

EXTRACTION OIL & GAS

Weld County

Sec 7-T4N-R68W

BERTHOUD FARMS 8E-10-5C

ORIGINAL WELLBORE

Plan: PROPOSAL 1

Standard Planning Report

22 May, 2017



WELL DETAILS: BERTHOUD FARMS 8E-10-5C

+N/-S	+E/-W	Northing	Easting	5035.0	Latitude	Longitude	Slot
0.0	0.0	1361363.20	3128228.00	40° 19' 27.948 N	105° 2' 24.374 W		

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.0	
3	2211.0	42.77	345.34	2056.4	589.7	-154.3	2.50	345.34	140.3	
4	4880.0	42.77	345.34	4015.6	2343.3	-613.1	0.00	0.00	557.6	
5	6591.0	0.00	0.00	5572.0	2933.0	-767.4	2.50	180.00	697.9	
6	6691.0	0.00	0.00	5672.0	2933.0	-767.4	0.00	0.00	697.9	
7	7591.1	90.00	89.00	6245.0	2943.0	-194.5	10.00	89.00	1208.6	
8	9126.2	90.00	89.00	6245.0	2969.7	1340.4	0.00	0.00	2576.7	BF 5 - LP
9	13537.7	90.00	88.80	6245.0	3054.5	5751.1	0.00	-90.00	6511.9	BF 5 - PBHL

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.0	Build 2.50"/100'
2211.0	42.77	345.34	2056.4	589.7	-154.3	140.3	609.6	Hold 42.77" Inc
4880.0	42.77	345.34	4015.6	2343.3	-613.1	557.6	2422.2	Drop 2.50"/100'
6591.0	0.00	0.00	5572.0	2933.0	-767.4	697.9	3031.7	Hold Vertical
6691.0	0.00	0.00	5672.0	2933.0	-767.4	697.9	3031.7	KOP, Build 10"/100'
7591.1	90.00	89.00	6245.0	2943.0	-194.5	1208.6	3604.7	LP @ 90° Inc
9126.2	90.00	89.00	6245.0	2969.7	1340.4	2576.7	5139.9	Hold
13537.7	90.00	88.80	6245.0	3054.5	5751.1	6511.9	9551.4	TD at 13537.7' MD

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
BF 5 - LP	6245.0	2969.7	1340.4	1364339.86	3129552.99	40° 19' 57.295 N	105° 2' 7.066 W	Point
- plan hits target center								
BF 5 - PBHL	6245.0	3054.5	5751.1	1364447.52	3133963.17	40° 19' 58.127 N	105° 1' 10.110 W	Point
- plan hits target center								

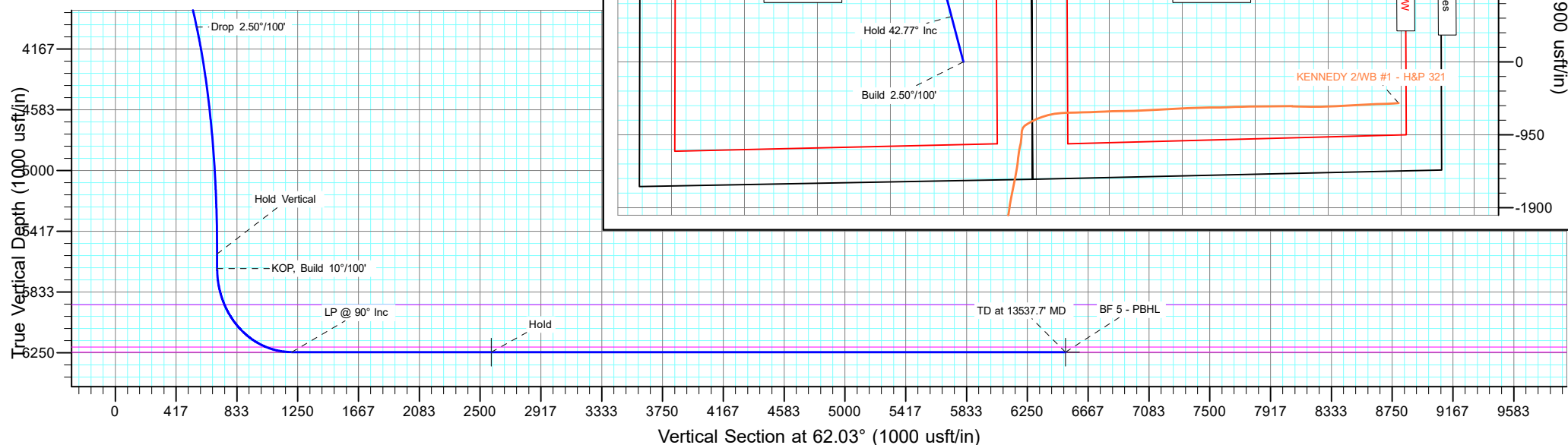
FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2410.0	2692.7	PARKMAN
3010.0	3510.1	SUSSEX
3450.0	4109.5	SHANNON
5920.0	6947.5	NIORARA
6210.0	7389.8	FORT HAYS
6245.0	7591.1	CODELL

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:
1545' FSL, 894' FEL
Sec 7-T4N-R68W
LP:
820' FNL, 460' FWL
Sec 8-T4N-R68W
BHL:
816' FNL, 460' FEL
Sec 8-T4N-R68W



Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well BERTHOUD FARMS 8E-10-5C
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 24' @ 5059.0usft
Project:	Weld County	MD Reference:	KB 24' @ 5059.0usft
Site:	Sec 7-T4N-R68W	North Reference:	True
Well:	BERTHOUD FARMS 8E-10-5C	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 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-10-5C					
Well Position	+N/-S	1,528.9 usft	Northing:	1,361,363.20 usft	Latitude:	40° 19' 27.948 N
	+E/-W	-900.6 usft	Easting:	3,128,228.00 usft	Longitude:	105° 2' 24.374 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	52,345.14402776

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	62.03

Plan Survey Tool Program			Date	5/22/2017	
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.0	13,537.7	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	
500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,211.0	42.77	345.34	2,056.4	589.7	-154.3	2.50	2.50	0.00	345.34	
4,880.0	42.77	345.34	4,015.6	2,343.3	-613.1	0.00	0.00	0.00	0.00	
6,591.0	0.00	0.00	5,572.0	2,933.0	-767.4	2.50	-2.50	0.00	180.00	
6,691.0	0.00	0.00	5,672.0	2,933.0	-767.4	0.00	0.00	0.00	0.00	
7,591.1	90.00	89.00	6,245.0	2,943.0	-194.5	10.00	10.00	0.00	89.00	
9,126.2	90.00	89.00	6,245.0	2,969.7	1,340.4	0.00	0.00	0.00	0.00	BF 5 - LP
13,537.7	90.00	88.80	6,245.0	3,054.5	5,751.1	0.00	0.00	0.00	-90.00	BF 5 - PBHL

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well BERTHOUD FARMS 8E-10-5C
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 24' @ 5059.0usft
Project:	Weld County	MD Reference:	KB 24' @ 5059.0usft
Site:	Sec 7-T4N-R68W	North Reference:	True
Well:	BERTHOUD FARMS 8E-10-5C	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)
0.0	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
Build 2.50°/100'									
600.0	2.50	345.34	600.0	2.1	-0.6	0.5	2.50	2.50	0.00
700.0	5.00	345.34	699.7	8.4	-2.2	2.0	2.50	2.50	0.00
800.0	7.50	345.34	799.1	19.0	-5.0	4.5	2.50	2.50	0.00
900.0	10.00	345.34	898.0	33.7	-8.8	8.0	2.50	2.50	0.00
1,000.0	12.50	345.34	996.0	52.6	-13.8	12.5	2.50	2.50	0.00
1,100.0	15.00	345.34	1,093.2	75.5	-19.8	18.0	2.50	2.50	0.00
1,200.0	17.50	345.34	1,189.2	102.6	-26.8	24.4	2.50	2.50	0.00
1,300.0	20.00	345.34	1,283.9	133.7	-35.0	31.8	2.50	2.50	0.00
1,400.0	22.50	345.34	1,377.0	168.8	-44.2	40.2	2.50	2.50	0.00
1,500.0	25.00	345.34	1,468.6	207.7	-54.4	49.4	2.50	2.50	0.00
1,600.0	27.50	345.34	1,558.2	250.5	-65.5	59.6	2.50	2.50	0.00
1,700.0	30.00	345.34	1,645.9	297.0	-77.7	70.7	2.50	2.50	0.00
1,800.0	32.50	345.34	1,731.4	347.2	-90.9	82.6	2.50	2.50	0.00
1,900.0	35.00	345.34	1,814.5	401.0	-104.9	95.4	2.50	2.50	0.00
2,000.0	37.50	345.34	1,895.2	458.2	-119.9	109.0	2.50	2.50	0.00
2,100.0	40.00	345.34	1,973.2	518.7	-135.7	123.4	2.50	2.50	0.00
2,200.0	42.50	345.34	2,048.3	582.5	-152.4	138.6	2.50	2.50	0.00
2,211.0	42.77	345.34	2,056.4	589.7	-154.3	140.3	2.50	2.50	0.00
Hold 42.77° Inc									
2,300.0	42.77	345.34	2,121.8	648.2	-169.6	154.2	0.00	0.00	0.00
2,400.0	42.77	345.34	2,195.2	713.9	-186.8	169.9	0.00	0.00	0.00
2,500.0	42.77	345.34	2,268.6	779.6	-204.0	185.5	0.00	0.00	0.00
2,600.0	42.77	345.34	2,342.0	845.3	-221.2	201.1	0.00	0.00	0.00
2,692.7	42.77	345.34	2,410.0	906.2	-237.1	215.6	0.00	0.00	0.00
PARKMAN									
2,700.0	42.77	345.34	2,415.4	911.0	-238.4	216.8	0.00	0.00	0.00
2,800.0	42.77	345.34	2,488.8	976.7	-255.5	232.4	0.00	0.00	0.00
2,900.0	42.77	345.34	2,562.2	1,042.4	-272.7	248.0	0.00	0.00	0.00
3,000.0	42.77	345.34	2,635.6	1,108.1	-289.9	263.7	0.00	0.00	0.00
3,100.0	42.77	345.34	2,709.0	1,173.8	-307.1	279.3	0.00	0.00	0.00
3,200.0	42.77	345.34	2,782.4	1,239.5	-324.3	294.9	0.00	0.00	0.00
3,300.0	42.77	345.34	2,855.8	1,305.2	-341.5	310.6	0.00	0.00	0.00
3,400.0	42.77	345.34	2,929.2	1,370.9	-358.7	326.2	0.00	0.00	0.00
3,500.0	42.77	345.34	3,002.6	1,436.6	-375.9	341.8	0.00	0.00	0.00
3,510.1	42.77	345.34	3,010.0	1,443.2	-377.6	343.4	0.00	0.00	0.00
SUSSEX									
3,600.0	42.77	345.34	3,076.0	1,502.3	-393.1	357.5	0.00	0.00	0.00
3,700.0	42.77	345.34	3,149.4	1,568.0	-410.3	373.1	0.00	0.00	0.00
3,800.0	42.77	345.34	3,222.8	1,633.7	-427.4	388.7	0.00	0.00	0.00
3,900.0	42.77	345.34	3,296.2	1,699.4	-444.6	404.4	0.00	0.00	0.00
4,000.0	42.77	345.34	3,369.6	1,765.1	-461.8	420.0	0.00	0.00	0.00
4,100.0	42.77	345.34	3,443.0	1,830.8	-479.0	435.6	0.00	0.00	0.00
4,109.5	42.77	345.34	3,450.0	1,837.1	-480.7	437.1	0.00	0.00	0.00
SHANNON									
4,200.0	42.77	345.34	3,516.4	1,896.5	-496.2	451.3	0.00	0.00	0.00
4,300.0	42.77	345.34	3,589.8	1,962.2	-513.4	466.9	0.00	0.00	0.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well BERTHOUD FARMS 8E-10-5C
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 24' @ 5059.0usft
Project:	Weld County	MD Reference:	KB 24' @ 5059.0usft
Site:	Sec 7-T4N-R68W	North Reference:	True
Well:	BERTHOUD FARMS 8E-10-5C	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)
4,400.0	42.77	345.34	3,663.2	2,027.9	-530.6	482.5	0.00	0.00	0.00
4,500.0	42.77	345.34	3,736.6	2,093.6	-547.8	498.2	0.00	0.00	0.00
4,600.0	42.77	345.34	3,810.0	2,159.3	-565.0	513.8	0.00	0.00	0.00
4,700.0	42.77	345.34	3,883.4	2,225.0	-582.2	529.4	0.00	0.00	0.00
4,800.0	42.77	345.34	3,956.8	2,290.7	-599.3	545.1	0.00	0.00	0.00
4,880.0	42.77	345.34	4,015.6	2,343.3	-613.1	557.6	0.00	0.00	0.00
Drop 2.50°/100'									
4,900.0	42.28	345.34	4,030.3	2,356.3	-616.5	560.7	2.50	-2.50	0.00
5,000.0	39.78	345.34	4,105.7	2,419.8	-633.1	575.8	2.50	-2.50	0.00
5,100.0	37.28	345.34	4,183.9	2,480.1	-648.9	590.1	2.50	-2.50	0.00
5,200.0	34.78	345.34	4,264.8	2,537.0	-663.8	603.7	2.50	-2.50	0.00
5,300.0	32.28	345.34	4,348.2	2,590.4	-677.8	616.4	2.50	-2.50	0.00
5,400.0	29.78	345.34	4,433.9	2,640.3	-690.8	628.3	2.50	-2.50	0.00
5,500.0	27.28	345.34	4,521.7	2,686.5	-702.9	639.2	2.50	-2.50	0.00
5,600.0	24.78	345.34	4,611.6	2,728.9	-714.0	649.3	2.50	-2.50	0.00
5,700.0	22.28	345.34	4,703.2	2,767.5	-724.1	658.5	2.50	-2.50	0.00
5,800.0	19.78	345.34	4,796.6	2,802.2	-733.2	666.8	2.50	-2.50	0.00
5,900.0	17.28	345.34	4,891.4	2,833.0	-741.2	674.1	2.50	-2.50	0.00
6,000.0	14.78	345.34	4,987.5	2,859.7	-748.2	680.5	2.50	-2.50	0.00
6,100.0	12.28	345.34	5,084.7	2,882.3	-754.1	685.8	2.50	-2.50	0.00
6,200.0	9.78	345.34	5,182.9	2,900.8	-759.0	690.2	2.50	-2.50	0.00
6,300.0	7.28	345.34	5,281.8	2,915.1	-762.7	693.7	2.50	-2.50	0.00
6,400.0	4.78	345.34	5,381.2	2,925.3	-765.4	696.1	2.50	-2.50	0.00
6,500.0	2.28	345.34	5,481.0	2,931.3	-766.9	697.5	2.50	-2.50	0.00
6,591.0	0.00	0.00	5,572.0	2,933.0	-767.4	697.9	2.50	-2.50	0.00
Hold Vertical									
6,600.0	0.00	0.00	5,581.0	2,933.0	-767.4	697.9	0.00	0.00	0.00
6,691.0	0.00	0.00	5,672.0	2,933.0	-767.4	697.9	0.00	0.00	0.00
KOP, Build 10°/100'									
6,700.0	0.90	89.00	5,681.0	2,933.0	-767.3	698.0	10.00	10.00	0.00
6,750.0	5.90	89.00	5,730.9	2,933.1	-764.4	700.6	10.00	10.00	0.00
6,800.0	10.90	89.00	5,780.3	2,933.2	-757.1	707.1	10.00	10.00	0.00
6,850.0	15.90	89.00	5,828.9	2,933.4	-745.5	717.4	10.00	10.00	0.00
6,900.0	20.90	89.00	5,876.4	2,933.7	-729.7	731.5	10.00	10.00	0.00
6,947.5	25.65	89.00	5,920.0	2,934.0	-711.0	748.2	10.00	10.00	0.00
NIOBRARA									
6,950.0	25.89	89.00	5,922.2	2,934.0	-709.9	749.2	10.00	10.00	0.00
7,000.0	30.89	89.00	5,966.2	2,934.4	-686.1	770.4	10.00	10.00	0.00
7,050.0	35.89	89.00	6,007.9	2,934.9	-658.6	794.9	10.00	10.00	0.00
7,100.0	40.89	89.00	6,047.1	2,935.4	-627.6	822.5	10.00	10.00	0.00
7,150.0	45.89	89.00	6,083.4	2,936.0	-593.2	853.2	10.00	10.00	0.00
7,200.0	50.89	89.00	6,116.6	2,936.7	-555.9	886.5	10.00	10.00	0.00
7,250.0	55.89	89.00	6,146.4	2,937.4	-515.7	922.2	10.00	10.00	0.00
7,300.0	60.89	89.00	6,172.6	2,938.1	-473.2	960.2	10.00	10.00	0.00
7,350.0	65.89	89.00	6,195.0	2,938.9	-428.5	1,000.0	10.00	10.00	0.00
7,389.8	69.87	89.00	6,210.0	2,939.6	-391.6	1,032.8	10.00	10.00	0.00
FORT HAYS									
7,400.0	70.89	89.00	6,213.4	2,939.7	-382.0	1,041.4	10.00	10.00	0.00
7,450.0	75.89	89.00	6,227.7	2,940.6	-334.1	1,084.1	10.00	10.00	0.00
7,500.0	80.89	89.00	6,237.8	2,941.4	-285.2	1,127.7	10.00	10.00	0.00
7,550.0	85.89	89.00	6,243.5	2,942.3	-235.5	1,172.0	10.00	10.00	0.00
7,591.1	90.00	89.00	6,245.0	2,943.0	-194.5	1,208.6	10.00	10.00	0.00
LP @ 90° Inc - CODELL									

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well BERTHOUD FARMS 8E-10-5C
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 24' @ 5059.0usft
Project:	Weld County	MD Reference:	KB 24' @ 5059.0usft
Site:	Sec 7-T4N-R68W	North Reference:	True
Well:	BERTHOUD FARMS 8E-10-5C	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)
7,600.0	90.00	89.00	6,245.0	2,943.1	-185.6	1,216.5	0.00	0.00	0.00
7,700.0	90.00	89.00	6,245.0	2,944.9	-85.6	1,305.6	0.00	0.00	0.00
7,800.0	90.00	89.00	6,245.0	2,946.6	14.4	1,394.8	0.00	0.00	0.00
7,900.0	90.00	89.00	6,245.0	2,948.4	114.4	1,483.9	0.00	0.00	0.00
8,000.0	90.00	89.00	6,245.0	2,950.1	214.4	1,573.0	0.00	0.00	0.00
8,100.0	90.00	89.00	6,245.0	2,951.9	314.3	1,662.1	0.00	0.00	0.00
8,200.0	90.00	89.00	6,245.0	2,953.6	414.3	1,751.2	0.00	0.00	0.00
8,300.0	90.00	89.00	6,245.0	2,955.3	514.3	1,840.4	0.00	0.00	0.00
8,400.0	90.00	89.00	6,245.0	2,957.1	614.3	1,929.5	0.00	0.00	0.00
8,500.0	90.00	89.00	6,245.0	2,958.8	714.3	2,018.6	0.00	0.00	0.00
8,600.0	90.00	89.00	6,245.0	2,960.6	814.3	2,107.7	0.00	0.00	0.00
8,700.0	90.00	89.00	6,245.0	2,962.3	914.2	2,196.9	0.00	0.00	0.00
8,800.0	90.00	89.00	6,245.0	2,964.1	1,014.2	2,286.0	0.00	0.00	0.00
8,900.0	90.00	89.00	6,245.0	2,965.8	1,114.2	2,375.1	0.00	0.00	0.00
9,000.0	90.00	89.00	6,245.0	2,967.5	1,214.2	2,464.2	0.00	0.00	0.00
9,100.0	90.00	89.00	6,245.0	2,969.3	1,314.2	2,553.3	0.00	0.00	0.00
9,126.2	90.00	89.00	6,245.0	2,969.7	1,340.4	2,576.7	0.00	0.00	0.00
Hold									
9,200.0	90.00	89.00	6,245.0	2,971.0	1,414.2	2,642.5	0.00	0.00	0.00
9,300.0	90.00	88.99	6,245.0	2,972.8	1,514.2	2,731.6	0.00	0.00	0.00
9,400.0	90.00	88.99	6,245.0	2,974.6	1,614.1	2,820.7	0.00	0.00	0.00
9,500.0	90.00	88.98	6,245.0	2,976.3	1,714.1	2,909.9	0.00	0.00	0.00
9,600.0	90.00	88.98	6,245.0	2,978.1	1,814.1	2,999.0	0.00	0.00	0.00
9,700.0	90.00	88.97	6,245.0	2,979.9	1,914.1	3,088.1	0.00	0.00	0.00
9,800.0	90.00	88.97	6,245.0	2,981.7	2,014.1	3,177.3	0.00	0.00	0.00
9,900.0	90.00	88.97	6,245.0	2,983.5	2,114.1	3,266.4	0.00	0.00	0.00
10,000.0	90.00	88.96	6,245.0	2,985.3	2,214.0	3,355.6	0.00	0.00	0.00
10,100.0	90.00	88.96	6,245.0	2,987.1	2,314.0	3,444.7	0.00	0.00	0.00
10,200.0	90.00	88.95	6,245.0	2,988.9	2,414.0	3,533.9	0.00	0.00	0.00
10,300.0	90.00	88.95	6,245.0	2,990.8	2,514.0	3,623.1	0.00	0.00	0.00
10,400.0	90.00	88.94	6,245.0	2,992.6	2,614.0	3,712.2	0.00	0.00	0.00
10,500.0	90.00	88.94	6,245.0	2,994.5	2,714.0	3,801.4	0.00	0.00	0.00
10,600.0	90.00	88.93	6,245.0	2,996.3	2,813.9	3,890.6	0.00	0.00	0.00
10,700.0	90.00	88.93	6,245.0	2,998.2	2,913.9	3,979.8	0.00	0.00	0.00
10,800.0	90.00	88.92	6,245.0	3,000.1	3,013.9	4,068.9	0.00	0.00	0.00
10,900.0	90.00	88.92	6,245.0	3,001.9	3,113.9	4,158.1	0.00	0.00	0.00
11,000.0	90.00	88.91	6,245.0	3,003.8	3,213.9	4,247.3	0.00	0.00	0.00
11,100.0	90.00	88.91	6,245.0	3,005.7	3,313.9	4,336.5	0.00	0.00	0.00
11,200.0	90.00	88.90	6,245.0	3,007.6	3,413.8	4,425.7	0.00	0.00	0.00
11,300.0	90.00	88.90	6,245.0	3,009.6	3,513.8	4,514.9	0.00	0.00	0.00
11,400.0	90.00	88.90	6,245.0	3,011.5	3,613.8	4,604.1	0.00	0.00	0.00
11,500.0	90.00	88.89	6,245.0	3,013.4	3,713.8	4,693.3	0.00	0.00	0.00
11,600.0	90.00	88.89	6,245.0	3,015.4	3,813.8	4,782.5	0.00	0.00	0.00
11,700.0	90.00	88.88	6,245.0	3,017.3	3,913.7	4,871.7	0.00	0.00	0.00
11,800.0	90.00	88.88	6,245.0	3,019.3	4,013.7	4,961.0	0.00	0.00	0.00
11,900.0	90.00	88.87	6,245.0	3,021.2	4,113.7	5,050.2	0.00	0.00	0.00
12,000.0	90.00	88.87	6,245.0	3,023.2	4,213.7	5,139.4	0.00	0.00	0.00
12,100.0	90.00	88.86	6,245.0	3,025.2	4,313.7	5,228.6	0.00	0.00	0.00
12,200.0	90.00	88.86	6,245.0	3,027.2	4,413.6	5,317.9	0.00	0.00	0.00
12,300.0	90.00	88.85	6,245.0	3,029.2	4,513.6	5,407.1	0.00	0.00	0.00
12,400.0	90.00	88.85	6,245.0	3,031.2	4,613.6	5,496.4	0.00	0.00	0.00
12,500.0	90.00	88.84	6,245.0	3,033.2	4,713.6	5,585.6	0.00	0.00	0.00
12,600.0	90.00	88.84	6,245.0	3,035.2	4,813.6	5,674.8	0.00	0.00	0.00
12,700.0	90.00	88.84	6,245.0	3,037.2	4,913.5	5,764.1	0.00	0.00	0.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well BERTHOUD FARMS 8E-10-5C
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 24' @ 5059.0usft
Project:	Weld County	MD Reference:	KB 24' @ 5059.0usft
Site:	Sec 7-T4N-R68W	North Reference:	True
Well:	BERTHOUD FARMS 8E-10-5C	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)	
12,800.0	90.00	88.83	6,245.0	3,039.3	5,013.5	5,853.4	0.00	0.00	0.00	
12,900.0	90.00	88.83	6,245.0	3,041.3	5,113.5	5,942.6	0.00	0.00	0.00	
13,000.0	90.00	88.82	6,245.0	3,043.4	5,213.5	6,031.9	0.00	0.00	0.00	
13,100.0	90.00	88.82	6,245.0	3,045.4	5,313.5	6,121.1	0.00	0.00	0.00	
13,200.0	90.00	88.81	6,245.0	3,047.5	5,413.4	6,210.4	0.00	0.00	0.00	
13,300.0	90.00	88.81	6,245.0	3,049.6	5,513.4	6,299.7	0.00	0.00	0.00	
13,400.0	90.00	88.80	6,245.0	3,051.6	5,613.4	6,389.0	0.00	0.00	0.00	
13,500.0	90.00	88.80	6,245.0	3,053.7	5,713.4	6,478.2	0.00	0.00	0.00	
13,537.7	90.00	88.80	6,245.0	3,054.5	5,751.1	6,511.9	0.00	0.00	0.00	
TD at 13537.7' MD										

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
BF 5 - LP - hit/miss target - Shape - Point	0.00	0.00	6,245.0	2,969.7	1,340.4	1,364,339.86	3,129,552.99	40° 19' 57.295 N	105° 2' 7.066 W
BF 5 - PBHL - plan hits target center - Point	0.00	0.00	6,245.0	3,054.5	5,751.1	1,364,447.52	3,133,963.17	40° 19' 58.127 N	105° 1' 10.110 W

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,692.7	2,410.0	PARKMAN				
3,510.1	3,010.0	SUSSEX				
4,109.5	3,450.0	SHANNON				
6,947.5	5,920.0	NIOBRARA				
7,389.8	6,210.0	FORT HAYS				
7,591.1	6,245.0	CODELL				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
500.0	500.0	0.0	0.0	Build 2.50°/100'	
2,211.0	2,056.4	589.7	-154.3	Hold 42.77° Inc	
4,880.0	4,015.6	2,343.3	-613.1	Drop 2.50°/100'	
6,591.0	5,572.0	2,933.0	-767.4	Hold Vertical	
6,691.0	5,672.0	2,933.0	-767.4	KOP, Build 10°/100'	
7,591.1	6,245.0	2,943.0	-194.5	LP @ 90° Inc	
9,126.2	6,245.0	2,969.7	1,340.4	Hold	
13,537.7	6,245.0	3,054.5	5,751.1	TD at 13537.7' MD	