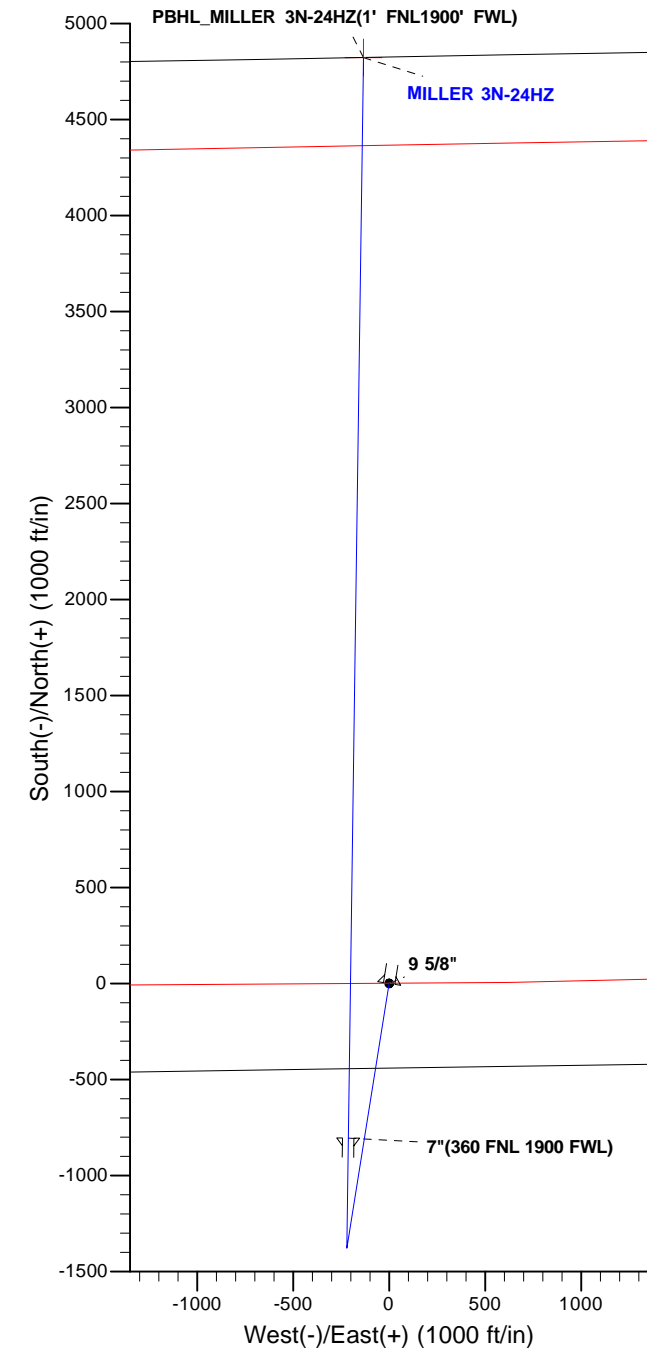
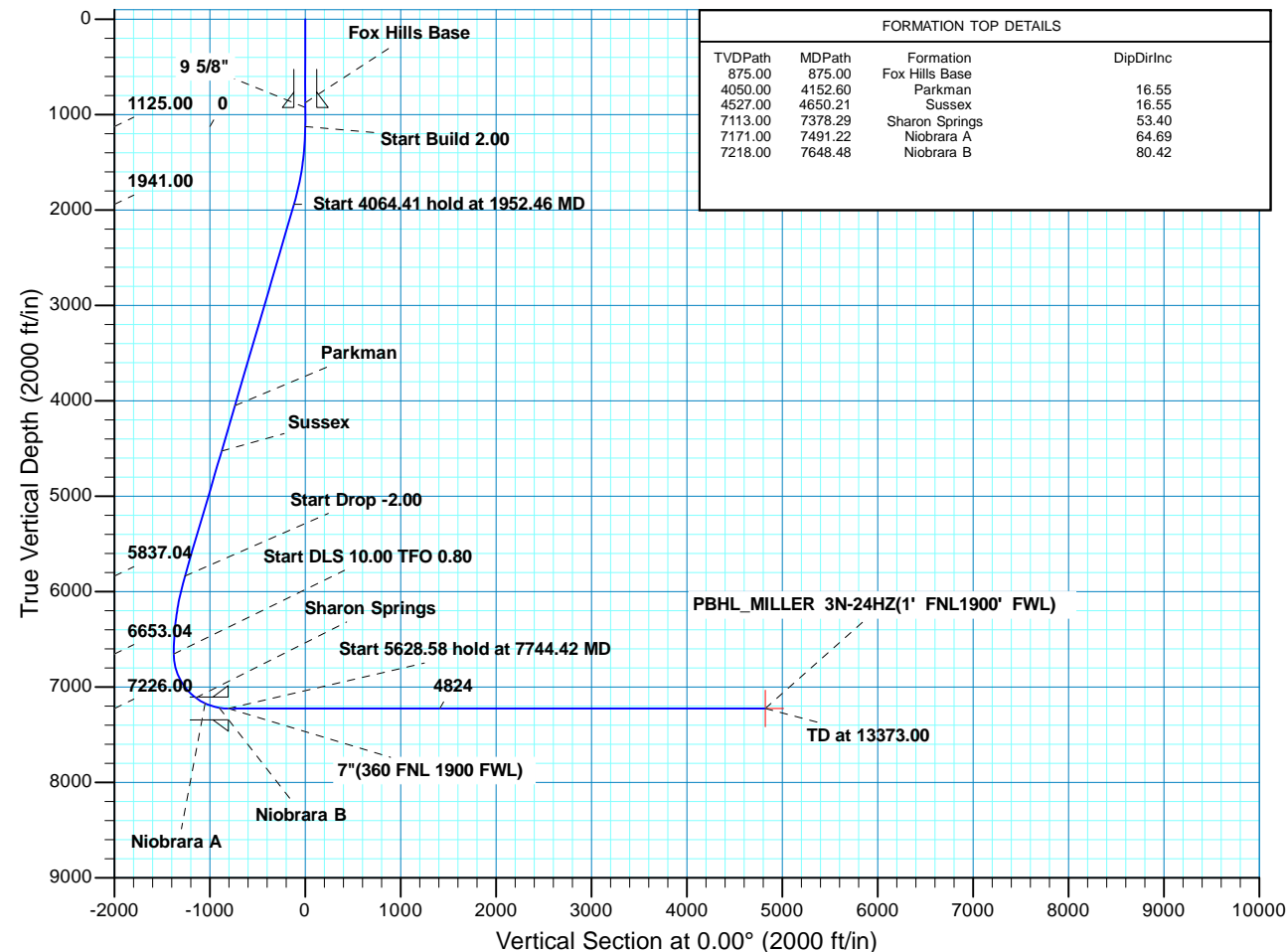


WELL DETAILS: MILLER 3N-24HZ											
GL 5028 & KB 17 @ 5045.00ft (ASSUMED)											
+N/-S 0.00		+E/-W 0.00		Northing 1318374.53		Easting 3215774.24		Latitude 40.2047550		Longitude -104.7274710	
SECTION DETAILS											
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
1125.00	0.00	0.00	1125.00	0.00	0.00	0.00	0.00	0.00			
1952.46	16.55	189.09	1941.00	-117.18	-18.74	2.00	189.09	-117.18			
6016.86	16.55	189.09	5837.04	-1260.35	-201.59	0.00	0.00	-1260.35			
6844.32	0.00	0.00	6653.04	-1377.53	-220.33	2.00	180.00	-1377.53			
7744.42	90.01	0.80	7226.00	-804.53	-212.33	10.00	0.80	-804.53	PBHL_MILLER 3N-24HZ(1' FNL900' FWL)		
13373.00	90.01	0.80	7225.00	4823.50	-133.76	0.00	0.00	4823.50			
DESIGN TARGET DETAILS										CASING DETAILS	
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape	TVD	MD	
PBHL	7225.00	4823.50	-133.76	1323196.67	3215598.46	40.2179960	-104.7279500	Point	925.00	925.00	
- plan hits target center										7226.00	7744.42





Scientific Drilling

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

MILLER 14-24HZ

MILLER 3N-24HZ

OH

Plan: PLAN #1 PRELIMINARY

Standard Planning Report

04 April, 2014

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well MILLER 3N-24HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5028 & KB 17 @ 5045.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5028 & KB 17 @ 5045.00ft (ASSUMED)
Site:	MILLER 14-24HZ	North Reference:	True
Well:	MILLER 3N-24HZ	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	MILLER 14-24HZ, SESW SECTION 24 T3N R66W				
Site Position:		Northing:	1,318,374.53 usft	Latitude:	40.2047550
From:	Lat/Long	Easting:	3,215,774.24 usft	Longitude:	-104.7274710
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.50

Well	MILLER 3N-24HZ, 458' FSL 2081' FWL					
Well Position	+N/-S	0.00 ft	Northing:	1,318,374.53 usft	Latitude:	40.2047550
	+E/-W	0.00 ft	Easting:	3,215,774.24 usft	Longitude:	-104.7274710
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	5,028.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	10/09/13	8.55	66.81	52,714

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

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	
1,125.00	0.00	0.00	1,125.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,952.46	16.55	189.09	1,941.00	-117.18	-18.74	2.00	2.00	0.00	189.09	
6,016.86	16.55	189.09	5,837.04	-1,260.35	-201.59	0.00	0.00	0.00	0.00	
6,844.32	0.00	0.00	6,653.04	-1,377.53	-220.33	2.00	-2.00	0.00	180.00	
7,744.42	90.01	0.80	7,226.00	-804.53	-212.33	10.00	10.00	0.09	0.80	
13,373.00	90.01	0.80	7,225.00	4,823.50	-133.76	0.00	0.00	0.00	0.00	PBHL_MILLER 3N-24

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well MILLER 3N-24HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5028 & KB 17 @ 5045.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5028 & KB 17 @ 5045.00ft (ASSUMED)
Site:	MILLER 14-24HZ	North Reference:	True
Well:	MILLER 3N-24HZ	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
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
875.00	0.00	0.00	875.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills Base									
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
925.00	0.00	0.00	925.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
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
1,125.00	0.00	0.00	1,125.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,200.00	1.50	189.09	1,199.99	-0.97	-0.16	-0.97	2.00	2.00	0.00
1,300.00	3.50	189.09	1,299.89	-5.28	-0.84	-5.28	2.00	2.00	0.00
1,400.00	5.50	189.09	1,399.58	-13.02	-2.08	-13.02	2.00	2.00	0.00
1,500.00	7.50	189.09	1,498.93	-24.20	-3.87	-24.20	2.00	2.00	0.00
1,600.00	9.50	189.09	1,597.83	-38.80	-6.21	-38.80	2.00	2.00	0.00
1,700.00	11.50	189.09	1,696.15	-56.79	-9.08	-56.79	2.00	2.00	0.00
1,800.00	13.50	189.09	1,793.77	-78.16	-12.50	-78.16	2.00	2.00	0.00
1,900.00	15.50	189.09	1,890.58	-102.88	-16.46	-102.88	2.00	2.00	0.00
1,952.46	16.55	189.09	1,941.00	-117.18	-18.74	-117.18	2.00	2.00	0.00
Start 4064.41 hold at 1952.46 MD									
2,000.00	16.55	189.09	1,986.57	-130.55	-20.88	-130.55	0.00	0.00	0.00
2,100.00	16.55	189.09	2,082.43	-158.68	-25.38	-158.68	0.00	0.00	0.00
2,200.00	16.55	189.09	2,178.29	-186.81	-29.88	-186.81	0.00	0.00	0.00
2,300.00	16.55	189.09	2,274.15	-214.93	-34.38	-214.93	0.00	0.00	0.00
2,400.00	16.55	189.09	2,370.00	-243.06	-38.88	-243.06	0.00	0.00	0.00
2,500.00	16.55	189.09	2,465.86	-271.19	-43.37	-271.19	0.00	0.00	0.00
2,600.00	16.55	189.09	2,561.72	-299.31	-47.87	-299.31	0.00	0.00	0.00
2,700.00	16.55	189.09	2,657.58	-327.44	-52.37	-327.44	0.00	0.00	0.00
2,800.00	16.55	189.09	2,753.43	-355.56	-56.87	-355.56	0.00	0.00	0.00
2,900.00	16.55	189.09	2,849.29	-383.69	-61.37	-383.69	0.00	0.00	0.00
3,000.00	16.55	189.09	2,945.15	-411.82	-65.87	-411.82	0.00	0.00	0.00
3,100.00	16.55	189.09	3,041.01	-439.94	-70.37	-439.94	0.00	0.00	0.00
3,200.00	16.55	189.09	3,136.86	-468.07	-74.87	-468.07	0.00	0.00	0.00
3,300.00	16.55	189.09	3,232.72	-496.20	-79.36	-496.20	0.00	0.00	0.00
3,400.00	16.55	189.09	3,328.58	-524.32	-83.86	-524.32	0.00	0.00	0.00
3,500.00	16.55	189.09	3,424.44	-552.45	-88.36	-552.45	0.00	0.00	0.00
3,600.00	16.55	189.09	3,520.29	-580.57	-92.86	-580.57	0.00	0.00	0.00
3,700.00	16.55	189.09	3,616.15	-608.70	-97.36	-608.70	0.00	0.00	0.00
3,800.00	16.55	189.09	3,712.01	-636.83	-101.86	-636.83	0.00	0.00	0.00
3,900.00	16.55	189.09	3,807.87	-664.95	-106.36	-664.95	0.00	0.00	0.00
4,000.00	16.55	189.09	3,903.72	-693.08	-110.86	-693.08	0.00	0.00	0.00
4,100.00	16.55	189.09	3,999.58	-721.21	-115.35	-721.21	0.00	0.00	0.00
4,152.60	16.55	189.09	4,050.00	-736.00	-117.72	-736.00	0.00	0.00	0.00
Parkman									
4,200.00	16.55	189.09	4,095.44	-749.33	-119.85	-749.33	0.00	0.00	0.00
4,300.00	16.55	189.09	4,191.30	-777.46	-124.35	-777.46	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well MILLER 3N-24HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5028 & KB 17 @ 5045.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5028 & KB 17 @ 5045.00ft (ASSUMED)
Site:	MILLER 14-24HZ	North Reference:	True
Well:	MILLER 3N-24HZ	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)
4,400.00	16.55	189.09	4,287.16	-805.58	-128.85	-805.58	0.00	0.00	0.00
4,500.00	16.55	189.09	4,383.01	-833.71	-133.35	-833.71	0.00	0.00	0.00
4,600.00	16.55	189.09	4,478.87	-861.84	-137.85	-861.84	0.00	0.00	0.00
4,650.21	16.55	189.09	4,527.00	-875.96	-140.11	-875.96	0.00	0.00	0.00
Sussex									
4,700.00	16.55	189.09	4,574.73	-889.96	-142.35	-889.96	0.00	0.00	0.00
4,800.00	16.55	189.09	4,670.59	-918.09	-146.84	-918.09	0.00	0.00	0.00
4,900.00	16.55	189.09	4,766.44	-946.22	-151.34	-946.22	0.00	0.00	0.00
5,000.00	16.55	189.09	4,862.30	-974.34	-155.84	-974.34	0.00	0.00	0.00
5,100.00	16.55	189.09	4,958.16	-1,002.47	-160.34	-1,002.47	0.00	0.00	0.00
5,200.00	16.55	189.09	5,054.02	-1,030.59	-164.84	-1,030.59	0.00	0.00	0.00
5,300.00	16.55	189.09	5,149.87	-1,058.72	-169.34	-1,058.72	0.00	0.00	0.00
5,400.00	16.55	189.09	5,245.73	-1,086.85	-173.84	-1,086.85	0.00	0.00	0.00
5,500.00	16.55	189.09	5,341.59	-1,114.97	-178.34	-1,114.97	0.00	0.00	0.00
5,600.00	16.55	189.09	5,437.45	-1,143.10	-182.83	-1,143.10	0.00	0.00	0.00
5,700.00	16.55	189.09	5,533.30	-1,171.23	-187.33	-1,171.23	0.00	0.00	0.00
5,800.00	16.55	189.09	5,629.16	-1,199.35	-191.83	-1,199.35	0.00	0.00	0.00
5,900.00	16.55	189.09	5,725.02	-1,227.48	-196.33	-1,227.48	0.00	0.00	0.00
6,000.00	16.55	189.09	5,820.88	-1,255.60	-200.83	-1,255.60	0.00	0.00	0.00
6,016.86	16.55	189.09	5,837.04	-1,260.35	-201.59	-1,260.35	0.00	0.00	0.00
Start Drop -2.00									
6,100.00	14.89	189.09	5,917.07	-1,282.59	-205.14	-1,282.59	2.00	-2.00	0.00
6,200.00	12.89	189.09	6,014.14	-1,306.28	-208.93	-1,306.28	2.00	-2.00	0.00
6,300.00	10.89	189.09	6,111.99	-1,326.62	-212.19	-1,326.62	2.00	-2.00	0.00
6,400.00	8.89	189.09	6,210.50	-1,343.57	-214.90	-1,343.57	2.00	-2.00	0.00
6,500.00	6.89	189.09	6,309.55	-1,357.12	-217.07	-1,357.12	2.00	-2.00	0.00
6,600.00	4.89	189.09	6,409.02	-1,367.25	-218.69	-1,367.25	2.00	-2.00	0.00
6,700.00	2.89	189.09	6,508.78	-1,373.94	-219.76	-1,373.94	2.00	-2.00	0.00
6,800.00	0.89	189.09	6,608.72	-1,377.19	-220.28	-1,377.19	2.00	-2.00	0.00
6,844.32	0.00	0.00	6,653.04	-1,377.53	-220.33	-1,377.53	2.00	-2.00	0.00
Start DLS 10.00 TFO 0.80									
6,900.00	5.57	0.80	6,708.63	-1,374.83	-220.29	-1,374.83	10.00	10.00	0.00
7,000.00	15.57	0.80	6,806.81	-1,356.51	-220.04	-1,356.51	10.00	10.00	0.00
7,100.00	25.57	0.80	6,900.32	-1,321.43	-219.55	-1,321.43	10.00	10.00	0.00
7,200.00	35.57	0.80	6,986.31	-1,270.64	-218.84	-1,270.64	10.00	10.00	0.00
7,300.00	45.57	0.80	7,062.18	-1,205.70	-217.93	-1,205.70	10.00	10.00	0.00
7,378.29	53.40	0.80	7,113.00	-1,146.23	-217.10	-1,146.23	10.00	10.00	0.00
Sharon Springs									
7,400.00	55.57	0.80	7,125.61	-1,128.56	-216.85	-1,128.56	10.00	10.00	0.00
7,491.22	64.69	0.80	7,171.00	-1,049.55	-215.75	-1,049.55	10.00	10.00	0.00
Niobrara A									
7,500.00	65.57	0.80	7,174.69	-1,041.59	-215.64	-1,041.59	10.00	10.00	0.00
7,600.00	75.57	0.80	7,207.92	-947.41	-214.33	-947.41	10.00	10.00	0.00
7,648.48	80.42	0.80	7,218.00	-900.02	-213.66	-900.02	10.00	10.00	0.00
Niobrara B									
7,700.00	85.57	0.80	7,224.28	-848.90	-212.95	-848.90	10.00	10.00	0.00
7,744.42	90.01	0.80	7,226.00	-804.53	-212.33	-804.53	10.00	10.00	0.00
Start 5628.58 hold at 7744.42 MD - 7"(360 FNL 1900 FWL)									
7,800.00	90.01	0.80	7,225.99	-748.95	-211.56	-748.95	0.00	0.00	0.00
7,900.00	90.01	0.80	7,225.97	-648.96	-210.16	-648.96	0.00	0.00	0.00
8,000.00	90.01	0.80	7,225.95	-548.97	-208.76	-548.97	0.00	0.00	0.00
8,100.00	90.01	0.80	7,225.93	-448.98	-207.37	-448.98	0.00	0.00	0.00
8,200.00	90.01	0.80	7,225.92	-348.99	-205.97	-348.99	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well MILLER 3N-24HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5028 & KB 17 @ 5045.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5028 & KB 17 @ 5045.00ft (ASSUMED)
Site:	MILLER 14-24HZ	North Reference:	True
Well:	MILLER 3N-24HZ	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)
8,300.00	90.01	0.80	7,225.90	-249.00	-204.58	-249.00	0.00	0.00	0.00
8,400.00	90.01	0.80	7,225.88	-149.01	-203.18	-149.01	0.00	0.00	0.00
8,500.00	90.01	0.80	7,225.86	-49.02	-201.78	-49.02	0.00	0.00	0.00
8,600.00	90.01	0.80	7,225.85	50.97	-200.39	50.97	0.00	0.00	0.00
8,700.00	90.01	0.80	7,225.83	150.96	-198.99	150.96	0.00	0.00	0.00
8,800.00	90.01	0.80	7,225.81	250.95	-197.60	250.95	0.00	0.00	0.00
8,900.00	90.01	0.80	7,225.79	350.94	-196.20	350.94	0.00	0.00	0.00
9,000.00	90.01	0.80	7,225.78	450.93	-194.81	450.93	0.00	0.00	0.00
9,100.00	90.01	0.80	7,225.76	550.92	-193.41	550.92	0.00	0.00	0.00
9,200.00	90.01	0.80	7,225.74	650.91	-192.01	650.91	0.00	0.00	0.00
9,300.00	90.01	0.80	7,225.72	750.90	-190.62	750.90	0.00	0.00	0.00
9,400.00	90.01	0.80	7,225.70	850.89	-189.22	850.89	0.00	0.00	0.00
9,500.00	90.01	0.80	7,225.69	950.88	-187.83	950.88	0.00	0.00	0.00
9,600.00	90.01	0.80	7,225.67	1,050.87	-186.43	1,050.87	0.00	0.00	0.00
9,700.00	90.01	0.80	7,225.65	1,150.86	-185.03	1,150.86	0.00	0.00	0.00
9,800.00	90.01	0.80	7,225.63	1,250.85	-183.64	1,250.85	0.00	0.00	0.00
9,900.00	90.01	0.80	7,225.62	1,350.84	-182.24	1,350.84	0.00	0.00	0.00
10,000.00	90.01	0.80	7,225.60	1,450.83	-180.85	1,450.83	0.00	0.00	0.00
10,100.00	90.01	0.80	7,225.58	1,550.82	-179.45	1,550.82	0.00	0.00	0.00
10,200.00	90.01	0.80	7,225.56	1,650.81	-178.05	1,650.81	0.00	0.00	0.00
10,300.00	90.01	0.80	7,225.54	1,750.80	-176.66	1,750.80	0.00	0.00	0.00
10,400.00	90.01	0.80	7,225.53	1,850.79	-175.26	1,850.79	0.00	0.00	0.00
10,500.00	90.01	0.80	7,225.51	1,950.78	-173.87	1,950.78	0.00	0.00	0.00
10,600.00	90.01	0.80	7,225.49	2,050.77	-172.47	2,050.77	0.00	0.00	0.00
10,700.00	90.01	0.80	7,225.47	2,150.76	-171.08	2,150.76	0.00	0.00	0.00
10,800.00	90.01	0.80	7,225.46	2,250.75	-169.68	2,250.75	0.00	0.00	0.00
10,900.00	90.01	0.80	7,225.44	2,350.74	-168.28	2,350.74	0.00	0.00	0.00
11,000.00	90.01	0.80	7,225.42	2,450.73	-166.89	2,450.73	0.00	0.00	0.00
11,100.00	90.01	0.80	7,225.40	2,550.73	-165.49	2,550.73	0.00	0.00	0.00
11,200.00	90.01	0.80	7,225.39	2,650.72	-164.10	2,650.72	0.00	0.00	0.00
11,300.00	90.01	0.80	7,225.37	2,750.71	-162.70	2,750.71	0.00	0.00	0.00
11,400.00	90.01	0.80	7,225.35	2,850.70	-161.30	2,850.70	0.00	0.00	0.00
11,500.00	90.01	0.80	7,225.33	2,950.69	-159.91	2,950.69	0.00	0.00	0.00
11,600.00	90.01	0.80	7,225.31	3,050.68	-158.51	3,050.68	0.00	0.00	0.00
11,700.00	90.01	0.80	7,225.30	3,150.67	-157.12	3,150.67	0.00	0.00	0.00
11,800.00	90.01	0.80	7,225.28	3,250.66	-155.72	3,250.66	0.00	0.00	0.00
11,900.00	90.01	0.80	7,225.26	3,350.65	-154.33	3,350.65	0.00	0.00	0.00
12,000.00	90.01	0.80	7,225.24	3,450.64	-152.93	3,450.64	0.00	0.00	0.00
12,100.00	90.01	0.80	7,225.23	3,550.63	-151.53	3,550.63	0.00	0.00	0.00
12,200.00	90.01	0.80	7,225.21	3,650.62	-150.14	3,650.62	0.00	0.00	0.00
12,300.00	90.01	0.80	7,225.19	3,750.61	-148.74	3,750.61	0.00	0.00	0.00
12,400.00	90.01	0.80	7,225.17	3,850.60	-147.35	3,850.60	0.00	0.00	0.00
12,500.00	90.01	0.80	7,225.15	3,950.59	-145.95	3,950.59	0.00	0.00	0.00
12,600.00	90.01	0.80	7,225.14	4,050.58	-144.55	4,050.58	0.00	0.00	0.00
12,700.00	90.01	0.80	7,225.12	4,150.57	-143.16	4,150.57	0.00	0.00	0.00
12,800.00	90.01	0.80	7,225.10	4,250.56	-141.76	4,250.56	0.00	0.00	0.00
12,900.00	90.01	0.80	7,225.08	4,350.55	-140.37	4,350.55	0.00	0.00	0.00
13,000.00	90.01	0.80	7,225.07	4,450.54	-138.97	4,450.54	0.00	0.00	0.00
13,100.00	90.01	0.80	7,225.05	4,550.53	-137.58	4,550.53	0.00	0.00	0.00
13,200.00	90.01	0.80	7,225.03	4,650.52	-136.18	4,650.52	0.00	0.00	0.00
13,300.00	90.01	0.80	7,225.01	4,750.51	-134.78	4,750.51	0.00	0.00	0.00
13,373.00	90.01	0.80	7,225.00	4,823.50	-133.76	4,823.50	0.00	0.00	0.00
TD at 13373.00 - PBHL_MILLER 3N-24HZ(1' FNL 1900' FWL)									

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well MILLER 3N-24HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5028 & KB 17 @ 5045.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5028 & KB 17 @ 5045.00ft (ASSUMED)
Site:	MILLER 14-24HZ	North Reference:	True
Well:	MILLER 3N-24HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
PBHL_MILLER 3N-24HZ	0.00	0.00	7,225.00	4,823.50	-133.76	1,323,196.67	3,215,598.46	40.2179960	-104.7279500
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(ft)	(ft)			(in)	(in)
925.00	925.00	9 5/8"		9.625	12.250
7,744.42	7,226.00	7"(360 FNL 1900 FWL)		7.000	7.500

Formations						
Measured Depth	Vertical Depth	Name		Lithology	Dip	Dip Direction
(ft)	(ft)				(°)	(°)
875.00	876.00	Fox Hills Base				
4,152.60	4,051.00	Parkman				
4,650.21	4,528.00	Sussex				
7,378.29	7,114.00	Sharon Springs				
7,491.22	7,172.00	Niobrara A				
7,648.48	7,219.00	Niobrara B				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S	+E/-W		
(ft)	(ft)	(ft)	(ft)		
1,125.00	1,125.00	0.00	0.00	Start Build 2.00	
1,952.46	1,941.00	-117.18	-18.74	Start 4064.41 hold at 1952.46 MD	
6,016.86	5,837.04	-1,260.35	-201.59	Start Drop -2.00	
6,844.32	6,653.04	-1,377.53	-220.33	Start DLS 10.00 TFO 0.80	
7,744.42	7,226.00	-804.53	-212.33	Start 5628.58 hold at 7744.42 MD	
13,373.00	7,225.00	4,823.50	-133.76	TD at 13373.00	