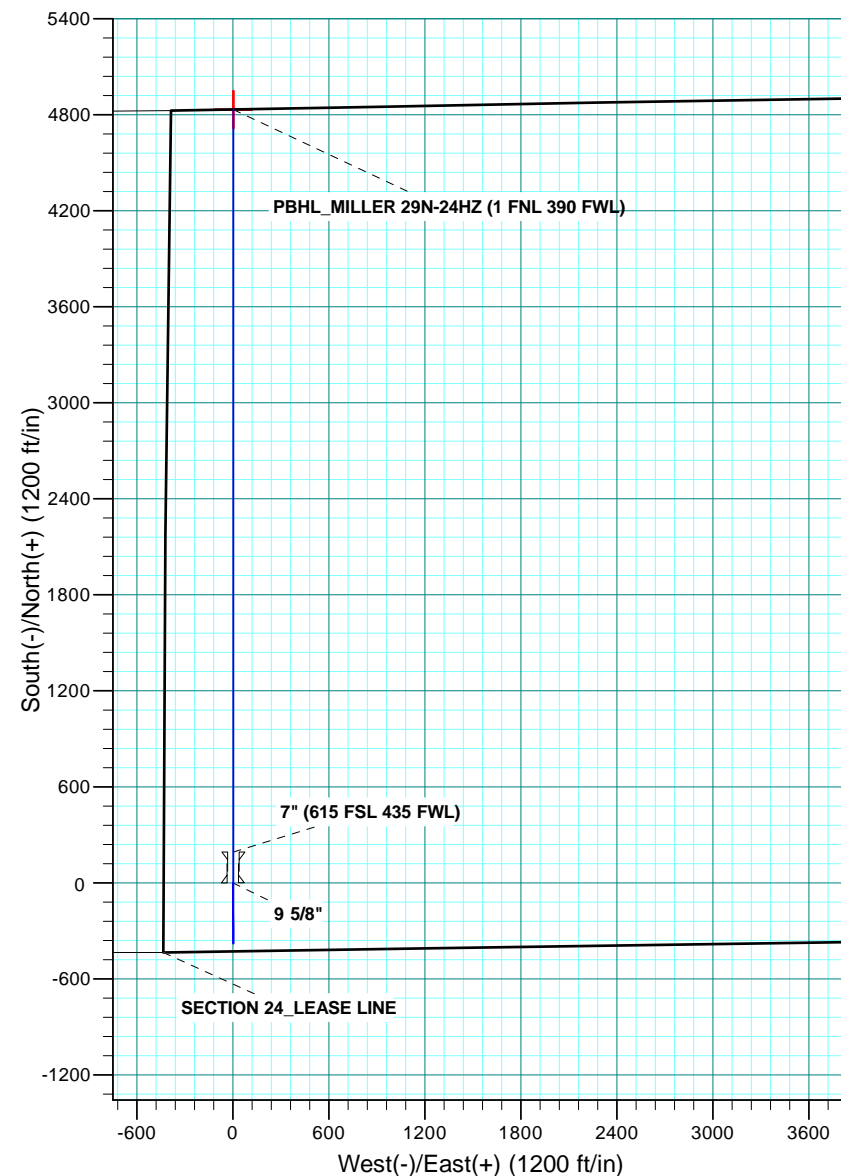
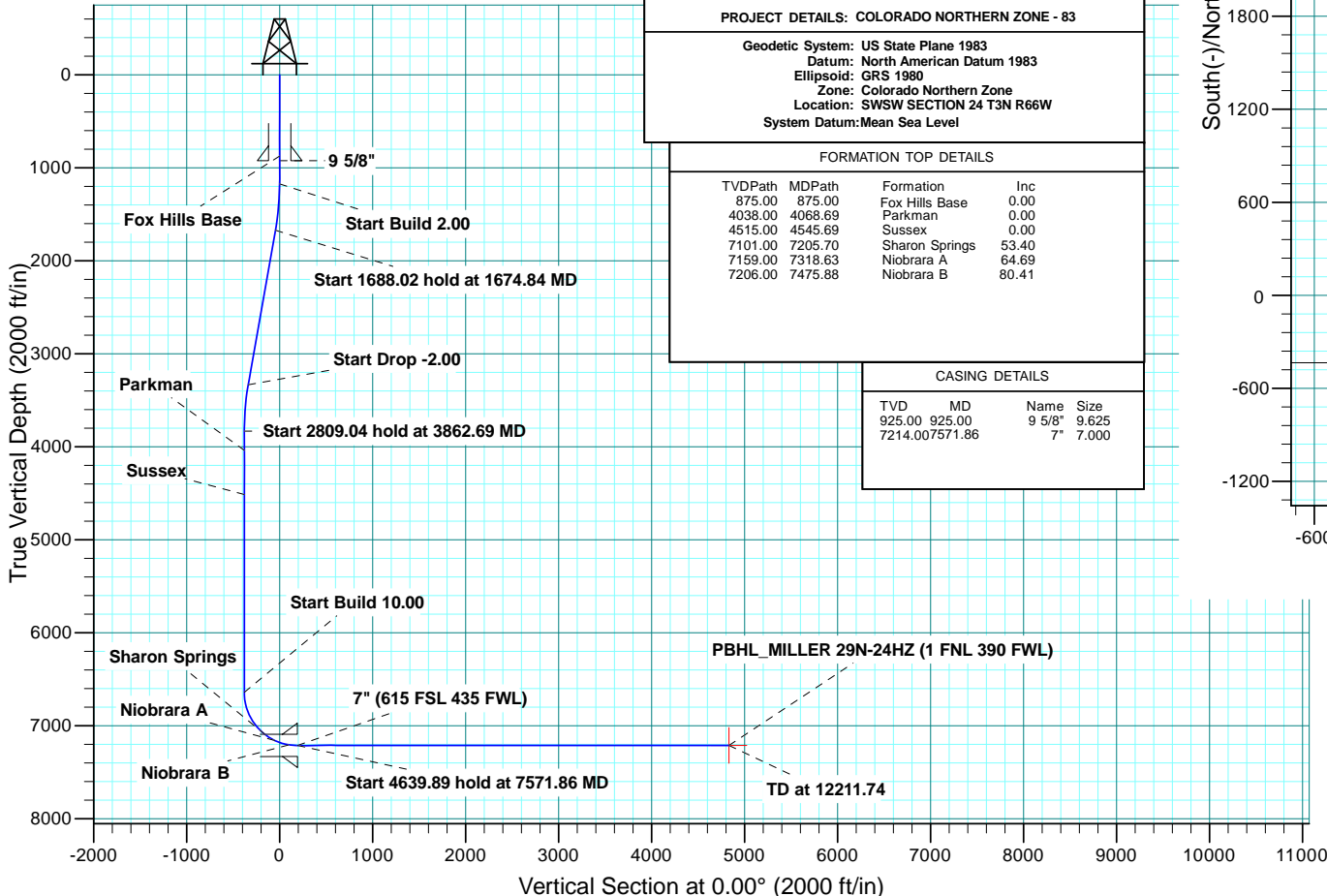


WELL DETAILS: MILLER 29N-24HZ										
GL 5016 & KB 17 @ 5033.00ft (ASSUMED)										
		+N/-S 0.00	+E/-W 0.00	Northing 1318323.08	Easting 3214126.68	Latitude 40.2046530	Longitude -104.7333710			
SECTION DETAILS										
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1175.00	0.00	0.00	1175.00	0.00	0.00	0.00	0.00	0.00		Start Build 2.00
1674.84	10.00	179.49	1672.31	-43.49	0.38	2.00	179.49	-43.49		Start 1688.02 hold at 1674.84 MD
3362.85	10.00	179.49	3334.69	-336.51	2.97	0.00	0.00	-336.51		Start Drop -2.00
3862.69	0.00	0.00	3832.00	-380.00	3.35	2.00	180.00	-380.00		Start 2809.04 hold at 3862.69 MD
6671.73	0.00	0.00	6641.04	-380.00	3.35	0.00	0.00	-380.00		Start Build 10.00
7571.86	90.01	0.00	7214.00	193.08	3.35	10.00	0.00	193.08		Start 4639.89 hold at 7571.86 MD
12211.74	90.01	0.00	7213.00	4832.97	3.35	0.00	0.00	4832.97	PBHL_MILLER 29N-24HZ	
DESIGN TARGET DETAILS										
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape		
PBHL	7213.00	4832.97	3.35	1323155.88	3214088.25	40.2179200	-104.7333590	Point		

PROJECT DETAILS: COLORADO NORTHERN ZONE - 83			
Geodetic System: US State Plane 1983			
Datum: North American Datum 1983			
Ellipsoid: GRS 1980			
Zone: Colorado Northern Zone			
Location: SWSW SECTION 24 T3N R66W			
System Datum: Mean Sea Level			
FORMATION TOP DETAILS			
TVDPATH	MDPATH	Formation	Inc
875.00	875.00	Fox Hills Base	0.00
4038.00	4068.69	Parkman	0.00
4515.00	4545.69	Sussex	0.00
7101.00	7205.70	Sharon Springs	53.40
7159.00	7318.63	Niobrara A	64.69
7206.00	7475.88	Niobrara B	80.41
CASING DETAILS			
TVDPATH	MD	Name	Size
925.00	925.00	9 5/8"	9.625
7214.00	7571.86	7"	7.000





**Scientific Drilling**

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**MILLER 13-24HZ PAD**

**MILLER 29N-24HZ**

**OH**

**Plan: PLAN #1 PRELIMINARY**

## **Standard Planning Report**

**10 October, 2013**

<b>Database:</b>	Denver Sales Office	<b>Local Co-ordinate Reference:</b>	Well MILLER 29N-24HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5016 & KB 17 @ 5033.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 5016 & KB 17 @ 5033.00ft (ASSUMED)
<b>Site:</b>	MILLER 13-24HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	MILLER 29N-24HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

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

<b>Site</b>	MILLER 13-24HZ PAD, SWSW SECTION 24 T3N R66W			
<b>Site Position:</b>		<b>Northing:</b>	1,318,293.21 usft	<b>Latitude:</b> 40.2045710
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,214,126.94 usft	<b>Longitude:</b> -104.7333710
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b> 0.50 °

Well	MILLER 29N-24HZ					
Well Position	+N/-S	29.87 ft	Northing:	1,318,323.08 usft	Latitude:	40.2046530
	+E/-W	0.00 ft	Easting:	3,214,126.68 usft	Longitude:	-104.7333710
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	5,016.00 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	BGGM2013	10/9/2013	8.55	66.81	52,714

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

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,175.00	0.00	0.00	1,175.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,674.84	10.00	179.49	1,672.31	-43.49	0.38	2.00	2.00	0.00	179.49	
3,362.85	10.00	179.49	3,334.69	-336.51	2.97	0.00	0.00	0.00	0.00	
3,862.69	0.00	0.00	3,832.00	-380.00	3.35	2.00	-2.00	0.00	180.00	
6,671.73	0.00	0.00	6,641.04	-380.00	3.35	0.00	0.00	0.00	0.00	
7,571.86	90.01	0.00	7,214.00	193.08	3.35	10.00	10.00	0.00	0.00	
12,211.74	90.01	0.00	7,213.00	4,832.97	3.35	0.00	0.00	0.00	0.00	PBHL_MILLER 29N-2

<b>Database:</b>	Denver Sales Office	<b>Local Co-ordinate Reference:</b>	Well MILLER 29N-24HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5016 & KB 17 @ 5033.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 5016 & KB 17 @ 5033.00ft (ASSUMED)
<b>Site:</b>	MILLER 13-24HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	MILLER 29N-24HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
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
1,175.00	0.00	0.00	1,175.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,200.00	0.50	179.49	1,200.00	-0.11	0.00	-0.11	2.00	2.00	0.00
1,300.00	2.50	179.49	1,299.96	-2.73	0.02	-2.73	2.00	2.00	0.00
1,400.00	4.50	179.49	1,399.77	-8.83	0.08	-8.83	2.00	2.00	0.00
1,500.00	6.50	179.49	1,499.30	-18.41	0.16	-18.41	2.00	2.00	0.00
1,600.00	8.50	179.49	1,598.44	-31.47	0.28	-31.47	2.00	2.00	0.00
1,674.84	10.00	179.49	1,672.31	-43.49	0.38	-43.49	2.00	2.00	0.00
Start 1688.02 hold at 1674.84 MD									
1,700.00	10.00	179.49	1,697.09	-47.86	0.42	-47.86	0.00	0.00	0.00
1,800.00	10.00	179.49	1,795.57	-65.22	0.58	-65.22	0.00	0.00	0.00
1,900.00	10.00	179.49	1,894.05	-82.58	0.73	-82.58	0.00	0.00	0.00
2,000.00	10.00	179.49	1,992.53	-99.94	0.88	-99.94	0.00	0.00	0.00
2,100.00	10.00	179.49	2,091.01	-117.29	1.03	-117.29	0.00	0.00	0.00
2,200.00	10.00	179.49	2,189.49	-134.65	1.19	-134.65	0.00	0.00	0.00
2,300.00	10.00	179.49	2,287.98	-152.01	1.34	-152.01	0.00	0.00	0.00
2,400.00	10.00	179.49	2,386.46	-169.37	1.49	-169.37	0.00	0.00	0.00
2,500.00	10.00	179.49	2,484.94	-186.73	1.65	-186.73	0.00	0.00	0.00
2,600.00	10.00	179.49	2,583.42	-204.09	1.80	-204.09	0.00	0.00	0.00
2,700.00	10.00	179.49	2,681.90	-221.45	1.95	-221.45	0.00	0.00	0.00
2,800.00	10.00	179.49	2,780.39	-238.80	2.11	-238.80	0.00	0.00	0.00
2,900.00	10.00	179.49	2,878.87	-256.16	2.26	-256.16	0.00	0.00	0.00
3,000.00	10.00	179.49	2,977.35	-273.52	2.41	-273.52	0.00	0.00	0.00
3,100.00	10.00	179.49	3,075.83	-290.88	2.57	-290.88	0.00	0.00	0.00
3,200.00	10.00	179.49	3,174.31	-308.24	2.72	-308.24	0.00	0.00	0.00
3,300.00	10.00	179.49	3,272.79	-325.60	2.87	-325.60	0.00	0.00	0.00
3,362.85	10.00	179.49	3,334.69	-336.51	2.97	-336.51	0.00	0.00	0.00
Start Drop -2.00									
3,400.00	9.25	179.49	3,371.32	-342.72	3.02	-342.72	2.00	-2.00	0.00
3,500.00	7.25	179.49	3,470.28	-357.07	3.15	-357.07	2.00	-2.00	0.00
3,600.00	5.25	179.49	3,569.68	-367.96	3.24	-367.96	2.00	-2.00	0.00
3,700.00	3.25	179.49	3,669.40	-375.38	3.31	-375.38	2.00	-2.00	0.00
3,800.00	1.25	179.49	3,769.31	-379.31	3.35	-379.31	2.00	-2.00	0.00
3,862.69	0.00	0.00	3,832.00	-380.00	3.35	-380.00	2.00	-2.00	0.00
Start 2809.04 hold at 3862.69 MD									
3,900.00	0.00	0.00	3,869.31	-380.00	3.35	-380.00	0.00	0.00	0.00
4,000.00	0.00	0.00	3,969.31	-380.00	3.35	-380.00	0.00	0.00	0.00

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<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5016 & KB 17 @ 5033.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 5016 & KB 17 @ 5033.00ft (ASSUMED)
<b>Site:</b>	MILLER 13-24HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	MILLER 29N-24HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,068.69	0.00	0.00	4,038.00	-380.00	3.35	-380.00	0.00	0.00	0.00
<b>Parkman</b>									
4,100.00	0.00	0.00	4,069.31	-380.00	3.35	-380.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,169.31	-380.00	3.35	-380.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,269.31	-380.00	3.35	-380.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,369.31	-380.00	3.35	-380.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,469.31	-380.00	3.35	-380.00	0.00	0.00	0.00
4,545.69	0.00	0.00	4,515.00	-380.00	3.35	-380.00	0.00	0.00	0.00
<b>Sussex</b>									
4,600.00	0.00	0.00	4,569.31	-380.00	3.35	-380.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,669.31	-380.00	3.35	-380.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,769.31	-380.00	3.35	-380.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,869.31	-380.00	3.35	-380.00	0.00	0.00	0.00
5,000.00	0.00	0.00	4,969.31	-380.00	3.35	-380.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,069.31	-380.00	3.35	-380.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,169.31	-380.00	3.35	-380.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,269.31	-380.00	3.35	-380.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,369.31	-380.00	3.35	-380.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,469.31	-380.00	3.35	-380.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,569.31	-380.00	3.35	-380.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,669.31	-380.00	3.35	-380.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,769.31	-380.00	3.35	-380.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,869.31	-380.00	3.35	-380.00	0.00	0.00	0.00
6,000.00	0.00	0.00	5,969.31	-380.00	3.35	-380.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,069.31	-380.00	3.35	-380.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,169.31	-380.00	3.35	-380.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,269.31	-380.00	3.35	-380.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,369.31	-380.00	3.35	-380.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,469.31	-380.00	3.35	-380.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,569.31	-380.00	3.35	-380.00	0.00	0.00	0.00
6,671.73	0.00	0.00	6,641.04	-380.00	3.35	-380.00	0.00	0.00	0.00
<b>Start Build 10.00</b>									
6,700.00	2.83	0.00	6,669.30	-379.30	3.35	-379.30	10.00	10.00	0.00
6,800.00	12.83	0.00	6,768.24	-365.70	3.35	-365.70	10.00	10.00	0.00
6,900.00	22.83	0.00	6,863.32	-335.13	3.35	-335.13	10.00	10.00	0.00
7,000.00	32.83	0.00	6,951.64	-288.51	3.35	-288.51	10.00	10.00	0.00
7,100.00	42.83	0.00	7,030.53	-227.26	3.35	-227.26	10.00	10.00	0.00
7,200.00	52.83	0.00	7,097.58	-153.24	3.35	-153.24	10.00	10.00	0.00
7,205.70	53.40	0.00	7,101.00	-148.68	3.35	-148.68	10.00	10.00	0.00
<b>Sharon Springs</b>									
7,300.00	62.83	0.00	7,150.76	-68.70	3.35	-68.70	10.00	10.00	0.00
7,318.64	64.69	0.00	7,159.00	-51.99	3.35	-51.99	10.00	10.00	0.00
<b>Niobrara A</b>									
7,400.00	72.83	0.00	7,188.45	23.78	3.35	23.78	10.00	10.00	0.00
7,475.88	80.41	0.00	7,206.00	97.55	3.35	97.55	10.00	10.00	0.00
<b>Niobrara B</b>									
7,500.00	82.83	0.00	7,209.51	121.41	3.35	121.41	10.00	10.00	0.00
7,571.86	90.01	0.00	7,214.00	193.08	3.35	193.08	10.00	10.00	0.00
<b>Start 4639.89 hold at 7571.86 MD - 7" (615 FSL 435 FWL)</b>									
7,600.00	90.01	0.00	7,213.99	221.22	3.35	221.22	0.00	0.00	0.00
7,700.00	90.01	0.00	7,213.97	321.22	3.35	321.22	0.00	0.00	0.00
7,800.00	90.01	0.00	7,213.95	421.22	3.35	421.22	0.00	0.00	0.00
7,900.00	90.01	0.00	7,213.93	521.22	3.35	521.22	0.00	0.00	0.00

<b>Database:</b>	Denver Sales Office	<b>Local Co-ordinate Reference:</b>	Well MILLER 29N-24HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5016 & KB 17 @ 5033.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 5016 & KB 17 @ 5033.00ft (ASSUMED)
<b>Site:</b>	MILLER 13-24HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	MILLER 29N-24HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,000.00	90.01	0.00	7,213.91	621.22	3.35	621.22	0.00	0.00	0.00
8,100.00	90.01	0.00	7,213.89	721.22	3.35	721.22	0.00	0.00	0.00
8,200.00	90.01	0.00	7,213.86	821.22	3.35	821.22	0.00	0.00	0.00
8,300.00	90.01	0.00	7,213.84	921.22	3.35	921.22	0.00	0.00	0.00
8,400.00	90.01	0.00	7,213.82	1,021.22	3.35	1,021.22	0.00	0.00	0.00
8,500.00	90.01	0.00	7,213.80	1,121.22	3.35	1,121.22	0.00	0.00	0.00
8,600.00	90.01	0.00	7,213.78	1,221.22	3.35	1,221.22	0.00	0.00	0.00
8,700.00	90.01	0.00	7,213.76	1,321.22	3.35	1,321.22	0.00	0.00	0.00
8,800.00	90.01	0.00	7,213.73	1,421.22	3.35	1,421.22	0.00	0.00	0.00
8,900.00	90.01	0.00	7,213.71	1,521.22	3.35	1,521.22	0.00	0.00	0.00
9,000.00	90.01	0.00	7,213.69	1,621.22	3.35	1,621.22	0.00	0.00	0.00
9,100.00	90.01	0.00	7,213.67	1,721.22	3.35	1,721.22	0.00	0.00	0.00
9,200.00	90.01	0.00	7,213.65	1,821.22	3.35	1,821.22	0.00	0.00	0.00
9,300.00	90.01	0.00	7,213.63	1,921.22	3.35	1,921.22	0.00	0.00	0.00
9,400.00	90.01	0.00	7,213.61	2,021.22	3.35	2,021.22	0.00	0.00	0.00
9,500.00	90.01	0.00	7,213.58	2,121.22	3.35	2,121.22	0.00	0.00	0.00
9,600.00	90.01	0.00	7,213.56	2,221.22	3.35	2,221.22	0.00	0.00	0.00
9,700.00	90.01	0.00	7,213.54	2,321.22	3.35	2,321.22	0.00	0.00	0.00
9,800.00	90.01	0.00	7,213.52	2,421.22	3.35	2,421.22	0.00	0.00	0.00
9,900.00	90.01	0.00	7,213.50	2,521.22	3.35	2,521.22	0.00	0.00	0.00
10,000.00	90.01	0.00	7,213.48	2,621.22	3.35	2,621.22	0.00	0.00	0.00
10,100.00	90.01	0.00	7,213.45	2,721.22	3.35	2,721.22	0.00	0.00	0.00
10,200.00	90.01	0.00	7,213.43	2,821.22	3.35	2,821.22	0.00	0.00	0.00
10,300.00	90.01	0.00	7,213.41	2,921.22	3.35	2,921.22	0.00	0.00	0.00
10,400.00	90.01	0.00	7,213.39	3,021.22	3.35	3,021.22	0.00	0.00	0.00
10,500.00	90.01	0.00	7,213.37	3,121.22	3.35	3,121.22	0.00	0.00	0.00
10,600.00	90.01	0.00	7,213.35	3,221.22	3.35	3,221.22	0.00	0.00	0.00
10,700.00	90.01	0.00	7,213.33	3,321.22	3.35	3,321.22	0.00	0.00	0.00
10,800.00	90.01	0.00	7,213.30	3,421.22	3.35	3,421.22	0.00	0.00	0.00
10,900.00	90.01	0.00	7,213.28	3,521.22	3.35	3,521.22	0.00	0.00	0.00
11,000.00	90.01	0.00	7,213.26	3,621.22	3.35	3,621.22	0.00	0.00	0.00
11,100.00	90.01	0.00	7,213.24	3,721.22	3.35	3,721.22	0.00	0.00	0.00
11,200.00	90.01	0.00	7,213.22	3,821.22	3.35	3,821.22	0.00	0.00	0.00
11,300.00	90.01	0.00	7,213.20	3,921.22	3.35	3,921.22	0.00	0.00	0.00
11,400.00	90.01	0.00	7,213.17	4,021.22	3.35	4,021.22	0.00	0.00	0.00
11,500.00	90.01	0.00	7,213.15	4,121.22	3.35	4,121.22	0.00	0.00	0.00
11,600.00	90.01	0.00	7,213.13	4,221.22	3.35	4,221.22	0.00	0.00	0.00
11,700.00	90.01	0.00	7,213.11	4,321.22	3.35	4,321.22	0.00	0.00	0.00
11,800.00	90.01	0.00	7,213.09	4,421.22	3.35	4,421.22	0.00	0.00	0.00
11,900.00	90.01	0.00	7,213.07	4,521.22	3.35	4,521.22	0.00	0.00	0.00
12,000.00	90.01	0.00	7,213.05	4,621.22	3.35	4,621.22	0.00	0.00	0.00
12,100.00	90.01	0.00	7,213.02	4,721.22	3.35	4,721.22	0.00	0.00	0.00
12,200.00	90.01	0.00	7,213.00	4,821.22	3.35	4,821.22	0.00	0.00	0.00
12,211.74	90.01	0.00	7,213.00	4,832.97	3.35	4,832.97	0.00	0.00	0.00
TD at 12211.74 - PBHL_MILLER 29N-24HZ (1 FNL 390 FWL)									

<b>Database:</b>	Denver Sales Office	<b>Local Co-ordinate Reference:</b>	Well MILLER 29N-24HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5016 & KB 17 @ 5033.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 5016 & KB 17 @ 5033.00ft (ASSUMED)
<b>Site:</b>	MILLER 13-24HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	MILLER 29N-24HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL_MILLER 29N-24H	0.00	0.00	7,213.00	4,832.97	3.35	1,323,155.88	3,214,088.25	40.2179200	-104.7333590
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
925.00	925.00	9 5/8"	9.625	12.250	
7,571.86	7,214.00	7" (615 FSL 435 FWL)	7.000	7.500	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
875.00	875.00	Fox Hills Base				
4,068.69	4,038.00	Parkman				
4,545.69	4,515.00	Sussex				
7,205.70	7,101.00	Sharon Springs				
7,318.64	7,159.00	Niobrara A				
7,475.88	7,206.00	Niobrara B				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
1,175.00	1,175.00	0.00	0.00	Start Build 2.00	
1,674.84	1,672.31	-43.49	0.38	Start 1688.02 hold at 1674.84 MD	
3,362.85	3,334.69	-336.51	2.97	Start Drop -2.00	
3,862.69	3,832.00	-380.00	3.35	Start 2809.04 hold at 3862.69 MD	
6,671.73	6,641.04	-380.00	3.35	Start Build 10.00	
7,571.86	7,214.00	193.08	3.35	Start 4639.89 hold at 7571.86 MD	
12,211.74	7,213.00	4,832.97	3.35	TD at 12211.74	