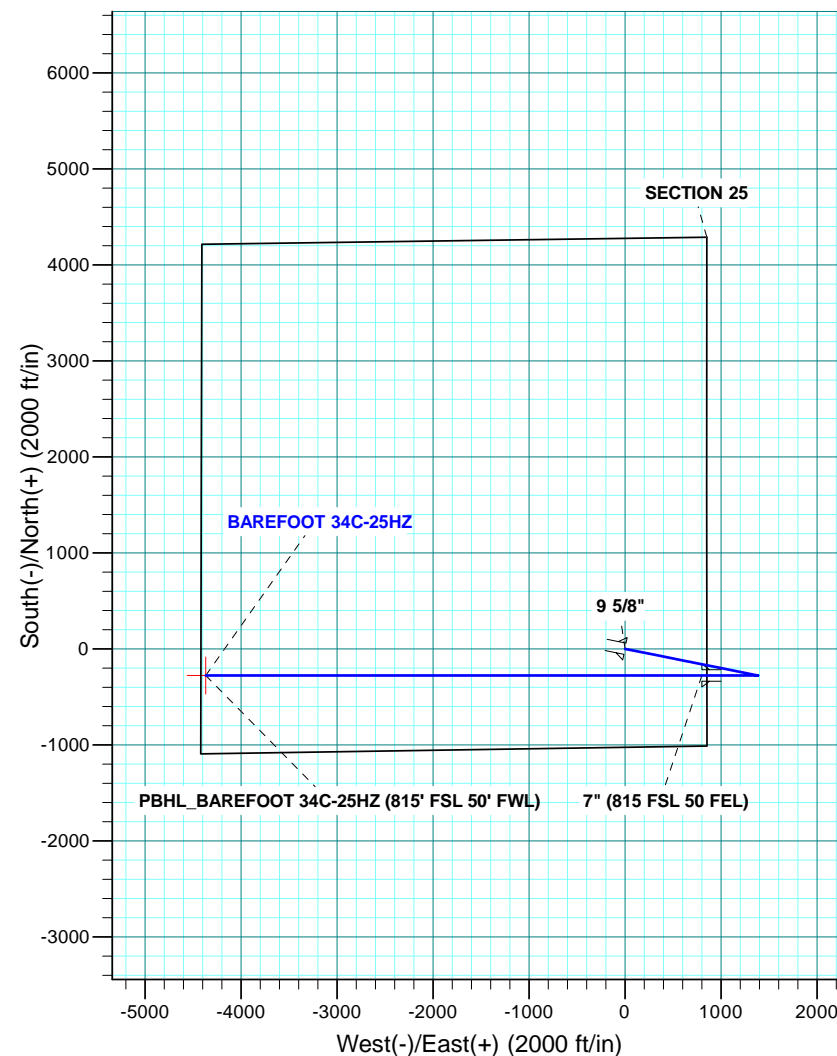
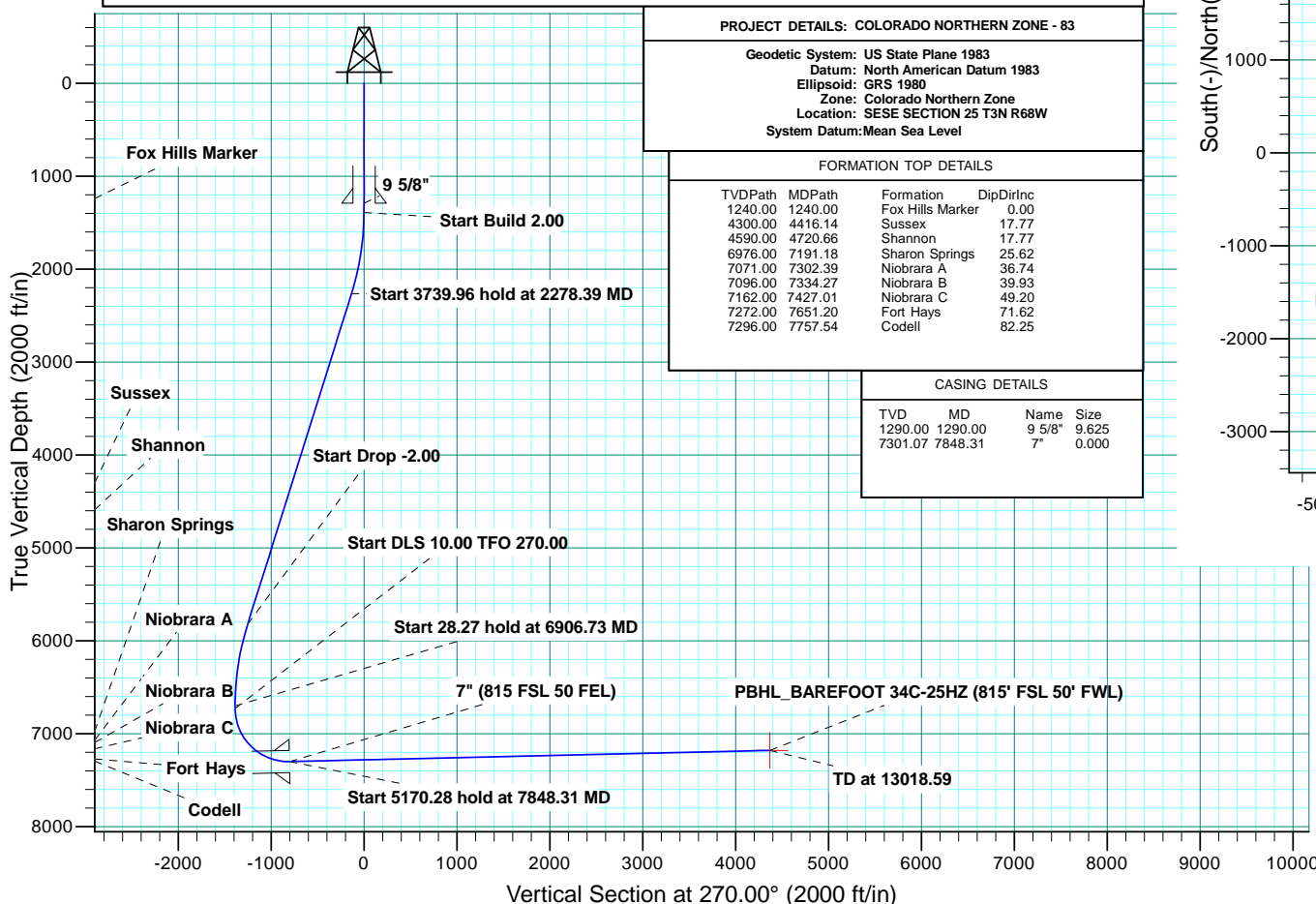


WELL DETAILS: BAREFOOT 34C-25HZ										
GL 4864 & KB 17 @ 4881.00ft (ASSUMED)										
		+N/-S 0.00	+E/-W 0.00	Northing 1313563.31	Easting 3155093.83	Latitude 40.1927950	Longitude -104.9448240			
SECTION DETAILS										
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1390.00	0.00	0.00	1390.00	0.00	0.00	0.00	0.00	0.00		Start Build 2.00
2278.39	17.77	101.33	2264.22	-26.85	133.98	2.00	101.33	-133.98		Start 3739.96 hold at 2278.39 MD
6018.34	17.77	101.33	5825.78	-251.08	1253.02	0.00	0.00	-1253.02		Start Drop -2.00
6906.73	0.00	0.00	6700.00	-277.92	1387.00	2.00	180.00	-1387.00		Start 28.27 hold at 6906.73 MD
6935.00	0.00	0.00	6728.27	-277.92	1387.00	0.00	0.00	-1387.00		Start DLS 10.00 TFO 270.00
7848.31	91.33	270.00	7301.07	-277.92	800.73	10.00	270.00	-800.73		Start 5170.28 hold at 7848.31 MD
13018.59	91.33	270.00	7181.00	-277.92	-4368.16	0.00	0.00	4368.16	PBHL_BAREFOOT 34C-25HZTD at 13018.59	
DESIGN TARGET DETAILS										
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape		
PBHL	7181.00	-277.92	-4368.16	1313258.04	3150727.51	40.1920310	-104.9604600	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: SESE SECTION 25 T3N R68W			
System Datum:Mean Sea Level			
FORMATION TOP DETAILS			
TVDPath	MDPath	Formation	DipDirInc
1240.00	1240.00	Fox Hills Marker	0.00
4300.00	4416.14	Sussex	17.77
4590.00	4720.66	Shannon	17.77
6976.00	7191.18	Sharon Springs	25.62
7071.00	7302.39	Niobrara A	36.74
7096.00	7334.27	Niobrara B	39.93
7162.00	7427.01	Niobrara C	49.20
7272.00	7651.20	Fort Hays	71.62
7296.00	7757.54	Codell	82.25
CASING DETAILS			
TVD	MD	Name	Size
1290.00	1290.00	9 5/8"	9.625
7301.07	7848.31	7"	0.000



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

BAREFOOT 16-25HZ PAD

BAREFOOT 34C-25HZ

OH

Plan: PLAN #1 PRELIMINARY

Standard Planning Report

25 February, 2014

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well BAREFOOT 34C-25HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4864 & KB 17 @ 4881.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4864 & KB 17 @ 4881.00ft (ASSUMED)
Site:	BAREFOOT 16-25HZ PAD	North Reference:	True
Well:	BAREFOOT 34C-25HZ	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	BAREFOOT 16-25HZ PAD, SESE SECTION 25 T3N R68W			
Site Position:		Northing:	1,313,563.31 usft	Latitude: 40.1927950
From:	Lat/Long	Easting:	3,155,093.84 usft	Longitude: -104.9448240
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence: 0.36 °

Well	BAREFOOT 34C-25HZ, 1027' FSL 853' FEL			
Well Position	+N/-S	0.00 ft	Northing:	1,313,563.31 usft
	+E/-W	0.00 ft	Easting:	3,155,093.84 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level: 4,864.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	2/6/2014	8.63	66.75	52,646

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	270.00

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	
1,390.00	0.00	0.00	1,390.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,278.39	17.77	101.33	2,264.22	-26.85	133.98	2.00	2.00	0.00	101.33	
6,018.34	17.77	101.33	5,825.78	-251.08	1,253.02	0.00	0.00	0.00	0.00	
6,906.73	0.00	0.00	6,700.00	-277.92	1,387.00	2.00	-2.00	0.00	180.00	
6,935.00	0.00	0.00	6,728.27	-277.92	1,387.00	0.00	0.00	0.00	0.00	
7,848.31	91.33	270.00	7,301.07	-277.92	800.73	10.00	10.00	-9.85	270.00	
13,018.59	91.33	270.00	7,181.00	-277.92	-4,368.16	0.00	0.00	0.00	0.00	PBHL_BAREFOOT 3-

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well BAREFOOT 34C-25HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4864 & KB 17 @ 4881.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4864 & KB 17 @ 4881.00ft (ASSUMED)
Site:	BAREFOOT 16-25HZ PAD	North Reference:	True
Well:	BAREFOOT 34C-25HZ	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
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
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
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,240.00	0.00	0.00	1,240.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills Marker									
1,290.00	0.00	0.00	1,290.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,390.00	0.00	0.00	1,390.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,400.00	0.20	101.33	1,400.00	0.00	0.02	-0.02	2.00	2.00	0.00
1,500.00	2.20	101.33	1,499.97	-0.41	2.07	-2.07	2.00	2.00	0.00
1,600.00	4.20	101.33	1,599.81	-1.51	7.54	-7.54	2.00	2.00	0.00
1,700.00	6.20	101.33	1,699.40	-3.29	16.43	-16.43	2.00	2.00	0.00
1,800.00	8.20	101.33	1,798.60	-5.75	28.72	-28.72	2.00	2.00	0.00
1,900.00	10.20	101.33	1,897.31	-8.90	44.39	-44.39	2.00	2.00	0.00
2,000.00	12.20	101.33	1,995.40	-12.71	63.44	-63.44	2.00	2.00	0.00
2,100.00	14.20	101.33	2,092.75	-17.20	85.83	-85.83	2.00	2.00	0.00
2,200.00	16.20	101.33	2,189.25	-22.35	111.53	-111.53	2.00	2.00	0.00
2,278.39	17.77	101.33	2,264.22	-26.85	133.98	-133.98	2.00	2.00	0.00
Start 3739.96 hold at 2278.39 MD									
2,300.00	17.77	101.33	2,284.80	-28.14	140.45	-140.45	0.00	0.00	0.00
2,400.00	17.77	101.33	2,380.03	-34.14	170.37	-170.37	0.00	0.00	0.00
2,500.00	17.77	101.33	2,475.26	-40.13	200.29	-200.29	0.00	0.00	0.00
2,600.00	17.77	101.33	2,570.49	-46.13	230.21	-230.21	0.00	0.00	0.00
2,700.00	17.77	101.33	2,665.72	-52.12	260.13	-260.13	0.00	0.00	0.00
2,800.00	17.77	101.33	2,760.95	-58.12	290.06	-290.06	0.00	0.00	0.00
2,900.00	17.77	101.33	2,856.18	-64.12	319.98	-319.98	0.00	0.00	0.00
3,000.00	17.77	101.33	2,951.41	-70.11	349.90	-349.90	0.00	0.00	0.00
3,100.00	17.77	101.33	3,046.64	-76.11	379.82	-379.82	0.00	0.00	0.00
3,200.00	17.77	101.33	3,141.87	-82.10	409.74	-409.74	0.00	0.00	0.00
3,300.00	17.77	101.33	3,237.10	-88.10	439.66	-439.66	0.00	0.00	0.00
3,400.00	17.77	101.33	3,332.33	-94.09	469.58	-469.58	0.00	0.00	0.00
3,500.00	17.77	101.33	3,427.56	-100.09	499.50	-499.50	0.00	0.00	0.00
3,600.00	17.77	101.33	3,522.79	-106.08	529.42	-529.42	0.00	0.00	0.00
3,700.00	17.77	101.33	3,618.02	-112.08	559.34	-559.34	0.00	0.00	0.00
3,800.00	17.77	101.33	3,713.25	-118.08	589.27	-589.27	0.00	0.00	0.00
3,900.00	17.77	101.33	3,808.48	-124.07	619.19	-619.19	0.00	0.00	0.00
4,000.00	17.77	101.33	3,903.71	-130.07	649.11	-649.11	0.00	0.00	0.00
4,100.00	17.77	101.33	3,998.94	-136.06	679.03	-679.03	0.00	0.00	0.00
4,200.00	17.77	101.33	4,094.17	-142.06	708.95	-708.95	0.00	0.00	0.00
4,300.00	17.77	101.33	4,189.40	-148.05	738.87	-738.87	0.00	0.00	0.00
4,400.00	17.77	101.33	4,284.63	-154.05	768.79	-768.79	0.00	0.00	0.00
4,416.14	17.77	101.33	4,300.00	-155.02	773.62	-773.62	0.00	0.00	0.00

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well BAREFOOT 34C-25HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4864 & KB 17 @ 4881.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4864 & KB 17 @ 4881.00ft (ASSUMED)
Site:	BAREFOOT 16-25HZ PAD	North Reference:	True
Well:	BAREFOOT 34C-25HZ	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)
Sussex									
4,500.00	17.77	101.33	4,379.86	-160.04	798.71	-798.71	0.00	0.00	0.00
4,600.00	17.77	101.33	4,475.09	-166.04	828.63	-828.63	0.00	0.00	0.00
4,700.00	17.77	101.33	4,570.32	-172.03	858.55	-858.55	0.00	0.00	0.00
4,720.66	17.77	101.33	4,590.00	-173.27	864.74	-864.74	0.00	0.00	0.00
Shannon									
4,800.00	17.77	101.33	4,665.55	-178.03	888.48	-888.48	0.00	0.00	0.00
4,900.00	17.77	101.33	4,760.78	-184.03	918.40	-918.40	0.00	0.00	0.00
5,000.00	17.77	101.33	4,856.01	-190.02	948.32	-948.32	0.00	0.00	0.00
5,100.00	17.77	101.33	4,951.24	-196.02	978.24	-978.24	0.00	0.00	0.00
5,200.00	17.77	101.33	5,046.47	-202.01	1,008.16	-1,008.16	0.00	0.00	0.00
5,300.00	17.77	101.33	5,141.70	-208.01	1,038.08	-1,038.08	0.00	0.00	0.00
5,400.00	17.77	101.33	5,236.93	-214.00	1,068.00	-1,068.00	0.00	0.00	0.00
5,500.00	17.77	101.33	5,332.16	-220.00	1,097.92	-1,097.92	0.00	0.00	0.00
5,600.00	17.77	101.33	5,427.39	-225.99	1,127.84	-1,127.84	0.00	0.00	0.00
5,700.00	17.77	101.33	5,522.62	-231.99	1,157.77	-1,157.77	0.00	0.00	0.00
5,800.00	17.77	101.33	5,617.85	-237.99	1,187.69	-1,187.69	0.00	0.00	0.00
5,900.00	17.77	101.33	5,713.08	-243.98	1,217.61	-1,217.61	0.00	0.00	0.00
6,000.00	17.77	101.33	5,808.32	-249.98	1,247.53	-1,247.53	0.00	0.00	0.00
6,018.34	17.77	101.33	5,825.78	-251.08	1,253.02	-1,253.02	0.00	0.00	0.00
Start Drop -2.00									
6,100.00	16.13	101.33	5,903.89	-255.75	1,276.36	-1,276.36	2.00	-2.00	0.00
6,200.00	14.13	101.33	6,000.42	-260.88	1,301.96	-1,301.96	2.00	-2.00	0.00
6,300.00	12.13	101.33	6,097.80	-265.35	1,324.24	-1,324.24	2.00	-2.00	0.00
6,400.00	10.13	101.33	6,195.91	-269.14	1,343.17	-1,343.17	2.00	-2.00	0.00
6,500.00	8.13	101.33	6,294.63	-272.26	1,358.74	-1,358.74	2.00	-2.00	0.00
6,600.00	6.13	101.33	6,393.86	-274.70	1,370.91	-1,370.91	2.00	-2.00	0.00
6,700.00	4.13	101.33	6,493.45	-276.46	1,379.69	-1,379.69	2.00	-2.00	0.00
6,800.00	2.13	101.33	6,593.29	-277.53	1,385.05	-1,385.05	2.00	-2.00	0.00
6,900.00	0.13	101.33	6,693.27	-277.92	1,386.99	-1,386.99	2.00	-2.00	0.00
6,906.73	0.00	0.00	6,700.00	-277.92	1,387.00	-1,387.00	2.00	-2.00	0.00
Start 28.27 hold at 6906.73 MD									
6,935.00	0.00	0.00	6,728.27	-277.92	1,387.00	-1,387.00	0.00	0.00	0.00
Start DLS 10.00 TFO 270.00									
7,000.00	6.50	270.00	6,793.13	-277.92	1,383.32	-1,383.32	10.00	10.00	0.00
7,100.00	16.50	270.00	6,891.00	-277.92	1,363.41	-1,363.41	10.00	10.00	0.00
7,191.18	25.62	270.00	6,976.00	-277.92	1,330.68	-1,330.68	10.00	10.00	0.00
Sharon Springs									
7,200.00	26.50	270.00	6,983.92	-277.92	1,326.80	-1,326.80	10.00	10.00	0.00
7,300.00	36.50	270.00	7,069.08	-277.92	1,274.62	-1,274.62	10.00	10.00	0.00
7,302.39	36.74	270.00	7,071.00	-277.92	1,273.19	-1,273.19	10.00	10.00	0.00
Niobrara A									
7,334.27	39.93	270.00	7,096.00	-277.92	1,253.42	-1,253.42	10.00	10.00	0.00
Niobrara B									
7,400.00	46.50	270.00	7,143.88	-277.92	1,208.44	-1,208.44	10.00	10.00	0.00
7,427.01	49.20	270.00	7,162.00	-277.92	1,188.42	-1,188.42	10.00	10.00	0.00
Niobrara C									
7,500.00	56.50	270.00	7,206.05	-277.92	1,130.28	-1,130.28	10.00	10.00	0.00
7,600.00	66.50	270.00	7,253.71	-277.92	1,042.51	-1,042.51	10.00	10.00	0.00
7,651.20	71.62	270.00	7,272.00	-277.92	994.71	-994.71	10.00	10.00	0.00
Fort Hays									
7,700.00	76.50	270.00	7,285.40	-277.92	947.80	-947.80	10.00	10.00	0.00

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well BAREFOOT 34C-25HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4864 & KB 17 @ 4881.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4864 & KB 17 @ 4881.00ft (ASSUMED)
Site:	BAREFOOT 16-25HZ PAD	North Reference:	True
Well:	BAREFOOT 34C-25HZ	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)
7,757.54	82.25	270.00	7,296.00	-277.92	891.27	-891.27	10.00	10.00	0.00
Codell									
7,800.00	86.50	270.00	7,300.16	-277.92	849.02	-849.02	10.00	10.00	0.00
7,848.31	91.33	270.00	7,301.07	-277.92	800.73	-800.73	10.00	10.00	0.00
Start 5170.28 hold at 7848.31 MD - 7" (815 FSL 50 FEL)									
7,900.00	91.33	270.00	7,299.87	-277.92	749.06	-749.06	0.00	0.00	0.00
8,000.00	91.33	270.00	7,297.55	-277.92	649.09	-649.09	0.00	0.00	0.00
8,100.00	91.33	270.00	7,295.23	-277.92	549.11	-549.11	0.00	0.00	0.00
8,200.00	91.33	270.00	7,292.91	-277.92	449.14	-449.14	0.00	0.00	0.00
8,300.00	91.33	270.00	7,290.58	-277.92	349.17	-349.17	0.00	0.00	0.00
8,400.00	91.33	270.00	7,288.26	-277.92	249.19	-249.19	0.00	0.00	0.00
8,500.00	91.33	270.00	7,285.94	-277.92	149.22	-149.22	0.00	0.00	0.00
8,600.00	91.33	270.00	7,283.62	-277.92	49.25	-49.25	0.00	0.00	0.00
8,700.00	91.33	270.00	7,281.29	-277.92	-50.73	50.73	0.00	0.00	0.00
8,800.00	91.33	270.00	7,278.97	-277.92	-150.70	150.70	0.00	0.00	0.00
8,900.00	91.33	270.00	7,276.65	-277.92	-250.67	250.67	0.00	0.00	0.00
9,000.00	91.33	270.00	7,274.33	-277.92	-350.65	350.65	0.00	0.00	0.00
9,100.00	91.33	270.00	7,272.01	-277.92	-450.62	450.62	0.00	0.00	0.00
9,200.00	91.33	270.00	7,269.68	-277.92	-550.59	550.59	0.00	0.00	0.00
9,300.00	91.33	270.00	7,267.36	-277.92	-650.56	650.56	0.00	0.00	0.00
9,400.00	91.33	270.00	7,265.04	-277.92	-750.54	750.54	0.00	0.00	0.00
9,500.00	91.33	270.00	7,262.72	-277.92	-850.51	850.51	0.00	0.00	0.00
9,600.00	91.33	270.00	7,260.39	-277.92	-950.48	950.48	0.00	0.00	0.00
9,700.00	91.33	270.00	7,258.07	-277.92	-1,050.46	1,050.46	0.00	0.00	0.00
9,800.00	91.33	270.00	7,255.75	-277.92	-1,150.43	1,150.43	0.00	0.00	0.00
9,900.00	91.33	270.00	7,253.43	-277.92	-1,250.40	1,250.40	0.00	0.00	0.00
10,000.00	91.33	270.00	7,251.10	-277.92	-1,350.38	1,350.38	0.00	0.00	0.00
10,100.00	91.33	270.00	7,248.78	-277.92	-1,450.35	1,450.35	0.00	0.00	0.00
10,200.00	91.33	270.00	7,246.46	-277.92	-1,550.32	1,550.32	0.00	0.00	0.00
10,300.00	91.33	270.00	7,244.14	-277.92	-1,650.29	1,650.29	0.00	0.00	0.00
10,400.00	91.33	270.00	7,241.81	-277.92	-1,750.27	1,750.27	0.00	0.00	0.00
10,500.00	91.33	270.00	7,239.49	-277.92	-1,850.24	1,850.24	0.00	0.00	0.00
10,600.00	91.33	270.00	7,237.17	-277.92	-1,950.21	1,950.21	0.00	0.00	0.00
10,700.00	91.33	270.00	7,234.85	-277.92	-2,050.19	2,050.19	0.00	0.00	0.00
10,800.00	91.33	270.00	7,232.52	-277.92	-2,150.16	2,150.16	0.00	0.00	0.00
10,900.00	91.33	270.00	7,230.20	-277.92	-2,250.13	2,250.13	0.00	0.00	0.00
11,000.00	91.33	270.00	7,227.88	-277.92	-2,350.11	2,350.11	0.00	0.00	0.00
11,100.00	91.33	270.00	7,225.56	-277.92	-2,450.08	2,450.08	0.00	0.00	0.00
11,200.00	91.33	270.00	7,223.24	-277.92	-2,550.05	2,550.05	0.00	0.00	0.00
11,300.00	91.33	270.00	7,220.91	-277.92	-2,650.02	2,650.02	0.00	0.00	0.00
11,400.00	91.33	270.00	7,218.59	-277.92	-2,750.00	2,750.00	0.00	0.00	0.00
11,500.00	91.33	270.00	7,216.27	-277.92	-2,849.97	2,849.97	0.00	0.00	0.00
11,600.00	91.33	270.00	7,213.95	-277.92	-2,949.94	2,949.94	0.00	0.00	0.00
11,700.00	91.33	270.00	7,211.62	-277.92	-3,049.92	3,049.92	0.00	0.00	0.00
11,800.00	91.33	270.00	7,209.30	-277.92	-3,149.89	3,149.89	0.00	0.00	0.00
11,900.00	91.33	270.00	7,206.98	-277.92	-3,249.86	3,249.86	0.00	0.00	0.00
12,000.00	91.33	270.00	7,204.66	-277.92	-3,349.84	3,349.84	0.00	0.00	0.00
12,100.00	91.33	270.00	7,202.33	-277.92	-3,449.81	3,449.81	0.00	0.00	0.00
12,200.00	91.33	270.00	7,200.01	-277.92	-3,549.78	3,549.78	0.00	0.00	0.00
12,300.00	91.33	270.00	7,197.69	-277.92	-3,649.76	3,649.76	0.00	0.00	0.00
12,400.00	91.33	270.00	7,195.37	-277.92	-3,749.73	3,749.73	0.00	0.00	0.00
12,500.00	91.33	270.00	7,193.04	-277.92	-3,849.70	3,849.70	0.00	0.00	0.00
12,600.00	91.33	270.00	7,190.72	-277.92	-3,949.67	3,949.67	0.00	0.00	0.00
12,700.00	91.33	270.00	7,188.40	-277.92	-4,049.65	4,049.65	0.00	0.00	0.00

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well BAREFOOT 34C-25HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4864 & KB 17 @ 4881.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4864 & KB 17 @ 4881.00ft (ASSUMED)
Site:	BAREFOOT 16-25HZ PAD	North Reference:	True
Well:	BAREFOOT 34C-25HZ	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)
12,800.00	91.33	270.00	7,186.08	-277.92	-4,149.62	4,149.62	0.00	0.00	0.00
12,900.00	91.33	270.00	7,183.75	-277.92	-4,249.59	4,249.59	0.00	0.00	0.00
13,000.00	91.33	270.00	7,181.43	-277.92	-4,349.57	4,349.57	0.00	0.00	0.00
13,018.59	91.33	270.00	7,181.00	-277.92	-4,368.16	4,368.16	0.00	0.00	0.00
TD at 13018.59 - PBHL_BAREFOOT 34C-25HZ (815' FSL 50' FWL)									

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_BAREFOOT 34C	0.00	0.00	7,181.00	-277.92	-4,368.16	1,313,258.04	3,150,727.51	40.1920310	-104.9604600
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,290.00	1,290.00	9 5/8"	9.625	12.250	
7,848.31	7,301.07	7" (815 FSL 50 FEL)	0.000	0.000	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,240.00	1,240.00	Fox Hills Marker			
4,416.14	4,300.00	Sussex			
4,720.66	4,590.00	Shannon			
7,191.18	6,976.00	Sharon Springs			
7,302.39	7,071.00	Niobrara A			
7,334.27	7,096.00	Niobrara B			
7,427.01	7,162.00	Niobrara C			
7,651.20	7,272.00	Fort Hays			
7,757.54	7,296.00	Codell			

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,390.00	1,390.00	0.00	0.00	Start Build 2.00	
2,278.39	2,264.22	-26.85	133.98	Start 3739.96 hold at 2278.39 MD	
6,018.34	5,825.78	-251.08	1,253.02	Start Drop -2.00	
6,906.73	6,700.00	-277.92	1,387.00	Start 28.27 hold at 6906.73 MD	
6,935.00	6,728.27	-277.92	1,387.00	Start DLS 10.00 TFO 270.00	
7,848.31	7,301.07	-277.92	800.73	Start 5170.28 hold at 7848.31 MD	
13,018.59	7,181.00	-277.92	-4,368.16	TD at 13018.59	