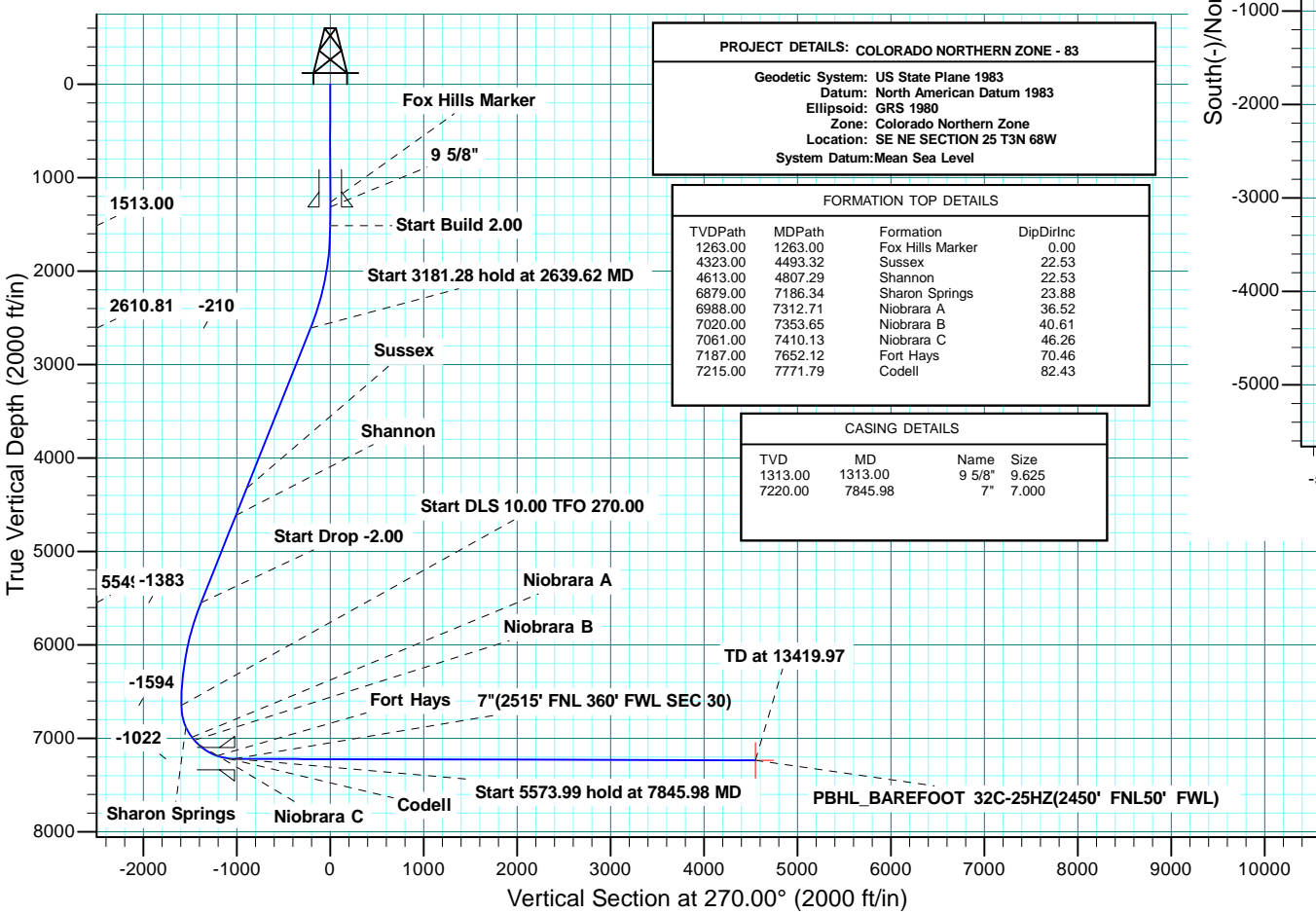




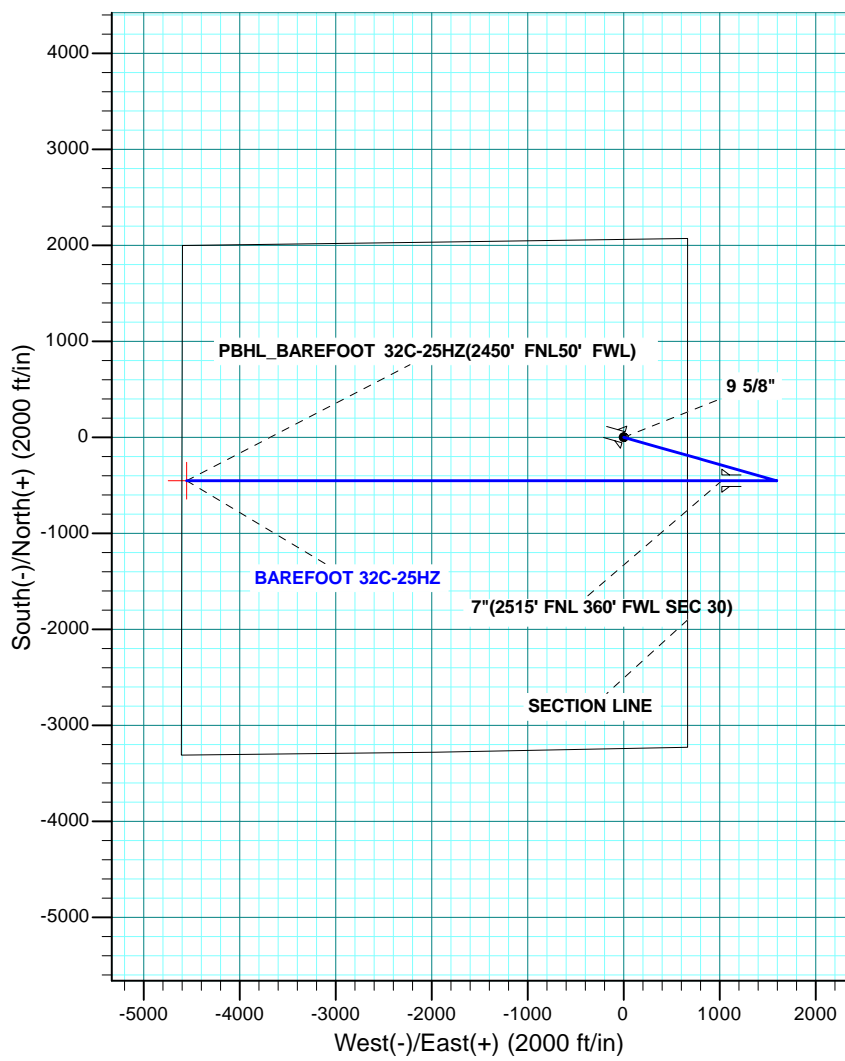
Project: COLORADO NORTHERN ZONE - 83
Site: BAREFOOT 8-25 PAD
Well: BAREFOOT 32C-25HZ
Wellbore: OH
Design: PLAN #1 PRELIMINARY



WELL DETAILS: BAREFOOT 32C-25HZ																			
GL 4887 & KB 17 @ 4904.00ft (ASSUMED)																			
+N/-S 0.00		+E/-W 0.00		Northing 1315781.47		Easting 3155268.78		Latitude 40.1988810		Longitude -104.9441480									
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			
1513.00		0.00		0.00		1513.00		0.00		0.00		0.00		0.00		0.00			
2639.62		22.53		105.85		2610.81		-59.72		210.38		2.00		105.85		-210.38			
5820.90		22.53		105.85		5549.23		-392.66		1383.12		0.00		0.00		-1383.12			
6947.52		0.00		0.00		6647.04		-452.38		1593.50		2.00		180.00		-1593.50			
7845.98		89.85		270.00		7220.00		-452.38		1022.08		10.00		270.00		-1022.08			
13419.97		89.85		270.00		7235.00		-452.38		-4551.88		0.00		0.00		4551.88		PBHL_BAREFOOT 32C-25HZ	
DESIGN TARGET DETAILS																			
Name		TVD		+N/-S		+E/-W		Northing		Easting		Latitude		Longitude		Shape		Point	
PBHL		7235.00		-452.38		-4551.88		1315300.57		3150719.83		40.1976380		-104.9604430					



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: SE NE SECTION 25 T3N 68W			
System Datum: Mean Sea Level			
FORMATION TOP DETAILS			
TVDPath	MDPath	Formation	DipDirInc
1263.00	1263.00	Fox Hills Marker	0.00
4323.00	4493.32	Sussex	22.53
4613.00	4807.29	Shannon	22.53
6879.00	7186.34	Sharon Springs	23.88
6988.00	7312.71	Niobrara A	36.52
7020.00	7353.65	Niobrara B	40.61
7061.00	7410.13	Niobrara C	46.26
7187.00	7652.12	Fort Hays	70.46
7215.00	7771.79	Codell	82.43
CASING DETAILS			
TVD	MD	Name	Size
1313.00	1313.00	9 5/8"	9.625
7220.00	7845.98	7"	7.000





Scientific Drilling

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

BAREFOOT 8-25 PAD

BAREFOOT 32C-25HZ

OH

Plan: PLAN #1 PRELIMINARY

Standard Planning Report

25 February, 2014

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well BAREFOOT 32C-25HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4887 & KB 17 @ 4904.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4887 & KB 17 @ 4904.00ft (ASSUMED)
Site:	BAREFOOT 8-25 PAD	North Reference:	True
Well:	BAREFOOT 32C-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 8-25 PAD, SE NE SECTION 25 T3N 68W			
Site Position:		Northing:	1,315,811.35 usft	Latitude: 40.1989630
From:	Lat/Long	Easting:	3,155,268.60 usft	Longitude: -104.9441480
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence: 0.36 °

Well	BAREFOOT 32C-25HZ, 2062' FNL 663' FEL			
Well Position	+N/-S	-29.88 ft	Northing:	1,315,781.47 usft
	+E/-W	0.00 ft	Easting:	3,155,268.78 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft
			Ground Level:	4,887.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	2014/01/07	8.64	66.76	52,660

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 (°/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	
1,513.00	0.00	0.00	1,513.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,639.62	22.53	105.85	2,610.81	-59.72	210.38	2.00	2.00	0.00	105.85	
5,820.90	22.53	105.85	5,549.23	-392.66	1,383.12	0.00	0.00	0.00	0.00	
6,947.52	0.00	0.00	6,647.04	-452.38	1,593.50	2.00	-2.00	0.00	180.00	
7,845.98	89.85	270.00	7,220.00	-452.38	1,022.08	10.00	10.00	-10.02	270.00	
13,419.97	89.85	270.00	7,235.00	-452.38	-4,551.88	0.00	0.00	0.00	0.00	PBHL_BAREFOOT 3:

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well BAREFOOT 32C-25HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4887 & KB 17 @ 4904.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4887 & KB 17 @ 4904.00ft (ASSUMED)
Site:	BAREFOOT 8-25 PAD	North Reference:	True
Well:	BAREFOOT 32C-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 (°/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
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
1,263.00	0.00	0.00	1,263.00	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
1,313.00	0.00	0.00	1,313.00	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
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,513.00	0.00	0.00	1,513.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,600.00	1.74	105.85	1,599.99	-0.36	1.27	-1.27	2.00	2.00	0.00
1,700.00	3.74	105.85	1,699.87	-1.67	5.87	-5.87	2.00	2.00	0.00
1,800.00	5.74	105.85	1,799.52	-3.92	13.82	-13.82	2.00	2.00	0.00
1,900.00	7.74	105.85	1,898.82	-7.13	25.11	-25.11	2.00	2.00	0.00
2,000.00	9.74	105.85	1,997.66	-11.28	39.72	-39.72	2.00	2.00	0.00
2,100.00	11.74	105.85	2,095.90	-16.37	57.65	-57.65	2.00	2.00	0.00
2,200.00	13.74	105.85	2,193.43	-22.39	78.86	-78.86	2.00	2.00	0.00
2,300.00	15.74	105.85	2,290.14	-29.34	103.34	-103.34	2.00	2.00	0.00
2,400.00	17.74	105.85	2,385.90	-37.20	131.05	-131.05	2.00	2.00	0.00
2,500.00	19.74	105.85	2,480.59	-45.98	161.95	-161.95	2.00	2.00	0.00
2,600.00	21.74	105.85	2,574.10	-55.65	196.01	-196.01	2.00	2.00	0.00
2,639.62	22.53	105.85	2,610.81	-59.72	210.38	-210.38	2.00	2.00	0.00
Start 3181.28 hold at 2639.62 MD									
2,700.00	22.53	105.85	2,666.57	-66.04	232.63	-232.63	0.00	0.00	0.00
2,800.00	22.53	105.85	2,758.94	-76.51	269.50	-269.50	0.00	0.00	0.00
2,900.00	22.53	105.85	2,851.31	-86.97	306.36	-306.36	0.00	0.00	0.00
3,000.00	22.53	105.85	2,943.67	-97.44	343.23	-343.23	0.00	0.00	0.00
3,100.00	22.53	105.85	3,036.04	-107.90	380.09	-380.09	0.00	0.00	0.00
3,200.00	22.53	105.85	3,128.41	-118.37	416.95	-416.95	0.00	0.00	0.00
3,300.00	22.53	105.85	3,220.77	-128.84	453.82	-453.82	0.00	0.00	0.00
3,400.00	22.53	105.85	3,313.14	-139.30	490.68	-490.68	0.00	0.00	0.00
3,500.00	22.53	105.85	3,405.50	-149.77	527.55	-527.55	0.00	0.00	0.00
3,600.00	22.53	105.85	3,497.87	-160.23	564.41	-564.41	0.00	0.00	0.00
3,700.00	22.53	105.85	3,590.24	-170.70	601.27	-601.27	0.00	0.00	0.00
3,800.00	22.53	105.85	3,682.60	-181.16	638.14	-638.14	0.00	0.00	0.00
3,900.00	22.53	105.85	3,774.97	-191.63	675.00	-675.00	0.00	0.00	0.00
4,000.00	22.53	105.85	3,867.34	-202.09	711.87	-711.87	0.00	0.00	0.00
4,100.00	22.53	105.85	3,959.70	-212.56	748.73	-748.73	0.00	0.00	0.00
4,200.00	22.53	105.85	4,052.07	-223.02	785.59	-785.59	0.00	0.00	0.00
4,300.00	22.53	105.85	4,144.43	-233.49	822.46	-822.46	0.00	0.00	0.00
4,400.00	22.53	105.85	4,236.80	-243.95	859.32	-859.32	0.00	0.00	0.00
4,493.32	22.53	105.85	4,323.00	-253.72	893.72	-893.72	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well BAREFOOT 32C-25HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4887 & KB 17 @ 4904.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4887 & KB 17 @ 4904.00ft (ASSUMED)
Site:	BAREFOOT 8-25 PAD	North Reference:	True
Well:	BAREFOOT 32C-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 (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
Sussex									
4,500.00	22.53	105.85	4,329.17	-254.42	896.19	-896.19	0.00	0.00	0.00
4,600.00	22.53	105.85	4,421.53	-264.89	933.05	-933.05	0.00	0.00	0.00
4,700.00	22.53	105.85	4,513.90	-275.35	969.91	-969.91	0.00	0.00	0.00
4,800.00	22.53	105.85	4,606.27	-285.82	1,006.78	-1,006.78	0.00	0.00	0.00
4,807.29	22.53	105.85	4,613.00	-286.58	1,009.47	-1,009.47	0.00	0.00	0.00
Shannon									
4,900.00	22.53	105.85	4,698.63	-296.28	1,043.64	-1,043.64	0.00	0.00	0.00
5,000.00	22.53	105.85	4,791.00	-306.75	1,080.51	-1,080.51	0.00	0.00	0.00
5,100.00	22.53	105.85	4,883.36	-317.21	1,117.37	-1,117.37	0.00	0.00	0.00
5,200.00	22.53	105.85	4,975.73	-327.68	1,154.23	-1,154.23	0.00	0.00	0.00
5,300.00	22.53	105.85	5,068.10	-338.14	1,191.10	-1,191.10	0.00	0.00	0.00
5,400.00	22.53	105.85	5,160.46	-348.61	1,227.96	-1,227.96	0.00	0.00	0.00
5,500.00	22.53	105.85	5,252.83	-359.07	1,264.83	-1,264.83	0.00	0.00	0.00
5,600.00	22.53	105.85	5,345.20	-369.54	1,301.69	-1,301.69	0.00	0.00	0.00
5,700.00	22.53	105.85	5,437.56	-380.01	1,338.55	-1,338.55	0.00	0.00	0.00
5,800.00	22.53	105.85	5,529.93	-390.47	1,375.42	-1,375.42	0.00	0.00	0.00
5,820.90	22.53	105.85	5,549.23	-392.66	1,383.12	-1,383.12	0.00	0.00	0.00
Start Drop -2.00									
5,900.00	20.95	105.85	5,622.70	-400.66	1,411.31	-1,411.31	2.00	-2.00	0.00
6,000.00	18.95	105.85	5,716.70	-409.98	1,444.13	-1,444.13	2.00	-2.00	0.00
6,100.00	16.95	105.85	5,811.82	-418.39	1,473.78	-1,473.78	2.00	-2.00	0.00
6,200.00	14.95	105.85	5,907.97	-425.90	1,500.21	-1,500.21	2.00	-2.00	0.00
6,300.00	12.95	105.85	6,005.02	-432.48	1,523.40	-1,523.40	2.00	-2.00	0.00
6,400.00	10.95	105.85	6,102.84	-438.14	1,543.32	-1,543.32	2.00	-2.00	0.00
6,500.00	8.95	105.85	6,201.33	-442.86	1,559.94	-1,559.94	2.00	-2.00	0.00
6,600.00	6.95	105.85	6,300.37	-446.63	1,573.25	-1,573.25	2.00	-2.00	0.00
6,700.00	4.95	105.85	6,399.82	-449.46	1,583.22	-1,583.22	2.00	-2.00	0.00
6,800.00	2.95	105.85	6,499.58	-451.35	1,589.85	-1,589.85	2.00	-2.00	0.00
6,900.00	0.95	105.85	6,599.52	-452.27	1,593.12	-1,593.12	2.00	-2.00	0.00
6,947.52	0.00	0.00	6,647.04	-452.38	1,593.50	-1,593.50	2.00	-2.00	0.00
Start DLS 10.00 TFO 270.00									
7,000.00	5.25	270.00	6,699.44	-452.38	1,591.10	-1,591.10	10.00	10.00	0.00
7,100.00	15.25	270.00	6,797.72	-452.38	1,573.33	-1,573.33	10.00	10.00	0.00
7,186.34	23.88	270.00	6,879.00	-452.38	1,544.45	-1,544.45	10.00	10.00	0.00
Sharon Springs									
7,200.00	25.25	270.00	6,891.42	-452.38	1,538.77	-1,538.77	10.00	10.00	0.00
7,300.00	35.25	270.00	6,977.70	-452.38	1,488.46	-1,488.46	10.00	10.00	0.00
7,312.71	36.52	270.00	6,988.00	-452.38	1,481.01	-1,481.01	10.00	10.00	0.00
Niobrara A									
7,353.65	40.61	270.00	7,020.00	-452.38	1,455.49	-1,455.49	10.00	10.00	0.00
Niobrara B									
7,400.00	45.25	270.00	7,053.93	-452.38	1,423.93	-1,423.93	10.00	10.00	0.00
7,410.13	46.26	270.00	7,061.00	-452.38	1,416.67	-1,416.67	10.00	10.00	0.00
Niobrara C									
7,500.00	55.25	270.00	7,117.80	-452.38	1,347.15	-1,347.15	10.00	10.00	0.00
7,600.00	65.25	270.00	7,167.36	-452.38	1,260.44	-1,260.44	10.00	10.00	0.00
7,652.12	70.46	270.00	7,187.00	-452.38	1,212.18	-1,212.18	10.00	10.00	0.00
Fort Hays									
7,700.00	75.25	270.00	7,201.11	-452.38	1,166.44	-1,166.44	10.00	10.00	0.00
7,771.79	82.43	270.00	7,215.00	-452.38	1,096.05	-1,096.05	10.00	10.00	0.00
Codell									

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well BAREFOOT 32C-25HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4887 & KB 17 @ 4904.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4887 & KB 17 @ 4904.00ft (ASSUMED)
Site:	BAREFOOT 8-25 PAD	North Reference:	True
Well:	BAREFOOT 32C-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 (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,800.00	85.25	270.00	7,218.03	-452.38	1,068.01	-1,068.01	10.00	10.00	0.00
7,845.98	89.85	270.00	7,220.00	-452.38	1,022.09	-1,022.09	10.00	10.00	0.00
Start 5573.99 hold at 7845.98 MD - 7"(2515' FNL 360° FWL SEC 30)									
7,900.00	89.85	270.00	7,220.14	-452.38	968.07	-968.07	0.00	0.00	0.00
8,000.00	89.85	270.00	7,220.41	-452.38	868.07	-868.07	0.00	0.00	0.00
8,100.00	89.85	270.00	7,220.68	-452.38	768.07	-768.07	0.00	0.00	0.00
8,200.00	89.85	270.00	7,220.95	-452.38	668.07	-668.07	0.00	0.00	0.00
8,300.00	89.85	270.00	7,221.22	-452.38	568.07	-568.07	0.00	0.00	0.00
8,400.00	89.85	270.00	7,221.49	-452.38	468.07	-468.07	0.00	0.00	0.00
8,500.00	89.85	270.00	7,221.76	-452.38	368.07	-368.07	0.00	0.00	0.00
8,600.00	89.85	270.00	7,222.03	-452.38	268.07	-268.07	0.00	0.00	0.00
8,700.00	89.85	270.00	7,222.29	-452.38	168.07	-168.07	0.00	0.00	0.00
8,800.00	89.85	270.00	7,222.56	-452.38	68.07	-68.07	0.00	0.00	0.00
8,900.00	89.85	270.00	7,222.83	-452.38	-31.93	31.93	0.00	0.00	0.00
9,000.00	89.85	270.00	7,223.10	-452.38	-131.93	131.93	0.00	0.00	0.00
9,100.00	89.85	270.00	7,223.37	-452.38	-231.93	231.93	0.00	0.00	0.00
9,200.00	89.85	270.00	7,223.64	-452.38	-331.93	331.93	0.00	0.00	0.00
9,300.00	89.85	270.00	7,223.91	-452.38	-431.93	431.93	0.00	0.00	0.00
9,400.00	89.85	270.00	7,224.18	-452.38	-531.93	531.93	0.00	0.00	0.00
9,500.00	89.85	270.00	7,224.45	-452.38	-631.93	631.93	0.00	0.00	0.00
9,600.00	89.85	270.00	7,224.72	-452.38	-731.93	731.93	0.00	0.00	0.00
9,700.00	89.85	270.00	7,224.99	-452.38	-831.93	831.93	0.00	0.00	0.00
9,800.00	89.85	270.00	7,225.26	-452.38	-931.93	931.93	0.00	0.00	0.00
9,900.00	89.85	270.00	7,225.52	-452.38	-1,031.93	1,031.93	0.00	0.00	0.00
10,000.00	89.85	270.00	7,225.79	-452.38	-1,131.93	1,131.93	0.00	0.00	0.00
10,100.00	89.85	270.00	7,226.06	-452.38	-1,231.93	1,231.93	0.00	0.00	0.00
10,200.00	89.85	270.00	7,226.33	-452.38	-1,331.93	1,331.93	0.00	0.00	0.00
10,300.00	89.85	270.00	7,226.60	-452.38	-1,431.92	1,431.92	0.00	0.00	0.00
10,400.00	89.85	270.00	7,226.87	-452.38	-1,531.92	1,531.92	0.00	0.00	0.00
10,500.00	89.85	270.00	7,227.14	-452.38	-1,631.92	1,631.92	0.00	0.00	0.00
10,600.00	89.85	270.00	7,227.41	-452.38	-1,731.92	1,731.92	0.00	0.00	0.00
10,700.00	89.85	270.00	7,227.68	-452.38	-1,831.92	1,831.92	0.00	0.00	0.00
10,800.00	89.85	270.00	7,227.95	-452.38	-1,931.92	1,931.92	0.00	0.00	0.00
10,900.00	89.85	270.00	7,228.22	-452.38	-2,031.92	2,031.92	0.00	0.00	0.00
11,000.00	89.85	270.00	7,228.49	-452.38	-2,131.92	2,131.92	0.00	0.00	0.00
11,100.00	89.85	270.00	7,228.76	-452.38	-2,231.92	2,231.92	0.00	0.00	0.00
11,200.00	89.85	270.00	7,229.02	-452.38	-2,331.92	2,331.92	0.00	0.00	0.00
11,300.00	89.85	270.00	7,229.29	-452.38	-2,431.92	2,431.92	0.00	0.00	0.00
11,400.00	89.85	270.00	7,229.56	-452.38	-2,531.92	2,531.92	0.00	0.00	0.00
11,500.00	89.85	270.00	7,229.83	-452.38	-2,631.92	2,631.92	0.00	0.00	0.00
11,600.00	89.85	270.00	7,230.10	-452.38	-2,731.92	2,731.92	0.00	0.00	0.00
11,700.00	89.85	270.00	7,230.37	-452.38	-2,831.92	2,831.92	0.00	0.00	0.00
11,800.00	89.85	270.00	7,230.64	-452.38	-2,931.92	2,931.92	0.00	0.00	0.00
11,900.00	89.85	270.00	7,230.91	-452.38	-3,031.92	3,031.92	0.00	0.00	0.00
12,000.00	89.85	270.00	7,231.18	-452.38	-3,131.92	3,131.92	0.00	0.00	0.00
12,100.00	89.85	270.00	7,231.45	-452.38	-3,231.92	3,231.92	0.00	0.00	0.00
12,200.00	89.85	270.00	7,231.72	-452.38	-3,331.92	3,331.92	0.00	0.00	0.00
12,300.00	89.85	270.00	7,231.99	-452.38	-3,431.92	3,431.92	0.00	0.00	0.00
12,400.00	89.85	270.00	7,232.25	-452.38	-3,531.92	3,531.92	0.00	0.00	0.00
12,500.00	89.85	270.00	7,232.52	-452.38	-3,631.92	3,631.92	0.00	0.00	0.00
12,600.00	89.85	270.00	7,232.79	-452.38	-3,731.92	3,731.92	0.00	0.00	0.00
12,700.00	89.85	270.00	7,233.06	-452.38	-3,831.92	3,831.92	0.00	0.00	0.00
12,800.00	89.85	270.00	7,233.33	-452.38	-3,931.92	3,931.92	0.00	0.00	0.00
12,900.00	89.85	270.00	7,233.60	-452.38	-4,031.92	4,031.92	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well BAREFOOT 32C-25HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4887 & KB 17 @ 4904.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4887 & KB 17 @ 4904.00ft (ASSUMED)
Site:	BAREFOOT 8-25 PAD	North Reference:	True
Well:	BAREFOOT 32C-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 (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
13,000.00	89.85	270.00	7,233.87	-452.38	-4,131.92	4,131.92	0.00	0.00	0.00
13,100.00	89.85	270.00	7,234.14	-452.38	-4,231.91	4,231.91	0.00	0.00	0.00
13,200.00	89.85	270.00	7,234.41	-452.38	-4,331.91	4,331.91	0.00	0.00	0.00
13,300.00	89.85	270.00	7,234.68	-452.38	-4,431.91	4,431.91	0.00	0.00	0.00
13,400.00	89.85	270.00	7,234.95	-452.38	-4,531.91	4,531.91	0.00	0.00	0.00
13,419.97	89.85	270.00	7,235.00	-452.38	-4,551.88	4,551.88	0.00	0.00	0.00
TD at 13419.97 - PBHL_BAREFOOT 32C-25HZ(2450' FNL 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 32C	0.00	0.00	7,235.00	-452.38	-4,551.88	1,315,300.56	3,150,719.83	40.1976380	-104.9604430
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,313.00	1,313.00	9 5/8"	9.625	12.250	
7,845.98	7,220.00	7"(2515' FNL 360' FWL SEC 30)	7.000	7.500	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,263.00	1,263.00	Fox Hills Marker				
4,493.32	4,323.00	Sussex				
4,807.29	4,613.00	Shannon				
7,186.34	6,879.00	Sharon Springs				
7,312.71	6,988.00	Niobrara A				
7,353.65	7,020.00	Niobrara B				
7,410.13	7,061.00	Niobrara C				
7,652.12	7,187.00	Fort Hays				
7,771.79	7,215.00	Codell				

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well BAREFOOT 32C-25HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4887 & KB 17 @ 4904.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4887 & KB 17 @ 4904.00ft (ASSUMED)
Site:	BAREFOOT 8-25 PAD	North Reference:	True
Well:	BAREFOOT 32C-25HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,513.00	1,513.00	0.00	0.00	Start Build 2.00
2,639.62	2,610.81	-59.72	210.38	Start 3181.28 hold at 2639.62 MD
5,820.90	5,549.23	-392.66	1,383.12	Start Drop -2.00
6,947.52	6,647.04	-452.38	1,593.50	Start DLS 10.00 TFO 270.00
7,845.98	7,220.00	-452.38	1,022.08	Start 5573.99 hold at 7845.98 MD
13,419.97	7,235.00	-452.38	-4,551.88	TD at 13419.97