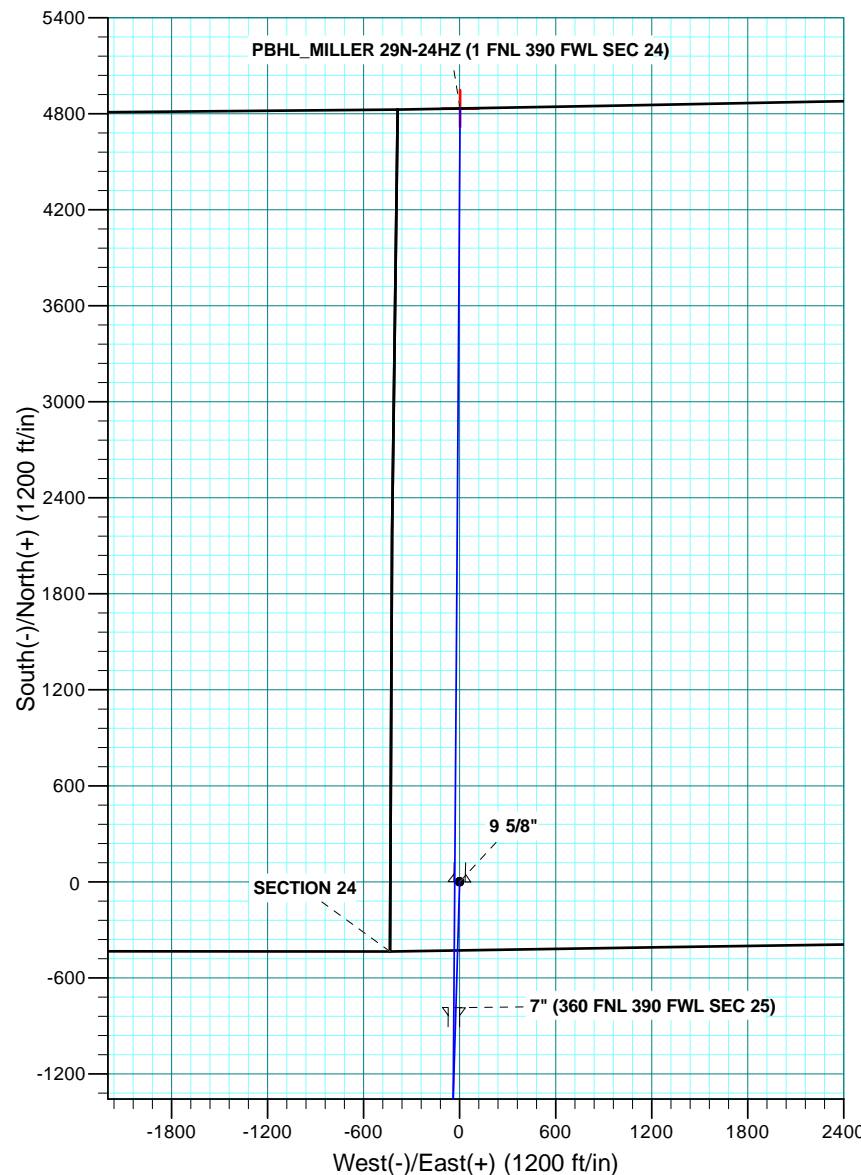
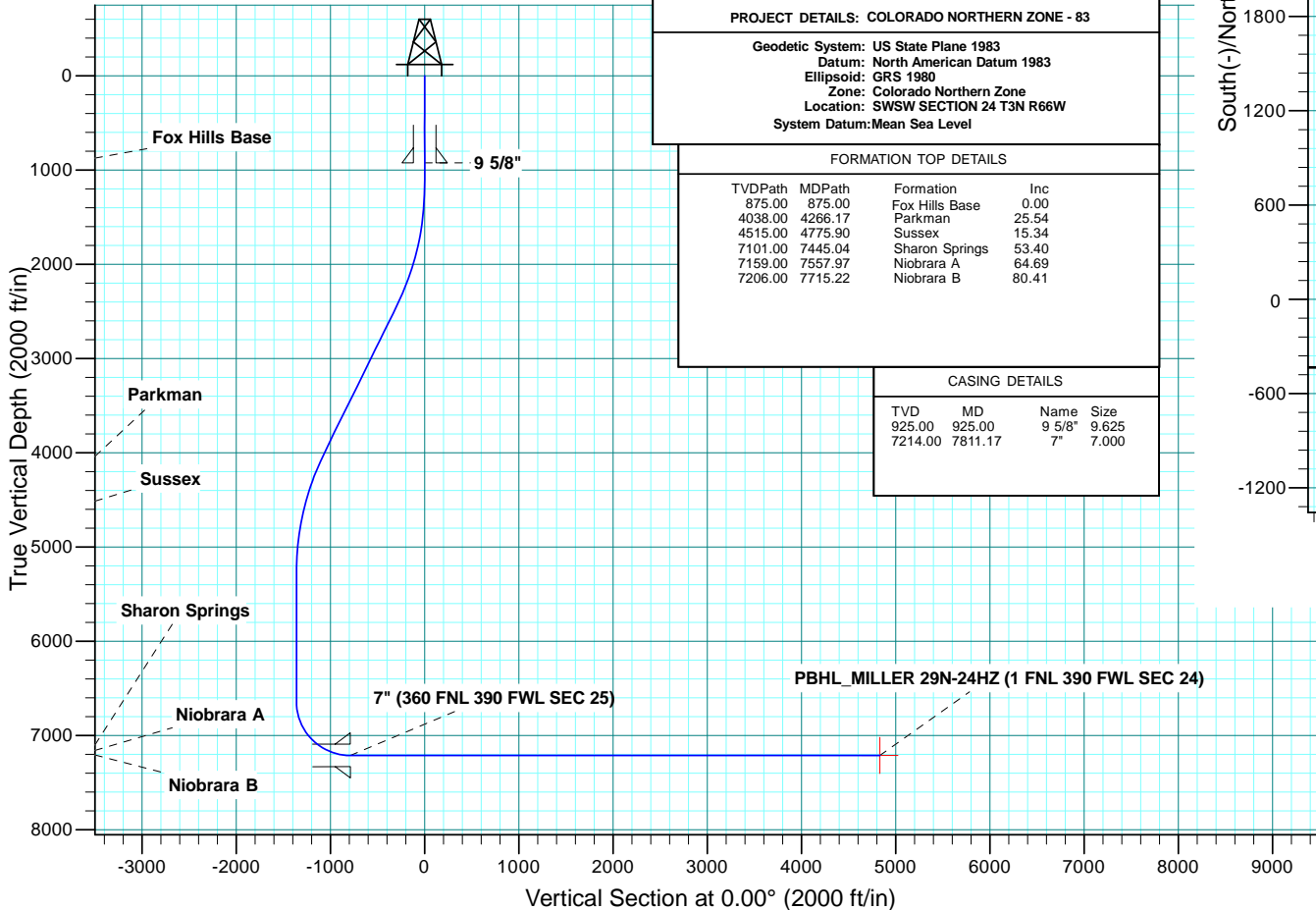


WELL DETAILS: MILLER 29N-24HZ										
GL 5016 & KB 17 @ 5033.00ft (ASSUMED)										
		+N/S 0.00	+E/W 0.00	Northing 1318323.08	Easting 3214126.68	Latitude 40.2046530		Longitude -104.7333710		
SECTION DETAILS										
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	Annotation
0.00	0.00	0.00	0.00	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
2485.29	26.21	181.68	2440.08	-294.33	-8.66	2.00	181.68	-294.33		Start 1747.45 hold at 2485.29 MD
4232.74	26.21	181.68	4007.92	-1065.67	-31.34	0.00	0.00	-1065.67		Start Drop -2.00
5543.03	0.00	0.00	5273.00	-1360.00	-40.00	2.00	180.00	-1360.00		Start 1368.04 hold at 5543.03 MD
6911.07	0.00	0.00	6641.04	-1360.00	-40.00	0.00	0.00	-1360.00		Start DLS 10.00 TFO 0.40
7811.17	90.01	0.40	7214.00	-786.95	-35.99	10.00	0.40	-786.95		Start 5620.06 hold at 7811.17 MD
13431.23	90.01	0.40	7213.00	4832.97	3.35	0.00	0.00	4832.97	PBHL_MILLER 29N-24HZ	TD at 13431.23
DESIGN TARGET DETAILS										
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude		Longitude		Shape Point
PBHL	7213.00	4832.97	3.35	1323155.88	3214088.25	40.2179200		-104.7333590		

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	4266.17	Parkman	25.54							
4515.00	4775.90	Sussex	15.34							
7101.00	7445.04	Sharon Springs	53.40							
7159.00	7557.97	Niobrara A	64.69							
7206.00	7715.22	Niobrara B	80.41							

CASING DETAILS										
TVD	MD	Name	Size							
925.00	925.00	9 5/8"	9.625							
7214.00	7811.17	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

08 April, 2014

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well MILLER 29N-24HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5016 & KB 17 @ 5033.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5016 & KB 17 @ 5033.00ft (ASSUMED)
Site:	MILLER 13-24HZ PAD	North Reference:	True
Well:	MILLER 29N-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 13-24HZ PAD, SWSW SECTION 24 T3N R66W			
Site Position:		Northing:	1,318,293.21 usft	Latitude: 40.2045710
From:	Lat/Long	Easting:	3,214,126.94 usft	Longitude: -104.7333710
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence: 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

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	10/9/2013	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	0.00

Plan Sections										
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	
2,485.29	26.21	181.68	2,440.08	-294.33	-8.66	2.00	2.00	0.00	181.68	
4,232.74	26.21	181.68	4,007.92	-1,065.67	-31.34	0.00	0.00	0.00	0.00	
5,543.03	0.00	0.00	5,273.00	-1,360.00	-40.00	2.00	-2.00	0.00	180.00	
6,911.07	0.00	0.00	6,641.04	-1,360.00	-40.00	0.00	0.00	0.00	0.00	
7,811.17	90.01	0.40	7,214.00	-786.95	-35.99	10.00	10.00	0.04	0.40	
13,431.23	90.01	0.40	7,213.00	4,832.97	3.35	0.00	0.00	0.00	0.00	PBHL_MILLER 29N-2

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well MILLER 29N-24HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5016 & KB 17 @ 5033.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5016 & KB 17 @ 5033.00ft (ASSUMED)
Site:	MILLER 13-24HZ PAD	North Reference:	True
Well:	MILLER 29N-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 (°/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	181.68	1,200.00	-0.11	0.00	-0.11	2.00	2.00	0.00
1,300.00	2.50	181.68	1,299.96	-2.73	-0.08	-2.73	2.00	2.00	0.00
1,400.00	4.50	181.68	1,399.77	-8.83	-0.26	-8.83	2.00	2.00	0.00
1,500.00	6.50	181.68	1,499.30	-18.41	-0.54	-18.41	2.00	2.00	0.00
1,600.00	8.50	181.68	1,598.44	-31.45	-0.93	-31.45	2.00	2.00	0.00
1,700.00	10.50	181.68	1,697.07	-47.95	-1.41	-47.95	2.00	2.00	0.00
1,800.00	12.50	181.68	1,795.05	-67.88	-2.00	-67.88	2.00	2.00	0.00
1,900.00	14.50	181.68	1,892.29	-91.21	-2.68	-91.21	2.00	2.00	0.00
2,000.00	16.50	181.68	1,988.64	-117.92	-3.47	-117.92	2.00	2.00	0.00
2,100.00	18.50	181.68	2,084.01	-147.98	-4.35	-147.98	2.00	2.00	0.00
2,200.00	20.50	181.68	2,178.27	-181.34	-5.33	-181.34	2.00	2.00	0.00
2,300.00	22.50	181.68	2,271.31	-217.97	-6.41	-217.97	2.00	2.00	0.00
2,400.00	24.50	181.68	2,363.01	-257.83	-7.58	-257.83	2.00	2.00	0.00
2,485.29	26.21	181.68	2,440.08	-294.33	-8.66	-294.33	2.00	2.00	0.00
Start 1747.45 hold at 2485.29 MD									
2,500.00	26.21	181.68	2,453.28	-300.83	-8.85	-300.83	0.00	0.00	0.00
2,600.00	26.21	181.68	2,543.00	-344.97	-10.15	-344.97	0.00	0.00	0.00
2,700.00	26.21	181.68	2,632.72	-389.11	-11.44	-389.11	0.00	0.00	0.00
2,800.00	26.21	181.68	2,722.44	-433.25	-12.74	-433.25	0.00	0.00	0.00
2,900.00	26.21	181.68	2,812.17	-477.39	-14.04	-477.39	0.00	0.00	0.00
3,000.00	26.21	181.68	2,901.89	-521.53	-15.34	-521.53	0.00	0.00	0.00
3,100.00	26.21	181.68	2,991.61	-565.67	-16.64	-565.67	0.00	0.00	0.00
3,200.00	26.21	181.68	3,081.33	-609.81	-17.94	-609.81	0.00	0.00	0.00
3,300.00	26.21	181.68	3,171.05	-653.95	-19.23	-653.95	0.00	0.00	0.00
3,400.00	26.21	181.68	3,260.77	-698.09	-20.53	-698.09	0.00	0.00	0.00
3,500.00	26.21	181.68	3,350.49	-742.23	-21.83	-742.23	0.00	0.00	0.00
3,600.00	26.21	181.68	3,440.22	-786.37	-23.13	-786.37	0.00	0.00	0.00
3,700.00	26.21	181.68	3,529.94	-830.51	-24.43	-830.51	0.00	0.00	0.00
3,800.00	26.21	181.68	3,619.66	-874.65	-25.73	-874.65	0.00	0.00	0.00
3,900.00	26.21	181.68	3,709.38	-918.79	-27.02	-918.79	0.00	0.00	0.00
4,000.00	26.21	181.68	3,799.10	-962.93	-28.32	-962.93	0.00	0.00	0.00
4,100.00	26.21	181.68	3,888.82	-1,007.07	-29.62	-1,007.07	0.00	0.00	0.00
4,200.00	26.21	181.68	3,978.54	-1,051.21	-30.92	-1,051.21	0.00	0.00	0.00
4,232.74	26.21	181.68	4,007.92	-1,065.67	-31.34	-1,065.67	0.00	0.00	0.00
Start Drop -2.00									
4,266.17	25.54	181.68	4,038.00	-1,080.25	-31.77	-1,080.25	2.00	-2.00	0.00

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well MILLER 29N-24HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5016 & KB 17 @ 5033.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5016 & KB 17 @ 5033.00ft (ASSUMED)
Site:	MILLER 13-24HZ PAD	North Reference:	True
Well:	MILLER 29N-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 (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Parkman									
4,300.00	24.86	181.68	4,068.61	-1,094.64	-32.20	-1,094.64	2.00	-2.00	0.00
4,400.00	22.86	181.68	4,160.06	-1,135.08	-33.38	-1,135.08	2.00	-2.00	0.00
4,500.00	20.86	181.68	4,252.86	-1,172.29	-34.48	-1,172.29	2.00	-2.00	0.00
4,600.00	18.86	181.68	4,346.91	-1,206.25	-35.48	-1,206.25	2.00	-2.00	0.00
4,700.00	16.86	181.68	4,442.08	-1,236.91	-36.38	-1,236.91	2.00	-2.00	0.00
4,775.90	15.34	181.68	4,515.00	-1,257.94	-37.00	-1,257.94	2.00	-2.00	0.00
Sussex									
4,800.00	14.86	181.68	4,538.27	-1,264.22	-37.18	-1,264.22	2.00	-2.00	0.00
4,900.00	12.86	181.68	4,635.36	-1,288.17	-37.89	-1,288.17	2.00	-2.00	0.00
5,000.00	10.86	181.68	4,733.22	-1,308.71	-38.49	-1,308.71	2.00	-2.00	0.00
5,100.00	8.86	181.68	4,831.73	-1,325.83	-38.99	-1,325.83	2.00	-2.00	0.00
5,200.00	6.86	181.68	4,930.79	-1,339.50	-39.40	-1,339.50	2.00	-2.00	0.00
5,300.00	4.86	181.68	5,030.26	-1,349.70	-39.70	-1,349.70	2.00	-2.00	0.00
5,400.00	2.86	181.68	5,130.03	-1,356.43	-39.90	-1,356.43	2.00	-2.00	0.00
5,500.00	0.86	181.68	5,229.97	-1,359.68	-39.99	-1,359.68	2.00	-2.00	0.00
5,543.03	0.00	0.00	5,273.00	-1,360.00	-40.00	-1,360.00	2.00	-2.00	0.00
Start 1368.04 hold at 5543.03 MD									
5,600.00	0.00	0.00	5,329.97	-1,360.00	-40.00	-1,360.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,429.97	-1,360.00	-40.00	-1,360.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,529.97	-1,360.00	-40.00	-1,360.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,629.97	-1,360.00	-40.00	-1,360.00	0.00	0.00	0.00
6,000.00	0.00	0.00	5,729.97	-1,360.00	-40.00	-1,360.00	0.00	0.00	0.00
6,100.00	0.00	0.00	5,829.97	-1,360.00	-40.00	-1,360.00	0.00	0.00	0.00
6,200.00	0.00	0.00	5,929.97	-1,360.00	-40.00	-1,360.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,029.97	-1,360.00	-40.00	-1,360.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,129.97	-1,360.00	-40.00	-1,360.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,229.97	-1,360.00	-40.00	-1,360.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,329.97	-1,360.00	-40.00	-1,360.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,429.97	-1,360.00	-40.00	-1,360.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,529.97	-1,360.00	-40.00	-1,360.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,629.97	-1,360.00	-40.00	-1,360.00	0.00	0.00	0.00
6,911.07	0.00	0.00	6,641.04	-1,360.00	-40.00	-1,360.00	0.00	0.00	0.00
Start DLS 10.00 TFO 0.40									
7,000.00	8.89	0.40	6,729.61	-1,353.11	-39.95	-1,353.11	10.00	10.00	0.00
7,100.00	18.89	0.40	6,826.56	-1,329.13	-39.78	-1,329.13	10.00	10.00	0.00
7,200.00	28.89	0.40	6,917.88	-1,288.68	-39.50	-1,288.68	10.00	10.00	0.00
7,300.00	38.89	0.40	7,000.78	-1,232.99	-39.11	-1,232.99	10.00	10.00	0.00
7,400.00	48.89	0.40	7,072.75	-1,163.75	-38.63	-1,163.75	10.00	10.00	0.00
7,445.04	53.40	0.40	7,101.00	-1,128.69	-38.38	-1,128.69	10.00	10.00	0.00
Sharon Springs									
7,500.00	58.89	0.40	7,131.61	-1,083.06	-38.06	-1,083.06	10.00	10.00	0.00
7,557.97	64.69	0.40	7,159.00	-1,032.00	-37.70	-1,032.00	10.00	10.00	0.00
Niobrara A									
7,600.00	68.89	0.40	7,175.56	-993.38	-37.43	-993.38	10.00	10.00	0.00
7,700.00	78.89	0.40	7,203.27	-897.43	-36.76	-897.43	10.00	10.00	0.00
7,715.22	80.41	0.40	7,206.00	-882.46	-36.66	-882.46	10.00	10.00	0.00
Niobrara B									
7,800.00	88.89	0.40	7,213.89	-798.13	-36.07	-798.13	10.00	10.00	0.00
7,811.17	90.01	0.40	7,214.00	-786.96	-35.99	-786.96	10.00	10.00	0.00
Start 5620.06 hold at 7811.17 MD - 7" (360 FNL 390 FWL SEC 25)									
7,900.00	90.01	0.40	7,213.98	-698.13	-35.37	-698.13	0.00	0.00	0.00
8,000.00	90.01	0.40	7,213.97	-598.13	-34.67	-598.13	0.00	0.00	0.00

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well MILLER 29N-24HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5016 & KB 17 @ 5033.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5016 & KB 17 @ 5033.00ft (ASSUMED)
Site:	MILLER 13-24HZ PAD	North Reference:	True
Well:	MILLER 29N-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 (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,100.00	90.01	0.40	7,213.95	-498.13	-33.97	-498.13	0.00	0.00	0.00
8,200.00	90.01	0.40	7,213.93	-398.14	-33.27	-398.14	0.00	0.00	0.00
8,300.00	90.01	0.40	7,213.91	-298.14	-32.57	-298.14	0.00	0.00	0.00
8,400.00	90.01	0.40	7,213.89	-198.14	-31.87	-198.14	0.00	0.00	0.00
8,500.00	90.01	0.40	7,213.88	-98.14	-31.17	-98.14	0.00	0.00	0.00
8,600.00	90.01	0.40	7,213.86	1.85	-30.47	1.85	0.00	0.00	0.00
8,700.00	90.01	0.40	7,213.84	101.85	-29.77	101.85	0.00	0.00	0.00
8,800.00	90.01	0.40	7,213.82	201.85	-29.07	201.85	0.00	0.00	0.00
8,900.00	90.01	0.40	7,213.81	301.85	-28.37	301.85	0.00	0.00	0.00
9,000.00	90.01	0.40	7,213.79	401.84	-27.67	401.84	0.00	0.00	0.00
9,100.00	90.01	0.40	7,213.77	501.84	-26.97	501.84	0.00	0.00	0.00
9,200.00	90.01	0.40	7,213.75	601.84	-26.27	601.84	0.00	0.00	0.00
9,300.00	90.01	0.40	7,213.73	701.84	-25.57	701.84	0.00	0.00	0.00
9,400.00	90.01	0.40	7,213.72	801.83	-24.87	801.83	0.00	0.00	0.00
9,500.00	90.01	0.40	7,213.70	901.83	-24.17	901.83	0.00	0.00	0.00
9,600.00	90.01	0.40	7,213.68	1,001.83	-23.47	1,001.83	0.00	0.00	0.00
9,700.00	90.01	0.40	7,213.66	1,101.83	-22.77	1,101.83	0.00	0.00	0.00
9,800.00	90.01	0.40	7,213.65	1,201.82	-22.07	1,201.82	0.00	0.00	0.00
9,900.00	90.01	0.40	7,213.63	1,301.82	-21.37	1,301.82	0.00	0.00	0.00
10,000.00	90.01	0.40	7,213.61	1,401.82	-20.67	1,401.82	0.00	0.00	0.00
10,100.00	90.01	0.40	7,213.59	1,501.82	-19.97	1,501.82	0.00	0.00	0.00
10,200.00	90.01	0.40	7,213.57	1,601.81	-19.27	1,601.81	0.00	0.00	0.00
10,300.00	90.01	0.40	7,213.56	1,701.81	-18.57	1,701.81	0.00	0.00	0.00
10,400.00	90.01	0.40	7,213.54	1,801.81	-17.87	1,801.81	0.00	0.00	0.00
10,500.00	90.01	0.40	7,213.52	1,901.81	-17.17	1,901.81	0.00	0.00	0.00
10,600.00	90.01	0.40	7,213.50	2,001.80	-16.47	2,001.80	0.00	0.00	0.00
10,700.00	90.01	0.40	7,213.49	2,101.80	-15.77	2,101.80	0.00	0.00	0.00
10,800.00	90.01	0.40	7,213.47	2,201.80	-15.07	2,201.80	0.00	0.00	0.00
10,900.00	90.01	0.40	7,213.45	2,301.80	-14.37	2,301.80	0.00	0.00	0.00
11,000.00	90.01	0.40	7,213.43	2,401.79	-13.67	2,401.79	0.00	0.00	0.00
11,100.00	90.01	0.40	7,213.41	2,501.79	-12.97	2,501.79	0.00	0.00	0.00
11,200.00	90.01	0.40	7,213.40	2,601.79	-12.27	2,601.79	0.00	0.00	0.00
11,300.00	90.01	0.40	7,213.38	2,701.79	-11.57	2,701.79	0.00	0.00	0.00
11,400.00	90.01	0.40	7,213.36	2,801.78	-10.87	2,801.78	0.00	0.00	0.00
11,500.00	90.01	0.40	7,213.34	2,901.78	-10.17	2,901.78	0.00	0.00	0.00
11,600.00	90.01	0.40	7,213.33	3,001.78	-9.47	3,001.78	0.00	0.00	0.00
11,700.00	90.01	0.40	7,213.31	3,101.78	-8.77	3,101.78	0.00	0.00	0.00
11,800.00	90.01	0.40	7,213.29	3,201.77	-8.07	3,201.77	0.00	0.00	0.00
11,900.00	90.01	0.40	7,213.27	3,301.77	-7.37	3,301.77	0.00	0.00	0.00
12,000.00	90.01	0.40	7,213.25	3,401.77	-6.67	3,401.77	0.00	0.00	0.00
12,100.00	90.01	0.40	7,213.24	3,501.77	-5.97	3,501.77	0.00	0.00	0.00
12,200.00	90.01	0.40	7,213.22	3,601.77	-5.27	3,601.77	0.00	0.00	0.00
12,300.00	90.01	0.40	7,213.20	3,701.76	-4.57	3,701.76	0.00	0.00	0.00
12,400.00	90.01	0.40	7,213.18	3,801.76	-3.87	3,801.76	0.00	0.00	0.00
12,500.00	90.01	0.40	7,213.17	3,901.76	-3.17	3,901.76	0.00	0.00	0.00
12,600.00	90.01	0.40	7,213.15	4,001.76	-2.47	4,001.76	0.00	0.00	0.00
12,700.00	90.01	0.40	7,213.13	4,101.75	-1.77	4,101.75	0.00	0.00	0.00
12,800.00	90.01	0.40	7,213.11	4,201.75	-1.07	4,201.75	0.00	0.00	0.00
12,900.00	90.01	0.40	7,213.09	4,301.75	-0.37	4,301.75	0.00	0.00	0.00
13,000.00	90.01	0.40	7,213.08	4,401.75	0.33	4,401.75	0.00	0.00	0.00
13,100.00	90.01	0.40	7,213.06	4,501.74	1.03	4,501.74	0.00	0.00	0.00
13,200.00	90.01	0.40	7,213.04	4,601.74	1.73	4,601.74	0.00	0.00	0.00
13,300.00	90.01	0.40	7,213.02	4,701.74	2.43	4,701.74	0.00	0.00	0.00
13,400.00	90.01	0.40	7,213.01	4,801.74	3.13	4,801.74	0.00	0.00	0.00

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well MILLER 29N-24HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5016 & KB 17 @ 5033.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5016 & KB 17 @ 5033.00ft (ASSUMED)
Site:	MILLER 13-24HZ PAD	North Reference:	True
Well:	MILLER 29N-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 (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,431.23	90.01	0.40	7,213.00	4,832.97	3.35	4,832.97	0.00	0.00	0.00
TD at 13431.23 - PBHL_MILLER 29N-24HZ (1 FNL 390 FWL SEC 24)									

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	
7,811.17	7,214.00	7" (360 FNL 390 FWL SEC 25)	7.000	7.500	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
875.00	875.00	Fox Hills Base				
4,266.17	4,038.00	Parkman				
4,775.90	4,515.00	Sussex				
7,445.04	7,101.00	Sharon Springs				
7,557.97	7,159.00	Niobrara A				
7,715.22	7,206.00	Niobrara B				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,175.00	1,175.00	0.00	0.00	Start Build 2.00	
2,485.29	2,440.08	-294.33	-8.66	Start 1747.45 hold at 2485.29 MD	
4,232.74	4,007.92	-1,065.67	-31.34	Start Drop -2.00	
5,543.03	5,273.00	-1,360.00	-40.00	Start 1368.04 hold at 5543.03 MD	
6,911.07	6,641.04	-1,360.00	-40.00	Start DLS 10.00 TFO 0.40	
7,811.17	7,214.00	-786.95	-35.99	Start 5620.06 hold at 7811.17 MD	
13,431.23	7,213.00	4,832.97	3.35	TD at 13431.23	