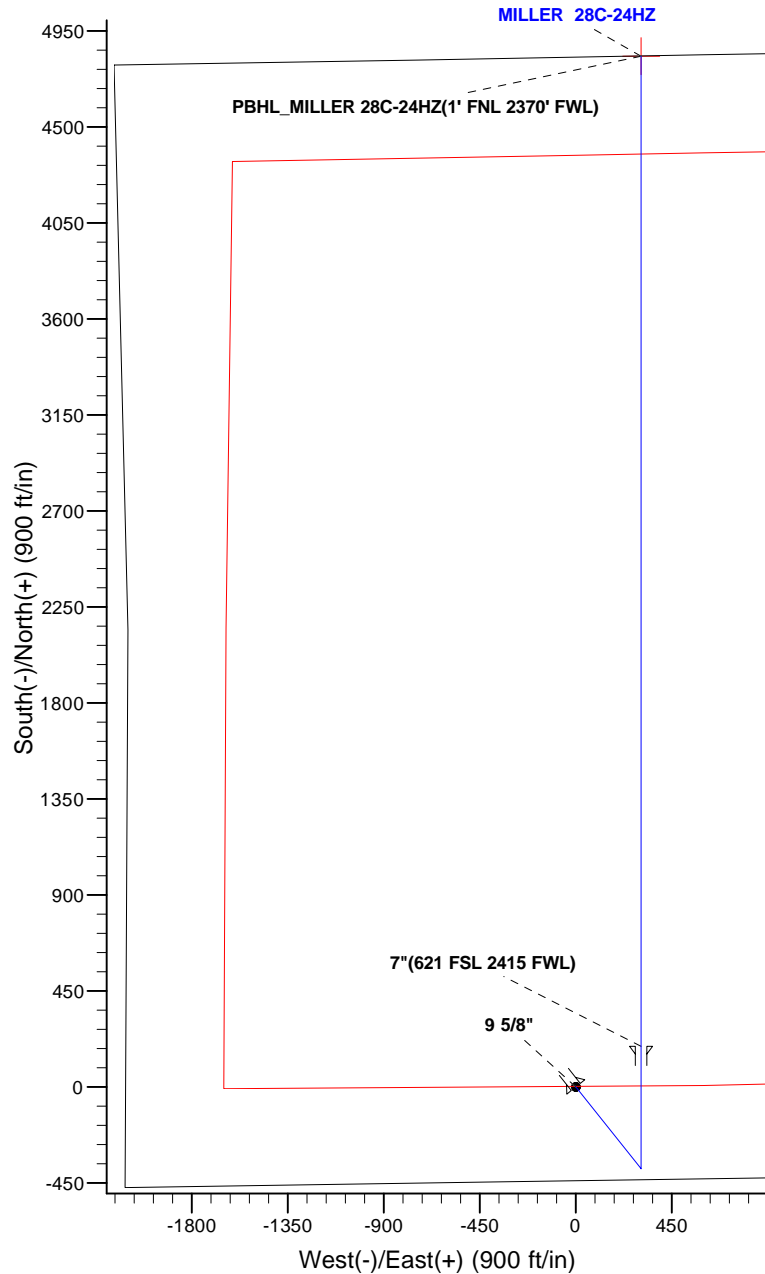
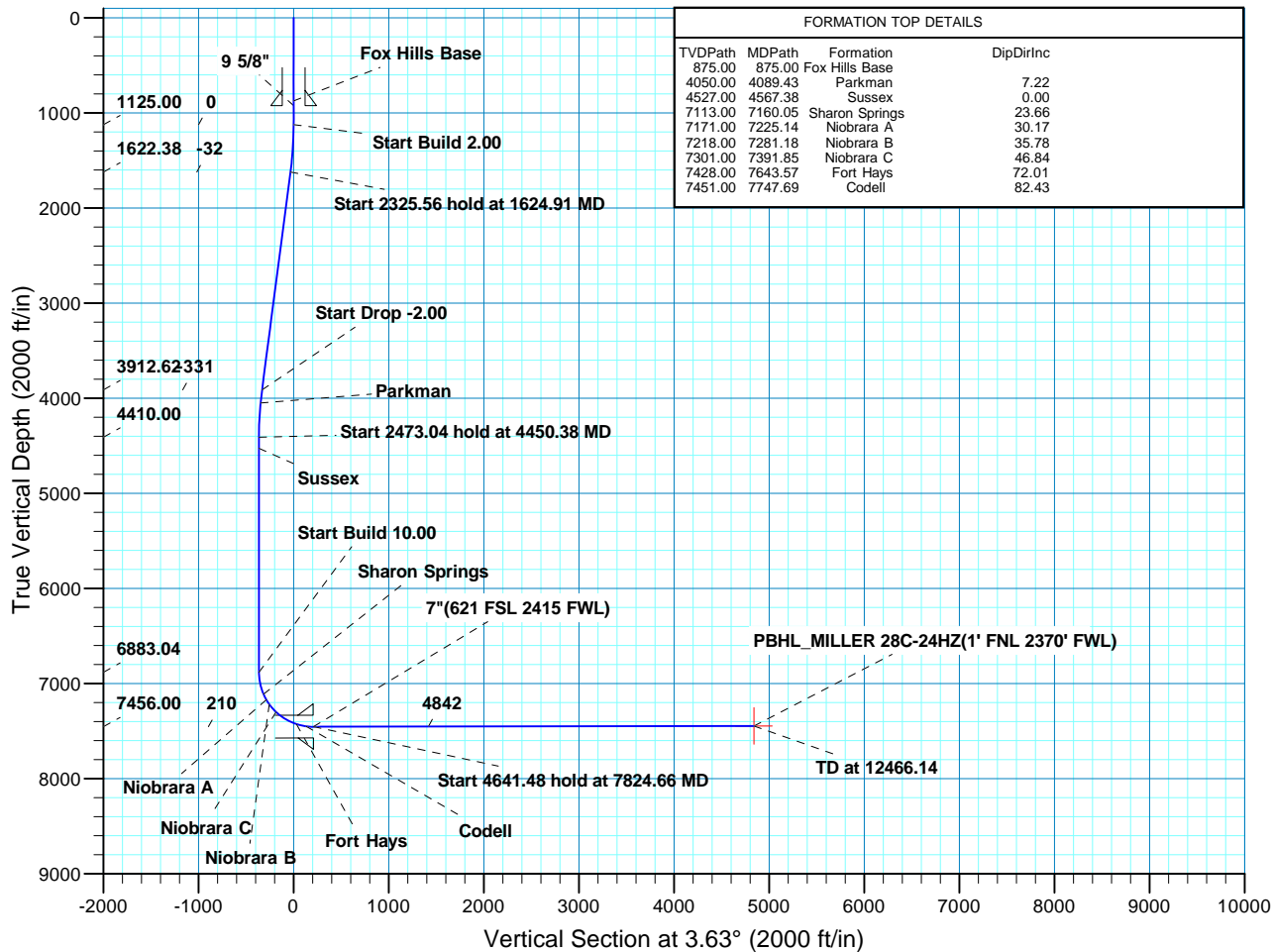


WELL DETAILS: MILLER 28C-24HZ									
GL 5029 & KB 17 @ 5046.00ft (ASSUMED)									
		+N/-S	+E/-W	Northing	Easting	Latitude	Longitude		
		0.00	0.00	1318374.79	3215804.13	40.2047550	-104.7273640		
SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1125.00	0.00	0.00	1125.00	0.00	0.00	0.00	0.00	0.00	
1624.91	10.00	141.38	1622.38	-33.99	27.16	2.00	141.38	-32.20	
3950.47	10.00	141.38	3912.62	-349.43	279.19	0.00	0.00	-331.07	
4450.38	0.00	0.00	4410.00	-383.42	306.35	2.00	180.00	-363.27	
6923.42	0.00	0.00	6883.04	-383.42	306.35	0.00	0.00	-363.27	
7824.66	90.12	0.00	7456.00	190.77	306.35	10.00	0.00	209.77	
12466.14	90.12	0.00	7446.00	4832.24	306.35	0.00	0.00	4841.95	PBHL_MILLER 28C-24HZ(1' FNL 2370' FWL)
DESIGN TARGET DETAILS							CASING DETAILS		
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape	
PBHL	7446.00	4832.24	306.35	1323209.51	3216068.36	40.2180200	-104.7262670	Point	
- plan hits target center									
		TVD	MD	Name	Size				
		925.00	925.00	9 5/8"	9.625				
		7456.00	7824.66	7"	7.000				





Scientific Drilling

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

MILLER 14C-24HZ

MILLER 28C-24HZ

OH

Plan: PLAN #1 PRELIMINARY

Standard Planning Report

09 October, 2013

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well MILLER 28C-24HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5029 & KB 17 @ 5046.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5029 & KB 17 @ 5046.00ft (ASSUMED)
Site:	MILLER 14C-24HZ	North Reference:	True
Well:	MILLER 28C-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 14C-24HZ, SESW SECTION 24 T3N R66W			
Site Position:		Northing:	1,318,374.54 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 28C-24HZ, 458' FSL 2111' FWL			
Well Position	+N/-S	-0.01 ft	Northing:	1,318,374.79 usft
	+E/-W	29.89 ft	Easting:	3,215,804.13 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft
			Ground Level:	5,029.00 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) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	3.63

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	
1,624.91	10.00	141.38	1,622.38	-33.99	27.16	2.00	2.00	0.00	141.38	
3,950.47	10.00	141.38	3,912.62	-349.43	279.19	0.00	0.00	0.00	0.00	
4,450.38	0.00	0.00	4,410.00	-383.42	306.35	2.00	-2.00	0.00	180.00	
6,923.42	0.00	0.00	6,883.04	-383.42	306.35	0.00	0.00	0.00	0.00	
7,824.66	90.12	0.00	7,456.00	190.77	306.35	10.00	10.00	0.00	0.00	
12,466.14	90.12	0.00	7,446.00	4,832.24	306.35	0.00	0.00	0.00	0.00	PBHL_MILLER 28C-2

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well MILLER 28C-24HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5029 & KB 17 @ 5046.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5029 & KB 17 @ 5046.00ft (ASSUMED)
Site:	MILLER 14C-24HZ	North Reference:	True
Well:	MILLER 28C-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	141.38	1,199.99	-0.77	0.61	-0.73	2.00	2.00	0.00
1,300.00	3.50	141.38	1,299.89	-4.17	3.34	-3.96	2.00	2.00	0.00
1,400.00	5.50	141.38	1,399.58	-10.30	8.23	-9.76	2.00	2.00	0.00
1,500.00	7.50	141.38	1,498.93	-19.15	15.30	-18.14	2.00	2.00	0.00
1,600.00	9.50	141.38	1,597.83	-30.69	24.52	-29.08	2.00	2.00	0.00
1,624.91	10.00	141.38	1,622.38	-33.99	27.16	-32.20	2.00	2.00	0.00
Start 2325.56 hold at 1624.91 MD									
1,700.00	10.00	141.38	1,696.33	-44.18	35.30	-41.85	0.00	0.00	0.00
1,800.00	10.00	141.38	1,794.81	-57.74	46.13	-54.70	0.00	0.00	0.00
1,900.00	10.00	141.38	1,893.29	-71.30	56.97	-67.56	0.00	0.00	0.00
2,000.00	10.00	141.38	1,991.77	-84.87	67.81	-80.41	0.00	0.00	0.00
2,100.00	10.00	141.38	2,090.25	-98.43	78.65	-93.26	0.00	0.00	0.00
2,200.00	10.00	141.38	2,188.73	-112.00	89.48	-106.11	0.00	0.00	0.00
2,300.00	10.00	141.38	2,287.21	-125.56	100.32	-118.96	0.00	0.00	0.00
2,400.00	10.00	141.38	2,385.70	-139.12	111.16	-131.81	0.00	0.00	0.00
2,500.00	10.00	141.38	2,484.18	-152.69	121.99	-144.66	0.00	0.00	0.00
2,600.00	10.00	141.38	2,582.66	-166.25	132.83	-157.51	0.00	0.00	0.00
2,700.00	10.00	141.38	2,681.14	-179.82	143.67	-170.37	0.00	0.00	0.00
2,800.00	10.00	141.38	2,779.62	-193.38	154.51	-183.22	0.00	0.00	0.00
2,900.00	10.00	141.38	2,878.10	-206.94	165.34	-196.07	0.00	0.00	0.00
3,000.00	10.00	141.38	2,976.58	-220.51	176.18	-208.92	0.00	0.00	0.00
3,100.00	10.00	141.38	3,075.06	-234.07	187.02	-221.77	0.00	0.00	0.00
3,200.00	10.00	141.38	3,173.55	-247.64	197.86	-234.62	0.00	0.00	0.00
3,300.00	10.00	141.38	3,272.03	-261.20	208.69	-247.47	0.00	0.00	0.00
3,400.00	10.00	141.38	3,370.51	-274.76	219.53	-260.32	0.00	0.00	0.00
3,500.00	10.00	141.38	3,468.99	-288.33	230.37	-273.17	0.00	0.00	0.00
3,600.00	10.00	141.38	3,567.47	-301.89	241.21	-286.03	0.00	0.00	0.00
3,700.00	10.00	141.38	3,665.95	-315.46	252.04	-298.88	0.00	0.00	0.00
3,800.00	10.00	141.38	3,764.43	-329.02	262.88	-311.73	0.00	0.00	0.00
3,900.00	10.00	141.38	3,862.92	-342.58	273.72	-324.58	0.00	0.00	0.00
3,950.47	10.00	141.38	3,912.62	-349.43	279.19	-331.07	0.00	0.00	0.00
Start Drop -2.00									
4,000.00	9.01	141.38	3,961.47	-355.82	284.29	-337.12	2.00	-2.00	0.00
4,089.43	7.22	141.38	4,050.00	-365.68	292.17	-346.46	2.00	-2.00	0.00
Parkman									

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well MILLER 28C-24HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5029 & KB 17 @ 5046.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5029 & KB 17 @ 5046.00ft (ASSUMED)
Site:	MILLER 14C-24HZ	North Reference:	True
Well:	MILLER 28C-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)
4,100.00	7.01	141.38	4,060.49	-366.70	292.99	-347.43	2.00	-2.00	0.00
4,200.00	5.01	141.38	4,159.93	-374.88	299.52	-355.18	2.00	-2.00	0.00
4,300.00	3.01	141.38	4,259.68	-380.34	303.88	-360.35	2.00	-2.00	0.00
4,400.00	1.01	141.38	4,359.62	-383.07	306.07	-362.94	2.00	-2.00	0.00
4,450.38	0.00	0.00	4,410.00	-383.42	306.35	-363.27	2.00	-2.00	0.00
Start 2473.04 hold at 4450.38 MD									
4,500.00	0.00	0.00	4,459.62	-383.42	306.35	-363.27	0.00	0.00	0.00
4,567.38	0.00	0.00	4,527.00	-383.42	306.35	-363.27	0.00	0.00	0.00
Sussex									
4,600.00	0.00	0.00	4,559.62	-383.42	306.35	-363.27	0.00	0.00	0.00
4,700.00	0.00	0.00	4,659.62	-383.42	306.35	-363.27	0.00	0.00	0.00
4,800.00	0.00	0.00	4,759.62	-383.42	306.35	-363.27	0.00	0.00	0.00
4,900.00	0.00	0.00	4,859.62	-383.42	306.35	-363.27	0.00	0.00	0.00
5,000.00	0.00	0.00	4,959.62	-383.42	306.35	-363.27	0.00	0.00	0.00
5,100.00	0.00	0.00	5,059.62	-383.42	306.35	-363.27	0.00	0.00	0.00
5,200.00	0.00	0.00	5,159.62	-383.42	306.35	-363.27	0.00	0.00	0.00
5,300.00	0.00	0.00	5,259.62	-383.42	306.35	-363.27	0.00	0.00	0.00
5,400.00	0.00	0.00	5,359.62	-383.42	306.35	-363.27	0.00	0.00	0.00
5,500.00	0.00	0.00	5,459.62	-383.42	306.35	-363.27	0.00	0.00	0.00
5,600.00	0.00	0.00	5,559.62	-383.42	306.35	-363.27	0.00	0.00	0.00
5,700.00	0.00	0.00	5,659.62	-383.42	306.35	-363.27	0.00	0.00	0.00
5,800.00	0.00	0.00	5,759.62	-383.42	306.35	-363.27	0.00	0.00	0.00
5,900.00	0.00	0.00	5,859.62	-383.42	306.35	-363.27	0.00	0.00	0.00
6,000.00	0.00	0.00	5,959.62	-383.42	306.35	-363.27	0.00	0.00	0.00
6,100.00	0.00	0.00	6,059.62	-383.42	306.35	-363.27	0.00	0.00	0.00
6,200.00	0.00	0.00	6,159.62	-383.42	306.35	-363.27	0.00	0.00	0.00
6,300.00	0.00	0.00	6,259.62	-383.42	306.35	-363.27	0.00	0.00	0.00
6,400.00	0.00	0.00	6,359.62	-383.42	306.35	-363.27	0.00	0.00	0.00
6,500.00	0.00	0.00	6,459.62	-383.42	306.35	-363.27	0.00	0.00	0.00
6,600.00	0.00	0.00	6,559.62	-383.42	306.35	-363.27	0.00	0.00	0.00
6,700.00	0.00	0.00	6,659.62	-383.42	306.35	-363.27	0.00	0.00	0.00
6,800.00	0.00	0.00	6,759.62	-383.42	306.35	-363.27	0.00	0.00	0.00
6,900.00	0.00	0.00	6,859.62	-383.42	306.35	-363.27	0.00	0.00	0.00
6,923.42	0.00	0.00	6,883.04	-383.42	306.35	-363.27	0.00	0.00	0.00
Start Build 10.00									
7,000.00	7.66	0.00	6,959.39	-378.31	306.35	-358.17	10.00	10.00	0.00
7,100.00	17.66	0.00	7,056.83	-356.43	306.35	-336.33	10.00	10.00	0.00
7,160.05	23.66	0.00	7,113.00	-335.25	306.35	-315.19	10.00	10.00	0.00
Sharon Springs									
7,200.00	27.66	0.00	7,149.00	-317.95	306.35	-297.93	10.00	10.00	0.00
7,225.14	30.17	0.00	7,171.00	-305.80	306.35	-285.81	10.00	10.00	0.00
Niobrara A									
7,281.18	35.78	0.00	7,218.00	-275.31	306.35	-255.37	10.00	10.00	0.00
Niobrara B									
7,300.00	37.66	0.00	7,233.08	-264.06	306.35	-244.15	10.00	10.00	0.00
7,391.85	46.84	0.00	7,301.00	-202.37	306.35	-182.58	10.00	10.00	0.00
Niobrara C									
7,400.00	47.66	0.00	7,306.53	-196.38	306.35	-176.61	10.00	10.00	0.00
7,500.00	57.66	0.00	7,367.11	-116.98	306.35	-97.37	10.00	10.00	0.00
7,600.00	67.66	0.00	7,412.98	-28.27	306.35	-8.83	10.00	10.00	0.00
7,643.57	72.01	0.00	7,428.00	12.62	306.35	31.98	10.00	10.00	0.00
Fort Hays									
7,700.00	77.66	0.00	7,442.76	67.07	306.35	86.31	10.00	10.00	0.00

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well MILLER 28C-24HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5029 & KB 17 @ 5046.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5029 & KB 17 @ 5046.00ft (ASSUMED)
Site:	MILLER 14C-24HZ	North Reference:	True
Well:	MILLER 28C-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)
7,747.69	82.43	0.00	7,451.00	114.03	306.35	133.18	10.00	10.00	0.00
Codell									
7,800.00	87.66	0.00	7,455.52	166.12	306.35	185.17	10.00	10.00	0.00
7,824.66	90.12	0.00	7,456.00	190.77	306.35	209.77	10.00	10.00	0.00
Start 4641.48 hold at 7824.66 MD - 7"(621 FSL 2415 FWL)									
7,900.00	90.12	0.00	7,455.83	266.11	306.35	284.96	0.00	0.00	0.00
8,000.00	90.12	0.00	7,455.62	366.11	306.35	384.76	0.00	0.00	0.00
8,100.00	90.12	0.00	7,455.40	466.11	306.35	484.56	0.00	0.00	0.00
8,200.00	90.12	0.00	7,455.19	566.11	306.35	584.36	0.00	0.00	0.00
8,300.00	90.12	0.00	7,454.97	666.11	306.35	684.16	0.00	0.00	0.00
8,400.00	90.12	0.00	7,454.76	766.11	306.35	783.96	0.00	0.00	0.00
8,500.00	90.12	0.00	7,454.54	866.11	306.35	883.76	0.00	0.00	0.00
8,600.00	90.12	0.00	7,454.33	966.11	306.35	983.56	0.00	0.00	0.00
8,700.00	90.12	0.00	7,454.11	1,066.11	306.35	1,083.36	0.00	0.00	0.00
8,800.00	90.12	0.00	7,453.90	1,166.11	306.35	1,183.16	0.00	0.00	0.00
8,900.00	90.12	0.00	7,453.68	1,266.11	306.35	1,282.96	0.00	0.00	0.00
9,000.00	90.12	0.00	7,453.47	1,366.11	306.35	1,382.76	0.00	0.00	0.00
9,100.00	90.12	0.00	7,453.25	1,466.11	306.35	1,482.56	0.00	0.00	0.00
9,200.00	90.12	0.00	7,453.03	1,566.11	306.35	1,582.35	0.00	0.00	0.00
9,300.00	90.12	0.00	7,452.82	1,666.11	306.35	1,682.15	0.00	0.00	0.00
9,400.00	90.12	0.00	7,452.60	1,766.11	306.35	1,781.95	0.00	0.00	0.00
9,500.00	90.12	0.00	7,452.39	1,866.11	306.35	1,881.75	0.00	0.00	0.00
9,600.00	90.12	0.00	7,452.17	1,966.11	306.35	1,981.55	0.00	0.00	0.00
9,700.00	90.12	0.00	7,451.96	2,066.11	306.35	2,081.35	0.00	0.00	0.00
9,800.00	90.12	0.00	7,451.74	2,166.11	306.35	2,181.15	0.00	0.00	0.00
9,900.00	90.12	0.00	7,451.53	2,266.11	306.35	2,280.95	0.00	0.00	0.00
10,000.00	90.12	0.00	7,451.31	2,366.11	306.35	2,380.75	0.00	0.00	0.00
10,100.00	90.12	0.00	7,451.10	2,466.11	306.35	2,480.55	0.00	0.00	0.00
10,200.00	90.12	0.00	7,450.88	2,566.11	306.35	2,580.35	0.00	0.00	0.00
10,300.00	90.12	0.00	7,450.67	2,666.11	306.35	2,680.15	0.00	0.00	0.00
10,400.00	90.12	0.00	7,450.45	2,766.11	306.35	2,779.95	0.00	0.00	0.00
10,500.00	90.12	0.00	7,450.23	2,866.11	306.35	2,879.75	0.00	0.00	0.00
10,600.00	90.12	0.00	7,450.02	2,966.11	306.35	2,979.55	0.00	0.00	0.00
10,700.00	90.12	0.00	7,449.80	3,066.11	306.35	3,079.35	0.00	0.00	0.00
10,800.00	90.12	0.00	7,449.59	3,166.11	306.35	3,179.15	0.00	0.00	0.00
10,900.00	90.12	0.00	7,449.37	3,266.11	306.35	3,278.94	0.00	0.00	0.00
11,000.00	90.12	0.00	7,449.16	3,366.11	306.35	3,378.74	0.00	0.00	0.00
11,100.00	90.12	0.00	7,448.94	3,466.11	306.35	3,478.54	0.00	0.00	0.00
11,200.00	90.12	0.00	7,448.73	3,566.11	306.35	3,578.34	0.00	0.00	0.00
11,300.00	90.12	0.00	7,448.51	3,666.11	306.35	3,678.14	0.00	0.00	0.00
11,400.00	90.12	0.00	7,448.30	3,766.10	306.35	3,777.94	0.00	0.00	0.00
11,500.00	90.12	0.00	7,448.08	3,866.10	306.35	3,877.74	0.00	0.00	0.00
11,600.00	90.12	0.00	7,447.87	3,966.10	306.35	3,977.54	0.00	0.00	0.00
11,700.00	90.12	0.00	7,447.65	4,066.10	306.35	4,077.34	0.00	0.00	0.00
11,800.00	90.12	0.00	7,447.43	4,166.10	306.35	4,177.14	0.00	0.00	0.00
11,900.00	90.12	0.00	7,447.22	4,266.10	306.35	4,276.94	0.00	0.00	0.00
12,000.00	90.12	0.00	7,447.00	4,366.10	306.35	4,376.74	0.00	0.00	0.00
12,100.00	90.12	0.00	7,446.79	4,466.10	306.35	4,476.54	0.00	0.00	0.00
12,200.00	90.12	0.00	7,446.57	4,566.10	306.35	4,576.34	0.00	0.00	0.00
12,300.00	90.12	0.00	7,446.36	4,666.10	306.35	4,676.14	0.00	0.00	0.00
12,400.00	90.12	0.00	7,446.14	4,766.10	306.35	4,775.94	0.00	0.00	0.00
12,466.14	90.12	0.00	7,446.00	4,832.24	306.35	4,841.95	0.00	0.00	0.00
TD at 12466.14 - PBHL_MILLER 28C-24HZ(1' FNL 2370' FWL)									

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well MILLER 28C-24HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5029 & KB 17 @ 5046.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5029 & KB 17 @ 5046.00ft (ASSUMED)
Site:	MILLER 14C-24HZ	North Reference:	True
Well:	MILLER 28C-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 28C-24H	0.00	0.00	7,446.00	4,832.24	306.35	1,323,209.51	3,216,068.36	40.2180200	-104.7262670
- 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
7,824.66	7,456.00	7"(621 FSL 2415 FWL)		7.000	7.500

Formations						
Measured Depth	Vertical Depth	Name		Lithology	Dip	Dip Direction
(ft)	(ft)				(°)	(°)
875.00	875.00	Fox Hills Base				
4,089.43	4,050.00	Parkman				
4,567.38	4,527.00	Sussex				
7,160.05	7,113.00	Sharon Springs				
7,225.14	7,171.00	Niobrara A				
7,281.18	7,218.00	Niobrara B				
7,391.85	7,301.00	Niobrara C				
7,643.57	7,428.00	Fort Hays				
7,747.69	7,451.00	Codell				

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	
1,624.91	1,622.38	-33.99	27.16	Start 2325.56 hold at 1624.91 MD	
3,950.47	3,912.62	-349.43	279.19	Start Drop -2.00	
4,450.38	4,410.00	-383.42	306.35	Start 2473.04 hold at 4450.38 MD	
6,923.42	6,883.04	-383.42	306.35	Start Build 10.00	
7,824.66	7,456.00	190.77	306.35	Start 4641.48 hold at 7824.66 MD	
12,466.14	7,446.00	4,832.24	306.35	TD at 12466.14	