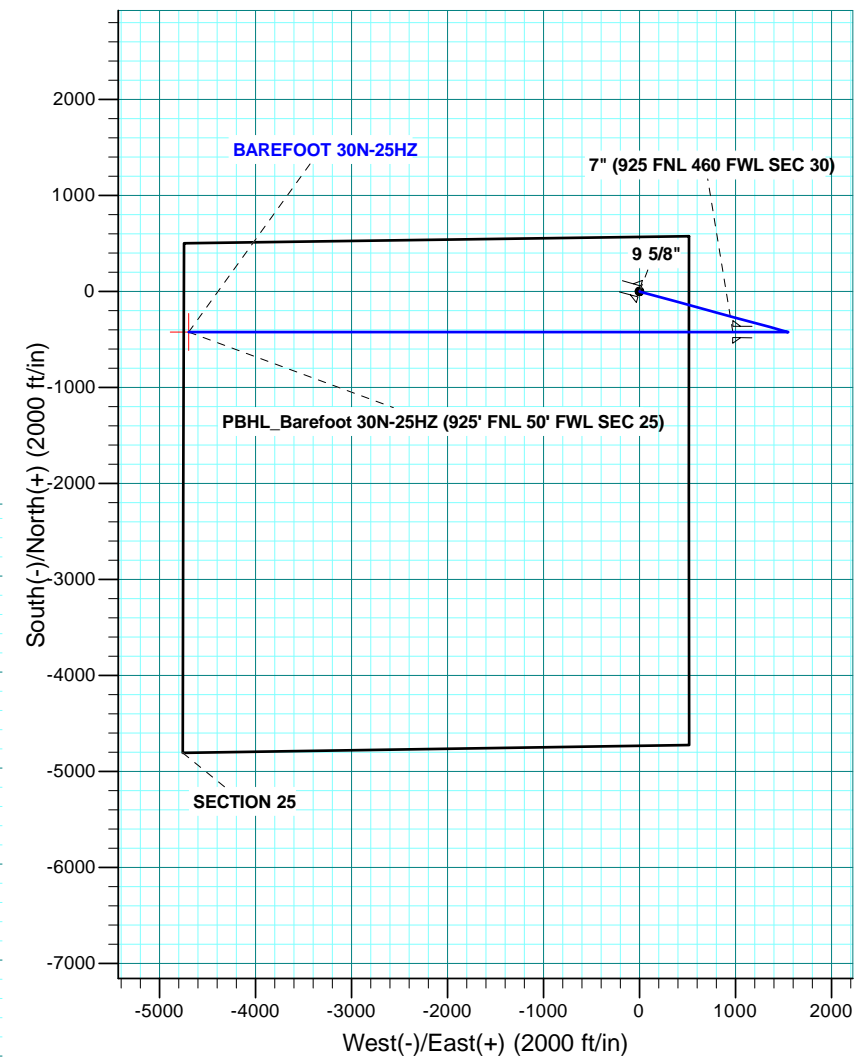
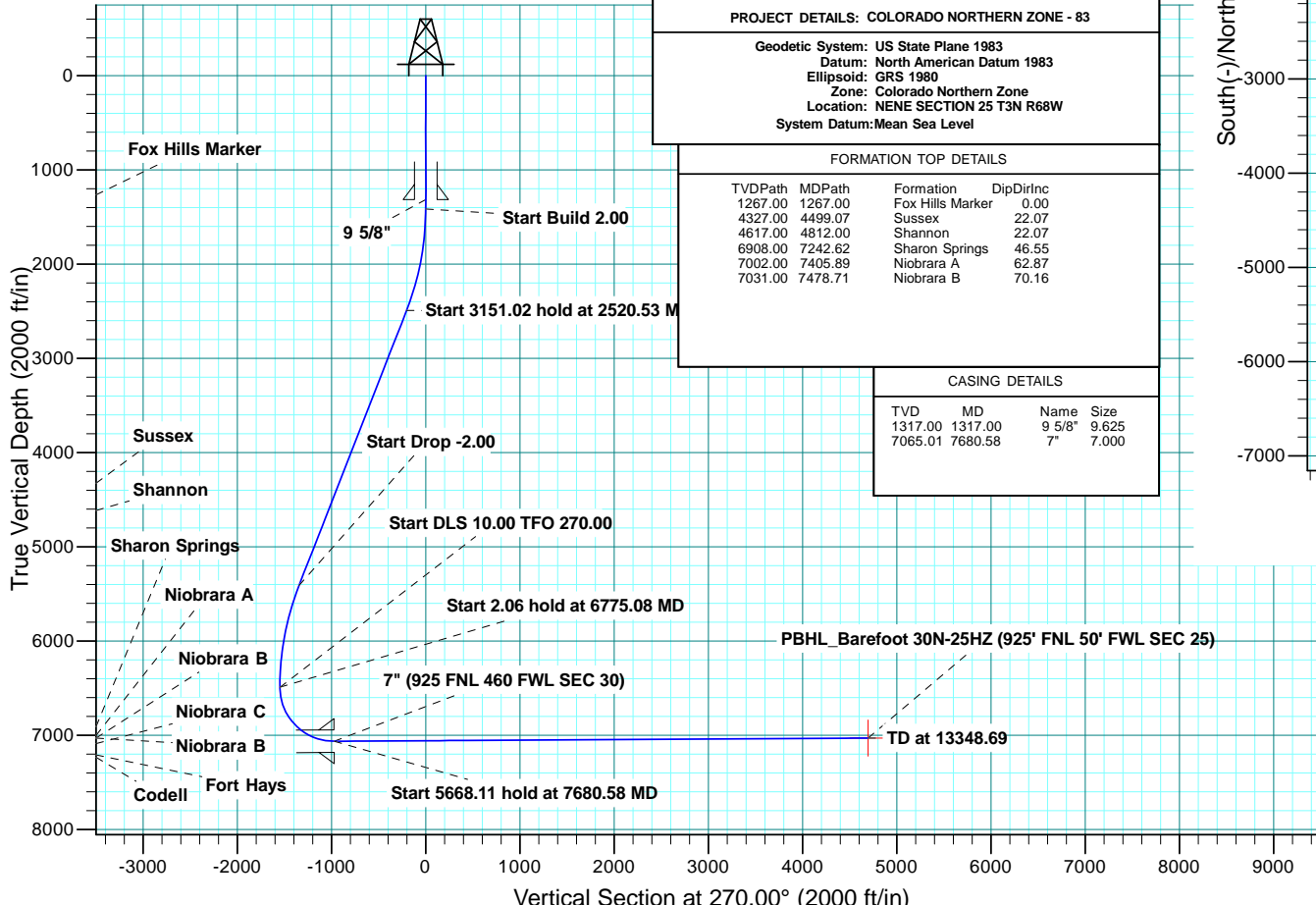


WELL DETAILS: BAREFOOT 30N-25HZ										
GL 4891 & KB 17 @ 4908.00ft (ASSUMED)										
		+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
		0.00	0.00	1317278.49	3155408.84	40.2029880	-104.9436130			
SECTION DETAILS										
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1417.00	0.00	0.00	1417.00	0.00	0.00	0.00	0.00	0.00		Start Build 2.00
2520.53	22.07	105.30	2493.44	-55.39	202.49	2.00	105.30	-202.49		Start 3151.02 hold at 2520.53 MD
5671.55	22.07	105.30	5413.56	-367.82	1344.51	0.00	0.00	-1344.51		Start Drop -2.00
6775.08	0.00	0.00	6490.00	-423.21	1547.00	2.00	180.00	-1547.00		Start 2.06 hold at 6775.08 MD
6777.14	0.00	0.00	6492.06	-423.21	1547.00	0.00	0.00	-1547.00		Start DLS 10.00 TFO 270.00
7680.58	90.34	270.00	7065.01	-423.21	970.60	10.00	270.00	-970.60		Start 5668.11 hold at 7680.58 MD
13348.69	90.34	270.00	7031.00	-423.21	-4697.41	0.00	0.00	4697.41	PBHL_Barefoot 30N-25HZ	TD at 13348.69
DESIGN TARGET DETAILS										
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape		
PBHL 7031.00		-423.21	-4697.41	1316825.81	3150714.19	40.2018250	-104.9604300	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: NENE SECTION 25 T3N R68W									
System Datum: Mean Sea Level									

FORMATION TOP DETAILS				
TVDPATH	MDPATH	FORMATION	DIPDIRINC	
1267.00	1267.00	Fox Hills Marker	0.00	
4327.00	4499.07	Sussex	22.07	
4617.00	4812.00	Shannon	22.07	
6908.00	7242.62	Sharon Springs	46.55	
7002.00	7405.89	Niobrara A	62.87	
7031.00	7478.71	Niobrara B	70.16	

CASING DETAILS				
TVD	MD	Name	Size	
1317.00	1317.00	9 5/8"	9.625	
7065.01	7680.58	7"	7.000	





Scientific Drilling

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

BAREFOOT 1-25HZ PAD

BAREFOOT 30N-25HZ

OH

Plan: PLAN #1 PRELIMINARY

Standard Planning Report

15 April, 2014



Database:	Denver Sales Office	Local Co-ordinate Reference:	Well BAREFOOT 30N-25HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4891 & KB 17 @ 4908.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4891 & KB 17 @ 4908.00ft (ASSUMED)
Site:	BAREFOOT 1-25HZ PAD	North Reference:	True
Well:	BAREFOOT 30N-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 1-25HZ PAD, NENE SECTION 25 T3N R68W				
Site Position:	Northing:	1,317,308.36 usft	Latitude:	40.2030700	
From:	Lat/Long	Easting:	3,155,408.65 usft	Longitude:	-104.9436130
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.36 °

Well	BAREFOOT 30N-25HZ, 569' FNL 514' FEL					
Well Position	+N/-S	-29.88 ft	Northing:	1,317,278.49 usft	Latitude:	40.2029880
	+E/-W	0.00 ft	Easting:	3,155,408.84 usft	Longitude:	-104.9436130
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	4,891.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	2/5/2014	8.63	66.76	52,652

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	
1,417.00	0.00	0.00	1,417.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,520.53	22.07	105.30	2,493.44	-55.39	202.49	2.00	2.00	0.00	105.30	
5,671.55	22.07	105.30	5,413.56	-367.82	1,344.51	0.00	0.00	0.00	0.00	
6,775.08	0.00	0.00	6,490.00	-423.21	1,547.00	2.00	-2.00	0.00	180.00	
6,777.14	0.00	0.00	6,492.06	-423.21	1,547.00	0.00	0.00	0.00	0.00	
7,680.58	90.34	270.00	7,065.01	-423.21	970.60	10.00	10.00	-9.96	270.00	
13,348.69	90.34	270.00	7,031.00	-423.21	-4,697.41	0.00	0.00	0.00	0.00	PBHL_Barefoot 30N-;

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well BAREFOOT 30N-25HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4891 & KB 17 @ 4908.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4891 & KB 17 @ 4908.00ft (ASSUMED)
Site:	BAREFOOT 1-25HZ PAD	North Reference:	True
Well:	BAREFOOT 30N-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	0.00
100.00	0.00	0.00	100.00	0.00	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	0.00
300.00	0.00	0.00	300.00	0.00	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	0.00
500.00	0.00	0.00	500.00	0.00	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	0.00
700.00	0.00	0.00	700.00	0.00	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	0.00
900.00	0.00	0.00	900.00	0.00	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	0.00
1,100.00	0.00	0.00	1,100.00	0.00	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	0.00
1,267.00	0.00	0.00	1,267.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills Marker										
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,317.00	0.00	0.00	1,317.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"										
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,417.00	0.00	0.00	1,417.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00										
1,500.00	1.66	105.30	1,499.99	-0.32	1.16	-1.16	2.00	2.00	0.00	0.00
1,600.00	3.66	105.30	1,599.88	-1.54	5.64	-5.64	2.00	2.00	0.00	0.00
1,700.00	5.66	105.30	1,699.54	-3.69	13.47	-13.47	2.00	2.00	0.00	0.00
1,800.00	7.66	105.30	1,798.86	-6.75	24.66	-24.66	2.00	2.00	0.00	0.00
1,900.00	9.66	105.30	1,897.72	-10.72	39.18	-39.18	2.00	2.00	0.00	0.00
2,000.00	11.66	105.30	1,995.98	-15.60	57.02	-57.02	2.00	2.00	0.00	0.00
2,100.00	13.66	105.30	2,093.55	-21.38	78.16	-78.16	2.00	2.00	0.00	0.00
2,200.00	15.66	105.30	2,190.29	-28.06	102.57	-102.57	2.00	2.00	0.00	0.00
2,300.00	17.66	105.30	2,286.09	-35.62	130.22	-130.22	2.00	2.00	0.00	0.00
2,400.00	19.66	105.30	2,380.82	-44.07	161.08	-161.08	2.00	2.00	0.00	0.00
2,500.00	21.66	105.30	2,474.39	-53.38	195.11	-195.11	2.00	2.00	0.00	0.00
2,520.53	22.07	105.30	2,493.44	-55.39	202.49	-202.49	2.00	2.00	0.00	0.00
Start 3151.02 hold at 2520.53 MD										
2,600.00	22.07	105.30	2,567.09	-63.27	231.29	-231.29	0.00	0.00	0.00	0.00
2,700.00	22.07	105.30	2,659.76	-73.19	267.53	-267.53	0.00	0.00	0.00	0.00
2,800.00	22.07	105.30	2,752.43	-83.10	303.78	-303.78	0.00	0.00	0.00	0.00
2,900.00	22.07	105.30	2,845.10	-93.02	340.02	-340.02	0.00	0.00	0.00	0.00
3,000.00	22.07	105.30	2,937.78	-102.93	376.26	-376.26	0.00	0.00	0.00	0.00
3,100.00	22.07	105.30	3,030.45	-112.85	412.50	-412.50	0.00	0.00	0.00	0.00
3,200.00	22.07	105.30	3,123.12	-122.76	448.75	-448.75	0.00	0.00	0.00	0.00
3,300.00	22.07	105.30	3,215.79	-132.68	484.99	-484.99	0.00	0.00	0.00	0.00
3,400.00	22.07	105.30	3,308.47	-142.59	521.23	-521.23	0.00	0.00	0.00	0.00
3,500.00	22.07	105.30	3,401.14	-152.51	557.48	-557.48	0.00	0.00	0.00	0.00
3,600.00	22.07	105.30	3,493.81	-162.42	593.72	-593.72	0.00	0.00	0.00	0.00
3,700.00	22.07	105.30	3,586.48	-172.34	629.96	-629.96	0.00	0.00	0.00	0.00
3,800.00	22.07	105.30	3,679.15	-182.25	666.21	-666.21	0.00	0.00	0.00	0.00
3,900.00	22.07	105.30	3,771.83	-192.17	702.45	-702.45	0.00	0.00	0.00	0.00
4,000.00	22.07	105.30	3,864.50	-202.08	738.69	-738.69	0.00	0.00	0.00	0.00
4,100.00	22.07	105.30	3,957.17	-212.00	774.94	-774.94	0.00	0.00	0.00	0.00
4,200.00	22.07	105.30	4,049.84	-221.91	811.18	-811.18	0.00	0.00	0.00	0.00
4,300.00	22.07	105.30	4,142.51	-231.83	847.42	-847.42	0.00	0.00	0.00	0.00
4,400.00	22.07	105.30	4,235.19	-241.74	883.66	-883.66	0.00	0.00	0.00	0.00
4,499.07	22.07	105.30	4,327.00	-251.57	919.57	-919.57	0.00	0.00	0.00	0.00

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well BAREFOOT 30N-25HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4891 & KB 17 @ 4908.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4891 & KB 17 @ 4908.00ft (ASSUMED)
Site:	BAREFOOT 1-25HZ PAD	North Reference:	True
Well:	BAREFOOT 30N-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	22.07	105.30	4,327.86	-251.66	919.91	-919.91	0.00	0.00	0.00
4,600.00	22.07	105.30	4,420.53	-261.57	956.15	-956.15	0.00	0.00	0.00
4,700.00	22.07	105.30	4,513.20	-271.49	992.39	-992.39	0.00	0.00	0.00
4,800.00	22.07	105.30	4,605.88	-281.40	1,028.64	-1,028.64	0.00	0.00	0.00
4,812.00	22.07	105.30	4,617.00	-282.59	1,032.99	-1,032.99	0.00	0.00	0.00
Shannon									
4,900.00	22.07	105.30	4,698.55	-291.32	1,064.88	-1,064.88	0.00	0.00	0.00
5,000.00	22.07	105.30	4,791.22	-301.23	1,101.12	-1,101.12	0.00	0.00	0.00
5,100.00	22.07	105.30	4,883.89	-311.15	1,137.37	-1,137.37	0.00	0.00	0.00
5,200.00	22.07	105.30	4,976.56	-321.06	1,173.61	-1,173.61	0.00	0.00	0.00
5,300.00	22.07	105.30	5,069.24	-330.98	1,209.85	-1,209.85	0.00	0.00	0.00
5,400.00	22.07	105.30	5,161.91	-340.89	1,246.10	-1,246.10	0.00	0.00	0.00
5,500.00	22.07	105.30	5,254.58	-350.81	1,282.34	-1,282.34	0.00	0.00	0.00
5,600.00	22.07	105.30	5,347.25	-360.72	1,318.58	-1,318.58	0.00	0.00	0.00
5,671.55	22.07	105.30	5,413.56	-367.82	1,344.51	-1,344.51	0.00	0.00	0.00
Start Drop -2.00									
5,700.00	21.50	105.30	5,439.98	-370.60	1,354.70	-1,354.70	2.00	-2.00	0.00
5,800.00	19.50	105.30	5,533.64	-379.85	1,388.48	-1,388.48	2.00	-2.00	0.00
5,900.00	17.50	105.30	5,628.47	-388.22	1,419.09	-1,419.09	2.00	-2.00	0.00
6,000.00	15.50	105.30	5,724.34	-395.71	1,446.48	-1,446.48	2.00	-2.00	0.00
6,100.00	13.50	105.30	5,821.15	-402.32	1,470.63	-1,470.63	2.00	-2.00	0.00
6,200.00	11.50	105.30	5,918.78	-408.03	1,491.51	-1,491.51	2.00	-2.00	0.00
6,300.00	9.50	105.30	6,017.10	-412.84	1,509.09	-1,509.09	2.00	-2.00	0.00
6,400.00	7.50	105.30	6,115.99	-416.74	1,523.35	-1,523.35	2.00	-2.00	0.00
6,500.00	5.50	105.30	6,215.34	-419.73	1,534.27	-1,534.27	2.00	-2.00	0.00
6,600.00	3.50	105.30	6,315.03	-421.80	1,541.84	-1,541.84	2.00	-2.00	0.00
6,700.00	1.50	105.30	6,414.93	-422.95	1,546.05	-1,546.05	2.00	-2.00	0.00
6,775.08	0.00	0.00	6,490.00	-423.21	1,547.00	-1,547.00	2.00	-2.00	0.00
Start 2.06 hold at 6775.08 MD									
6,777.14	0.00	0.00	6,492.06	-423.21	1,547.00	-1,547.00	0.00	0.00	0.00
Start DLS 10.00 TFO 270.00									
6,800.00	2.29	270.00	6,514.91	-423.21	1,546.54	-1,546.54	10.00	10.00	0.00
6,900.00	12.29	270.00	6,613.98	-423.21	1,533.88	-1,533.88	10.00	10.00	0.00
7,000.00	22.29	270.00	6,709.34	-423.21	1,504.20	-1,504.20	10.00	10.00	0.00
7,100.00	32.29	270.00	6,798.10	-423.21	1,458.42	-1,458.42	10.00	10.00	0.00
7,200.00	42.29	270.00	6,877.56	-423.21	1,397.91	-1,397.91	10.00	10.00	0.00
7,242.62	46.55	270.00	6,908.00	-423.21	1,368.09	-1,368.09	10.00	10.00	0.00
Sharon Springs									
7,300.00	52.29	270.00	6,945.31	-423.21	1,324.53	-1,324.53	10.00	10.00	0.00
7,400.00	62.29	270.00	6,999.29	-423.21	1,240.50	-1,240.50	10.00	10.00	0.00
7,405.89	62.87	270.00	7,002.00	-423.21	1,235.27	-1,235.27	10.00	10.00	0.00
Niobrara A									
7,478.71	70.16	270.00	7,031.00	-423.21	1,168.53	-1,168.53	10.00	10.00	0.00
Niobrara B									
7,500.00	72.29	270.00	7,037.85	-423.21	1,148.37	-1,148.37	10.00	10.00	0.00
7,600.00	82.29	270.00	7,059.83	-423.21	1,050.95	-1,050.95	10.00	10.00	0.00
7,680.58	90.34	270.00	7,065.01	-423.21	970.60	-970.60	10.00	10.00	0.00
Start 5668.11 hold at 7680.58 MD - 7" (925 FNL 460 FWL SEC 30)									
7,700.00	90.34	270.00	7,064.89	-423.21	951.18	-951.18	0.00	0.00	0.00
7,800.00	90.34	270.00	7,064.29	-423.21	851.18	-851.18	0.00	0.00	0.00
7,900.00	90.34	270.00	7,063.69	-423.21	751.19	-751.19	0.00	0.00	0.00
8,000.00	90.34	270.00	7,063.09	-423.21	651.19	-651.19	0.00	0.00	0.00

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well BAREFOOT 30N-25HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4891 & KB 17 @ 4908.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4891 & KB 17 @ 4908.00ft (ASSUMED)
Site:	BAREFOOT 1-25HZ PAD	North Reference:	True
Well:	BAREFOOT 30N-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)
8,100.00	90.34	270.00	7,062.49	-423.21	551.19	-551.19	0.00	0.00	0.00
8,200.00	90.34	270.00	7,061.89	-423.21	451.19	-451.19	0.00	0.00	0.00
8,300.00	90.34	270.00	7,061.29	-423.21	351.19	-351.19	0.00	0.00	0.00
8,400.00	90.34	270.00	7,060.69	-423.21	251.20	-251.20	0.00	0.00	0.00
8,500.00	90.34	270.00	7,060.09	-423.21	151.20	-151.20	0.00	0.00	0.00
8,600.00	90.34	270.00	7,059.49	-423.21	51.20	-51.20	0.00	0.00	0.00
8,700.00	90.34	270.00	7,058.89	-423.21	-48.80	48.80	0.00	0.00	0.00
8,800.00	90.34	270.00	7,058.29	-423.21	-148.80	148.80	0.00	0.00	0.00
8,900.00	90.34	270.00	7,057.69	-423.21	-248.80	248.80	0.00	0.00	0.00
9,000.00	90.34	270.00	7,057.09	-423.21	-348.79	348.79	0.00	0.00	0.00
9,100.00	90.34	270.00	7,056.49	-423.21	-448.79	448.79	0.00	0.00	0.00
9,200.00	90.34	270.00	7,055.89	-423.21	-548.79	548.79	0.00	0.00	0.00
9,300.00	90.34	270.00	7,055.29	-423.21	-648.79	648.79	0.00	0.00	0.00
9,400.00	90.34	270.00	7,054.69	-423.21	-748.79	748.79	0.00	0.00	0.00
9,500.00	90.34	270.00	7,054.09	-423.21	-848.78	848.78	0.00	0.00	0.00
9,600.00	90.34	270.00	7,053.49	-423.21	-948.78	948.78	0.00	0.00	0.00
9,700.00	90.34	270.00	7,052.89	-423.21	-1,048.78	1,048.78	0.00	0.00	0.00
9,800.00	90.34	270.00	7,052.29	-423.21	-1,148.78	1,148.78	0.00	0.00	0.00
9,900.00	90.34	270.00	7,051.69	-423.21	-1,248.78	1,248.78	0.00	0.00	0.00
10,000.00	90.34	270.00	7,051.09	-423.21	-1,348.78	1,348.78	0.00	0.00	0.00
10,100.00	90.34	270.00	7,050.49	-423.21	-1,448.77	1,448.77	0.00	0.00	0.00
10,200.00	90.34	270.00	7,049.89	-423.21	-1,548.77	1,548.77	0.00	0.00	0.00
10,300.00	90.34	270.00	7,049.29	-423.21	-1,648.77	1,648.77	0.00	0.00	0.00
10,400.00	90.34	270.00	7,048.69	-423.21	-1,748.77	1,748.77	0.00	0.00	0.00
10,500.00	90.34	270.00	7,048.09	-423.21	-1,848.77	1,848.77	0.00	0.00	0.00
10,600.00	90.34	270.00	7,047.49	-423.21	-1,948.77	1,948.77	0.00	0.00	0.00
10,700.00	90.34	270.00	7,046.89	-423.21	-2,048.76	2,048.76	0.00	0.00	0.00
10,800.00	90.34	270.00	7,046.29	-423.21	-2,148.76	2,148.76	0.00	0.00	0.00
10,900.00	90.34	270.00	7,045.69	-423.21	-2,248.76	2,248.76	0.00	0.00	0.00
11,000.00	90.34	270.00	7,045.09	-423.21	-2,348.76	2,348.76	0.00	0.00	0.00
11,100.00	90.34	270.00	7,044.49	-423.21	-2,448.76	2,448.76	0.00	0.00	0.00
11,200.00	90.34	270.00	7,043.89	-423.21	-2,548.75	2,548.75	0.00	0.00	0.00
11,300.00	90.34	270.00	7,043.29	-423.21	-2,648.75	2,648.75	0.00	0.00	0.00
11,400.00	90.34	270.00	7,042.69	-423.21	-2,748.75	2,748.75	0.00	0.00	0.00
11,500.00	90.34	270.00	7,042.09	-423.21	-2,848.75	2,848.75	0.00	0.00	0.00
11,600.00	90.34	270.00	7,041.49	-423.21	-2,948.75	2,948.75	0.00	0.00	0.00
11,700.00	90.34	270.00	7,040.89	-423.21	-3,048.75	3,048.75	0.00	0.00	0.00
11,800.00	90.34	270.00	7,040.29	-423.21	-3,148.74	3,148.74	0.00	0.00	0.00
11,900.00	90.34	270.00	7,039.69	-423.21	-3,248.74	3,248.74	0.00	0.00	0.00
12,000.00	90.34	270.00	7,039.09	-423.21	-3,348.74	3,348.74	0.00	0.00	0.00
12,100.00	90.34	270.00	7,038.49	-423.21	-3,448.74	3,448.74	0.00	0.00	0.00
12,200.00	90.34	270.00	7,037.89	-423.21	-3,548.74	3,548.74	0.00	0.00	0.00
12,300.00	90.34	270.00	7,037.29	-423.21	-3,648.73	3,648.73	0.00	0.00	0.00
12,400.00	90.34	270.00	7,036.69	-423.21	-3,748.73	3,748.73	0.00	0.00	0.00
12,500.00	90.34	270.00	7,036.09	-423.21	-3,848.73	3,848.73	0.00	0.00	0.00
12,600.00	90.34	270.00	7,035.49	-423.21	-3,948.73	3,948.73	0.00	0.00	0.00
12,700.00	90.34	270.00	7,034.89	-423.21	-4,048.73	4,048.73	0.00	0.00	0.00
12,800.00	90.34	270.00	7,034.29	-423.21	-4,148.73	4,148.73	0.00	0.00	0.00
12,900.00	90.34	270.00	7,033.69	-423.21	-4,248.72	4,248.72	0.00	0.00	0.00
13,000.00	90.34	270.00	7,033.09	-423.21	-4,348.72	4,348.72	0.00	0.00	0.00
13,100.00	90.34	270.00	7,032.49	-423.21	-4,448.72	4,448.72	0.00	0.00	0.00
13,200.00	90.34	270.00	7,031.89	-423.21	-4,548.72	4,548.72	0.00	0.00	0.00
13,300.00	90.34	270.00	7,031.29	-423.21	-4,648.72	4,648.72	0.00	0.00	0.00
13,348.69	90.34	270.00	7,031.00	-423.21	-4,697.41	4,697.41	0.00	0.00	0.00

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well BAREFOOT 30N-25HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4891 & KB 17 @ 4908.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4891 & KB 17 @ 4908.00ft (ASSUMED)
Site:	BAREFOOT 1-25HZ PAD	North Reference:	True
Well:	BAREFOOT 30N-25HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

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)
TD at 13348.69 - PBHL_Barefoot 30N-25HZ (925' FNL 50' FWL SEC 25)									

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL_Barefoot 30N-25H - hit/miss target - Shape - plan hits target center - Point	0.00	0.00	7,031.00	-423.21	-4,697.41	1,316,825.81	3,150,714.19	40.2018250	-104.9604300

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
1,317.00	1,317.00	9 5/8"	9.625	12.250
7,680.58	7,065.01	7" (925 FNL 460 FWL SEC 30)	7.000	7.500

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,267.00	1,267.00	Fox Hills Marker			
4,499.07	4,327.00	Sussex			
4,812.00	4,617.00	Shannon			
7,242.62	6,908.00	Sharon Springs			
7,405.89	7,002.00	Niobrara A			
7,478.71	7,031.00	Niobrara B			

Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
1,417.00	1,417.00	0.00	0.00	Start Build 2.00
2,520.53	2,493.44	-55.39	202.49	Start 3151.02 hold at 2520.53 MD
5,671.55	5,413.56	-367.82	1,344.51	Start Drop -2.00
6,775.08	6,490.00	-423.21	1,547.00	Start 2.06 hold at 6775.08 MD
6,777.14	6,492.06	-423.21	1,547.00	Start DLS 10.00 TFO 270.00
7,680.58	7,065.01	-423.21	970.60	Start 5668.11 hold at 7680.58 MD
13,348.69	7,031.00	-423.21	-4,697.41	TD at 13348.69