2,600.0	46.62	342.80	2,389.9	710.1	-219.8	103.7	0.00	0.00	0.00
2,629.2	46.62	342.80	2,410.0	730.4	-226.1	106.7	0.00	0.00	0.00
<b>PARKMAN</b>									
2,700.0	46.62	342.80	2,458.6	779.5	-241.3	113.9	0.00	0.00	0.00
2,800.0	46.62	342.80	2,527.3	848.9	-262.8	124.0	0.00	0.00	0.00
2,900.0	46.62	342.80	2,596.0	918.4	-284.3	134.2	0.00	0.00	0.00
3,000.0	46.62	342.80	2,664.6	987.8	-305.8	144.3	0.00	0.00	0.00
3,100.0	46.62	342.80	2,733.3	1,057.2	-327.3	154.4	0.00	0.00	0.00
3,200.0	46.62	342.80	2,802.0	1,126.7	-348.7	164.6	0.00	0.00	0.00
3,300.0	46.62	342.80	2,870.7	1,196.1	-370.2	174.7	0.00	0.00	0.00
3,400.0	46.62	342.80	2,939.4	1,265.5	-391.7	184.9	0.00	0.00	0.00
3,500.0	46.62	342.80	3,008.1	1,334.9	-413.2	195.0	0.00	0.00	0.00
3,502.8	46.62	342.80	3,010.0	1,336.9	-413.8	195.3	0.00	0.00	0.00
<b>SUSSEX</b>									
3,600.0	46.62	342.80	3,076.8	1,404.4	-434.7	205.1	0.00	0.00	0.00
3,700.0	46.62	342.80	3,145.4	1,473.8	-456.2	215.3	0.00	0.00	0.00
3,800.0	46.62	342.80	3,214.1	1,543.2	-477.7	225.4	0.00	0.00	0.00
3,900.0	46.62	342.80	3,282.8	1,612.7	-499.2	235.6	0.00	0.00	0.00
4,000.0	46.62	342.80	3,351.5	1,682.1	-520.7	245.7	0.00	0.00	0.00
4,100.0	46.62	342.80	3,420.2	1,751.5	-542.2	255.9	0.00	0.00	0.00
4,143.4	46.62	342.80	3,450.0	1,781.7	-551.5	260.3	0.00	0.00	0.00
<b>SHANNON</b>									
4,200.0	46.62	342.80	3,488.9	1,821.0	-563.7	266.0	0.00	0.00	0.00
4,300.0	46.62	342.80	3,557.5	1,890.4	-585.1	276.1	0.00	0.00	0.00

# Planning Report

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<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 24' @ 5059.0usft
<b>Project:</b>	Weld County	<b>MD Reference:</b>	KB 24' @ 5059.0usft
<b>Site:</b>	Sec 7-T4N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	BERTHOUD FARMS 8E-10-7N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	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)
4,334.6	46.62	342.80	3,581.3	1,914.4	-592.6	279.7	0.00	0.00	0.00
<b>Drop 2.50°/100'</b>									
4,400.0	44.98	342.80	3,626.9	1,959.2	-606.4	286.2	2.50	-2.50	0.00
4,500.0	42.48	342.80	3,699.1	2,025.2	-626.9	295.8	2.50	-2.50	0.00
4,600.0	39.98	342.80	3,774.3	2,088.2	-646.4	305.0	2.50	-2.50	0.00
4,700.0	37.48	342.80	3,852.3	2,148.0	-664.9	313.8	2.50	-2.50	0.00
4,800.0	34.98	342.80	3,933.0	2,204.4	-682.4	322.0	2.50	-2.50	0.00
4,900.0	32.48	342.80	4,016.2	2,257.5	-698.8	329.8	2.50	-2.50	0.00
5,000.0	29.98	342.80	4,101.7	2,307.0	-714.1	337.0	2.50	-2.50	0.00
5,100.0	27.48	342.80	4,189.3	2,352.9	-728.3	343.7	2.50	-2.50	0.00
5,200.0	24.98	342.80	4,279.0	2,395.1	-741.4	349.9	2.50	-2.50	0.00
5,300.0	22.48	342.80	4,370.6	2,433.6	-753.3	355.5	2.50	-2.50	0.00
5,400.0	19.98	342.80	4,463.8	2,468.2	-764.0	360.5	2.50	-2.50	0.00
5,500.0	17.48	342.80	4,558.5	2,498.9	-773.5	365.0	2.50	-2.50	0.00
5,600.0	14.98	342.80	4,654.5	2,525.6	-781.8	368.9	2.50	-2.50	0.00
5,700.0	12.48	342.80	4,751.6	2,548.2	-788.8	372.2	2.50	-2.50	0.00
5,800.0	9.98	342.80	4,849.7	2,566.8	-794.5	375.0	2.50	-2.50	0.00
5,900.0	7.48	342.80	4,948.5	2,581.4	-799.0	377.1	2.50	-2.50	0.00
6,000.0	4.98	342.80	5,047.9	2,591.7	-802.2	378.6	2.50	-2.50	0.00
6,100.0	2.48	342.80	5,147.7	2,597.9	-804.2	379.5	2.50	-2.50	0.00
6,199.3	0.00	0.00	5,247.0	2,600.0	-804.8	379.8	2.50	-2.50	17.31
<b>Hold Vertical</b>									
6,299.3	0.00	0.00	5,347.0	2,600.0	-804.8	379.8	0.00	0.00	0.00
<b>KOP, Build 10°/100'</b>									
6,350.0	5.07	88.95	5,397.6	2,600.0	-802.6	381.8	10.00	10.00	0.00
6,400.0	10.07	88.95	5,447.1	2,600.2	-796.0	387.8	10.00	10.00	0.00
6,450.0	15.07	88.95	5,495.9	2,600.4	-785.1	397.8	10.00	10.00	0.00
6,500.0	20.06	88.95	5,543.6	2,600.6	-770.0	411.5	10.00	10.00	0.00
6,550.0	25.06	88.95	5,589.7	2,601.0	-750.9	429.0	10.00	10.00	0.00
6,600.0	30.06	88.95	5,634.1	2,601.4	-727.7	450.1	10.00	10.00	0.00
6,650.0	35.06	88.95	5,676.2	2,601.9	-700.8	474.7	10.00	10.00	0.00
6,700.0	40.06	88.95	5,715.8	2,602.5	-670.4	502.5	10.00	10.00	0.00
6,750.0	45.06	88.95	5,752.6	2,603.1	-636.6	533.3	10.00	10.00	0.00
6,800.0	50.06	88.95	5,786.3	2,603.8	-599.7	567.0	10.00	10.00	0.00
6,850.0	55.06	88.95	5,816.7	2,604.5	-560.0	603.2	10.00	10.00	0.00
6,900.0	60.06	88.95	5,843.5	2,605.3	-517.8	641.7	10.00	10.00	0.00
6,950.0	65.06	88.95	5,866.6	2,606.1	-473.5	682.1	10.00	10.00	0.00
7,000.0	70.06	88.95	5,885.7	2,606.9	-427.3	724.3	10.00	10.00	0.00
7,050.0	75.06	88.95	5,900.6	2,607.8	-379.6	767.8	10.00	10.00	0.00
7,100.0	80.06	88.95	5,911.4	2,608.7	-330.8	812.3	10.00	10.00	0.00
7,150.0	85.06	88.95	5,917.9	2,609.6	-281.2	857.6	10.00	10.00	0.00
7,199.4	90.00	88.95	5,920.0	2,610.5	-231.9	902.6	10.00	10.00	0.00
<b>LP @ 90° Inc - NIOBRARA</b>									
7,300.0	90.00	88.95	5,920.0	2,612.4	-131.3	994.4	0.00	0.00	0.00
7,400.0	90.00	88.95	5,920.0	2,614.2	-31.3	1,085.6	0.00	0.00	0.00
7,500.0	90.00	88.95	5,920.0	2,616.0	68.6	1,176.8	0.00	0.00	0.00
7,600.0	90.00	88.95	5,920.0	2,617.9	168.6	1,268.1	0.00	0.00	0.00
7,700.0	90.00	88.95	5,920.0	2,619.7	268.6	1,359.3	0.00	0.00	0.00
7,800.0	90.00	88.95	5,920.0	2,621.5	368.6	1,450.5	0.00	0.00	0.00
7,900.0	90.00	88.95	5,920.0	2,623.4	468.6	1,541.8	0.00	0.00	0.00
8,000.0	90.00	88.95	5,920.0	2,625.2	568.6	1,633.0	0.00	0.00	0.00
8,100.0	90.00	88.95	5,920.0	2,627.0	668.5	1,724.2	0.00	0.00	0.00
8,200.0	90.00	88.95	5,920.0	2,628.9	768.5	1,815.5	0.00	0.00	0.00

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well BERTHOUD FARMS 8E-10-7N
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 24' @ 5059.0usft
<b>Project:</b>	Weld County	<b>MD Reference:</b>	KB 24' @ 5059.0usft
<b>Site:</b>	Sec 7-T4N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	BERTHOUD FARMS 8E-10-7N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	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)
8,300.0	90.00	88.95	5,920.0	2,630.7	868.5	1,906.7	0.00	0.00	0.00
8,400.0	90.00	88.95	5,920.0	2,632.6	968.5	1,997.9	0.00	0.00	0.00
8,500.0	90.00	88.95	5,920.0	2,634.4	1,068.5	2,089.2	0.00	0.00	0.00
8,600.0	90.00	88.95	5,920.0	2,636.2	1,168.5	2,180.4	0.00	0.00	0.00
8,700.0	90.00	88.95	5,920.0	2,638.1	1,268.4	2,271.6	0.00	0.00	0.00
8,809.4	90.00	88.95	5,920.0	2,640.1	1,377.8	2,371.4	0.00	0.00	0.00
Hold									
8,900.0	90.00	88.95	5,920.0	2,641.7	1,468.4	2,454.1	0.00	0.00	0.00
9,000.0	90.00	88.94	5,920.0	2,643.6	1,568.4	2,545.3	0.00	0.00	0.00
9,100.0	90.00	88.94	5,920.0	2,645.4	1,668.4	2,636.6	0.00	0.00	0.00
9,200.0	90.00	88.94	5,920.0	2,647.3	1,768.4	2,727.8	0.00	0.00	0.00
9,300.0	90.00	88.93	5,920.0	2,649.1	1,868.3	2,819.1	0.00	0.00	0.00
9,400.0	90.00	88.93	5,920.0	2,651.0	1,968.3	2,910.3	0.00	0.00	0.00
9,500.0	90.00	88.93	5,920.0	2,652.9	2,068.3	3,001.6	0.00	0.00	0.00
9,600.0	90.00	88.92	5,920.0	2,654.7	2,168.3	3,092.8	0.00	0.00	0.00
9,700.0	90.00	88.92	5,920.0	2,656.6	2,268.3	3,184.1	0.00	0.00	0.00
9,800.0	90.00	88.92	5,920.0	2,658.5	2,368.3	3,275.3	0.00	0.00	0.00
9,900.0	90.00	88.91	5,920.0	2,660.4	2,468.2	3,366.6	0.00	0.00	0.00
10,000.0	90.00	88.91	5,920.0	2,662.3	2,568.2	3,457.8	0.00	0.00	0.00
10,100.0	90.00	88.91	5,920.0	2,664.2	2,668.2	3,549.1	0.00	0.00	0.00
10,200.0	90.00	88.91	5,920.0	2,666.1	2,768.2	3,640.4	0.00	0.00	0.00
10,300.0	90.00	88.90	5,920.0	2,668.0	2,868.2	3,731.6	0.00	0.00	0.00
10,400.0	90.00	88.90	5,920.0	2,669.9	2,968.1	3,822.9	0.00	0.00	0.00
10,500.0	90.00	88.90	5,920.0	2,671.9	3,068.1	3,914.2	0.00	0.00	0.00
10,600.0	90.00	88.89	5,920.0	2,673.8	3,168.1	4,005.4	0.00	0.00	0.00
10,700.0	90.00	88.89	5,920.0	2,675.7	3,268.1	4,096.7	0.00	0.00	0.00
10,800.0	90.00	88.89	5,920.0	2,677.7	3,368.1	4,188.0	0.00	0.00	0.00
10,900.0	90.00	88.88	5,920.0	2,679.6	3,468.1	4,279.3	0.00	0.00	0.00
11,000.0	90.00	88.88	5,920.0	2,681.6	3,568.0	4,370.5	0.00	0.00	0.00
11,100.0	90.00	88.88	5,920.0	2,683.5	3,668.0	4,461.8	0.00	0.00	0.00
11,200.0	90.00	88.87	5,920.0	2,685.5	3,768.0	4,553.1	0.00	0.00	0.00
11,300.0	90.00	88.87	5,920.0	2,687.5	3,868.0	4,644.4	0.00	0.00	0.00
11,400.0	90.00	88.87	5,920.0	2,689.4	3,968.0	4,735.7	0.00	0.00	0.00
11,500.0	90.00	88.86	5,920.0	2,691.4	4,067.9	4,827.0	0.00	0.00	0.00
11,600.0	90.00	88.86	5,920.0	2,693.4	4,167.9	4,918.3	0.00	0.00	0.00
11,700.0	90.00	88.86	5,920.0	2,695.4	4,267.9	5,009.6	0.00	0.00	0.00
11,800.0	90.00	88.86	5,920.0	2,697.4	4,367.9	5,100.9	0.00	0.00	0.00
11,900.0	90.00	88.85	5,920.0	2,699.4	4,467.9	5,192.2	0.00	0.00	0.00
12,000.0	90.00	88.85	5,920.0	2,701.4	4,567.8	5,283.5	0.00	0.00	0.00
12,100.0	90.00	88.85	5,920.0	2,703.4	4,667.8	5,374.8	0.00	0.00	0.00
12,200.0	90.00	88.84	5,920.0	2,705.4	4,767.8	5,466.1	0.00	0.00	0.00
12,300.0	90.00	88.84	5,920.0	2,707.4	4,867.8	5,557.4	0.00	0.00	0.00
12,400.0	90.00	88.84	5,920.0	2,709.5	4,967.8	5,648.7	0.00	0.00	0.00
12,500.0	90.00	88.83	5,920.0	2,711.5	5,067.7	5,740.0	0.00	0.00	0.00
12,600.0	90.00	88.83	5,920.0	2,713.5	5,167.7	5,831.4	0.00	0.00	0.00
12,700.0	90.00	88.83	5,920.0	2,715.6	5,267.7	5,922.7	0.00	0.00	0.00
12,800.0	90.00	88.82	5,920.0	2,717.6	5,367.7	6,014.0	0.00	0.00	0.00
12,900.0	90.00	88.82	5,920.0	2,719.7	5,467.7	6,105.3	0.00	0.00	0.00
13,000.0	90.00	88.82	5,920.0	2,721.7	5,567.6	6,196.6	0.00	0.00	0.00
13,100.0	90.00	88.81	5,920.0	2,723.8	5,667.6	6,288.0	0.00	0.00	0.00
13,200.0	90.00	88.81	5,920.0	2,725.9	5,767.6	6,379.3	0.00	0.00	0.00
13,220.7	90.00	88.81	5,920.0	2,726.3	5,788.2	6,398.2	0.00	0.00	0.00
TD at 13220.7' MD									

## Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well BERTHOUD FARMS 8E-10-7N
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 24' @ 5059.0usft
<b>Project:</b>	Weld County	<b>MD Reference:</b>	KB 24' @ 5059.0usft
<b>Site:</b>	Sec 7-T4N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	BERTHOUD FARMS 8E-10-7N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL 1		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
BF 7 - LP	0.00	0.00	5,920.0	2,640.1	1,377.8	1,364,010.19	3,129,556.11	40° 19' 54.037 N	105° 2' 7.048 W
- plan hits target center									
- Point									
BF 7 - PBHL	0.00	0.00	5,920.0	2,726.3	5,788.2	1,364,119.31	3,133,966.06	40° 19' 54.883 N	105° 1' 10.096 W
- plan hits target center									
- Point									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
2,629.2	2,410.0	PARKMAN				
3,502.8	3,010.0	SUSSEX				
4,143.4	3,450.0	SHANNON				
7,199.4	5,920.0	NIOBRARA				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(usft)	(usft)	+N/-S	+E/-W	Comment	
(usft)	(usft)	(usft)	(usft)		
700.0	700.0	0.0	0.0	Build 2.50°/100'	
2,564.8	2,365.7	685.6	-212.2	Hold 46.62° Inc	
4,334.6	3,581.3	1,914.4	-592.6	Drop 2.50°/100'	
6,199.3	5,247.0	2,600.0	-804.8	Hold Vertical	
6,299.3	5,347.0	2,600.0	-804.8	KOP, Build 10°/100'	
7,199.4	5,920.0	2,610.5	-231.9	LP @ 90° Inc	
8,809.4	5,920.0	2,640.1	1,377.8	Hold	
13,220.7	5,920.0	2,726.3	5,788.2	TD at 13220.7' MD	