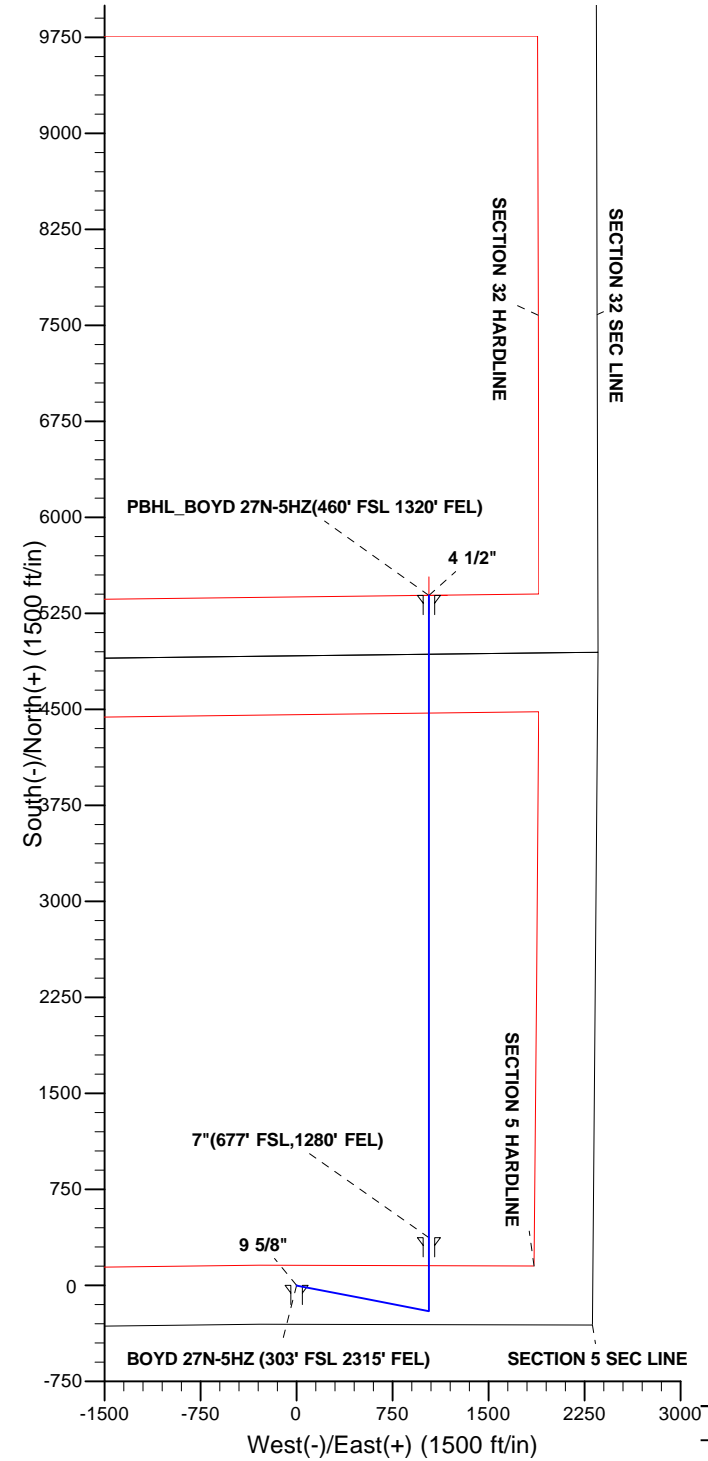
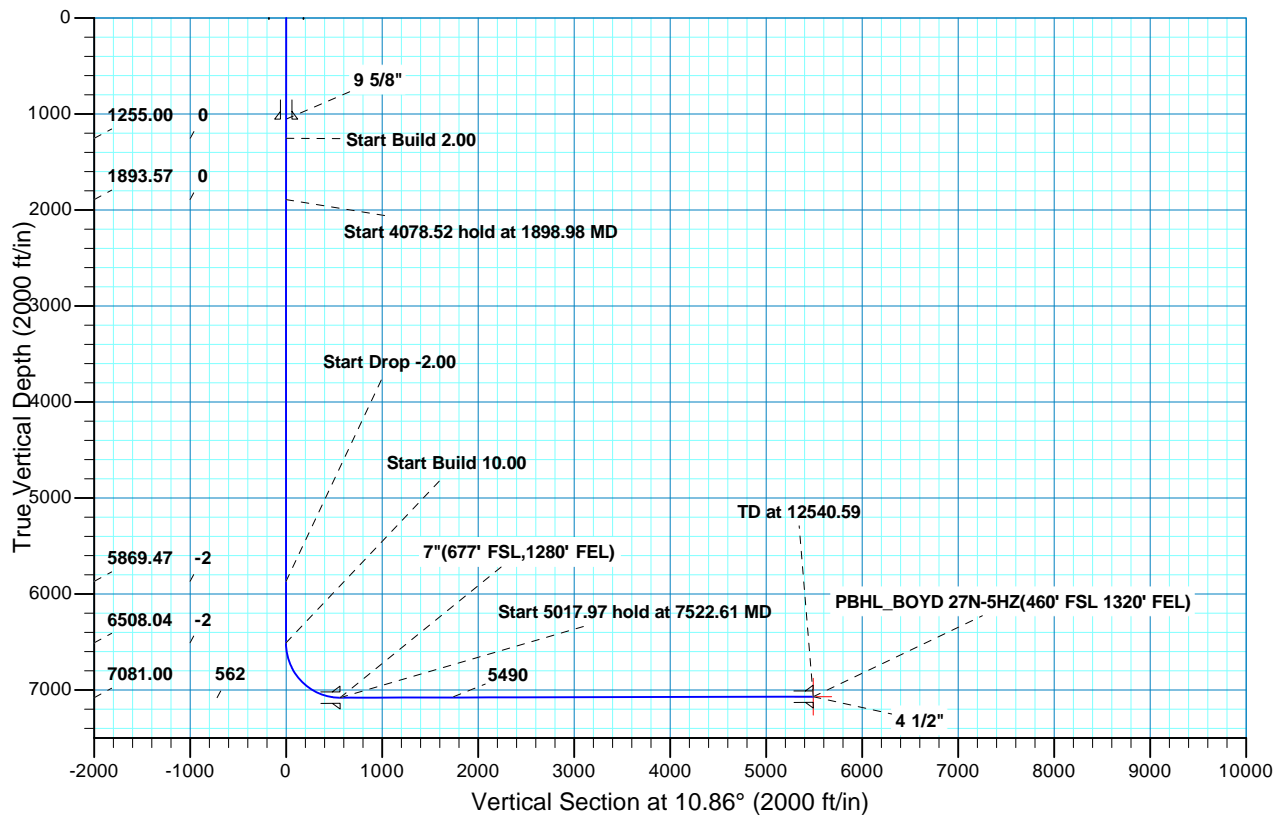


WELL DETAILS: BOYD 27N-5HZ									
GL 4950' & KB 16 @ 4966.00ft (ASSUMED)									
	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
	0.00	0.00	1270911.07	3227599.86	40.0741760	-104.6866930			
SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1255.00	0.00	0.00	1255.00	0.00	0.00	0.00	0.00	0.00	0.00
1898.98	12.88	100.95	1893.57	-13.69	70.76	2.00	100.95	-0.11	
5977.49	12.88	100.95	5869.47	-186.31	963.33	0.00	0.00	-1.54	
6621.47	0.00	0.00	6508.04	-200.00	1034.10	2.00	180.00	-1.65	
7522.61	90.11	0.00	7081.00	374.10	1034.10	10.00	0.00	562.18	
12540.59	90.11	0.00	7071.00	5392.06	1034.10	0.00	0.005490.33		PBHL_BOYD 27N-5HZ(460' FSL 1320' FEL)
FORMATION TOP DETAILS					CASING DETAILS				
TVDPath	MDPath	Formation	Inc	TVD	MD	Name	Size		
4418.00	4488.56	Sussex	12.88	1055.00	1055.00	9 5/8"	9.625		
6947.00	7121.55	Sharon Springs	50.01	7081.00	7522.61	7"	7.000		
6975.00	7167.34	Niobrara A	54.59	7071.00	12540.59	4 1/2"	4.500		
7065.00	7385.76	Niobrara B	76.43						





Scientific Drilling

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

BOYD 15-5HZ

BOYD 27N-5HZ

OH

Plan: PLAN #1 PRELIMINARY

Standard Planning Report

26 February, 2013

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well BOYD 27N-5HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4950' & KB 16 @ 4966.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4950' & KB 16 @ 4966.00ft (ASSUMED)
Site:	BOYD 15-5HZ	North Reference:	True
Well:	BOYD 27N-5HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Project	COLORADO NORTHERN ZONE - 83, KERR MCGEE OIL & GAS ONSHORE LP		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	BOYD 15-5HZ, SECTION 5 T1N R65W				
Site Position:	Northing:	1,270,911.07 usft	Latitude:	40.0741760	
From:	Lat/Long	Easting:	3,227,599.86 usft	Longitude:	-104.6866930
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.53 °

Well	BOYD 27N-5HZ, 303' FSL 2315' FEL					
Well Position	+N/-S	0.00 ft	Northing:	1,270,911.07 usft	Latitude:	40.0741760
	+E/-W	0.00 ft	Easting:	3,227,599.86 usft	Longitude:	-104.6866930
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,950.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2012	2013/02/26	8.62	66.72	52,696

Design	PLAN #1 PRELIMINARY			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	10.86

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	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	
1,255.00	0.00	0.00	1,255.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,898.98	12.88	100.95	1,893.57	-13.69	70.76	2.00	2.00	0.00	100.95	
5,977.49	12.88	100.95	5,869.47	-186.31	963.33	0.00	0.00	0.00	0.00	
6,621.47	0.00	0.00	6,508.04	-200.00	1,034.10	2.00	-2.00	0.00	180.00	
7,522.61	90.11	0.00	7,081.00	374.10	1,034.10	10.00	10.00	0.00	0.00	
12,540.59	90.11	0.00	7,071.00	5,392.06	1,034.10	0.00	0.00	0.00	0.00	PBHL_BOYD 27N-5H

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well BOYD 27N-5HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4950' & KB 16 @ 4966.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4950' & KB 16 @ 4966.00ft (ASSUMED)
Site:	BOYD 15-5HZ	North Reference:	True
Well:	BOYD 27N-5HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	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	0.00
100.00	0.00	0.00	100.00	0.00	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	0.00
300.00	0.00	0.00	300.00	0.00	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	0.00
500.00	0.00	0.00	500.00	0.00	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	0.00
700.00	0.00	0.00	700.00	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	0.00
900.00	0.00	0.00	900.00	0.00	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	0.00
1,055.00	0.00	0.00	1,055.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"										
1,100.00	0.00	0.00	1,100.00	0.00	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	0.00
1,255.00	0.00	0.00	1,255.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00										
1,300.00	0.90	100.95	1,300.00	-0.07	0.35	0.00	2.00	2.00	0.00	0.00
1,400.00	2.90	100.95	1,399.94	-0.70	3.60	-0.01	2.00	2.00	0.00	0.00
1,500.00	4.90	100.95	1,499.70	-1.99	10.28	-0.02	2.00	2.00	0.00	0.00
1,600.00	6.90	100.95	1,599.17	-3.94	20.37	-0.03	2.00	2.00	0.00	0.00
1,700.00	8.90	100.95	1,698.21	-6.55	33.86	-0.05	2.00	2.00	0.00	0.00
1,800.00	10.90	100.95	1,796.72	-9.81	50.74	-0.08	2.00	2.00	0.00	0.00
1,898.98	12.88	100.95	1,893.57	-13.69	70.76	-0.11	2.00	2.00	0.00	0.00
Start 4078.52 hold at 1898.98 MD										
1,900.00	12.88	100.95	1,894.56	-13.73	70.99	-0.11	0.00	0.00	0.00	0.00
2,000.00	12.88	100.95	1,992.05	-17.96	92.87	-0.15	0.00	0.00	0.00	0.00
2,100.00	12.88	100.95	2,089.53	-22.19	114.76	-0.18	0.00	0.00	0.00	0.00
2,200.00	12.88	100.95	2,187.02	-26.43	136.64	-0.22	0.00	0.00	0.00	0.00
2,300.00	12.88	100.95	2,284.50	-30.66	158.53	-0.25	0.00	0.00	0.00	0.00
2,400.00	12.88	100.95	2,381.98	-34.89	180.41	-0.29	0.00	0.00	0.00	0.00
2,500.00	12.88	100.95	2,479.47	-39.13	202.30	-0.32	0.00	0.00	0.00	0.00
2,600.00	12.88	100.95	2,576.95	-43.36	224.18	-0.36	0.00	0.00	0.00	0.00
2,700.00	12.88	100.95	2,674.44	-47.59	246.07	-0.39	0.00	0.00	0.00	0.00
2,800.00	12.88	100.95	2,771.92	-51.82	267.95	-0.43	0.00	0.00	0.00	0.00
2,900.00	12.88	100.95	2,869.41	-56.06	289.83	-0.46	0.00	0.00	0.00	0.00
3,000.00	12.88	100.95	2,966.89	-60.29	311.72	-0.50	0.00	0.00	0.00	0.00
3,100.00	12.88	100.95	3,064.37	-64.52	333.60	-0.53	0.00	0.00	0.00	0.00
3,200.00	12.88	100.95	3,161.86	-68.75	355.49	-0.57	0.00	0.00	0.00	0.00
3,300.00	12.88	100.95	3,259.34	-72.99	377.37	-0.60	0.00	0.00	0.00	0.00
3,400.00	12.88	100.95	3,356.83	-77.22	399.26	-0.64	0.00	0.00	0.00	0.00
3,500.00	12.88	100.95	3,454.31	-81.45	421.14	-0.67	0.00	0.00	0.00	0.00
3,600.00	12.88	100.95	3,551.79	-85.68	443.03	-0.71	0.00	0.00	0.00	0.00
3,700.00	12.88	100.95	3,649.28	-89.92	464.91	-0.74	0.00	0.00	0.00	0.00
3,800.00	12.88	100.95	3,746.76	-94.15	486.80	-0.78	0.00	0.00	0.00	0.00
3,900.00	12.88	100.95	3,844.25	-98.38	508.68	-0.81	0.00	0.00	0.00	0.00
4,000.00	12.88	100.95	3,941.73	-102.61	530.57	-0.85	0.00	0.00	0.00	0.00
4,100.00	12.88	100.95	4,039.21	-106.85	552.45	-0.88	0.00	0.00	0.00	0.00
4,200.00	12.88	100.95	4,136.70	-111.08	574.34	-0.92	0.00	0.00	0.00	0.00
4,300.00	12.88	100.95	4,234.18	-115.31	596.22	-0.95	0.00	0.00	0.00	0.00
4,400.00	12.88	100.95	4,331.67	-119.54	618.10	-0.99	0.00	0.00	0.00	0.00
4,488.56	12.88	100.95	4,418.00	-123.29	637.49	-1.02	0.00	0.00	0.00	0.00
Sussex										
4,500.00	12.88	100.95	4,429.15	-123.78	639.99	-1.02	0.00	0.00	0.00	0.00

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well BOYD 27N-5HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4950' & KB 16 @ 4966.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4950' & KB 16 @ 4966.00ft (ASSUMED)
Site:	BOYD 15-5HZ	North Reference:	True
Well:	BOYD 27N-5HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,600.00	12.88	100.95	4,526.63	-128.01	661.87	-1.06	0.00	0.00	0.00
4,700.00	12.88	100.95	4,624.12	-132.24	683.76	-1.09	0.00	0.00	0.00
4,800.00	12.88	100.95	4,721.60	-136.48	705.64	-1.13	0.00	0.00	0.00
4,900.00	12.88	100.95	4,819.09	-140.71	727.53	-1.16	0.00	0.00	0.00
5,000.00	12.88	100.95	4,916.57	-144.94	749.41	-1.19	0.00	0.00	0.00
5,100.00	12.88	100.95	5,014.06	-149.17	771.30	-1.23	0.00	0.00	0.00
5,200.00	12.88	100.95	5,111.54	-153.41	793.18	-1.26	0.00	0.00	0.00
5,300.00	12.88	100.95	5,209.02	-157.64	815.07	-1.30	0.00	0.00	0.00
5,400.00	12.88	100.95	5,306.51	-161.87	836.95	-1.33	0.00	0.00	0.00
5,500.00	12.88	100.95	5,403.99	-166.10	858.84	-1.37	0.00	0.00	0.00
5,600.00	12.88	100.95	5,501.48	-170.34	880.72	-1.40	0.00	0.00	0.00
5,700.00	12.88	100.95	5,598.96	-174.57	902.61	-1.44	0.00	0.00	0.00
5,800.00	12.88	100.95	5,696.44	-178.80	924.49	-1.47	0.00	0.00	0.00
5,900.00	12.88	100.95	5,793.93	-183.03	946.38	-1.51	0.00	0.00	0.00
5,977.49	12.88	100.95	5,869.47	-186.31	963.33	-1.54	0.00	0.00	0.00
Start Drop -2.00									
6,000.00	12.43	100.95	5,891.43	-187.25	968.18	-1.54	2.00	-2.00	0.00
6,100.00	10.43	100.95	5,989.44	-191.01	987.63	-1.57	2.00	-2.00	0.00
6,200.00	8.43	100.95	6,088.09	-194.12	1,003.71	-1.60	2.00	-2.00	0.00
6,300.00	6.43	100.95	6,187.24	-196.58	1,016.41	-1.62	2.00	-2.00	0.00
6,400.00	4.43	100.95	6,286.79	-198.38	1,025.70	-1.64	2.00	-2.00	0.00
6,500.00	2.43	100.95	6,386.60	-199.51	1,031.57	-1.64	2.00	-2.00	0.00
6,600.00	0.43	100.95	6,486.57	-199.98	1,034.02	-1.65	2.00	-2.00	0.00
6,621.47	0.00	0.00	6,508.04	-200.00	1,034.10	-1.65	2.00	-2.00	0.00
Start Build 10.00									
6,700.00	7.85	0.00	6,586.32	-194.63	1,034.10	3.63	10.00	10.00	0.00
6,800.00	17.85	0.00	6,683.69	-172.41	1,034.10	25.45	10.00	10.00	0.00
6,900.00	27.85	0.00	6,775.73	-133.62	1,034.10	63.54	10.00	10.00	0.00
7,000.00	37.85	0.00	6,859.63	-79.44	1,034.10	116.75	10.00	10.00	0.00
7,100.00	47.85	0.00	6,932.84	-11.52	1,034.10	183.46	10.00	10.00	0.00
7,121.55	50.01	0.00	6,947.00	4.73	1,034.10	199.41	10.00	10.00	0.00
Sharon Springs									
7,167.34	54.59	0.00	6,975.00	40.95	1,034.10	234.99	10.00	10.00	0.00
Niobrara A									
7,200.00	57.85	0.00	6,993.15	68.09	1,034.10	261.64	10.00	10.00	0.00
7,300.00	67.85	0.00	7,038.72	156.96	1,034.10	348.92	10.00	10.00	0.00
7,385.76	76.43	0.00	7,065.00	238.51	1,034.10	429.01	10.00	10.00	0.00
Niobrara B									
7,400.00	77.85	0.00	7,068.17	252.39	1,034.10	442.65	10.00	10.00	0.00
7,500.00	87.85	0.00	7,080.60	351.49	1,034.10	539.97	10.00	10.00	0.00
7,522.61	90.11	0.00	7,081.00	374.10	1,034.10	562.17	10.00	10.00	0.00
Start 5017.97 hold at 7522.61 MD - 7"(677' FSL,1280' FEL)									
7,600.00	90.11	0.00	7,080.84	451.49	1,034.10	638.18	0.00	0.00	0.00
7,700.00	90.11	0.00	7,080.64	551.49	1,034.10	736.39	0.00	0.00	0.00
7,800.00	90.11	0.00	7,080.44	651.49	1,034.10	834.60	0.00	0.00	0.00
7,900.00	90.11	0.00	7,080.24	751.49	1,034.10	932.81	0.00	0.00	0.00
8,000.00	90.11	0.00	7,080.05	851.49	1,034.10	1,031.02	0.00	0.00	0.00
8,100.00	90.11	0.00	7,079.85	951.48	1,034.10	1,129.23	0.00	0.00	0.00
8,200.00	90.11	0.00	7,079.65	1,051.48	1,034.10	1,227.44	0.00	0.00	0.00
8,300.00	90.11	0.00	7,079.45	1,151.48	1,034.10	1,325.65	0.00	0.00	0.00
8,400.00	90.11	0.00	7,079.25	1,251.48	1,034.10	1,423.86	0.00	0.00	0.00
8,500.00	90.11	0.00	7,079.05	1,351.48	1,034.10	1,522.07	0.00	0.00	0.00
8,600.00	90.11	0.00	7,078.85	1,451.48	1,034.10	1,620.28	0.00	0.00	0.00

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well BOYD 27N-5HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4950' & KB 16 @ 4966.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4950' & KB 16 @ 4966.00ft (ASSUMED)
Site:	BOYD 15-5HZ	North Reference:	True
Well:	BOYD 27N-5HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,700.00	90.11	0.00	7,078.65	1,551.48	1,034.10	1,718.49	0.00	0.00	0.00
8,800.00	90.11	0.00	7,078.45	1,651.48	1,034.10	1,816.70	0.00	0.00	0.00
8,900.00	90.11	0.00	7,078.25	1,751.48	1,034.10	1,914.91	0.00	0.00	0.00
9,000.00	90.11	0.00	7,078.05	1,851.48	1,034.10	2,013.12	0.00	0.00	0.00
9,100.00	90.11	0.00	7,077.85	1,951.48	1,034.10	2,111.33	0.00	0.00	0.00
9,200.00	90.11	0.00	7,077.66	2,051.48	1,034.10	2,209.54	0.00	0.00	0.00
9,300.00	90.11	0.00	7,077.46	2,151.48	1,034.10	2,307.75	0.00	0.00	0.00
9,400.00	90.11	0.00	7,077.26	2,251.48	1,034.10	2,405.96	0.00	0.00	0.00
9,500.00	90.11	0.00	7,077.06	2,351.48	1,034.10	2,504.17	0.00	0.00	0.00
9,600.00	90.11	0.00	7,076.86	2,451.48	1,034.10	2,602.38	0.00	0.00	0.00
9,700.00	90.11	0.00	7,076.66	2,551.48	1,034.10	2,700.59	0.00	0.00	0.00
9,800.00	90.11	0.00	7,076.46	2,651.48	1,034.10	2,798.80	0.00	0.00	0.00
9,900.00	90.11	0.00	7,076.26	2,751.48	1,034.10	2,897.01	0.00	0.00	0.00
10,000.00	90.11	0.00	7,076.06	2,851.48	1,034.10	2,995.22	0.00	0.00	0.00
10,100.00	90.11	0.00	7,075.86	2,951.48	1,034.10	3,093.43	0.00	0.00	0.00
10,200.00	90.11	0.00	7,075.66	3,051.48	1,034.10	3,191.64	0.00	0.00	0.00
10,300.00	90.11	0.00	7,075.46	3,151.48	1,034.10	3,289.85	0.00	0.00	0.00
10,400.00	90.11	0.00	7,075.26	3,251.48	1,034.10	3,388.06	0.00	0.00	0.00
10,500.00	90.11	0.00	7,075.07	3,351.48	1,034.10	3,486.27	0.00	0.00	0.00
10,600.00	90.11	0.00	7,074.87	3,451.48	1,034.10	3,584.48	0.00	0.00	0.00
10,700.00	90.11	0.00	7,074.67	3,551.48	1,034.10	3,682.69	0.00	0.00	0.00
10,800.00	90.11	0.00	7,074.47	3,651.48	1,034.10	3,780.90	0.00	0.00	0.00
10,900.00	90.11	0.00	7,074.27	3,751.48	1,034.10	3,879.11	0.00	0.00	0.00
11,000.00	90.11	0.00	7,074.07	3,851.48	1,034.10	3,977.32	0.00	0.00	0.00
11,100.00	90.11	0.00	7,073.87	3,951.48	1,034.10	4,075.53	0.00	0.00	0.00
11,200.00	90.11	0.00	7,073.67	4,051.48	1,034.10	4,173.74	0.00	0.00	0.00
11,300.00	90.11	0.00	7,073.47	4,151.48	1,034.10	4,271.95	0.00	0.00	0.00
11,400.00	90.11	0.00	7,073.27	4,251.48	1,034.10	4,370.16	0.00	0.00	0.00
11,500.00	90.11	0.00	7,073.07	4,351.48	1,034.10	4,468.37	0.00	0.00	0.00
11,600.00	90.11	0.00	7,072.87	4,451.48	1,034.10	4,566.58	0.00	0.00	0.00
11,700.00	90.11	0.00	7,072.67	4,551.48	1,034.10	4,664.79	0.00	0.00	0.00
11,800.00	90.11	0.00	7,072.48	4,651.48	1,034.10	4,763.00	0.00	0.00	0.00
11,900.00	90.11	0.00	7,072.28	4,751.48	1,034.10	4,861.21	0.00	0.00	0.00
12,000.00	90.11	0.00	7,072.08	4,851.48	1,034.10	4,959.42	0.00	0.00	0.00
12,100.00	90.11	0.00	7,071.88	4,951.48	1,034.10	5,057.63	0.00	0.00	0.00
12,200.00	90.11	0.00	7,071.68	5,051.48	1,034.10	5,155.84	0.00	0.00	0.00
12,300.00	90.11	0.00	7,071.48	5,151.48	1,034.10	5,254.05	0.00	0.00	0.00
12,400.00	90.11	0.00	7,071.28	5,251.48	1,034.10	5,352.26	0.00	0.00	0.00
12,500.00	90.11	0.00	7,071.08	5,351.48	1,034.10	5,450.47	0.00	0.00	0.00
12,540.59	90.11	0.00	7,071.00	5,392.06	1,034.10	5,490.33	0.00	0.00	0.00
TD at 12540.59 - PBHL_BOYD 27N-5HZ(460' FSL 1320' FEL)									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL_BOYD 27N-5HZ(0.00	0.00	7,071.00	5,392.06	1,034.10	1,276,312.38	3,228,584.46	40.0889780	-104.6829970
- hit/miss target									
- Shape									
- plan hits target center									
- Point									

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well BOYD 27N-5HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4950' & KB 16 @ 4966.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4950' & KB 16 @ 4966.00ft (ASSUMED)
Site:	BOYD 15-5HZ	North Reference:	True
Well:	BOYD 27N-5HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,055.00	1,055.00	9 5/8"	9.625	12.250	
7,522.61	7,081.00	7"(677' FSL,1280' FEL)	7.000	7.500	
12,540.59	7,071.00	4 1/2"	4.500	6.125	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,488.56	4,418.00	Sussex			
7,121.55	6,947.00	Sharon Springs			
7,167.34	6,975.00	Niobrara A			
7,385.76	7,065.00	Niobrara B			

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
1,255.00	1,255.00	0.00	0.00	Start Build 2.00	
1,898.98	1,893.57	-13.69	70.76	Start 4078.52 hold at 1898.98 MD	
5,977.49	5,869.47	-186.31	963.33	Start Drop -2.00	
6,621.47	6,508.04	-200.00	1,034.10	Start Build 10.00	
7,522.61	7,081.00	374.10	1,034.10	Start 5017.97 hold at 7522.61 MD	
12,540.59	7,071.00	5,392.06	1,034.10	TD at 12540.59	