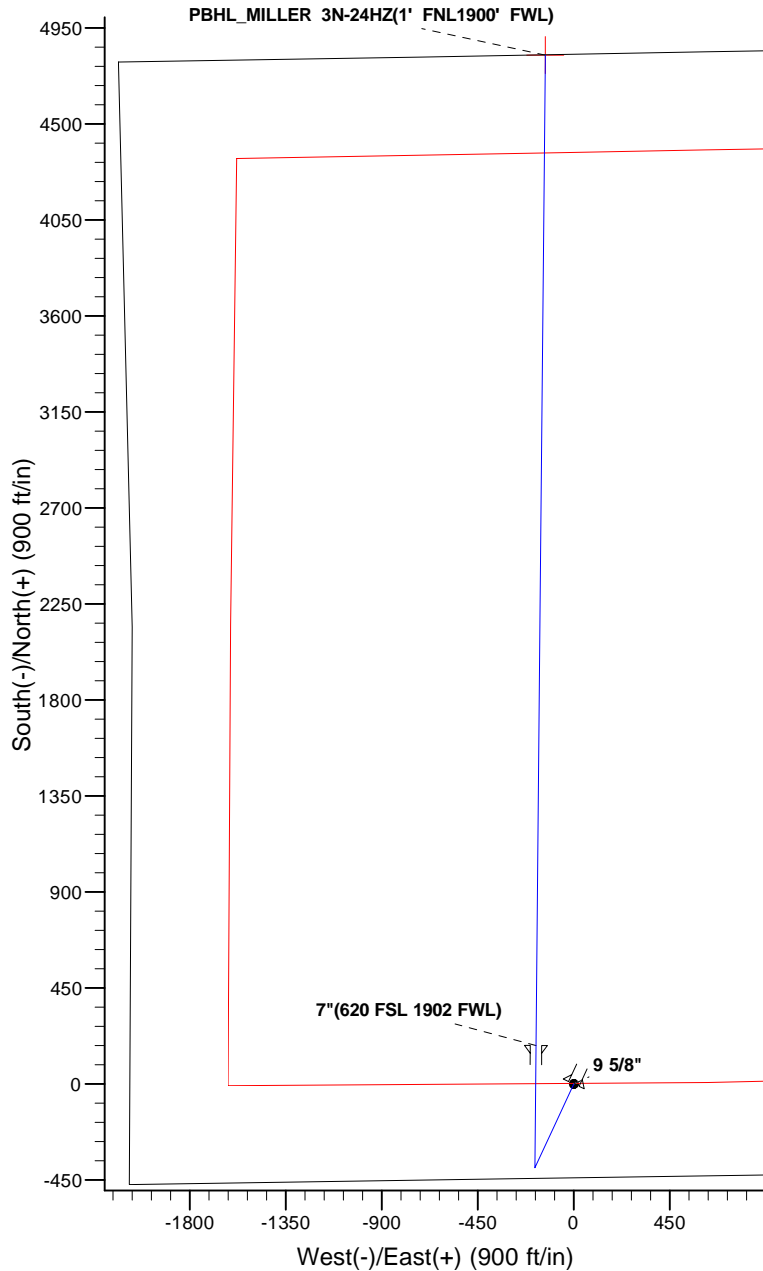
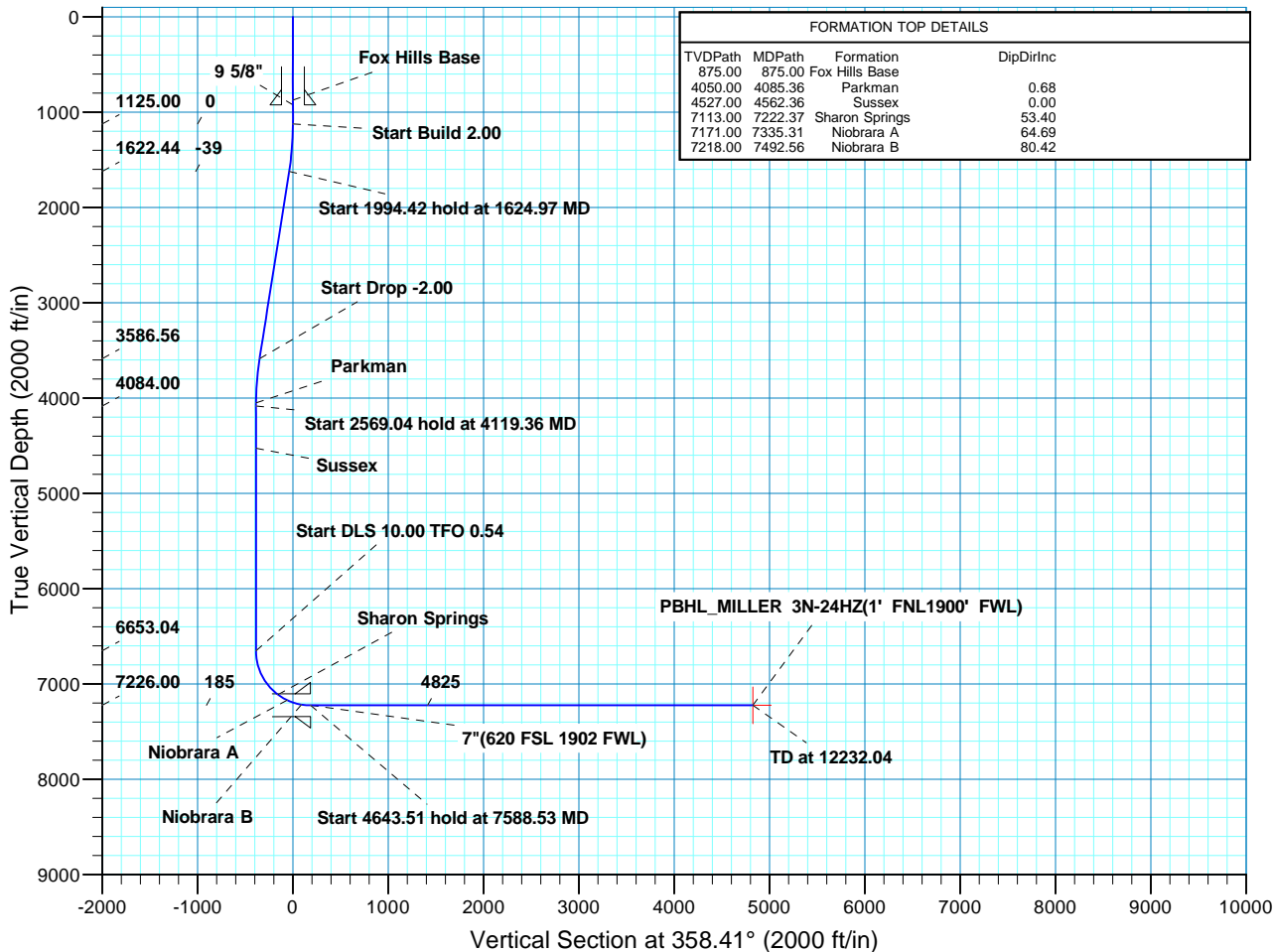


WELL DETAILS: MILLER 3N-24HZ										
GL 5028 & KB 17 @ 5045.00ft (ASSUMED)										
		+N/-S	+E/-W	Northing		Easting		Latitude		Longitude
		0.00	0.00	1318374.54		3215774.24		40.2047550		-104.7274710
SECTION DETAILS										
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1125.00	0.00	0.00	1125.00	0.00	0.00	0.00	0.00	0.00		
1624.97	10.00	204.96	1622.44	-39.45	-18.36	2.00	204.96	-38.93		
3619.39	10.00	204.96	3586.56	-353.42	-164.50	0.00	0.00	-348.72		
4119.36	0.00	0.00	4084.00	-392.87	-182.86	2.00	180.00	-387.65		
6688.40	0.00	0.00	6653.04	-392.87	-182.86	0.00	0.00	-387.65		
7588.53	90.01	0.54	7226.00	180.19	-177.47	10.00	0.54	185.04		
12232.04	90.01	0.54	7225.00	4823.49	-133.76	0.00	0.00	4825.35	PBHL_MILLER 3N-24HZ(1900' FNL)	
DESIGN TARGET DETAILS								CASING DETAILS		
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape		
PBHL	7225.00	4823.49	-133.76	1323196.57	3215598.46	40.2179960	-104.7279500	Point		
- plan hits target center										
	TVD	MD	Name	Size						
	925.00	925.00	9 5/8"	9.625						
	7226.00	7588.53	7"	7.000						





Scientific Drilling

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**MILLER 14C-24HZ**

**MILLER 3N-24HZ**

**OH**

**Plan: PLAN #1 PRELIMINARY**

## **Standard Planning Report**

**09 October, 2013**

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well MILLER 3N-24HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5028 & KB 17 @ 5045.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 5028 & KB 17 @ 5045.00ft (ASSUMED)
<b>Site:</b>	MILLER 14C-24HZ	<b>North Reference:</b>	True
<b>Well:</b>	MILLER 3N-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 14C-24HZ, SESW SECTION 24 T3N R66W			
<b>Site Position:</b>		<b>Northing:</b>	1,318,374.54 usft	<b>Latitude:</b> 40.2047550
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,215,774.24 usft	<b>Longitude:</b> -104.7274710
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b> 0.50 °

<b>Well</b>	MILLER 3N-24HZ, 458' FSL 2081' FWL			
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	1,318,374.54 usft
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	3,215,774.24 usft
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	0.00 ft
			<b>Ground Level:</b>	5,028.00 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	10/09/13	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	358.41

<b>Plan Sections</b>										
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	
1,624.97	10.00	204.96	1,622.44	-39.45	-18.36	2.00	2.00	0.00	204.96	
3,619.39	10.00	204.96	3,586.56	-353.42	-164.50	0.00	0.00	0.00	0.00	
4,119.36	0.00	0.00	4,084.00	-392.87	-182.86	2.00	-2.00	0.00	180.00	
6,688.40	0.00	0.00	6,653.04	-392.87	-182.86	0.00	0.00	0.00	0.00	
7,588.53	90.01	0.54	7,226.00	180.19	-177.47	10.00	10.00	0.06	0.54	
12,232.04	90.01	0.54	7,225.00	4,823.49	-133.76	0.00	0.00	0.00	0.00	PBHL_MILLER 3N-24

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well MILLER 3N-24HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5028 & KB 17 @ 5045.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 5028 & KB 17 @ 5045.00ft (ASSUMED)
<b>Site:</b>	MILLER 14C-24HZ	<b>North Reference:</b>	True
<b>Well:</b>	MILLER 3N-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 (°/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	204.96	1,199.99	-0.89	-0.41	-0.88	2.00	2.00	0.00
1,300.00	3.50	204.96	1,299.89	-4.84	-2.25	-4.78	2.00	2.00	0.00
1,400.00	5.50	204.96	1,399.58	-11.96	-5.57	-11.80	2.00	2.00	0.00
1,500.00	7.50	204.96	1,498.93	-22.22	-10.34	-21.92	2.00	2.00	0.00
1,600.00	9.50	204.96	1,597.83	-35.62	-16.58	-35.15	2.00	2.00	0.00
1,624.97	10.00	204.96	1,622.44	-39.45	-18.36	-38.93	2.00	2.00	0.00
Start 1994.42 hold at 1624.97 MD									
1,700.00	10.00	204.96	1,696.33	-51.26	-23.86	-50.58	0.00	0.00	0.00
1,800.00	10.00	204.96	1,794.81	-67.01	-31.19	-66.12	0.00	0.00	0.00
1,900.00	10.00	204.96	1,893.29	-82.75	-38.52	-81.65	0.00	0.00	0.00
2,000.00	10.00	204.96	1,991.77	-98.49	-45.84	-97.18	0.00	0.00	0.00
2,100.00	10.00	204.96	2,090.25	-114.23	-53.17	-112.71	0.00	0.00	0.00
2,200.00	10.00	204.96	2,188.73	-129.97	-60.50	-128.25	0.00	0.00	0.00
2,300.00	10.00	204.96	2,287.21	-145.72	-67.82	-143.78	0.00	0.00	0.00
2,400.00	10.00	204.96	2,385.69	-161.46	-75.15	-159.31	0.00	0.00	0.00
2,500.00	10.00	204.96	2,484.17	-177.20	-82.48	-174.85	0.00	0.00	0.00
2,600.00	10.00	204.96	2,582.65	-192.94	-89.81	-190.38	0.00	0.00	0.00
2,700.00	10.00	204.96	2,681.14	-208.69	-97.13	-205.91	0.00	0.00	0.00
2,800.00	10.00	204.96	2,779.62	-224.43	-104.46	-221.45	0.00	0.00	0.00
2,900.00	10.00	204.96	2,878.10	-240.17	-111.79	-236.98	0.00	0.00	0.00
3,000.00	10.00	204.96	2,976.58	-255.91	-119.12	-252.51	0.00	0.00	0.00
3,100.00	10.00	204.96	3,075.06	-271.65	-126.44	-268.04	0.00	0.00	0.00
3,200.00	10.00	204.96	3,173.54	-287.40	-133.77	-283.58	0.00	0.00	0.00
3,300.00	10.00	204.96	3,272.02	-303.14	-141.10	-299.11	0.00	0.00	0.00
3,400.00	10.00	204.96	3,370.50	-318.88	-148.42	-314.64	0.00	0.00	0.00
3,500.00	10.00	204.96	3,468.98	-334.62	-155.75	-330.18	0.00	0.00	0.00
3,600.00	10.00	204.96	3,567.46	-350.36	-163.08	-345.71	0.00	0.00	0.00
3,619.39	10.00	204.96	3,586.56	-353.42	-164.50	-348.72	0.00	0.00	0.00
Start Drop -2.00									
3,700.00	8.39	204.96	3,666.13	-365.09	-169.93	-360.24	2.00	-2.00	0.00
3,800.00	6.39	204.96	3,765.30	-376.75	-175.36	-371.74	2.00	-2.00	0.00
3,900.00	4.39	204.96	3,864.85	-385.26	-179.32	-380.14	2.00	-2.00	0.00
4,000.00	2.39	204.96	3,964.67	-390.62	-181.81	-385.43	2.00	-2.00	0.00
4,085.36	0.68	204.96	4,050.00	-392.69	-182.78	-387.47	2.00	-2.00	0.00
Parkman									

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well MILLER 3N-24HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5028 & KB 17 @ 5045.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 5028 & KB 17 @ 5045.00ft (ASSUMED)
<b>Site:</b>	MILLER 14C-24HZ	<b>North Reference:</b>	True
<b>Well:</b>	MILLER 3N-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 (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,100.00	0.39	204.96	4,064.64	-392.81	-182.84	-387.59	2.00	-2.00	0.00
4,119.36	0.00	0.00	4,084.00	-392.87	-182.86	-387.65	2.00	-2.00	0.00
<b>Start 2569.04 hold at 4119.36 MD</b>									
4,200.00	0.00	0.00	4,164.64	-392.87	-182.86	-387.65	0.00	0.00	0.00
4,300.00	0.00	0.00	4,264.64	-392.87	-182.86	-387.65	0.00	0.00	0.00
4,400.00	0.00	0.00	4,364.64	-392.87	-182.86	-387.65	0.00	0.00	0.00
4,500.00	0.00	0.00	4,464.64	-392.87	-182.86	-387.65	0.00	0.00	0.00
4,562.36	0.00	0.00	4,527.00	-392.87	-182.86	-387.65	0.00	0.00	0.00
<b>Sussex</b>									
4,600.00	0.00	0.00	4,564.64	-392.87	-182.86	-387.65	0.00	0.00	0.00
4,700.00	0.00	0.00	4,664.64	-392.87	-182.86	-387.65	0.00	0.00	0.00
4,800.00	0.00	0.00	4,764.64	-392.87	-182.86	-387.65	0.00	0.00	0.00
4,900.00	0.00	0.00	4,864.64	-392.87	-182.86	-387.65	0.00	0.00	0.00
5,000.00	0.00	0.00	4,964.64	-392.87	-182.86	-387.65	0.00	0.00	0.00
5,100.00	0.00	0.00	5,064.64	-392.87	-182.86	-387.65	0.00	0.00	0.00
5,200.00	0.00	0.00	5,164.64	-392.87	-182.86	-387.65	0.00	0.00	0.00
5,300.00	0.00	0.00	5,264.64	-392.87	-182.86	-387.65	0.00	0.00	0.00
5,400.00	0.00	0.00	5,364.64	-392.87	-182.86	-387.65	0.00	0.00	0.00
5,500.00	0.00	0.00	5,464.64	-392.87	-182.86	-387.65	0.00	0.00	0.00
5,600.00	0.00	0.00	5,564.64	-392.87	-182.86	-387.65	0.00	0.00	0.00
5,700.00	0.00	0.00	5,664.64	-392.87	-182.86	-387.65	0.00	0.00	0.00
5,800.00	0.00	0.00	5,764.64	-392.87	-182.86	-387.65	0.00	0.00	0.00
5,900.00	0.00	0.00	5,864.64	-392.87	-182.86	-387.65	0.00	0.00	0.00
6,000.00	0.00	0.00	5,964.64	-392.87	-182.86	-387.65	0.00	0.00	0.00
6,100.00	0.00	0.00	6,064.64	-392.87	-182.86	-387.65	0.00	0.00	0.00
6,200.00	0.00	0.00	6,164.64	-392.87	-182.86	-387.65	0.00	0.00	0.00
6,300.00	0.00	0.00	6,264.64	-392.87	-182.86	-387.65	0.00	0.00	0.00
6,400.00	0.00	0.00	6,364.64	-392.87	-182.86	-387.65	0.00	0.00	0.00
6,500.00	0.00	0.00	6,464.64	-392.87	-182.86	-387.65	0.00	0.00	0.00
6,600.00	0.00	0.00	6,564.64	-392.87	-182.86	-387.65	0.00	0.00	0.00
6,688.40	0.00	0.00	6,653.04	-392.87	-182.86	-387.65	0.00	0.00	0.00
<b>Start DLS 10.00 TFO 0.54</b>									
6,700.00	1.16	0.54	6,664.63	-392.75	-182.86	-387.53	10.00	10.00	0.00
6,800.00	11.16	0.54	6,763.93	-382.04	-182.76	-376.82	10.00	10.00	0.00
6,900.00	21.16	0.54	6,859.86	-354.24	-182.50	-349.05	10.00	10.00	0.00
7,000.00	31.16	0.54	6,949.50	-310.21	-182.09	-305.05	10.00	10.00	0.00
7,100.00	41.16	0.54	7,030.14	-251.29	-181.53	-246.16	10.00	10.00	0.00
7,200.00	51.16	0.54	7,099.31	-179.25	-180.85	-174.17	10.00	10.00	0.00
7,222.37	53.40	0.54	7,113.00	-161.56	-180.69	-156.49	10.00	10.00	0.00
<b>Sharon Springs</b>									
7,300.00	61.16	0.54	7,154.93	-96.30	-180.07	-91.28	10.00	10.00	0.00
7,335.31	64.69	0.54	7,171.00	-64.87	-179.78	-59.86	10.00	10.00	0.00
<b>Niobrara A</b>									
7,400.00	71.16	0.54	7,195.30	-4.96	-179.21	0.01	10.00	10.00	0.00
7,492.56	80.42	0.54	7,218.00	84.67	-178.37	89.58	10.00	10.00	0.00
<b>Niobrara B</b>									
7,500.00	81.16	0.54	7,219.19	92.01	-178.30	96.92	10.00	10.00	0.00
7,588.53	90.01	0.54	7,226.00	180.19	-177.47	185.04	10.00	10.00	0.00
<b>Start 4643.51 hold at 7588.53 MD - 7"620 FSL 1902 FWL)</b>									
7,600.00	90.01	0.54	7,226.00	191.66	-177.36	196.50	0.00	0.00	0.00
7,700.00	90.01	0.54	7,225.97	291.65	-176.42	296.43	0.00	0.00	0.00
7,800.00	90.01	0.54	7,225.95	391.65	-175.48	396.36	0.00	0.00	0.00
7,900.00	90.01	0.54	7,225.93	491.64	-174.54	496.29	0.00	0.00	0.00

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well MILLER 3N-24HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5028 & KB 17 @ 5045.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 5028 & KB 17 @ 5045.00ft (ASSUMED)
<b>Site:</b>	MILLER 14C-24HZ	<b>North Reference:</b>	True
<b>Well:</b>	MILLER 3N-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 (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,000.00	90.01	0.54	7,225.91	591.64	-173.60	596.22	0.00	0.00	0.00
8,100.00	90.01	0.54	7,225.89	691.64	-172.66	696.16	0.00	0.00	0.00
8,200.00	90.01	0.54	7,225.87	791.63	-171.71	796.09	0.00	0.00	0.00
8,300.00	90.01	0.54	7,225.85	891.63	-170.77	896.02	0.00	0.00	0.00
8,400.00	90.01	0.54	7,225.82	991.62	-169.83	995.95	0.00	0.00	0.00
8,500.00	90.01	0.54	7,225.80	1,091.62	-168.89	1,095.88	0.00	0.00	0.00
8,600.00	90.01	0.54	7,225.78	1,191.61	-167.95	1,195.81	0.00	0.00	0.00
8,700.00	90.01	0.54	7,225.76	1,291.61	-167.01	1,295.74	0.00	0.00	0.00
8,800.00	90.01	0.54	7,225.74	1,391.60	-166.07	1,395.67	0.00	0.00	0.00
8,900.00	90.01	0.54	7,225.72	1,491.60	-165.13	1,495.60	0.00	0.00	0.00
9,000.00	90.01	0.54	7,225.69	1,591.60	-164.18	1,595.54	0.00	0.00	0.00
9,100.00	90.01	0.54	7,225.67	1,691.59	-163.24	1,695.47	0.00	0.00	0.00
9,200.00	90.01	0.54	7,225.65	1,791.59	-162.30	1,795.40	0.00	0.00	0.00
9,300.00	90.01	0.54	7,225.63	1,891.58	-161.36	1,895.33	0.00	0.00	0.00
9,400.00	90.01	0.54	7,225.61	1,991.58	-160.42	1,995.26	0.00	0.00	0.00
9,500.00	90.01	0.54	7,225.59	2,091.57	-159.48	2,095.19	0.00	0.00	0.00
9,600.00	90.01	0.54	7,225.57	2,191.57	-158.54	2,195.12	0.00	0.00	0.00
9,700.00	90.01	0.54	7,225.54	2,291.56	-157.60	2,295.05	0.00	0.00	0.00
9,800.00	90.01	0.54	7,225.52	2,391.56	-156.66	2,394.98	0.00	0.00	0.00
9,900.00	90.01	0.54	7,225.50	2,491.56	-155.71	2,494.91	0.00	0.00	0.00
10,000.00	90.01	0.54	7,225.48	2,591.55	-154.77	2,594.85	0.00	0.00	0.00
10,100.00	90.01	0.54	7,225.46	2,691.55	-153.83	2,694.78	0.00	0.00	0.00
10,200.00	90.01	0.54	7,225.44	2,791.54	-152.89	2,794.71	0.00	0.00	0.00
10,300.00	90.01	0.54	7,225.42	2,891.54	-151.95	2,894.64	0.00	0.00	0.00
10,400.00	90.01	0.54	7,225.39	2,991.53	-151.01	2,994.57	0.00	0.00	0.00
10,500.00	90.01	0.54	7,225.37	3,091.53	-150.07	3,094.50	0.00	0.00	0.00
10,600.00	90.01	0.54	7,225.35	3,191.52	-149.13	3,194.43	0.00	0.00	0.00
10,700.00	90.01	0.54	7,225.33	3,291.52	-148.18	3,294.36	0.00	0.00	0.00
10,800.00	90.01	0.54	7,225.31	3,391.52	-147.24	3,394.29	0.00	0.00	0.00
10,900.00	90.01	0.54	7,225.29	3,491.51	-146.30	3,494.23	0.00	0.00	0.00
11,000.00	90.01	0.54	7,225.26	3,591.51	-145.36	3,594.16	0.00	0.00	0.00
11,100.00	90.01	0.54	7,225.24	3,691.50	-144.42	3,694.09	0.00	0.00	0.00
11,200.00	90.01	0.54	7,225.22	3,791.50	-143.48	3,794.02	0.00	0.00	0.00
11,300.00	90.01	0.54	7,225.20	3,891.49	-142.54	3,893.95	0.00	0.00	0.00
11,400.00	90.01	0.54	7,225.18	3,991.49	-141.60	3,993.88	0.00	0.00	0.00
11,500.00	90.01	0.54	7,225.16	4,091.48	-140.65	4,093.81	0.00	0.00	0.00
11,600.00	90.01	0.54	7,225.14	4,191.48	-139.71	4,193.74	0.00	0.00	0.00
11,700.00	90.01	0.54	7,225.11	4,291.48	-138.77	4,293.67	0.00	0.00	0.00
11,800.00	90.01	0.54	7,225.09	4,391.47	-137.83	4,393.60	0.00	0.00	0.00
11,900.00	90.01	0.54	7,225.07	4,491.47	-136.89	4,493.54	0.00	0.00	0.00
12,000.00	90.01	0.54	7,225.05	4,591.46	-135.95	4,593.47	0.00	0.00	0.00
12,100.00	90.01	0.54	7,225.03	4,691.46	-135.01	4,693.40	0.00	0.00	0.00
12,200.00	90.01	0.54	7,225.01	4,791.45	-134.07	4,793.33	0.00	0.00	0.00
12,232.04	90.01	0.54	7,225.00	4,823.49	-133.76	4,825.35	0.00	0.00	0.00
TD at 12232.04 - PBHL_MILLER 3N-24HZ(1' FNL 1900' FWL)									

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well MILLER 3N-24HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5028 & KB 17 @ 5045.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 5028 & KB 17 @ 5045.00ft (ASSUMED)
<b>Site:</b>	MILLER 14C-24HZ	<b>North Reference:</b>	True
<b>Well:</b>	MILLER 3N-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	+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	4,823.49	-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
7,588.53	7,226.00	7"620 FSL 1902 FWL)		7.000	7.500

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(ft)	(ft)			(°)	(°)	
875.00	876.00	Fox Hills Base				
4,085.36	4,051.00	Parkman				
4,562.36	4,528.00	Sussex				
7,222.37	7,114.00	Sharon Springs				
7,335.31	7,172.00	Niobrara A				
7,492.56	7,219.00	Niobrara B				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(ft)	(ft)	+N/-S	+E/-W	Comment	
(ft)	(ft)	(ft)	(ft)		
1,125.00	1,125.00	0.00	0.00	Start Build 2.00	
1,624.97	1,622.44	-39.45	-18.36	Start 1994.42 hold at 1624.97 MD	
3,619.39	3,586.56	-353.42	-164.50	Start Drop -2.00	
4,119.36	4,084.00	-392.87	-182.86	Start 2569.04 hold at 4119.36 MD	
6,688.40	6,653.04	-392.87	-182.86	Start DLS 10.00 TFO 0.54	
7,588.53	7,226.00	180.19	-177.47	Start 4643.51 hold at 7588.53 MD	
12,232.04	7,225.00	4,823.49	-133.76	TD at 12232.04	